

Dräger-Stiftung
Dräger Foundation



THE EARTH INSTITUTE
COLUMBIA UNIVERSITY

EU-U.S. Conference Series

**Sustainable Oceans:
Reconciling Economic Use and Protection**

Conference No. 1

The Use of the Oceans' Energy Resources, Risk Management, and the Need for Regulation

Hamburg, June 29 – July 1, 2011



Conference Venue
Bucerius Law School
Moot Court
Jungiusstrasse 6
20355 Hamburg, Germany



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**Under the High Patronage of
S.A.S. Le Prince Albert II de Monaco**

Conference Venue
Bucerius Law School
Moot Court
Jungiusstrasse 6
20355 Hamburg, Germany

Conference Bureau

Responsible:

Susanne Ferch, Dräger Foundation

Christin Grope, Dräger Foundation

Barbara Langhoff, Dräger Foundation

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The way our world will look in the future is something that will not be determined in the future, but today – and to some extent by the way we face up to the key social, economic, and environmental challenges of our time. Upholding this philosophy of Heinrich Dräger, the Dräger Foundation – established in 1974 – wishes to bring people together to jointly develop ideas for the future within the framework of an international exchange. Previous conferences of the Dräger Foundation that dealt with questions of energy security and climate change brought the oceans and their significance for the world's climate, biodiversity, and human life into the Foundation's focus. The oceans cover some 70% of the Earth's surface, provide 97% of its water supply, boast more than 50% of its biodiversity, and through their vast resources and raw materials form one of the foundations for the quality of human life.

Following on from the Dräger Foundation's XVII Malente Symposium in 2008, entitled 'More than Water – Oceans and Global Responsibility', the Foundation is launching further conferences devoted to the subject of oceans. In cooperation with the Cluster of Excellence 'The Future Ocean', Kiel, and The Earth Institute of Columbia University, New York, a series of three conferences will be staged on '**Sustainable Oceans: Reconciling Economic Use and Protection**'; the first conference will explore '**The Use of the Oceans' Energy Resources, Risk Management, and the Need for Regulation**'.

One of the key questions to be addressed by this conference is how the oceans can be researched and their resources utilized for economic growth while at the same time protecting them from the consequences of unfettered exploitation. Economic benefits need to be weighed up against the costs, which – especially in the case of deep-sea drilling – must realistically include an assessment of potential risks and the costs of establishing an efficient international system of crisis management. This applies not only to the economic exploitation of marine resources in coastal regions subject to national law, but particularly also to areas outside national jurisdiction, known as 'The Area'. In this 'Area' there are currently no internationally binding laws – despite the United Nations Convention on the Law of the Sea (UNCLOS) – which would allow sustainable economic activity to be ensured at the same time as preventing unrestricted and ecologically damaging, risky exploitation.

There is an urgent need for coastal states to face up to their responsibilities and to reach international agreement with a view to preserving the balance between business and ecology. A coordinated, comprehensive and transparent offshore management regime with effective enforcement mechanisms is required, especially when it comes to the use of energy and other mineral resources, in order to avoid the world's oceans increasingly becoming the scene of inter-governmental conflict. The conference will seek to identify solutions to best manage these challenges. It aims to increase awareness and facilitate a dialog with the global business community, with politicians worldwide, and with society as a whole.

One of the intentions of this conference series is to help establish the European Ocean Commission of the European Commission, to link it with the U.S. Ocean Commission, and to help initiate a joint EU – U.S. White Paper on the state of the oceans and coasts for politics and business, based on the model of the American 'Ocean Blueprint for the 21st Century'. To this end, methods are to be developed in order to evaluate the multitude of scientific findings in such a way as to allow them to be understood and utilized in politics and business, irrespective of lobby influences.

This first conference brings together experts and stakeholders from Europe and from the American continent, who will discuss these challenges in a comprehensive way and identify practical solutions to facilitate future sustainable development. We are honored that **S.A.S. Le Prince Albert II of Monaco** accepted our invitation to assume High Patronage over the conference series.

For their active support in the preparation of this conference,
the Dräger Foundation wishes to thank its co-operation partners,
the **Kiel Cluster of Excellence “The Future Ocean”**, and
The Earth Institute of Columbia University,

as well as its supporting partners:

The European Commission, Directorate-General for Maritime Affairs and Fisheries, Brussels;
ALDEBARAN Marine Research & Broadcast, Hamburg;
Alfred Wegener Institute for Polar and Marine Research, Bremerhaven;
German Marine Research Consortium (KDM), Berlin; and
World Ocean Council, Honolulu, Hawaii.

