

## SC-HASS CONFERENCE 2019

# ANTARCTIC CONNECTIONS AT THE END OF THE WORLD: UNDERSTANDING THE PAST AND SHAPING THE FUTURE

3-5 APRIL 2019 / Ushuaia, Argentina

## LIST OF ABSTRACTS



Standing Committee on Antarctic Humanities and Social Sciences (SC-HASS)  
Conference of the Scientific Committee on Antarctic Research (SCAR)



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# ANTARCTIC CONNECTIONS AT THE END OF THE WORLD: UNDERSTANDING THE PAST AND SHAPING THE FUTURE

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## About SCAR Standing Committee on the Humanities & Social Sciences (SC-HASS)

<http://antarctica-hasseg.com/>

The SCAR Standing Committee on the Humanities and Social Sciences [SC-HASS] brings together researchers in the humanities and social sciences with an interest in the Antarctic region. The group facilitates the exchange of news, publications and research ideas, and organizes regular conferences and workshops. It also organizes research projects around different topics; the first was "Exploring Antarctic Values."

**Institutional History and Structure:** The SC-HASS grew out of the SCAR History Expert Group and the SCAR Humanities and Social Sciences Expert Group [HASSEG] and sits under the umbrella of the Scientific Committee on Antarctic Research (SCAR). The History Expert Group was formed as a SCAR Action Group in 2004, and HASSEG commenced its activities also as an Action Group in 2010 by a group of international scholars with the aim of fostering new approaches to Antarctic research grounded in the humanities and social sciences. In 2014, HASSEG became a SCAR Expert Group, and at the 2018 SCAR Executive Committee in Davos, Switzerland, HASSEG and the SCAR History Expert Group were given permanent standing within SCAR under the umbrella of a Standing Committee. The SCAR Standing Committee on the Humanities and Social Sciences (SC-HASS) welcomes new members with an interest in researching Antarctic humanities and social sciences topics. Researchers and practitioners alike are invited to share their ideas of suitable research projects.

SC-HASS has three chief officers (Elizabeth Leane, Daniela Liggett and Cornelia Lüdecke) and an international Steering Committee that provides leadership to the group and reports to SCAR. Elections for the positions of Chief Officers and Steering Committee members will next be held at the SCAR Open Science Conference in 2020.

SC-HASS organizes sessions, panels and other events at the biennial SCAR Open Science conferences.

## About the Conference "Antarctic Connections at the End of the World: understanding the past and shaping the future"

Antarctica may be thought of as a pristine natural environment, untouched by human disturbance, but human interactions with Antarctica have a long history and are receiving growing attention in the scholar community. The humanities and social sciences provide important insights into the continent and challenge existing understandings of Antarctica's past, present and future relationship with the rest of the world.

The main objectives of this conference are to provide a space for exchanging information about research in the Antarctic humanities and social sciences, stimulate and organise research ideas, and develop future collaborations. We invite papers from all disciplinary fields in the social sciences, humanities and arts (including performing and creative arts) that engage with the Antarctic and southern oceans. Both proposals for individual papers and interdisciplinary panels are welcome. Proposals will be only accepted in English.



Topics of interests may include, but are not limited to:

- Antarctic gateway cities
- Antarctic future
- Antarctic historiography
- Antarctic literature
- Antarctic tourism
- Antarctic values
- Antarctica and the global commons
- Anthropocene in Antarctica
- Digging into the past: archives, artifacts, archaeology
- Environmental management
- Geopolitics of the polar regions
- History of polar science
- Human dimensions of environmental change
- Interdisciplinary polar research
- Interface between polar policy, law and science
- Media representations
- Polar heritage and museums
- Polar mobilities
- Postcolonialism
- Public engagement with Antarctic research
- The Antarctic Treaty System and its challenges

## Chair

Dr. Cristian Lorenzo (Centro Austral de Investigaciones Científicas (CADIC) – Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) & Instituto de Ciencias Polares, Ambiente y Recursos Naturales (ICPA) – Universidad Nacional de Tierra del Fuego (UNTDF).  
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## Conference Organizing Committee

- Instituto Antártico Argentino
- Centro Austral de Investigaciones Científicas (CADIC) – Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)
- Universidad Nacional de Tierra del Fuego
- Ministerio de Ciencia y Tecnología de la Provincia de Tierra del Fuego
- Instituto Fueguino de Turismo
- Municipalidad de Ushuaia
- Fundación para la Conservación del Patrimonio Antártico

## Programme

The updated version of the programme details is available at:

<http://antarctica-hasseg.com/sc-hass-conference-programme-2019/>



## Speaker abstracts & biographies

Verónica Aldazábal

IMHICIHU-CONICET; Museo Naval de la Nación

### Archaeology and Museology to revalue the historical first scientific settlement in South Orkneys

The aim of this paper is to present the tasks and the results obtained in the project carried out at the Orcadas base concerning the historical heritage. The base is located on Laurie Island, in the South Orkneys archipelago, on the isthmus formed between the Uruguay cove to the north, named in honor to the first Argentine ship that anchored in its waters (corvette Uruguay 1904) and the cove Scotia to the south, name of the ship of the Scottish expedition led by Dr. Bruce 1903).

The objective was to register and recover the remains left in "Omond House", a shelter built by the Scottish expedition of Dr. Bruce in 1903 and reused in 1904 by the first Argentine Commission on islands, and to relieve the situation of the Moneta house, the first construction specially designed for life in the Antarctic continent, house- room and work place of the Argentine commissions between 1905 and 1945. Both constructions as well as the base as a whole, constitute the oldest permanent human settlement of the continent with more than 100 years of meteorological, glaciological geodetic, and biogeographic observations.

In "Omond house", it was decided to excavate the site almost entirely but leaving some areas in the current conditions of discovery, with the cultural remains in the place of deposition - objects, packaging (boxes and bags) as well as coal concentrations "in situ". This criterion met two objectives, on the one hand, to show the formation process and on the other to preserve the material testimonies of the activities carried out in each of the defined sector: room, storage of provisions and coal bunker. In consequence, all the cultural remains were recorded photographically and planimetrically, and they were recapped with the sediment removed from the same site, to ensure their conservation. Finally, an expanded metal walkway was projected, to circulate around its perimeter avoiding trampling in the only place with anthropogenic sedimentation.

The Moneta house, is a wooden hut carried prefabricated from Bs.As., on board of the Uruguay corvette and raised in 15 days to leave the second group of researchers. Even though it has undergone numerous modifications, since it was used as dwelling and observation base until the end of 1940 and then, as repository for tools and spare parts, a carpentry workshop, a laboratory, and warehouse for expeditions accessories, it maintained the original distribution fairly faithfully. In 1994 the base authorities decided to give her the honorable job of exhibit historical elements, telling the story of man in relation to the Orkney Islands. Since then it was known as Museo Moneta.

From the analysis of bibliographic and documentary information, photographs, descriptions and stories of winter workers, and material remains of structures in the ground, it was possible to establish the modifications suffered by the house and its different uses over time. On this basis, it was decided to set up a museum site, setting the house as in the 1920s, when the





members of the commissions began to be completely Argentine. In addition, the exhibition was organized in order to show all the activities carried out in the base.

**Verónica Aldazabal** / Graduate in Anthropological sciences, Doctor in archeology, at the Faculty of Philosophy and Letters, FFyL- UBA. CONICET researcher, and research professor at the Naval National Museum. Performs research of hunter gatherers on the coasts of Pampa and Patagonia, and on issues of naval historical archeology. Developed the Project in the base Orcadas between 2000 and 2006 with the museologist Lic. Pereyra and continuing with analytical studies to the present.

**Karen A. Alexander<sup>1,2</sup>, Daniela Liggett<sup>3</sup>, Kimberly Norris<sup>4</sup>, Marcus Haward<sup>1,2</sup>**

1. Centre for Marine Socioecology, University of Tasmania, Hobart, Australia.

2. Institute for Marine and Antarctic Studies, University of Tasmania, Hobart, Tasmania 7001, Australia.

3. Gateway Antarctica, University of Canterbury, New Zealand

4. University of Tasmania, School of Medicine (Psychology), Tasmania, Australia

### **'Antarctic Ambassadors' – what do we really know?**

As one of the most extreme environments on earth, Antarctica represents an increasingly popular tourism destination. Antarctic tourism operators emphasise that visiting the region first-hand enhances public awareness and concern for environmental issues. This is termed 'ambassadorship', a term first coined by pioneering tourism operator Lars-Erik Lindblad, and a current objective of the International Association of Antarctica Tour Operators (IAATO). IAATO members aim "to create a corps of ambassadors for the continued protection of Antarctica by offering the opportunity to experience the continent first hand". Despite a longstanding commitment to the concept, there has been little empirical evidence regarding whether tourists returning from Antarctica act as 'ambassadors' merely by virtue of having been there, or whether this travel, significant though it may be to the individual, is simply another 'experience', a destination to be ticked off the 'bucket list'.

A significant amount of scholarly attention has been given to Antarctic tourism, particularly on the character, management and regulation of activities. However, there has been only very limited and inconclusive research on whether a significant number of tourists return from Antarctica as 'ambassadors' for the continent. Perhaps most importantly, such research requires understanding of the 'ambassadorship' concept. It also requires understanding of the process spanning anticipation of the visit, onsite experience and behaviour, the benefits realised through recollection, and whether the Antarctic experience is significant enough to result in a shift of values, and consequently behaviour, after the return home. Furthermore, there are questions relating to how the concept links to the current (and future) regulation and management of Antarctic tourism within the Antarctic Treaty System. With increasing conflict between human use and conservation in the marine and terrestrial Antarctic environments, a better understanding of the potential for Antarctic ambassadorship will be imperative for an effective management of Antarctic tourism, especially when considering future growth of tourism numbers in the Antarctic.

In our presentation, we will discuss the results of a Delphi study on ambassadorship in Antarctic tourism which investigated our current state of knowledge regarding the concept of 'Antarctic Ambassadors' and identified areas where further research is required.



**Karen Alexander** is a research fellow in the Centre for Marine Socioecology in the University of Tasmania. She specialises in issues around the transition to a blue economy, as well as ocean and coastal conflict. In 2017-2018, Karen participated in the Homeward Bound Women in Science expedition to the Antarctic Peninsula, during which she began to question the concept of 'Antarctic Ambassadorship'.

**Daniela Liggett** is a social scientist at the University of Canterbury with a background in environmental management, Antarctic politics and tourism and research interests in polar governance, polar tourism, the wider aspects of managing human activity in polar environments and the complexities of Antarctic values.

**Kimberley Norris** is a psychologist at the University of Tasmania, whose research interests include human behaviour in Antarctic environments.

**Marcus Haward** is a political scientist at the University of Tasmania, specialising in oceans and Antarctic governance and marine resources management.

Andrew Atkin

### The enigma of Carsten Borchgrevink: Stable Genius or Self-Obsessed Buffoon?

Polar enthusiasts are familiar with Carsten Borchgrevink who led the *Southern Cross* expedition (1898-1900), first to overwinter on continental Antarctica. He was extremely unpopular with the British establishment of the time and his achievements were discounted, or at least disregarded by the majority of geographers, explorers and polar scientists interested in opportunities for Antarctic exploration. The prime reasons for Borchgrevink's unpopularity seem to have been resentment about his success at securing funding, his abrasive and combative personality, an overly healthy ego, his inclination to rewrite history and his continental provenance.

A number of short biographies have been published that provide repetitive, negative views of Borchgrevink. These focus on the conflicts that mired his preparations, the conduct of the expedition and the post-expedition fall out. His achievements were reluctantly acknowledged in 1930 when he was belatedly awarded the Patron's Medal of the Royal Geographical Society, long after his nemesis, Sir Clements Markham had died. This was probably "Too little, too late" to massage his ego and untimely with respect to establishing any credentials as an explorer.

This research investigates the sources of resentment against the expedition, analyses the veracity of Borchgrevink's claimed successes and the strength of claims to the contrary. There is evidence that the expedition was well found in many respects and many elements of the preparation could have provided a template for other Antarctic expeditions of the era. This paper unravels whether history has been unkind to this enigmatic character due to his seemingly flawed personality rather than by objective analysis of his work.

**Andrew Atkin** / Andrew has completed a thirty-five year career in universities where he worked in various technical and administrative management roles while moonlighting as a researcher in environmental survey and field ecology. He also squeezed in lecturing in environmental studies in technical colleges and university programs then diversified his range to include environmental law, prehistory, botany, birding and environmental management for adult learners in evening college. More recently Andrew became a student of Antarctic history and science. His first Antarctic trip in 1999 stimulated an interest in the lives of lesser known expedition scientists and early forays into continental Antarctica. That fascination led to his doctoral research focusing on the work of physicist Louis Bernacchi of Captain Scott's first, but lesser-known *Discovery*



expedition of 1901-04. In the last decade Andrew has found various cunning ways to get back to Antarctica including volunteer oceanographer, student, tourist and finally expedition historian and naturalist.

### Dag Avango

Researcher, KTH Royal Institute of Technology, Stockholm, Sweden

#### To populate places with allies: on human-thing entanglements in contested polar spaces

The objective of this paper is to develop a theoretical framework for understanding the role of heritage making in international competitions for influence over the polar regions, by placing heritagization processes within the framework of a wider discussion on the relation between humans, things and ecologies in post-humanities scholarship. The paper will argue that material objects in sparsely populated or unpopulated places have had a particularly strong agency in the history of the polar regions. Material objects constructed as heritage may take on similar roles, re-enforced by their association with the past. My main questions are: What agency do things have and why does it matter? How do concepts of materiality, ownership and agency affect our understanding of heritage in polar environments? The paper will argue that by enrolling actors from the past and the material remains of their actions into actor networks, competing actors have populated places with allied actors and actants. These networks have played different roles, defending national prestige, attracting tourists, creating a sense connectedness to distant polar places, as well as legitimizing claims for influence over territories and natural resources.

**Dag Avango, PhD** / Dag Avango was awarded a PhD in History of Technology by the Division of History of Science, Technology and Environment at KTH Royal Institute of Technology, Stockholm, Sweden. His research deals with the relationship between resource extraction, science and geopolitics in the polar regions, and effects on environments and societies, from a long-term historical perspective. A related field of research is on legacies of industry and how communities can deal with such legacies when building post-industrial futures, through remediation and heritage processes. He is part of the leadership of the Nordic Centre of Excellence REXSAC (Resource Extraction and Sustainable Arctic Communities).

### Andrew J. Avery

History Department, The University of Kansas

#### “Bureaucratizing the Antarctic Periphery: the Falkland Island Dependency Survey and British Antarctic Sovereignty Claims, 1944 – 1959”

How do countries claim unpopulated space? What actions, big or little, express sovereignty in such a territory? Klaus Dodds, Adrian Howkins, and Peder Roberts, to name a few scholars, have all grappled with various aspects of these and similar questions in their works. Howkins, for example, argued that “environmental authority” proved to be the overarching philosophy employed by the British Government to justify their sovereign claims to the Antarctic Peninsula. Taking this in mind, my paper analyzes the *how* of establishing British sovereignty in Antarctica proper, analyzing which tools the British government selected from their imperial toolbox, as Burbank and Cooper call it, to fortify their claim. Each expansion of British imperial territory was accomplished through a combination of old and new strategies depending on the variables presented by any given territory and its population.



More specifically, my paper will analyze the establishment and management two acts-of-sovereignty. Firstly, the building and management of post and telegraph offices at research stations on the Antarctic Peninsula. By analyzing the ways in which Antarctic “postmasters” executed their duties, by sussing out how the loneliest post offices on the planet dealt with the post, one can better understand the strategies Britain used to stake their claim. Further, the construction of these buildings illustrated how the British government tied Antarctica into broader imperial and global networks. Secondly, I will analyze the role of Antarctic magistrates in delivering protest notes to Argentinian and Chilean “trespassers”. The appointment of magistrates represents a well-worn strategy used not just throughout the Empire, but also in Britain proper.

My work is built on a wealth of primary sources held at the National Archives at Kew, the Scott Polar Research Institute, and the British Antarctic Survey archives. More specifically, I make wide use of the BAS Oral History archive to blend the top-down and bottom-up historical perspectives, balancing individual experience against larger geopolitical forces.

**Andrew J. Avery** / I am a doctoral candidate in the History Department at the University of Kansas. A historian of 19<sup>th</sup> and 20<sup>th</sup> century British imperial history, I am currently writing a dissertation entitled “Land of the Midnight Sun: Antarctica and the British Empire, 1772 – 1991”. Through this project, I investigate how various historical actors constructed Antarctica as a colonial and post-colonial space. Along the way, I analyze the role of Antarctic heroes in British society and popular culture, actions of sovereignty, and the construction of a unique British Antarctic community, to name a few themes. I have presented at conferences in North America and the United Kingdom, and published book reviews in *Reviews in History*. Additionally, I have authored articles for *Canadian Holmes* and *Deep South* magazine. I previously earned Master’s and Bachelor’s degrees in History from East Tennessee State University and Flagler College, respectively.

Ann-Kristin Balto<sup>1</sup>, Janet Hughes<sup>2</sup>

1. Norskpolarinstitutt, Tromsø, Norway

2. College of Arts and Social Sciences, Australian National University, Canberra.

### **Sami contributions to the *Southern Cross* Expedition (1898-1900) and the first overwintering on continental Antarctica**

The achievements of Borchegrevink’s *Southern Cross* Expedition include: surviving the first overwintering on the Antarctic continent; first exploration of hazardous terrain near Cape Adare; and scientific research, but these achievements are not well-known compared to the expeditions of Amundsen, Scott and Shackleton.

Even less well-known are the contributions by two young Sami dog handlers (Ole Must and Per Savio) although their survival skills were acknowledged by other members of the *Southern Cross* expedition and saved lives on multiple occasions. Several books about the expedition mention the Sami men, but it is difficult to find more detailed information about their role.

Our research has collated photographs in Australian and Norwegian cultural institutions and linked these with newspaper articles contemporary with the *Southern Cross* Expedition to investigate the skills and contributions of the two Sami. Archaeological and museum artefact databases were searched to try to find Sami items that were produced or modified on the



*Southern Cross Expedition*, particularly footwear, jackets and gloves and, where possible, to consider what other Sami equipment and knowledge they contributed to the expedition.

A case is made for a more systematic evaluation of Arctic and other traditional clothing and equipment that has been used or adapted in Antarctic expeditions and an outline is provided on how this could be developed. It is important for broader polar research to pay due respect to traditional knowledge and skills.

**Ann Kristin Balto**, is Photo Librarian/Communications adviser at the Norskpolarinstitutt at Tromsø, Norway and is of Sami origin.

**Janet Hughes** trained as a Materials Conservator and completed a PhD on the conservation of Antarctic historic sites.

**Francesco Bandarin<sup>1</sup>, Giulia Foscari<sup>2</sup>**

1. UNESCO Advisor

2. London Architectural Association

### Drifting Heritage: the Antarctic Heritage List and the international heritage concepts

The idea of an Antarctic Heritage List came about with the Antarctic Treaty in the 1960's and the List was first drawn up in 1972. It contains today 87 sites (5 have been delisted for various reasons). Antarctic Heritage is defined by the Environmental Protocol as one of the three categories of protected areas. Several resolutions (2009, 2018) have detailed the inscription process and offered guidelines for the assessment and management of Antarctic Heritage sites. The concept and principles used for Antarctic heritage differ substantially from the principles established in international Conventions, in an attempt to reflect the specificities of the history of the continent. After over 50 years of inscriptions the List includes very diverse heritage types, ranging from sites linked to the Antarctic exploration to monuments celebrating events or people, to elements of technology. The paper examines the relationship between the heritage principles and concepts expressed within the Antarctic Treaty System, and the internationally accepted ones. It also examines the nature of the sites and monuments listed in the Antarctic Heritage List to identify models and trends.

**Francesco Bandarin** is an Architect and Urban Planner, specialized in Urban Conservation. From 2000 to 2010 he was Director of the UNESCO World Heritage Centre. From 2010 to 2018 he was Assistant UNESCO Director-General for Culture. He is currently UNESCO Special Advisor, member of the Steering Committee of the Aga Khan Trust for Culture and Associate member of the ICOMOS International Polar Heritage Committee. He was Professor of Urban Planning and Urban Conservation at the University of Venice (IUAV) from 1980 to 2016 and he is currently involved with the London's Architecture Association's Research Programme. His recent publications include: *The Historic Urban Landscape: Managing Heritage in an Urban Century*, 2012 and *Reconnecting the City. The Historic Urban Landscape Approach and the Future of Urban Heritage*, 2015, both co-authored with Ron van Oers and published by Wiley-Blackwell. *Reshaping Urban Conservation* is forthcoming for Springer in 2018.

**Giulia Foscari** is an architect, curator and author who has practiced in Asia, South America and Europe. She is the founder of UNA, a Hamburg-based international architecture practice focused on cultural projects. Her working experience includes an extensive collaboration with OMA (Office for Metropolitan Architecture) which started in Hong Kong in 2009 and led her to run OMA's South American platform from Argentina, with projects in Colombia, Uruguay, and Brazil. In 2014 she authored *Elements of Venice*, published by Lars Müller Publishers, that received the DAM Architectural Book Award. She also worked on several curatorial projects (including exhibitions in four editions of the Venice Biennale) and is engaged in academic teaching





and research. Having taught at the Hong Kong University for five academic years, since 2015 she has been Diploma Unit Master at London's Architecture Association, where she currently runs the AA Research Programme.

Paola Barros Delben<sup>1</sup>, Pedro Augusto Croce Carlotto<sup>1</sup>, Aline Ferreira de Freitas<sup>1</sup>, Antonio Coimbra de Brum<sup>2</sup>, Vanderleia Biavati<sup>1</sup>, Sérgio Gago Guida<sup>3</sup>, Roberto Moraes Cruz<sup>1</sup>

1. Universidade Federal de Santa Catarina (UFSC)

2. Universidade Federal do Rio Grande do Sul (UFRS)

3. Secretaria Interministerial para Recursos do Mar (SECIRM)

### Protective factors to the risk of harassment in the work of antarctic expeditionaries

Antarctica and Arctic, polar regions, are remote work places shared 24 hours a day with residence spaces for up to a year, difficult to access in emergencies. It is not a question of "if" but of "when" Undesirable Events (UE) will occur in polar regions, accidents, illness, crises, and violence, in spite of the 0% crime rate in the most complex jurisdictional context of the world. The project of managing risks and safe behavior in polar regions, by a multidisciplinary perspective, propose preventive actions related to UE, lower cost than post-occurrence interventions. Investments in studies of protective factors to workers result in technological products that can reduce the occurrence probability of UE, such as harassment. Harassment is a psychosocial risk characterized by recurrent and intentional violence, which causes harm and damages to the health of individuals, facilities and to institutional and of nations images. The impacts over victims include other associated subsequent risks, eg suicide. The initiative of preventing this kind of violence, proposed by the Brazilian Navy, coordinator of the Brazilian Antarctic Program, was due to the increasing global demands related to harassment in polar regions. OBJECTIVE: constructing a guideline for prevention of harassment in a polar workplace, using the Antarctic scenario to introduce orientations and awareness about the theme. METHOD: The construction of the instrument was based on a systematic review of the literature and Institutional and legal documents. Added to these documental analyses are empirical partial results, including perceptions of participants of PROANTAR in interviews and observations over 4 Antarctic missions (2014-2018), registered in diaries. The data triangulated was obtained from the populations of the ships and the Brazilian Antarctic station. The guideline infographic was presented individually and collectively to the target the civilian and military expeditionary population, under a qualitative approach. RESULTS: The concept of the ergonomic risk harassment, moral and sexual, and the difference between other kinds of psychological violence, such as work-related aggressions, was presented in a guideline. Protective and risk aspects of this phenomenon were also addressed: the issue of alcohol consumption identified as an important influencer of harassment risks and other acts of violence; forced coexistence in confined spaces and restrict social interaction requires training of interpersonal skills; The fear or shame of reporting, especially when the victims are the men, due to cultural matters. The guidelines indicate the likely perpetrators (harassers), victims (harassed) and appropriate measures, legal and conciliatory, for the resolution of problems. The rights and duties of each one are explicit in the code of conduct. CONCLUSION: Work places with commonly heterogeneous groups and the recent introduction of women on teams, specifically since the '80s, need more than information on harassment, but an education program. Continuity of studies is recommended, as well as an EU record by the participants at the end of the missions, to indicates the prevalence of violence and their possible causes. The preliminary protocol constructed requires field testing and adjustments according to cultural



and polar specificities to become a worldwide model, not exclusive to Brazil, an important tool to promote health and safety.

Researchers from different areas gathered around the pioneering interdisciplinary research project proposed by Barros-Delben and Cruz in 2013. Focusing on attention to the human factor involved in expeditions to Antarctica, in collaboration with members of the Interministerial Secretariat for Resources of the Mar (SECIRM), an organization of the Brazilian Navy that coordinates the Brazilian Antarctic Program (PROANTAR), made explicit the mutual interest between scientific and logistical work to meet the demands related to accidents and diseases, with a view to their prevention. The work investigates the risk factors and protective factors surrounding the phenomenon of safe behavior, its precursors and consequences.

**Elleke Boehmer**

Professor, University of Oxford, UK

### **Writing the far south**

In a discussion of fiction, poetry and life-writing by Jenny Diski, Jorge Luis Borges, JM Coetzee, Chris Orsman, Elaine Palencia and Tom Griffiths, amongst others, this paper will reflect on the challenges of writing the Southern Ocean and the ultimate southern continent, Antarctica. What does it mean to impose verbal tracks upon that constantly roaring ocean and the uninhabited white wastes of the far south? What are the conceptual and imaginative tests both for the writer and the reader when these spaces appear to have no discernible mode of response? The paper will explore the epistemological and stylistic possibilities that these writers open up, and consider how they sidestep the too-easy recourse of reportage on the one hand, and myth on the other.

**Camilo Cabrera**

Catholic University of Valparaíso, Chile  
Hemispheric and Polar Studies Center

### **Antarctic Imaginary: Chile, Argentina and Great Britain dispute through Chilean caricatures (1947-1952)**

The study of the Chilean Antarctic imaginary, expressed in caricatures, remains as a field of research still to be explored. Traditional historiography, by focusing in dates and figures, heroic and vile actions, has marginalized the study of mentality and perceptions, clouding the true understanding of what humans perceive and create, and how they react to the world around him. Similarly, when historians use images, usually do it as complementary material, or just to illustrate conclusions and not to raise new questions or answers.

Thus, this paper proposes to address the aforementioned problems through the use of caricatures published by Chilean magazine *Topaze*, analyzing the sovereignty controversy between Chile, Argentina and Great Britain in the Antarctic Peninsula. By examining these graphic representations, this work aims to unravel the imaginary contained in them, through which we can understand the structures of thought of the time, glimpsing in the figure of the cartoonist that subject that with his genius and talent he manages to express a defense of national rights based on historical, juridical and / or geographical principles and rights.



**Camilo Cabrera** / History teacher (Playa Ancha University, Chile), Master © in History (Catholic University of Valparaíso, Chile). Since 2015, he has devoted his academic work to the study of the frozen continent and the Magellan region. From economic and social viewpoints, his recent research works have focused on contraband and the illegal trade networks extended throughout the southern tip of the American continent at the beginning of the 20<sup>th</sup> century. Since 2015, professor Cabrera has participated in the Meetings of Latin American Antarctic Historians and has published academic papers in indexed journals among those that we find "The representation of the enemy. Reflection around the antarctic imaginary materialized in the Topaze magazine (1947-1952)" and "Robert Falcon Scott and geographic south pole expedition, 1910-1913. View from four national newspapers and two magazines".

### **Olivia Canales Quezada**

University of Playa Ancha, Chile  
Center of Hemispheric and Polar Studies

#### **From the creation of Magallanes Naval Station to the feat of Pilot Pardo: Chilean cooperation in southern and Antarctic seas navigation**

Due to the singular geographical characteristics of the Chilean territory, the national navy has been key for communications, transport, and defense of the country since the independence times. In this sense, the creation of the Magallanes Naval Station in 1896 meant a significant step toward the strengthening of Chile's sovereignty and maritime knowledge in the southernmost part of the continent, which –at the same time- allowed the country to collaborate with international navigation in the area.

Over the years, maritime services provided by the Magallanes Naval Station, among them hydrographic information for navigation in the Magallanes Strait and the southern channels, allowed the renovation and creation of new cartography; the development of new studies on the coasts and seabed; as well as the installation of maritime signaling in the area. All of the above mentioned, eased navigation of both Chilean and foreign vessels that –guided by commercial and scientific goals- visited the region on their way to Antarctica.

It is proposed that the technical and scientific knowledge, as well as the experience and proficiency in navigation of the personnel of the Magallanes Navy Station in the hostile southern and Antarctic seas, can explain the successful rescue expedition led by pilot Luis Pardo in 1916. After several fruitless attempts by other countries, Pardo's expedition –which was the first official Chilean expedition to Antarctica- managed to reach Elephant Island and rescue the 22 men of Ernest Shackleton's expedition, who were marooned in that place since 1914.

This work is based on Chilean official documents, such as the Navy Marine Reports and the Hydrographic Yearbook. As complementary sources, press materials and specialized bibliography have also been used.

**Olivia Canales Quezada** / Professor of History and Master candidate in Education, Playa Ancha University, Chile. As a researcher at the Hemispheric and Polar Studies Center, she has participated in several conferences on Antarctic history in Chile and abroad, among them, the Annual Meeting of Latin American Antarctic Historians.





**Ignacio J. Cardone**

Universidade de São Paulo, King's College London

## **The Origins of a British Antarctic Epistemic Community**

The limitations of knowledge reached on the second half of the 19<sup>th</sup> Century, not only on geography, but also in other geo-disciplines such as geo-magnetism and meteorology, pushed some scientist and science-related figures to promote Antarctic exploration. By the end of that Century, a consensus between western scientists in relation to the importance of south polar exploration was reached and, concordantly, it was decided that efforts should be made with their respective governments in order to advance the exploration of the last unknown territory. That effort was not without difficulties, and the governmental support was only attained after a process of learning and adapting to the logics of the political arena, in which most of scientists and scientific institutions were completely novices. On that regard, this paper analyses the case of the British National Antarctic Expedition of 1901-04, in which the British Royal Geographical Society and the Royal Society had a fundamental role. Mobilizing the concept of 'epistemic communities' developed by Peter Hass and Emanuel Adler, the paper argues that the period between 1983 and the 1905 could be considered as one of a formation of a polar --and most specifically Antarctic, epistemic community in Great Britain, which eventually will be key in pushing the continuance of Antarctic engagement and, particularly, the promotion of a central role to science. Based on archival material from governmental sources and from the Royal Geographical Society and the Royal Society, the paper traces the process through which key figures in both institutions and in the government negotiated the materialization of the project of an Antarctic expedition and its further administration. That brings into light the different interpretations given, not only to the Antarctic endeavour, but also to the scientific enterprise, and how those diverse approaches were negotiated; as well as calling into attention the learning process experimented at the political level by the scientific institutions that needed to reformulate its perceptions to match the political language of the British government. Additionally, the paper underscores the process of internationalisation of science that served as general background to the conformation of such epistemic community, and the crossed-influences that took place. As a conclusion, the research looks to provide a different light to the role of science on early Antarctic exploration, highlighting its importance as an agenda-setting actor, and recognizing a more active role on the negotiation between its scientific aims and the governmental geopolitical and economic interests.

