



Health of the seas and oceans and their role in the present and future of humanity

Scientific perspective and future scenarios for a sustainable coexistence between Humanity and Oceans



Casina Pio IV, Vatican City
June 8, 2022 – The World Oceans Day



The universe as a whole, in all its manifold relationships, shows forth the inexhaustible riches of God. Saint Thomas Aquinas wisely noted that multiplicity and variety “come from the intention of the first agent” who willed that “what was wanting to one in the representation of the divine goodness might be supplied by another”, inasmuch as God’s goodness “could not be represented fittingly by any one creature”. Hence we need to grasp the variety of things in their multiple relationships. We understand better the importance and meaning of each creature if we contemplate it within the entirety of God’s plan. As the Catechism teaches: “God wills the interdependence of creatures. The sun and the moon, the cedar and the little flower, the eagle and the sparrow: the spectacle of their countless diversities and inequalities tells us that no creature is self-sufficient. Creatures exist only in dependence on each other, to complete each other, in the service of each other”. When we can see God reflected in all that exists, our hearts are moved to praise the Lord for all his creatures and to worship him in union with them.

*Encyclical Letter Laudato Si’ of The Holy Father Francis
on care for our common home*

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Pontifical Academy of Sciences | Casina Pio IV, Vatican City

June 8, 2022 – The World Oceans Day

A meeting at the Pontifical Academy of Sciences in the Vatican, in collaboration with Stazione Zoologica Anton Dohrn, to discuss ideas and possible solutions for sustainability in the UN decade (2021-2030) dedicated to the Oceans for sustainable development and 8 years from the goals of the 2030 Agenda.

The United Nations Decade for Ocean Science for Sustainability began in 2021 and we have less than a decade to reach the sustainable development goals of the UN Agenda 2030, *inspired by Pope Francis' encyclical Laudato Si'* and defined by world's leaders during the historical agreements in Paris in 2015.

This is an unprecedented period in the history of humanity for the potential impacts on the quality of our lives. The sea is increasingly the resource of the future to make man's impact on the planet sustainable. By the end of this century, there will be around 11 billion people on the planet. In a finite system like the earth - where already today if all populations lived and consumed according to the habits of Europeans and North Americans we would need 2.5 planets earth to feed everyone and, at the same time, be able to mitigate the impacts of man - we must think that 70% of the earth's surface and 90% of its volume are composed of water and almost exclusively of seas and oceans. Their knowledge of the oceans will therefore be increasingly fundamental for our health, the nutrition of the planet, the production of renewable energy, mineral resources and the production of drugs.

How are our seas and oceans? What can they offer us in terms of fair and solidarity wellness for humanity? Can we sustainably feed, heal and supply materials and energy to a growing human population, thanks to the oceans? How to protect this universal and limited common good? What are the proposals and solutions from science today to make seas and oceans healthy and prosperous for future generations? How can contribute Institutions, the Scientific Community and each of us to the knowledge of the factors that affect the balance of ecosystems and how to preserve them?

As Pope Francis says: *"it is not possible to live healthy in a sick world"*. It is therefore necessary to work for sustainable growth also in the use of sea resources. Many young people and adults, public and private decision makers and citizens, all over the world, mistakenly think that human impacts on one coast will have no consequences elsewhere. Compared to the land, in the sea there are no barriers and the traces of the origin of the pollution are less easily identifiable. We can release toxic substances in the Gulf of Mexico that in a few weeks come to contaminate the Mediterranean Sea. *The sea gives back what we give*. There are many cases of marine pollution that affect human health. But the sea - its research and knowledge - can also provide many opportunities for our health, because marine organisms provide us with a real pharmacy of the sea, with their compounds and natural products. Let's think, for example, of compounds attracted by sea sponges to treat some cancers, of compounds to improve the quality of food. About one billion people depend solely on the resources of the sea for food and living. In this complex international shared scenario, there are industrialized countries with fleets of ships that can fish without rules outside their borders, in waters outside national legal borders, ecosystems, social life, economies and stealing food from the poorest and needy populations.