The Foundation is particularly grateful to the members of the Steering Committee, without whose invaluable efforts, ideas, and inputs this conference would not have been possible:

Jochen Deerberg, Owner & CEO, Deerberg Systems, Oldenburg
Dr. Jan-Stefan Fritz, German Marine Research Consortium (KDM), Brussels
Paul Holthus, Executive Director, World Ocean Council, Honolulu, Hawaii
Professor Karin Lochte, Director, Alfred Wegener Institute for Polar and Marine Research
in the Helmholtz Association, Bremerhaven
Paul F. Nemitz, Head of Unit, Maritime Policy in the Atlantic, Arctic and Outermost Regions,
European Commission, DG MARE, Brussels
Dr. Tiago Pitta e Cunha, Counselor for the Environment, Science and Maritime Affairs
to the President of Portugal, Lisbon
John B. Richardson, Special Adviser on Maritime Affairs, FIPRA International, Brussels
Professor Peter Schlosser, Associate Director and Director of Research, The Earth Institute,
Columbia University, New York, NY
Frank Schweikert, CEO, ALDEBARAN Marine Research & Broadcast, and German Sea Foundation,
Hamburg, who is also exhibiting films, video panoramas and full dome underwater impressions from
his excursions
Professor Martin Visbeck, Deputy Director, IFM-GEOMAR, Leibniz Institute of Marine Sciences, and
Member of the Cluster of Excellence “The Future Ocean”, Kiel, who also made available the interactive
game ecoOCEAN.

The Foundation also wishes to express its gratitude to

Deerberg-Systems, Oldenburg
Deutsche See GmbH, Bremerhaven
Volkswagen AG, Wolfsburg

for their generous support of the conference.

Responsible for the preparation and organization of the conference:

Petra Pissulla
Director, Dräger Foundation, Lübeck

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Dräger-Stiftung Dräger Foundation

DRÄGER FOUNDATION

The Dräger Foundation, located in Lübeck, Germany, was established in 1974 by Heinrich Dräger, entrepreneur and economic and social scientist. The Foundation is a nonprofit institution committed to the promotion of science and research, especially in the fields of national and international economic and social order, international policy and law, and the environment. The Foundation regards its role as that of an initiator tackling topical and future-oriented subjects in its conferences and other events.

The Malente Symposia are the Foundation's most comprehensive recurrent events. Young Leaders Study Groups are designed to foster leadership qualities in young professionals by stimulating dialogue across national boundaries and across professional sectors and to create a new network of future global leaders. In addition, the Foundation is involved in a range of activities serving the public good in Lübeck and the surrounding region, among others in the field of medicine, music, art and culture, as well as the protection of the landscape and the environment.



IFM-GEOMAR, THE CLUSTER OF EXCELLENCE "THE FUTURE OCEAN"

The Kiel Cluster of Excellence „The Future Ocean“ pursues an approach to research that is unique in Germany: marine researchers, geologists, economists as well as medical scientists, mathematicians, legal and social scientists are contributing their expertise to investigate ocean and climate change. The Cluster of Excellence is therefore expressly including specialist fields that, to date, had little interaction with marine research. A total of over 250 scientists from six faculties at Kiel University, the Leibniz Institute of Marine Sciences (IFM-GEOMAR), the Kiel Institute for the World Economy (IfW) and the Muthesius Academy of Fine Arts and Design have joined forces. The Integrated School of Ocean Sciences (ISOS) has been created as a central element within the Cluster of Excellence in order to transfer this interdisciplinary approach to the education of young scientists. The Cluster of Excellence „The Future Ocean“ has established marine sciences as a main field of research at Kiel University.

THE EARTH INSTITUTE COLUMBIA UNIVERSITY

THE EARTH INSTITUTE, COLUMBIA UNIVERSITY

The Earth Institute's overarching goal is to help achieve sustainable development primarily by expanding the world's understanding of Earth as one integrated system. We work toward this goal through scientific research, education and the practical application of research for solving real-world challenges. With 850 scientists, postdoctoral fellows, staff and students working in and across more than 30 Columbia University research centers, the Earth Institute is helping to advance nine interconnected global issues: climate and society, water, energy, poverty, ecosystems, public health, food and nutrition, hazards and urbanization. With Columbia University as its foundation, the Earth Institute draws upon the scientific rigor, technological innovation and academic leadership for which the University is known.

The Earth Institute encompasses centers of excellence with an established reputation for groundbreaking research, including the renowned Lamont-Doherty Earth Observatory, home to some of the world's leading scientists pursuing the study of Earth and its systems. The Earth Institute is implementing solutions to global challenges; pioneering research; advising national governments, the United Nations and other international agencies; and educating the next generation of leaders in sustainable development. While Earth is indeed at a critical crossroads, our work reflects the fundamental belief that the world has within its possession the tools needed to effectively mitigate climate change, poverty and other critical issues.



ALDEBARAN MARINE RESEARCH & BROADCAST

ALDEBARAN is an organization and cross-media agency for communication of scientific, maritime and sustainable contents. ALDEBARAN acts as a mediator between scientific research, the media and the public. Modern multimedia production facilities are used to present complex scientific and technical issues in a comprehensible and attractive way.

ALDEBARAN specializes in the production of TV and radio broadcasts, including unique underwater footage. It also produces image and event films, as well as material for multimedia internet presentations, particularly for the purposes of visualizing and communicating environmental and marine topics. In addition, ALDEBARAN acts as an advisor for different companies and university institutions by presenting strategies and implementation tools for effective public relations.

ALDEBARAN is the only agency which is equipped with a floating laboratory and studio aboard the well-known research and media ship ALDEBARAN, which has been in operation since 1992.

