



16th ISISA
Islands of the World
Conference 2018

THE CHANGING FUTURES OF ISLANDS

10 - 14 June 2018
Leeuwarden - Terschelling
The Netherlands

ABSTRACTS

Colophon

Editor

Klaas Deen

Graphic design

BW H ontwerpers

Photography

Aerophoto-Schiphol

Published by Waddenacademie

© Waddenacademie June 2018

www.waddenacademie.nl

De basisfinanciering van de Waddenacademie is afkomstig van het Waddenfonds

Partners



**sense
of place**



oerol



provinsje fryslân
provincie fryslân



WADDENEILANDEN

TABLE OF CONTENTS

1 PARALLEL SESSION 1	MONDAY 11 JUNE 11.45 - 13.15 LEEUWARDEN WTC	5
2 PARALLEL SESSION 2	MONDAY 11 JUNE 14.00 - 16.00 LEEUWARDEN WTC	13
3 PARALLEL SESSION 3	TUESDAY 12 JUNE 10.45 - 12.45 TERSCHELLING MARITIME INSTITUTE WILLEM BARENTZ AND HOTEL SCHYLGE	22
4 PARALLEL SESSION 4	TUESDAY 12 JUNE 13.30 - 15.30 TERSCHELLING MARITIME INSTITUTE WILLEM BARENTZ AND HOTEL SCHYLGE	30
5 PARALLEL SESSION 5	TUESDAY 12 JUNE 16.00 - 18.00 TERSCHELLING MARITIME INSTITUTE WILLEM BARENTZ AND HOTEL SCHYLGE	39
6 PARALLEL SESSION 6	WEDNESDAY 13 JUNE 10.30 - 12.30 TERSCHELLING MARITIME INSTITUTE WILLEM BARENTZ AND HOTEL SCHYLGE	48
7 PARALLEL SESSION 7	THURSDAY 14 JUNE 11.30 - 13.30 TERSCHELLING MARITIME INSTITUTE WILLEM BARENTZ AND HOTEL SCHYLGE	56

PARALLEL SESSIONS

Note on Session Format and Etiquette

Chairs

All sessions have been assigned chairs. The chair's main job is to adhere to the time schedule. Please, do not change the order of presentations listed in the programme. Please arrive at your session 10 minutes early to make check the A/V preparations and that presenters have arrived.

Presentations

Every Presentation room will be equipped with a computer already connected to a screen to project your presentation. All computers are equipped with a USB port as well as Acrobat Reader and Microsoft Power Point. Presenters please arrive at your session 10 minutes earlier to check A/V preparations and load your presentations in one of these file formats already from a USB stick if you have not send it before to secretariaat@waddenacademie.nl

As a guideline, the following schedule can be used:

For 3 papers in 90 minutes or 4 papers in 120 minute: 20 minutes presentation +10 minutes open discussion with session attendees;
If there are more papers in a session, time will be reduced proportionally by the chair. As a courtesy to other presenters, all presenters are asked to stay for the entire session.

ROOM: AMSTERDAM

The interaction between sea level rise, subsidence and sedimentation in the Wadden Sea; projections to 2030, 2050 and 2100

Chair: Hessel Speelman

A Rising sea level scenarios in the Wadden Sea (2030; 2050; 2100)

Bert Vermeersen, TU Delft *Netherlands*

B Subsidence scenarios in the Wadden Sea (2030; 2050)

Peter A. Fokker, TNO *Netherlands*

C Sedimentation scenarios in the Wadden Sea (2030; 2050; 2100)

Zheng Bing Wang, Deltares & TU Delft *Netherlands*

D Rising sea level, subsidence and sedimentation synthesis scenarios; conclusions and knowledge gaps

Ad van der Spek, Deltares *Netherlands*

The Wadden Sea Region consists of an extensive combination of barrier islands, coastal waters with channels and subtidal flats, tidal flats and salt marshes, where many natural abiotic processes still occur almost undisturbed. These processes include sea level movements, seabed movements, sediment transport, deposition and erosion. However, an increasing number of processes are being brought about by humans. The abiotic processes brought about by humans are also numerous: creation of polders and enclosure dams, climate change and in that context the expected accelerated rise in sea levels, subsidence, sediment suppletion and sand extraction. An important and current issue is whether and how the present Wadden Sea, with channels and subtidal flats, tidal flats and salt marshes, will be influenced in the next decades by the accelerated rise in sea levels caused by humans. This process is inextricably linked to processes relating to natural sediment transport, deposition and erosion and induced sediment suppletion and sand extraction, natural sea bed movements and subsidence induced by the extraction of natural gas and salt under the Wadden Sea. The Wadden Academy and the Programme towards a Rich Wadden Sea have taken the initiative to produce a state-of-the-art report relating to the three processes referred to above: future rise in sea levels, subsidence, sedimentation and their interaction. We do so in the form of a report with scenarios, with an interpretation of the uncertainties and the reasons underlying these uncertainties. These scenarios are largely based on knowledge developed in recent years by various initiatives and research groups. The expectations relating to the rise in sea levels are also based on scenarios developed by other North Sea countries. An important element of the report is predicting the interaction between the rise in sea level, the subsidence and sedimentation, as there is still too little understanding of this aspect. For that reason, system knowledge regarding this issue has been applied for this analysis and for the interpretation of the processes, their interactions and the uncertainties.

ROOM: LONDON

Visitor pressure on islands

Chair: Erik Meijles

A Tour guides and hidden tourism imaginaries of sustainability on the Island of Gotland Sweden

Consuelo Griggio, Uppsala University *Sweden*

Creating and sharing tourist imaginaries and narratives of islands as exotic and extra-ordinary places is one of the main goals of the tourism industry. Tour guides are often the principal conveyors of such narratives in their home destination. Tour guides, however, are also embedded in global imaginaries and issues such as those concerning sustainability, and their role as ambassadors of sustainability can become crucial. How can tour guides effectively share narratives on sustainability and promote more sustainable behaviors among their guests, particularly on small islands? What kind of imaginaries and narratives on sustainability are shared by tour guides on Gotland and how? What effects can these imaginaries have on the sustainable development of the island? My qualitative research, carried on during the summers of 2016 and 2017 on the island of Gotland in Southern Sweden, focuses on how and what imaginaries and narratives about sustainability tour guides share with their guests during tours. Data reveal that discourses on sustainability are not expressly and openly talked about by most tour guides on Gotland (open narratives), apart from some well-known sustainability issues on the island such as the chronic shortage of water. Nevertheless, some imaginaries emerge from tour guides' narratives that hint to sustainability and sustainable measures and behaviors. I call these hidden narratives on sustainability. In this presentation, I will discuss in particular hidden narratives on sustainability and how most of my participants would like to improve their narratives as to include sustainability issues and foster sustainable thinking and behaviors among their guests.

B In the footsteps of Tjelvar – the development of sustainable and inclusive visits to cultural and natural sites in rural Gotland

Helene Martinsson-Wallin, Uppsala University *Sweden*

This paper discusses and presents a multi-disciplinary project with the focus on an area of rural NE Gotland. This area has a weak tourism development but has great potential to become an important node for tourism since it houses many iconic archaeological sites and a changing landscape tied to the mythology of creation of Gotland. This area has experienced extensive long-term landscape changes due to natural uplift, but major alterations due to the human invention have created possibilities for subsistence output in the form of agriculture but which caused current environmental problems like water shortages. We explore how these sites can be developed further in sustainable ways for the benefit and sense of place for the local people, the environment and the enjoyment, participation and education for the visitors. We use a holistic and relation foundation to obtain new qualitative narratives of the cultural and natural changes in the past to understand and narrate about past people and events and to understand our place in the present. The core of the presentation bases on new archaeological and geological research and an interview project on possibilities and obstacles to developing this area as an important tourist node on Gotland. The interviews have included local people, professionals in the antiquarian and cultural and natural heritage sector as well as representatives of the tourism sector and visitors to Gotland.

ROOM: LONDON

Visitor pressure on islands

Chair: Erik Meijles

C Managing the issue of over-tourism? Understanding the phenomenon, implications for island destinations and possible policy measures

Stefan Hartman, European Tourism Futures Institute (ETFI), NHL Stenden University of Applied Sciences, *Netherlands*

The unique characteristics, limited resources and spatial capacity make islands vulnerable to extensive tourism development. Whereas cities such as Barcelona or Venice have been dealing with the consequences of over-tourism for many years already, also islands island destinations show multiple similarities as they also experience a sometimes-huge influx of tourists, and are also complex multi-user, multi-functional environments. We explore the applicability of the main outcomes of our “visitor pressure” study, conducted in urban destinations by CELTH (Centre of Expertise in Leisure, Tourism and Hospitality) and its partner universities, to island destinations. We believe findings are relevant, useful and applicable (under conditions) to many island destinations, amongst others because of the high degree of urbanization of many islands – for instance Bermuda, Malta, Virgin Islands (U.S.), St. Martin and the Cayman Islands (World Bank, 2014). The visitor pressure study involved 6 larger and 7 smaller cities. A total of 8507 responses were collected to a self-completion resident survey and over 80 in-depth interviews were conducted with industry players. The study offers an in-depth understanding of the phenomenon visitor pressure. First, by means of applying the critical incident technique we derived key implications of over-tourism from the perspective of both residents and industry players. Second, we identified a wide range of strategies that can contribute towards the sustainable development of island destinations. Third, in a workshop setting, participants of the study cocreated several alternative future scenarios regarding overtourism. The scenarios were linked to applicable strategies enabling policy planners to ensure long-term sustainability.

D Monitoring visitor pressure around islands

Erik Meijles, University of Groningen *Netherlands*

The Wadden Sea was designated UNESCO world natural heritage in 2009. The largely undisturbed intertidal ecosystem is one of the most important areas for migratory birds in the world and with the surrounding salt marsh areas shows a high degree in biodiversity. At the same time the area is highly valued because of its recreational opportunities, thereby being an important economical factor. Recreational activities include sailing, canoeing, fishing and bird and seal watching. However, it is not well known to what extent recreational activities take place in ecological vulnerable areas. Recreation may take place in formally closed-off areas or may disturb birds during feeding or moulting. On the other hand, by allowing recreationists to witness the richness and variety of the nature in the area, awareness of its vulnerability may increase. Current pressures are being monitored on a case-by-case basis, but there is a need to combine this with a full overview of the area. It is therefore important to structurally monitor ecological values and recreational activities. With this paper, we aim to show the spatial and temporal behavior of recreational vessels in the Wadden Sea as part of a larger three-year monitoring programme. By analyzing data from Automated Identification System (AIS) and radar we can monitor the spatial distribution of recreational ships during the summer season. By combining these data with navigation channels, tidal and ecological data, we provide a full-scale overview of spatial recreational pressures around the islands of the Dutch Wadden Sea

ROOM: MADRID

Entrepreneurship and economic development

Chair: Su-Bing Chang

A Translocal community resources: New voices in the development of rural islands

Karin Larsen, Rikke Brandt Broegaard, Lene Havtorn Larsen, Centre for Regional and Tourism Research *Denmark*

Several Nordic islands are emerging as hotspots for attracting non-residents who engage themselves in the development of local products and projects such as music festivals, cultural events, local foods and crafts. Translocal relations and networks seem to be activated through people who do not live full-time on the islands, but who nevertheless choose to engage themselves, their resources and their networks in the development of local firms, places and projects. This paper explores how these 'translocal community resources' contribute to local development. Based on our observations, and with reference to the work by Halfacree (2012), we argue that today's increasingly trans-local lives render the often used dichotomy between residents and non-residents of little use, when we want to understand the different resources available to and activated in today's rural island development. It also affects the concept of scale, especially in relation to place-branding, which by definition uses a specific place and thus a specific scale as point of departure, and thus a static concept of scale. However, considering the increasing importance of translocal relations and networks, we propose that scale is better understood as a more fluid and dynamic concept. We suggest that rural development strategies for islands should consider more translocal approaches and work to increase the integration of rural islands into the flows of people and their resources by supporting the development of networks, relations and nodes (or hubs) of engagement.

B Comparison of development Issues in the Bahamas and the Philippines

Karl Szekiolda, City University of New York *USA*

Two island States will be compared with respect to their limited resources and the restriction on long-term sustainable development and environmental goals. Shortcomings in implementing the international guidelines on sustainable development are not only due to the islands' geographic remoteness but also to their vulnerability to climate change and sea-level increase. Small islands have extensive coastal zones that require sound sustainable development although in many islands the financial means needed are beyond their national capacity. Recent developments demonstrate additional constraints many island governments may have in benefitting from their Exclusive Economic Zones. The environmental and global changes that are predicted span over a timeframe of years, even decades, and action to mitigate the anthropogenic impact on climate change faces hindrances mainly on the political level. For mitigating climate change not many alternatives are left for the small islands and retreat from the coastal region may probably be the only considerations left for governments in reducing future disasters.

ROOM: MADRID

Entrepreneurship and economic development

Chair: Su-Bing Chang

C The impact of the phosphate-mining on the uninhabited isles of Taiwan in the Japanese colonial period (1895-1945)

Su-Bing Chang, National Taiwan Normal University *Taiwan*

This paper purports to study the impact of the phosphate-mining on the uninhabited isles of Taiwan in the Japanese colonial period (1895-1945). The phosphate mineral, also popularly known as “guano,” specifically in this study refers to the phosphate rock on the islands, especially on the uninhabited isles or reefs. Around Taiwan including South China Sea are studded with many small islands. They had been the important production places of phosphate mining in Taiwan under the Japanese colonial government. Based on the historical background, this paper takes “marine industry” as the point of departure to explore the mining and use of phosphate rock in uninhabited isles. The major questions addressed in this paper are as follows: (1) Why does guano become the essential factor to develop the marine industry in the early 20th century, given the fact that it had been in the uninhabited islands for so long? (2) How do the economic development and the extension of political power affect the exploration and use of the marine resources? (3) The uninhabited small islands and isles are economically low efficient places, their eco-system, which is therefore least disturbed, preserves the natural landscape with rich resources. What kinds of impact will be caused by the guano mining upon the natural environment? How will the natural landscape be changed? The above-mentioned questions are the major concerns that this paper purports to study and resolve.

ROOM: PARIS

Island research for a sustainable future

Chair: Jan Boersema

A How islands can show the way to a sustainable future

Peter Meincke ISISA *Canada*

This paper will show how small islands can be pioneers in renewable energy, implementing circular economies, trading in information and know-how rather than goods, and adapting to climate change in the context of their unique ecology. Small islands can show the world how to transition to a new economy and sustainable future. The paper will: outline some of the ways small islands are already making us of solar, wind, tidal, geothermal to reduce reliance on imported oil and gas as well as how they could make use of these and some other recent innovations; explore how some of the new technologies such as 3D printing will allow them to move to circular economies in which they make use of local resources such as waste to meet local needs and reduce their reliance on importing goods demonstrate how the internet provides an excellent opportunity for islands to trade information and know how including designs for 3 D printing describe some of the ways small islands are adapting to climate change. Identify some of the many obstacles to becoming pioneering examples of sustainable economies and how they might be overcome.

B What are the factors that shape university research management in small island states?

Christian Bonnici University of Malta *Malta*

Small island states present a range of challenges for research management, such that RMAs may be shaped by the contextual realities in which they operate. This session presents the results of a doctorate study conducted among three universities in three European small island states, namely Iceland, Cyprus and Malta. The study compared the research management structures of the three universities and investigated the challenges that they face in managing research. It also mapped a number of strategies adopted by these universities to address the challenges. As an overall outcome, a number of factors that shape RMAs as a result of the contextual realities in which they operate were identified and split along four categories, namely: factors relating to the external context; factors relating to the internal university context; factors relating to the research management profession and to RMAs; and factors relating to the resilience of universities and RMAs, in spite of the restricted context. It is being recommended that these factors are taken into consideration by: universities in building research support structures; by the RMAs in building coping mechanisms; and by the research management profession in preparing the RMAs better for their jobs. Although the study was conducted among universities in small island states, its findings appeal to other RMAs operating in similarly entrenched contexts. They are aimed at instigating a discussion and possibly further research on the contextual adaptation of research management and to the impact that the context may have on the identity of RMAs.

ROOM: PARIS

Islands as icons in the sustainability discourse

Chair: Jan Boersema

C Easter Island, Earth Island?

Jan Boersema Institute of Environmental
Sciences, Leiden University *Netherlands*

In my paper I will briefly reconstruct the ecological and cultural history of Easter Island (Rapa Nui) and critique the hitherto accepted theory of the collapse of its civilization. The collapse hypothesis, advanced most recently by Jared Diamond and Clive Ponting, and to be found in many Textbooks on Environmental Science, is based on the documented overexploitation of natural resources, particularly woodlands, on which Easter Island culture depended. Deforestation is said to have led to erosion, followed by hunger, conflict, and economic and cultural collapse. This almost iconic demise of Easter Island's environment, population and culture seems to provide historical proof for the possibility of a similar collapse of 'Earth Island' as envisaged by the Club of Rome. Drawing on scientific data and historical sources, including the shipping journals of the Dutch explorer Roggeveen who was the first European to visit the island in 1722, I will show that deforestation did not in fact jeopardize food production and lead to starvation and violence. On the basis of historic and scientific evidence, I will demonstrate how Easter Island society responded to cultural and environmental change as it evolved and managed to survive over time. Assuming that a different story has to be told about the past of Easter Island, I will conclude my paper with some thoughts on the vexing question what the future might hold for Earth Island, our fragile planet. Does Easter island still provide some kind of 'lesson'?