The sea confronts us with enormous planetary social opportunities and responsibilities, from which as citizens and as social political scientific communities we can no longer escape. The international scientific studies of the group of scientists of the United Nations Intergovernmental Panel on Climate Change - relaunched with the daily commitment of millions of young people and students around the world after the signing of the historical agreements of Paris in 2015 - clearly demonstrate that *we are getting closer in the coming decades to a point of no return if we do not change our individual and collective way of consuming, living, working, fishing, producing energy, thinking and managing the most precious common goods of creation; like the air we breathe, the sea where we live, swim, fish, the land we cultivate and feeds us, the beauty of the nature that surrounds us.*

For years, several world-renowned researchers and scientists - some of the most prestigious will participate in the International Conference at the Pontifical Academy of Sciences - have presented studies and appeals both at the level of individual nations and international institutions, including the United Nations, for greater and concrete international collaboration for the exploration, protection and enhancement of the oceans, as is done for space with the European Space Agency, to avoid leaving behind those nations not having resources and technologies to tackle studies in oceanic areas beyond national borders. It is sobering that the earth and the oceans - essential ecosystems for the health of the planet and of human, animal, marine and plant species - have been in danger for years with investments in the world about 10 times lower than those for space research. 50% of the oceans are outside the legal boundaries of individual nations and should be managed as universal common goods of the planet.

We do not know if there will be the possibility of living on other planets while it has been scientifically documented for over 50 years that we are destroying terrestrial and marine habitats and that our children and grandchildren will pay a price - never so high - in terms of health and the environment, species protection and much more. It is a great cultural deception the adventure of searching life on other planets, while we are destroying the “only one” we live in, which will have unprecedented consequences in the history of humanity in particular on the weakest and most defenceless sections of the population and the poorest nations.

It should be a priority for everyone to try to understand, protect and learn more about the sea and oceans. The seas, with their average depth of 4 km, remain inscrutable to satellites and to reveal their secrets and opportunities we need advanced technologies and a sustainable use of resources, starting with renewable and clean energies such as offshore wind farms. Nations investing in marine research are gaining a great competitive advantage in knowledge and opportunities for economic and social development. Seas and oceans will be a key theme in the international politics and national agendas of the future and more cooperation among countries is needed for a higher and more universal noble purpose that will impact the lives of our children and grandchildren.



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Memorandum

The conference will take place in the Casina Pio IV in the Vatican City, and on Zoom. Formal proceedings will kick off at 9:00 a.m. (Rome time).

Speakers will have 25 minutes: 20 minutes for their speech, and 5 minutes for a brief Q&A. At the end of all talks in a Session, the chair will moderate a solutions-oriented General Discussion (30 minutes).

We kindly ask you to send us copy of your presentation no later than June 5th, at the following email address: events@pas.va

If you have slides or other visuals to accompany your presentation, please share those with us as well. While participants should feel free to project slides from their own computer, we'd like to compile the full set in case of any technical difficulties.

CASINA PIO IV
8th June, 2022

09:00-09:30 **Welcome and Opening Remarks**
Joachim von Braun, *President, Pontifical Academy of Sciences*
H.Em. Cardinal Peter K. A. Turkson, *Chancellor, Pontifical Academy of Sciences*
Roberto Danovaro, *President, Stazione Zoologica Anton Dohrn*

SESSION I
Seas and Oceans under threat: present and future

Chair: **H.Em. Cardinal Peter K. A. Turkson**, *Chancellor, Pontifical Academy of Sciences*

09:30-09:55 **Impacts of climate change on the oceans**
Martin Visbeck, *GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany*

09:55-10:20 **Deep-sea Biodiversity Frontiers and Challenges in the 21st Century**
Lisa Levin, *Scripps Institution, USA*

10:20-10:45 **The Role of Culture in Ocean and Human Health**
Rose Boswell, *Ocean Cultures and Heritage at Nelson Mandela University, South Africa*

10:45-11:15 Discussion

11:15-11:45 *Coffee break*

SESSION II
Natural capital, ecosystem services and Blue Economy

Chair: **Adrianna Ianora**, *Stazione Zoologica Anton Dohrn, Italy*

11:45-12:10 **Natural capital, biodiversity and ecosystems services: price vs value**
Ferdinando Boero, *European Marine Board, President Dohrn Foundation*

12:10-12:35 **Oceans for a renewable future**
Thomas Telsnig, *European Commission*