The "Research at Sea" youth competition and the Hamburg Climate Week are ALDEBARAN's most recent projects. The competition gives school teams the opportunity to research a topic of their choice during a science expedition aboard the research and media vessel ALDEBARAN. The Climate Week is an interactive climate theme park presenting the latest scientific findings from scientific institutions in the Metropolitan Region of Hamburg.



ALFRED WEGENER INSTITUTE FOR POLAR AND MARINE RESEARCH IN THE HELMHOLTZ ASSOCIATION

The Institute is a leading international center of excellence for climate research in polar regions and the oceans. Antarctica, the Arctic, and the oceans are key areas when it comes to understanding global climate change. With its innovative science, excellent research infrastructure and years of expertise, the Alfred Wegener Institute is amongst the world's few scientific institutions that conduct research on the icy atmospheric, terrestrial and aquatic realms at both poles.

The Alfred Wegener Institute for Polar and Marine Research in the Helmholtz Association conducts research in the Arctic and Antarctic, as well as in oceans of temperate and high latitudes. It coordinates polar research in Germany, carries out research on global environmental change and helps to unravel the complex natural relationships in the earth's ecosystem. Above all, understanding the driving forces behind and fluctuations in climate processes has increasingly become the major goal of the Institute's research.

The research work conducted by the Institute is characterized by its strong international network and the broad scientific basis on which it is founded. At the Alfred Wegener Institute, bio, geo and climate scientists work closely together. Fieldwork under extreme conditions is part of everyday life, as is the use of advanced laboratory equipment and high-performance mainframe computers. Because polar and marine research always constitutes a logistical challenge, the institute has an excellent infrastructure and also assists national and international scientific organizations. It supplies research vessels, such as the widely known "Polarstern", as well as annually and seasonally staffed research stations in both polar regions (for example, the Neumayer III Station in Antarctica). Aircraft, scientific observatories and measurement systems are also supplied.



EUROPEAN COMMISSION, DG MARITIME AFFAIRS AND FISHERIES

The Common Fisheries Policy has come a long way since its creation in 1982 – or indeed, since the first instruments of European fisheries policy were established in the early 1970s. What began as a set of tools to preserve traditional fishing patterns and defuse tension between a handful of nations is now a complex legal and scientific framework, which seeks to protect a natural resource whose finite, though renewable, nature can no longer be ignored.

Next to it, a new Maritime Policy seeks to respond in an integrated manner to all the challenges that European seas face today: from pollution to environment protection, from coastal development to job creation, from border control to surveillance and so on.



Konsortium Deutsche Meeresforschung

GERMAN MARINE RESEARCH CONSORTIUM

The German Marine Research Consortium is the national representative body of the German marine research institutions. Its members are part of a European and global network of such institutions. With approximately 2,200 scientists in the fields of basic and applied marine research, KDM provides comprehensive expertise to meet global challenges related to the sea and our environment.



The International Business Alliance
for Corporate Ocean Responsibility

WORLD OCEAN COUNCIL

The World Ocean Council (WOC) is the international, cross-sectoral business leadership alliance on “Corporate Ocean Responsibility”. The WOC brings together a range of ocean industries, e.g. shipping, oil/gas, fisheries, aquaculture, renewable energy, tourism, insurance, etc. to collaborate in working towards a shared goal of healthy and productive seas and their sustainable use and stewardship by a responsible ocean business community.

Although many ocean industry operators are making progress on ocean sustainability, the best efforts by one company or an entire sector will not be able to address the cross-cutting issues, cumulative impacts and user conflicts resulting from the growing use of an interconnected marine environment.

The WOC is creating business value through the synergies and economies of scale of collaboration among ocean industries. Cross-sectoral industry working groups are addressing priority shared issues: e.g. marine spatial planning, invasive species, water pollution, ocean noise, marine debris, ocean data/science, the Arctic, the Convention on Biological Diversity. An increasing number of companies from a broad array of ocean industries are distinguishing themselves by becoming members of this unprecedented business leadership alliance for ocean sustainability.

Program

Wednesday, June 29, 2011

Check in **SIDE Hotel**
 Drehbahn 49, 20354 Hamburg, Germany
 Phone: +49 40 309 99 0
 Incoming guest fax: +49 40 370 803 97

6:30 pm **Bus transfer** from the SIDE Hotel to the dinner location

7:00 pm **Reception and Dinner at the Invitation of Deerberg-Systems, Oldenburg, Germany**

Elbpanorama
 Atlantic House (20th floor), Bernhard-Nocht-Strasse 113, 20359 Hamburg

Dinner Speech **Dr. Wendy Watson-Wright**
 Assistant Director General and Executive Secretary, Intergovernmental Oceanographic Commission UNESCO, Paris, France

GLOBAL GOVERNANCE OF THE CHANGING OCEANS: RISK TOLERANCE AND THE SCIENCE POLICY GAP

Bus transfer back to the SIDE Hotel

Thursday, June 30, 2011

Conference **Bucerius Law School**
Venue Moot Court, Jungiusstrasse 6, 20355 Hamburg, Germany

9:00 am **Welcome by the Organizers**

Professor Dieter Feddersen
 Member of the Board, Dräger Foundation, Lübeck, Germany

Professor Peter Schlosser
 Associate Director and Director of Research, The Earth Institute, Columbia University, New York, NY, USA