**Ignacio J. Cardone** / PHD candidate of the joint program of International Relations of the King's College London (KCL, UK) and the International Relations Institute of the University of Sao Paulo (IRI-USP, Brazil), with research on the Antarctic Politics previous to the Antarctic Treaty. Master's Degree in political science from the National University of Parana (UFPR, 2015, Brazil). Bachelor's in political science from University of Buenos Aires (UBA, 2003, Arg.). Was lecturer at National University of Tierra del Fuego (UNTDF, Arg.), the Patagonian National University San Juan Bosco (UNPSJB, Arg.) and the University of Buenos Aires (UBA, Arg.), between other institutions. Has experience in Political Science and International Relations, currently acting on the following subjects: Antarctic politics, Antarctic Treaty System, Brazil's Antarctic Politics, and International Relations Theory and Epistemology.



Iqra Choudhry

Centre for the History of Science, Technology and Medicine, University of Manchester, UK

## The 'Question of Antarctica': The relationship between SCAR, the UN and the Antarctic Treaty System

Historians like Peter J Beck have written extensively on the tensions between countries at the United Nations and the Antarctic Treaty System, and the 'Question of Antarctica' from the 1980s onwards. However, despite its active role in coordinating scientific research and working with both UN and ATS countries, the role of SCAR in the 'Question of Antarctica', and in Antarctic Governance during this period has yet to be elucidated. By using new material from the recently opened SCAR archive, this paper sets out to investigate the relationship between SCAR, the Antarctic Treaty and the United Nations.

From the Indian proposal in 1956 for the internationalisation of Antarctica (Howkins, 2008), there has been an ongoing debate about the governance of Antarctica, and whether it should be left to the signatories of the Antarctic Treaty (Beck, 1984; 1986; 1991; 1994; 2000). In the 1970s, attempts by the UN to be involved in Antarctic conservation and environmental protection were rebuffed by the ATS, which pointed out that SCAR was conducting enough research into both (Beck, 1986). Various countries continued to voice misgivings about governance for Antarctica at the UN, and in the 1980s, tensions came to a head. The ATS was referred to as "a rich man's club" and "one of the remaining vestiges of colonialism" (Beck, 1986), and the ATS accused of excluding other nations from governing Antarctica.

SCAR's original 12 member countries were also the original signatories to the Antarctic Treaty System (ATS). The two organisations have been inextricably linked throughout their histories, despite the lack of formal recognition of SCAR in the Treaty Articles. However, SCAR is rarely mentioned in the annual debates on Antarctic Governance, despite SCAR's collaboration with both UN and ATS states, and even when scientific data collected by SCAR research groups was brought into the yearly discussions.

This paper will explore the lack of explicit recognition of SCAR in UN discussions, and question the nature of the relationship SCAR had with both the UN and the ATS in the 1980s and 1990s. This paper will ask if SCAR was simply overlooked or if the Antarctic Treaty System used SCAR's involvement in Antarctic matters as a way of refuting accusations of exclusivity, and keeping UN interference at bay.

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Fernanda Codevilla Soares, Andres Zarankin

### **Sensing Antarctica: sensorial exhibit on Antarctica at Espaço do conhecimento UFMG, Brazil**

Throughout the years, Archaeology has served as inspiration for movies, literature, comic books, cartoons, video games and toys. Movie and animation characters, game heroes, among others have lived in popular imagination and have helped building a singular understanding about discipline. Antarctica, on a similar way, is considered one of the few places in the world that fulfill popular imagination (KELNNER 2000). Located at Southern end of the planet, it has been classified as the coldest, the driest, the highest, the windiest and the most desert of all places on earth (MACHADO and BRITO 2006). Full of superlatives, the Antarctic continent has been represented in terror and adventure movies, as well as in toys and others. Reflecting on these considerations and criticizing the traditional ways of scientifically exposing Archaeology and Antarctica, LEACH-UFMG has proposed alternative mediation that encourage communication on both. Using exhibits, plays, comic books, sticker albums, among others, the idea is to use the elements that normally make Antarctica and Archaeology interesting for people without, however, oversimplifying or shortening them as Medias does. Specifically in this communication we will report an experience that we had at Espaço do Conhecimento UFMG which was a sensorial exhibit that was a result of a collaborative work of Mediantar (Antarctica Medicine), Mycoantar (Antarctica Microbiology) and Paisagemem Branco (Antarctica Archaeology and Anthropology) projects from UFMG. The exhibit was on display from december 7th 2017 to May 20th 2018 and was visited by 30573 people. In an engaging way, more than simply expositive, the visitors were invited to access some antarctica archaeological vestiges and to touch its replicas. They were also conducted through a real size reproduction of an archaeological site, to get to know from enlarged pictures the polar marine animals, to observe on a big wall the colors and forms of the fungi found in the Antarctic Continent and to live in a simulated way the experience of walking on snow feeling the antarctic wind. At the end, they were stimulated to join many educational activities created by the pedagogical professionals of the museum. The purpose of this kind of action is to promote the democratization of the process knowledge construction about the history of Antarctica, thus developing works that allow the public engagement with research in an alternative and less directed way.

**Fernanda Codevilla Soares** has a bachelor's degree in History (Federal University of Santa Maria), a master's degree in Latin America Integration (Federal University of Santa Maria) and a Phd's degree in Quaternary, Materials and Culture (Trás dos Montes and Alto Doro University). She is currently developing a postdoctoral internship in the Laboratory of Antarctic Studies in Human Sciences (LEACH) at the Federal University of Minas Gerais (<http://lattes.cnpq.br/4776313846149869>).

**Andrés Zarankin** is currently Professor of Archaeology at the University of Minas Gerais (Brazil). He is also a researcher at the CONICET (National Scientific and Technical Research Council -Argentina). He took his anthropology degree at the University of Buenos Aires (Argentina), as well as his master's degree in architecture. His PhD was completed at the Campinas State University (Brazil) on archaeology of architecture. His postdoctoral studies where completed at the Argentinean National Council of Scientific and Technical Investigations (CONICET). He has written and edited many books. He has also published several articles in international magazines, and he is editor of Vestigios; Revista Latino-Americana de Arqueologia Historica. His main research interests include archaeology of architecture, archaeological theory and Antarctic's archaeology (he is the head of the Brazilian's Antarctic Human Science project) (<http://lattes.cnpq.br/2866806723847425>).



Fernanda Codevilla Soares, Will Lucas Silva Pena, Clarice Linhales

### Kaolin pipes and smoking in the South Shetland Islands (18th and 19th centuries)

The "Blank Landscapes: Antarctic Historical Archeology" project aims to understand the initial human occupation of Antarctica. Through the study of material culture and the analysis of historical documentation, we believe it is possible to insert marine mammals hunters, often absent from the master narratives, in the history of the continent. Archaeological studies, in this sense, have the potential to evidence the daily life of these agents during the time they landed in the Antarctic and subantarctic islands.

In this presentation, we will discuss the universe related to the kaolin pipes collected in the archaeological expeditions carried out in Peninsula Byers and Punta Elefante, in the years of 2010, 2011, 2012, 2014 and 2017. In all, the collection of pipes safeguarded in the Laboratory of Antarctic Studies in Human Sciences, based at the Federal University of Minas Gerais, has 18 pieces, with different levels of integrity. They were collected in the following archaeological sites: Pencas 3 (6 pieces), Sealer 4 (2 pieces), Punta Varadero (1 piece), PX-1 (1 piece), PX-2 (1 piece), X1 (3 pieces), PE-2 (3 pieces) and Sealer 1 (1 piece). We will present the methods of analysis and the resulting interpretations, which also involved a survey of smoking habits in nineteenth century whaling journals and literary works.

**Fernanda Codevilla Soares** has a bachelor's degree in History (Federal University of Santa Maria), a master's degree in Latin America Integration (Federal University of Santa Maria) and a Phd's degree in Quaternary, Materials and Culture (Trás dos Montes and Alto Doro University). She is currently developing a postdoctoral internship in the Laboratory of Antarctic Studies in Human Sciences (LEACH) at the Federal University of Minas Gerais (<http://lattes.cnpq.br/4776313846149869>).

**Will Lucas Silva Pena** has a bachelor's degree in Social Sciences and a master's degree in Anthropology, both earned after studying at Federal University of Minas Gerais. He is currently member of the Laboratory of Antarctic Studies in Human Sciences (LEACH), coordinated by Professor Andrés Zarankin (<http://lattes.cnpq.br/8992986577379412>).

**Clarice Linhales** is an undergraduate student at Federal University of Minas Gerais. She is currently member of the Laboratory of Antarctic Studies in Human Sciences (LEACH), coordinated by Professor Andrés Zarankin (<http://lattes.cnpq.br/4340125643617521>).

Ellen Cressman Frye<sup>1</sup>, William Paterson<sup>2</sup>

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### "Monological Sequencing in Antarctic Theater: David Young's Inexpressible Island"

My paper, "Monological Sequencing in Antarctic Theater: David Young's Inexpressible Island," is an in-depth analysis of the monological discourse as it contributes to the establishment of a palpable communication between the actor and spectator. In its basic definition, the monologue is an extended discourse delivered by one character and at least one other character, and the spectators, listen. Monologues themselves can be subdivided into multiple subcategories: the revelatory monologue, the dialogical monologue, the double monologue, the actional monologue, the informative monologue, the commentative monologue, the soliloquial monologue, and the descriptive monologue, among others. As a dramatic device,



the monologue has several functions, all of which are directly linked to the spectators. The monologues help to shatter the glass (or fourth) wall that supposedly separates the actors on stage from the spectators in the audience, thereby allowing direct communication. Through the monologues, the spectators hear a character's secrets, perceive the character's private emotions, and discover the interior motivations of that character. It is in this intermediary space, between the actor and spectator, where true communication can take place, thereby allowing the spectator to feel like an active participant in the dramatic production. A list of the theoretical underpinning includes Kier Elam, *The Semiotics of Theatre and Drama*; Ken Frieden, *Genius and Monologue*; and Michael Issacharoff, *Discourse as Performance*. By examining the monological sequencing in *Inexpressible Island*, in terms of language-style, function(s), and placement, one can see the development of the actor/spectator relationship in the play. The adept deployment of monologues invites the spectators to feel connected to the dramatic action, with the hope of their cultivating an increased awareness of, concern about, and eventually, passion for: Antarctica.

**Dr. Ellen Cressman** Frye studied at the University of North Carolina at Chapel Hill for her undergraduate major in Spanish, and she completed her Ph.D. in the Literature of Spain at the University of Pennsylvania, in Philadelphia. She is a tenured professor of Spanish at the William Paterson University of New Jersey, and her field of specialization is Renaissance and Baroque literature of Spain. Ellen's sub-specialty is the *comedia* (the generic term for a 17th c. play from Spain), specifically the actor-spectator relationship as established, maintained, and enhanced by dramatic devices, including the aside, soliloquy, monologue, and metatheater. For the past several years, she has also been examining and analyzing the literature of Antarctica, with the expectation of compiling an academic anthology.

**María Jimena Cruz**

Universidade Federal de Minas Gerais (Brazil)

### To eat or not to eat. Understanding Antarctica through food

Embarking in long trips away from the things that are common to us, is something that generates uncertain feelings in every human being because it implies the encounter with the unknown. One of the ways of coping with this situation and become familiar with these new places is through alimentation. By experimenting new flavours, new ways of preparing, sharing and eating, we construct memories through which we create a sensation of awareness with our surroundings.

Differently to other places, the Antarctic territory has not what it could be called as an "Antarctic cuisine". Nevertheless, the relation established between people and this place has existed for more than two centuries and alimentation has played an important role in this interaction.

Using the study case of the nineteenth century sealer industry, this presentation seeks to discuss how these groups of people generated new ways of obtaining, preparing and consuming food in Antarctica that allowed them to internalise, relate and generate memories of this territory. In order to achieve this, the sealer occupations in Byers Peninsula (South Shetland) will be discussed through archaeological and documental evidence.

**María Jimena Cruz** has a degree in Anthropological Sciences (Buenos Aires University, Argentina). At present she is a PhD student in Anthropology with historical archaeological orientation in the Federal University of Minas Gerais (Brazil). Since 2007 is member of the Antarctic Historical Archaeology Project, headed by Professor Andrés Zarankin and located in the Federal





University of Minas Gerais. Her study interests include the process of conformation of the modern world, zooarchaeological studies, alimentary practices and archaeological theory.

**Justina Dahl**

KTH - Royal Institute of Technology

### **For the common good of mankind – and Finnish cold region technology - A case study in justificatory technological determinism**

In 1984 Finland became the 29th country to ratify the Antarctic Treaty. Four years later it sent out its first national research mission to the Southern continent. This mission established a national research station on Queen Maud Land, which Finland used as a support for the application for a consultative status in the Antarctic Treaty System the following year. This paper studies the decision-making process leading to these actions. One of the main motivations in this process was the expectation that international research activities in Antarctica would increase significantly. This expectation based on the anticipated revision of the Antarctic Treaty in 1991, the 1970s oil crisis and the assumption that the world would at some point run out of known reserves of non-renewable natural resources. When this happened the global markets would inevitably turn towards previously unexploited regions such as Antarctica and the Arctic Ocean. Even though the start of resource extraction in these regions was still considered to be in the distant future, the process of getting there was seen to have already begun. Its progress was seen to open up a new market for Finnish cold weather technology. One of the reasons for this was the expectation that the know-how developed in the Northern hemisphere was considered to be directly transferable to know-how in the Southern polar region. The future resource extraction in Antarctica was also expected to take place with technology that “did not exist yet”. The difference in the development of Antarctic governance in the 1990s and these expectations illustrate the normative power of arguments attached specific technologies in global governance, the limits of their constitutive power, and the necessary acts of ‘forgetting’ in maintaining their legitimacy. In other words, they illustrate the constitutive power of justificatory technological terminism in action in global governance.

**Gabriel De Paula, Francisco Tuñez**

Universidad del Salvador

### **Resilience of the Antarctic Treaty System (ATS) in view of Climate Change (CC)**

Historically, geopolitical dilemmas have driven reform in international organizations. For example, the effects of the dissolution of the USSR can be seen in the reconfiguring of international relations, in security policies, and in the cooperation and economic integration that emerged during the 90s. Today, we identify Climate Change as a multiplier of global risks in terms of international security, since its effects impact on migration processes, the availability of strategic natural resources, global ecosystems, natural phenomena, etc. If we add to this factor the expansion of a global economy based on the 'extraction-production-consumption-waste' scheme and the growth of the world population, we can expect a growing pressure on the availability of natural resources in the coming years. This will have deep effects on the world order in general and on international relations in particular.



We take some international trends in order to present a prospective analysis and develop a proposal of policymaking. About trends, the World Economic Forum in its 'Global Risk Report' evaluates 30 risks and forecasts 13 trends, among which stand out climate change, environmental degradation and the growth of the middle class in emerging economies. Furthermore, the Intergovernmental Panel on Climate Change (IPCC) warns that due to global warming the negative effects will be more profound than those observed until now. By looking at these factors from a geopolitical perspective, the analysis shows that: 1. strategic security focuses on the economic variable, since no society can survive without supply; 2. scenarios of increasing scarcity due to population growth and its consequent pressure on food production, access to water, and industrial and technological development pose a significant danger to peace and stability in many regions; 3. this enables a global proliferation of disputes over natural resources.

About policymaking, in this scenario the ATS faces the dilemma of either maintaining the current governance scheme or redesigning its structure, in order to respond to the challenges posed by a world with high levels of uncertainty. So, we need to discuss how the Organization is able to manage institutionally the Antarctic activities of the nations with vested interests in the continent, and others that would want or need to join the system in the near future. We will briefly analyse the evolution of the Antarctic Treaty and related agreements in past, in order to reach a work plan in line with the current situation.

The key point is the level of resilience (adaptation to change) of the ATS in relation to the proposed scenario. In this way, based on the previous analysis, we suggest: the creation of a strategic and operational control mechanism over Antarctic activities, such as a joint force with law enforcement capabilities; and a greater convergence of research about areas of strategic interest in Antarctic affairs.

**Gabriel De Paula.** Graduate in International Relations at Universidad del Salvador (Argentina), also he attended postgraduate programmes on international law, military affairs and policymaking at National Defense University (USA) and Universidad de Buenos Aires. Currently is a teacher of geopolitics in the International Relations course at Universidad del Salvador, and works as advisor at Ministry of Security. His fields of knowledge are natural resources, security and defense policymaking, international cooperation and strategic studies. He is author of specialized articles and speaker in conferences in Argentina and other countries.

**Francisco Tuñez.** Graduated in Political Science at Universidad del Salvador (Argentina), finished with a thesis titled "Antarctic Geopolitics in the XXI Century". In august 2018 presented as speaker "The Geopolitical dimension of Climate Change" at the "II Conference on Political Science" of the Universidad de Buenos Aires (UBA), within the panel "The World Order from the South". Since July 2015 is assistant in the chair of Argentinian Foreign Policy" in the Faculty of Political Science of USAL. And from 2008 to 2011 he was a researcher of the Area of Natural Resources in the CAEI (Argentine Center of International Studies) focused on the Antarctic area.



Eugenio Facchin<sup>1</sup>, Pablo Fontana<sup>2</sup>, Carlos Vairo<sup>3</sup>, Consuelo Leon<sup>4</sup>, Mauricio Jara<sup>5</sup>,  
Nelson Llanos<sup>6</sup>, Waldemar Fontes<sup>7</sup>

1. School of Marine Sciences
2. Instituto Antártico Argentino
3. Museo Marítimo y Antártico de Ushuaia
4. Universidad Playa Ancha, Chile.
5. Centro de Estudios Hemisféricos y Polares, Chile.
6. Universidad Playa Ancha, Chile
7. Instituto Antártico Uruguayo

### Latinoamerican Visions of Antarctica Between 1940 and 1950

This work arose from an idea conceived at the XVII Encounter of Latin American Antarctic Historians, held in Montevideo in 2017. Within this scenario we, who attended the Encounter reached the same conclusion: that there is a big gap in the Antarctic history in the forties, especially as regards the actions taken by Argentina, Chile and Uruguay in different aspects.

At that time it seemed to us that historians, researchers and expedition members of the White Continent might unite and tell, asserting as a historical truth based on documents and research, about the experiences lived by each country in that decade. Thus, a group was formed with scientists and historians having undergone several Antarctic campaigns—who provide us with a direct view and allow us to understand the facts from another perspective –, in addition to researchers who have for long reviewed records and other sources and performed comprehensive pedagogical work with an outstanding outcome.

It was also made evident that many countries from the Northern hemisphere know little about the subject. Therefore, we agreed that the edition of this book should be bilingual, both in Spanish and in English, as there is scarce written material in the language prevailing in the Northern hemisphere.

**Dr. Eugenio Luis Facchin** / A Retired Naval Captain and veteran of the Malvinas War, he holds a doctorate in Political Science, a Master's in Research Methodology, and a postgraduate degree in Administration awarded by ESAN University in Lima, Perú. He is the author of two books, *Antarctica: Beyond Sovereignty* (*Antártida más allá de la Soberanía*) and *One Boat, Two Flags, a Thousand Combats* (*Un buque, dos banderas, mil combates*), and has published more than 30 articles in specialized journals, some pertaining to Arctic topics, global warming, merchant marines, and others to more generalized themes. He is a tenured professor in the School Cartography (Licenciatura en Cartografía) within the School of Marine Sciences (Escuela de Ciencias del Mar), Buenos Aires, responsible for teaching "Enlistment and Preparation of Personnel and Vessels for Operation in Polar Waters" ("Alistamiento de personal y buques para operar en aguas polares"), an international course on Antarctic navigation. He acted as Ice Master on the passenger ships *Marco Polo* and *Ocean Dream* on their Antarctic voyages. He is a member of the Group of Latin American Antarctic Historians (Grupo de Historiadores Antárticos Latinoamericanos). He is currently dedicated to teaching and to historical research.

Nadia Farias Cárdenas  
Universidad de Playa Ancha

### "What do the History and Geographic teachers think about Antarctica?"

This research aims to investigate how teachers of the subject of History, Geography and Social Sciences, a public and emblematic School of Santiago Centro, means and defends our





tricontinental from the Chilean Antarctic territory, the absent theme in plans and programs the subject despite the importance that today the white continent has in multiple dimensions.

It also presents a qualitative methodology applied to a particular case study and not generalizable to other subjects, since it aims to study the perceptions of a specific group of teachers. The subjects interviewed carry out classes in the classroom and impart the current curriculum according to the ministerial regulations and respond to government guidelines. The analysis of the data collected in the interviews was carried out through the NVIVO12 program, specialized in qualitative data, which revealed six key categories for the exhaustive study of the perceptions and meanings of the subjects interviewed. The categories were also analyzed according to the degrees of integration present among them. The categories were also analyzed according to the degree of integration present among them, in order to achieve a thorough analysis of the data collected and closer to the subjects interviewed.

The results allowed to extract essential axes around the objectives set out in the research: the objective curricular dimensions and the particular subjective actions of the teachers in the treatment of the subject, the perception of the Chilean National Curriculum in the teaching experience of the subjects and finally, the projections and limitations that the theme has in the new Curricular Bases of the New Educational Reform begun in 2014 and that is still on going.

Likewise and according to the results found, a parallel is established between the Chilean curricular reality with the neighboring countries of the South American cone regarding the presence of the Antarctic theme and how the teaching perceptions of the research are situated in a Latin American scenario Antarctica and national programs.

**Nadia Fariás Cárdenas**, Chilean, Professor and Bachelor in History and Geography from the University of Playa Ancha (2015). Master's Degree in Education, Curriculum and Educational Community of the University of Chile (2018). Member of the Center for Hemispheric and Polar Studies (CEPH), Academic Assistant of the University of Playa Ancha, Head of the Department of History, Geography and Social Sciences of the Manuel Barros Borgoño High School in Santiago center where she is also a classroom teacher in secondary education. He has participated in several Antarctic meetings such as EHAI, XV, XVI, XVII and XVIII, Antarctic Seminars of the University of Magallanes. Winner of the Carlos Morla Vicuña prize by the Valle Hermoso Foundation with undergraduate thesis on Magallanes (2016).

**Raphael Fernandes Vieira**

Instituto de Relaciones Internacionales of Universidad Nacional de La Plata (IRI-UNLP)

### **How to build a South American joint strategic policy for scientific research in Antarctica: the possibilities, needs and what can be learnt from the European experiences**

This essay is a preliminary work, which will be developed in a doctoral project. It seeks to evaluate the possibilities and conditions for establishing a joint strategic policy for scientific research between all the South American countries that currently develop scientific activities in Antarctica. It can be located in Geopolitics of the Polar Regions and also in History of Polar Science. The historical context consists in the period between 1987 – year of the first reunion of the Reunión de Administradores de Programas Antárticos Latinoamericanos (RAPAL) – and the present. Therefore, the structures of its respective programs and national policies towards the Antarctic continent will be analysed. Likewise, the Netherlands Polar Programme (NPP) and the EU-PolarNet, an European partnership where the NPP participates, will be the objects of study,



with the aim to find practices and methods of cooperation that might be useful or adapted to the South American reality, according to its specific characteristics and needs. This work seeks to prove that is possible to increase the scientific and academic production about Antarctic matters if the countries involved develop a genuine cooperation, as well that this cooperation could mean an actual reduction of expenditures per country, meanwhile the total investment could be increased. Finally, we expect that cooperation could encourage and deepen the exchange and integration between the scientific polar communities of these South American countries. The bibliography will consist of official and institutional material provided by the States and agencies, as well as a variety of academic works about the addressed topics.

**Raphael Fernandes Vieira** / B. A. in International Relations from UniBH. Graduate student of Specialization in Military History from Universidade do Sul de Santa Catarina (UNISUL). Master student in International Relations from Instituto de Relaciones Internacionales of Universidad Nacional de La Plata (IRI-UNLP). Regional Coordinator of Brazil Group of Red Federal de Estudios sobre Malvinas (ReFEM 2065). Researcher in the Strategic Studies, International Security, National Defence and Foreign Policy in the South America, South Atlantic and Antarctic – especially Malvinas/Falklands Question - and Middle Eastern – specifically Israel and Syria - regions.

**Luis Valentín Ferrada W.<sup>1</sup>, Akiho Shibata<sup>2</sup>**

1. Profesor Asistente, Departamento de Derecho Internacional Facultad de Derecho, Universidad de Chile, Chile
2. Director, Polar Cooperation Research Centre (PCRC) and Kobe University Graduate School of International Cooperation Studies, Japan

### Policy-law-science Nexus in the Decision-making for Antarctica (PoLSaNex)

This panel will discuss and analyze the policy-law-science nexus within the current Antarctic governance framework and to articulate the practical significance of understanding such a nexus, so as to inform stakeholders how science-based decision-making relevant to Antarctica is actually operationalized. Some specific topics or areas of interests could be (numbers in parenthesis correspond to *SCAR Horizon Scan* questions): (a) marine protected areas (MPAs) in the Southern Ocean (61, 66); (b) Antarctic Specially Protected Areas (ASPA) and Specially Managed Areas (ASMAs) (68, 74); (c) invasive species in the Antarctic (55); (d) biological prospecting in the Antarctic (43, 44); (e) environmental liability in the Antarctic (74); (f) environmental impact assessment in the Antarctic (53, 74); (g) large-scale scientific establishments and logistical facilities in the Antarctic (75); (h) marine scientific research in the Southern Ocean (12-23); (i) “commercial” activities in the Antarctic, including Antarctic tourism (78); etc.

This panel is a part of a larger research proposal for a new SCAR Action Group on Resilience and the Future of Science-based Decision-making for Antarctica (PoLSaNex).



Patrick Flamm

Victoria University of Wellington, New Zealand

## **Warming on the Ice? Assessing the Evolving South Korea-New Zealand Antarctic Cooperation in Logistics, Policy, and Science**

While the Antarctic Treaty System (ATS) intended to keep Antarctica an area of international cooperation and science free from militarization and international conflict, it is not protected from global and regional power transitions today. Among the emerging players from Asia, South Korea has been identified as an actor with polar interests that could potentially challenge the status-quo of Antarctic governance (Brady and Kim 2013). After thirty years of limited Antarctic presence on King George Island, South Korea has invested heavily in its Antarctic infrastructure and capabilities the last decade with the building of a new icebreaker in 2009, a second research station in Terra Nova Bay in 2014 and a tenfold increase of the budget for the Korean Polar Research Institute (KOPRI). This raises questions about what South Korea wants from its expanded presence in Antarctica and how challenging Seoul's demands are perceived to be for the existing Antarctic order. How was this bilateral cooperation experienced so far and how is it valued especially with regard to a stagnating US Antarctic program and a growing Chinese polar presence, by the Korean and Kiwi governments and the scientists? How do the NZ government and Antarctica New Zealand perceive South Korea scientific and policy interests? Does Wellington see any chance in socializing Seoul through engagement, changing Korea's 'potentially challenging' interests?

The paper at hand is an assessment of Antarctic cooperation between South Korea and New Zealand, which is crucial in terms of logistics for the newly established Jang Bogo research station through Christchurch, the scientific cooperation between New Zealand Antarctic scientists and KOPRI as well as the bilateral Antarctic policy-coordination, which was institutionalised in a bilateral agreement in 2012. This paper argues that New Zealand indeed tried to get Korea "to buy in" to the current Antarctic governance system and that South Korea is (for now) very much content with being a status quo power and having a "seat at the table." The main sources for this analysis consist of textual analyses as well as interviews with government officials from the respective foreign ministries, embassies, logistics teams, as well as polar scientists in South Korea and New Zealand.

Carolina Flores

University of Chile Law School

## **Preventive measures regarding tourism environmental risks**

The seventh point at the agenda of the XLI Antarctic Treaty Consultative Meeting (Buenos Aires, 2018) addressed the topic of tourism and non-governmental activities inside the Antarctic Treaty Area. Accordingly, the Final Report included an account of people arriving at the continent<sup>1</sup>, showing that in season 2017-2018, 45.808 persons visited Antarctica by ship or aircraft. If the previous numbers are compared with the approximately 1.000 tourists that visited Antarctica in season 1957-1958, the 27.000 tourist that went in 2003-2004 season<sup>2</sup> and the 33.962 on the 2012-2013 season<sup>3</sup>, the conclusion is that Antarctic tourism is increasing at a fast pace. Consequently, the numbers will continue raising as new technologies for ease traveling are being developed, allowing more people to visit the continent. These new visitors may be each time a broader public, different from the trend observed nowadays, that brings mostly



people interested in science and concerned for Antarctic's environment<sup>4</sup>. In addition, touristic activities are getting more diverse, including new "experiences" such as ski expeditions, marathons, scuba diving or meteorites collection for non-scientific purposes, between others. In the previous scenario, the environmental risks of tourism are increasing day-by-day.

The aim of this paper is to make a report of the environmental consequences that tourism may bring to Antarctica from a scientific point of view, describing how policy and law in the Antarctic Treaty System are reacting to prevent these risks. The previous idea will be developed in two analysis levels. In the first place, the research will give an overview about the measures that the Parties on the Protocol of Environmental Protection to the Antarctic Treaty (the Environmental Protocol) and tourism operators are taken in order to fulfill the commands given at articles 3, 13.1 and 8.2 and, therefore, to prevent environmental damage. In a second level, it will make a description about how the Chilean State is considering the potential damages that tourism may cause to Antarctica, detailing the way in that policies and legal measures are taken for preventing them.

Finally, this paper will make a proposal regarding how Chilean policies and laws should be modified in order to fulfill the Environmental Protocol framework.

#### References:

1. Final Report XLI ATCM (Buenos Aires, 2018), Item 7<sup>a</sup>. Information delivered by the Association of the International Association of Antarctic Tour Operators.
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3. Final Report XLI ATCM (Buenos Aires, 2018), *Op cit*.
4. Kees Bastmeijer, "Tourism in Antarctica: Increasing Diversity and the Legal Criteria for Authorisation", *New Zealand Journal of Environmental Law*, Vol. 7(2003): 92.

**Carolina Flores** has a degree in Law and Social Sciences (University of Chile Law School) and a Postgraduate Diploma in International Studies (International Studies Institute, University of Chile). She worked as a law clerk at Nuñez Muñoz Verdugo law firm, specialized on Mining Law. Her undergraduate thesis was titled "Environmental Liability in Antarctica. Comparative analysis between Chile's and United Kingdom's situation" and it was developed within the FONDECYT Project "Estudio comparado de la protección del medio ambiente antártico en el derecho doméstico de Chile, Argentina, Reino Unido y Estados Unidos", leaded by Professor Luis Valentín Ferrada. Her article "Chilean Antarctic Policy and legal development of environmental liability on Antarctica" was awarded with the first place on the 1<sup>st</sup> International Law Congress organized by the students of University of Chile's Law School in 2017. She currently works as Assistant of the International Affairs Office at University of Chile Law School.