ROOM: PRAAG

Discussion panel: Islands and scale: some shifting stakes of contemporary debate

Chair: Jonathan Pugh

Panel members: Michelle Stephens, Elaine Stratford

The question of scale has always been central to island studies. Whether through an engagement with relational and archipelagic forces, the employment of fractals, or the prominent positioning of island studies within the Anthropocene, today questions of scale are receiving attention in new ways. What does the recent revisiting of scale raise for methodology, ethics and politics in island studies? In this discussion, Michelle Stephens, Elaine Stratford and Jonathan Pugh explore their recent work in this area, the different and overlapping ways through which we are rethinking the scalar and islands in the contemporary era.



ROOM: AMSTERDAM

Colonial and post-colonial islands

Chair: Anna Baldacchino

A Being in Nueva Cádiz: Social interactions across 1498 in the early 16th-century town on the Island of Cubagua, Venezuela

Andrzej T. Antczak and Maria Magdalena Antczak, Universidad Simón Bolívar & Leiden University *Venezuela & Netherlands*

The town of Nueva Cádiz of Cubagua is considered as one of the first urban settings created by the Europeans in South America. This settlement had begun soon after Columbus' third voyage to the New World in 1498, as a group of huts where the Amerindians and the Spanish bartered pearls and trinkets. It formally became a town in 1528 and by the early 1540s it went into rapid decline and abandonment due to the depletion of the pearl oyster beds, pirate attacks, and natural disasters. Planted on a semidesertic island and fuelled by the highly profitable pearl fishery, the town depended on food, water, raw materials, manufactured goods, and the labour of slaves brought from the South American mainland, Caribbean islands, Africa and Europe. These constraints and enablements produced a network of complex interdependences among the diverse categories of social actors and between them and their material world(s). We aim at grasping these interactions while moving back and forth between the local, the regional and the macroregional space frames. In temporal terms, we focus on those interactions that have precolonial origin, and which were abandoned or transformed while crossing the threshold of 1498. The new data is drawn from the results of archaeological surveys on the adjacent to Cubagua islands Coche and Margarita, larger body of information yielded by the long-term investigations on the Venezuelan islands, the study of related museum collections, and the research of documentary sources.

B Analyzing perceptions of decolonization: Redefining Hawai'i as a colonial island

Emerald Naylor, University of Prince Edward Island *Canada*

Since the second half of the 20th century, nations around the world have strived for self-determination, creating a period of decolonization. Decolonization is an ongoing process without an end date. Many of these previously colonized nations have begun the process of decolonization, and moved into the category of postcolonial states, yet islands in the Western world, such as the Hawaiian Islands, have remained in their colonial, or pre-decolonized state. As the world shifts away from colonialism, having Western islands still resembling colonial states questions the validity of the decolonization process. During the 1800s, when the United States of America had a presence on the Hawaiian Islands and control over the trade market, Hawai'i was not referred to as a "colony". This makes it unusual to consider Hawai'i as a colonial island now; however, the Hawaiian peoples' experiences of land and identity erasure, as well as the ongoing push for Hawaiian governance, resembles those experiences of other colonial islands. Throughout history, the United States have avoided being called "colonizers" or accused of keeping "colonies". Instead, they had "territories". The question then becomes how does the act of decolonization, or the definition of a postcolonial state, change if the country of colonizers does not recognize the island as a "colony"? This paper will offer an exploration and discussion of how the Hawaiian Islands exist as a colonial island, and what role syntax plays in the perception of what are colonial and postcolonial islands.

ROOM: AMSTERDAM

Colonial and post-colonial islands

Chair: Anna Baldacchino**C Meta Earth, virtual Mars: Science and colonialism on Hawaiian mountains tops**Katharine Sammler, California State University
USA

NASA's supplies virtual reality (VR) goggles to astronauts, offering relief from monotonous Martian landscapes of flat, red, rocky rubble. These cadets are isolated, only six people in the habitat dome for an eight-month stretch. They only communicate back to headquarters and loved ones with a 20-minute delay, the latency of a signal crossing a distance of 54.6 million kilometers through the vacuum of space. However, these astronauts are still trainees, potential future Martians. They are not yet on the red planet, but right here on Earth. Their dome habitat is located on Hawaii's Moana Loa, where the landscape's materiality and the imaginary of island isolation and island as laboratory are meant to simulate Martian colony. NASA's undertaking is meant to study human behavior under extreme conditions of solitude. The New York Times (NYT) has been documenting this project with their own VR experience, where readers can join the astronaut trainees in the dome and witness their VR therapy through NYT VR. This virtual reality within virtual reality is a layered, meta representation. It is a simulacrum of a potential future colony in a place of violent historical colonization and contemporary neocolonization. On an island often imagined as a placeless utopia, paradise, this project is living in the future, communicating with the past. In addition, Mauna Loa's sister peak, Mauna Kea, has been the site of vociferous opposition to the building of another large telescope atop Wākea, a sacred mountain to Native Hawaiians. This research explores relationships between science, colonialism, and island and outer space imaginaries.

D Global or Local? Language and colonialism in small island statesAnna Baldacchino, University of Malta *Malta*

There are 27 small island states (SIS) in the world whose resident population is under one million. Of these, 20 have experienced British colonialism, most for many decades. The pervasive effect of this colonial experience is manifest in various ways, including the use of the colonial language in the local island society. The tension between the use of dominant and global colonial languages (English, French, Portuguese, Danish) versus other, local languages is a recurrent theme in these countries. This paper talks about the impact of colonialism on the language of instruction and communication in SIS, with a focus on early childhood education. Data is drawn from three complementary sources: an online questionnaire, with respondents from each of the 27 SIS; interviews with principals of educational institutions as well as early childhood educators from Malta and Grenada; parents' focus groups and observations in educational settings in these two countries. Only Caribbean small island states use the colonial language both for instruction and informal communication, in some cases to the detriment of the native language, often itself a colonial derivative. Other small island states participating in the research claimed that the colonial language was used mainly for instruction, but not so much for communication. In the case of Grenada, parents insist that their children are spoken to in English only, and to this effect the local patois is now a dying language. In the case of Malta, English is the predominant language of instruction. However, there is a division between Maltese parents who want their children to learn English only and those parents who encourage their children to learn both Maltese (itself derived from Siculo Arabic) and English which are the two official languages in the country.

ROOM: LONDON

Island biogeography and implications for conservation

Chair: W.S. Kong

A Stewards of Biodiversity: Indigenous peoples of the Philippines, their knowledge system and practices, and the environment

John Vincent Castro and Tanggol Kalikasan,
Ateneo Law School/Ateneo Human Rights
Center and Defense of Nature *Philippines*

Since time immemorial, indigenous peoples in the Philippines have a symbiotic relationship with the earth by growing crops on fertile soil, hunting game in lush forests, dwelling in houses made from biodegradable materials, and fishing in rivers, lakes, and seas. Indigenous cultural communities consider the environment a sacred place. However, the arrival of Spanish conquistadors and American colonizers and the rise of the caciques and the Chinese mestizo caused the deprivation of their right to the use and possession of their ancestral lands. The grave injustices and environmental and human rights violations done to indigenous peoples continue today. Land is life in indigenous cultural communities. By taking it away from them, indigenous peoples die a slow death, shedding each tradition like leaves until one day there are none. No traditions. No cultures. No peoples. Nothing remains. A major challenge is the formal recognition of customary laws and indigenous knowledge since most of them are undocumented, oral, and unwritten. The absence of codification of customary laws and indigenous knowledge has resulted to the violation of environmental and human rights and ancestral land rights. Since the Philippines is a “megadiverse” country with one of the highest rates of endemism in the world, the paper seeks to examine the importance and necessity of customary laws codification and indigenous knowledge application for the protection and preservation of the environment, human rights, and ancestral lands and ancestral domains to ensure the economic, social, and cultural well-being of indigenous peoples and the conservation of the environment.

B Quantifying changes in island geography over the late Quaternary

Sietze Norder, Centre for Ecology, Evolution and Environmental Changes (cE3c) / Azorean Biodiversity Group *Portugal*

Oceanic islands are dynamic entities: they emerge and submerge; they shrink and expand; they split and merge. Over long timescales, changes in island geography are driven by geologic processes and Pleistocene sea level fluctuations. During the late Quaternary, climatic oscillations have resulted in major fluctuations in sea level and, correspondingly, changes in island area and archipelago configuration. Understanding the dynamics of island geography in the past is crucial to place the current anthropogenic driven changes into a broader ecological context. The Paleo Islands and Archipelago Configuration (PIAC) database contains sea level driven changes in paleogeography over the late Quaternary of 178 islands in 27 archipelagos worldwide. This online database shows that for most of the late Quaternary, islands were larger than today, and less isolated. Compared to these long term dynamics, islands today are exceptionally small and isolated. On top of these natural changes, land use changes have reduced the available natural habitat, and transportation networks have breached long standing geographical barriers, effectively reducing island area and isolation. The rate and magnitude of these anthropogenic driven changes differ fundamentally from long term natural dynamics. Conservation strategies on islands should acknowledge these long term dynamics and realize that the pre-human situation on islands had its own dynamics.

ROOM: LONDON

Island biogeography and implications for conservation

Chair: W.S. Kong

C Anthropogenic drivers on island biodiversity

Sietze Norder, Institute for Biodiversity and Ecosystem Dynamics (IBED) / BIOMAC group
Portugal

The influence of anthropogenic drivers of island biodiversity differs between islands; both in magnitude and in duration. The replicative nature of islands might facilitate a better understanding of how anthropogenic drivers shape island biodiversity patterns. Species richness on islands in ecological time is mainly shaped by two processes: extinction and colonization. During this talk we will present the main findings of a systematic literature review focused on how anthropogenic factors shape these processes. We classified anthropogenic drivers into four categories: local biophysical factors, socioeconomic connectivity, sociocultural context, and historical factors. Our aim was to find out which proxies are chosen to operationalize anthropogenic drivers, and how this differs between studies. We found that the way in which anthropogenic drivers are operationalized depends on (amongst other things): the disciplinary focus, the scale, and scope of the study. Our findings highlight not only which anthropogenic drivers influence biodiversity patterns across islands, but also which drivers are currently understudied. Insights about the role of anthropogenic factors will help to further refine Island Biogeography Theory, and may eventually contribute to conservation of insular biodiversity.

D The significance of river island geographies: The Brahmaputra river system in India

Mitul Baruah, Ashoka University *India*

River islands have gained little attention within both island studies scholarship and geomorphology. While island studies has thus far focused largely on sea/oceanic islands, geomorphology on the other hand has been predominantly Eurocentric, thus neglecting the vast geography of river and estuarine islands, located mainly in tropical river systems. This paper aims at filling this gap by highlighting the significance of river island geographies – their distinct characteristics; the fragile, ephemeral nature of these landscapes; and the pivotal role that they play in the lives and livelihoods of millions of people in tropical environment. Focused on Majuli river island and the chars in the Brahmaputra river system in India, this paper foregrounds environmental governance processes in the re-production of these ephemeral, hazardous geographies. In particular, the paper demonstrates the key role that hydraulic infrastructures play in the making and re-making of such landscapes. In doing so, it underscores the materiality of infrastructures as well as the social life of such infrastructures, that is to say, the interaction between hydraulic infrastructures and the lives of riparian communities. The paper then goes on to highlight some of the ways in which local communities adapt to the hazardous, constantly transforming environments of Majuli and other chars in the Brahmaputra valley.

ROOM: LONDON

Island biogeography and implications for conservation

Chair: W.S. Kong

E Island biogeography of plants on the continental shelf

Hyunhee Kim, D.B. Kim, W.S. Kong,
C.H. Jeon, C.S. Kim, Department of Geography,
College of Sciences, Kyung Hee University
South Korea

Out of four thousand islands scattered on the southern and western parts of continental shelves of Korea, island biogeographic characteristics of four hundred islands, which were formed by mainly the sea level rise since the Last Glacial Maximum, as well as volcanic activities in the Cenozoic Era are analyzed. Islands with many different sizes and shapes had offered diverse habitats for plants and animals and distinct local environments for the people. Korean islands have functioned as a vegetational transitional zone or ecotone from boreal zone of the Eurasian continent to warm-temperate zone of the Pacific Ocean since the Last Glacial Maximum. Daecheongdo Island (36° 14' N, 126° 03' E, 343m a.s.l.) at the mid-western sea has served as a global northernmost distributional limit of warmth-loving plants, including *Camelia japonica*. Hallasan, Jeju Island (33° 12' N, 126°10' E, 1,950m a.s.l.) at the southwestern sea has played an important role as a global southernmost distributional limit as well as a glacial refuge of cold-loving arctic-alpine plants, such as *Diapensia lapponica* var. *obovata* and *Empetrum nigrum* var. *japonicum*. Island biogeographic pattern of species richness of plants on the basis of effect of island size and distance from mainland did not support the classical oceanic island biogeography equilibrium theory of MacArthur and Wilson (1967). Islands with higher mountains, however, contain a higher number of plant species. Cold-tolerant boreal and arctic-alpine plant species at the remotely located or isolated islands appears to be in jeopardy due to global warming.

ROOM: MADRID

Living on heritage islands

Chair: Wilma de Vries

A Identity through the past: *Archaeosocial initiatives in Los Roques Archipelago, Venezuela*

Maria Magdalena Antczak and Andrzej
T. Antczak, Leiden University & Universidad
Simon Bolivar, *Netherlands & Venezuela*

Los Roques Archipelago National Park is a group of oceanic coral islands located in the Venezuelan Caribbean. Pioneering archaeological research carried out on these islands revealed an unexpectedly rich volume of diversified artefacts and contextual information on the Amerindian seamen who seasonally exploited the local natural resources between A.D. 1200 and 1500, as well as historical visitor from later centuries. Being convinced that archaeology as a past-oriented discipline should exert a transformative impact on the present, we developed a series of the archaeosocial initiatives that aim to interweave the rich archaeological past of the archipelago with the current lives of diverse categories of local social actors. Talks, exhibitions, seminars and working discussions for local tourism operators and, above all, the experiential archaeology workshops for local schoolchildren broaden the range of vibrant past-inspired interactions with Los Roques inhabitants. We believe that once the archaeological past revealed by the research is proactively intertwined with the current realities of Los Roques community members, the community will exploit this past in multiple tangible and intangible ways according to their needs and interests. We are confident that despite the historical discontinuity between the pre-Hispanic seamen and the current population of the archipelago, the vibrant and colorful archaeological past will reach the present-day inhabitants, enriching their socio-cultural identity and influencing their way of life that currently oscillates between fishing and tourism-oriented activities. While some future plans (like creation of the museum) relies on local communities' engagement, the past is already in the present.

B “A Feeling, not a Having”: Testing the Relationship between Ethnic Identity and Material Culture among the Guaiquerías of Margarita Island, Venezuela

Oliver Antczak, University of Cambridge
United Kingdom

Having a history of heavy transculturation upon meeting the Spanish during the early colonial period, they today maintain a strong ethnic identity despite having lost a lot of what could be termed “cultural continuity,” especially with regards to material culture. Material culture, however, is crucial to the transport, legitimization, stabilization, mediation, and establishment of collective identities. The case of the Guaiquerías is explored by way of a series of interviews (both group and individual) as well as museum visits. The early results point towards the Guaiquerías indeed having no material culture that can be traced back to pre-colonial times, and the interviews show that the public identity suffers, while the private identity is maintained mostly by “feeling” Guaiquerí. It is possible that the apparent lack of this continuity through material culture is replaced by the Virgen del Valle, an image of the Virgin Mary brought to Margarita in 1530, which has been adopted by the Guaiquerías and claimed as an aspect of their identity. This is a ongoing multi-year project that hopes to work together with the Guaiquerías to disentangle the complicated colonial history of the island and together find the material remains of their past.

ROOM: MADRID

Living on heritage islands

Chair: Wilma de Vries

C Exploring the importance of intangible cultural heritage in building children's identity

Stephany Herold, PICHA Foundation

Trinidad and Tobago

The society of Trinidad and Tobago is undergoing significant changes with crime on the rise and a recession just around the corner. Cultural vibrancy however does not seem to stop. Festivities big and small are celebrated throughout the year with carnival being the biggest and brightest among Diwali and many others. While societal changes affect anyone in a country, it is today's children and their connection to a place that will define tomorrows' future of a society. The purpose of this research is to explore the perception children have in Trinidad about their country and what role intangible cultural heritage plays in building their identity. Methodology In collaboration with an arts teacher, a creative qualitative approach will be followed whereby children will be tasked to a) reflect on their feelings about living on the island of Trinidad and Tobago and to b) describe what makes them proud of their culture. A qualitative multi-method approach will be followed whereby children will be given freedom to express their perspective, making sure they can fully immerse themselves into the topic in their own way by drawing, recording, using social media etc. The paper will demonstrate results of a semiotic and qualitative content analysis of children's work reflecting on the emotions about their home country Trinidad and the role culture plays in their perceptions, pride and therefore identity building.