Word of Greeting

Dr. Dorothee Stapelfeldt
 Second Mayor and Senator for Science and Research of the Free and Hanseatic City of Hamburg, Germany

9:30 am Session 1, Setting the Scene

PRICING THE OCEANS

Topics to be discussed:

- The value of ocean ecosystems (barrier reefs, living resources, biodiversity)
- The value of known and supposed mineral resources in the oceans
- Economic gains and losses from exploitation
- Ecological and social costs of ecosystem damages (due to mining activities, oil spills, pollution)

Keynote Dr. Pushpam Kumar
Chief, Ecosystem Services Economics Unit, Division of Environmental Policy Implementation (DEPI), United Nations Environment Programme (UNEP), Nairobi, Kenya

Moderator Frank Schweikert
CEO, ALDEBARAN Marine Research & Broadcast, Hamburg, Germany

Commentators Professor Tony Haymet
Director, Scripps Institution of Oceanography, UC San Diego; Vice Chancellor for Marine Science and Dean, UC San Diego Graduate School of Marine Science, San Diego, CA, USA

Dr. Régis Kalaydjian
Project Manager, Marine Economics Unit, IFREMER – French Research Institute for the Exploitation of the Sea, Issy-les-Moulineaux Cedex, France

Professor Martin Visbeck
Deputy Director, IFM-GEOMAR; Head of Research Unit “Physical Oceanography”, Leibniz Institute for Marine Sciences, Kiel, Germany

11:00 am Coffee Break

11:30 am Session 2

MANAGING OFFSHORE ENERGY RESOURCES – RISKS AND OPPORTUNITIES

Topics to be discussed:

- What is sustainable use in terms of marine resources?
- Oil & gas exploration and production
- Alternative energies from the ocean
- Risk analysis and risk management; risks and opportunities of extreme technologies
- Maritime safety
- Crisis prevention mechanisms and crisis handling instruments in the U.S. and in Europe
- International cooperation
- What can we learn from each other?

Moderator **Brent Goff**
Senior News Anchor, Deutsche Welle (DW), Berlin, Germany

Panelists **Dr. Udo Barckhausen**
Private Lecturer, BGR (Federal Institute for Geosciences and Natural Resources), Hanover, Germany

Dr. Quenton R. Dokken
President and CEO, Gulf of Mexico Foundation, Corpus Christi, TX, USA

Jan Pánek
Head of Unit "Coal & Oil", European Commission, Directorate-General for Energy, Brussels, Belgium

Dr. Michael Zettlitzer
General Manager, Quality, Health, Safety, and Environment, RWE Dea AG, Hamburg, Germany

1:00 pm Lunch

2:00 pm **Session 3**

**MARINE GOVERNANCE OF ENERGY RESOURCES –
LEGAL REGULATION & INSTITUTIONS**

Topics to be discussed:

- Stewardship for oceans; who should be responsible for the oceans?
- Impact assessment and licensing of exploration and extraction
- Legal regulation, surveillance, criminalization of damages, penalization; are the present mechanisms and bodies sufficient?

Moderator **The Honorable Dr. hon. mult. Hans Corell**
Ret. Ambassador; Former Under-Secretary-General for Legal Affairs and the Legal Counsel of the United Nations, Stockholm, Sweden

Panelists **The Honorable Professor Vladimir Golitsyn**
Judge, International Tribunal for the Law of the Sea, Hamburg, Germany

Vladimír Jareš
Senior Legal Officer, Division of Ocean Affairs & the Law of the Sea (DOALOS), Office of Legal Affairs, United Nations; Deputy Secretary, Commission of the Limits of the Continental Shelf, New York, NY, USA

Professor Doris König
Public Law, European Union Law and International Law, Bucerius Law School; Chair, International Foundation for the Law of the Sea (IFLOS), Hamburg, Germany

3:30 pm Coffee Break

4:00 pm

Session 4**FINANCING THE PROTECTION OF THE OCEANS****Topics to be discussed:**

- The effects of human activities on marine resources and collateral damage
- What does it cost?
- Who pays the costs? Who bears the risks?
- Who benefits from exploiting the oceans' energy resources?
- How should benefits be allocated?
- Financing instruments

Moderator**Sandra Cavaliere**

Coordinator, Arctic and Transatlantic Programmes, Ecologic Institute, Berlin, Germany

Panelists**Dr. Susan K. Avery**President and Director, Woods Hole Oceanographic Institution,
Woods Hole, MA, USA**Dr. Iris Menn**

Oceans and Biodiversity Campaigner, Greenpeace e.V., Hamburg, Germany

Professor Hans J. PetersAdjunct Faculty Member, School of Public Policy, George Mason University; Former
Lead Arranger and Chief Advisor, The World Bank Group, Washington, D.C., USA**6.30 pm****Bus transfer** from the SIDE Hotel to the dinner location**7:00 pm****Reception and Dinner****Hauptzollamt Hafen Hamburg** (Former Chief Customs Office)

Room: Zollhalle, Alter Wandrahm 19-20, 20457 Hamburg

Welcome**Paul Nemitz**Head of Unit, Maritime Policy in the Atlantic, Arctic and Outermost Regions,
European Commission, DG MARE, Brussels, Belgium**Dinner Speech****Professor Manuel Pinto de Abreu**