**Pablo Fontana**

Argentine Antarctic Institute

### Shooting the arise of the Antarctic overwintering social institution

In 1927 the Argentine José Manuel Moneta, head of the Meteorological Station at Laurie Island, shot there the documentary *Among Orkney Islands ice* (Entre los hielos de las islas Orcadas). Through a sociohistorical analysis of its representations, this paper considers this film as a cinematic document of a new Antarctic social institution, which includes a series of practices internalized by scientists overwintering on permanent stations. Since 1904 these practices were



institutionalized through logistical and scientific crews that are yearly relief and today this is one of the most characteristic features of the Antarctic science. The film shows a new form of human activity in Antarctica in a way that differentiates from the heroic age and its most characteristic elements. There, a scientific station becomes the space where scientific activity develops over twelve months, repeating itself each year with a set of elements and social practices that defines it to the present. Moneta shot the documentary during his third winter in Antarctica. He overwintered four times, so he knew very well the details of regular overwintering scientific experience and filmed those practices in the Antarctic environment to show them to the society. Here we will also use his book *Four Years in the South Orkney Islands* (Cuatro años en las Orcadas del Sur) to complement the analyses with other media and understand how this Antarctic social institution was perceived at that time.

**Pablo Fontana** is a researcher of the Argentine Antarctic Institute and has a PhD in History from the University of Buenos Aires with a scholarship from the National Council for Scientific and Technological Research (CONICET). He has also had two research stays for the PhD in Berlin with two scholarships granted by the German Academic Exchange Service (DAAD). He has presented papers at various international academic events and published the book *La pugna antártica: el conflicto por el sexto continente (1939-1959)*.

### Waldemar Fontes

Uruguayan Antarctic Institute

### The intrinsic values of Antarctica as educational resources

In the different educational levels, the study of Antarctica is focused only on the generic aspects as a geographical region with particularities of extreme climate and poor and specific fauna and flora. However, due to its isolated and extreme location, humanity has had to find new ways to explore and discover its mysteries, incorporating cooperation and solidarity as values to be taken into account.

Freedom, equality and sharing, are main values to stand out in an extreme environment that makes us aware that if it is not protected as a whole, could harm the entire planet.

Knowing how to work in Antarctica and how people from different cultures cooperates and shares, is a valuable resource that should be incorporated into educational programs, as a way to prepare the next generation of Antarctic explorers.

This paper analyzes activities and projects that are being carried out in Uruguay, drawing conclusions and recommendations that could be taken into account for their application in other countries.

**Waldemar Fontes** / I've been related to Antarctica since 1999, working in the field as the Commander of the Uruguayan Station "Artigas" in three different campaigns. Participating in the Meetings related to Antarctica since 2008 to 2014 (ATCM, COMNAP, CCAMLR, RAPAL).

I've been working in Education and Outreach about Antarctica, as the Director of Public Information of the Uruguayan Antarctic Institute, (from 2010 to 2014), and also as the Editor of the Newsletter "*Copos de Nieve*" a digital magazine publishing information from the Uruguayan activities in Antarctica and as a mentor in APECS since 2010.





At present I'm the Director of the Antarctic Training Center of the Uruguayan Antarctic Institute and member of the board of the Civil Association "Antarkos", a NGO that supports the presence of Uruguay in Antarctica, as coordinator of the Education and Outreach Team.

Bob Frame, Alan Hemmings, Daniela Liggett, Gabriela Roldán  
Gateway Antarctica, University of Canterbury, New Zealand

### Shaping Antarctic connections and futures: Workshop

With increasing interest in possible futures for Antarctica, we seek to explore potential possible scenarios – some plausible, others more challenging. To do so we will draw on a mix of Antarctic research and futures studies informed by published work over the last decade.

We seek to create a productive environment in which SC-HASS delegates can explore future issues and uncertainty facing Antarctica that will also increase futures literacy. The session will be a highly interactive, entertaining and provocative workshop to stimulate connections that might shape future possibilities for the Antarctic in line with the conference's overall objectives. It is proposed that this be an afternoon or early evening session of 3-4 hours with light refreshments ideally sponsored by a local host.

The session aims to highlight diversity and inclusivity. To achieve this, it will be conducted in at least two of the Antarctic Treaty System's five languages (Spanish and English, and if the participants are sufficiently diverse, we will offer Mandarin as another option) and, subject to availability, represent voices other than just those of the global research community. In particular, this workshop seeks to draw on government and businesses in Argentina, including those of the local community.

In this workshop, we will first facilitate delegates to explore a broad range of multi-disciplinary trends relating to Antarctica and to identify what, if any, linkages there might be between these. This will be supported by a series of *Thought Starter* cards identifying trends impacting on Antarctica between 1957 and 2019 and asking participants to dwell on where these might be headed. These will interspersed with four expert presentations (Environment, Economy, Human and Institutional futures for Antarctica) in the Pecha Kucha style, i.e. no more than 6 minutes each in duration.

Participants will then self-manage their interests through a process facilitated by representatives from Gateway Antarctica. Together the session will create an overall design for a set of scenarios for Antarctica to 2100. If this proves too ambitious, a pre-populated published set of scenarios will be available.

The final section will invite participants to reflect on the process of the workshop and identify their learnings from the experience and how that might impact on research practice and on the ways in which researchers, policy makers, business operators and local communities in gateway cities might engage in developing more robust scenarios for the future of Antarctica, and how these might be deployed to stimulate informed debate.

**Bob Frame, PhD; Researcher, New Zealand** / Bob Frame is a transdisciplinary researcher with a strong interest in long-term futures. He is currently involved in both the cultural heritage of, and imaginings for the future of Antarctica as well as development of climate change scenarios at national and local levels. He has published extensively on these and other social



science topics including social license to operate; sustainability issues and international development. In a previous life he was a materials physicist.

**Daniela Liggett**, PhD; Senior lecturer, University of Canterbury, Christchurch, New Zealand / Daniela is a social scientist with a background in environmental management, Antarctic politics and tourism and research interests in polar governance, polar tourism, the wider aspects of managing human activity in polar environments and the complexities of Antarctic values. She is currently involved in collaborative research on the topics of Antarctic futures, Antarctic gateway cities, the use and provision of polar environmental forecasts, Antarctic science-policy interactions, and Antarctic heritage. Daniela has been actively involved in the Association of Polar Early Career Scientists (APECS) – as a President for one term, as a member of the Executive Committee for two terms, and as a member of the Advisory Committee since 2012. She has also contributed to the Scientific Committee on Antarctic Research's First Antarctic and Southern Ocean Horizon Scan, is a Chief Officer of the Scientific Committee of Antarctic Research's (SCAR) Standing Committee on the Humanities and Social Sciences (SC-HASS) and a member of both SCAR's Standing Committee on the Antarctic Treaty System and its Capacity Building, Education and Training Committee. Daniela is one of the co-chairs of the Societal and Economic Research and Applications (SERA) subcommittee of the World Meteorological Organization's (WMO) Polar Prediction Project (PPP) and also serves on the PPP Steering Group. She is on the editorial boards of Polar Geography, The Polar Journal and Advances in Polar Science.

**Gabriela Roldán** is a PhD candidate at Gateway Antarctica, University of Canterbury (NZ). Gabriela's interest range from Antarctic geopolitics, political sociology, polar policy and management, Antarctic tourism, and polar education and outreach. Gabriela has been involved with the APECS leadership since 2016, and represents the association in different polar expert groups. Gabriela has visited Antarctica over 50 times.

### Andrea Herbert

University of Canterbury, Gateway Antarctica, New Zealand

### Polarizing the community: informal settlements, marginal identities, and the performance of belonging in Ushuaia, Antarctic gateway city

Ushuaia, the Argentine Antarctic gateway city, is one of the most prosperous places in Argentina, but the first impression of an exclusively wealthy place is misleading: there is an economic and socio-cultural hinterland. From the mid-2000s on, informal settlements have sprung up in the forest belt above the city. Estimates say around 10% of Ushuaia's population is comprised of people squatting in different types of abodes.

Based on fieldwork in 2011/12 and a follow-up study in 2018, this paper explores perceptions around land, land use, community organising, and population dynamics in the city of Ushuaia. Focusing on two settlements in the city's east, informal settlers' lived experiences and their aspirations are juxtaposed with processes of urban development and the views of part of the formally tenanted population.

Ethnographically exploring a topic that has divided and incensed Ushuaian discourse for decades, and giving a voice to inhabitants of informal settlements, aims to add depth to an otherwise incomplete depiction of Ushuaia as a tourist town. I argue that informal settlements are an integral part of the city that may well add value to touristic enterprises and enrich the tourist gaze at the southernmost town in the world.

**Andrea Herbert** earned her PhD in Anthropology and Antarctic Studies from the University of Canterbury, New Zealand, in 2014. She completed the Postgraduate Certificate in Antarctic Studies in 2017 and has since worked in various roles to do with



Antarctica, including teaching (Gateway Antarctica), co-organizing the 2017 Antarctic Season Opening (The Antarctic Office), and as an expedition guide to the Antarctic Peninsula. She is currently working for the Antarctic Environments Portal.

Rebecca Hingley  
UTAS/IMAS

### **Australia's historic rocks, plaques, and huts: How do states deploy Antarctic material heritage for geopolitical means?**

Only a few attempts have been made to investigate the direct correlation between Antarctic geopolitics and heritage so far: Ricardo Roura has briefly surveyed the historic sites and monuments and their political consumption, identifying key trends; Bryan Lintott has performed a case study on Scott and Shackleton's Huts and their significance to international relations; and Dag Avango has given an account on Antarctic, as well as Arctic, heritage sites distinguishing between material historic remains and cultural heritage sites in the process. The common denominator for these three accounts is the official list of Historic Sites and Monuments (HSMs) created in 1972. The list currently contains 92 entries and offers a neat collection of tangible samples of Antarctic cultural heritage.

How political actors manipulate the governance of Antarctic heritage both on as well as off the continent, however, is yet to be examined. Depending on their audience, states in particular may adopt differing strategies to best exploit the political value these HSMs have to offer. For example, during bilateral and multilateral interactions with their peers they might exercise unconventional forms of sovereignty to craft HSMs as an instrument of occupation, effectively using them to demonstrate past, present, as well as intended future, presence in the region. When interacting with their constituents in the intra-national context, on the other hand, they might orchestrate, encourage, allow or deny certain reproductions of these HSMs in Antarctica, that in turn reinforce a particular national Antarctic narrative.

In order to better grasp why states act the way they do with regard to the regulation of historic material remains in Antarctica, this paper will focus on just one nominating party and its entries on the HSMs list: Australia. Despite laying claim to 42 per cent of the Antarctic continent, Australia has just four historic sites or monuments featuring on the list: three rock cairns and Cape Denison. This paper analyses Australia's proposal and management of these HSMs on the continent, and examines the extent to which it is involved in their reproduction off it.

**Rebecca Hingley** / Rebecca is a PhD candidate from the School of Humanities and the Institute for Marine and Antarctic Studies (IMAS) at the University of Tasmania (UTAS), Hobart, Australia. Her project is investigating the geopolitical significance of Antarctic heritage and she is now in her second year of candidature. Prior to undertaking this project, she completed a Master of International Affairs and Bachelor of Arts at the Australian National University (ANU), Canberra, Australia.





Isabel Hofmeyr

University of the Witwatersrand

### **Sub-antarctic islands, sub-imperialism and national boundaries: some literary reflections from South Africa**

South Africa's sub-Antarctic island possessions (Prince Edward Island and Marion Island) are little known outside the scientific community. Few South African citizens have ever heard of them. Nonetheless, these islands constitute part of South Africa's sovereign territory and raise the question of what such far-flung possessions mean for an understanding of national sovereignty, national history and particularly national literature.

What might it mean to reconsider the contours of a national literature from the vantage point of the sub-Antarctic islands? This paper addresses this topic by focusing on three texts:

- African Mirror newsreel reports from the 1930s on whaling expeditions and scientific groups leaving Cape Town harbour for the Antarctic.
- a series of contemporary popular science accounts of Prince Edward Island which reprise many 'pioneering' genres of discovery;
- poetry by Yvette Christiansë (2009) on indenture and slavery focused on Robben Island and St Helena which draws together the carceral archipelagos of the Atlantic and Indian Ocean while referencing the sub-Antarctic islands as stepping stones for global resource colonialism.

The paper argues that these various accounts either radically unsettle the idea of the nation or reinscribe it in retro-imperial idioms, or in some cases, do both.

**Isabel Hofmeyr** is Professor of African Literature at the University of the Witwatersrand and Global Distinguished Professor at New York University. She has worked extensively on the Indian Ocean world and oceanic themes more generally. Recent publications include *Gandhi's Printing Press: Experiments in Slow Reading* (2013) and a special issue of *Comparative Literature* (2017) on 'Oceanic Routes' co-edited with Kerry Bystrom. She heads up a project Oceanic Humanities for the Global South <https://www.oceanichumanities.com/> with partners from Mozambique, Mauritius, India, Jamaica and Barbados.

KPC Hudson

Bond University, Australia

### **Vernacular of Exploration: development of an architectural presence in Antarctica**

The earliest recorded human occupants that inhabited the continent of Antarctica were the men of the Heroic Age of Exploration. In the lack of an endemic culture, they were given a blank slate to formulate the image of what it meant to live in the Antarctic. The resulting paradigm reflected the demographic makeup of these early expedition parties. Antarctica was viewed at the time as one of the last terrestrial frontiers. Men could be men, they could prove themselves against the raw elements, affording them the opportunity to conquer the unknown. Despite an expressed interest, women were not included in the early explorations. They did not crack into the all-boys club at the scientific research stations as active participants at the earliest in the late 1950s and as late as the mid-1990s in some instances. The structures constructed would have



to manifest those male-centric beliefs and not the cushy Edwardian trappings of home. However, these were still civilized men with the need to show their dominion, display their mastery of this wild untamed wilderness. It was this latter aspect which is expressed in the architectural interventions, but on their terms and from their cultural background. There are distinct themes found in the documented shelters that correlate to the traditional vernacular architecture of the supporting countries.

Anything constructed can't persist in Antarctica without taking the extreme environmental conditions into consideration. Beyond their occupants' values, the buildings had to contend with intense cold, winds, and drifting snow. Which was compounded by the tremendous isolation of the continent restricting access to building materials and difficulty of transportation. As a result, the prefabricated huts that were brought with some of the expeditions were designed with the primary function of shelter and survival interlaced with aspects of the men's' principles. This is best illustrated in the records of improvised emergency shelters, where specific rituals or organization are upheld.

This paper investigates the architectural form; how it was influenced by these philosophies and how these core beliefs of the explorers have continued to inform contemporary design. Beyond the natural limitations of Antarctica, it is those initial colonizing attitudes that created further restrictions on the building design and execution. In turn, the resulting architectural interventions have been utilized to maintain that explorative paradigm of what it means to live in Antarctica.

**Dr. Hudson** is a PhD candidate at the Abedian School of Architecture at Bond University in Queensland, Australia with a previous Doctor of Architecture from the University of Hawaii at Manoa, originally hailing from Vermont. Her research focuses on the evolution human behavioral patterns within architectural interventions specific to colder climates. This centers on the concept of biophilic design, ecological architecture, and vernacular building and how these have been employed in locations that range from northern New England to Antarctica.

**Rachel Innes**

Gateway Antarctica, University of Canterbury, New Zealand

### The Mobilisation of Antarctic research in the Anthropocene

Antarctic research becomes enacted through complex and interdependent networks, institutions and relations. This research explores the practices of Antarctic research by considering the material and structural relations that come to enable such research, and the communities of practice and technocratic structures through which knowledge is produced. Technoscientific objects describe and translate the Antarctic environment into past histories, present truths and anticipated futures where Antarctic research is enacted, translated, practiced and embedded in the material relations that help produce it. In the Anthropocene, uncertainty emerges in Antarctic research in numerous ways and we see an enrolment of technologies of anticipation within Antarctic research to meet the demands for predictive science where time and risk emerge together in abstraction elusive to management practices. This research explores how Antarctic research is made possible.

**Rachel Innes** / Rachel is a recent Master of Antarctic Studies graduate of the University of Canterbury in Christchurch, New



Zealand. She is an anthropologist and ecologist whose research explores material semiotics in Antarctic research, knowledge production and Antarctic futures.

### Julia Jabour

Institute for Marine and Antarctic Studies (IMAS), College of Sciences and Engineering,  
University of Tasmania Australia

### Panel: Antarctic Treaty System Resilience

This panel will launch the international project 'A legal examination of the resilience of the Antarctic Treaty System to future challenges' with the aim of establishing, through presentations, and audience enquiry and participation, what the perceived future challenges to the Antarctic Treaty System are. The panel will form a crucial first step in the project, which involves a group of legal scholars from around the world examining the resilience of the legal instruments within the ATS. The panel is expected to conclude with a set of recommendations for future challenges that can be examined from a legal point of view. This project is a part of a larger research proposal for a new SCAR Action Group on Resilience and the Future of Science-based Decision-making for Antarctica (PoLSciNex), which will analyse the policy-law-science nexus within the current Antarctic governance framework with a view to articulating the practical significance of understanding such a nexus, so as to inform stakeholders how science-based decision making relevant to Antarctica is actually operationalized.

**Dr Julia Jabour** is leader of the Ocean & Antarctic Governance Research Program at IMAS. She has been researching, writing and lecturing on polar and marine governance for more than 20 years. Most of her teaching and research is transdisciplinary, combining law, policy and international relations. Julia has visited Antarctica six times, and been an observer on the Australian delegation at Antarctic Treaty Consultative Meetings on a number of occasions. Julia teaches into a variety of marine and Antarctic law and policy undergraduate and postgraduate units and has had teaching assignments in Iceland (ongoing), Malaysia, Vietnam, Iran, Japan and New Zealand. She was a SCOR Visiting Scholar to Iran in 2017 and Visiting Professor at Kobe University Graduate School of International Cooperation Studies, Japan, in 2018.

### Adele Jackson

Gateway Antarctica, University of Canterbury, New Zealand

### Interpreting the rise and fall of artists' presence in Antarctica

Visual and artistic representations of Antarctica are central to our critical imagining and understanding of the continent, its environments, and human activity there.

The establishment of annual Antarctic artist residencies in the 1980s, by the National Science Foundation, the Australian Antarctic Division, and Antarctica New Zealand, resulted in an increase in the number of artists and the range of artistic responses to Antarctica. Following the turn of the millennium, the number of opportunities for artists to work in Antarctica dramatically increased with a much more diverse range of host countries and artists participating in Antarctic-based arts initiatives but in 2018 the numbers appear to have dropped back down to pre-2000 figures.



These findings are taken from a database that I collated to chart Antarctic visual artists and image-makers and their host countries. My records start from 1772 with the first documented expedition to venture below 60° south, through to 2018. Researching and compiling the database provided a context for my PhD study in which I am exploring 'the value of contemporary visual artists working in Antarctica'.

In my talk I will present a timeline to illustrate patterns in Antarctic artist initiatives. The timeline will enable a discussion about the historic and contemporary context of artists' presence in Antarctica. Some of the factors which contribute to the establishment and retraction of Antarctic artist programmes will be explored. It appears programmes led by passionate individuals, rather than those embedded in an organisation's mission and values, are more vulnerable at times of change, and susceptible to being short-lived.

Art makes a significant contribution to our critical engagement with issues concerning Antarctica and the wider world. Reflecting on the history of artists working in Antarctica can play a vital role in ensuring that artists continue to have a presence in Antarctica.

**Adele Jackson** is an artist and a PhD candidate at Gateway Antarctica at the University of Canterbury in Christchurch, New Zealand. In her research and art work Adele is interested in the interrelationships between people, places, culture and nature. Concurrent to her PhD research, Adele is leading *Antarctic Sun Lines*, an international arts project exploring the connection between the sun, Antarctica, and human activity. Through a collaboration with the Council of Managers of National Antarctic Programs (COMNAP), every Antarctic research station is participating in *Antarctic Sun Lines* in the 2018/19 season. Adele has worked in Antarctica since 2014, first as an expedition photographer within the polar tourism industry and more recently for the UK Antarctic Heritage Trust as Base Leader and Conservation Team Field Assistant.

**Mauricio Jara**

Universidad de Playa Ancha, Valparaíso, Chile

### **The Chilean professor Julio Montebruno and The Antarctic In 1908. ¿A pending national challenge?**

Professor Julio Montebruno López (1871-1947) was the first Chilean teacher to produce manuals on universal history, European, African, Asian, Oceanic, American and Chilean geography for secondary education in the country. In addition to the various editions of the aforementioned atlases and textbooks, these collaborated in the formation of many generations of national students in the identification and understanding of the main universal historical events and in the advances and new discoveries of the world geography.

In this paper the historical and geographical views that Montebruno had on the poles of the earth and in particular on the geography of Chile and Antarctica will be presented after attending on behalf of Chile the IX International Congress of Geography held in Ginebra between the 27th August and September 6, 1908.

Rescuing Professor Montebruno from polar oblivion and integrating his insights into Chilean Antarctic History is, without a doubt, the main objective of this presentation.

**Mauricio Jara** / Doctor History, University of Chile. Professor, History Department, University of Playa Ancha, Valparaíso, Chile. Author of articles and works referred to the Chilean Antarctic History. Permanent participant of the Meetings of Latin



American Antarctic Historians EHAI and of the Conference 'Magallanes, Austral Islands and Chilean Antarctic' co-organized by UPLA and UMAG with the auspices of the Valle Hermoso Foundation, Chile. Researcher responsible FONDECYT N ° 1170314 (2017-2019).

### **Julián Kelly**

Instituto de Cultura, Sociedad y Estado  
Universidad Nacional de Tierra Del Fuego, Antártida e Islas del Atlántico Sur

### **Foreign policy and Science. Argentina in the Antarctic and the Oceans Regimes (1991-2017)**

This paper attempts to show that the international regimes (IR) that regulate Antarctica and the southern oceans were established from well-defined historical junctures, this gives them specific characteristics that provide the periphery actors with a regulatory and policy framework through which the countries can reduce the world order asymmetries in a particular issue and, therefore, increase the decision making capacity in the international sphere. In order to do so, the periphery actors need to develop a coherent policy around the issue. In addition, Antarctica and the southern oceans are two arenas where the foreign policy relies on science, a non-traditional resource, to achieve its goals. Science plays a key role, as it is the primary instrument when it comes to make proposals, to negotiate or to cooperate, among others, within the international institutions. One of the main reasons for this to occur, as previously noted, is to be found in historical junctures that determined the main characteristics of these regimes.

To do this we analyse the international and the domestic levels focusing on its institutions and science as a key factor in both levels. In this work, the IR are considered from two perspectives: i. as a set of principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue- area of international relations, ii. IR constitutes one dimension of the hegemony of the core actors. On the international level, we describe and compare the main features of the Antarctic Treaty System and the United Nations Convention on the Law of the Sea and its Commission on the Limits of the Continental Shelf. Both regimes intersect in the southern oceans. On the domestic level, we study and compare the foreign policy of Argentina related to Antarctica and the Southern Oceans through the analysis of the agencies that participate in the policies, such as the Ministry of Foreign Affairs and the Ministry of Defence.

We use qualitative multiple case studies, which is a well-established approach in topics such as this. Qualitative methods can be more useful for identifying and characterising institutions based on primary sources, such as documents and interviews.

**Julián Kelly** / Msc. in Latin American Integration of the Universidad Nacional de Tres de Febrero and PhD candidate at Latin American Faculty of Social Sciences (FLACSO Argentina Campus). Lecturer and researcher at the Institute of Culture, Society and State, at the National University of Tierra del Fuego. Main interest are: Foreign policy and Science, Latin American international politics and International Regimes.





Jo Klanovicz

CNPq Researcher

Graduate Program in History/Graduate Program in Interdisciplinary Community Development  
Universidade Estadual do Centro Oeste, Paraná (Unicentro), Brazil

### **Brazilian Permanent Antarctic Mission: encounters between Science, Politics, and Technology in the Global History of the Frozen Continent**

Brazil started Antarctic exploration joining scientific missions between the 1950s and the 1960s. Brazilian explorers integrated USA, France, and Soviet Union teams at that moment. Brazil assigned Antarctic Treaty in 1975, when the country created the Inter Ministerial Group for Antarctica with the mission of integrating the frozen continent to Brazilian scientific and military interests, bringing together universities, research agencies, and military institutions. The first autonomous Brazilian mission to Antarctica was held in the Austral summer of 1982-1983, when Brazil already had an oceanographic vessel owned by the Brazilian Navy, the Baron de Teffé (an acquisition from Denmark). In 1983, the same ship transported the first modules of the Comandante Ferraz Antarctic Station to Antarctica. The permanent Brazilian scientific mission was in its first steps. From the 1980s on, history of Brazilian exploration in Antarctica and the history of Brazilian national Antarctic science are constructing a unique experience for Brazilian research programs. Brazilian National Council for Scientific and Technological Development (CNPq) has established itself as the main institution for Antarctic activities in Brazilian research. CNPq designed the Brazilian Antarctic Program (Proantar), with Brazilian Navy and partnership with several Brazilian universities (the Federal University of Rio Grande do Sul, the Federal University of Pelotas, the Federal University of Rio de Janeiro, the State University of Campinas and the Federal University of Minas Gerais). Since then, despite the significant Brazilian presence among nations that have research stations in Antarctica, little has been written about the history of Brazilian presence there, perhaps for two reasons: the relative distance between Humanities and Social Sciences and the Antarctic issues in the country, and a kind of systematic disinterest on the issue of Brazilian presence in historical or social terms. The second reason is that Brazilian history, much more concerned with answering the questions that occur within the nation, has not devoted much attention to issues in which Brazil is a global player, as is the case in Antarctica. The successive research missions, especially carried out in the fields of Natural Sciences, are an interesting *corpus* that verbalize intentions, representations, metaphors, discourses about Antarctica, about Brazilian science and scientific experts, parallel to the formulation of direct research results. In this sense, this research discusses the discursive constructions about the Brazilian presence in Antarctica, from the view of history of science interested in the universe of Brazilian Antarctic Sciences. Scientific documents will be compared with bibliographical production that begins to read Brazilian scientific missions, from the perspective of the human experiences, pervaded by politics, culture, economy and precise conceptions of science. This research project, in its first phase, seeks to discuss the Brazilian presence in Antarctica, mainly from the idea of the emergence of polar sciences in Brazil. What are the Brazilian interests in Antarctica, during the late years of an authoritarian regime in the 1980s? What kind of polar sciences could be developed and rationalized in the country? How have Brazilian science negotiated its development in national and international scale? What are the Brazilian visions about Antarctic Sciences and about the Brazilian presence in that continent? How have Brazilian scientists created themselves as Antarctic scientists? I believe that this research is only possible if one can consider the relations between Science, Technology and Society, crossed by the institutionalization of "polar knowledge" in the Brazilian national science of the period.



Andrew Klein<sup>1</sup>, Rob Robbins<sup>2</sup>

1. Department of Geography, MS 3147, Texas A&M University, College Station, TX, USA
2. Dive Services, United States Antarctic Program, Antarctic Support Contract, CO, USA

### **The spatial footprint diving in the United States Antarctic Program – using GIS to collaboratively map dive locations**

Historical operational data held by national programs operating in Antarctica represents a largely untapped source of information on the geographic location of past science activities on the continent. Accurate knowledge of where historic science activities have occurred is required to adequately assess the footprint of human activity on the continent. Just as importantly, knowledge of the accurate location of past scientific activities aids scientists and operational staff in understanding previous research and in planning future scientific and operational activities.

The known locations of all diving in the United States Antarctic Program (USAP) from 1989 to 2015 are utilized as a case study that highlights both the potentials and pitfalls of utilizing operational data to quantify the spatial footprint of scientific activities on the continent. This case study highlights the need to develop methods leveraging existing technologies so that members of the Antarctic scientific community can contribute their knowledge of the location of historical scientific activities.

At present over 9,100 individual dive records have been initially geocoded using the USGS Geographic Names Information System (GNIS) based on the geographic landmark provided as the location for each dive. This initial geocoding provides useful overview of USAP dive operations at the continental scale. However, the use of named landmarks has some limitations. Many locations while well known to Antarctic scientific divers have not been nominated as official geographic names by national programs and therefore remained unmatched in the initial geocoding. In addition, the positional accuracy of geographic landmarks varies widely and because most geographic landmarks are on land their use for correctly locating dive sites presents challenges. Such uncertainties in knowledge of exact dive locations presently limit the USAP dive database's usefulness as a guide for precisely locating dive locations.

To improve the geolocation accuracy of USAP dive locations and subsequently the usefulness of the database, a web-based Geographic Information System (GIS) application has been developed. It will serve as a platform by which the USAP diving community can collaborate to improve the database's quality. It will enable individuals with limited experience using GIS to both view and edit dive locations. In its current form, users can view USAP dive locations overlaid on a satellite image basemap and select individual or multiple dive records for editing. Once selected, authenticated users can move the dive locations to their correct geographic locations on the satellite image map based. Following an initial editing of the existing database by USAP dive supervisors, other knowledgeable USAP divers will be contacted and encouraged to correct the location of their individual dives. Following completion of these refinements and checking for quality assurance, the database will be more widely distributed. The developed database will be invaluable to understanding where USAP diving has occurred historically and aid in the planning of future scientific and operational diving.

**Andrew Klein** is a Professor of Geography at Texas A&M University. He currently holds the EOG Teaching Professorship in Geosciences. Dr. Klein uses GIScience techniques to study human impacts in Antarctica. Since 1999, he has been involved in a



long-term environmental monitoring program at McMurdo Station, Antarctica, and in 2014 he and his colleagues have extended this monitoring program to Palmer Station and the McMurdo Dry Valleys.

**Rob Robbins** is currently serves as Dive Supervisor in the United States Antarctic Program. In his 38+ years working in Antarctica, Robbins has logged over 2,100 dives. In 2016, Robbins was honored with the Conrad Limbaugh Award for Scientific Diving Leadership by the American Academy of Underwater Sciences.

### Gustavo Lahoud

Universidad del Salvador, Argentina

### The Antarctic region: access, control and conservation policies from a cooperative perspective in the South Atlantic

The main objective of this research will be to describe and analyze the key theoretical factors in relation to a comprehensive geopolitical approach to the problematic of the Antarctic region, in order to build an institutional long-term consensus on the strategic relevance of international stability in this region.

In order to properly approach this objective, this research will develop different conceptual aspects related to the Antarctic region from a geopolitical point of view.

On the one hand, the dimension of access to the Antarctic region, in the context of the Treaty and its normative implications, in the perspective of the problem of sovereignty. On the other hand, the dimension of control and its different implications related to the collective perspectives of the Antarctic commitments and the limits of the sovereign approaches.