D Young adult everyday life experiences and future perspectives on the Frisian Wadden Islands

Wilma de Vries, Thialda Haartsen, Fries Sociaal Planbureau and University of Groningen

Netherlands

Like other rural areas, the Frisian Wadden Islands (The Netherlands) experience depopulation, ageing and dejuvenation. In order to secure having enough island inhabitants in the economically productive age groups, it is important to develop strategies and policies to keep young adults on the islands. In order to do so, more insight is needed into young adult perceptions of the advantages and disadvantages of living on an island. This paper discusses how young adults on the Frisian Wadden Islands perceive their everyday life and future perspectives on the island. Data was gathered via focus group discussions and explorative surveys on for Dutch Wadden Islands Vlieland, Terschelling, Ameland and Schiermonnikoog. The results show that young island inhabitants are very satisfied with the social and natural qualities of their residential environment. These are also elements that tie them to the islands. They are less satisfied with the housing market, employment perspectives, ferry connections to the main land and the impact of tourism. Especially the lack of availability of starters housing is perceived as a threat for starting an independent household and staying on the island in the future. Improvements on frequency and timing of the ferry could improve possibilities to commute to the main land for education and work.



ROOM: PARIS

Rethinking models for island development

Chair: Torben Dall Schmidt

A Rural institutions for development: The case of Santo Antão Island in Cabo Verde
Cristina Maria Paulino and Maria Isabel de Deus Mendes, University of Lisbon *Portugal*

Rural institutions in Cabo Verde Archipelago were built during centuries having in account its harsh natural environment. The high dependence of the territory from external food markets led (1) the colonial government, from the second half of the 20th century onwards, to adopt a political economy based on forestation, construction of infrastructures and emigration incentives to drastically reduce the enormous number of casualties resulting from drought periods, and (2) the state, after independence in 1975, to invest in environmental improvement measures, water resources management, agricultural research, and in the implementation of agricultural extension services. Moreover, the successive political economy strategies aiming agricultural development since 1975, spread from a socialist agrarian reform in the 1980's till current neo-liberal policies. This paper addresses Cape Verdean rural development through the analysis of rural institutions, with a special emphasis in informal institutions and their impact in the successive policies implementation in Santo Antão, one of the main agricultural islands of Cabo Verde Archipelago. More, it is showed that the failure of past political economy strategies is part due to the fact politicians have overlooked the functioning of existing informal rural institutions and their associated social networks. Finally, starting from the theoretical formulation that rural development is induced through the strengthening of existing social networks, this paper also aims to be a contribution for the diagnosis and analysis of developmental issues in rural areas of other developing insular territories.

B Push and pull factors in recruitment, selection and retention of teachers in remote areas
Frank Cörvers, Maastricht University *Netherlands*

The Caribbean Netherlands (CN) consists of the islands Bonaire, Sint Eustatius and Saba, which are 'extraordinary municipalities' of The Netherlands. Challenges for CN are: a high teacher turnover in CN (yearly outflow of almost 15%); the remote area problem due to which recruitment and retention of teachers is difficult; no higher education and no independent teacher education programs; many differences with the European Netherlands (e.g. scale, culture, languages, pedagogical methods and didactics); a highly diverse teacher formation. In our research we try to increase knowledge about teachers' motives to come to, stay in or leave the Caribbean Netherlands or the profession as a teacher, and formulate recommendations how to make it more attractive to work in Caribbean schools. We conducted in-depth interviews with stakeholders (e.g. teachers, headmasters, policymakers) about teaching in CN, coping with recruitment challenges, etc., and held a survey among all teaching personnel in CN about challenges, push and pull factors, future expectations etc. We find that immigrants come to CN mainly for the nice Caribbean life and adventure. Teaching personnel originally from CN ('remigrants') often work on the islands because of a sense of responsibility. European Dutch immigrants have lower job satisfaction and a greater information need than Caribbean Dutch people. For remigrants from CN work related factors are more important to stay in their jobs. Many immigrants expect to work short term in CN in contrast to teaching personnel from CN.

ROOM: PARIS

Rethinking models for island development

Chair: Torben Dall Schmidt

C Sustainability issues arising from island public policies of the European Union

Pantelina Emmanouilidou, University of Limoges *France*

This paper discusses the public policies of the EU concerning European islands. It is argued that the ecological value of these islands is overlooked by the EU, and as a consequence, the promoted economic development is not sustainable. Through the notion of “insularity”, the EU recognizes that islands have particular characteristics (isolation, limited size) that need to be addressed by appropriate public policies. The institutions of the EU pioneered the initiative to draw up legislation adapted to island characteristics. The EU encourages member States to pay particular attention to island regions (art. 174 TFUE). This otherwise positive evolution of the role of islands within the EU, risks overstretching natural resources and the carrying capacity of island ecosystems. “Insularity,” is linked to the “handicaps” of isolation from the market and the difficulty to develop economies of scale. The environmental vulnerability and the valuable biodiversity are not fundamental components of “insularity” as understood by the EU, even though they constitute the single undisputed particularity of islands. By allowing the adoption of specific measures facilitating economic development in islands, the EU contorts the hierarchy of objectives for islands, with economic development prioritized over environmental protection. Thus, the goal of current EU policy is to better integrate the islands in the open market and not to adopt environmentally sustainable policies.

D The importance of harbours on Danish islands for employment

Torben Dall Schmidt, University of Southern Denmark *Denmark*

Infrastructure is often perceived as essential for economic development. Islands are isolated in the sense of often having a weak infrastructure to support economic development. This would suggest that infrastructure could render higher returns in terms of higher employment. This paper tests this proposition for the case of harbor activities. Do harbors offer a above normal employment effect compared to harbors not located on islands? Specifically, the paper considers whether different types of harbor activities measured by cargoes, vehicles and persons handled by the harbor contribute more or less to employment. The analysis is pursued based on data on over 20 different types of harbor activities over a set of over 580 Danish postal codes for the period 2001 to 2013. The number of harbors included in the analysis includes over 200. Among these there are a number of harbors located on islands. The definition of employment by postal code constitutes a challenge of identification, as postal codes may in some instances comprise harbors on both islands and outside islands. This is remedied through two approaches. First, an analysis is offered comprising harbors uniquely located in postal codes on islands imposing restriction that all harbors in postal code need to be on an island. This prevents the inclusion of islands fixed effects in a panel data method. Second, Bornholm is an island in Denmark with several harbors, which can be compared to other harbors not in postal code with harbors – possibly comprising “Bornholm” specific factors as confounding.

ROOM TEXEL (Maritime Institute Willem Barentz)

Media in the Caribbean: Journalism in small (post)colonial societies

Chair: Gert Oostindie

A Media perspectives on changing (post) colonial relations in the Kingdom of the NetherlandsBirgit Kreykenbohm, University of Aruba *Aruba*

The constitutional reform of the Netherlands Antilles in 2005-2010 profoundly impacted relations in the Kingdom of the Netherlands and revitalized the lasting debate about the (post-) colonial nature of the relations. Aruba's and Curacao's choice to remain an autonomous part of the Kingdom inevitably denotes acceptance of the hegemonic relationship with the Netherlands. Established mainstream media reflect the shifting dynamism of the Kingdom-debate and the diverse perceptions of the relations and can even shape or intensify them or trigger a dispute in those relations. As part of a larger study on changing relations and mutual representation in the Kingdom of the Netherlands, the objective of this study is to gain insight in the role of media and journalism in representing Kingdom-relations. A comparative research of news coverage in 6 Aruban, Curaçaoan and Dutch newspapers combines a content and frame analysis with a discourse analysis and expert-interviews. While the Aruban and Curaçaoan press frequently report on events in and of the Netherlands, the Dutch press covers less and mainly focuses on mere incidents in Aruba and Curaçao. This study illustrates the ease with which political rhetoric, historical perceptions and stereotypical representation can be reinforced and even created in the written press. At the same time it shows, in spite of the collective constitutional bonds, the differences between the nations and their own social, historical and political development, but also the distinct cultures of journalism in Aruba, Curaçao and the Netherlands.

B Capacity building while assessing the media landscape in SIDSRenske Pin and Birgit Kreykenbohm, independent Researcher / RE-Quest Research & Consultancy *Curacao*

In Aruba, a Caribbean island with a population of 112.162 inhabitants, there are over 30 media outlets challenged to adequately play their role as watchdog and contribute to the functioning of democracy. However, just as sister island Curaçao, Aruba has limited resources available to journalists. The aim of the study was to work on the professional capacity building of the journalistic field in Aruba in an inclusive manner while investigating the Aruban media landscape, contributing to the knowledge on media development in Small Island Developing States (SIDS). 30 Aruban journalists, scholars and young talents participated in work sessions, live broadcasts and trainings guided by international lecturers and colleagues from Curaçao and the Netherlands. In a collaborative effort, local and international journalists and scholars reciprocally increased and enhanced their expertise by combining academic research and journalistic storytelling. The professional capacity building of and multidisciplinary dialogue between the Aruban journalistic and academic field resulted in a multimedia quick-scan of the media landscape of Aruba. With the launch of the online publication, the participants created a knowledge platform for ongoing dialogue about media development in the Small Island Developing State of Aruba. The long read is accessible for the Public, and aspires to have an impact on the level of media literacy of Aruban citizens, government and politics, and commercial parties and shows how the media in Aruba contribute to the functioning of democracy. Keywords: democracy; journalism; Caribbean; participative approach; capacity building.

ROOM TEXEL (Maritime Institute Willem Barentz)

Media in the Caribbean: Journalism in small (post)colonial societies

Chair: Gert Oostindie**C Journalism challenges in a small scale society – the case of Curaçao**Renske Pin, independent researcher / RE-Quest Research & Consultancy *Curaçao*

A Small Island Developing State in transition, the media's contribution to the creation and sustaining of democracy and their potential to serve as a catalyst for human development is crucial. However, journalism in small-scale societies face several challenges to be able to function as free, independent and pluralistic media empowering citizens with information that enables them to make informed choices and to participate actively in democratic processes. The objective of this study was to gain insight into all aspects of the media landscape of Curaçao using UNESCO's Media Development Indicators (MDIs) and a mixed method approach, combining desk research, coding analysis, content analysis, 3 surveys (public, media workers, media management), 4 focus groups (public and media workers) and 27 in-depth interviews with stakeholders. The study reveals that the Curaçao media landscape is characterized by a great number of media outlets – no less than 28 licensed radio stations, eight newspapers and (more than) three television stations for the islands population of just over 150.000 inhabitants. Together, they facilitate a lively debate culture. However, the media are not able to adequately fulfill their role as watchdog of authorities and other powerful stakeholders in society. Because of a number of significant weaknesses, identified in all 5 MDI categories and across all stakeholders involved, Curaçao media do not take full advantage of their democratic potential. Several recommendations are made to help address the gaps identified to strengthen the development of free, independent and pluralistic media in Curaçao. Keywords: media development; journalism; Caribbean; democracy.

D News beyond journalism in Caribbean island communitiesSanne Rotmeijer, KITLV / Leiden University, The Netherlands *Netherlands*

This paper addresses shifting discourses of what news is and should be in the local, (post)colonial context of Curaçao and St. Maarten, two Dutch Caribbean islands. Building on extensive fieldwork at print and online news media outlets on the islands in 2015/16 and 42 in-depth interviews with reporters, editors and news bloggers, this paper distinguishes three discourses on news practices in Curaçao and St. Maarten: news for, news with, and news by the people. These discourses are embedded in the local, historical context of the islands' media, and entangled with the transformation of the profession by commercialization and digitalization on a global scale. This paper demonstrates that news on the islands has become increasingly fragmented and networked, practiced by journalists and non-journalists in, outside, and beyond local news institutions (by the people). Moreover, and related to small-scale and colonial legacies, the islands' news media face challenges such as (self-)censorship, a dependency on advertisements, and a lack of trained journalists. As a result, news is practiced in close relation to political and economic elites on the islands and beyond, which blurs the boundaries between journalism, public relations, and advertising. While the involvement of different actors in co-creating news may have led to news democratization, it simultaneously undermines democracy by reproducing the interests of local (and global) authorities, and by reinforcing inequalities along lines of class, race, ethnicity, and gender in the island communities. News practices and networks on the islands should be more radically critical towards the ones in power.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Natural resources on and around islands/Islands and climate change

Chair: Wooseok Kong**A At the Nexus of SIDS and AOSIS: The Maldives, maximizing short-term development, and planning for eventual evacuation**Andrea Simonelli, Virginia Commonwealth University *USA*

The Maldives is perpetually characterized as a hotspot of existential climate anxiety due to its eventual susceptibility to sea level rise. A popular picture-perfect vacation locale honeymooners, the quintessential imagery of island paradise used to sell the Maldives only heightens the drama. Long before the rising waters of climate change will endanger its' existence and sovereignty, the island archipelago faces the same obstacles as many other developing countries: poverty, sustainable development, and the consolidation of democratic governance which includes the protection of civil rights and fair elections. These challenges are often overshadowed by the continued publicity garnered by its charismatic former President. While the islands face an environmental security threat to their structural integrity, the people also face a threat to their personal security from competing development interests as they compound a manageable carrying capacity. This paper investigates the nexus of development, climate concerns, and democratic governance in the Maldives. It challenges the dominant discourse which posits the Maldives under imminent threat to sea level rise and argues that the Maldives' experience as a developing newly-democratic country directly affects its ability to respond to its long term climate impacts and those impacts cannot be fully understood without such context.

B The water sector in small islands: An institutional approachOurania Papasozomenou, IRI THESys, Humboldt University of Berlin *Germany*

This paper places island studies in a dialogue with institutional economics and explores how each discipline can benefit from the other when looking at policy implementation. It does so by using the water sector dysfunction in the Greek island complex of Cyclades as a show-case. Grounded on classical institutional economics (CIE), I will a) analyse transactions between three main groups of actors: mainland officials, island officials and water users, and b) illustrate the motivation behind these transactions. This will guide the recommendation for policy change in the water sector of the islands. In parallel, and by reviewing island studies' literature, I will identify some of their principles that resonate with those of CIE and will reveal the connecting point of these two disciplines. By bringing the physicality of the social world (like islandness) into the foreground of CIE and policy implementation, chances for a successful policy circle are increased.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Natural resources on and around islands/Islands and climate change

Chair: Wooseok Kong**C Economic valuation of disaster prevention by coral reefs in small islands**Yoko Fujita, University of Ryukyus Okinawa
Japan

The purpose of this study is to estimate the economic value of disaster prevention by coral reefs in the Republic of Palau, a small island developing state in the North Pacific Ocean. Small islands in the Pacific region are facing the threats and consequences of climate change, such as sea level rise, high tide and strengthening typhoons. The function of wave absorption by coral reefs is proven in scientific research. Additionally, the fact is empirically well known by ordinary people who are residents of small islands. However, the value of this function has not yet been objectively evaluated in Palau.

The Republic of Palau is a small island country in Micronesia. It is famous for its precious natural resources, amongst which are its beautiful and abundant coral reefs. Palauan residents are known as environmental-conscious people and positively disposed to protect coral reefs. To promote coral reef conservation policy, they need some indicators to provide supportive evidence that justifies governmental expenditure, because the governmental budget is limited due to the country's very limited tax base, with only 18,000 people as its total population.

The Replacement Cost Method is one of the methods available for the economic valuation of the natural environment. This method estimates the value of ecosystem functions by the cost of artificial technology/facility which is replaced by the natural environment. In Japan, this method is often used for the economic assessment of public construction projects. In this study, we estimate the value of the wave-dissipating function of coral reefs from the cost of construction and maintenance of submerged breakwater infrastructure.

D Future of insular relict high mountain plants under global warmingWooseok Kong, H.H. Kim, D.B. Kim, H.H. Song, G.Y. Hwang, Kyung Hee University *Korea*

Global warming is one of the top of the environmental agenda around the global community. It is locally true for the Korean Peninsula (34.5~42°N, 125~130°E), where temperature has been risen 1.5°C for last century. There is a high possibility that the migration speed of the arctic-alpine plants won't be able to catch up the rapid increase of temperature. It is especially true for those species vulnerable to climate change, such as species on isolated islands, on the subalpine or the alpine belts, in a narrowly distributed range, as well as the species those are sensitive to climate change or species having slow migration rate. Present work aims to understand the potential effects of global warming on the high insular mountain ecosystem, on the basis of both horizontal and vertical ranges of individual arctic-alpine plants, and alpine plants on the summit of Hallasan, Jeju Island, Korea. The vulnerability of individual arctic-alpine and alpine plants due to global warming is projected on the basis of gradient of temperature rising. This paper, firstly, try to figure out the current distribution patterns of the vulnerable plants both in vertical and horizontal ranges, secondly, to predict the vulnerability and diversity of the plant species along with the distribution changes on the high mountains depending on the increase of temperature, on the assumption that the future temperature increases (+0.3°C, +0.6°C, +0.9°C, +1.2°C), on the basis of the relationship between the vertical distribution's lowest limit of the subject plant species and their maximum summer temperature

ROOM AMELAND (Hotel Schylge)

Islands identities

Chair: Hideki Hasegawa**A Where do islands begin and end?
A comparative approach to the fluidity of
islands in Eastern Indonesia**Elena Burgos-Martinez and Annet Pauwelussen,
KITLV and Leiden University *Netherlands*

Rather than approaching islands as pre-existing spatial containers, we explore the defining effects of relations and circulations and interrogate basic conceptual and methodological assumptions of place and space, the field and the site, in Anthropological and Island research. This has consequences in how we study, describe and theorize matters of identity politics and political-economic relations in marine and island societies. The authors of this paper have now put together years of ethnographic research, separately conducted amongst different groups of islanders and marine communities across the seas and islands of Eastern Indonesia (Sulawesi and Kalimantan). The comparative approach of this paper revisits local notions of being and belonging to places as products of a more dynamic pulsating realm of social-material relations that string out instead of a container encompassing fixed places. Its socio-politic relevance resides in highlighting power imbalances that emerge from contemporary representation of island and islanders in eastern Indonesia. Often islands are considered peripheral satellite units of analysis to a land-based centre. This is also obvious in regional politics and policy-making in Indonesia, where islands and even more sea-based societies are considered marginal, or even not considered in the first place. Actual political and economic relations and interdependencies of marine and island peoples, that link places but are not confined to places, can be overshadowed in the assumptions that operate in both regional governance and policy-making. These circulations do not take place ‘in the margins’ but in a thriving hub of movements and relations across and beyond land-sea boundaries.