Head, The Task Group for Maritime Affairs (EMAM), Paço de Arcos, Portugal

THE PORTUGUESE MARITIME STRATEGY: A NEW ERA OF DISCOVERIES**Frank Schweikert**

Director, ALDEBARAN Marine Research & Broadcast, Hamburg, Germany

Introduction of the German Oceans Foundation**Guests****'Jugend musiziert'** (Youth plays music) – The Auerbach Quartett**Bus transfer** back to the SIDE Hotel

Friday, July 1, 2011

Conference **Bucerius Law School**
Venue Moot Court, Jungiusstrasse 6, 20355 Hamburg, Germany

9:00 am **Session 5**

**ARCTIC CHALLENGES: INTERNATIONAL COOPERATION
 IN THE USE OF ARCTIC RESOURCES**

Topics to be discussed:

- The future of the Arctic Council
- Exploitation and perspectives for oil, gas and shipping in times of rapid climate change
- Mining the Arctic: costs and benefits for the indigenous peoples
- The protection of the Arctic marine environment
- Why Europe needs the Arctic – the development of an EU Arctic policy
- The business perspective

Moderator **John B. Richardson**
 Special Adviser on Maritime Affairs, FIPRA International, Brussels, Belgium

Panelists **Dr. Terry Fenge**
 Consultant on Arctic, Environmental and Aboriginal Affairs; Principal,
 Terry Fenge Consulting Incorporated, Ottawa, Canada

Professor Karin Lochte
 Chair, German Marine Research Consortium (KDM); Director, Alfred Wegener Institute
 for Polar and Marine Research in the Helmholtz Association, Bremerhaven, Germany

Professor Peter Schlosser
 Associate Director and Director of Research, The Earth Institute,
 Columbia University, New York, NY, USA

Kirsten Ullbæk Selvig
 Director General, Ministry of Fisheries and Coastal Affairs, Oslo, Norway

The Honorable Dr. Anton Vasiliev
 Ambassador at Large, Ministry of Foreign Affairs of the Russian Federation,
 Moscow, Russia

Steffen Weber
 Co-Founder and Secretary General, EU-ARCTIC-Forum; Chief Adviser, Arctic Report,
 European Parliament, Brussels, Belgium

11:00 am **Coffee Break**

11:30 am **Session 6**

TRANSATLANTIC COOPERATION IN OCEAN GOVERNANCE

Topics to be discussed:

- Who are the important players?
- Bringing the stakeholders on board
- Which role does Europe want to play?
- The U.S. Joint Ocean Commission Initiative – A model for a future European Ocean Commission?
- Potentials for transatlantic cooperation

Moderator **R. Andreas Kraemer**
Director, Ecologic Institute, Berlin, Germany

Panelists **Laura Cantral**
Senior Mediator and Program Director, Joint Ocean Commission Initiative,
Meridian Institute, Washington, D.C., USA

Professor Biliana Cicin-Sain
Director, Gerard J. Mangone Center for Marine Policy; Professor of Marine Policy,
University of Delaware's College of Earth, Ocean, and Environment; President,
Global Oceans Forum, Newark, DE, USA

Paul Holthus
Executive Director, World Ocean Council, Honolulu, HI, USA

Dr. Tiago Pitta e Cunha
Counselor for the Environment, Science and Maritime Affairs to the President
of Portugal, Lisbon, Portugal

1:00 pm **Closing Remarks**

Moderator **Professor Dieter Feddersen**
Member of the Board, Dräger Foundation, Lübeck, Germany

Speakers **Dr. Robert B. Gagosian**
President and CEO, Consortium for Ocean Leadership, Washington, D.C., USA

**THE NEW U.S. OCEAN POLICY AND THE GLOBAL OCEAN OBSERVING SYSTEM –
A MODEL FOR TRANSATLANTIC COOPERATION**

Paul F. Nemitz
Head of Unit, Maritime Policy in the Atlantic, Arctic and Outermost Regions,
DG MARE, European Commission, Brussels, Belgium

**EUROPE AS THE DRIVING FORCE BEHIND SUSTAINABLE AND SMART USE OF
OCEAN RESOURCES**

1:45 pm **Lunch and End of the Conference**

The Speakers





DR. SUSAN K. AVERY
President and Director, Woods Hole Oceanographic Institution,
Woods Hole, MA, USA

Dr. Susan K. Avery took office as the ninth President and Director of the Woods Hole Oceanographic Institution in February 2008. With a background in atmospheric research, Dr. Avery has used her position to underscore the importance of ocean-atmosphere-terrestrial interactions in understanding Earth as a system. She came to Woods Hole from the University of Colorado at Boulder (UCB), where she was a member of the faculty, and most recently served in interim positions as Vice Chancellor for Research and Dean of the Graduate School, as well as Provost and Executive Vice Chancellor for Academic Affairs.

Dr. Avery also served as director of the Cooperative Institute for Research in Environmental Sciences (CIRES) at UCB from 1994 to 2004, where she facilitated interdisciplinary research spanning the geosciences and social and biological sciences. Her research interests include atmospheric circulation and precipitation, the development of new radar techniques and instruments for observing the atmosphere, and the role of climate science in decision support.