According to this focus, the research will develop another geopolitical aspect of the Antarctic region *vis a vis* the collective commitments of the global community, which is the conservation challenge in the context of stronger and more competitive bids between different states and other private actors in the international system in order to ensure access to and control of strategic raw materials and natural resources.

Control, access and conservation dimensions are central points for a comprehensive geopolitical approach to the Antarctic region, but not only from a formal theoretical framework, but from an institutional practice. It implies an acute collective thought which is in relation to long-term regime building about the antarctic region, in order to ensure conservation policies in the perspective of environmental, social and political stability in the South Atlantic region.

In fact, this means the idea of a strategic sanctuary, whose long-term conservation will strengthen multilateral commitments and with particular interest in the reinforcement of cooperation between our states in the southern cone of Latin America. Within this perspective, the research will describe and analyze the strategic importance of institutional long-term cooperation between Argentina and Chile in orden to ensure regional stability and predictable policies of access, control and conservation of the Antarctic region.





Charne Lavery

University of the Witwatersrand, Johannesburg

### **‘The one black face in this sea of white’: Antarctica, Africa, race and writing**

Much Southern African literature looks to the Atlantic and Indian Oceans, as passageways to northern and eastern populations. But very little looks to the south, to the storm-ridden, inhospitable, largely uninhabited Southern Ocean. Some moments in works of fiction flesh out a southward perspective, from Africa looking out, including passages in Zakes Mda’s *The Whale Caller*, Marguerite Poland’s *The Lighthouse Keeper*, and Lindsey Collen’s *Boy*. In J.M. Coetzee’s *Elizabeth Costello*, the protagonist travels on a cruise to Antarctica with fellow-writer Emmanuel Egudu, whose racial difference stands out among both the northern tourists and the southern ice.

The Southern Ocean is increasingly understood to be uniquely important in moderating the world’s climate, responsible for perhaps 40-50% of the ocean’s anthropogenic carbon dioxide uptake. Yet it is poorly understood, and the far south largely absent from cultural representation. Southern Africa, one of the three southern continents which are positioned to be gateways to Antarctica, is even more reticent on the topic. This is doubly significant because Africa too is crucial for global futures, not least because ‘EuroAmerica is evolving toward Africa’ (Comaroffs). This paper aims to examine the southward perspective in well-known southern African fiction alongside the piecemeal cultural production associated with the South African National Antarctic Programme, including visual art by Katrine Claasens and anecdotal records from SANAP relief voyages.

**Charne Lavery** is a researcher based at the Wits Institute for Social and Economic Research (WiSER), University of the Witwatersrand, Johannesburg, on the project ‘Oceanic Humanities for the Global South’. Her book *Remapping the World: Indian Ocean Fiction in English* is under revision, and she has recently published an article called ‘The Oceanic South.’

Elizabeth Leane

Institute for Marine and Antarctic Studies, University of Tasmania, Australia

### **“Problem Passengers”: Literary Responses to Antarctic Cruise Tourism**

Visitors to Antarctica, conscious of the rarity of this opportunity and also the relative lack of witnesses to their adventures, have consistently felt compelled to write about their experiences, in diaries, official accounts, and personal memoirs. Only recently, however, have people identifying as professional authors travelled to Antarctica primarily to write. From the mid-1990s, with tourist opportunities expanding, writers with well-established literary reputations began to produce their own accounts of cruise-ship voyages.

This paper examines nonfiction Antarctic tourist narratives produced by contemporary novelists, including Jenny Diski, Helen Garner and Jonathan Franzen. Although their encounters with the Antarctic environment raise different questions, each of these writers might be considered (to adapt Franzen’s term) a “problem passenger,” their literary task bringing a heightened self-consciousness to their experiences and setting them apart from and somewhat at odds with the typical tourist.



While critics have noted that many contemporary travel narratives exhibit a postcolonial sense of disquiet and adopt rhetorical strategies to assuage this, I argue that Antarctica, a land without indigenous people and, since the late 1950s, framed as the natural home for scientists, troubles professional writers in particular ways. The literary traveler must negotiate a dual role as tourist-intruder and writer-responder and grapple with a place that challenges conventional language. In such an environment, writing itself is often figured as a form of contamination. In this presentation I explore this and other the anxieties expressed by literary tourists undertaking Antarctic cruise ship voyages, as part of a broader investigation of the ways in which humans use texts to fashion a relationship with a place where they do not traditionally belong.

**Elizabeth Leane** is Associate Professor of English at the University of Tasmania, holding a research fellowship split between the School of Humanities and the Institute for Marine and Antarctic Studies. With degrees in physics and literary studies, she is interested in building bridges between disciplines, and particularly in bringing the insights of the humanities to the study of the Antarctic. She is the author of three monographs, most recently *South Pole: Nature and Culture*, and has published in a wide range of journals, such as the *International Journal of Heritage Studies* and the *Journal of Colonialism and Colonial History*. A former Australian Antarctic Arts Fellow (2003-4), she is Arts and Literature editor of the *Polar Journal* and a chief officer of the Standing Committee on Humanities and Social Sciences of the Scientific Committee on Antarctic Research. Her book-in-progress is called *Travelling Ice: Textual Journeys through Contemporary Antarctica*.

### Consuelo León Wöppke

Hemispheric and Polar Studies Center, Chile

### Between German and US expeditions: Pedro Aguirre Cerda and the Antarctic fate of Chile, 1940

This work examines how the Chilean government, in the hands of President Pedro Aguirre Cerda, tried to strengthen the country's position in the white continent and lay the foundations for a more active Antarctic policy in the early 1940's, a period in which the increasing German interest for Antarctica threatened to extend the existing international instability to the South Pole. Besides the above, the confusing US Antarctic policy, characterized by a profound inconsistency between its rhetorical goals and its behavior in the white continent, added another factor to understand Chile's new stand in Antarctic matters. Of particular interest was the US utilization of the "German Antarctic enemy" as a strategy to influence and coordinate the Southern Cone countries' policies in the white continent, in order to form an alliance to prevent a potential expansion of German influence to Antarctica.

The international factors above described, as well as the complex Chilean domestic context during the period under study, helps understand the reasons that led President Aguirre Cerda to officially establish, in November 1940, the limits of the Antarctic territory that the South American country historically considered as own. This decision would be the ground of the Chilean Antarctic policy for the rest of the century. Nevertheless, and in spite of his profound significance for Chile's modern history, the figure of Pedro Aguirre Cerda still remains as one of the less known presidents of the so-called "radical period", in which three members of the Social Democrat Radical Party achieved the government of the country consecutively.

The research is based on official documents found in Chilean and US archives and libraries, as well as on Chilean national and regional press, and specialized bibliography on Aguirre Cerda's government.



**Consuelo León Wöppke** (Ph.D Southern Illinois University, US) is a specialist in Antarctic history and international relations. She has been awarded scholarships from the Fulbright Association and the American Association of University Women (United States). Currently, Dr. León is a senior researcher at the Hemispheric and Polar Studies Center (Chile) and the head of the Chilean Delegation to the Latin American Antarctic Historians Association.

Consuelo León Wöppke, Nelson Llanos

### **O'Higgins Base 1948-1958. Short Account of its Contribution to Chilean Antarctic Policy**

This book reconstructs the first and unknown years of Chilean citizens' presence in the ice continent, at Bernardo O'Higgins Base in particular. The first decade since the foundation of this Chilean Army base (1948-1958) is a complex period to research as –among fires and losses during transfers– few are the surviving official sources for study. By using service records of uniformed personnel, publications, and press articles, the authors identified the names, faces, and experiences of each one of those who exercised sovereignty in the Antarctic, the tasks they fulfilled, their sacrifices, and achievements.

**Consuelo León Wöppke** (Ph.D Southern Illinois University, US) is a specialist in Antarctic history and international relations. She has been awarded scholarships from the Fulbright Association, and the American Association of University Women (United States). Currently, Dr. León is a senior researcher at the Hemispheric and Polar Studies Center (Chile), and the head of the Chilean Delegation to the Latin American Antarctic Historians Association.

**Nelson Llanos** is professor of contemporary world history at Playa Ancha University (Chile), Master in International Relations, and Ph.D. candidate in History (Ohio University, United States). His academic works mostly focus on US-Latin America relations; international territorial disputes; and Antarctic history. He is the current director of the Hemispheric and Polar Studies Center.

Elizabeth Lewis Williams

PhD candidate at the University of East Anglia, UK

### **Scientific and Poetic Measure: the Poetics of the 'Wide, White Page'<sup>1</sup>**

Place is something constructed, a process, and the building of the scientific base at Halley Bay in Antarctica provides an excellent model for the way in which the 'blank' canvas of snow, with no history of human habitation, is transformed into 'home' by the process of building, living and working in the huts. The first base at Halley was rapidly covered in snow, and a succession of later huts underwent the same process of being buried, crushed and eventually carried towards the sea. Apart from the work of building and maintenance, the men had scientific jobs to do and these activities impacted on the language of the base diaries, creating a linguistic environment from the language of activity, observation and measurement recorded there.

This paper will show how the physical nature of placemaking at Halley deepens our understanding of the trope of the snow (and by extension Antarctica) as a white page. The snow creates a particular kind of surface for its text: mobile, permeable, on which the marks of human activity and natural forces are made and erased. Underground at Halley is not so much under-the-ground as immersed-in-deep-surface, a physical manifestation of ambience such that



prepositional differences are simultaneously dissolved and maintained; the hut is on/within/above/below the 'surface'. Human activity takes place within a real and a symbolic medium; the pressures on the building echo pressures on the men. The snow is physical context; its deep surface not only holds objects which can be compared to words on a page, it physically impacts on those objects. It is transformative.

The paper will go on to propose a poetics of the 'wide, white page', looking in particular at the Antarctic poetry of Bill Manhire and Jean McNeil. It will demonstrate how a poetic response arising from the rhythms of lived experience documented in the base diaries is instrumental in creating a textual ambience and sense of place which echoes the transformative experience of the Antarctic continent itself.

#### References:

1. The title of Bill Manhire's anthology of Antarctic writing. Victoria University Press, Wellington 2004.

Daniela Liggett<sup>1</sup>, Bob Frame<sup>2</sup>

<sup>1</sup> Senior lecturer, University of Canterbury, Christchurch, New Zealand.

<sup>2</sup> Frameworks Research, Tai Tapu, New Zealand.

### Antarctic tourism and heritage in a changing world

Alongside increasing tourism numbers to Antarctica and closer attention to tourism management and regulation, a shift in the recognition and management of cultural heritage in the Antarctic has occurred. At a political level, new guidelines on heritage management have been adopted by the 2018 Antarctic Treaty Consultative Meeting, and at a scholarly level, we are seeing a growing engagement with the various discourses on cultural heritage. Our presentation will review current literature on Antarctic heritage more broadly but the relationship between tourism and heritage more specifically.

We have drawn on three datasets to examine how cultural heritage is represented by in the Antarctic Treaty System and how this is translated into marketing by tourism operators and experienced by visitor. In summary, we have consulted:

- *Formal information* through the list of Historic Sites and Monuments and the SiteGuidelines for visitors (42) published by the Antarctic Treaty Secretariat (ATS) from which two subsets have been drawn; one in the Ross Sea region and another on the Peninsula, for further investigation.
- *Marketing information*: Websites and secondary material by the major tourism operators offering visits to sites at the two subsets
- *Individual responses*: open-source social media information from visitors to the subset sites including Trip Advisor and Facebook postings; personal blogs; geocaching records and so on.

These are examined using a form of discourse analysis to identify the key themes from the three datasets and to identify the extent to which these are overlapping or, potentially, in conflict.

Our initial analysis suggests that there are two main themes:



- a. disjoint between increased interest and a more active role in regulation and monitoring by Antarctic Treaty Parties (e.g., through ATCMs) and increasing tourism pressure compounded by increasing mobilities; and
- b. a contrast between Antarctic Heritage embodied in small numbers of physical elements (huts, cairns, memorials, etc.) and a vast intangible experience (the "Environment") which could be treated as a 'Hyperobject' (after Tim Merton, 2013).

This suggests a tension between values (wilderness/exploitation; preserve/educate) that could play out in various ways depending on the dominant cultural preference. Using Douglas' cultural theory, we discuss what these might look like.

Overall, we suggest that a much more nuanced understanding is needed about the role of cultural heritage tourism in Antarctica and what guidelines might be needed to navigate effectively between formal monitoring requirements and the expectations of tourism operators and their clientele.

**Daniela Liggett, PhD** / Daniela is a social scientist with a background in environmental management, Antarctic politics and tourism and research interests in polar governance, polar tourism, the wider aspects of managing human activity in polar environments and the complexities of Antarctic values. She is currently involved in collaborative research on the topics of Antarctic futures, Antarctic gateway cities, the use and provision of polar environmental forecasts, Antarctic science-policy interactions, and Antarctic heritage. Daniela has been actively involved in the Association of Polar Early Career Scientists (APECS) – as a President for one term, as a member of the Executive Committee for two terms, and as a member of the Advisory Committee since 2012. She has also contributed to the Scientific Committee on Antarctic Research's First Antarctic and Southern Ocean Horizon Scan, is a Chief Officer of the Scientific Committee of Antarctic Research's (SCAR) Standing Committee on the Humanities and Social Sciences (SC-HASS) and a member of both SCAR's Standing Committee on the Antarctic Treaty System and its Capacity Building, Education and Training Committee. Daniela is one of the co-chairs of the Societal and Economic Research and Applications (SERA) subcommittee of the World Meteorological Organization's (WMO) Polar Prediction Project (PPP) and also serves on the PPP Steering Group. She is on the editorial boards of Polar Geography, The Polar Journal and Advances in Polar Science.

**Bob Frame, PhD** / Bob Frame is a transdisciplinary researcher with a strong interest in long-term futures. He is currently involved in both the cultural heritage of, and imaginings for the future of Antarctica as well as development of climate change scenarios at national and local levels. He has published extensively on these and other social science topics including social license to operate; sustainability issues and international development. In a previous life he was a materials physicist.

**Kati Lindström**

KTH Royal Institute of Technology, Sweden

### Chilean and Japanese perspectives on CRAMRA negotiations

This paper offers an insight into how Chilean and Japanese governments positioned themselves at the Convention for the Regulation of Antarctic Mineral Resource Activities (CRAMRA) negotiations. It argues that the geopolitics of these negotiations went beyond issues of territorial sovereignty. It is hardly surprising that a claimant country like Chile would campaign for environmental protection and against mineral exploitation, in order to prevent other countries engaging in mining or prospecting in what they consider their national territory. The Japanese position, however, is less intuitive. Japan has never made a territorial claim on Antarctica on the basis of Shirase Nobu expedition. Following the San Francisco Peace Treaty





(1951) where it renounced all possible territorial claims to Antarctica and in the complicated political situation of the Cold War, Japan carefully avoided any activities and statements that could be interpreted as an attempt to claim sovereignty. Nevertheless, in its careful way, Japan was an ardent proponent of mineral exploitation. Archive materials show that Japan seriously considered the possibility that national oil companies operating in Antarctica could at some future point reduce the country's asphyxiating dependence on Chinese oil. With the end of Cold War at sight and considering the difficulties in exploiting the hydrocarbon reserves in Antarctica, these ideas lost traction towards the end of the negotiation process and made transition to Protocol on Environmental Protection to the Antarctic Treaty, or Madrid Protocol, relatively easy. The paper is a part of the larger project *Greening the Poles: Science, the Environment, and the Creation of the Modern Arctic and Antarctic* and presents a preliminary analysis of the materials gathered in the archives of foreign ministries in Japan and Chile.

**Kati Lindström**, PhD, is an environmental humanities researcher at the Division of History of Science, Technology and Environment at the KTH Royal Institute of Technology (Sweden) and the Department of Semiotics at the University of Tartu (Estonia). Her current research blends environmental history and landscape studies with semiotics and explores the processes of heritagization, value attribution and identity building in landscapes in a variety of loci from Mt Fuji in Japan to Antarctica and the Baltic Sea region. At KTH, she is currently involved in two research projects concerning Antarctica - "On creating cultural heritage in Antarctica" (Project leader: Lize-Marié van der Watt) and "Greening the Poles: Science, the Environment, and the Creation of the Modern Arctic and Antarctic" (Project Leader: Peder Roberts) - where she is working with the Japanese, Chilean, Soviet/ Russian and Argentinian materials.

**Kati Lindström**

Researcher, KTH Royal Institute of Technology, Stockholm, Sweden

### **From Historical Sites and Monuments to regionalisation of Antarctic Heritage in Chile and Japan**

Given how much geopolitical importance is attributed to the list of Historical Sites and Monuments and especially the initial nominations, it is surprising how little information is available on the decision-making process and internal discussions in the Chilean and Japanese archives.

For the original list of HSMs, Japan nominated only the rock cairn erected in the memory of Fukushima Shin who perished in the blizzard during the Fourth JARE Expedition. As such it is a commemorative heritage that is not necessarily linked to any geopolitical motives and has hitherto been woven into the starting-of-the-expedition rites at the Showa base. Although the first prefabricated houses of the Showa station have a heritage status in the museums on the national territory, they have hitherto not been proposed for being listed as HSM. This can be explained by the careful avoidance of the Japanese authorities to make any statements resembling territorial claims. Instead, the Japanese Antarctic heritage has been constructed mostly outside of state institutions, through regional museums and memorials. The lack of documents on the HSM nominations in the Chilean archives is more surprising. The topic is clearly overshadowed by discussions on sealing. From the extant documents it is not clear who and on what basis drafted the first Chilean list of HSM, but we know that the reaction of the UK to this list was not favourable. It is only in the early 2000s that the documents on the Antarctic policy of the country start including explicit conversations on heritage, but this time it is more directed to the development of Antarctic heritage on the national territory at the American



continent. Following the overall decentralisation campaign of the Chilean government and the relocation of INACH to Punta Arenas, this heritage becomes increasingly regional, driven by the idea of *paíspuente* or gateway.

**Kati Lindström, PhD** / Kati Lindström is an environmental humanities researcher at the Division of History of Science, Technology and Environment at the KTH Royal Institute of Technology (Sweden) and the Department of Semiotics at the University of Tartu (Estonia). Her current research blends environmental history and landscape studies with semiotics and explores the processes of heritagization, value attribution and identity building in landscapes in a variety of loci from Mt Fuji in Japan to Antarctica and the Baltic Sea region. At KTH, she is currently involved in two research projects concerning Antarctica - "On creating cultural heritage in Antarctica" (Project leader: Lize-Marié van der Watt) and "Greening the Poles: Science, the Environment, and the Creation of the Modern Arctic and Antarctic" (Project Leader: Peder Roberts) - where she is working with the Japanese, Chilean, Soviet/ Russian and Argentinian materials.

**Bryan Lintott**

Scott Polar Research Institute, University of Cambridge.

### The SPRI R-ES Project

From the early-1960s until the late-1970s, the Scott Polar Research Institute (SPRI) led the world in developing and deploying radio-echo sounding (R-ES) equipment in Antarctica. During this period, in six seasons, in which the SPRI was supported by the National Science Foundation and worked in collaboration with the Technical, University of Denmark, ~50% of the continent was surveyed using airborne radar to measure ice thickness. In 1983, the SPRI published the 'Antarctica: Glaciological and Geophysical Folio.' This seminal work collated the data into a large format series of maps that revealed ice thickness, flow and underlying topography. SPRI's Polar Museum has a selection of R-ES equipment in its collection, and other pieces of equipment, for use in the field and the subsequent data processing and cartography, have been located in cupboards and cabinets. There is also related R-ES material in the SPRI Archives and Picture Library.

In 2020, the SPRI celebrates its centenary, and there is a strong interest in the Institute's history. Whilst excellent research has been done into the history of R-ES (Dean, Naylor, Turchetti, Siegert, Pomereau, et al.), there is a comparative paucity of knowledge regarding the development of and operational history of the SPRI R-ES collection. To address this lacuna, the SPRI R-ES Project is focussing on the following research questions:

- What R-ES equipment and related data and documentation is still at the SPRI?
- How was the R-ES equipment developed?
- How was it operated in the field?
- How was data processed and maps developed in the physical space at SPRI?
- How will the SPRI manage and conserve 'new' artefacts and data from its ongoing scientific endeavours?

Central to investigating these questions is a series of oral history interviews with the remaining technical and research staff that were engaged with the SPRI's R-ES endeavours. The project aims to produce a comprehensive corpus of knowledge and understanding of the material culture (including artefacts, documents, images and the SPRI building) associated with SPRI's R-ES endeavours that will inform museum exhibitions and further research.





**Dr Bryan Lintott** is a research associate at the Scott Polar Research Institute, University of Cambridge. His current research projects are on the SPRI collection of radio-echo sounding equipment, and its related documentation and data, and the relationship between Antarctic heritage – in particular artefacts in the Polar Museum that relate to Scott's and Shackleton's Huts – and international relations. He is the Secretary-general of the International Council on Monuments and Sites (ICOMOS) International Polar Heritage Committee (IPHC) and convenor of the committee's working group that is developing guidelines for archaeology in Antarctica. Earlier this year, he presented his latest research on with heritage in extreme environments beyond national boundaries at the Smithsonian's National Air and Space Museum.

### Bryan Lintott

Scott Polar Research Institute, University of Cambridge

### Antarctic Heritage Values

This presentation will examine and discuss the values associated with human heritage in Antarctica. Whilst there has been academic research on the values associated with Antarctica's natural environment there is a comparatively modest amount of research concerning the values associated with Antarctica's human heritage on the continent and in Antarctic related museums. This topic is currently of interest academically, within the Antarctic Treaty System and among Antarctic museums. Central to the presentation will be the argument that whilst the term 'Historic Values' is explicitly used in the Antarctic Treaty System's documents there are several implicit heritage values that inform and construct the criteria for consideration of HSM status. The presentation will be structured around the following questions:

1. What academic and professional methodologies and frameworks on values are relevant to the study of Antarctic human heritage?
2. What are the values – both direct and utilitarian - that inform and influence Antarctic heritage?
3. What values inform the decision to retain Antarctic heritage in-situ or ex-situ?
4. How is the valuation of Antarctic human heritage undertaken?
5. How do Antarctic heritage advocates valorise their endeavours?
6. In what ways can Antarctic heritage be validated through Historic Site and Monument (HSM) status, incorporation within an Antarctic Specially Protected Area (ASPA) or Antarctic Specially Managed Area (ASMA), informally retained in-situ or relocated to a museum?
7. How are objects, from buildings to documents, valued as heritage artefacts?
8. How does the Antarctic Treaty System evaluate Antarctic human heritage governance, management and conservation?
9. How do the values, associated with the diplomatic, academic, cultural and commercial realms, interrelate?

The presentation will conclude with a discussion on how the Antarctic Treaty System's governance, management and preservation of human heritage can inform and influence current discussions regarding the Apollo sites and other human objects on the Moon.

**Dr Bryan Lintott** is a research associate at the Scott Polar Research Institute, University of Cambridge. His current research projects are on the SPRI collection of radio-echo sounding equipment, and its related documentation and data, and the relationship between Antarctic heritage – in particular artefacts in the Polar Museum that relate to Scott's and Shackleton's Huts – and international relations. He is the Secretary-general of the International Council on Monuments and Sites (ICOMOS)



International Polar Heritage Committee (IPHC) and convenor of the committee's working group that is developing guidelines for archaeology in Antarctica. Earlier this year, he presented his latest research associated with heritage in extreme environments beyond national boundaries at the Smithsonian's National Air and Space Museum.

### Nengye Liu<sup>1</sup>, Daniela Portella Sampaio<sup>2</sup>

<sup>1</sup> Senior Lecturer, Adelaide Law School, University of Adelaide, Australia,

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### Chinese Tourism in Antarctica, a “pressure point” for the Antarctic Treaty System?

To what extent the rising presence of China will fundamentally change the current governance regime of Antarctica has become an important question. China is currently building its fifth Antarctic research station, while its second ice-breaker is on the way. Likewise, Antarctic tourism has become more and more popular among China's rich and growing middle class. Since 2016, Chinese tourists have comprised the second largest group of visitors to the Antarctic Peninsula, second only to American ones. This growth in Chinese Antarctic tourism coincides with an intensification of the industry's activities itself. Antarctica has received 17.7% more tourists in the 2017/2018 season, and expects another 7.85% increase for 2018/2019. The environmental and logistical challenges brought by such an increment have generated questions regarding the capacity of the industry to keep its self-regulation; as well as its ability to integrate growing Chinese tourism into its management framework. As Antarctic tourism industry responds directly to the performance of global economy, it is expected that as long as the Chinese economy continues to grow, so will the Antarctic tourism market. For the last sixty years, the Antarctic Treaty System (ATS) has institutionalised, preserving its *modus operandi* and resisting fundamental changes within its structure. The ATS has been able to keep sovereignty discussions away from its operation, whilst championing scientific cooperation and environmental protection as its fundamental principles.

Therefore, this paper aims to shed light on the impact of China's rise to the current Antarctic governance regime, examining its resilience to the regulation of Chinese tourism. In the first part, we provide in-depth analysis of the Chinese Antarctic tourism market, addressing the following questions: 1) Who are the major players in this market?; 2) What are the main social, economic and cultural reasons behind the exponential growth of Chinese Antarctic tourism?; 3) What could be the future prospect? In this part, a contextual background is provided based on the Chinese factors that led to the country's growing interest in Antarctic tourism. In the second part, China's policy position on Antarctic tourism is discussed, mapping out the domestic legal framework for regulating Chinese tourism in Antarctica. The latest development of Chinese Antarctic law – “Regulation on Environmental Management of Antarctic Activities” is also assessed. In this part, we analyse China's institutional responses to its growing Antarctic interest, revealing the coherence of its priorities in comparison to those stated by the ATS. In the third part, international responses are examined, focusing on whether they are sufficient and effective to cope with the growing Chinese tourism in Antarctica. Here we focus on the discussions and agreements taken at the Antarctic Treaty Consultative Meetings; and on the recent efforts made by the International Association of Antarctic Tour Operators in order to respond to tourism growth and its demographic changes.



### Cristian Lorenzo

Centro Austral de Investigaciones Científicas (CADIC) – Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)  
Instituto de Ciencias Polares, Ambiente y Recursos Naturales (ICPA) – Universidad Nacional de Tierra del Fuego (UNTDF), Argentina

## Science, Politics and the Environment: Argentina and Chile in the Antarctic marine conservation

It may be considered a commonplace to assert that science should be independent from politics. The challenge is to place in context the interaction between science and politics. This paper explores what happens within the Antarctic Treaty System. In doing so, this paper examines the relationships between Antarctic science and politics within the Commission for the Conservation of Marine Living Resources, also known as CCAMLR. In particular, it focuses on the working agenda on Marine Protected Areas, also called MPAs. In 2009, the CCAMLR designated the establishment of a MPA in South Orkney Islands Southern Shelf, which had been submitted by the United Kingdom. After several discussions, the CCAMLR designated a MPA in the Ross Sea in 2016, based on a proposal submitted by New Zealand and the United States. Considering the on-going debate on MPAs, special attention will be given to the proposal submitted by Argentina and Chile, which refers to the designation of a MPA in the Antarctic Peninsula and South Scotia Arc region. This paper contributes to the understanding of the interactions between science and policy within the Antarctic Treaty System.

### Cornelia Lüdecke

University of Hamburg, Germany

## How to reach the Poles? Roald Amundsen's strategies of navigation

Since his teen years Roald Amundsen (1872-1928) wanted to reach the North Pole to become a polar celebrity like his great model Fridtjof Nansen (1861-1930). However, when headlines of newspapers announced that Frederick Cook and Robert Peary both had reached the North Pole in 1908 and 1909 respectively, Amundsen had to reverse his goal to the exact opposite. Planning to win the race to the South Pole he had to think carefully about his strategy to be faster than his opponent Robert Falcon Scott (1868-1912) who would rely on dogs, ponies and motors sledges. As naval officer Scott used celestial navigation with a sextant to measure the altitude of the sun above the horizon at noon and the Nautical Almanac to calculate the exact position. Amundsen did not want to spend much time with long calculations of the latitude. When weather conditions seemed favorable to start his journey he mainly used a compass heading strictly south and measured the distance with a wheel fixed behind his dog sledge. After his success at the South Pole he planned to reach his original goal, the North Pole. Due to physical problems Amundsen had to switch from dog sledge to aircraft. On the base of his experience at the southern hemisphere, engineer Johann Boykow (1878-1935) from the C. P. Goerz Company in Berlin developed a sun compass for low latitudes which enabled Amundsen to navigate to the geographical North Pole in the neighborhood of the magnetic pole. This compass was installed on each of the two Dornier Wal seaplanes, which Amundsen used on his expedition in 1925. One of the most prominent meteorologists of the time Jacob Bjerknes (1897-1975), co-founder of the polar front theory, provided a detailed weather forecast in Ny-Ålesund (Spitsbergen), where the expedition started on 21 May 1925. However, the



expedition failed, because Amundsen made a landing at 88°N to check the sun compass with a sextant, while the second plane was damaged during landing. On his second attempt to reach the North Pole with the airship "Norge" again a sun compass was the main navigation tool, while the most experienced polar meteorologist Finn Malmgren (1895-1928), who took part in Amundsen's "Maud" expedition (1922-1925), was responsible for the weather forecast onboard. Amundsen fulfilled his dreams with the help of "his" sun compass and the best meteorologists he could get.

Hugo Alves Mariz de Moraes, Andrea Quirino Steiner

Secretariat for Sustainable Development and Environment of Recife's City Hall, Brazil

### **Evaluating the effectiveness of the Madrid Protocol using counterfactual analysis**

The present work uses the counterfactual construction technique to determine the effectiveness of the Madrid Protocol. In other words, this research seeks to answer if the Protocol is effective in the conservation of the environment proposed in its guidelines. This work is part of a larger study where, through the combination of other variables known as elements of effectiveness, it guarantees the robustness of the results found.

This research considers that an international environmental regime is effective when it has the capacity to solve a given environmental problem through changes in the political behavior of decision makers, aligned with the objectives of the agreement and/or improvements in the environment, which results can be measurable when compared to some referential.

In this sense, instead of comparing the real performance of the Madrid Protocol for the conservation of the Antarctic environment with other empirical cases, as is widely done in studies in political science and international relations, the regime in question is confronted with hypothetical counterfactuals based on the regime itself. Thus, in addition to the diagnosis of its real performance, three counterfactuals were drawn to evaluate the effectiveness of the Protocol: one collective optimum counterfactual, and two non-regime counterfactual (one for the absence of the Protocol, but with CRAMRA currently operating, and another one for the absence of both regimes).

Firstly, the counterfactual of the collective optimum puts the regime against a concept of good or ideal solution, according to a methodology established by Miles et al. (2002). The non-regime counterfactual seeks to demonstrate how the situation of the dependent variable (regime effectiveness) would be in the absence of the interventions analyzed. To do this, a hypothetical state of the situation is established considering that the regime in question had never been implemented.