B Counting the islands of ScandinaviaAnders Källgård, *Insula, Sweden*

As a result of inspiration from ISISA’s “Islands of the World VI” conference in 2000, a project was started, with the purpose to count and describe the islands of Scandinavia. Today, almost 18 years later, this project is drawing to a close. The Swedish islands have been presented in a book (in 2005 and in 2013), and so have the islands of Denmark (in 2009); and a book on Norway’s islands is due to be published later this year. In the present paper, experiences and results from this project will be discussed. Only islands that met the following two criteria were included: 1) No bridge or other permanent connection to the mainland. 2) Permanent settlement (all year round) at some point of time after the year 1900. It turned out Sweden has 1271 islands (of which 392 were inhabited in 2012; of these, 74 had only one inhabitant), Denmark has 75 islands (of which 46 were inhabited in 2009; of these, 5 had only one inhabitant) and Norway has 2004 islands (of which 323 were inhabited in 2017; of these, 49 had only one inhabitant). Differences between the Scandinavian countries were found. Island life is more subsidized in Denmark and Norway than in Sweden. Denmark considers itself to be an island nation, whereas Sweden does not – although Sweden has many more islands than Denmark. In Norway, the island concept is strangely absent – there is an enormous interest in “kystkultur” (coastal culture) but “øykultur” (island culture) is seldom or never mentioned.

ROOM AMELAND (Hotel Schylge)

Islands identities

Chair: Hideki Hasegawa**C Insular borderlands**Nathan Bond, University of Melbourne *Australia*

While archipelagic and other insular borderlands are highly significant on a global scale, they are rarely analysed as distinct spaces. This presentation sketches out 'insular borderlands' and indicates what may be distinctive about them. Drawing on fieldwork material from the archipelagic borderlands and divided islands of northeast Borneo, the presentation explores how studies of borders and islands may empirically and theoretically relate to each other. The two share interesting features: they are often thought of as bounding/bounded when in fact they are also characterised by flows and relations; as fetishes they occupy a significant place in our cartographic imaginary; they are increasingly significant as scales for locality-based identity formation; recently they have been marked out as critical spaces in the 'Anthropocene'; etc. Such similarities, as well as possible differences, will be highlighted through this empirically informed discussion of insular borderlands. By positing the concept of the insular borderland, the presentation thus aims to foster a productive dialogue between island studies and border studies.

D Corsican nationalism and territorial continuityHideki Hasegawa, Yokohama National University *Japan*

Nationalist victory in Corsica in 2015 is under the European influence of regional nationalist movements e.g. independence referendum in Catalonia and Scotland, however, island nationalism is also in the different context from those of European continent. We can observe several reasons about the nationalist victory and left wing's crushing lost. One of them is that nationalist groups raised a renewal policy which was not considered as a nationalist idea until that time; Territorial Continuity.

This concept is a maritime and flight transport policy between Corsican local government and French authority. Traditionally, in other word, at the time when the existing parties ruled the island, this policy was for price suppression in Corsica (the price of some articles is much more expensive than that of French continent because the monopoly of one private shipping company on the maritime between Europe and the Island existed). In the 1990's this policy changed its aim from the price suppression to maintenance of semi-nationalised shipping company SNCM against private multinational conglomerates newly entering. In the 2000's European maritime and shipping policy, the Cabotage strongly damaged traditional Territorial Continuity and lead the break up of SNCM in 2016. Corsican nationalist, new ruler of Corsican executive from 2015, has been examining a renewal Territorial Continuity since the beginning of the Assembly election campaign, and now is negotiating with French government and European Union. In this conference session, I talk about the content and effect in detail of the newest policy of Territorial Continuity under the rule of Corsican nationalist.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Rethinking models for island development (continued)

Chair: Jennie Teasdale**A Nature Boulevard Terschelling**Gerard Roos, Stichting Natuurherstel Baai
Dellewal *Netherlands*

In the Wadden Sea UNESCO World Heritage site, the Baai Dellewal Nature Restoration Association aims to save the only natural bay in the Netherlands. At Dellewal Bay, the Wadden Sea's characteristic intertidal sand, mudflats and wetlands can be experienced in all their glory: from the high top of a white sand dune to the blue hue in the clay from the mud, all in the midst of the bay's typical vegetation. Dellewal Bay is a unique setting where visitors can see, smell and feel the characteristic scenery of this world heritage site. The Association plans to buy the land from the municipality to guarantee that building is no longer allowed in this area. Encroaching buildings and new developments are the greatest threat to this unique area. To purchase the land, the Association has turned to crowdfunding: money donations in exchange for square meters. To conserve and strengthen this unique area, a team of experts developed a concept professional nature restoration plan, where "de-building" is a central term. Disturbing buildings should be removed for nature to blossom. The association has been successful in finding commitment and supporters amongst local politicians, many of the local residents, and amongst frequent tourist guests. We believe that instead of adding growing economical development in a traditional way in the area, rather stopping it will add value to Dellewal Bay, setting it in contrast with other overdeveloped areas.

B Creative or deceptive? The economics of citizenship programmesRose Marie Azzopardi, University of Malta *Malta*

Small economies and particularly islands are often accused of finding creative means of sourcing income, at times bordering on legal yet dubious and debatable schemes. The most recent that has come under attack, although it has been used by smaller countries for decades, is the selling of citizenship or residency. There is a new focus on this form of revenue generating mechanisms, as this may be providing a means to attract criminals and ways to launder money. It may also offer tax evasion routes. Since such schemes attract the richer crust of society, the expectations are that such individuals have ulterior motives for requiring another country to reside in or be a citizen of. Can such schemes be viewed solely from such a negative perspective? Do they only entice persons with bad intentions or do such programmes also help in the economic development of these small countries? This paper looks at the schemes which are presently in place worldwide and then focuses on the recent scheme adopted by Malta. This programme has been met with significant resistance by the European Union, however, it needs to be acknowledged that other EU member states have similar citizenship programmes. What role is the programme maintaining in the economic development of Malta? How successful has it been and what are the expectations for its future continuing process?

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Rethinking models for island development (continued)

Chair: Jennie Teasdale**C Innovative models of care delivery in archipelagic communities**Rosi Alexander, Robert Gordon University
Scotland

The demographic sustainability of island communities depends on such aspects as access to housing, health care, education and employment. In particular the delivery of health and social care services can be costly to small populations, and economies of scale can lead to health services being centred in larger urban communities, or in the larger island within an archipelago. This paper will explore the particular challenges of delivery of social care within the smaller islands of the Orkney archipelago in the UK. Faced with an ageing population, and limited on-island care facilities, older people are frequently expected to travel to the main island to access health care, for respite care and for residential care facilities. As a result there is an out-migration of some of the most elderly and vulnerable island residents, who leave their islands to access health care. This paper will present a research project, supported by the island communities themselves, designed to explore the issue of health and social care provision on the smaller islands. In particular the findings show that for small island communities issues of care provision are often combined with issues of housing, employment and education. As a result the research has explored innovative models of care delivery for these small island communities that also consider the wider context of island development and address issues of health, education, employment and housing together.

D ISISA conferences come and go, but what do they leave behind?Bob & Jennie Teasdale, independent researchers
Australia

Kangaroo Island hosted the thirteenth ISISA Conference in 2017. The KI Mayor stated three key objectives in hosting the Conference: a successful event for all participants, in which their academic goals were achieved; an opportunity for all participants to explore and appreciate the unique aspects of Kangaroo Island; and an enduring, positive legacy for participants, and for the Island itself. Those who responded to the Conference evaluation indicated the first two objectives had been achieved. Participants felt their presentations were heard, and their understanding of islandness broadened by keynote addresses, plenaries and conversations. The community day enabled everyone to explore the unique social and geographic aspects of the Island. At the end of the Conference a Declaration was unanimously adopted. It summarized academic outcomes and provided guidelines for participants to lobby institutions and governments in their own contexts. But after the Conference, when overseas delegates had returned home, was there a legacy left on Kangaroo Island? Had local instrumentalities taken notice of the Conference outcomes and considered how they could put them into practice? This paper addresses the impact on the host island. It outlines the processes used on Kangaroo Island to implement the declaration locally. In recent months we have started systematically to research the impact of the Conference on four key institutions: The Kangaroo Island Commissioner's office, the Kangaroo Island Council, Kangaroo Island Community Education and the Kangaroo Island Natural Resource Management Board. Positive impacts are documented and ongoing challenges analyzed. We then reflect on how an ISISA conference can leave an enduring positive legacy on a host island, and steps that might be taken to ensure this happens.

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands and forms (of visual and narrative) representation

Chair: Martin Döring**A Megabytes of doom: Exploring disaster through island photography**Ilan Kelman, University College London and University of Agder *United Kingdom*

A disaster, by definition, combines hazard and vulnerability, yet much public imagination is captured by hazards, such as earthquakes and hurricanes, and hazard influencers, such as climate change and El Niño. The real and root causes of disasters are inevitably vulnerabilities which are long-term conditions created socially and politically stopping some people and communities from being able to deal with hazards and their influencers. Consequently, 'natural disasters' do not exist and disasters are processes rather than events. Such messages are often sidelined because they become uncomfortable in failing to conform to the typical, unscientific discourse that 'natural disasters' are extreme, unpredictable, inevitable events occurring due to nature. Where reams of academic and policy publications have failed to communicate basic disaster science to the public, could photography succeed, especially from island locations which are frequently iconised as being vulnerable to catastrophe including being wiped out by climate change? Using the author's own photography from islands around the world, disaster vulnerability and resilience are visualised, illustrating the science behind disasters and how to deal with disaster risk. The fundamental challenge is that, too often, the real disaster (irrespective of hazards and their influencers) cannot be clearly depicted by images especially when the island characteristic portrayed for tackling disasters is exactly what those with the power to reduce disaster risk prefer instead to exploit for creating disaster risk.

B The notion of de-territorialisationBochra Benaissa, The University of Northampton *United Kingdom*

The notion of de-territorialisation applies to other fields besides spatiality and geography. This concept has been re-appropriated by numerous disciplines in science and humanity. The isolation can prove to be de-territorialising for those who go through it. In Friday, Michel Tournier asks the fundamental question that is always asked in the Robinsonades: How does a man survive alone on a desert island? Tournier answers this question by putting the protagonist through a long metamorphosis that goes through different phases: Robinson de-territorializes and acts like a savage and re-territorialises by organising himself according to precise ritual. Mimicry is one of the most economic forms of de-territorialization and becoming as Gilles Deleuze suggests in *Milles Plateaux*. When a man imitates another creature, he makes a new body out of his human body. By imitating Friday unconsciously, Robinson reinvents his ancient body and becomes what he imitates. The imitation is then, the strongest most effective exercise of creation and bodily procreation. But before this transformation, every window of hope for Robinson is shut, and every link that attaches him to his past and morals is broken, such as his hope of leaving the island. The influence of Friday and solitude contributes to his metamorphosis, becoming, deterritorialisation and reterritorialisation. The moment when Robinson abandons his ancient habits to follow those of Friday, he discovers new perspectives that leads to living happily on the island, in communion with nature. Robinson is in a phase of his future that corresponds with the man he is becoming.

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands and forms (of visual and narrative) representation

Chair: Martin Döring**C Notions of home in the construction of island identity**Rosie Alexander, University of the Highlands and Islands *Scotland*

Notions of 'home' in construction of island identity by young islanders Despite the late twentieth century rise of globalisation, the recent spatial turn in the social sciences is demonstrating the continued importance of geographical space on our lives and our identities. As well as our current geographical spaces, our past places remain important in our construction of our notions of selfhood, and the ways in which we view our futures. Considering these issues in relation to islands, this paper will explore the significance of island places to young islanders from the Orkney and Shetland islands (in the UK) in their narrative constructions of themselves and the ways they conceptualise their futures. Drawing on data from an ongoing PhD project on the career and migration pathways of higher education students from the islands of Orkney and Shetland in the UK, this paper will demonstrate the particular significance of the concept of 'home' in constructing islander identity. In this research 'home' becomes a signifier that encompasses not only direct family of origin and bricks and mortar, but the wider social and cultural context of the islands. In addition the notion of 'home' also become part of lifecourse narratives whereby young people envisage leaving their island homes while they are young, and potentially returning to their islands, when they create their own (new) homes with partners and children in the future. This paper will argue that the nature of islands, boundaried by the sea, and yet highly interconnected with other communities, gives the concept of 'home' a particular significance for island communities and islander identities.

D Emotional 'Islandscapes': Islandness and effective senses of place among islanders on the North Frisian Islands (GER)Martin Döring and Beate Ratter, University of Hamburg *Germany*

In recent years, there has been an upsurge in research on affect and emotion in geography and the study of cultural landscapes. Following these strands of research, the notions of affect and emotion designate an active and long neglected sensorial bonding human beings form with their environments. The recent turn towards emotion and affect is, however, motivated by the perceived need to analytically and methodologically expand the scope of research by studying emotional and affective textures pervading spaces and places. Based on these developments and the long standing approach of sense of place, the paper investigates the interplay of islandness, sense of place, affect and emotions among islanders on the three North Frisian Islands Amrum, Sylt and Föhr. We analyse the emotional and affective bonds islanders form with their islands in the context of semi-structured interviews. These will be examined from a 'grounded' perspective and refined by a linguistic in-depth investigation to tackle different affective interpretative repertoires permeating emotional 'islandscapes'. In sum, the aim of the paper is threefold: it consists in conceptually combining research undertaken on islandness, sense of place and emotions to uncover the affective bonds islanders form with their 'islandscapes'; it provides a methodological approach for analysing affect and emotion in an island-studies context; and it reflects on the possibilities to 're-emotionalise' participative management in terms of an affective sense of island.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Unique ecological characteristics of islands

Chair: Martin Stock

A Participation in island and nature management

Remi Hougee, Staatsbosbeheer *Netherlands*

In the beginning of the 20th century The National Forest Service (Staatsbosbeheer) arrived on the island of Terschelling. Since 1910 the organisation manages almost 80% of the island, including all the forests, dunes and salt marshes. Although Staatsbosbeheer officially is the owner of all the nature areas, in fact the island still belongs to its inhabitants and we say we are only managing it. Tourism is responsible for 80% of the islander economy, with a lot of facilities and activities in nature areas. This obviously causes tension from time to time. For a long time the organisation was mentioned as 'the State': far away, without the possibility to have any influence. This resulted in conflicts and misunderstanding by residents and politicians. Since the nineties the people on the island became more involved by the projects and plans. Instead of presenting a plan as a fact in a room full of people, we now organise excursions with villagers to explain our goals and to hear what people think and want. Since 2016 the project 'Echt Terschelling' became part of our philosophy. This project merges all the different communication actions into one main plan: before working out a nature project, we first organise excursions, followed by online surveys (our panel is around 1000 people) and of course frequent postings in the (online) media. This way people are part of the projects on their island. We experienced that since then, the mood switched and there is more understanding and respect: for us as Staatsbosbeheer, but also from Staatsbosbeheer for the inhabitants. Our experience: inside a room full of people you create your own problems, go outside and problems will get solved.

B Ecological services of Viti Levu (Fiji)

Kei Kawai, Api Cokanasiga, Ryoichi Ogawa, Takashi Torii, Satoru Nishimura, Joeli Veitayaki, Kagoshima University *Japan*

The status of the Earth's environment and its future can be interpreted from different perspectives. One of these posits is that the Earth is home to different ecosystems, and the functions offered by these ecosystems have been labeled as ecological services. Further, the importance of these services has been evaluated, and the services are categorized mainly as foundational, supply, adjustment, and cultural services. The eastern coast of the Fijian island Viti Levu is densely populated with the filter-feeding bivalve *Anadara* spp., which is an important source of food and income for the local fishermen (supply service). In addition, the bivalves filter particulates are suspended in the water, thus improving water quality (adjustment service), and the shells are used in fishing gear (cultural service). The harvest and sale of these bivalves play an important role in the physical environment of both coastal and inland regions (foundational service). To gain a better understanding of the foundational service offered by the bivalves in Eastern Viti Levu, in 2018, a survey was conducted on (1) the approaches used to harvest, donate, and sell these bivalves, and (2) the regions to which these bivalves are transported to. We will discuss the directions that should be pursued in order to maintain a sustainable, normally functioning relationship between the people and environment from the perspective of the foundational service provided by the bivalves.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Unique ecological characteristics of islands

Chair: Martin Stock

C WADSnext? Morphodynamic modelling tools for the sustainable management of barrier coasts

Koen Reef, University of Twente *Netherlands*

While coastal management strives for sustainable management of barrier coasts, the required knowledge basis is still incomplete. The morphodynamics of barrier coasts, and particularly the interaction among the various inlets, are not yet understood. Sustainable management is further complicated by climate change and human intervention as well as conflicting interests (economy, coastal safety, ecology). The WADSnext!-project aims to explain the long-term morphodynamic development (over decades to centuries) of the inlets and back-barrier basins in a mesotidal barrier coast displaying its inherent dynamics and further subject to environmental and anthropogenic changes. More specifically, we investigate the influences of storm-induced breaches and the geometry/topography of the back-barrier basin. To do this systematically, we adopt a morphodynamic modelling approach, choosing appropriate levels of detail for the physical processes and geometry/topography. This results in a computationally efficient aggregate-scale model of barrier coast dynamics. Validation will be done by comparison with historical data, existing empirical relationships and other observations. The innovation of this project lies in its focus on inlet interaction, the applied modelling techniques (stochastic, aggregated-scale) and its integral, long-term approach. Results indicate that storm-induced breaches have a larger chance at survival if the barrier coast is not yet saturated, the breach is far away from an existing inlet, and the breach has a large width. The effect of basin geometry appears to be that inlets tend to cluster near the wider part of a basin, and less in the narrow part of a basin.