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DR. UDO BARCKHAUSEN
Private Lecturer, BGR (Federal Institute for Geosciences and Natural Resources), Hanover, Germany

Geophysicist Priv.-Doz. Dr. Udo Barckhausen was born at the small town of Celle in Lower Saxony, Germany. He studied physics and geophysics at the Universities of Göttingen and Kiel. In 1993 he received the diploma, obtained his PhD in 1996, and his habilitation in 2009, all in geophysics. He was a Postdoc at Göttingen University working on borehole measurements before he joined the Federal Institute for Geosciences and Natural Resources (BGR) in Hanover, Germany, in 1998. In 1999/2000 he held a Research Fellowship at the Scripps Institution of Oceanography, San Diego, USA, where he worked on plate tectonics at convergent margins. In 2003, Barckhausen was delegated to the Federal Ministry of Economics and Technology in Berlin for one year. In 2010/11 he spent six months as a visiting scientist at the National Oceanic and Atmospheric Administration (NOAA) in Boulder, USA. From 2001 on he has been giving lectures at the Leibniz University in Hanover and later also at Göttingen University. Since 2005 he has been a member of the board of the German Geophysical Society. His focal areas of activity and research are methods of Applied Geophysics and seagoing geophysical expeditions.

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BRENT GOFF
Senior News Anchor, Deutsche Welle (DW),
Berlin, Germany

Brent Goff is a senior news anchor for Deutsche Welle (DW) TV's English program in Berlin. He anchors the news program, "Journal." Before his move to the main anchor desk, Brent presented the business news and hosted the weekly business magazine show, "Made in Germany." Mr. Goff can also be heard on numerous German radio stations offering analysis of American media, business, and foreign policy. He is also an adjunct professor in journalism at Touro College in Berlin and at the Hamburg Media School. Prior to joining DW, Mr. Goff worked as a producer for CNN in Berlin and Washington. He has also reported for Time magazine.

Mr. Goff was nominated as a "Young Global Leader" at the World Economic Forum in 2008 for his excellent reporting and anchoring on the financial crisis.

In 1995, he was awarded the Edward R. Murrow Prize for excellence in investigative journalism. Mr. Goff came to Germany in 1995 as a Fulbright Scholar, where he was a guest researcher and a lecturer at the Institute for Journalism at Hamburg University. He was a Robert Bosch Fellow in Berlin in 1999-2000.

Mr. Goff holds an MA in German and European Studies from Georgetown University and BAs in German, Political Science and Journalism from the University of Missouri.

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THE HONORABLE PROFESSOR DR. VLADIMIR GOLITSYN
Judge, International Tribunal for the Law of the Sea,
Hamburg, Germany

Judge Golitsyn, a national of the Russian Federation, has been active in the field of international law and, in particular, the law of the sea, for almost four decades.

At government level he headed the Division of Public International Law at the Ministry of Foreign Affairs of the former USSR and, as head or member of delegations, conducted various negotiations on fishery, navigation and maritime boundary matters, as well as on the Arctic and Antarctica. In July 2007, he acted as chief legal counsel of the Russian Federation’s delegation/team in the proceedings of two prompt release cases brought by Japan against the Russian Federation before the International Tribunal for the Law of the Sea (the “Hoshinmaru” and “Tomimaru” cases).

At the United Nations, he worked for 25 years at the Office of the Legal Counsel and as director of the Division for Ocean Affairs and the Law of the Sea. During this time he has been involved in a wide range of legal issues. In academia, he has been vice president of the Russian Association of International Maritime Law and professor of international law at the Moscow State Institute of International Relations and the Diplomatic Academy, where he completed his PhD on the legal regime of Antarctica. He has published extensively on various issues relating to the law of the sea.

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VLADIMÍR JAREŠ
 Senior Legal Officer, Division of Ocean Affairs & the Law of the Sea (DOALOS),
 Office of Legal Affairs, United Nations; Deputy Secretary, Commission of the
 Limits of the Continental Shelf, New York, NY, USA

Mr. Vladimír Jareš is Senior Legal Officer with the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs of the United Nations Secretariat. He has been a staff member of the United Nations Secretariat since December 1992.

He deals with a number of issues concerning the law of the sea, in particular maritime spaces, maritime boundary delimitation as well as certain depositary functions of the Secretary-General under the United Nations Convention on the Law of the Sea. He has been a member of the team which provides services to the Commission on the Limits of the Continental Shelf since the establishment of the Commission. Currently he is the Deputy-Secretary of that body. He is also involved in capacity-building activities of the Division. In his first years at the United Nations, he dealt with fisheries issues in the context of the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks. He has been involved in the preparation of a number of publications issued by the Division, such as the United Nations Convention on the Law of the Sea with Index (1997 edition), International fisheries instruments with Index, Handbook on the Delimitation of Maritime boundaries, and the Law of the Sea Bulletin.

Prior to his career as an international civil servant, he was Second Secretary at the Permanent Mission of Czechoslovakia to the United Nations in New York. He also served for two years as Special Assistant to the Deputy Foreign Minister of Czechoslovakia, after having started his career as a Legal Officer in the International Law Department of the Federal Ministry of Foreign Affairs of Czechoslovakia.