The research was based on a single case study, in which the Madrid Protocol represented a case within a unit (the STA as an umbrella agreement that houses several treaties). The data were obtained from official documents provided by the Antarctic Treaty Secretariat, such as the Treaty itself, the Madrid Protocol and its annexes, information papers and working papers presented at previous ATCMs and CEPs. In addition to these documental analyzes, some semi-structured interviews were conducted with key actors.



When comparing the scenarios drawn up with the real performance of the Madrid Protocol, and using Miles' three-tier classification (effective regime, mixed performance regime and low effective regime), it is possible to establish that, despite its failures, the Protocol of Madrid can be considered a mixed performance regime.

**Martina Mascioni<sup>1,2</sup>, Allison Lee<sup>3</sup>, Gastón O. Almandoz<sup>1,2</sup>, Maria Vernet<sup>3</sup>**

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### **Antarctic tourism as a research tool: Citizen Science monitoring phytoplankton community in the western Antarctic Peninsula**

Travelers visiting the polar regions are helping Argentinean and US scientists monitor changes in phytoplankton communities in coastal fjords on the western Antarctic Peninsula (WAP) through the FjordPhyto citizen science project. Due to climate change, the Antarctic Peninsula is undergoing the most rapid rates of warming seen globally. The melted glacial water enters the ocean along coastal fjords affecting the marine ecosystem. The first organisms to experience environmental changes are phytoplankton, the main entry of energy to the marine ecosystem. Small environmental variations may favor different phytoplankton assemblages and shift the timing of blooms during the season. Variations on the phytoplankton composition may lead to changes in the higher trophic levels, potentially influencing the dynamics of krill – a key species to the Antarctic food web. Currently, detailed information on coastal fjords from the WAP is scarce. Every summer, numerous tourists travel to the WAP aboard cruise vessels, bringing over 51,000 visitors to the region. With the help from tour operators registered with the International Association of Antarctic Tour Operators (IAATO), polar guide staff, and passenger citizen scientists, biological and physical data could be gathered from multiple fjords throughout the spring/summer season (November – March) in WAP coastal areas. FjordPhyto citizen scientists are helping improve the knowledge gap that currently exists regarding phytoplankton community structure and bloom dynamics of fjords in the WAP. With many volunteers around the world, citizen science has become a very effective new research and public engagement tool. As there are not enough experts to monitor biodiversity at large scale, nor adequate resolution, citizen science offers a novel way to collect biodiversity data, and also offers benefits to conservation through involving visitors of these regions. FjordPhyto is one of the only projects operating with tourists in Antarctica at a hands-on level; allowing visitors to literally get their hands wet with sampling. Sampling has already been carried out during the 2016-2017 and 2017-2018 seasons. Thanks to FjordPhyto, it has been possible to evaluate the spatial and temporal variability of the phytoplankton community, evidencing the different groups that structure the community, as well as the summer blooms. It is expected that over time the phytoplanktonic biodiversity of these understudied areas can be improved, interannual variations identified, related phytoplankton changes to environmental variables, and in this way, place them in a context of climate change. This new approach will not only provide a better understanding of glacial melt water impacts on phytoplankton biodiversity and ecology, but also increase tourism engagement and understanding of science.

**Martina Mascioni** is a PhD student of the Faculty of Natural Sciences and Museum at the National University of La Plata (Argentina). She has recently been granted the degree of Bachelor in Biology with honors and is currently working on her PhD





thesis named "First research on the phytoplankton community of Andvord Bay (Antarctica). Composition and space-time dynamics" under her advisors' supervision, Dr. Gastón Almandoz and Dr. Maria Vernet, at the Phycology Division. She studies Antarctic phytoplankton ecology and has previous expertise in diatoms taxonomy. Her current work is part of an International Project: "Fjord Ecosystem Structure and Function on the West Antarctic Peninsula - Hotspots of Productivity and Biodiversity?". She also collaborates with a citizen science program called FjordPhyto, championed by the Vernet Lab at Scripps Institution of Oceanography, partnered with the International Association of Antarctic Tour Operators (IAATO) to monitor phytoplankton in Polar Regions.

**Marcelo Mayorga Z.**

University of Magallanes, Chile

### **New backgrounds of the passage of the Palmer brothers by the South Shetland and the coast of Chile**

New antecedents referred to the exploration of the Antarctic territories and of the coast of Chile are presented, from the review and analysis of the logbooks of the brig *Alabama Packet* and the schooner *Penguin*, vessels that were part of the sealing fleet south of the port of Stonington, and financed among others by Edmund Fanning, William Fanning and William Pendleton, characters directly linked to the history of Antarctic exploration, through the organization and participation in the hunting fur seals in the early nineteenth century.

The expedition in which the *Alabama Packet* participated in the company of five other vessels, took place between 1821 and 1823, and had among its best known results, the co-discovery of the South Orkney Islands by the crew of James Monroe, captained by the famous sealer Nathaniel Palmer. The expedition of the *Penguin*, schooner captained by Alexander S. Palmer, was developed between 1829 to 1831, and was accompanied by schooners *Annawan*, Captain Nathaniel Palmer and *Seraph*, Captain Benjamin Pendleton, and focused its operations on the South Shetland Islands. In addition to hunting purposes, this campaign sought to develop scientific observations.

When revising both logbooks, it can be acknowledged that there is a lot of information which has not been collected by historiography. In particular, you will recognize the itinerary followed by these vessels along with the others that made up the fleet from their departure in Stonington Port. For example, they pass through the rendez-vous of the Malvinas/Falkland Islands, later, they land on the Staten Island, and from this place, they go until the South Shetland Islands.

As in the other sealing cruises of this period, very little is mentioned regarding the details of the return to the Atlantic coast of the United States. At this point, both logbooks, provide background on the dynamics of these sealing cruises, showing the hunting routes along the coast of Chile, for example, the islands Mocha, Santa Maria, San Felix, San Ambrosio and Islet Pájaros (part of the Humboldt archipelago) and Juan Fernández archipelago. In the Chilean continental coast, they maintain exchanges with Mapuche aborigines, also, with members of the crew who go to the port of Valparaíso, as well as, to the port of Coquimbo, among others.

Based on the above, the hypothesis is postulated that these sea ling voyages, beyond purely commercial motivations, were part of an expansionist agenda carried out by the nascent North American republic, in parallel with the explorations initiated by the European powers towards of



the eighteenth century, and in this sense, both sealers and whalers, came to form a sort of maritime advance, and later even, many of these characters would be willing to organize and finance expeditions for exploratory/scientific purposes, in accordance with the expansionist objectives of his country.

**Marcelo Mayorga Z.** / Phd in American studies, Professor and historian of the Department of Education and Humanities, University of Magallanes, specialist in American history and especially in subjects related to the hunting of marine mammals and history and geography of the extreme austral American. He is currently co-investigator FONDECYT in the project called "Ethnographic narratives and whaling operations on the South American coasts between the XVII and XX centuries: patterns, transformations and continuities". He is the General Editor of the Sophia Austral Magazine.

Meredith Nash<sup>1</sup>, Hanne E.F. Nielsen<sup>2,3</sup>, Justine Shaw<sup>4</sup>, Matt King<sup>5</sup>,  
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### **"Antarctica just has this hero factor...": Gendered barriers to Australian Antarctic research and remote fieldwork**

Antarctica is often associated with images of masculine figures battling against the blizzard. The pervasiveness of heroic white masculine leadership and exploration in Antarctica and, more broadly, in STEMM research cultures, has meant women have had lesser access to Antarctic research and fieldwork opportunities, with a marked increase since the 1980s. This paper presents findings from an exploratory online survey examining how 95 women experienced research and remote Antarctic fieldwork with the Australian Antarctic Program. Although women are entering polar science in greater numbers, a key theme of this survey is that gendered barriers to participation in research and fieldwork persist. We discuss five key gendered barriers including: 1) Physical barriers, 2) Caring responsibilities/unpaid work, 3) Cultural sexism/gender bias, 4) Lack of opportunities/recognition, and 5) Unwanted male attention/sexual harassment. We argue that the lack of attention paid to gender and sexuality in polar fieldwork contributes to the invisibility and exclusion of women and other marginalised identities broadly. To conclude, we point to the importance of targeted inclusivity, diversity and equity initiatives through Antarctic research broadly (e.g. The Scientific Committee on Antarctic Research) and National Programmes.

**Meredith Nash** is the Deputy Director of the Institute for the Study of Social Change and Senior Lecturer in Sociology at the University of Tasmania. Her research focuses broadly on gendered inequalities and they how undermine women's existing rights, pose difficulties in how women manage paid work and caring responsibilities, challenge their realistic portrayals in the media, and limit their access to leisure time and spaces. Her books include *Making Postmodern Mothers* (2012), *Reframing Reproduction* (2014), and *Reading Lena Dunham's Girls* (2017).





Diego Navarro Drazich  
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### Multilateral Tourism Policy on Antarctic

On the one hand, it is noted that scientific and tourism activities are the main uses allowed and in progress in the White Continent. On the other hand, it is observed that Antarctic tourism experiences an incessant growth, reinvigorated in the last years by the boom of the Chinese tourism in the world. Also, and by virtue of the Antarctic Treaty, the administration of Antarctica has invariably multilateral characteristics. Consequently, the analysis of multilateral tourism policies on Antarctica gets necessary. By virtue of this aim, several aspects are examined: international juridical elements (specific, as the Declaration of Antarctic Tourism, and related ones), intervening actors (World Tourism Organization, Signatory States of the Antarctic Treaty, main emitting countries of Antarctic tourism, IAATO), its causalities and purposes. Among other results, the following ones are highlighted: 1. the absence of specific plans for development and management as a tourist destination, 2. the protagonism of private actors, 3. the lack of specific official organisms for research, management and control of Antarctic tourism, 4. the low involvement of the highest multilateral tourism agency, the UNWTO.

**Diego Navarro Drazich** is a professional researcher of the National Council of Scientific Research (CONICET) in Argentina and the director of the IISCOM (Institute of Social, Commercial and Technological Research) at the Universidad del Aconcagua in Mendoza, Argentina. He has a master degree in Tourism Planning and a PhD in International Relations. With scholarships from different governments, he developed postgraduate and postdoctoral studies at universities in Madrid, Rome, Barcelona, Buenos Aires and Sydney. In the academic field, he lectures on Tourism at the Universidad del Aconcagua, and International Relations at the Universidad Nacional de Cuyo (both in Mendoza, Argentina), as well as in the Master in International Relations at the University of Montevideo (Uruguay) and in the PhD in Geography at the Universidad Nacional de San Juan (Argentina). He has also worked as a consultant for tourism development programs financed by the IDB (Inter-American Development Bank) and is currently the director of the Tourism Development Plan of Mendoza Province (TurPlan III). He has published numerous chapters and articles in scientific journals, as well as books: "Argentine tourist image. Tourism policy and foreign policy" (2010), and "Argentina and its relations with East Asian countries" (2015).

Germana Nicklin

### Securing Antarctica's borders: an unarticulated challenge for the Antarctic Treaty System

The word 'border' is absent from the Antarctic Treaty System (ATS). As such, there are no overt policies or practices in the ATS to address its border security. As external pressures on the continent continue to increase, the lack of attention to Antarctica's borders presents a risk that is receiving no obvious attention.

Antarctica is not borderless. Physically, its outline is visible from outer space; it is bordered by the ocean; its shape is represented on maps. Flows of goods, people and craft travel to and from this identifiable continent. Already, more and more people are travelling to the continent, and staying longer; as the climate warms, pests and diseases will be able to take hold; post-2048, the mineral wealth of Antarctica will be more accessible. These changes bring with them attendant risks that will put more and more pressure on the ATS.



This paper argues that the ATS needs a specific programme of work focused on securing Antarctica's borders. A lack of reference to borders in the ATS might have side-stepped the awkwardness of state-related territoriality, but it has not prepared the ATS well for its changing physical and social environment. The paper demonstrates the need for border policies and practices by revealing the gaps in ATS processes.

First, the paper defines border policies and practices as enacted in the international system, the assemblages involved and what they deliver for the security of individual states and globally. It then examines ATS systems for controlling access to and from Antarctica, and the assemblages involved. It takes a specific aspect of these controls, advance information sharing, and compares the ATS controls with New Zealand's bordering requirements and how they operate in practice. The paper then analyses the implications of any gaps for the ATS, and identifies how the ATS could increase its resilience and reduce border-related risks.

**Dr. Germana Nicklin** has been a senior lecturer and deputy director at the Centre for Defence and Security, College of Humanities and Social Sciences, Massey University since 2016. Her research interests are the performance of national security, border security, trans-Tasman relations, and policy and administration.

Prior to joining Massey University, Dr Nicklin spent 30 years in the public sector, including a wealth of practical security experience from over 17 years in the New Zealand Customs Service. There, she held various senior strategic advisory roles that exposed her to the security environment both nationally and internationally.

Dr Nicklin holds a PhD in Public Policy, for which she received a Dean's Award, a Post-Graduate Diploma in Strategic Studies, and a Master of Public Policy with Distinction, all from Victoria University of Wellington.

**Hanne Nielsen**

University of Tasmania, Australia

### Advertising Antarctica: Tourism marketing and the product of the far south

Antarctica may be located at the very ends of the earth, cut off Mercator maps, and given little thought in day-to-day life. Yet for the 40,000 tourists who visit each year, it represents the trip of a lifetime. Voyages are labelled "Pure Antarctica", "Classic Antarctica", and "Footsteps of Heroes", and call upon the many tropes associated with the continent in order to sell the place as a product. For most people, such tourist expeditions are the only available way to come into direct contact with Antarctica. Yet those who head south already carry preconception and imagined versions of the continent, thanks to range of cultural inputs, including literature, photographs, documentaries, and advertising. These imagined versions are constructed in part by the advertising of Antarctic tourism.

This paper highlights the different ways the continent has been framed as a destination. Anthropocentric themes such as self-transformation compete with ecological concerns about Antarctica's future in the Anthropocene. This work asks how the imagery and tropes used in tourism marketing material reinforce existing notions of Antarctica, and considers the implications of such preconceptions when it comes to tourism operators delivering on the Antarctic experience. It uses the rhetoric of Antarctic tourism brochures and advertising material in order to reveal the ways Antarctica has been cast and recast through the narratives that replicate across various modes of representation. As these themes also emerge in works of literature and films, several recent examples are used to complement the analysis of advertisements. Overall the paper argues that the ways Antarctica is presented as a destination



deserves closer attention, and that advertising material plays an important role in shaping the lens through which those who venture south view Antarctica.

The paper contextualises these representations of Antarctica within an overview of the phenomenon of Antarctic tourism. It also offers a comparison with both contributed to and been depicted in theatre and fiction, and asks to what extent changing attitudes towards Antarctic tourism have been reflected in such works. Using several texts published over the past 30 years, it analyses the ways Antarctic tourism has been portrayed, and

**Hanne Nielsen** specialises in representations of Antarctica in advertising, media, and popular culture. After completing a Masters in Antarctic Studies at the University of Canterbury in Christchurch, she moved to Hobart to take up a PhD examining Antarctica in advertising as part of Dr Elizabeth Leane's "Integrating the Humanities into Antarctic Studies" project. Hanne is a member of the SCAR Antarctic Humanities and Social Sciences Expert Group, and a vice President of the Association of Polar Early Career Scientists. She spends her summers in the Antarctic Peninsula, working as a tour guide, and her winters in Hobart. She tweets @WideWhiteStage.

**Raquel Nolasco**

Federal University of Minas Gerais, Brazil

### **Antarctica, actors and action: New characters in the narratives on hunting of marine mammals during 19<sup>th</sup> century**

Million years ago, human species discovered on stones and wood pieces it's potential to become powerful tools to kill other animals, and then appropriate of the resources provided by them, such as meat, skin and oils. Through its own development, human species faced new necessities, and with them new techniques emerged to hunt other animals. Real industries were born from this activity, spreading across the world and being kept at the expense of several species.

18<sup>th</sup> and 19<sup>th</sup> centuries were scene of the peak of sealers and whalers industries which decimated seals, whales, and elephant seals populations across the globe. It wasn't different with the discovery of the South Shetland Islands on the Antarctic continent in 1819. Today protected by the Antarctic Treaty (1959) and Madrid Treaty (1991), thousands of marine mammals were killed because of its skin and oil to supply demands of the capitalist system. This logic of economic exploitation was also responsible for giving evidence in the history of Antarctica's discovery to great events, heroes, ship captains, companies, and families that financed the voyages. Therefore, Antarctica's official history is usually told from characters very specific and limited. For over 20 years the history of working groups forgotten and marginalized that participated of the first human occupations in Antarctica is being told by the project "*White Landscapes: Antarctica Archaeology and Anthropology*", developed by the Laboratory of Antarctic Studies in Human Sciences from the Federal University of Minas Gerais, Brazil. The archaeological vestiges speak about the daily life of sealers and whalers and how they participated in an active way from the actions that occurred during the first voyages to the continent.

This research aims to continue with these stories, but recognizing that not only people had an active role in the relations established in the extreme environment of the icy continent. Actors of different nature need to be inserted in these narratives, and to do so, dualistic worldviews



commonly used by the occident (human/not-human, nature/culture, subject/object) must be broken. Through the reflections proposed by Symmetrical Anthropology and Archaeology, and the Human-Animal Studies, I propose to think about the concepts of actor, agency and symmetry to reflect about how sealers, marine mammals and objects (archaeological vestiges) acted together during the hunting activities of the first human occupations in Antarctica during the 19<sup>th</sup> century. Recognizing that all these entities were agents in this context, I seek to understand how each actor participated in the methods and techniques used during the human stay in the continent to hunt marine mammals. From this, I seek to create a symmetrical narrative that contributes with the stories that are been told through Antarctic archaeology, inserting a research line that recognizes and highlights the role played by the different actors not only individually, but also in their relationships and exchanges with each other, from which part of the Antarctic past was built.

**Raquel Nolasco** / I have a bachelors degree in Anthropology, with emphasis in Archaeology by the Federal University of Minas Gerais –Brazil, Master's degree in Anthropology with emphasis in Archaeology by the same university, and I'm researcher at the Laboratory of Antarctic Studies in Human Sciences since 2016 (currently as a volunteer), working in the *White Landscapes* project, developing activities in material culture analysis and public archaeology.

**Mariano A. Novas**

Universidad Nacional de San Martín, Argentina

### **Bioprospecting between Antarctic governance and sovereign states: the argentine case *Genoma Blanco* between 2005 and 2015.**

For more than fifty years, the Antarctic Treaty favored scientific development and cooperation in a continent with "frozen sovereignties." Currently, the Treaty faces a new challenge: the boom in bioprospecting. This commercially oriented scientific activity clashes with the Antarctic governance regime to the extent that it is incompatible with the principles of the Treaty on information exchange and scientific cooperation. To examine the tension between bioprospecting and the Antarctic Treaty, this paper focuses on the white genome project promoted by the argentine state between 2005 and 2015. I argue that, although bioprospecting activities tend not to conform to the principles of Antarctic governance, White Genome is a unique case that combines the principle of national sovereignty with the requirements of Antarctic governance. The article is based on the analysis of the official documents submitted by the States parties to the Antarctic Treaty Consultative Meetings between 2005 and 2015, as well as on semi-structured interviews with the interested parties.

**Mariano A. Novas** / In 2017 I obtained a degree in Political Science (National University of San Martin) after having approved my thesis entitled "Bioprospecting between Antarctic governance and sovereign states" where I analyzed the main tensions between the rules of the Antarctic Treaty and the aspirations of sovereign States in around the exploitation of biological resources. Recently I was awarded a research grant to study the policies of fracking and protection of native forests in Argentina. This scholarship has allowed me to begin my doctoral studies in environmental sciences. At the National University of San Martin, I work as a Research Assistant for Dr. Ricardo A. Gutiérrez (PhD in Political Science from Johns Hopkins University) and I am a member of the Environment and Policy Group.



Victoria Nuviala<sup>1</sup>, Violeta Nuviala<sup>2</sup>

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### **Vers d'autres architectures. Essays on architectural modernity in Antarctica.**

Since the 19th century Antarctica has been an unlimited laboratory for Natural Sciences. This leading and constant presence to date has left its mark on the way Antarctica has been and continues to be narrated. These Master Narratives have reinforced the conception of Antarctica as a pristine, natural, wild and inhospitable continent. While processes such as industrialization, urbanization and anthropization, that took place during the 20<sup>th</sup> and 21<sup>st</sup> centuries have been silenced or simply considered as unthinkable for this territory, despite its strong material, demographic, economic and political impact.

In the field of History of Architecture and Urbanism, where the global scenery is structured in territories as producers, replicators and lacking of Architecture, Antarctica has been relegated to this last group, being completely silenced in the historiographical narratives. In this sense, the absence of Antarctica in these stories has replicated and reinforced the way in which it has been presented by the Master Narratives.

However, during the 20<sup>th</sup> century the exploration and occupation process of the Antarctic territory, around scientific and commercial activity, resulted in a remarkable growth of architectures in Antarctica, multiplying their programs, materialities, techniques, morphologies and several other aspects. In this particular scenario, Argentina has played an important role in the process of occupation of Antarctica, both in the field of commercial and scientific occupation.

The aim of this lecture is to explore and analyze the architectural development of Argentina in the Antarctic continent, understanding it as part of the diverse trajectories that architectural modernity has taken throughout the 20<sup>th</sup> century. This will enable us a double movement. First, a movement towards the interior of these productions, allowing us to analyze the development of Architecture in Antarctica and its ways of inhabiting, throughout the 20th century. Secondly, a movement outwards, which aims to produce a dialogue between these architectures and, local and global historiography. Finally, the goal of this double movement will be to trace untold trajectories of architectural modernity in Antarctica.

**Victoria Nuviala Antelo** (Buenos Aires, 1981) / Assistant professor of History of Architecture & Urbanism at the University of Buenos Aires. She earned a PhD in Archaeology from the University of Buenos Aires on the topic of Daily life of Industrial Whalers in Antarctica (20th Century) She participated on the Argentine Antarctic Program as a Research Assistant on Cultural and Historic Antarctic Heritage Projects. Victoria co-chaired the Informal Discussion on Historic Sites and Monuments (ATS), and was a member of the Argentinian Delegation at the XIV Committee on Environmental Protection and the XXXV Antarctic Treaty Consultative Meeting (ATCM) held in Buenos Aires (2011) She has been part of several research projects on Antarctic & Southern Patagonia Historical Archaeology, and more recently on the perception of individuals of Material Culture and Heritage in Antarctic tourism. Victoria has worked onboard Antarctic tour ships, lecturing on the History of Industrial Whaling & Antarctic Architecture.

**Violeta Nuviala Antelo** (Buenos Aires, 1977) is an Associate Professor of History of Architecture & Urbanism at the University of Buenos Aires. She is currently chair and researcher at the Center of Research on History of Latin-American Housing. She





holds a Masters in History and Critics of Architecture, Design and Urbanism from the University of Buenos Aires. Violeta leads an international research project Traveling networks, alternative Modernities in Latin America, in addition to working on a range of projects related to the history of Latin American Architecture & Urbanism. She specializes on Modern experiences in Latin America, Radical Pedagogies & Housing in Latin America. She is currently developing new lines of research in relation to architectural modernity in Antarctica.

### Ria Olivier

Antarctic Legacy of South Africa

#### **South Africa's involvement in the Antarctic and Sub-Antarctic Region; a Timeline of confirmation and creating awareness**

South Africa is involved in the Antarctic region since the heroic age, although the first South African only set foot on Antarctica with the Trans Antarctic Expedition in 1959. Cape Town has been a port and gateway for vessels to the Antarctic Continent as early as 1739. The sealing industry also made use of South Africa to sub-Antarctic Islands. Since 2009 material has been collected for the digital archive. Digital archiving of material for the Antarctic Legacy of South Africa repository has a lot to do with correct metadata and assessment and evaluation of material and need for understanding South African involvement in the Antarctic region is of utmost importance. Especially in the South Africa context ALSA has the responsibility to establish the correct date and history timeline of involvement. South Africa is building a future for next generations. Therefore, our polar heritage need to be preserved for confirmation of our history but to promote this history and creating a pride in our nation of our polar heritage. These factors led to in depth study of documentation and images to create a timeline since before the heroic age. The bonus attribute of establishing this timeline was that a huge amount of material such as official documentation were digitised and added to the digital repository. This led to an evaluation of the structure of the digital repository and a new effort in acquiring these material.

The timeline started from a low impact for an exhibition and pan out to be part of the digital museum, posters for established museums, public lectures to specific groups. A huge impact is that this timeline also form part of the SANAP (South African National Antarctic Programme) platform and this entails that anyone nationally or internationally doing research of the south African involvement in the Antarctic can verify this information via the platform. These timelines will be an important input an addition to establishing Capet Town as gateway city within the global gateway city project.

A venture that the project would like to put the timeline towards is to the history curriculum of the South African Education, there is currently a huge movement in establishing the history that needs to be learned by pupils in the education system. If teachers and learners can identify with South Africa as an Antarctic country it can also create a pride within South Africa.

In this presentation a timeline of South Africa's involvement in the Antarctic, Marion and Gough Island as well as vessels to the Antarctic will be shown. All these information has been sources from the digital archive. Images displayed during the presentation is also available on the archive.



Ria Olivier

Antarctic Legacy of South Africa

## Collaboration of South African Researchers in the Antarctic Region

The ownership of scientists' research data is a matter of huge importance to the scientific world and beyond. "[Research in] the Antarctic is proof that great things can be achieved through collaboration"- Richard Fifield (Summerhayes 2013). The International Geophysical Year (IGY) of 1957-1958 set the scene for global collaboration among many disciplines in this unique research arena. This IGY did not capture just the attention of scientists and researchers but that of the public and politicians as well. The mystique surrounding this most southern continent continues to create an atmosphere of exploration. Scientists would like to discover all the unknowns of the last wilderness on earth, while others just want to experience its immense wilderness.

In discovering the unknown, scientists and their research data have become a matter of huge importance in the scientific world. Data are not just the intellectual property of the scientist or researcher, but creates the responsibility of data management. Scientists need to take control over their data and have the ability to share these data with colleagues. According to Loshin (Loshin 2002), data have intrinsic value as well as having benefit as byproducts of information processing, "at the core, the degree of ownership (and by corollary, the degree of responsibility) is driven by the value that each interested party derives from the use of that information".

In order to understand the science collaboration in the Antarctic and Sub-Antarctic, it is necessary to discuss the instruments that are already in place on a South African national and international level. Collaboration in this extreme environment has a huge value to global research. A closer look into the importance of South Africa's involvement in the Antarctic region needs to be emphasized.

Previously data were only available once a researcher had published their scientific findings. SCAR has adopted a Data and Information Management Strategy (DIMS), developed by the SCAR Standing Committee on Antarctic Data Management (SCADM) to ensure that the scientific user community has adequate access to data and information ([www.scadm.org](http://www.scadm.org)). Therefore, it is necessary to look at how data are currently available within the South Africa National Programme (SANAP). During SANAP workshops, the National Research Foundation (NRF) compiled an Antarctic and Southern Ocean Strategic Plan (Skelton 2014) wherein the importance of research data management was discussed and the availability and exchange of data was emphasized.

South Africa has made a huge contribution to science in the Antarctic region since 1958, and its collaboration and contribution to research in this extreme wilderness is of utmost importance via the accessibility of more than five decades' data. Collaboration in Antarctica comes from a joint passion for an unknown territory and the experience of shared hardships in a harsh environment. This passion and these discoveries lead to data and to published scientific findings. These publications and data analyses can become knowledge for future generations of not only South Africans, but also of the greater continent of Africa and the global community.

**Ria Olivier** is principal-investigator, archivist and manager of the Antarctic Legacy of South Africa (ALSA). Currently involved with Antarctic related information since 2012. Her academic and working career began in Information science with specific





focus information in the digital era. She specialised in the management of information and this brought her to the Antarctic environment as data technician in 2012. This led to her involvement in SANAP and SCAR. She is a member of HASSEG as well as representative of South Africa in SCADM and these two areas accumulate in the success of ALSA. She is also a founder's member of the Polar Museum Network and a member of LIASA (Library and Information Science Association) with professional status and member of DHASA (digital Humanities of South Africa)

**María Jesús Ovalle Barros<sup>1</sup>, Miguel Ángel Salazar Urrutia<sup>2</sup>**

1. Pontificia Universidad Católica de Valparaíso

2. Universidad de Playa Ancha

### **Geostrategic analysis of Russia in the North Defrosted seas. A new difficult scenario or cooperation in the 21st century?**

The current environmental geopolitical context that has produced the climate change in recent decades, has revealed geostrategic interests among Russia, coastal States and other States in the Arctic, as happened in Antarctica in the first middle of 20th century. In addition, the arctic icemelting is allowing the definition and consolidation of new sea routes, whose control will entail competitive advantages and a position of power in international trade.

For Russia, an ice-free ocean is an excellent opportunity to achieve a successful economic exploitation of the Arctic. This situation is aligned with its vision and discourse that human science must tame, defeat and control the natural world, using also the region as a constructor element of identity.

September of 2007 recorded an historical reduction of ice which meant the opening of the so-called Northwest Passage route that connects Atlantic and Pacific Ocean through the Canadian Archipelago. It is expected that, in 30 years, this passage would be navigable all year long, reducing significantly time and costs of transportation.

Likewise, there is actually a single navigable route during summer that runs along the coast of Siberia to the Pacific Ocean, this is the so-called Maritime Route of the North Route (MRN). As the previous example, it is expected that in 30 years more, it could be used throughout the year, allowing a reduction of up to 40% of the distance currently traversed through the Suez Canal.

The Maritime Route of the North (MRN) is one of the major interests of Russia in the region, as this one would facilitate the transport of its resources in the area (especially energy), the economic development of the northern part of territory, and relieve congestion on the Trans-Siberian train, which currently is the main limit of the internal growth of this country.

Finally, the control of this route would grant to Russia a strategic position in the international commercial transport. Russia uses all these reasons for appeal to its sovereignty definition in the area and not leave it like an international governance.

This paper is a descriptive and analytical study of the political, environmental, economic and social situation in this region, complemented by a comparative analysis of the two polar regions of the planet, addressing the points of difference, similarity, continuity, break and/or change in foreign policy of the actors involved have taken. It is the result of a paper presented at the contemporary world politics course in the program of Master degree in International Relations at



Pontificia Universidad Católica de Valparaíso, which has been published in the electronic journal of the Centro de Estudios Hemisféricos y Polares in 2016 (Vol. 7 No. 4, October-December).

**María Jesús Ovalle Barros** / Engineer at renewable natural resources at the University of Chile. Master's degree in International Relations at the Catholic University of Valparaíso and graduate in strategic environmental assessment in Fundbaires. She is also Director of the CIRN A.G. and member of Velehuen NGO.