D Born to be wild!

Martin Stock, National park Administration, Schleswig-Holstein *Germany*

In the German part of the World Heritage site eye-catching geomorphological landform processes could be observed within the last decade. The outermost northern part of the Schleswig-Holstein Wadden Sea area is characterized by three large supratidal barrier sandbanks which are lying in the core zone of the National Park. On one of these sandbanks, the Norderoogsand, which covers an area of about 8,5 km², growing primary dunes with associated vegetation developed in the early 2000s. In the following years the primary dunes grew up and formed a clearly recognizable primary dune field. Already three years later a dune bow with towering white dunes has formed and a new born dune island of about 14 ha appeared visible on the horizon. We studied the geomorphological development of the barrier sandbank and the emerging island since the early 2000s by means of high resolution spatial LIDAR data. In 2013 a first field campaign was carried out to measure extent, elevation and vegetation composition of the growing island. Since that year spatial data, vegetation data and breeding bird data were collected on an annual base to follow the fate of the island. Since its formation the island functions as an important breeding ground for more than 350 breeding pairs of mainly gulls, oystercatchers and greylag geese, but also rare species like the peregrine falcon. In our talk we will outline the morphological and biological development of the island on the supratidal barrier sandbank. Furthermore, we will take a look at the possible future of the island in times of an accelerating sea level rise and a retreating coastline.

ROOM AMELAND (Hotel Schylge)

The Bridge Effect: Critical Reflections in the Age of Technological Solutionism

Chair: Laurie Brinklow

A “Guid gear gangs into sma buik”: Small bridges, big success?Andrew Jennings, University of the Highlands and Islands *United Kingdom*

Bridges do not have to be big to have an impact, nor do they need to connect an island to a large mainland. Rather, they can be small and they can connect one island to another. This paper will look at the case of the short Burra / Trondra bridges, which were built in 1972, and connected these small islands to the main island of Shetland, ironically called Mainland. They were built to counteract the falling population in this western area of the archipelago, which had already seen the abandonment of a number of small islands. The population decline has been stopped, and many people have moved to the islands, however, what has been the cultural, economic and social impact of these fixed-links over the last four decades? Fixed links in Shetland are still a live issue, debate rages over the Yell-Mainland and the Bressay-Mainland links. An assessment of this historical example will help inform the debate in Shetland and elsewhere where island to island links are contemplated.

B The Confederation Bridge: A permanent fixture but a lost island?Janice Pettit, University of Prince Edward Island *United Kingdom*

A causeway to link Prince Edward Island to New Brunswick was proposed in the mid-1960s, and looked like it might actually take shape when access road construction began on both the island and mainland. But the idea of a causeway was promptly dropped when provincial and federal politicians decided to refocus on a development plan for the island. Islanders opposed to the causeway were given a reprieve for the next twenty years until talk began again about building a fixed link between the two provinces.

When the premier of the day suggested a plebiscite vote, both those opposed and those in favour of the link rallied their two sides at public meetings to ensure their messages were heard. The “no” side raised a number of issues, but their main concern centred around the perceived loss of the “island way of life” if a fixed link connected the island to the mainland. During the 1989 plebiscite, Islanders voted just under 60 per cent in favour of a fixed crossing, and, in 1997, the Confederation Bridge opened to the public.

Given all that was said and written regarding concerns about the loss of islandness, it is somewhat surprising that research has not been conducted to determine if the bridge has in fact had this impact. Have Prince Edward Islanders lost their “island way of life”?

This presentation, drawn from the thesis research of a UPEI Master of Arts in Island Studies student, provides some insight into whether Prince Edward Island residents still consider themselves islanders and if their island identity has been affected by the fixed connection to the mainland.

ROOM AMELAND (Hotel Schylge)

The Bridge Effect: Critical Reflections in the Age of Technological Solutionism

Chair: Laurie Brinklow**C Fixed links in Shetland: A continuing debate**Charlotte Slater, NAFC Marine Centre *Scotland*

The Islands Bill being developed by the Scottish Government for the Western Isles, Orkney, and Shetland is one of the first of its kind globally. As part of the Bill, an Islands Plan will be developed months from the bill being accepted. The concept of the plan is to put policy and legislation in place so that island communities are no longer marginalised by central governments and are given a sustainable future. This has led to much discussion about the current internal and external links to and from island communities and what could be done in the future to make islands a more viable and sustainable place to live.

Fixed links to the outer islands in the Shetland archipelago have been a contentious issue for decades. There are many arguments for and against linking Bressay, Yell, and Whalsay to the mainland of Shetland, and linking Unst to Yell. There is also the problem of who would pay for the initial construction and upkeep of such structures. In addition, the looming Brexit negotiations put into question the availability of funds for large-scale projects in the next few years.

This paper aims to follow current discussions on the topic of fixed links and the thoughts of people who live and work in these island communities. Would fixed links benefit communities or would they potentially erode the sense of identity felt by islanders in these remote communities?

D Virtual bridges: Connecting islands through technologyFleur Ward, University of the Highlands and Islands *United Kingdom*

In the past, bridges to islands have been considered by many islanders to establish fixed transport and communication networks. Subject to vulnerabilities, island communities rely on air and water for their connections to mainlands and other islands. In recent decades, information and communication technology (ICT) has become a cornerstone of modern life with virtual bridges becoming the main connection point for remote island communities to remain sustainable. The growing accessibility of e-services and virtual networks has created a sense of inclusion for islanders in a globalising world. ICT is revolutionising and revitalising islander ways of life, reinvigorating social cohesion, and empowering peripheral island economies.

In this discussion a comparative approach exploring the case of the Scottish islands will be explored to showcase how they have been influenced by the virtual sphere, are actively bridging the digital divide, and have capitalised on ICT to change their relationship to the mainland. Islanders face challenges in accessibility to ICT due to inconsistent ICT infrastructure development, however, virtual participation is changing the way islanders live. A contemplation of whether physical bridges are still necessary or effective in times of increasing ICT coverage and capability will be considered.

ROOM AMELAND (Hotel Schylge)

The Bridge Effect: Critical Reflections in the Age of Technological Solutionism

Chair: Laurie Brinklow

E The phenomenology of the crossing: What we're missing

Laurie Brinklow, Prince Edward Island *Canada*

The crossing – a symbol of separateness and connectedness – is one of the key markers of islandness. Indeed, many people only realize they're on an island when they have to leave. And what better way to anticipate the promise of an island while sailing toward it: "crossing time" preparing you for "island time"? While thinking of the crossing as romantic is a rich way to explore one's sense of islandness, crossings can also involve being cooped up in a hot car with screaming children in a ferry line-up, being stuck in the ice or on a plane for hours, missing the ferry by a minute, or not being able to get to or from the island when your life might depend on it.

With boats now being replaced by planes and bridges and tunnels, how islanders experience the crossing is changing. A 45-minute ferry ride across the picturesque Northumberland Strait to Prince Edward Island is now a 10-minute drive with a concrete view. A plane ride from secure gate to secure gate in a sealed metal tube – and you could be going anywhere. Yet, despite the changes in transportation, still the island persists, providing the distinctiveness that a passage over water ensures. This paper explores the phenomenology of the crossing in its various forms, and kicks off the discussion about the effects of links on people's sense of islandness.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Islands as icons in sustainability discourses and laboratories for innovation

Chair: Nanne van Hoytema**A Cultural Landscape development**

Bruno Doedens and Juul Limpens, SLeM
 - Stichting Landschapstheater en Meer and
 Wageningen University *Netherlands*

For centuries the Netherlands has fought against the sea, building ingenious constructions all along the Dutch coast. These constructions successfully protected the inland against flooding, but came at a cost: restricting the dynamics of the coast constrained its capacity to move along with natural processes. Nowadays, the Netherlands no longer fights against but learns to move along with nature, using concepts as 'dynamic coastal management' and 'building with nature'. In this presentation Bruno Doedens (SLeM) argues for the next step: considering coastal management as a cultural phenomenon. An approach in which nature is embraced and attention is paid to innovation, courage, imagination and dialogue with the public. A strong coast is a vital coast in which economy, residents, culture and nature reinforce and enrich each other. Bruno will illustrate his ideas about 'cultural landscape development' with the projects Annual Rings (2006), Pannenland (2013), Wadland (2014) and Windwerk (2016), developed on the Wadden Island of Terschelling in collaboration with Joop Mulder/Sense of Place as part of the annual festival Oerol. In these projects, the dynamic dune- and saltmarsh forming processes are made visible, stimulated and enriched. By bringing different worlds together: science and art, culture and nature, education and practice, cultural landscape development generates both enthusiasm in people as well as new insights for additional forms of coastal management. The island, existing at the interface of land and sea strengthens the impact of the message. It is here where the natural dynamics are most easily embraced as part of the human DNA and consciousness enlarged by active participation. *Netherlands.*

B The island as a front runner in energy transition

Albert de Hoop, Municipality of Ameland
Netherlands

The island as a front runner in energy transition
 By Albert de Hoop, Mayor of the municipality of Ameland
 Ameland is a small island in the Wadden Sea (Waddenzee), in the north part of The Netherlands. The Wadden Sea, an intertidal zone of the North Sea, is rich in biological diversity and was inscribed on UNESCO's World Heritage List. The isle of Ameland (3,500 inhabitants, 550,000 to 600,000 tourists annually) years ago articulated a strong ambition for sustainable energy, energy self-sufficiency and reduction of CO₂-emissions. To reach these goals Ameland formed a consortium of leading companies in the energy and technology field. The Sustainable Ameland Consortium, today consisting of eight members, aims to be 15 to 20 years ahead in energy transition. In the past years some remarkable projects were realised, such as the Sustainable Light project (70 percent energy saving in public lighting), Solar Park Ameland (23,000 solar panels, 6MWp capacity) and the hybrid heat pump project (installations in around 130 private households). As we speak the consortium is working on the Ameland Smart Grid project (EnergieNet Ameland) and the electrification of the gas production sites of NAM. In this talk we will explore the success factors of Sustainable Ameland. On the one hand Ameland could accelerate quickly from the start because of the involvement of powerful consortium members. On the other hand a unique civil participation process was started that seems to be a necessity to support the major changes involved. For a successful transition both bottom-up and top-down approaches are needed: top-down to set a target perspective and bottom-up to create co-ownership.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Islands as icons in sustainability discourses and laboratories for innovation

Chair: Nanne van Hoytema**C Turning an old city into a smart City: the case of Valletta**Alexiei Dingli, University of Malta *Malta*

This paper describes the different initiatives planned for Valletta, the 450 year old Capital City of Malta and the smallest Capital City of the European Union to turn it into a Smart City through a number of forward looking projects. All these initiatives are bundled as part of various projects which together create an intelligent city wide system capable of harvesting data from various sources (such as automatic number plate recognition (ANPR) technology, low cost sensors installed throughout the city, etc.) and process it using modelling and simulation software able to make predictions about the status of the city. This information is then relayed back to the users in real-time using a mobile app thus providing users with precious information about their life in the city. The Artificial Intelligence component is used to make inferences on the data and if necessary take autonomous actions (such as raise an alarm if it detects that a person in a vulnerable group is in danger). Furthermore, it will provide valuable information to the city's administration thus ensuring that decision makers can take informed decisions at the right moment. The system is low cost and the same model can be easily implemented in other historic cities with minimal change. In this talk, we describe the different elements of the project and report on the parts which have already been implemented and tested.

D Eco-tourism and sustainable economy in the Adriatic SeaNanne van Hoytema, By the Ocean we Unite Foundation *Netherlands*

Small island communities face an intricate web of challenges. Their culture, diet and income are interwoven with their marine environment, while their small scale places limitations on sustainable resource and waste management. The SILBA project is an interdisciplinary collaboration between the community of the island of Silba, Croatia, scientists and NGOs. It aims to create a long-term sustainable interaction between the community and its surrounding ecosystem through eco-tourism as a stable source of income. The limiting resource on the island is drinking water. Implementation of condensation-based water collection systems will reduce expensive import of water and single-use plastic bottles from the mainland, while providing an opportunity for small-scale agriculture, enhancing self-reliance. Additionally, the waters around Silba will become part of a marine protected area to protect endangered seagrass habitats. These habitats can then become a source of income and education through e.g. SCUBA diving tourism. The limited financial options of small islands make sustainable waste processing complex. As part of the project, new systems will be implemented for waste (both produced on-island and washed ashore) collection and recycling. Within the waste management, specific attention will be paid to plastics. Plastic pollution is a major issue in the Mediterranean and impacts both marine life and income through tourism. Plastic waste production on the island will be minimized by education and introducing sustainable alternatives, while plastic waste from offshore will be collected regularly from the environment to maintain clean shorelines for both local wildlife and tourism.

ROOM TEXEL (Maritime Institute Willem Barentz)

Safety and security on islands

Chair: Eva Maria Knoll**A The impact of the refugee crisis on the Greek islands in the Aegean Sea**Dimitris Ballas, University of Groningen
Netherlands

The impact of the refugee crisis on the Greek islands in the Aegean Sea. The Greek islands in the eastern Aegean Sea have recently been described as hotspots in the worst global refugee crisis in recent history. These islands are located in a one of the least affluent island regions in a country going through financial implosion following a sustained recession. Nevertheless, there has been a remarkable response to the refugee crisis by the inhabitants of these islands who reached out to refugees and who were also joined by NGOs and people coming from all over the world. This paper considers and analyses the impact of the refugee crisis on these islands as well as the responses of the local population and the potential for the integration of refugees. In particular, the paper considers and discusses key factors that affect the responses of these local island communities to the crisis and their ability to integrate refugees in the short and long run, including social and demographic characteristics, local governance structure, social capital, local labour market conditions, local, national and international media discourses, social attitudes, social norms and values, historical background and memories and the potential role of remoteness and insularity.

B Island Governance Topic: Island disaster management and social impact analysisMarsel Fahi, Research Consultant *Virgin Islands*

This abstract represents a brief synopsis of the BVI disaster management and, as a consequence, its social impact. We intend to contrast the BVIDDM with established plans of the Cook Islands which is similarly prone to disasters. The Virgin Islands are a group of islands east of Puerto Rico belonging to Great Britain and Northern Ireland managed by a locally elected government. The islands experience storms annually with most occurring during the months of July to September so a department was established in an effort to mitigate against widespread loss of life. Central to the topic is our position that the social unit in any society/community is the family and is the main basic unit worth the expended effort in hopes that the community can resume normal activity following abatement of the storm. So we will look at the impact of how disasters are managed in terms of planning and in the response, in event of a direct hit, by local authorities in relation to the social unit (family). The primary purpose of the family is to procreate (or produce offspring) – starting off as a couple that grows developing the next generation while furthering the advancement of society. One of any government's desire is to safeguard its primary asset – its tax base – its people. One example that illustrates government's will to protect is healthcare, another is education of its youth. By ensuring its people are healthy and its youth are educated the success of the society is ensured and at the same time not be a burden on the public purse as they assume productive role in society. The income they help generate as well as the potential tax to create is a strong motivation for the government.

ROOM TEXEL (Maritime Institute Willem Barentz)

Safety and security on islands

Chair: Eva Maria Knoll**C Rhetoric and reality of islander migration linked to climate change**Ilan Kelman, University College London and University of Adger *United Kingdom*

Island communities and islanders are frequently iconised as needing to prepare to flee the rising seas under climate change. Many migration initiatives are currently ongoing, driven almost solely by views of climate change, in island communities of places such as Kiribati, Papua New Guinea, Alaska, and Maldives. Without denying the potential for forced migration linked to climate change, as well as the specific examples where climate change is the main attributable cause of migration, much of the discourse and claims fail to account for deeper and wider contexts and understandings of reasons for migrating and not migrating. Instead, both the media and scientists often parrot uncritically suggestions of islands disappearing leading to climate conflict, climate disasters, and climate refugees. The reality is that provisos, subtleties, nuances, and complexities engrain choices and lack of options for islanders and islander communities considering moving (or not) due to climate change. This reality tends to be ignored in favour of the populist rhetoric of climate (change) refugees. Instead, based on definitions, climate change is merely one influencer amongst many of islander migration and non-migration, with degrees of influence ranging across a wide spectrum and depending on the exact situation. While still accepting that climate change brings significant challenges for living in many island communities, more grounded discussions would assist in contextualising climate change's influences and non-influences on population dynamics.