He has a master's degree in international law from the Moscow State Institute of International Relations (MGIMO-University), 1985, and a master's degree in law from Charles University in Prague (Czechoslovakia), 1986.

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PROFESSOR DR. DORIS KÖNIG
Professor of Public Law, European Union Law and International Law,
Bucerius Law School; Chair, International Foundation for the Law of the
Sea (IFLOS), Hamburg, Germany

Doris König has been Professor of Public Law, European Union Law and International Law at Bucerius Law School in Hamburg since October 2000. She studied law at Kiel University from 1975 to 1980. In 1981/82 she gained the post-graduate degree of Master of Comparative Law (M.C.L.) at the University of Miami School of Law. In 1989 she completed her doctoral thesis on port state jurisdiction at the Walther Schücking Institute of International Law at Kiel University. From 1989 to 1992 she served as a judge at the Hamburg State Court. In 1992 she returned to Kiel University as a senior research assistant. She completed her post-doctoral thesis on the transfer of sovereign rights within the framework of the European integration process in 1998, and received the *Venia legendi* in Public Law, International Law and European Community Law. She is a member of the Advisory Committee of International Public Law at the German Foreign Office (since 2004) and German member of the PCA (since 2008).

Her main research interests are in the field of the international law of the sea, international environmental law, international human rights law and European Union law. In 2004, she took over the Chair of the newly founded International Foundation for the Law of the Sea (IFLOS), Hamburg. In this capacity, she organized a number of events and symposia in the field of the international law of the sea at the seat of ITLOS. Since summer 2007, IFLOS annually has been organizing a Summer Academy at ITLOS, focused on selected topics in the law of the sea and maritime law.

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R. ANDREAS KRAEMER
Director, Ecologic Institute, Berlin, Germany

Active in sustainable development, environment policy, climate and energy policies for over 20 years, R. Andreas Kraemer has been Director of Ecologic Institute since its foundation in 1995. In April 2008, he became chairman of the Ecologic Institute in Washington, D.C. – Ecologic’s newly incorporated presence.

Since 1993 he has been also a Visiting Assistant Professor at Duke University, lecturing on European integration and environmental policy in the Duke-in-Berlin-Program. Andreas is Co-Chairman of the advisory board of OekoWorld, setting criteria for global investment for a group of ethical and “green” investment funds or mutual trusts, and of Oekom Research, a rating agency specialising in corporate and governmental or “sovereign” debtors’ ethics and sustainability. He also serves on the Boards of the Bellagio Forum for Sustainable Development and the French-Alsatian NGO Solidarité Eau Europe, and is a coordinator of the British German Environment Forum.

With a strong background in institutional analysis and capacity building in sustainable development, environmental policy and resource management, he now focuses on integrating environmental concerns into other policies, notably EU General Affairs and external relations, including trade, development, foreign affairs and security policy. He is particularly engaged in strengthening transatlantic relations and cooperation on environment, climate and energy security.

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DR. PUSHPAM KUMAR
Chief, Ecosystem Services Economics Unit, Division of Environmental Policy Implementation (DEPI), United Nations Environment Programme (UNEP), Nairobi, Kenya

Dr. Pushpam Kumar is Chief of the Ecosystem Services Economics Unit at UNEP’s Division of Environmental Policy Implementation, where he applies the tools and techniques of ecological economics to mainstream ecosystem services into development policy. He has been engaged in international scientific efforts to assess biodiversity, ecosystems and climate change.

Dr. Kumar was Co- Coordinating Lead Author and Co- Coordinator of the Responses Working Group for Millennium Ecosystem Assessment, and Lead Author for the Fourth Assessment of the IPCC (Mitigation). Besides being a member of the study leader team of the Economics of Ecosystems and Biodiversity (TEEB), he was also the Scientific Co- Coordinator of the Conceptual Framework for the TEEB. He was head of the Technical Support Unit of the Responses Working Group, Millennium Ecosystem Assessment (MA), and was instrumental in designing, leading and coordinating inputs from 400 natural and social scientists from different disciplines and cultural backgrounds all over the world. He is a Member of the Expert Panel for the UK National Ecosystem Assessment (2009-2011) and an elected Member of the Board of the European Society for Ecological Economics (ESEE).

Dr. Kumar has taught and conducted research in ecological economics at the universities of Liverpool, Cambridge and Delhi for the last two decades. His research has focused on designing market-based response options for management of biodiversity, economics of ecosystem services, ecosystem accounting, and linkages of poverty and environment. Dr. Kumar has numerous publications in peer reviewed journals of international repute.

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PROFESSOR DR. KARIN LOCHTE
Chair, German Marine Research Consortium (KDM); Director, Alfred Wegener Institute for Polar and Marine Research in the Helmholtz Association, Bremerhaven, Germany

Professor Dr. Karin Lochte (*1952) has been director of the Alfred Wegener Institute for Polar and Marine Research in the Helmholtz Association situated in Bremerhaven, Germany, since November 2007. Using her position to promote the large scientific tasks related to Polar Sciences, she has been acting as delegate of the “Scientific Committee on Antarctic Research” since 2008. Karin Lochte is and was member of numerous national and international committees. Since 2004 she has been member of the German Wissenschaftsrat and held the chair of the scientific commission from 2006 to 2008. Since 2004 she has been chairing the “Senatskommission für Ozeanographie“.