**Miguel Ángel Salazar Urrutia** / Professor of history and geography, graduate in History and Education from the University of Playa Ancha. Master's degree in International Relations at the Pontificia Universidad Católica de Valparaíso. Researcher of Centro de Estudios Hemisféricos y Polares. Professor of Duoc UC, Valparaíso. He is also a member of Velehuen NGO.

**Michael Pearson**

President, ICOMOS International Polar Heritage Committee, Australia

### Antarctic cultural heritage values assessment and world best practice

There has been much work on the concept of cultural heritage values over the last 60 years, spurred on by the activities of the International Council on Monuments and Sites (ICOMOS), the World Heritage Committee, and individual national heritage agencies around the world. The elaboration of values varies between the levels of application (local to world), but the same basic concepts apply across the board, revised and expanded from time-to-time. Key documents expressing values included the ICOMOS Venice Charter (1964), and the World Heritage Convention and Operational Guidelines (1972, 1978, 1996, 2005). An important development in World Heritage criteria has been the addition of 'authenticity' (introduced in 1977 and expanded in 2005) and 'integrity' (introduced in 2005) as measures of how well the heritage values are represented at sites, and which need to be demonstrated before listing.

Over this same period of time the protection of cultural heritage in Antarctica has been based on the agreement of the first Antarctic Treaty Consultative Meeting (ATCM) in 1961 for the protection of 'any tombs, building or object of historical interest'. Further consideration in 1968 recommended the creation of a list of 'monuments', and this resulted in the establishment of the Historic Sites and Monuments (HSM) List in 1972. This list was created without any prescribed criteria outlining values. In 1995 a list of seven criteria were adopted by the ATCM as the basis for proposing HSM. The 1995 criteria were elaborated in the *Guidelines for the assessment and management of heritage in Antarctica* in 2018. The paper looks at how heritage values are articulated in these documents over time, and how the ATS formulation of heritage values sits in relation to current world practice in the assessment of heritage values.



Carolyn Philpott<sup>1</sup>, Elizabeth Leane<sup>2</sup>, Rupert Summerson<sup>3</sup>

1. University of Tasmania, Conservatorium of Music / Institute for Marine and Antarctic Studies, Hobart, Australia
2. University of Tasmania, Institute for Marine and Antarctic Studies / School of Humanities, Hobart, Australia
3. Faculty of Architecture, Building and Planning, The University of Melbourne, Australia.

## Considering Antarctica's Wilderness and Aesthetic Values from a Sonic Perspective

Although humans tend to prioritise the visual over the acoustic in everyday life, soundplays an important role in shaping our perceptions and experiences of the world around us. Sounds can draw our attention to the uniqueness of places (as well as the species and phenomena that exist within them) and can enhance or detract from our experiences, often affecting us in ways that are immediate and powerful. They might make us feel frightened and unsettled, for example, or help us to relax and feel a stronger sense of connection to the places in which we find ourselves. Over the last two decades, research on the human perception and aesthetic experience of landscape sounds has steadily increased, especially through the lenses of environmental philosophy, environmental psychology and human geography. Most of this research recognises the need for attentive or sensitive in-place listening as part of a total, multisensory experience of landscapes and acknowledges the importance of field recording in documenting and communicating sonic aesthetic qualities. Given the rise in the number of visitors to Antarctica in recent years – tourists, as well as sound artists – and the Madrid Protocol's emphasis on the protection of Antarctica's "aesthetic values", it is surprising that to date the aesthetic values of Antarctic soundscapes have not been examined in any detail in the literature. Similarly, despite the frequent mentions of silence as a key characteristic of Antarctica, especially in the exploration literature, the impact of anthropogenic noise on Antarctica's wilderness values, which are also protected by the Madrid Protocol, have only been touched on briefly as a component of the human "footprint".

This paper will present the preliminary findings of a project that aims to investigate the role of sound in shaping visitors' perceptions and experiences of the southern icescape and its contribution to the appreciation of Antarctica's wilderness and aesthetic values. The role of the Madrid Protocol is to protect these values but without a proper understanding of what these values are from a sonic perspective, it is difficult to propose measures to protect them. We aim to contribute to this discussion and make suggestions for how greater awareness of sound can add another dimension to the wilderness and aesthetic values of the region.

**Carolyn Philpott** is a Senior Lecturer in Musicology and the Associate Head, Research for the School of Creative Arts at the University of Tasmania. She is also an Adjunct Researcher at the Institute for Marine and Antarctic Studies. Most of her research focuses on intersections between music, place and the environment, particularly in relation to Australia and Antarctica. She has published widely in musicology and Antarctic studies journals, including in *Musicology Australia*, *Organised Sound*, *Popular Music*, *The Polar Journal* and *Polar Record*, as well as in *Australian Historical Studies*. She co-edited (with Hanne Nielsen) the June 2018 issue of *The Polar Journal* and is currently co-editing (with Matt Delbridge and Elizabeth Leane) a book titled *Performing Ice* for Palgrave Macmillan's *Performing Landscapes* series.

**Elizabeth Leane** is Associate Professor of English at the University of Tasmania, holding a research fellowship split between the School of Humanities and the Institute for Marine and Antarctic Studies. With degrees in physics and literary studies, she is interested in building bridges between disciplines, and particularly in bringing the insights of the humanities to the study of the Antarctic. She is the author of three monographs, most recently *South Pole: Nature and Culture*, and has published in a wide range of journals, such as the *International Journal of Heritage Studies* and the *Journal of Colonialism and Colonial History*.



A former Australian Antarctic Arts Fellow (2003-4), she is Arts and Literature editor of the *Polar Journal* and a chief officer of the Standing Committee on Humanities and Social Sciences of the Scientific Committee on Antarctic Research. Her book-in-progress is called *Travelling Ice: Textual Journeys through Contemporary Antarctica*.

**Rupert Summerson** is an honorary senior fellow in the Faculty of Architecture, Building and Planning at the University of Melbourne. He first went to Antarctica in 1980 as a field assistant with the British Antarctic Survey and has subsequently visited Antarctica 10 times with three national Antarctic programs and most recently on a tourist ship. He has spent three and a half years living in Antarctica, including three winters. In 2013 he completed his PhD on The Protection of Wilderness and Aesthetic Values in Antarctica at the University of Melbourne and has published more than 10 refereed papers and book chapters on the subject. He was a co-editor of *Antarctica: Music, Sound and Cultural Connections*, published by ANU Press in 2015, and contributed two chapters to it.

Joanna Price

Liverpool John Moores University, England.

### Scott's Hut: an affective biography of an Antarctic place

The frozen huts of the Heroic Age explorers haunt the contemporary imagination of Antarctica and evoke complex emotions both in those who visit them and those who contemplate them from afar. This paper examines how the feelings associated with the experience of place in Antarctica, and here specifically the explorers' huts, shape the idea of Antarctica in the cultural imagination. It considers in particular R.F. Scott's *Terra Nova* hut, erected on Cape Evans in 1911 as the main base of the 1910-13 British Antarctic Expedition. I argue that the feelings first articulated by the explorers themselves return in the work of recent artists and writers as they consider the hut, and more broadly, Antarctica itself.

In exploring these themes, my paper focuses on the most widely read memoir of the expedition, Apsley Cherry-Garrard's *The Worst Journey in the World* (1922), reading it alongside his unpublished diaries. In *The Worst Journey* the hut becomes a 'temporal landscape' inscribed with its own 'life-history' of feelings, to borrow the phrases of phenomenologist and anthropologist Tim Ingold. Cherry-Garrard's work, like Scott's journals and Ponting's photographs, the other most culturally prominent evocations of the expedition, presents the feelings of attachment to and absorption in the material spaces of the hut that characterize the men's first winter there. These feelings emerge around ideas of refuge, domesticity, home, companionship, intimacy, knowledge and work. The men's perception of dwelling in these interior spaces is intensified by their movement between them and the non-human environment outside. During the second winter, after the loss of the polar party, the grieving survivors form an emotional community of care. In Cherry-Garrard's account of that winter in his diaries, the boundaries between inside and outside become more precarious and the material spaces of the hut, in the absence of his closest companions, become less distinct as they are filled with his own feeling.

The temporal layering of feelings associated with the hut is deepened by an event that occurs between the end of the expedition and the publication of Cherry-Garrard's book: the First World War. This influences the book's articulation of traumatic memory with nostalgia, longing and presentiment. These feelings situate Antarctica in an affective relation to modernity that, I argue, persists in the later imagination of the continent including recent representations of the effects of climate change. In the work of women artists and writers in particular, such as Judith



Hersko, Sara Wheeler and Elizabeth Bradfield, the now-conserved hut in its frozen landscape is a powerfully affecting memorial site. The absent presence of the explorers creates an uncanny space in which their feelings are repeated and re-worked. In Hersko's work, as in Cherry-Garrard's, an embodied response to place in Antarctica involves the articulation of these emotions with grief and trauma as part of a consideration of the future of the continent. Through the lost Edwardian ideas of nation and manhood circulate other emotions such as empathy, longing and care.

**Joanna Price** is Senior Lecturer in English and American Literature at Liverpool John Moores University, England. She has published essays on place and emotion that include a chapter on Antarctic affect in the travel writing of British authors Jenny Diski and Sara Wheeler, in *Affective Landscapes in Literature, Art and Everyday Life* (Ashgate, 2015) and an article, 'Antarctica and the Traumatic Sublime', in the journal *Environment, Space, Place* 9: 1 (Spring 2017): 70-93. She is currently writing a book, *Feeling Antarctica*, about the embodied and affective experience of Antarctica as it is evoked in literature, art and photography.

**Rebecca Priestley<sup>1</sup>, Elizabeth Leane<sup>2</sup>, Rhian Salmon<sup>3</sup>**

1. Associate Professor of Science in Society at Victoria University of Wellington
2. Associate Professor of English at the University of Tasmania
3. Victoria University of Wellington

### An embodied Antarctica

In one of her seminal writings about science<sup>1</sup>, feminist scholar Donna Haraway argued for "the view from a body, always a complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity." In this session, three writers, who visited Antarctica as a research scientist, a science writer, and a humanities academic, read from narrative accounts of their experiences in Antarctica. In contrast to most scientific accounts of Antarctica, which focus externally on icescapes and landscapes, wildlife, and contemporary threats to the icy continent, these writers present a very immediate and embodied experience of Antarctica: sharing anxieties about the isolation of a tent in a blizzard, the irritation and mundanity of winter laboratory work, and evoking the oppressiveness of extreme cold. Rhian Salmon will read from *Waiting for the polar sunrise*, written from the perspective of a wintering-over scientist at Halley Research Station, Rebecca Priestley will read from *Lucky to be here*, a piece based on her visit to a geology field camp at Friis Hills in the Transantarctic Mountains, and Elizabeth Leane will read a work-in-progress inspired by her trip to the McMurdo Sound area as an instructor on an interdisciplinary fieldtrip.

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1. Haraway, Donna (Autumn 1988). "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective". *Feminist Studies*. 14 (3): 575–599

**Dr Rebecca Priestley** is Associate Professor of Science in Society at Victoria University of Wellington. She has degrees in geology, history of science and creative writing, and is a Principal Investigator with the NZ Sea Rise programme and Te Punaha Matatini Centre of Research Excellence. Rebecca visited Antarctica in 2011 to write a series of articles about Antarctic science and in 2014 and 2018 to film lectures for a fully online course on Antarctic science and history. Rebecca is the 2016 winner of the Prime Minister's Science Communication Prize and the 2009 winner of the Royal Society of New Zealand Science Book Prize. She recently led the development of Victoria University's first edX MOOC (Massive Open Online Course), which engaged





more than 6000 students from 115 countries in a course about Antarctic geology and history. Her most recent book is *Dispatches from Continent Seven: an anthology of Antarctic science*.

**Elizabeth Leane** is Associate Professor of English at the University of Tasmania, holding a research fellowship split between the School of Humanities and the Institute for Marine and Antarctic Studies. With degrees in physics and literary studies, she is interested in building bridges between disciplines, and particularly in bringing the insights of the humanities to the study of the Antarctic. She is the author of three monographs, most recently *South Pole: Nature and Culture*, and has published in a wide range of journals, such as the *International Journal of Heritage Studies* and the *Journal of Colonialism and Colonial History*. A former Australian Antarctic Arts Fellow (2003–4), she is Arts and Literature editor of the *Polar Journal* and is chief officer of the Standing Committee on Humanities and Social Sciences of the Scientific Committee on Antarctic Research. Her book-in-progress is called *Travelling Ice: Textual Journeys through Contemporary Antarctica*.

**Rhian Salmon** obtained a PhD in atmospheric chemistry in 2002, after which she worked for the British Antarctic Survey as a research scientist – which included spending an overwinter on a remote Antarctic base for 18 months. In 2006, she changed careers to focus on the communication of polar and climate science during the International Polar Year 2007 – 2008 and has remained involved with local, national, and international science engagement ever since. She has held an academic position at Victoria University of Wellington since 2013, where her research and teaching focuses on bridging the gap between science communication theory and practice. She established the Engagement programme for the Deep South National Science Challenge, a national research effort focused on improving our understanding of New Zealand's changing climate, and is a Principal Investigator with the NZ SeaRise programme and Te Punaha Matatini Centre of Research Excellence.

**Rebecca Priestley<sup>1</sup>, Daniela Liggett<sup>2</sup>, Ricardo Roura<sup>3</sup>, Lize-Marie van der Watt<sup>4</sup>**

1. Associate Professor of Science in Society at Victoria University of Wellington, New Zealand
2. Gateway Antarctica, University of Canterbury, New Zealand.
3. Conservation professional and independent scholar
4. KTH Royal Institute of Technology in Stockholm, Sweden.

## The challenges of participant observation on the coldest, driest, highest continent

The challenges of participant-observation of scientific fieldwork can include building rapport with the subjects of the study, coming to terms with scientific jargon, and trying to meaningfully participate in the fieldwork. But what additional challenges are involved in locating this research method to an Antarctic field camp? In this session, four researchers discuss their experiences of observation and participant-observation in Antarctica, focusing on the joys and challenges of taking this role in such an extreme and remote environment. In January 2018, Liggett joined a Dry Valleys field camp with the goal of examining Antarctic scientists' research practices, and their cultures of knowledge production, as part of an ethnographic study of Antarctic science events. During her three visits to Ross Island and the McMurdo Sound area (2011, 2014, 2018), Priestley accompanied and interviewed scientists working at and around Scott Base, and camped with a team of paleo climatologists in the Transantarctic Mountains. As part of her PhD research, van der Watt participated in relief efforts to Marion Island (2009) and to the SANAE base in Dronning Maudland (2010/11) to inventory documents and artifacts of potential historical value and to study interactions between scientists, logistics personnel, and government officials. Through his various roles in Antarctica and the Antarctic Treaty System, Rourahas gathered information about a range of research questions in the social sciences, with a focus on human behavior and human-environment interactions, past and present. As well as sharing their stories, these panelists will comment on





parallels and differences between the observational research methods across different disciplines.

**Rebecca Priestley** is Associate Professor of Science in Society at Victoria University of Wellington. She has degrees in geology, history of science and creative writing, and is a Principal Investigator with the NZ SeaRise programme and TePunahaMatatini Centre of Research Excellence. Rebecca visited Antarctica in 2011 to write a series of articles about Antarctic science and in 2014 and 2018 to film lectures for a fully online course on Antarctic science and history. Rebecca is the 2016 winner of the Prime Minister's Science Communication Prize and the 2009 winner of the Royal Society of New Zealand Science Book Prize. She recently led the development of Victoria University's first edX MOOC (Massive Open Online Course), which engaged more than 6000 students from 115 countries in a course about Antarctic geology and history. Her most recent book is *Dispatches from Continent Seven: an anthology of Antarctic science*.

**Daniela Liggett** is a social scientist with research interests in polar governance, polar tourism, the wider aspects of managing human activity in polar environments and the complexities of Antarctic values. She is currently involved in collaborative research on the topics of Antarctic futures, Antarctic gateway cities, the use and provision of polar environmental forecasts, Antarctic science-policy interactions, and Antarctic heritage. She is a Chief Officer of the SCAR *Standing Committee on the Humanities and Social Sciences* and a member of SCAR's *Standing Committee on the Antarctic Treaty System* and its *Capacity Building, Education and Training Committee*. Daniela is co-chair of the Societal and Economic Research and Applications subcommittee of the World Meteorological Organization's Polar Prediction Project (PPP) and serves on the PPP Steering Group. She is on the editorial boards of *Polar Geography*, *The Polar Journal* and *Advances in Polar Science*.

**Ricardo Roura** is a conservation professional and independent scholar with extensive experience in research, analysis and advocacy in Antarctica and the Antarctic Treaty System. He has participated in 13 seasons of Antarctic field work, including wintering-over, with - among others - Greenpeace International, the Argentine Antarctic program, the University of Canterbury (New Zealand), and a Chinese environmental education organisation. In parallel he has been represented the Antarctic and Southern Ocean Coalition, ASOC, in Antarctic Treaty for a uninterruptedly since 1997. He has also conducted research in Svalbard with the Arctic Centre, University of Groningen (Netherlands), where he completed his PhD. His broad research interest is on human behaviour and human-environment interactions in the polar regions. He has published on Antarctic/polar topics including tourism, tourist behaviour, impact assessment and monitoring, protected areas, heritage, and geopolitics. He is a participant in the Swedish Research Council funded project "On creating cultural heritage in Antarctica."

Trained as a historian, **Lize-Marié van der Watt** studies the histories of polar pasts and polar futures, with a focus on environmental history, critical geopolitics and, more recently, heritage studies. She is currently collaborating on projects that use institutions to explore the relationship between science and geopolitics in the North American Arctic as well a project historicizing conceptions of polar environmental fragility. Moreover, she leads the Swedish Research Council funded project "On creating cultural heritage in Antarctica." She has authored or co-authored articles in journals ranging from *Global Environmental Change* to *The Polar Journal*, in addition to writing book chapters and co-editing the Palgrave Macmillan volume on *Antarctica and the Humanities* (2016). She serves on the Swedish National Committee for Global Environmental Change.

**Ursula Rack**

Gateway Antarctica, University of Canterbury, New Zealand

## Historic trails – how gateway cities research, collect and communicate their Antarctic history

Gateway Cities have different strategies to engage with their Antarctic history. The focus could be on research institutions, archives, museums or monuments. With the New Zealand Winston Churchill Memorial Fellowship 2018 I investigated how different countries research, collect, and



communicate their Antarctic history. The fellowship enabled me to visit Washington DC and Columbus in Ohio (USA), Bremerhaven (Germany), and Cambridge and London (UK). In all these places, I did research in archives, museums, education programmes, and research institutions. The examination has shown that several countries with long enduring Antarctic research activities communicate their Antarctic history more or less extensively to their citizens and visitors.

As part of these studies, I also researched the way Christchurch (New Zealand), one of the five gateway cities, remembers its Antarctic history. Some historic Antarctic connections are still visible in monuments and places. Because of the earthquakes in 2010 and 2011, several of these places have changed or disappeared. Despite all the odds, huge effort was made for significant places and monuments to be restored. However, some of the undertakings regarding Antarctic history are not that well known to the wider public. In this framework I start to compare these efforts with those of two other gateway cities: Hobart (Australia) and Punta Arenas (Chile). These cities have produced detailed written guides and different walks to their historic places which connect to their Antarctic past.

In this presentation, I elaborate on the huge potential and the various ways in which gateway cities treasure and value their Antarctic past, and how this can be aligned with present-day Antarctic strategies which are of great interest for all gateway cities.

**Ursula Rack** / Ursula is an Adjunct Fellow for Polar History at Gateway Antarctica, University of Canterbury, New Zealand, since 2010. She teaches into Antarctic Studies courses at the same university. Ursula is the recipient of the New Zealand Winston Churchill Memorial Fellowship 2018 for the project: *"How different countries research, collect and communicate their Antarctic history"*. In 2012, she was the first humanities researcher to be awarded a COMNAP Fellowship for the project: *"Reconstructing historic Antarctic climate data from logbooks and diaries of the Heroic era"*. Consequently, Ursula was involved in the *New Zealand National Science Challenge – Deep South* to collect and assess historic logbooks for their weather information. Ursula holds a PhD from the University of Vienna, Austria, in collaboration with the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven, Germany, in 2009, in social and environmental history: *"Social conditions on German and Austro-Hungarian Polar expeditions between 1868 – 1939"*.

**Gustavo Ramírez Buchheister**  
Universidad de Magallanes, Chile

## Law as a Science and Antarctic Politics

Science has been an important element to human presence in Antarctica since the very beginning, from the days of exploration, through the International Geophysical Year, to today's scientific programmes and the scientific advisory committees to the institutions of the Antarctic Treaty System. The Treaty itself positioned Science, along with the peaceful use of Antarctica, at its very core and it guides the decision-making on the continent. These decisions are expressed in documents with a certain legal status and often require legal interpretation and enforcement: this way, the Legal Science has found a place in the System, too. However, since the study of the Law can be considered a science, the question about its place amongst the other Antarctic sciences can be raised. This presentation will aim to analyse the position of the Legal Science towards the Antarctic Politics –not in terms of the expression and enforcement of the decisions, but as an informant to the decision-making– and some of the challenges that it should address to contribute to the further development of the Antarctic Treaty System.



**Gustavo Ramírez Buchheister** / Holds a degree in Law from Universidad de los Andes (Santiago de Chile) and has worked as a researcher and lecturer of Legal History, Constitutional Law and Public International Law at Universidad de Magallanes (Punta Arenas, Chile), where he also studied a Master of Education. He is currently writing his Master thesis and is an LL.M. student at Philipps-Universität Marburg, Germany, where he intends to begin his doctoral studies in the near future.

**Lisa Roberts**

University of Technology Sydney, Australia

### **Lens on Health: Relationships between health of humans and health of environment**

Abstract Guided by fellow Indigenous Australian scholars, Gawaian Bodkin-Andrews et al., I embrace and respect our diverse voices, world views, knowledges and identities within our communities, to pass on our stories - traditional and contemporary - of survival and healing. As an artist I tell stories from my experience of relationships with people and places, and from consensus understandings that are shared by scientists. Here I will use animations, sounds and words to tell a personal story about identity, loss, betrayal, ceremony and reconnection, in the context of a public event co-created by Indigenous and non-Indigenous scholars for the 2018 Sydney Science Festival, to share knowledge of relationships between health of humans and environments:

<http://www.livingdata.net.au/content/presentations/2018presentations/2018PedestrianJourney.php> Central to the story is *Euphausia superba* (Antarctic krill), the keystone creature of the Southern Ocean. *Euphausia* is the Greek word for "true shining light" and the hope is that, when recognised, the individual and collective behaviours of *Euphausia* will inspire the distinctive and collective capacities of humans to understand and mitigate harmful impacts on the natural climate systems. This presentation is a traditional Antarctic story in the making, inspired and informed by Indigenous cultural knowledge and Antarctic science, for future generations to understand, protect and conserve the ocean that sustains us.

**Lisa Roberts** / My heritage is Aboriginal Australian and European, with family connections in Victoria, Tasmania and England. I trained to be a dancer and a visual artist, and I work as an artist and interactive author to bring together new and ancient ways of relating to and understanding our changing natural world. I lead the Living Data program to explore the similar and different ways we relate and understand as artists and as scientists. After working in Antarctica as an Australian Antarctic Arts Fellow I moved to Sydney and completed a Diploma of Aboriginal Studies at Eora College, and then a PhD in New Media Arts at the University of New South Wales. My studies at Eora connected me to my Aboriginal family in Victoria. My PhD resulted in a language of primal gestural forms that I still use to combine scientific data and expressions of connection. I'm a continuing student at Eora, Artist in Residence in the Faculty of Science at the University of Technology Sydney, and occasional Visiting Scientist (a.k.a. Artist) at the Australian Antarctic Division).

**Peder Roberts**

KTH Royal Institute of Technology, Sweden.

### **The Profits and the Perils of Antarctic IGY Contracts**

This paper is about how the benefits that Antarctic research could bring to organizations more involved with Arctic research – but also the drawbacks that could ensue. My case study is the huge United States investment in the Antarctic leg of the International Geophysical Year (1957-



58). With this investment came a need for contractors who could provide both logistical solutions (including selection and training of staff in addition to providing instruments and equipment) and capacity to conduct the research programs that now became possible. In this paper I examine one such contractor – the Arctic Institute of North America (AINA), a bi-national private body founded in 1944 by individuals from Canada and the United States. I argue that AINA's status as an information centre for polar operations, covering both networks to scientists and to the United States military, placed it in an excellent position to attract Antarctic contracts. These provided a welcome boost for AINA's strained finances and helped to subsidize its Arctic operations. By the end of the IGY AINA could boast of running an annual induction program for new Antarctic staff, a number of research programs, and a network that also boosted its Arctic recruitment through contact with veterans of other national Antarctic programs (notably the Falkland Islands Dependencies Survey). But despite the financial benefits, Antarctic contracts also had downsides. First, the complexity of Antarctic operations – and the difficulty of remedying problems once in the field – placed demands on AINA that its comparatively lean staffing structure could not always address. Second, because AINA identified research staff and hired them on contracts tied to government Antarctic contracts, it never built up the in-house capacity to conduct work on long-term basis. (This became a particular problem concerning the reduction of data from aurora and airglow research.) By the early 1960s AINA was having difficulty meeting its contractual obligations, leading to reputational damage with its government funders, while at the same time becoming aware that the influx of Antarctic money had undermined the equality between its Canadian and United States operations. Plans to change its name to the Polar Institute of North America to better reflect its actual business were allowed to lapse, although AINA continued to profit from access to Antarctic veterans (such as its ex-FIDS logistics officer Ralph Lenton). I conclude with reflections on whether this episode can push us to rethink some elements of both the legacy of the IGY, and the evolution of 'bi-polar' research as a set of operational practices rather than an intellectual tradition. Can we start to think of a history of Antarctic research that places logistics as a central consideration rather than an uninteresting necessity?

**Peder Roberts** is Docent and Researcher at KTH Royal Institute of Technology in Stockholm, Sweden. He has published extensively on the history of polar research with a particular focus on science, politics, and environmental knowledge. His books include *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (2011) and the edited volumes *Antarctica and the Humanities* (2016, with Adrian Howkins and Lize-Marié van der Watt) and the *Handbook on the Politics of Antarctica* (2017, with Klaus Dodds and Alan D. Hemmings). Peder currently the leader of the European Research Council-funded project *Greening the Poles: Science, the Environment, and the Creation of the Modern Arctic and Antarctic*.

**Leslie Carol Roberts**

California College of the Arts, San Francisco, California

### **The Ideal of Antarctica: How Words Impact Perception and Policy**

The language of Antarctica is one of exceptionalism, a syntax and diction that goes so far as to operate as its own ecopoetics, word from the Greek "oikos" meaning family or house, and poesis, meaning to make. This paper examines how words make the place called Antarctica (also from the Greek) by considering the lineage of exceptional language; this line of discussion begins with the period of the voyages of James Ross, when the continent was first sighted; it then flows into the late 20<sup>th</sup> century when Greenpeace and other NGOs advocated to have the



continent and surrounding seas covered by particular environmental protections, advocating for the words designating a “World Park.”

The language of exceptionalism substantially threads through policy discussions and into scientific research. The syntax and diction thus can be studied as material evidence of how narrative shapes human relational identity to place generally and specifically in polar regions and how it is leveraged to create policy, specifically environmental policy.

The language of Antarctic exceptionalism is many things: scientific, geo-political, imperialist, colonialist. It is perhaps the “-istiest” of places in terms of syntax and diction -- the highest, driest, coldest, windiest, loneliest, etc. The paper will use data visualization to literally track a specific set of exceptionalist terms across time. The goal is to better see how vocabulary operates to construct a narrow canonical view of a complex environment. This discussion will focus on two domains. The first will explore how Heroic Age explorers told stories of Antarctica, surveying books, public talks, film, and radio.) The second will look explicitly at the policy discussions and environmental advocacy of the 1980s when global environmental groups were working on the creation of a World Park.

**Leslie Carol Roberts**, MFA, MA, is the author of the critically acclaimed *The Entire Earth and Sky: Views on Antarctica* (Nebraska) and the forthcoming *Here Is Where I Walk: Episodes from a Life in the Forest* (Nevada, April 2019). She has visited 38 Antarctic research stations and has spent three and a half months living in Antarctica and has written about the continent for newspapers and magazines on three continents. Leslie is a research scholar and editorial consultant based in San Francisco and gives invited talks about the Antarctic and how we write about complex ecosystems in the U.S. and abroad. Leslie is researching and writing a book about Antarctica and political protest, examining the language of exceptionalism and the fact of protest on the ice.

**Gabriela Roldan**

Gateway Antarctica, University of Canterbury, New Zealand

### **Conceptualizing the Antarctic gateway cities: proposing a comprehensive and novel definition**

The Antarctic gateway cities have gained the attention of the international polar community since the 1990s. Suddenly, cities that provided accessibility to Antarctica developed a stronger interest in the White Continent, creating strategies, policies and programmes to expand their gateway role. Antarctica is an important link for these cities from a cultural, political and economic perspective; Antarctica provides prestige, power and opportunities to regenerate local economies. Currently, most of the travel to Antarctica is concentrated through these so-called Antarctic gateway cities: Cape Town (South Africa), Christchurch (New Zealand), Hobart (Australia), Punta Arenas (Chile) and Ushuaia (Argentina).

Until now, scholars' attention to the definition of Antarctic gateway cities has been concentrated in their support to the rise in Antarctic tourism activities (*Betram et al, 2007, Gateway ports in the development of Antarctic Tourism*). However, the role of an Antarctic gateway city has evolved further than its logistic capacities. The future challenges facing Antarctica reveal the need for a novel definition of the concept that encompasses the responsibilities and functions of these (and other) cities in times of increasing global political





and environmental changes. This paper will propose and discuss a new definition of the Antarctic gateway city concept and the rationale for it.

**Gabriela Roldan** is a PhD candidate at Gateway Antarctica, University of Canterbury (NZ). Gabriela's interest range from Antarctic geopolitics, political sociology, polar policy and management, Antarctic tourism, and polar education and outreach. Gabriela has been involved with the APECS leadership since 2016, and represents the association in different polar expert groups. Gabriela has visited Antarctica over 50 times.

**Gabriela Roldan**

Gateway Antarctica, University of Canterbury, New Zealand

### **What is APECS? the success story and the future of a volunteer organization for polar early career researchers**

The Association of Polar Early Career Scientists (APECS) is the largest and most develop network of upcoming polar researchers with ten years of experience, and growing strong. Born as one the major legacies of the International Polar Year (IPY) 2007-09, APECS is a multidisciplinary and international organization that provides career development opportunities and a safe environment for early career researchers to share ideas and work collaboratively. The partnerships that APECS has with the major Arctic and Antarctic organizations around the world allow it to train the next generation of polar scientists and future leaders. In addition, one of APECS' core component is education and community outreach, raising awareness of the Polar Regions through its popular programmes, such as 'Antarctica Day' event, Polar Week celebrations, and social media campaigns.