D Island information ecosystems: exploring the role of the 'Bōsai Musen' emergency & disaster broadcasting system in the everyday life of Amami islandsEvangelia Papoutsaki and Sueo Kuwahara, UNITEC Auckland and Kagoshima University *New Zealand and Japan*

Shichōson bōsai gyōsei musen hōsō (local government disaster administration wireless broadcast), or bōsai musen (disaster wireless) as it is mostly known, can be found in all Japanese islands which experience more heavily the typhoon season. While emergency broadcasting has been the main function for bōsai musen, local governments often use them to broadcast public announcements. They are both part of a national system that can send warnings to local governments in just a few seconds. This extensive nationwide disaster-warning network is currently shifting to a digital phase which can link to mobile phones, insert messages into radio and TV broadcasts and automatically update information on local government's website. This paper is based on research conducted in the islands which sought to map their communicative ecology. The researchers explored the Amami Islands communicative ecosystems that is part of existing island communities' structures and identified communicative practices that contribute to sustaining island resilience and sociocultural cohesion. One of the key findings from this research was the use of bōsai musen and its integration in the islands information ecosystem that has contributed to their resilience. Many island communities still rely heavily on this system to get information not only about weather emergencies but also vital community related news. Most island communities have either a loud-speaker mounted on a tall pole in a central location or a device installed in individual homes or a combination of both. The degree of access, frequency of use, amount and type of information and engagement with it, as well as their technology status (digital or analogue, single or multi-channel) varies significantly depending on individual island or island community communicative ecology.

ROOM TEXEL (Maritime Institute Willem Barentz)

Safety and security on islands

Chair: Eva Maria Knoll**E From personal to anonymous blood security: Changing futures of blood donors and blood donation in the Maldives**

Eva Maria Knoll, Institute for Social Anthropology, Austrian Academy of Sciences
Austria

Donated blood has a unique potential to open up futures – albeit in different trajectories. While access to this vital substance is a self-evident medical service in most Western countries, donor blood security can be a challenge for island communities. Even more so in the developing world. In the Maldives donor blood procurement is in transition from a still prevailing replacement donor scheme, where a donor has to be provided by the patient when blood is needed, to the WHO ideal of the voluntary unpaid donor regimen. This paper scrutinizes the changing futures of blood donors and blood donation in the Maldives by zooming in on a Maldivian blood donor who donated regularly for about 30 years. Remarkably, his first encounter with blood security was entangled with a major international security incidence. On November 3, 1988 a group of armed mercenaries from the People's Liberation Organization of Tamil Eelam (PLOTE), a splinter group of the Tamil Tigers, landed in the capital island Male' to overthrow Maumoon Abdul Gayoom's government. This Maldivian coup d'état was prevented by the Indian Army; and the foundation was laid for the career of a 'professional blood donor'. This paper highlights donor blood accessibility as a security topic that might not come to mind at first. The paper further emphasizes and exemplifies the value of bottom-up approaches toward an understanding of historic developments, contemporary impacts and dawning futures of global changes in island settings.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Explorations in Relational and Archipelagic Island Studies

Chair: Adam Grydehøj and Jonathan Pug

(This session is sponsored by the International Geographical Union's Commission on Islands)

A Decolonializing Papua New Guinea: Discourses of development and the conceptualization of Papua New Guinea as a Pacific island stateYaso Nadarajah, RMIT University Melbourne
Australia

During the late twentieth century, Papua New Guinea did not follow any of the predicted paths to debilitating crisis or collapse. Neither did the country follow the spirit of its own constitution. Instead of a complex but reflexively negotiated meld of customary and modern modes of governance, the two forms of politics exist in ugly tension with each other, often to the detriment of local communities. As politicians reach out to mainstream ideas of development, and the island sinks deeper into a messy mixture of foreign aid and extraction industries; it is obvious that a subalternity to Western expansion has given way to a radical change in the cultural landscapes, seascapes, imaginary and power structures of this island state. This paper attempts to capture the ruptures and transformations of the islanders' sensibilities as they negotiate the deep ideological legacy of colonialism and the challenges of revitalising discourse on identity, history and their place as a Pacific island.

B Archipelagos of the mind: The construction of archipelago relationalities in imperial and contemporary China.Adam Grydehøj, Island Dynamics *Denmark*

Archipelagos have long played an important role in the Chinese worldview. Already in the 3rd Century BCE, expeditions were sent out in search of the three sacred islands of Penglai, Fangzhang, and Yingzhou. Seeking to obtain immortality and create paradise on earth, rulers ordered the reproduction of this mystical archipelago through landscape architecture, and numerous Chinese imperial gardens incorporated the so-called 'one lake, three mountains' 一池三山 design. Strangely, at the same time as rulers pursued these mythical islands, the altogether real islands around China's coasts were regarded as backwards and peripheral. Today, we are witnessing a revival of Chinese archipelago-making, not just in the construction of artificial islands in the South China Sea but also in the attempts to build new archipelagic relationalities through the Maritime Silk Road and Arctic Silk Road initiatives, by which the Chinese state seeks to create links between ports and islands across the Indian Ocean and Arctic Ocean respectively. This presentation uses cases from China to illustrate how archipelago relationalities are created in practice and to consider why archipelago spatiality maintains its power and appeal.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Explorations in Relational and Archipelagic Island Studies

Chair: Adam Grydehøj and Jonathan Pug

(This session is sponsored by the International Geographical Union's Commission on Islands)

C Turning an island in relational space: Indigenous movements on Pongso no Tau (Orchid Island), TaiwanHuei-Min Tsai, National Taiwan Normal University *Taiwan*

Islands are commonly conceptualized in the absolute space of cadastral maps, drawing upon central metaphors of isolation and confinement, while the relationships between local people and their island/ocean home spaces have often been neglected. However, over the past few decades, a growing number of island studies have emphasized the relational characteristics of islands; on geographical relations in large scale or immediate archipelago; on inter-island movements; and on island-sea-ships relations. This paper presents the changing land-ocean and space-time relationalities of a relatively isolated island, Pongso no Tau (Orchid Island), a 45 km² small island that is home to around 4200 indigenous Tau people. The distance between this small island and the main island of Taiwan is 65 km. Three phases will be discussed: 1) The shifting relationship of everyday space-time from an affluent self-sufficient island to an enclosed, peripheral archipelago, resulting in eco-colonialism; 2) the indigenous movements both in resistance to nuclear waste storage and to safeguard traditional ocean/land common territories, which have turned small-large island relations in a new direction; and 3) the recent further movement in revitalizing traditional knowledge, calling attention to the relational space-time of island life for a more sustainable island future.

D From thinking with to phasing within relation: The shifting stakes of island studies in the AnthropoceneJonathan Pugh, Newcastle University *United Kingdom*

Over the past few decades there have been relational and archipelagic turns in island studies which today are generating much debate. Even as I have played a role in developing relational thinking in island studies, now, in this paper, I want to speculate upon what a departure from these debates could look like when we turn to consider the shifting stakes of the Anthropocene. The main argument is that rather than thinking with island relations, archipelagic movements, flows, networks, mobilities and assemblages, the Anthropocene now requires new schematic shifts in island studies and approaches to island phenomenology. For in the Anthropocene, phenomena like global warming, nuclear plumes, oceanic depths and pollution, foreground much more profoundly how islands phase within vast multiple-dimensions of relation; which, in this paper, will be considered and conceptualised in new ways.

ROOM AMELAND (Hotel Schylge)

Islands: Journalism and literature

Chair: Elaine Stratford**A Media in the Caribbean: Journalism in small (post) colonial societies**Simon Pipe, St Helena Online/Coventry University *United Kingdom*

St Helena, population 4,200, has been a test bed for media subsidy. In 2012–3, the UK government funded the launch of a radio station and newspaper in competition with robustly independent media, but they failed to prosper. A weekly television news service proved unviable. This paper reviews efforts to sustain news media in a remote setting, as observed by a UK journalist who supported the independent outlets through an experimental website, St Helena Online, from 5,000 miles away. It also considers citizen journalism in the absence of conventionally-trained journalists. From 2004, independent media had emerged in competition with state-funded outlets whose editorial freedom was constrained. The government found itself subsidizing both, directly or indirectly. Attempted rationalisation with the launch of a new, better-funded and editorially-independent organization was seen as undermining the private-sector outlets; both closed but re-opened through public support. The state-funded body strived for quality and broadened coverage, but could not overcome loyalty to the independents. A 2017 review led to substantial reduction of its subsidy. Its rivals secured funding from a UK politician, Lord Ashcroft. The island's culture and democracy have arguably been better served by media plurality and intervention, including through St Helena Online – which itself eventually proved unsustainable, and limited in scope. The independent sector holds power to account, but records human experience less well. The island is experiencing great cultural change with a new airport ending its extreme isolation; this is covered, partly through a personal website, but there may be potential to do more.

B Navigation and negotiation in the narratives of the halo halo generationTabitha Espina Velasco, Washington State University *USA*

This paper explores how third-generation Filipinos on Guam, whom I term the Halo Halo generation, use literary narratives to navigate and negotiate their island identities. I examine (1) my own songs, short story, and narratives, and poems by two prolific local slam poets: (2) Verna Zafra, whose work interrogates Western and Filipina conceptions of feminism and societal expectations, and (3) John “Metaforce” Sarmiento, whose work uses Filipino characters to illustrate the community's conflicts and concerns being colonial settlers. Translated literally, halo halo means to “mix mix” in Filipino language and is thus a metaphor for the “mixing” that occurs in the identity negotiation of the third generation of Filipinos on Guam. I utilize narrative theory as a method to evaluate the fluidity of Filipino identity on Guam through the written and spoken lived experiences of these young poets and myself. I explore the ways they negotiate being Guamanian, Filipino, and American and how they use creative expression to navigate their complex identities in productive, empowering ways. I incorporate these theories into the Halo Halo theoretical metaphor I have devised. Because there is currently no research on narratives emerging from Guam's young Filipino population, this research is pivotal in beginning to analyze the literary production of this group and begin building solidarity among Filipino youth on Guam through the sharing of experiences.

ROOM AMELAND (Hotel Schylge)

Islands: Journalism and literature

Chair: Elaine Stratford**C SONORO Project: the sampling and recruitment process to build the SONORO community**Jasmira Wiersma and Marcel Das, Tilburg University *Netherlands*

The SONORO project aims to explore the relationship between financial literacy and health literacy in Curacao, with a focus on social relations and cultural values. To support health literacy and financial literacy research longitudinally, a panel environment will be implemented. Separate from the research questions there will be attention for other topics. In order to stimulate participation and continuation among the members these topics are discussed in interaction with the researchers. For this reason we speak of SONORO community instead of a panel. The community is composed of individuals, representative for the whole population. For statistical reasons we need a random sample of Curacao addresses, but there are problems with the address registry: there are no postal codes, streets may have a new name, and addresses may have no number. To cope with these omissions we use a repository of global open address data combined with geographic coordinates. A random sample of coordinates is uploaded in a digital map, which interviewers use on a tablet. In order to gain insight in (non-)response the most important general characteristics are collected. At the end of the questionnaire respondents are asked to join the SONORO community. Members receive an online follow-up questionnaire about their households. In this presentation the results are shown of the sampling and the recruitment process for the SONORO community.

D The day the Waterloo sank: thoughts on islanding, the archipelagic and crisis heterotopiaElaine Stratford, Institute for the Study of Social Change, University of Tasmania *Australia*

Consider the loss of the Waterloo, a convict transport bound for Van Diemen's Land – now Tasmania. Numerous accounts of the loss published in South African, British, and American newspapers in the third quarter of 1842 drew on a letter dated 29th August carried to London from Cape Town on the Hyacinth. On 24th August, several ships were anchored at the Cape near the southeastern end of Table Bay. On 26th August, a storm began that raged for two more days, and late morning on the 28th the Waterloo went broadside. Held by an anchor, the ship rolled heavily several times against the beach and foundered. Thereafter, 190 of its crew, their families, and Her Majesty's prisoners perished in the wreck and waves, watched from onshore by likely as many witnesses. In this paper, I refer to contemporaneous newspaper reports and lithographs, and to current island scholarship, in order to critically examine how this one event brings into sharp relief a series of islanding and archipelagic processes and effects that work on bodies, ships, coastlines, islands, colonies, and imperial projects. A number of insights arise from this examination that are relevant to the present time, where these processes and effects continue, constituting what Michel Foucault called crisis heterotopia – forbidden spaces reserved for individuals confronting calamities such as loss of freedom, abjection, and death. Finally, attention is paid to the ways in which tragic events such as the Waterloo's foundering generate alternative narratives that open up spaces of hope – then and now.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Island agriculture, fisheries and conservation

Chair: Lars Bomhauer-Beins**A Rainforestation and abaca: a case study for forest restoration on Negros island, Philippines**

Christiaan Serrado, Pol Carino and Mr. Christian Perez Serado, Pederasyon sa Nagkahiusang mga Mag-uuma nga Nanalipud ug Nagpasig-uli sa Kinaiyahan (PENAGMANNAK) and Foundation University *Philippines*

Forest restoration on Negros Island and elsewhere in the Philippines has been implemented by the government but failed to achieve its purpose. As such, conventional reforestation failed because problems of contract reforestation happened when people don't value species planted, the government implementing the project does not value community empowerment first and failure to address appropriate incentives to the local community implementers. The "Rainforestation" initiatives and demonstration sites that select communities established in some deforested uplands of Negros Island proved to be effective in encouraging local government units to adopt similar measures in forest restoration along with addressing the socio-economic situation of the communities concerned. Our initiatives have showed that planting indigenous and endemic trees can be done along with the abaca, fruit trees, cash crops, ornamental plants and flowers to augment livelihood opportunities of the community members whilst the trees are growing. The Philippine Fiber Industry Development Authority also recognized abaca production, intercropped into the Rainforestation initiatives produced higher yield and has the highest market on the worldwide demand for fiber and pulp. There is also a need to institutionalize the implementation of rainforestation as a strategy in forest restoration, biodiversity conservation and arresting poverty amongst the communities on the Island. This will further the support for sustaining the establishment of the nursery, seedling production, implementation, documentation, monitoring and evaluation, marketing and education activities of the program. Ultimately, this will create a more strategic demonstration programs on rainforestation following the program of the region on integrated water resources management.

B Sea cucumber resource management in Fiji: A case study of KUMI Village

Takashi Torii, Kagoshima University *Japan*

The Present Conditions and Problems of Sea Cucumber Resource Management in FIJI - A Case Study of KUMI Village - Takashi Torii, Apimeleki Cokanasiga, Ryoichi Ogawa (Kagoshima University)

Sea cucumber resource management is a common challenge for island countries in the Pacific Ocean. Sea cucumber fishing became popular as they are sold at a high price in Greater China. However, excessive fishing pressure has reduced sea cucumber resources, and many countries have therefore introduced policies to ban its fishing. In line with this trend, the Republic of Fiji has been consistently implementing a policy to satisfy both the utilization and management of sea cucumber resources. It also tries to management fishing pressure by limiting fishing equipment and the size of sea cucumbers that can be caught. This report discusses the approach taken by Kumi village in Fiji for stringent sea cucumber resource management. The fishing of sedentary resources like sea cucumbers is very popular in Kumi village. The Turaga-ni-koro (the executive head of the Fiji village) introduced the Marine Protected Area (MPA) to manage sea cucumber resources in 2007, and decided to ban the fishing of sandfish, a kind of sea cucumber, in 2012. He alternatively started sea cucumber farming to secure the village's revenue. As a result, it became clear that increasing clam catches may cause another resource problem and lead to soil loss attributable to the expanded cultivated acreage, although it helped secure sea cucumber resources. Conserving specific fish species may create new problems of resource utilization and environment protection, besides changing fishing pattern and the lifestyle of villagers. Therefore, it is necessary to develop an approach to promote resource management that considers the maintenance of residents' livelihood.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Island agriculture, fisheries and conservation

Chair: Lars Bomhauer-Beins**C Clash or understanding? Fisheries management on Bonaire.**

Stacey Mac Donald, KITLV / Royal Netherlands Institute of Southeast Asian and Caribbean Studies *Netherlands*

As part of the strategy to develop economically viable and community-supported sustainable fisheries, WWF-NL is active in the Dutch Caribbean municipality Bonaire. The success of these activities is dependent on participation and support from the fisheries community itself, which has not been forthcoming in the past. In this context, I worked with the WWF-NL to set up a fisheries cooperation on Bonaire. Working closely with local fishermen, as well as other stakeholders responsible for (sustainable) management of the fisheries sector, I identified, analyzed and sought for solutions for the bottlenecks inhibiting the co-management of the sector. Aside from the globally known conflicts that exist between environmental conservation and other human activities, specific local tensions intensify this conflict. I argue that in the case of Bonaire, low levels of trust that exist globally in conservation conflicts, are intensified by the colonial history of the island at large, current tensions in government since the constitutional changes of 2010, and high levels of immigration. In this paper, I ask whether, and if so why, conservation efforts on the Bonaire lead to clashes or rather to increased understanding among the population. I demonstrate that tensions surrounding the local versus non-local debates on Bonaire are reflected in residents' perceptions of, and approaches towards, the use and conservation of the natural environment. Lastly, I illustrate the interconnectedness of nature and culture: appreciation of culture affects perceptions on the use and protection of the natural environment.