Prior to her directorship at the Alfred Wegener Institute, between 1990 and 1994, Karin Lochte already has been involved in scientific research at this institution on the bacterial colonisation and activity of bacteria in sea ice. From 1995 to 2007, she had been lecturing on Biological Oceanography, at the universities of Rostock and Kiel. From 2000 to 2007 Karin Lochte was head of the research unit Biological Oceanography at the Leibniz Institute for Marine Sciences, in whose council she is actual member. From 1995 to 2000, Karin Lochte was head of the similar research unit at the Leibniz-Institut für Ostseeforschung in Warnemünde.

In 1994, Karin Lochte received her Venia legendi at the University of Bremen. Prior to her professorship, she worked on the topic “Deep Sea Microbiology” from 1985 to 1990 at the Institute for Marine Sciences, University of Kiel. Karin Lochte received her PhD in Marine Biology at the University College of North Wales, UK, in 1984.

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DR. TIAGO PITTA E CUNHA
Counselor for the Environment, Science and Maritime Affairs to the President of Portugal, Lisbon, Portugal

Dr. Tiago Pitta e Cunha was born in Lisbon in March 1967. He received his degree in Law by the Universidade Católica Portuguesa (Catholic University of Portugal) in 1990, and his LL.M. (Legis Magister) in European and International Law by the London School of Economics and Political Science in 1994.

He was Advisor to the President of the United Nations General Assembly from 1995 to 1996, was a delegate to the 6th Committee of the UN General Assembly in 1998 and a Counsellor in the Permanent Mission of Portugal to the United Nations General Assembly from 1999 to 2002.

Dr. Tiago Pitta e Cunha represented Portugal and the then 15 Member States of the EU in the UN on Oceans Affairs during the Portuguese and the French EU Presidencies in 2000. He was a delegate to the International Sea Bed Authority, where he was Vice President of the Council, the UN Informal Consultative Process on Oceans and in the Assembly of State Parties of the UN Convention on the Law of the Sea.

In 2003, the Portuguese Prime Minister appointed him Coordinator of the Oceans Strategic Commission, a high-level working group in charge of designing the Country's national strategy for the oceans. He was a member of the Cabinet of the European Commissioner for Maritime Affairs from November 2004 to February 2010, and was in charge of the development of the new EU Integrated Maritime Policy.

Currently Dr. Tiago Pitta e Cunha is Counselor for the Environment, Science and Maritime Affairs to the President of Portugal.

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PROFESSOR DR. PETER SCHLOSSER
**Associate Director and Director of Research, The Earth Institute,
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Peter Schlosser, Director of the Columbia Climate Center, is Vinton Professor of Earth and Environmental Engineering and Professor of Earth and Environmental Sciences at Columbia University, New York. He is Associate Director and Director of Research of the Earth Institute at Columbia University and serves as Chair of the Earth Institute Faculty. He received a M.S. from Heidelberg in 1981 and a PhD in 1985. Schlosser's research focuses on water systems, primarily in oceans and groundwater including problems caused by human impact. His ocean research concerns water circulation in the ocean surface, movement into the deep ocean, and circulation patterns within the deep ocean. His groundwater flow studies concern shallow and deep aquifers, especially as they relate to past continental climate and environmental risk/impact studies. Current research also is directed toward exploration of mixing and gas exchange in river and estuary environments. Schlosser is past Chair of the SEARCH program (Study of Environmental Arctic Change), Co-Chair of the Science Steering Group for ISAC (International Study of Arctic Change), and Member of the National Academy of Sciences Committee on the Future of Antarctic Science. He has served on a variety of national and international science steering and advisory committees. He is a Fellow of the American Geophysical Union and the American Association for the Advancement of Science and presently serves as President of the Ocean Sciences Section of the American Geophysical Union.

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THE HONORABLE DR. ANTON VASILIEV
Ambassador at Large, Ministry of Foreign Affairs of the Russian Federation,
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Anton Vasiliev graduated from the Moscow State Institute of International Relations in 1976.

In 1983 he obtained his PhD in Economics from the USSR Academy of Sciences.

Between 1976 and 1996 he held three postings in the USSR/Russian Embassy in Beijing, China, including DCM from 1993 to 1996. In between he served in the Ministry of Foreign Affairs (MFA) of the USSR/Russia in Moscow and was Deputy Director of the MFA First Asian Department.

From 1996 to 2002 he was Deputy Director of the Department for Security and Disarmament Affairs, MFA, Moscow. During that time he was also Head of the Russian Delegation to the Joint Compliance and Inspections Commission of the START Treaty.

From 2002 to 2007 he was Deputy Head of Mission of the Russian Federation in Geneva, Switzerland, representing Russia at the Conference on Disarmament.

Since January 2008 he has been the Ambassador at Large (Arctic Cooperation), MFA of the Russian Federation. He is Senior Arctic Official of Russia in the Arctic Council as well as Senior Official of Russia in the Barents Euro-Arctic Council (BEAC). He was the Chairman of the Committee of Senior Officials of BEAC for the period of the Russian Chairmanship of the Council from 2007 to 2009.

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