This paper will discuss the origins of APECS, its challenges and accomplishments of an organization powered by the enthusiasm of its membership. The discussion will also look into the future of polar research for early career researchers, and how APECS is preparing for it.

**Gabriela Roldan** is a PhD candidate at Gateway Antarctica, University of Canterbury (NZ). Gabriela's interest range from Antarctic geopolitics, political sociology, polar policy and management, Antarctic tourism, and polar education and outreach. Gabriela has been involved with the APECS leadership since 2016, and represents the association in different polar expert groups. Gabriela has visited Antarctica over 50 times.

**Ricardo Roura**

Consultant, Amsterdam, The Netherlands.

### **There and back again: Dissecting the practice and theory of Antarctic heritage**

Historic Sites and Monuments (HSMs) are a subset of material remains from earlier activities in Antarctica, now protected by the international regime derived from the 1959 Antarctic Treaty. Through this designation, a *historical* element (pertaining to a past activity) becomes a *historic* element (associated to significant events in history). Furthermore, this designation means that the historic values of material cultural remains established by individual nations have been assigned international recognition by the Antarctic Treaty Consultative Meeting, the governing body of Antarctica. HSMs represent fragments of Antarctic history and more broadly the ambitions and voices of the various actors active in the region, which are also expressed through other means including infrastructure development, research activities, marine living





resource extraction, and a search for influence in Antarctic fora. Seen from the perspective of the working of Antarctic Treaty bodies the HSM designation process seems largely empirical and management-focused, but it merits a more detailed theoretical analysis and a reflection on the contemporary role of Antarctic heritage. How does national Antarctic heritage become accepted as international heritage under the Antarctic Treaty? Do country-specific narratives of Antarctic history and heritage add up to an overall narrative of the Antarctic? And what is the significance of Antarctic heritage in contemporary governance of the region? Tracing the process from site creation to listing - from practice to theory and back again - this paper examines the arch of heritage creation and uses in contemporary Antarctic governance and politics.

**Ricardo Roura, PhD** / Consultant, Amsterdam, The Netherlands. Ricardo Roura is an Antarctic conservation professional and independent scholar with extensive experience in research, analysis and advocacy in Antarctica and the Antarctic Treaty System. He has been involved in thirteen seasons of Antarctic field work, including wintering-over, with among others Greenpeace International, the Argentine Antarctic program, the University of Canterbury (New Zealand), and a Chinese environmental education organisation. In parallel he has been a representative of the Antarctic and Southern Ocean Coalition, ASOC, the official environmental expert group in Antarctic Treaty fora, uninterruptedly since 1997. He has also conducted research in Svalbard with the Arctic Centre, University of Groningen (Netherlands), where he completed his Ph.D. His broad research interest is on human behaviour and human-environment interactions in the polar regions. He has published on Antarctic/polar topics including tourism, tourist behaviour, impact assessment and monitoring, protected areas, heritage, and geopolitics. He is a participant in the project "On creating cultural heritage in Antarctica" funded by the Swedish Research Council.

Juan Francisco Salazar<sup>1</sup>, Elizabeth Leane<sup>2</sup>, Daniela Liggett<sup>3</sup>, Hanne Nielsen<sup>4</sup>, Gabriela Roldan<sup>3</sup>, Claudia Estrada<sup>5</sup>, Elias Barticevic<sup>6</sup>, Liam Magee<sup>1</sup>, Paul James<sup>1</sup>

1. Western Sydney University, Institute for Culture and Society, Sydney, Australia

2. University of Tasmania / Institute for Marine and Antarctic Studies, Hobart, Australia

3. University of Canterbury, Christchurch, New Zealand

4. University of Tasmania, Hobart, Australia

5. Universidad de Magallanes, Punta Arenas, Chile

6. Chilean Antarctic Institute INACH, Punta Arenas, Chile

## Antarctic cities and the Global Commons: rethinking the Gateways

The Southern Hemisphere cities of Cape Town, Christchurch, Hobart, Punta Arenas and Ushuaia are recognised as the main Antarctic gateway cities in the polar community. These cities have important transport infrastructure to accommodate travel to Antarctica and have a significant engagement with the South Polar Region. Notwithstanding their cultural, economic and political ties with Antarctica, until now these cities have been thought through primarily as an exit/entry point for polar science programmes, tourism or fishing. This paper discusses the results of a series of workshops and focus group discussions in these Antarctic gateway cities about these cities' urban sustainability and their multiple dimensions of connectedness to the Antarctic. The work we present is part of an international collaborative research project titled *Antarctic Cities and the Global Commons: Rethinking the Gateways*, which is the first project to offer a systematic rethinking of both the engagement and outlook of these cities from the perspective of their relationship with the Antarctic Region and with each other, beyond logistic



capabilities and commercial value. We argue that rather than viewing themselves as 'mere' Antarctic gateways, these cities are well-positioned to reorient their role and act as custodians of Antarctica. We have engaged experts and community representatives of each of these cities who plan and envision their metropolitan futures; as a result, we explore such a shift in their urban practices and polar imaginaries from 'gateway cities' to 'custodian cities'.

**Miguel Ángel Salazar Urrutia**

Universidad de Playa Ancha. Pontificia Universidad Católica de Valparaíso, Chile

### **Non-Governmental actors in the Antarctica. An approach to transnational relations in the 21st century**

The topic is developed through a revisionist theoretical main focus of the paradigms of the international relations, proposing an alternative and innovative approach to explain the dynamics between the different actors. We will call it Pararealism, which establishes that in areas where there are power or governance vacuums (absolute or relative), non-State actors (NSA), appear as an indirect way for States to exercise supremacy. This theory takes into consideration our globalized world and the multiple actors that interact dependent and interdependently through it. The exacerbated realistic geopolitical approach, from which the Antarctic system has been historically understood, is inappropriate to this reality, because it does not consider the impact of NSAs in the environmental, political, economic and legal, affecting by indirect means in decision-making and in the design of Antarctic policies in the ATS.

For sure, we refer to non-state actors, international governmental organizations, non-governmental organizations, non-centralized government agencies, private companies, multinational of different nature, and individuals who have developed several activities in the continent, motivated by their economic interests or other commitments. Then, we have tried to identify these actors, clarifying their interests, which is presumed, respond to the interests of the States they belong to, as an indirect mean of power.

In addition, we present an overview on the activities these NSAs in Antarctica, according to six edges of analysis: science, environment, tourism, fishing, transports and telecommunications. These are presented by means of specific and particular cases.

Finally, this paper concludes that observing NSAs it is possible to measure States capacity to achieve their interests in Antarctica, because under transnational logic, an actor uses resources and means to influence and co-opt others. In addition, international policies do not fit to the limits of the sovereign territories, but they exceed them, even in the Antarctic where the limits are fictitious and relatively recognized. Moreover, STA governance allows non-State actors to generate activities, creating information, in addition to implementing cutting edge technology and instruments that produce relations of independence and autonomy for some, dependence or interdependence for others. Then, it is considered that NSAs, in all the dimensions of analysis exposed, are actors of huge interference in the Antarctic as well as in other regions, and that is the reason why they need to be studied.



From the perspective of international relations theories, there is a need for a revisionism of the approaches and paradigms that explain the dynamics and processes of the international system. Indeed, this paper can contribute greatly to the research community in order to foresee the future of Antarctica and the legal scope of ATS. It is important to mention that this work is a bibliographic study, supplemented by interviews with six references on the subject: from Chile (4), France (1), and United States (1), considering a breadth of perspectives to face the problem and established hypothesis.

Melisa A. Salerno, Maria Jimena Cruz

### Between words and oceans. Logbooks and the Antarctic sealing industry

In the nineteenth century, sealing vessels representing the interests of capitalist companies (mainly from the United States and the United Kingdom, among other nations) visited the South Shetland Islands (Antarctica) and exploited animal resources to feed a large world market of oil and skins. One of the duties of the merchant captains of that time was to keep a logbook to record observations on weather, the location of the vessels, incidents on board, etc. on a daily basis. Logbooks represent a valuable source of information to shed light on the sealing industry. However, both historians and archaeologists dealing with Antarctic sealing still need to explore in greater depth the potential of these documents. Considering logbooks from American sealing vessels, written in the early, mid and late nineteenth century, in this presentation we will try to show how these documents can offer synchronic and diachronic information on: 1) The complete trajectory of the sealing voyages bound to Antarctica, from their port of departure to their port of return (including visits to intermediate ports, other hunting grounds, etc.). 2) The nature of the sealing operations on the South Shetland Islands (including the establishment of sealers' camps on specific locations; the composition of the gangs; the amounts of resources obtained; the animal species hunted at each location –seals, elephant seals; etc). Finally, as historical archaeologists and members of the *Landscapes in White Research Project*, we will try to discuss how the information gathered through the analysis of logbooks could be integrated to archaeological evidence.

**Melisa A. Salerno** is a researcher at the National Council for Scientific and Technical Research in Argentina (CONICET). She completed her PhD in archaeology at the University of Buenos Aires, and her undergraduate studies at the same institution. She is interested in the archaeology of sealing in Antarctica and Patagonia. She is an active member of the Landscapes in White Research Project. She has written a book and several articles on different aspects of sealers' lives.

**María Jimena Cruz** has a degree in Anthropological Sciences (Buenos Aires University, Argentina). At present she is a PhD student in Anthropology with historical archaeological orientation in the Federal University of Minas Gerais (Brazil). Since 2007 is member of the Antarctic Historical Archaeology Project, headed by Professor Andrés Zarankin and located in the Federal University of Minas Gerais. Her study interests include the process of conformation of the modern world, zooarchaeological studies, alimentary practices and archaeological theory.



Rhian Salmon, Rebecca Priestley, Heidi Roop

## Learning from ten years of Education, Outreach and Engagement in Antarctic Science

The International Polar Year 2007-2008 led to an upwelling of “Education, Outreach and Communication” (EOC) initiatives across the Antarctic research community that have had long-lasting effect. At the 2016 SCAR conference in Kuala Lumpur, the Humanities and Social Science Expert Group identified science communication as a research priority and in 2019, a special Issue of the *Polar Record* will be dedicated to Education, Outreach, and Engagement - an important, but neglected, aspect of polar research.

Over the last decade, EOC efforts by scientists have matured significantly. This is illustrated by a shift from ‘popoutreach’ to the general public with limited concrete objectives, to more strategic efforts that include ‘informing decision-making’ targeted at key stakeholders and influencers. However, a significant number of scientist communicators still lack the support, training and professional recognition required for supporting effective and thoughtfully designed EOC activities.

Here, we reflect on ten years of EOC related to Antarctic science by drawing on submissions to the *Polar Record* Special issue as well as several case studies that we have been directly involved with as organisers, participants and experts. We will present some of the challenges, limitations and opportunities for polar science engagement as well as new theoretical and practical models that can be used to build more robust engagement programmes that reflect the needs of both researchers and their publics in the next decade of polar research.

**Dr Rhian Salmon** obtained a PhD in atmospheric chemistry in 2002, after which she worked for the British Antarctic Survey as a research scientist – which included spending an overwinter on a remote Antarctic base for 18 months. In 2006, she changed careers to focus on the communication of polar and climate science during the International Polar Year 2007 – 2008 and has remained involved with local, national, and international science engagement ever since. She is now a Senior Lecturer in Science in Society at Victoria University of Wellington, where her research and teaching focuses on bridging the gap between science communication theory and practice. She established the Engagement programme for the Deep South National Science Challenge, a national research effort focused on improving our understanding of New Zealand’s changing climate, and is a Principal Investigator with the NZ SeaRise programme and TePunahaMatatini Centre of Research Excellence.

**Dr Rebecca Priestley** is Associate Professor of Science in Society at Victoria University of Wellington. She has degrees in geology, history of science and creative writing, and is a Principal Investigator with the NZ SeaRise programme and TePunahaMatatini Centre of Research Excellence. Rebecca visited Antarctica in 2011 to write a series of articles about Antarctic science and in 2014 and 2018 to film lectures for a fully online course on Antarctic science and culture. Rebecca is the 2016 winner of the Prime Minister’s Science Communication Prize and the 2009 winner of the Royal Society of New Zealand Science Book Prize. She recently led the development of Victoria University’s first edX MOOC (Massive Open Online Course), which engaged more than 6000 students from 115 countries in a course about Antarctic geology and history. Her most recent book is *Dispatches from Continent Seven: an anthology of Antarctic science*.

**Dr Heidi Roop** is a research scientist and communications strategist with the University Washington’s Climate Impact Group. Working to strengthen the connection between climate science and decision making, Heidi interacts with a range of state, tribal and federal organizations and agencies to ensure the best available science is integrated into decision making. Heidi works specifically to design engagement strategies and metrics for assessing if and how the science co-produced with the Climate Impacts Group is both useable and used. Heidi holds a PhD in Geology from Victoria University of Wellington, a MSc in Geology from Northern Arizona University and BA from Mount Holyoke College. Heidi has trained scientists young and old,



including Noble Laureates, on effective communications skills. She is a trained instructor with the Alan AldaCenter for Communicating Science and was formerly a research scientist at the United States Geological Survey.

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1. CONICET-INAPL and Universidad Nacional de la Patagonia Austral
2. Independent Researcher
3. Universidad de Buenos Aires
4. Fundación para la Conservación del Patrimonio Antártico
5. Gateway Antarctica, University of Canterbury

### Antarctic Heritage as Individual Experiences

Heritage making in Antarctica is a complex process that involves multiple levels and contexts. As an international arena devoted to science and peace, the Antarctic Treaty System, based on international agreements, offers the main context in which heritage-making occurs. Studies of this process have mainly considered the national and international levels. However, it also comprehends others levels that have not yet received significant attention, such as the individual one, which is the focus of this paper.

In the frame of a broader interdisciplinary research project we are studying the production of cultural meaning resulting from tourist direct visits to, or contact with, Antarctic historic remains, as part of heritage-making process at the individual level. In this context, we have been developing fieldtrips focused on observing how visitors encountered historic objects or sites, and how things and people interacted, at specific places of the Antarctic landscape. Over the course of Antarctic tour cruises we focused on the identification of 'moments' of encounter, engagement, and meaning making, that could be interpreted as constitutive of the cultural experience in Antarctica. In this paper we discuss the results of exploratory fieldtrips aimed at: a) producing a map of visitor-object meaningful encounters; and b) elaborating the main hypothesis that explain some aspects of how the process of heritage-making could work at the individual level.

**Dra. Maria Ximena Senatore** is a National Researcher at CONICET (National Council of Scientific and Technological Research), INAPL Instituto Nacional de Antropología y Pensamiento Latinoamericano, Argentina. Associate Professor on Cultural Heritage at Universidad Nacional de la Patagonia Austral. She has a degree in Archaeology (University of Buenos Aires, 1995) and PhD in History (2003, University of Valladolid, Spain). Maria Ximena has been running research projects on the Archaeology of Capitalism Expansion to Antarctica in the 19th century, Materialities of Antarctic History, and Master Narratives, Heritage Conservation and Tourism in Antarctica. Currently, she is the Vice-President of the International Polar Heritage Committee IPHC at ICOMOS.





Emma Stewart

Lincoln University, New Zealand

## **Understanding the role of climate services for safe Antarctic tourism: A mobilities approach**

Improving access to, and quality of, climate relevant information is particularly pertinent to mobile sectors operating in remote and dynamic polar marine environments. This is especially the case for the tourism sector which has witnessed considerable growth and diversification over the last decade. Tourism represents the primary and largest commercial activity in Antarctica with the total number of Antarctic visitors in 2017-2018 recorded as 17% greater than in the previous season. The increasing scale and diversity of tourism activities in Antarctica call for more detailed and specialised weather, water, ice and climate (WWIC) information services to help facilitate safe polar travel. Currently, no comprehensive information is available on WWIC services for tourism activities in the Antarctic. There is a need for an in-depth analysis to characterise and synthesise what is currently known about Antarctic tourism activities and the kinds of WWIC used. Since tourism is increasing in intensity and geographical extent, and a greater dependency on technology can be observed, more detailed, specialised and instant WWIC services are required for a greater diversity of contexts and practices. However, we do not have a sufficiently detailed understanding of what such specialised polar environmental forecasting services should look like to ensure that tourism operators receive timely and targeted information that can assist them in decision-making.

Utilising a mobilities conceptual framework, the purpose of this presentation is to provide an overview of Antarctic tourism in the context of current WWIC uses and needs. We define mobilities broadly as the movement or flow of people or information and/or knowledge. Mobility is a naturally integrating and organising concept, and taken literally, it is most frequently used in reference to the ability to physically move between two points. The objects in motion could be people, animals and plants, raw materials, manufactured goods or a host of other things including ice, water and atmospheric phenomena (e.g., storms). The questions we seek to explore are: (1) How are polar tourism mobilities characterised in the Antarctic? (Who are the mobile actors and what mobile practices are prevalent?) and (2) What is known about the role of WWIC information in Antarctic tourism? (How is WWIC information used by actors and what are the WWIC needs of the sector?) This presentation is the result of an extensive literature review coupled with three years of collective brainstorming, focus-group discussions and a number of workshops involving researchers and representatives of the WWIC user community.

This research is part of the World Meteorological Organization (WMO) Polar Prediction Project's (PPP) Societal and Economic Research and Applications (PPP-SERA) working group. The primary goal of the PPP is to advance scientific knowledge such that society, both within and outside of Polar Regions, may benefit through applications of better WWIC information and improved services. Towards these ends, the PPP established a special committee of social and interdisciplinary researchers and service practitioners in 2015. The authors of this presentation are members of PPP-SERA.





Rupert Summerson<sup>1</sup>, Sira Engelbertz<sup>2</sup>, Alan Hemmings<sup>3</sup>

1. Faculty of Architecture, Building and Planning, The University of Melbourne, Australia.
2. Independent Scholar, Karori, New Zealand.
3. Adjunct Associate Professor, Gateway Antarctica Centre for Antarctic Studies and Research, University of Canterbury, Christchurch, New Zealand.

## The Challenge of Intrinsic Value in Antarctica under the Madrid Protocol

The Madrid Protocol requires that protection of the intrinsic value of Antarctica shall be a fundamental consideration in the planning and conduct of all activities in the Antarctic Treaty area. It is not clear that current state practice meets this duty. Whilst intrinsic value is a difficult philosophical concept, it is evident from the text of the Madrid Protocol that its inclusion as a value to be protected was intended to be more than an empty declamation.

This paper is the first step in establishing the Action Group on Intrinsic Value in Antarctica (AGIVA). The overall aim of AGIVA is to provide clarity on the meaning of intrinsic value in the Antarctic context and also some concrete examples, with the ultimate aim of providing expert advice to the CEP on how the intrinsic value of Antarctica can be best protected. For example, in the Madrid Protocol, wilderness and aesthetic values are cited as being included in intrinsic value. In environmental philosophy, these values are sometimes considered as instrumental so it would be valuable to confirm that these values have intrinsic merit.

A practical definition of intrinsic value requires its distinction or disaggregation from related terms such as inherent worth, terminal value and instrumental value. This paper will explore these terms, the debate around them and their root in moral philosophy. We will propose what is hoped to be a workable definition to the conference for debate prior to going out to a wider audience.

Consideration of what intrinsic value (or its analogues, if exact correspondence is problematical) means in cultures other than those rooted in Western European thought is an important component of this research. To that end, the conference in Ushuaia provides the perfect opportunity to engage with scholars from other traditions on this topic.

**Dr Rupert Summerson** / Summerson first went to Antarctica in 1980 as a field assistant with the British Antarctic Survey. He has subsequently visited Antarctica 10 times with three national Antarctic programs and most recently on a tourist ship. He has spent three and a half years living in Antarctica, including three winters. In 2013 he completed his PhD on The Protection of Wilderness and Aesthetic Values in Antarctica at the University of Melbourne and has published more than 10 refereed papers and book chapters on the subject. He is currently a Senior Fellow at the Faculty of Architecture, Building and Planning at the University of Melbourne.

**Dr Sira Engelbertz** / Is an independent social sciences researcher based in Wellington, New Zealand. She holds a MA in Cultural Studies and PhD in Antarctic Studies. Sira's expertise is in value theory and she conducted research on the role of human values in decision-making within the Antarctic Treaty System. Her current research focus is on the intrinsic value of Antarctica.

**Dr Alan D. Hemmings** / Is a specialist on Antarctic governance and an Adjunct Associate Professor at the University of Canterbury. His current research focuses on Antarctic geopolitics and the deep-structure of decision-making; examining *inter alia* the effects of globalism, changing world-order and associated power realignments, contemporary roles of territorial sovereignty and nationalism in and on the region. Hemmings provides the annual review of NZ in the Antarctic Treaty System for the *New Zealand Yearbook of International Law*, and is the author of over a hundred papers on Antarctic affairs. Recent



books include: *Antarctic Security in the Twenty-First Century* edited with Donald R. Rothwell and Karen N. Scott (2012: Routledge); *Handbook on the Politics of Antarctica* edited with Klaus Dodds and Peder Roberts (2017: Edward Elgar); and *International Polar Law* edited with Donald R. Rothwell (2018: Edward Elgar). He is currently editing *Philosophies of Polar Law* with Dawid Bunikowski (2019: Routledge).

Mary R. Tahan<sup>1</sup>, Dr. Jorge Rabassa<sup>2</sup>

1. Writer, producer, and documentarian

2. CONICET-CADIC

### **The Real-Time Antarctic Thoughts and Musings of José María Sobral: Analyzing the Diary Entries of the First Argentine in Antarctica (1901–1903)**

As the first Argentine to explore Antarctica, and a member of Otto Nordenskjöld's Swedish-Argentine Antarctic Expedition of 1901-1903, the young, 21-year-old Navy Under-Lieutenant José María Sobral kept a daily journal that documented his historic experience. This paper portrays how Sobral's expedition diary revealed his inner-most thoughts, daily activities, victories, challenges, and views on the expedition's scientific findings, in real time, and under the stress of perceived alienation, isolation, and uncertainty. It is based upon the author's book *The Life of José María Sobral: Scientist, Diarist, and Pioneer in Antarctica*, written by Mary R. Tahan, and published in 2017 by Springer International, with an introduction by Dr. Jorge Rabassa, overview by Captain Eugenio Facchin, PhD, and foreword by Guillermo Sobral and Jorge Sobral. The paper portrays José María Sobral's perceptions on Antarctic exploration, Argentine scientific research, human potential, and his own role within these important realms, as documented in the author's book.

Sobral and Nordenskjöld's expedition was the first expedition to endure two consecutive winters on the Antarctic continent. The expedition made geographical, geological, and paleontological discoveries of historic importance in the Antarctic Peninsula. It was a dream-come-true for Sobral, yet also the most difficult challenge of his life. At times jubilant, and at times suicidal, Sobral experienced a roller-coaster ride of emotions and thoughts during his expedition – both on board the ship, and on the frozen continent. Yet he maintained his journal, diligently recording his findings, musings, analyses, predictions, and the first continuous meteorological measurements in Antarctica.

While the expedition was the first scientific expedition to intentionally overwinter in the Antarctic, it unwittingly became the first to spend two winters in Antarctica, when the ship *Antarctic*, under the command of the Norwegian captain Carl Anton Larsen, became trapped in the ice and sank in the Southern waters. Three parties from the 29-member expedition spent the second winter separated by ice and distance, and stripped of hope for rescue. They fought isolation and near starvation, yet never ceased their scientific work. The parties were stranded in three separate locations – Hope Bay, Paulet Island, and Snow Hill.

Sobral and his team at Snow Hill continued their scientific studies and specimen collection throughout their second winter, with Sobral writing of these in his personal diary. The expedition was one of the most successful in terms of scientific data and fossil collections of land vertebrates and plants discovered on the Antarctic Peninsula, and provided evidence and further credence to the Gondwana theory of continental drift. It proved that the Antarctic



Peninsula was not an archipelago, and that Antarctica had experienced a climatic transformation from a warmer, wetter climate.

Sobral's diary entries provide a compelling, first-hand, personal account of the expedition activities, findings, discoveries, and astounding reunions, including Sobral's private observations and recounting of events. His thoughts and actions reflect the courage and dedication of the scientists. This expedition was important to Antarctic history, and Sobral's role was significant within the expedition. This paper analyzes the explorer's perceptions of his present and future in Antarctica.

**Jason Ryan Thompson**

University of Münster, Münster, Germany  
Tallinn University of Technology, Tallinn, Estonia

### **Undefined Limit: Mapping the Ambiguous Boundaries of Dronning Maud Land**

In 1939, King Haakon VII proclaimed that the coast and sea between the British Antarctic claim in Coats Land and the western boundary of the Australian Antarctic Dependency in Enderby Land will be brought under the sovereignty of the Kingdom of Norway. This new Antarctic claim, called Dronning Maud Land, differed from its neighbors by not conforming to the common practice of claiming an entire wedge-shaped sector of the continent. Even to the present day, precise north and south boundaries have never been formally defined for Dronning Maud Land. This ambiguity led to multiple ways of cartographically interpreting the limits of the claim over the past century both by Norway itself and other actors within the Antarctic region.

This paper will examine political maps of the Antarctic continent created by Norwegian government agencies and maps used by Norwegian media to analyze how the government and people of Norway visualized their Antarctic claim over time. Particular attention will be paid to maps in the Norwegian Polar Institute's digital archive that best represent the Norwegian government's view on the extent of their claim as well as maps used by the public broadcaster NRK to report Antarctic news to the citizens of Norway. Secondary consideration will be given to maps created by other Antarctic states to see if Norway's interpretation of its Antarctic territorial boundaries conform with its neighbors. The results of this study will provide a view into how the Kingdom of Norway's own interpretation of the extent of Dronning Maud Land evolved over time. It will also examine how these ever-changing boundaries affect the strength of the Antarctic Treaty System as a whole with emphasis on the enforcement of Article IV of the Antarctic Treaty<sup>1</sup>.

#### References:

1. Portions of the research for this paper were conducted by Jason Ryan Thompson as part of the undergraduate dissertation *Polar Theatre: The Evolution of Acts of Sovereignty in the Norwegian Antarctic* for the University of Tsukuba's School of Social and International Studies (1-1-1 Tennodai, Tsukuba, Japan). The dissertation was supervised by Edson Ioshiaqui Urano.

**Jason Ryan Thompson** is an American Erasmus Mundus Scholar currently studying in an e-governance joint master's program at KU Leuven in Belgium, the University of Münster in Germany, and the Tallinn University of Technology in Estonia.



Previously, he graduated from the University of Tsukuba in Japan where he focused his dissertation research on the historical Antarctic acts of sovereignty of the Kingdom of Norway. He plans to continue research into polar law and the sustainability of the Antarctic Treaty System at the doctoral level following graduation in 2019.

Valeria Trezza

### **The relationship between Tourism and Old Whaling Industry in Antarctica: a Narrative Approach**

Antarctica is the southernmost continent on planet Earth and the last one that was conquered by humans. One of the first activities practised in Antarctica was the exploitation of marine mammals. From history, it is possible to distinguish the origins and dynamics of the modern world on the Antarctic continent by looking at whaling activity from the end of the 18<sup>th</sup> century to the middle of the 20<sup>th</sup> century. Currently, tourism continues to use the vestiges of the whaling industry as resources of their practices. For example, in areas where there were whaling posts, such as the Palmer archipelago, the South Shetland Islands and the South Georgias Islands, it is identified that, from 1991 to 2018, the sites most frequently visited by tourists are precisely those that are located in the previous mentioned areas and those areas which hold symbolic and material content related to whales, namely: Goudier Island, Cuverville Island, Port Neko, Half Moon Island and Whalers Bay; adding to the Grytviken Bay and the whale watching. Through a qualitative, descriptive methodology, the objective of this work is to analyze the relationships between the old whaling activity and tourism in Antarctica, highlighting four themes: the incorporation of Antarctica into the capitalist system; the relationships between scientific and economic activities; the participation of whaling and tourism during the 20<sup>th</sup> century; and tourism as the last part of whaling's commercial history. Concluding that, in spite of the relationship and differences observed over time between the practices of the whaling industry and the activity of tourism in Antarctica, both coincide in responding to the global capitalist system and the regime of the Antarctic Treaty System. So organizations such as the International Whaling Commission and the International Association of Antarctic Tour Operators together with the contributions of scientific knowledge are involved in Antarctic activities in a responsible manner with the environment. Thus, tourism practices and the ability of competitiveness and complementarity of Antarctic operators in articulation with scientific and political actors build a hierarchy and resignification of historical sites and travel itineraries, always within in a context of environmental protection and peace.

**Valeria Trezza** / I am a bachelor in tourism from Universidad Nacional de la Patagonia San Juan Bosco, a master in Project Management from Universidad Europea del Atlántico, and a geography teacher in High School. Currently, I work as a public server with the position of Departmental Head of Antarctic Tourism at Instituto Fueguino de Turismo. My job consists of monitoring the Antarctic Tourism in Ushuaia, the trends of the Antarctic Tourism market from Ushuaia as a Gateway to Antarctica, the customers service to tourist and operators, observe the news of Antarctic tourism worldwide from the reports of International Association of Antarctic Tour Operators, The Antarctic treaty, the International Maritime Organization, The Prefectura Naval Argentina, among others. I carry out training to schools and to the community to raise awareness about the Antarctic topics to cooperate to organize special Antarctic events, scientific meetings with researchers students, and political representatives.



Gabriel De Paula, Lic. Francisco Tuñez

Universidad del Salvador, Argentina

### **Resilience of the Antarctic Treaty System (ATS) in view of Climate Change (CC)**

Historically, geopolitical dilemmas have driven reform in international organizations. For example, the effects of the dissolution of the USSR can be seen in the reconfiguring of international relations, in security policies, and in the cooperation and economic integration that emerged during the 90s. Today, we identify Climate Change as a multiplier of global risks in terms of international security, since its effects impact on migration processes, the availability of strategic natural resources, global ecosystems, natural phenomena, etc. If we add to this factor the expansion of a global economy based on the 'extraction-production-consumption-waste' scheme and the growth of the world population, we can expect a growing pressure on the availability of natural resources in the coming years. This will have deep effects on the world order in general and on international relations in particular.

We take some international trends in order to present a prospective analysis and develop a proposal of policymaking. About trends, the World Economic Forum in its 'Global Risk Report' evaluates 30 risks and forecasts 13 trends, among which stand out climate change, environmental degradation and the growth of the middle class in emerging economies. Furthermore, the Intergovernmental Panel on Climate Change (IPCC) warns that due to global warming the negative effects will be more profound than those observed until now. By looking at these factors from a geopolitical perspective, the analysis shows that: 1. strategic security focuses on the economic variable, since no society can survive without supply; 2. scenarios of increasing scarcity due to population growth and its consequent pressure on food production, access to water, and industrial and technological development pose a significant danger to peace and stability in many regions; 3. this enables a global proliferation of disputes over natural resources.