D A Caribbean Icon – Challenging Queen Conch management on The Bahamas

Lars Bomhauer-Beins, University of Hamburg *Germany*

The Queen Conch (*Strombus gigas*) is a Caribbean icon, especially on The Bahamas. Already the Lucayans - the indigenous people of the Bahamian archipelago - used Conch as a staple food. In 1971, the Conch shell become part of the national emblem of the newly independent state of The Bahamas. Until today Conch is highly socio-culturally embedded. The Conch meat is an inherent part of the traditional Bahamian cuisine/food culture, for example Conch Salad, Conch Fritters, Cracked Conch or Stew Conch. In addition Conch is used for diverse other cultural purposes, like jewellery (Conch Pearls) or as a musical instrument (Conch Horn). In recent decades the Queen Conch is affected by heavy overfishing/over-exploitation and the decline of conch is already noticeable. However, the question on how to manage the marine resource Conch successfully is still open, not only for The Bahamas, but also for many other Caribbean island states. In this paper, I will present the results from the case study of The Bahamas. Qualitative and quantitative research methods have been applied to analyse the importance and value of Conch for the islander's identity. This paper reflects upon the potential that the highly cultural significance of Conch in the island's society and that conch is part of islander's identity plays a crucial role challenges its management. Can the cultural value of the Conch enhance management options? The results contribute to the general discussion about the relevance and significance of identity for adaptive management processes in island societies.

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands as contested areas

Chair: Gerard Persoon**A The island's governance uncertainty: Territory under inaction at Ilha do Mel/ Southern Brazilian coast**Daniel Telles, Centre of Marine Studies /
Paraná's Federal University *Brazil*

The Ilha do Mel ("Honey's island" in strictly translation) is a peculiar kind of Brazilian insular territory. Located at 2,5 miles from continent, it represents the reality of few places that mix high heritage and ecological values in a coastal zone. With a permanent population around 1000 inhabitants and no more than 5% of its area occupied by human villages, the changes driven by the touristic boom have begun in the middle of 1990's. Meanwhile, the demographic composition has changed and the environmental laws interrupted the unbridled modernization process brought by new economical aspects. The societal arrangement reached a formal council of governance in 2005. This governance instance was reviewed in the last decade in its effective condition of promoting territorial autonomy. The involution of the council's effectiveness has resulted in its recent deactivation. Besides the obstacles in composition and representativeness of the island's society by early actions, the marginal territorial condition of Ilha do Mel has not been fulfilled by the governance role. This scenario results in a paradoxical contemporary condition, on which few changes are seen in landscape, but different levels of change occur in each private property. The absence of governance seems to create inequity in a public perspective, which means that some groups might be more privileged than others. These are aspects of uncertainty to be considered in the last decade changes in ecological and heritage values of Ilha do Mel.

B Subnational Islands in federated states: A description and exploration of asymmetric relationshipsJames Randall, University of Prince Edward
Island *Canada*

There is a maturing literature on the structure and relationships of partially autonomous or subnational island jurisdictions (or SNIJs). Although this research has emerged from scholars across a variety of disciplines, those who identify with island studies have been at the forefront of this discussion, contributing both conceptually and empirically. One of the early and ongoing research questions and challenges regarding these small island jurisdictions has been how to situate them in relation to United Nations-recognized independent states. Despite the early seminal work by Watts (2009), until recently most analysis has approached SNIJs as a homogenous group (i.e., non-island states) or has used a subset of these jurisdictions for which data are more readily available (e.g., overseas territories and dependencies a la the CIA World Factbook list). The objective of this paper is largely exploratory; to describe and interpret the characteristics and the island-federal policy competencies of one "category" of these island jurisdictions – sometimes referred to as "enised" states/provinces/regional autonomies/prefectures/etc. of (usually) federated states. Therefore, this analysis includes Hawaii but not American Samoa, Tasmania but not Norfolk Island, Okinawa and Hokkaido but not Kyushyu, Bali but not Java, Hainan but not Hong Kong, Corsica but not Saint Pierre & Miquelon, Cebu and Palawan but not Luzon, etc. Although this still leaves out many SNIJs, it represents an elegant grouping for which national-level data may be more readily available. Complementing this empirical exercise, this entry point also allows us to use the concept of the (political) region as a conceptual tool to better understand the asymmetry in the policy relationships between these islands in comparison to other mainland jurisdictions in the federation (Marks et al., 2014).

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands as contested areas

Chair: Gerard Persoon**C Legalizing islandness: Benefits and shortcomings of the new Croatian Island Act**

Nenad Starc, Sean Turner, The Institute of Economics, Zagreb and SMILO -Small Island Organization *Croatia*

The presence of islandness is indisputable amongst island researchers; what is still unclear is what islandness definitively is. A common theme in islandness descriptions and definitions is dualities possibly born from or a cause of insularity: land-water, mainland-island, metaphysical-literal, sensation-unconsciousness, etc. As such, many definitions strike at various points, though there is a distinct pattern of evolving clarity of the phenomenon. The island-mainland duality, arguably the most salient on near islands, can distort the relevance of islandness even to the islander. The effect of this distortion is that near islands consider the question of mainland incorporation differently than their far-flung counterparts. Island researchers have to ponder the variety of ways that managing the mainland-island duality can, directly and indirectly, diminish, exacerbate, and sustain islandness by way of this incorporation. Incorporation of islands into the mainland appears to consistently be the most difficult undertaking for any state, and Croatian island policy serves as a good example. The new Island Act, passed in 2018, defines islandness as a „set of economic, social and ecological specificities that came about due to being surrounded by the sea“. Islandness defined as such provides a solid basis for a number of measures justifying subsidies, services free of charge, tax exemptions and accelerated procedures. Simulations of policy measures have been done, but it remains to be seen how the new provisions will be implemented and will they contribute to islands sustainable development stated in the preamble of the Island act.

D Small Islands in Indonesia: Types, numbers, resources and forms of governance

Gerard Persoon, Leiden University *Netherlands*

With over 18,000 islands Indonesia is the world's largest archipelagic state. Over half of the islands are populated by humans. The country's 12 major islands comprise about 97% of its land mass. For a long time the small islands never received a great deal of attention from the government. Most of them were, until recently, considered of little value and marginal. At present some of these small islands are still insignificant, but others have become attractive for resource exploitation or for tourists. Some have become famous for their endemic species, while some have become issues in international disputes. Mainly as a result of environmental considerations, the government of Indonesia adopted in 2007 for the first time in history a law specifically dedicated to the management of the country's small islands. In 2014 this law was amended and partly replaced by a new law on small islands because the first law proved to be too vague and full of ambivalent notions. Interestingly, the centralized laws were formulated at a time when regional autonomy is dominating the political order in the country. In this presentation attention will be paid to the various kinds of Indonesian 'small islands', and the challenges they pose for proper forms of governance since they have become the focus of attention from 'Jakarta'. Examples will be given from various regions in Indonesia, including Riau, Mentawai, East Kalimantan, and Southeast Moluccas.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Climate change beyond small island developing states (SIDS)

Chair: Beate Ratter**A Challenges and opportunities for climate change adaptation across sub-national island territories**Jan Petzold, Alfred Wegener Institute for Polar and Marine Research, Bremen *Germany*

In media and the political arena, Small Island Developing States (SIDS) play a crucial role in pushing the climate change agenda forward. Also in scientific studies, SIDS are well-represented. Other types of island territories and geographies may be neglected by such a strong focus on SIDS; for instance, dependent islands that are part of larger continental states, islands in temperate and high latitude regions which are not the typical exemplars of drowning islands, sub-national islands jurisdictions that have particular legal status, and smaller peripheral islands in large archipelagic states. Such islands are equally exposed to the impacts of climate change, such as sea-level rise and extreme weather events. However, they have different institutional, demographic, and economic preconditions, which go along with advantages as well as disadvantages for climate change adaptation. This paper introduces the session on 'Climate Change beyond SIDS' and gives an overview of the main challenges and opportunities for sub-national island territories regarding climate change adaptation.

B Climate change-induced internal migration challenges and prospects: A case study from YapMurukesan Krishnapillai, College of Micronesia-FSM *Japan*

Traditional island communities of Yap and its atoll islands in the western Pacific are among the most economically disadvantaged and environmentally vulnerable groups in the Federated States of Micronesia. Like many other small other developing states, the Federated States of Micronesia faces many challenges in its quest for greater sustainable development and economic stability. Climate extremes are only some of the many challenges present to atolls communities in Yap. The small size of the islands and atolls, their lower elevations and extensive coastal areas, their remoteness and limited financial resources, and poor economic and social decisions contribute to great ecosystem and human vulnerability to disasters. The 'big ocean, small islands' context contributes to the environmental and economic exposure and risks of the nation and its communities to natural disasters. Past two decades have seen tremendous internal migration of atoll communities to Yap Proper. While migration provides an opportunity for communities to meet immediate economic needs, it limits their ability to foster long-term economic development and maintain food security. This paper examines the challenges of internal migrants in Yap and presents the results of a comprehensive agriculture intervention to enhance their resilience.

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands as contested areas

Chair: Gerard Persoon**C Looking beyond the SIDS label**Michael Schwebel, 100 Resilient Cities /
Rockefeller Foundation *USA*

Inter-island Climate Change Cooperation in the US Territories in the Pacific Small islands often take centerstage when the world at-large showcases catastrophic effects of climate change, yet, there are numerous underlying variables that are associated with the vulnerability of islands aside from those discussed by the media and press, which often categorize islands as sinking and unable to help themselves. In particular, with the case of the United States Territories in the Pacific, the vulnerabilities faced by the islands differ significantly from those of UN-member recognized SIDS in that the US Territories are primarily dependent on a single source of governance, planning, funding, and migration-based policy structures that are largely out of their control and where the administration is located thousands of miles away. This research looks to understand the three populated United States Territories in the Pacific, American Samoa, Guam, and the Northern Mariana Islands with regard to intra and inter-island adaptation cooperation (or the lack thereof), the intended goals of climate change adaptation on-island, and what islanders believe needs to be changed in order to better prepare and adapt to a changing climate. The forthcoming analysis is poignant and timely as island territories in the United States have felt the brunt of recent storms and are dependent and are at the mercy of a host government where island-based culture and values are different from those of the mainland.

D SIDS and global climate change politicsJames Ellsmoor, Institute for Northern Studies,
University of the Highlands and Islands
United Kingdom

The governments and citizens of Small Island Developing States (SIDS) have become leading figures in the global climate change debate – both in intergovernmental negotiations and civil society discourse. Literature has emerged around SIDS roles in these negotiations examining their leadership and their reframing of the climate change debate, despite being traditionally marginalized entities in international politics. Meanwhile, a growing body of literature is emerging on islander innovation, that frames the geographical nature of islands as a driver of islanders' creativity and entrepreneurship, including in spheres of governance and policy. This paper brings together these two distinct fields of research to examine the interplay between them to examine the question: How does islander innovation shape SIDS roles in global climate change discourse and negotiations? I argue that SIDS leadership on climate change has been propelled, in part, through innovative practices shaped by island geography. Drawing on specific examples from four SIDS, the analysis suggests that SIDS can use the perceived disadvantages of smallness and isolation to become engines of innovation that create significant impact on climate change politics and mitigation efforts within and beyond their own shores.

ROOM AMELAND (Hotel Schylge)

Colonial and post-colonial islands

Chair: Lydia Landim**A Non-Sovereign Territories: A Global Comparison**

Malcom Ferdinand, Gert Oostindie and
Wouter Veenendaal, KITLV, Leiden University
Netherlands

For a wide majority of former colonies, the outcome of decolonization was independence. However, scattered across the globe, remnants of former colonial empires are still non-sovereign as part of larger metropolitan states. This outcome is all the more counterintuitive as there is little drive for independence in these jurisdictions, the great majority of which are island territories located in maritime zones such as the Atlantic, Arctic, Caribbean, Pacific, and Indian Oceans. Why did so many of these former colonial territories choose, as part of their decolonization process, to remain non-independent? In this paper, we attempt to answer this question by conducting a global comparative study of non-sovereign territories. We start off by analyzing their present economic, social and ecological conditions, which we compare with those of the respective metropolitan states. We find some important differences among our group of cases with regard to levels of economic development, cultural diversity, and ecological circumstances. Subsequently, we assess the local levels of (dis)content with the contemporary political status, and their articulation in postcolonial politics and culture. While some degree of dissatisfaction with the non-sovereign status can be observed in virtually all non-sovereign jurisdictions, we find that levels of discontent and frustration are strongly contingent upon the particular demographic, socio-economic and historical-cultural conditions of individual territories. This paper was written as part of KITLV's research program *Confronting Caribbean Challenges*.

B Colonial rule and conflict in German Micronesia

Silke Hensel, University of Münster *Germany*

The colonial regime of one imperial power differed from one colony to the next due to the specific circumstances in each region. Local societies influenced the evolution of colonial rule as much as did different imperial interest groups in the colonies. This holds especially true in Oceania under German rule with its dispersed archipelagic islands far from the colonial centre. Using Bourdieu's concept of fields as social spaces structured by power relations, the paper analyses the German colonial regime in Micronesia from the end of the nineteenth century until World War I, and discusses different collective actors (indigenous groups, missionaries and administrators) and the question of how they influenced colonial rule. It will focus on cultural conflicts in German society that the administrators and missionaries brought to the colonies. A rebellion of the local people of Jokeh on Pohnpei 1910-1911, and the evolving conflict among Germans on the reasons for the rebellion showed that the Culture Wars were brought into the colonies. Locals used this conflict among protestant and catholic missionaries for their own purposes. That is, the colonial social field was heterogeneous with different groupings of Germans and local people interacting in different ways and thereby influencing the form of colonial rule.

ROOM AMELAND (Hotel Schylge)

Colonial and post-colonial islands

Chair: Lydia Landim**C Governing ST. Helena**Simon Pipe, St Helena Online / Coventry University *United Kingdom*

The building of a £285 million airport on St Helena is transforming one of the world's most remote inhabited islands. In return for funding air access, Britain required its second-oldest "possession" to allow external investment and create infrastructure for tourism, in the hope of ending near-total dependence on UK and EU aid. It funded initiatives to improve education and health, protect its internationally-significant environment, and foster enterprise. In 2015, an inquiry dismissed sex abuse allegations, but criticised government failures behind them: it said St Helena was "still being run as a colony" under a British governor who sought frequent guidance from London. When councillors resisted his prison plans, he disbanded the council, the inquiry learned. But a dependency culture had slowly been fading. The 1990s battle for St Helenians to regain British citizenship was "the beginning of the end of subservience". From 2004–2013, Saint FM radio offered an alternative to government-funded media; its re-launch by islanders was a landmark in public empowerment. From 2012, a UK-based experimental website, St Helena Online, introduced regular external media scrutiny and provided a means to observe island life from afar. The airport drew journalists to Jamestown; the Financial Times found a secretive culture in government. In 2017, newly-elected councillors protested at having to swear an oath of confidentiality – "an affront to democracy". Shortly afterwards, though, a new governor allowed executive council papers to be made public. The airport, the media and late-flowering internet activity are helping St Helena shake off the vestiges of colonialism.

D Implementation of an international treaty Across a Small Island Developing State: The UN Convention on The Elimination of all Forms of Discrimination Against Women (CEDAW) in Cabo VerdeLydia Landim, University of Massachusetts, Boston *USA*

The UN Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) was adopted by the U.N. General Assembly in 1979, and to date is the most comprehensive international treaty for women's rights. The small island developing state of Cabo Verde ratified CEDAW in 1980. As an archipelago, Cabo Verde serves as a unique case for CEDAW implementation. This study is thusly concerned with the government's methods and management of CEDAW implementation across all islands. Specific attention will be given to collaboration of government institutions, policy integration, resource allocation and CEDAW dissemination, as they relate to supporting and enforcing realization of CEDAW.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Explorations in Relational and Archipelagic Island Studies (continued)

Chair: Syaman Lamuran**A Turning archipelagic relations on a small isle: A case study of Dongjiyu Island, Taiwan**Wei-Chieh Lin, National Taiwan Normal University *Taiwan*

Small Islands, especially very small isles, are often found at the limits of sustainability regarding to the sustaining of human life on the island. However, the connections of archipelago relations in a deeper engagement with oceans, networks, routes and roots, would provide better opportunities and choices of island life. This paper presents Dongjiyu, an island with only 1.8 sq.km. land area, situated in a series of small isles of the south of Penghu Archipelago and adjacent to so-called “black ditch” (the deep waterway with strong current) in the midway of Taiwan Strait, where once was the most important harbor for ships stopover before crossing the dangerous waterway in the sailing route from Mainland China’s coast to Taiwan since 17th Century, or a markets for the fishermen from other islands of Penghu Archipelago. The population of Dongjiyu have a record reached to 3000 in the late 19th Century, but have been declined since the route of Mainland – midway islands – Taiwan was cut off in 1950s; emigration continued after increasing motor boats in 1970s (only 30 regular residents on the island at recent survey). This study explores the driving forces in changing relations of this small isle with its seas and archipelagos in past 300 years, the assemblages of cultural heritages (light house, stone-walled field, architectures, languages etc.) in historical relational spaces, the abandoned landscape, and the recent turning movements from locals in pursuing collaborative ocean governance within neighbor islands, as well as reconnecting archipelagic relations in the larger regions.

B Hubs in a sea of knowledge. IMRAMA – Wetland wanderers islands offer sea vista’sJeroen van Westen and Jan de Graaf, IMRAMA – Wetland wanderers *Netherlands*

The Wadden Islands even over two: The Northsea and the Waddensea. The latter UNESCO world heritage, natural. UNESCO’s hypothesis: Visiting other places, meeting people, will contribute to knowledge and mutual understanding. The predicate ‘world heritage’ obliges to “education, science and culture”: a culture of curiosity. ‘Imrama’ is an Irish word for (partly fictitious) stories told by seafaring monks. Their instructive adventures about ‘the other world’ are an early example of UNESCO’s hypothesis. We apply this concept of IMRAMA to our initiative to travel the Waddensea and beyond, open minded. Our island of departure, and return, is Terschelling. On this island we marked 12 places as field stations, each representing a promising perspective with a rich tradition personified in a historic ‘pilot’. E.g.: field station lighthouse Brandaris, representing ‘Looking around’, guided by St Brandan. IMRAMA builds an archive of a selection of the existing sea of knowledge on the Wadden. We invite Wetland Wanderers: scholars, artists, civic scientists, to embark on shorter and longer tours following one of the perspectives, likely crossing an other, may be changing tracks, possibly setting out into unknown territory. A kaleidoscopic cultural exploration of the Waddensea to reflect on the ways we look at this (natural) heritage, which in itself is a cultural phenomenon. We’ll take the participants of the symposium along by reporting on two of such scholarly tours. One travels via Hogland and Solovetski Islands to Bolsjewiek Island, the other into the (future) realm of Artificial Intelligence. Both return to Terschelling, of course.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Explorations in Relational and Archipelagic Island Studies (continued)

Chair: Syaman Lamuran**C Ancient Archipelagic Relations between Pongso no Tau (Orchid Island) and the Batanes Archipelago: Evidence from ocean currents, boats and tales**Syaman Lamuran, Tzi-Min Liu and Huei-Min Tsai, National Taiwan Normal University *Taiwan*

Ancient Archipelagic Relations between Pongso-no-Tau (Orchid Island) and the Batanes Archipelago: Evidence from ocean currents, boats and tales: The borders of islands and archipelagos are often the result of determinations made by a central state administration. In contrast, the historical connections between islands are frequently conditioned by ocean currents. This paper explores the archipelagic relations between Pongso-no-Tau (Orchid Island, Taiwan) and the Batanes Archipelago (northern Philippines) across the Bashi Channel. Pongso-no-Tau (literally, 'island/home of the people; also known as Orchid Island or Botel Tobago) is a 45 km² island, situated 65 km east of Taiwan Island and 105 km north of its closest Batanes neighbors in the Philippines. Pongso no Tau was relatively isolated from outside world until recent decades. In the absence of written records, oral narratives and folklore passed down from the elders recount how their ancestors went southwards to Batanes or how guests from Batanes visited Pongso no Tau. Linguistic and archaeological studies also indicate ancient connections between these islands. This study applies oceanography techniques to analyze ocean currents and explore possible navigation routes between Pongso-no-Tau and Batanes in ancient times. It also considers evidence of boats construction skills, navigational knowledge, and island folklore.

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands as icons in sustainability discourses and laboratories for innovation

Chair: Stefano Malatesta**A Wadden Sea Islands as test beds for sustainable development and laboratories for innovation**

Nora Mehnen, Ingo Mose, Peter Schaal and Frans Sijtsma, Applied Geography and Environmental Planning Research Group, Carl von Ossietzky University Oldenburg & Young Wadden Academy *Germany*

Wadden Sea Islands as test beds for sustainable development and laboratories for innovation – Examples from the island of Juist (Germany) and Ameland (The Netherlands) The Wadden Sea is one of the largest and most unique marine nature areas in the world, spanning over the three countries of Germany, the Netherlands and Denmark. The 25 inhabited islands, which extend over these three countries, have a special role: they are living space for humans and animals, they are tourism hotspots in high season and quiet places in the off-season. More important even, these islands face a complex set of challenges: demographic change, climate change and rising sea levels, energy transition, globalization, increasing tourism and tourism demands. Given their unique geographical condition and the complexity of their challenges, some of the islands actively take the path of sustainable development and try to become laboratories for innovation. This paper focusses on these laboratories. It takes a governance perspective. How can governance for sustainability be seriously enhanced? The paper is connected to the German project “Wat Nu? - Demographic change in the Wadden Sea region”, which uses the living lab approach, and builds on several studies related to the project. In the paper we focus on the German island Juist and the Dutch island Ameland, which are nationally and internationally known as sustainable islands. We will discuss and explore their similarities, but also differences. So the following questions will be addressed: Are the two islands really sustainable and if so, what can other islands

learn? What are preconditions for a successful development? How can actors be involved? What new modes of participation are required? Is sustainability an opportunity for the changing future of islands?

ROOM TEXEL (Maritime Institute Willem Barentz)

Islands as icons in sustainability discourses and laboratories for innovation

Chair: Stefano Malatesta**B The culture of nature. When islands ‘disappear’, are they really gone?**Jacqueline Heerema, Satellietgroep *The Netherlands*

The culture of nature. When islands ‘disappear’ are they really gone or did they transform into something else? This essay argues that we need to critically investigate our perceptions of culture and nature. With global challenges of climate change we need to acknowledge the coastal landscape as cultural landscape, as prime example of mankind creating new conditions. Living in the Netherlands means living mostly in an artificial man-made environment. The Dutch are masters in disguising the cultural landscape as a natural one. We tend to design, construct, reconstruct and deconstruct the coastal landscape to fit it to our needs. Instead of being proud, we value the ideals of nature as something other than people or culture. Four examples to argument the perceptions of culture and nature and the value of ‘disappearing’ islands and climate change. First, the Zandmotor on the North Sea coast, south of The Hague. This efemeral ‘suicidal’ coastal landscape is build to dissolve in 20 years. A man-made coastal innovation, build to generate new knowledge for future coastal protection, but remarkably framed as ‘nature’? Second: the challege of Boschplaat Terschelling and the concept of dynamic coastal management: to give a little sea to strenghten against the sea, a homeopathic solution? Third: the Wadden Sea, perceived as natural Unesco World Heritage, while the Curonian Spit in Lithuania is valued as cultural Unesco World Heritage? Fourth: Afsluitdijk is a man-made rock shore habitat for climatemigrating species; a new value in between two Natura2000 areas (Wadden Sea, IJsselmeer)?

C Social resilience in the Maldives: just ecological matters?Stefano Malatesta and Marcella Schmidt di Friedberg, University of Milano-Bicocca, MaRHE Center *Italy*

Social resilience in the Maldives: just ecological matters? Local agriculture, and cultural heritage Maldivian communities have to cope with serious environmental, social and economic issues, strictly connected at a local scale to the transformative forces the region is facing in the contemporary transition. From an environmental point of view, these are: soil and water pollution due to dioxide emissions and organic waste dumping and major dependence on imported goods (such as food). The dependence on imported goods generates a whole range of issues concerning carbon footprint, and foreign currency leakage from the country. Given this delicate context, agriculture production and food security of local communities have gained a prominent role within the environmental policies. Referring to the concept of “social resilience” (Adger, 2000), the contribution aims at discussing the relevance of food security and production within inhabited islands, beyond the environmental and eco-systemic spheres, focusing on the social and cultural function played by small-scale agriculture. This discussion is carried out by presenting the farm system run in Faaf-Magoodhoo and the successful story of Maldives Authentic Crafts Cooperative Society able to strengthen the market links for sustainable Hau (reed) cultivation, the conservation of the marshland and women’s employment in Gaafu Dhaalu Fiyoare. The first case shows the importance of fostering community engagement in the management of an integrated system connecting food production, waste and water management. While the second project stresses the cultural relevance of traditional practices and techniques for local communities living in small and peripheral islands and gender issues.

ROOM VLIELAND (Maritime Institute Willem Barentz)

Discussion panel: Explorations in relational and archipelagic islands studies

Chair: Adam Grydehøj

(This session is sponsored by the International Geographical Union's Commission on Islands)

Panelists:

1. Adam Grydehøj (Editor of Island Studies Journal)
2. Jonathan Pugh (Newcastle University)
3. Yaso Nadarajah (RMIT University)
4. Michelle Stephens (Rutgers University)
5. Elaine Stratford (University of Tasmania)

Over the past few decades a growing number of island scholars have in different ways emphasised the relational characteristics of islands. For some, this has turned into an interest in archipelagic relations, a deeper engagement with oceans, networks, routes and roots, the aquapelago, assemblages and movements. For others, it has foregrounded how islands themselves are brought about through relation, how connections and disconnections – material and immaterial – create the island. These debates can increasingly be found in the pages of leading island journals such as 'Shima' and 'Island Studies Journal'. We find a wide range studies – of the Anthropocene, the Americas, sacred spaces, and international development, as just some examples – all drawing upon relational and archipelagic turns developed by island scholars. In this discussion between Adam Grydehøj (Editor of Island Studies Journal), Jonathan Pugh (Newcastle University), Yaso Nadarajah (RMIT University), and Michelle Stephens (Rutgers University), we explore where we have got to in such debates and where we might go. Following short presentations, the panellists will discuss with one another and guide discussion with the audience members

ROOM AMELAND (Hotel Schylge)

Green/Blue Growth – sustainable development and climate change on islands

Chair: Pier Vellinga**A Implications of blue growth initiatives on islands**

Nina Lefeldt and Anette Breckwoldt, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI) *Germany*

Blue Growth (BG) initiatives (e.g., the extension of offshore wind energy projects), have repercussions on local communities on the small islands along the German North Sea coastline. Compared to the relatively advanced technological and ecological considerations (of e.g., wind farms), both the role of science and the role of island populations in the directly related societal transformations, have been under-investigated to date. This project focuses on the two ‘high-potential’ sectors renewable energy (‘newcomer’) and coastal and maritime tourism (‘traditional’), both of which drive the current debate around achieving a local-level BG vision. The explorative study takes a look at present BG initiatives and their outcomes on two islands - Sylt and Helgoland. It will thereby test how ‘Islands’ can act as boundary objects, helping to disentangle the effects of human and natural causes and effects in transformation processes. A timely socio-economic rapid rural assessment of the transition process of different production areas is used, applying a trifold-approach of hindcast, state-of-the-art and forecasting. The study’s objective is to unravel the hidden information needs along the way of the extremely speedy development of BG initiatives, the related societal expectations and local priorities towards research. Finally, there are also some direct considerations of the interlinkages between Germany’s BG initiatives and the scientific, economic and societal responsibilities attached to the targets under Sustainable Development Goal 14.

B The adaptation of the food system on Yap and environmental fluctuations

Tessa Edenhart-Pepe, University of Pennsylvania *USA*

This study explores potential food system adaptations to climate-induced environmental fluctuations on the islands of Yap, Micronesia, as seen through the lens of a graduate student. Sustainable food systems are associated with an array of variables, including local knowledge, productive landscape investment, soil quality, and water supply. As such, the determination of dangerous impact levels and appropriate adaptations requires a broad, cross-disciplinary perspective, informed spatial reasoning, and a responsive strategic design. Data-driven and graphic mapping technologies have tremendous capabilities, not only as a catalogue and expression of functional relationships between existing qualities and processes, but also in terms of predictions and prescriptions. Among the host of Geographic Information Systems (GIS) applications, disseminating information could be a powerful application for the growing body of Yap data. The micro and macro-scale challenges and interventions in Yap could demonstrate emergent patterns that are applicable at various scales and contexts worldwide. This paper does not present expert knowledge or definitive answers to the island’s challenges. What should be expected instead is a synthesis of heterogeneous topics, sociological, ecological, and mapping, moderated by an anecdotal account of researcher “on-boarding”, or the process of coming into, becoming a part of, and being productive to collective island and climate change research efforts.

ROOM AMELAND (Hotel Schylge)

Green/Blue Growth – sustainable development and climate change on islands

Chair: Pier Vellinga**C Pacific SIDS, democracy and deep-sea mining**Jane Verbitski, AUT University *New Zealand*

Thirty-five years after the United Nations Convention on the Law of the Sea (UNCLOS) was negotiated, Pacific Island states are at the forefront of what has been described as a “deep sea gold rush” and “the last redivision of the world”. Deep sea mining, once an activity redolent of science fiction and fantasy, is scheduled to begin in the South Pacific in 2019. In addition to the commencement shortly of extractive activities by Nautilus Minerals in territorial waters around Papua New Guinea, fifteen year exploration contracts for the deep oceans outside national jurisdiction have been issued through the International Seabed Authority to twenty-seven contractors. Deep sea mining has been advocated by proponents, including Pacific Small Island Developing States (SIDS) governments, as a crucial element of SIDS sustainable development in the twenty-first century and essential for lifting the life opportunities of Pacific peoples. It has been equally criticised, however, as an unprecedented and dangerous experiment with the potential to harm the marine global commons, and an initiative that has exposed dangerous democratic deficits in some Pacific states. This paper examines the issues surrounding Pacific SIDS engagement with deep sea mining, including democratization and development in Pacific SIDS, the concept of political corruption in democratic states, and civil society activism in delimiting the ‘blue economy’ of the twenty-first century.

D Opportunities for island based food production under saline conditionsPier Vellinga and Arjen de Vos, Waddenacademie and Salt Farm Texel *Netherlands*

Fresh water is increasingly scarce, in particular on Islands with growing demands, changing climate and sea level rise. In particular changing rainfall patterns and sea level rise are threatening the fresh water availability on small islands. Recently, significant progress has been made in growing crops under saline (ground)water conditions at the Island of Texel in the Netherlands. Salt tolerant varieties have been found of common crops like potato, carrot, cabbage and onion that can be grown under moderate saline conditions. Also different halophyte crops are tested and cultivated on Texel and these crops can grow at full seawater salinity levels. Results will be discussed of experiments carried out at this island and at locations in Pakistan and Bangladesh. This involves both soil bound cultivation as well as hydroponic systems that can greatly reduce the water use for food production. Results of the growth performance of the different crops are much better than expected on the basis of traditional scientific knowledge about crop yield under saline and brackish water conditions. Next, the paper will illustrate how island based food production under saline soil and saline water conditions can contribute to the island economy in different ways. It helps to become less dependent on food from overseas, it creates local jobs and it can help to develop island culinary specialties for tourists. We will present and discuss a number of island examples. In short, saline cultivation of common and high-end specialty crops can help the short and long term economic development.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Economic development and decision making

Chair: Tim Botkin

**A The Chatham Islands (New Zealand):
economic forces and governance**

Geoff Bertram, Victoria University of
Wellington *New Zealand*

The Chatham Islands were annexed as part of New Zealand in the 1840s and provide an excellent case study of the economic forces operating in a fully-politically-integrated small island setting. Following several decades of work on small island economies that are either sovereign or operate as sub-national jurisdictions with a considerable degree of separate identity, I am turning my attention to small island economies that are fully submerged in larger national economies and polities. A study of the Chatham Islands economy is a logical first step for a New Zealand-based researcher.

B Controlled Vehicular Access in Valletta (Malta)

Alexiei Dingli, University of Malta *Malta*

The islands of Malta introduced a road pricing scheme in 2007 called the Controlled Vehicular Access (CVA) system in the capital city Valletta. The system is based on camera technology that capture vehicles entering and exiting the charging area which identify the owner and charge according to time spent in the charging zone. For nine years the system has been gathering data about car travel into the city but little if no efforts were made to use the data to provide user feedback or travel information. The Valletta Travel Information Service (VaTIS) aims to extend the sensor technology around the city beyond the road pricing cameras to Bluetooth sensors and crowdsourcing through a smartphone and web application which is capable of collecting travel information and relay feedback to users. This project is ongoing and the initial phases have seen the use of data from the CVA system and the development of the app.

ROOM SCHIERMONNIKOOG (Hotel Schylge)

Economic development and decision making

Chair: Tim Botkin**C Applying the lever of sustainability science to elevate island community decision-making: The UHMC Sustainability Lens**Tim Botkin, University of Hawaii Maui College
USA

Island communities pursue sustainability from necessity born of vulnerability, and are well-positioned to lead innovative community decision-making practices. To do so, islands must embrace their system linkages and boundaries, ensuring that ramifications are understood as well as possible before acting. Most 'unsustainability' derives from our employment of siloed knowledge to make decisions about complex issues. Similarly, our planning processes tend to reduce sustainability into strategic objectives, thereby fragmenting holistic values. Invariably, 'unforeseen consequences' arise over time, perpetuating resource degradation we failed to recognize initially. Sustainability science relies upon broad, fact-based inquiry and draws from all relevant disciplines. Application of systems thinking, problem/purpose-driven constructivism and adaptive management enhance our capacity to discover, scope and address the complex dynamics of persistent contemporary issues. Academia can lead, but sustainability progress must be vetted through a transdisciplinary community fabric in order to survive financial, political and technological challenges. The UHMC Sustainability Lens prescribes a process for applying these principles; soliciting the knowledge and experiences of all stakeholders, seeking out collaborative partnerships, using local expertise to hone feasible, adaptable sustainability priorities. It scales to the larger Maui community, with a goal of galvanizing symbiotic resource-protective and economic vitality interests through sustainability. In this presentation, background elements of sustainability science, as well as the history, functions, and structure of the Lens provide an alternative to conventional island planning approaches. On the ground experience to-date will be tapped and flavor the theoretical background of the presentation.



www.waddenacademie.nl