About policymaking, in this scenario the ATS faces the dilemma of either maintaining the current governance scheme or redesigning its structure, in order to respond to the challenges posed by a world with high levels of uncertainty. So, we need to discuss how the Organization is able to manage institutionally the Antarctic activities of the nations with vested interests in the continent, and others that would want or need to join the system in the near future. We will briefly analyse the evolution of the Antarctic Treaty and related agreements in past, in order to reach a work plan in line with the current situation.

The key point is the level of resilience (adaptation to change) of the ATS in relation to the proposed scenario. In this way, based on the previous analysis, we suggest: the creation of a strategic and operational control mechanism over Antarctic activities, such as a joint force with law enforcement capabilities; and a greater convergence of research about areas of strategic interest in Antarctic affairs.

**Gabriel De Paula** / Graduate in International Relations at Universidad del Salvador (Argentina), also he attended postgraduate programmes on international law, military affairs and policymaking at National Defense University (USA) and Universidad de Buenos Aires. Currently is a teacher of geopolitics in the International Relations course at Universidad del Salvador, and works as advisor at Ministry of Security. His fields of knowledge are natural resources, security and defense policymaking, international cooperation and strategic studies. He is author of specialized articles and speaker in conferences in Argentina and other countries.





**Francisco Tuñez** / Graduated in Political Science at Universidad del Salvador (Argentina), finished with a thesis titled "Antarctic Geopolitics in the XXI Century". In August 2018 presented as speaker "The Geopolitical dimension of Climate Change" at the "II Conference on Political Science" of the Universidad de Buenos Aires (UBA), within the panel "The World Order from the South". Since July 2015 is assistant in the chair of "Argentinian Foreign Policy" in the Faculty of Political Science of USAL. And from 2008 to 2011 he was a researcher of the Area of Natural Resources in the CAEI (Argentine Center of International Studies) focused on the Antarctic area.

**Carlos Vairo**

Museo Antártico José María Sobral, Argentina

### Research on Whalers in the Antarctic Peninsula – Outreach Activities

The Maritime Museum of Ushuaia and the Antarctic Museum José María Sobral conducted joint research activities (1994 - 2010) on Historic Whaling Settlements.

Many expeditions took place and the items found turned research materials. A decision was made not to remove those objects from their original place for exhibit at the Museum. I think that was a mistake as, after publishing articles on our research, many "tourists" have plundered research sites.

Still, the most important achievement was the reconstruction of the working method of the Norwegian. Most of them came from the area of Sandefjord, Norway, and neighboring towns and they had been engaged in whaling for centuries.

These research activities were the basis for the Museum exhibits on whaling sites and whale slaughtering. We could also put a map together depicting the few facilities whalers erected on land. They did not use land factories, but refurbished cargo ships.

The research conducted by the Museum resulted in the publishing of books and magazines, video releases, and cartoons for younger audiences.

In doing so, we managed to rescue an unknown Heritage – Our most important achievement being outreach/communication activities in Argentina and many other countries with interests in Antarctica.

**Lize-Marié van der Watt**

Researcher, KTH Royal Institute of Technology, Sweden

### A critical heritage approach to Antarctic Historic Sites and Monuments

In 2018, following a consultation process that started in 2014, the Antarctic Treaty Consultative Meeting (ATCM) adopted new guidelines for the assessment and management of heritage in Antarctica. This marks a period of growing interest in Antarctic heritage, not only by policy makers, but also practitioners and scholars. Dealing with historical remains of human activity on Antarctica has been on the Antarctic Treaty agenda from the first consultative meeting in 1961.





Parties were aware that these remains could be inscribed with certain values, sometimes intentionally from the beginning of the activity, and sometimes after the fact. Through ordering and governing these processes, turning this some-thing or some-place into heritage could be controlled, a status quo could be negotiated and maintained. At the seventh Antarctic Treaty Consultative Meeting, in 1972, the Parties recommended a list of "Historic Monuments Identified and Described by Proposing Government of Governments" be approved, creating an instrument whereby some-thing or some-place can be designated as a historic site and monument (HSM). This initial list of HSMs, included at the ATCM VII has not really been studied as a distinct subject, nor has history of this process been delved into from a critical perspective. In ATS parlance, heritage often refers to cultural and more specifically historical heritage, with little reflection on the (now mainstream) debate on cultural and natural heritage dichotomies in heritage studies, and limited discussion about why historical remains were included on that list.

This set of five papers seek to take a critical heritage approach to the study of Antarctic heritage, here taking historic sites and monuments, in official but also unofficial sense, as a point of departure. (1) Engaging with a post-humanities critique of Actor Network Theory, Dag Avango starts off by probing the relationship the between people and things in sparsely populated and unpopulated environments. What agency do things have and why does it matter? How do concepts of materiality, ownership and agency affect our understanding of heritage in these environments? (2) Following this conceptual framing, Ricardo Roura investigates the listing of HSMs at the intersection between theory and empirical evidence. How does national Antarctic heritage became accepted as international heritage under the Antarctic Treaty? Do country-specific narratives of Antarctic history and heritage add up to an overall narrative? Tracing the process from site creation to listing, he analyses the voices and rationales that dominate and those that fall by the wayside.(3)Moving on from these more theoretical perspectives, Lize-Mariévan der Watt revisits the history of the creation and adoption of the first list of HSMs in the third paper, putting it into the context of not only developments within the ATS, but also national and international debates on heritage. How did the ATCM go from adopting the basis for HSM recommendations in 1961 to deciding a list was needed at ATCMs V and VI, to then producing that list in 1972? (4)The fourth paper, by Daniela Liggett and Bob Frame, uses discourse analysis to review the relationship between tourism and heritage in Antarctica. They analyse official, personal as well as commercial texts to disentangle the tension between values that could play out depending on the dominant cultural preference. (5) Finally, Kati Lindström presents two specific case-studies.

Drawing on Chilean and Japanese primary materials (or lack thereof) she explores the national contingencies at play in the designation of sites and the historical development of the heritage policy from the HSMs to active creation of Antarctic-related heritage on the national territory.

**Lize-Marié van der Watt, PhD** / Researcher, KTH Royal Institute of Technology, Stockholm, Sweden. Trained as a historian, Lize-Marié studies the histories of polar pasts and polar futures, with a focus on environmental history, critical geopolitics and heritage studies. She was a co-editor of the Palgrave Macmillan volume on *Antarctica and the Humanities* (2016) and leads the Swedish Research Council funded project "On creating cultural heritage in Antarctica."



Lize-Marié van der Watt

Researcher, KTH Royal Institute of Technology, Stockholm, Sweden

## Historic sites and monuments and the crafting of a (cultural?) heritage regime in the Antarctic Treaty System, 1961-1972

Historical sites and monuments (HSM) has been high on the Antarctic Treaty Consultative Meeting (ATCM) agenda recently. This paper revisits the history of the creation and adoption of the first list of Historical sites and monuments (HSMs), putting it into the context of not only developments within the Antarctic Treaty System (ATS), but also national and international debates on heritage. Drawing on published reports as well as archival material, the paper traces how the ATCM went from adopting the basis for HSM recommendations in 1961 to deciding a list was needed at ATCMs V and VI, to then producing that list in 1972. It locates the development of a heritage regime within the Treaty to the Treaty system generally asking what role the HSM list played in enhancing the ATS as a governance system. Moreover, the paper also asks to what extent, if any, the development of a heritage regime within the ATS was influenced by larger international events, such as the run-up to the adoption of UNESCO's *Convention Concerning the Protection of the World's Cultural and Natural Heritage* (1972). While there are procedural histories of the process, little has been written about the historical contingencies that played into the making of "the list," and to what extent it can be seen as part of a pursuit for knowing, and controlling, the Antarctic environment. Understanding the historical roots of the HSM instrument is crucial for understanding its potential, also in contemporary governance.

**Lize-Marié van der Watt, PhD** / Researcher, KTH Royal Institute of Technology, Stockholm, Sweden. Trained as a historian, Lize-Marié studies the histories of polar pasts and polar futures, with a focus on environmental history, critical geopolitics and heritage studies. She was a co-editor of the Palgrave Macmillan volume on *Antarctica and the Humanities* (2016) and leads the Swedish Research Council funded project "On creating cultural heritage in Antarctica."

Karen Vasquez

Catholic University of Valparaíso, Chile

## Robert Falcon Scott and his expedition to the Geographic South Pole, 1910 - 1913. View from four newspapers and two Chilean magazines

This historical research confined between the years 1907 and 1917, aims to discern the context in which Antarctica was in the early twentieth century, along with analyzing the expeditions carried out by a large number of nations towards this continent, in particular, the search competition and need to reach the Geographic South Pole by Captain Robert Falcon Scott in his "Expedition Newfoundland" inside the context of the "Polar Race" starring various countries between 1910 and 1913; seeking to establish the link between this issue and the 1908 British Letters Patent; and finally analyze how the media consulted tracks latter in the early twentieth century, in order to discover the various existing trends facing this issue.

This work was performed essentially based on four newspaper articles: the daily *La Union de Valparaíso*, *El Mercurio de Santiago*, of the daily *El Comercio de Punta Arenas* and *El Magallanes de Punta Arenas*, along with the use of two national magazines, such as



pictorial "Zig-Zag" and pictorial "Sucesos", all regular and serial and contemporaneous to the research topic. These, together with the complementary literature review, allow contextualize and provide the main focus of this thesis; wherein the amount, frequency, looks and quality of the sources of information used, which give consistency to this investigation.

**Karen Vasquez** / Professor and Bachelor in History and Geography at the University of Playa Ancha, Diploma in Art History from the Pontifical Catholic University of Valparaíso, and currently a Master of History student at the Pontifical Catholic University of Valparaíso. She has dedicated her professional and academic work to the study of Antarctica since 2015, to which she has also incorporated research on the study of Gender. In relation to the above, she has managed to participate in various national and international academic meetings and has also made it possible for her to publish some works in indexed journals.

**Vereda, M., Jensen, M. and Cárdenas, S.**

Universidad Nacional de Tierra del Fuego, Argentina

### **Tourism in Antarctica. A geo-historical analysis of its development based on tourist practices' representations**

Antarctica has become an important remote destination for tourism. Antarctic tourism can be defined as the commercial activity that involves the travelling of people south of 60° S or Antarctic Treaty Area, for leisure purposes, paying special attention to motivations related to wildlife, dramatic landscapes, scientific interest and exploration history. This type of tourism requires the support given by gateways located in the Southern Hemisphere (Jensen & Vereda, 2016).

The first tourist flows started in 1958 and since then the activity has been the preserve of an experienced elite. Tourism in Antarctica has expanded to embrace different ways of visitation and numbers of tourists increased significantly in the last decades, reaching 51,707 passengers in the last season (2017/2018) (IAATO, 2018), arising several concerns with regard to potential impacts.

Considering Chadeau's (1988) diachronic model of the evolution of tourist destinations, which comprises a systemic interaction between the social demand -myth-, the offer -tourist product- and the space as the projection of global society, and based on relevant data from previous research work, this contribution provides an analysis on the evolution of Antarctic tourism from its beginning (1958) to the last austral summer season (2017/2018).

In order to present the evolution of Antarctic tourism through a complex analysis, built on the pre-cited model, which assumes the creation of a collective myth as a driver of the tourism product's evolution, different sources of information are used.

Therefore, this analysis is carried out by means of document analysis, including reports on Antarctic tourism statistics, promotional material issued by tour operators and tourists' representations. In the end, and taking Chadeau's scheme as a basis, the configuration of Antarctic tourist space is studied throughout its development, identifying different stages and their corresponding 'key moments' in destination evolution. This approach to the study of



Antarctic tourism as social construction shows the need for long-term studies that can reflect a more complete understanding on the production of tourist space.

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**Marisol Vereda** is a professor of tourism at the Universidad Nacional de Tierra del Fuego, in Ushuaia, Argentina. Her research focuses on Antarctic tourism and nature-oriented tourism.

**Marie Jensen** is a professor of tourism at the Universidad Nacional de Tierra del Fuego in Ushuaia, Argentina. Her research focuses on Antarctic tourism and cruise tourism.

**Silvina Cárdenas** is an assistant professor of tourism at the Universidad Nacional de Tierra del Fuego in Ushuaia, Argentina. Her research interests include Antarctic tourism and nature-oriented tourism.

Florencia Vergara Escobar

University of Chile

### Health Optimization in Antarctica: Care and self-care in Julio Escudero Scientific Base

According to the Antarctic Treaty (1959), the white continent is destined to be a peaceful and scientific area. In a context where scientific production is nuclear, the conditions in which it is carried out cannot be left aside, as we see in Latour's (1992) ethnographies about the laboratory. While it is usual to recognize the need for technology and methods for scientific development, we must not forget the human body as a basic tool for exploration and scientific research. Especially in Antarctica, this subject/object is essential. In this area of the planet, the human body is under extreme conditions of temperature, restricted access to resources, darkness and isolation; however, the body must remain in its optimal functionality for scientific achievement.

This research, proposed<sup>1</sup> and currently in process for my master's degree in sociocultural anthropology, aims to follow health practices that make the optimization of scientific projects possible, with the help of two anthropological resources: ethnology of the chronicles written by the first Chilean official expeditionaries of the Antarctic region, and ethnography to investigate scientific groups working in the Antarctic Continent, particularly in the Chilean-Antarctic Base, Julio Escudero.

The main objective in this study is to analyze practices of care and self-care, characterizing the management and maintenance of health within a context that requires organisms to be in



optimal conditions in order to perform their scientific work. In this way, even though the extreme Antarctic context tends to be on the outside, we can also find it inside the bodies, when human health requires optimization for scientific work. Each health practice, both institutional and non-institutional, carried out by individuals or groups in Antarctic scientific work, with different kinds of technologies and resources, allows us to understand the relevance of human care in the production of scientific knowledge. The approach of unusual ways of understanding scientific research brings us closer to the complexity of human activity and to the “everyday nature” of scientific needs. This research is framed in qualitative methods, informed by the Anthropology of Health, STS (Studies of Science and Technology) and Biopolitical approaches. From this point of view, a project on the care of the human body is also a care about Antarctic scientific research.

#### References:

1. This proposal is currently being evaluated to obtain a subsidy granted by the National Antarctic Institution (INACH, of Chile), whose results are known from October to November 2018.

Jozef Verlinden<sup>1</sup>, Carlos Pedro Vairo<sup>2</sup>

1. PhD in Science.

2. Museo Marítimo y Antártico de Ushuaia

### 1958 – The beginnings of Antarctic tourism

We aim at analyzing the characteristics of the first tourist trips to the White Continent. Several previous attempts failed due to lack of passengers. They all shared a problem – they started at a long distance from Antarctica, which took a lot of time. ¿What has changed in Antarctic tourism after 61 years?

This book deals with a nine-day tourist cruise around the Antarctic Peninsula departing from Ushuaia. It was the first successful cruise. The two voyages aboard the *Les Eclaireurs* took place on January 16 and January 31, 1958, returning on February 8.

We extracted from the book the experiences of several passengers and the organization of that first cruise. We identified similarities and differences with current cruises. We also paid attention to clothing and other equipment.

In color photos, we see the town of Ushuaia with no hotels – tourists spent their nights aboard the ship. They left the cruise ship to go on excursions to different sites in the surroundings.

The reproduction of a logbook with recordings of passengers of day-by-day events is a highlight. This logbook was given to passengers for that purpose and the first pages included a general tourism-oriented description of Antarctica. This logbook is a predecessor of today's tourist guides.

All of this helps us understand why, even nowadays, Antarctic cruises are not very long. Most of them last between 10 and 20 days – the speed to reach their destination and the precision in the return voyage are key factors.





**Jozef Verlinden** (Belgium, 1952) / PhD in Science. Director of a pharmaceutical company in Belgium until his retirement. His passion was always polar history. He wrote several books and articles about Adrien de Gerlache and about Belgian and Dutch polar history. Since 1997, he has been a guide and lecturer on board of cruise ships to Antarctica and Arctica. He organized several polar exhibitions and was also involved in the creation of the statues of Adrien de Gerlache in Hasselt (Belgium) and Ushuaia (Argentina).

**Carlos Pedro Vairo** / Museologist. He specialized in Maritime Ethnography in Roskilde and Oslo. Is member of the Polar Museums Net; International Polar Education; and of the International Congress of Maritime Museums (2000 through today). Member of the Steering Committee of the Association of Directors of Argentine Museums, which he chaired from 2002 through 2016. He takes part of Latin American Antarctic Historians' meetings. Director of the Maritime Museum of Ushuaia and from the Antarctic Museum of Ushuaia: José María Sobral. Main topic: Antarctic History, expeditions and survey of historical sites. History of Sealers and Whalers. Based on the information on these expeditions, travels to Antarctica are organized to verify accuracy and see the material evidence on site. Includes work in South Orkney and South Georgia Islands. Some publications: "ANTÁRTICA, Historic whaling settlements", "ANTARCTICA, ARGENTINA CULTURAL HERITAGE".

**Edythe E. Weeks**

Northern Arizona University, US

### Enabling the Global Community to Find their Purpose: 21<sup>st</sup> Century Methodological Approach for Antarctica Engagement Visions

This paper will focus on inspiring people to develop 21st century skills for the ability to effectively solve problems posed in the current and future global environment – given emerging patterns and trends. This allows people to generate up-to-date knowledge, which can be publicized and shared globally through the creation of high quality collaborative scholarly work. The purpose is to help stimulate the growth of new ideas and suggestions about how to expand people's global reach as internationally known scholars, teachers and leaders in international institutions. Recent news reports have indicated that asteroid mining projects could be worth several quadrillion dollars. Gold, platinum, osmium, iridium and other precious metals have been discovered on the Near Earth asteroids. In addition, the icy regions of the Arctic and Antarctica are melting faster than scientists had predicated.

In the Arctic, the melting ice means that natural resources such as nickel, copper, coal, gold, uranium, tungsten, diamonds, natural gas, and oil are becoming more accessible. Similarly, Antarctica is also melting and releasing a variety of natural resources. Examples may include silver, copper, gold, nickel, platinum, iron ore, chromium, cobalt, molybdenum, zinc, manganese lead, titanium, nickel, and uranium.

International bodies of law intended to help govern Outer Space, Antarctica, the High Seas, and unclaimed territories in the Arctic, all proclaim these areas to be some form of *res communis*. However, as mining operations are increasingly operationalized, it is reasonable to assume human social and behavioral patterns might produce conflict over these resources. Economic opportunity tends to have an adverse relationship to conflict. Imagine what our world might be like, if past colonization and development scenarios had involved a broader range of people. Humankind has a new opportunity. Political science and ethnic relations approaches may prove useful to engage a wider audience of people willing to engage and take an interest in the remote regions of the world.





Zhihong Yang

## The Principles and Priorities of China's Antarctic Activities

Antarctica bears significant implications on global climate change, human survival and development. It is a shared mission of the entire mankind to explore the unknowns about Antarctica and to protect the Antarctic environment. As a responsible country, China needs to define the principles and priorities of its increasing Antarctic activities.

First, the long-term peace and sustainable development of the Antarctic depends on the international community's common governance of the Antarctic. Since 1959, the number of State Party to the Antarctic Treaty has increased from 12 to 53, of which 29 are ATPC country, accounting for more than 1/4 of the UN members, and all of the five permanent members of UN security council are ATPC country. The Antarctic Treaty System with the Antarctic Treaty as the core represents the legal cornerstone for the international community to address Antarctic affairs. Together with the UNCLOS, they constitute the basic institutional framework for international Antarctic governance. With the increasing complexity and diversity of international Antarctic affairs, this institutional framework will be constantly improved and developed in this process.

Second, being an ATPC country, over past three decades, China has been firmly safeguarding the principles of the Antarctic Treaty by protecting Antarctic environment, facilitating peaceful use of Antarctica, advocating scientific studies, and promoting international cooperation. Although far from the Antarctic region, like many other countries, China also has scientific, environmental and security interests in the Antarctic. China has mounted 35 Antarctic expeditions including multi-disciplinary scientific surveys on geosciences, life science and astronomy. In 2017, China published a white paper on China's Antarctic Activities, which indicating that China's Antarctic policy and activities are transparent, open and peaceful, and the Antarctic interests pursued by China are not exclusive and can be shared.

Third, the core of the basic principle of China's Antarctic activities is to build an Antarctic "human community of shared destiny". In the report of 19th National Congress of the Communist Party of China, delivered on October 18, 2017, General Secretary Xi Jinping pointed that working to build a community with a shared future for mankind. Antarctica is an inseparable part of human society. China uphold the concepts of sharing peace, security, sustainable, win-win and cooperation in the Antarctic. China upholds the institutional framework of the Antarctic Treaty system and initiatives to build a fairer Antarctic order.

Fourth, in the future, the priorities of China's activities in the Antarctic: (1) China actively implements the Antarctic Treaty and participates the Antarctic international governance, and promotes its sustainability, safeguard and protect the Antarctic for the benefit of all mankind. (2) The second is to continue strengthening the scientific research and to enhance the ability to protect the Antarctic environment and biodiversity. (3) The third is to actively carry out the Antarctic cooperation with other countries in order to strengthen the international governance in the Antarctic.



**Zhihong YANG**, was born in 1981, PhD in Environmental Science, Associate Researcher, works in the Marine Policy Research department of the National Marine Data and Information Service (NMDIS) of P.R.China. Over the past several years, she participated in many research programs on national and local levels of marine planning, management and policies. Her recent research has been focused on the Antarctic Treaty, the Antarctic international governance and China's Antarctic activities and policies.

**Yelena Yermakova**

Cornell University, University of Oslo

### Mineral Regime in Antarctica: Disaggregating Sovereignty

"When all the world's resources have been depleted, Antarctica will be a global treasure house of resources," states a book-length study produced by the Polar Research Institute of China (PRIC)<sup>1</sup>. Climate change and improvements in technology foreshadow future exploration and exploitation of Antarctic mineral resources. Furthermore, the moratorium on mining established by the 1991 Protocol on Environmental Protection (the Protocol)<sup>2</sup> will be up for revision in 2048. A walkout clause provided by Article 25 of the Protocol enables a party to withdraw if an amendment is not ratified within three years. Antarctic experts agree that the Antarctic Treaty System, which has been the main governance platform for the seventh continent since 1959, needs to evolve to tackle unprecedented challenges. To ensure that the exploitation of the "global treasure house's" minerals does not lead to environmental catastrophes, it is essential to develop a future-oriented regulatory framework. The purpose of this paper is draft out a feasible governance regime to safeguard the sustainable future of the White Continent within the framework of distributive justice. I explore the sovereignty-without-exclusivity model of the Norwegian archipelago Svalbard, suggested as a solution to Antarctica's problems by Doaa Abdel-Motaal in *Antarctica: The Battle for the Seventh Continent*. I argue that, although not a definite resolution to challenges Antarctica faces, this unique sovereignty model provides insight into non-conventional ways to govern a territory. I argue that Antarctica presents a case where disaggregating the traditional set of territorial rights, understood as a set of rights to jurisdiction, control of the borders, and control of resources<sup>3</sup>, might be the optimal solution considering existing 'frozen' claims and competing interests in the region.

#### References:

1. Brady, *China as a Polar Great Power.*, 89
2. Entered into force in 1998
3. Miller, "Territorial Rights: Concept and Justification.", 253

**Yelena Yermakova** / I am interested in the interaction of public policy and political philosophy and its implications for territorial rights and governance of natural resources in the Polar regions. Currently, as part of my Doctoral dissertation, I am developing a series of essays on the future governance of Antarctica within the project "Political Philosophy Looks to Antarctica," under the supervision of Dr. Maria Alejandra Mancilla in the Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. My undergraduate degree is in Political Science from UCLA. I got my MPA from Cornell University in 2017 where I focused on the Arctic region and the obstacles and opportunities it faces in light of climate change.



**Yelena Yermakova**

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## Revisiting the Question of Antarctic Sovereignty

Antarctica brings to many minds an image of a peaceful no man's land: pristine environment and scientific cooperation. In 1959, the Antarctic Treaty (AT) dedicated the so-called White Continent to peace and science, preserving the continent from military activities. Article IV of the Treaty signaled that geopolitics had no place in Antarctica by freezing seven territorial claims<sup>1</sup>. The Antarctic Treaty System (ATS) has been celebrated as one of the most successful international regimes and attributed triumph in safeguarding the pristine environment of the seventh continent. However, the reality is that the ATS was based on an "agree to disagree" principle and only delayed the inevitable question of sovereignty. The ATS was established on land that lacked defined borders, clear titles, and sovereignty. In 2048, when the moratorium on mining will be up for a revision, the resiliency of the ATS will face unprecedented challenges. The changing environment on the seventh continent, coupled with technological advancements and the experience in mining in the Polar regions that the international community has gained in the Arctic, take the possibility of mineral exploitation in Antarctica out of the theoretical realm and into the practical. Considering the growing interests in the continent's resources, the question of sovereignty of Antarctica needs to be revisited. Geopolitics have never left the White Continent, and to avoid unregulated mining and potential environmental catastrophes, the question of sovereignty should not be deferred any longer. The panel invites contributions from international law, political science, history and public policy to discussion about contested sovereignty, territorial rights and claims over natural resources. Comparative analyses are welcome.

### References:

1. Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom

**Yelena Yermakova** / I am interested in the interaction of public policy and political philosophy and its implications for territorial rights and governance of natural resources in the Polar regions. Currently, as part of my Doctoral dissertation, I am developing a series of essays on the future governance of Antarctica within the project "Political Philosophy Looks to Antarctica," under the supervision of Dr. Maria Alejandra Mancilla in the Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. My undergraduate degree is in Political Science from UCLA. I got my MPA from Cornell University in 2017 where I focused on the Arctic region and the obstacles and opportunities it faces in light of climate change.

**Yelena Yermakova**

Cornell University. University of Oslo

## Future Governance of Antarctica: Territorial Status Revisited

Discussions of whether Antarctica should be treated as a global commons governed by the Common Heritage of Mankind principles are as relevant today as they were in 1982, when Malaysian Prime Minister Mahathir during the UN General Assembly suggested that Antarctica should be declared "the common heritage of all the nations of this planet." Yet, more than three decades later, the territorial status of Antarctica remains unsettled. While the ATS continues to defer the resolution of the frozen territorial claims of the twentieth century, many argue that



Antarctica should be recognized as a global commons, part of the heritage of humanity, the resources of which should benefit all or left for preservation<sup>1</sup>. Christopher Joyner's idea of Antarctica as a frozen commons has become something of a commonplace in Antarctic literature. Over the past two decades the discussions about the seventh continent have developed around the assumption of Antarctica being a global commons referring to Joyner's typology. The paper critically engages with this widespread assumption in an attempt to identify what elements are, in Joyner's view, those that define something as a global commons and whether Antarctica may be one according to his definition. Determining to what extent Antarctica qualifies as a global commons is critical because it will affect regime development managing the area.

#### References:

1. Sahurie, *The International Law of Antarctica*, 95

**Yelena Yermakova** / I am interested in the interaction of public policy and political philosophy and its implications for territorial rights and governance of natural resources in the Polar regions. Currently, as part of my Doctoral dissertation, I am developing a series of essays on the future governance of Antarctica within the project "Political Philosophy Looks to Antarctica," under the supervision of Dr. Maria Alejandra Mancilla in the Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. My undergraduate degree is in Political Science from UCLA. I got my MPA from Cornell University in 2017 where I focused on the Arctic region and the obstacles and opportunities it faces in light of climate change.

Susana Beatriz Zazzarini

UCSE-DASS

### Public engagement with Antarctic research: How is Antarctica's scientific cooperation in Argentina developed after the signing of the Paris Agreement and up to the present?

It is undeniable that climate change affects all dimensions of life on Earth, its effects impact on the political, social, economic and biological aspects of different communities and ecosystems. Antarctica is not immune to these consequences, it also constitutes a vital space to maintain a balance in the climatic variables. As the global average temperature increases, the ice will melt and the sea level will rise, which will have severe global consequences. Many countries will lose their coasts or disappear, and even ocean currents could change and alter the level of rainfall and storms. Basically, forecasts tell us that by the middle of the century we will lose a large part of the world's glaciers.

The Antarctic continent has been, since the signing of the Antarctic Treaty in 1959 and its entry into force in 1961, an international space where peace and science reign, being "frozen" over time the claims of sovereignty and ensuring scientific cooperation between the different parts of the Treaty. Such is the case that Argentina is a full member of the same, has had an uninterrupted presence of 115 years in the territory and has worked together with several States to guarantee the investigation and exchange of information on the particular aspects of Antarctica.

From the above, it was relevant to analyze whether this cooperation has been strengthened or not with the signing of the Paris Agreement or the lines of research remained unchanged. To do this, a qualitative methodology was used, using documentary research as a technique and



categorization as data analysis. During the period studied, we were able to observe different forms of scientific cooperation, either through the signing of bilateral agreements, joint research projects or initiatives of foundations and international organizations. Argentina has had a strong presence in all cases, in line with the objective of maintaining its presence there and obtaining the greatest and best information possible. In this sense, it behaves rationally obtaining the benefits of scientific cooperation, like the rest of the countries, so Antarctica has always been a space of peace and even more since the signing of the Paris Agreement.

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### Yipu Zhou

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### China's Antarctica Tour Fever and Its Management Suggestions

Travel to Antarctic has become a good choice for Chinese people around 2010. According to the data of IAATO, China has been "on the list" since 2011, and the number of tourists has increased year by year. In 2017 and 2018, Chinese have become the second largest source of Antarctica tourists. By the observation of Antarctica Tour in Chinese tourism market, we believe that more and more Chinese consumers will choose Antarctica as their tourist destination with the improvement of China's consumption level. Antarctica Tour Fever is becoming a common phenomenon in China. There are four obvious features about China's Antarctic tour:

- (1) Fast Growth. According to data of IAATO, the number of Chinese Antarctica tourists increased by 28.81% in 2017 compared with 2016, ranking first in the global growth rate.
- (2) Younger Tourists. Young people are becoming the main consumer groups of Antarctica tourism. The report of *Polar Tourism Hotspot Report in China* shows that 1980's generations are increasingly showing the great interest in Antarctica, especially in the last two years, the number of tourists in this group has already accounted for 46.5%.
- (3) Lower Cost. The price of Antarctica tour declines year by year because of the intense competition of the market and this makes more and more people choose Antarctica tour.
- (4) Innovation management. At present, China's domestic Antarctic cruise ships and air-crafts have not been qualified by IAATO yet, but Chinese consumers' enthusiasm for Antarctica tour will soon encourage the Chinese tourism market to respond to meet the demands. Therefore, more new topics should be concerned by the Chinese government, including: how to balance the Antarctic ecological environmental protection and Antarctica tourism activities; how to scientifically guide and regulate Antarctica tourism activities under the framework of international law and Antarctic Treaty System; how to effectively manage the Antarctica tourism market; how to ensure the personal and property safety of tourists while they are visiting Antarctica.

**Yipu Zhou**, was born in 1982, Master of Environmental law. She has the position of Associate Researcher and Deputy Director of Marine Policy Research Department in the National Marine Data and Information Service (NMDIS) of P.R.China. Her research work is focusing on marine policy, ocean law and regulation, and China's Antarctic policies.