12:35-13:00 Discussion

13:00-15:00 *Lunch*

SESSION III

Food and health from a sustainable ocean

Chair: Lisa Levin, *Scripps Institution, USA*

- 15:00-15:25 **Blue Food opportunities**
Jim Leape, *Stanford, co-director of the Center for Ocean Solutions*
- 15:25-15:50 **Marine biotechnology: a one health approach to linking life on land to life underwater**
Timothy Bouley, *Exeter Univ. Center for Environment and human health*
- 15:50-16:15 **Marine life for new medicines, human wellbeing and health**
Adrianna Ianora, *Stazione Zoologica Anton Dohrn, Italy*
- 16:15-16:45 Discussion
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- 16:45-17:15 *Coffee break*
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SESSION IV

Restoring the ocean: Solutions for the future of humanity

Chair: H.E. Msgr. Marcelo Sánchez Sorondo, *Immediate past PAS Chancellor*

- 17:15-17:40 **Global initiatives for monitoring and combating water pollution**
Kenneth Mei Yee Leung, *City University of Hong Kong* 📺 *via Zoom*
- 17:40-18:05 **Oceans at the intersection of geopolitics, environment, and sustainable development**
Jeffrey Sachs, *President of the UN Sustainable Development Solutions Network, Pontifical Academy of Social Sciences Academician*
- 18:05-18:30 **Infinity fish for a sustainable blue economy**
Rashid Sumaila, *Fisheries Economics Research Unit, University of British Columbia*
- 18:30-18:55 **Restoring marine ecosystems for the future of the oceans**
Roberto Danovaro, *Polytechnic University of Marche, Stazione Zoologica Anton Dohrn*
- 18:55-19:20 Discussion
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SESSION V

Conference Statement and Closing Remarks

- 19:20-19:40 **Roberto Danovaro, H.Em. Card. Peter K. A. Turkson, Joachim von Braun**
The final statement will be shared with Pope Francis
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- 19:45-21:30 *Dinner*
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List of Speakers



Ferdinando Boero, Professor of Zoology. Chair of the Stazione Zoologica Anton Dohrn. Associated with CNR-IAS. President of the Dohrn Foundation. Member of the European Marine Board. Vice-president of the Marevivo environmental association, member of the Scientific Council of WWF Italy, and Pro Natura. He has coordinated numerous national and international research projects, has published hundreds of articles, book chapters and books on: Marine Biodiversity and Ecosystem Functioning, Marine Protected Areas, Evolution, Scientific communication, Sustainability. He has conceived the exhibit of the Darwin Dohrn Museum of the Zoological Station Anton Dohrn. Main honors: Grand Medaille Albert 1er pour l'Océanographie of the Institute Océanographique de Paris. Medal of the National Academy of Sciences for the Class of Physical and Natural Sciences Golden Trident.



Prof. Rose (Rosabelle) Boswell, is an anthropologist, author and poet who is passionate about human diversity, social justice and gender equality. She is presently employed as a National Research Foundation Chair in Ocean Cultures and Heritage, in South Africa. Her current research is focused on the investigation of coastal cultural heritages in five African countries: South Africa, Namibia, Mozambique, Tanzania and Kenya. Over the past 20 years she has conducted field research on cultural heritage and identity in the southwest Indian Ocean region (Mauritius, Madagascar, Seychelles, Zanzibar). She is author of *Le Malaise Creole: Ethnic Identity in Mauritius* (Oxford, Berghahn Books), *Challenges to Identifying and Managing Intangible Cultural Heritage in Mauritius, Zanzibar and Seychelles* (Dakar, CODESRIA), *Representing Heritage in Zanzibar and Madagascar* (Addis Ababa, Eclipse) and was lead editor of *Postcolonial African Anthropologies* (Pretoria, HSRC Press). Her latest outputs are an edited book: *The Palgrave Handbook of Blue Heritage* (2022) and a poetry anthology *Between Worlds* (2022) on climate change and ocean sustainability. Rosabelle's research teams work across disciplines in Africa and beyond. She is a member of the UKRI GCRF project One Ocean Hub.



Timothy Bouley has spent more than 20 years working across topics that transect biotechnology, medicine, and the environment. He is the CEO and co-founder of BioFeyn, a new biotechnology company translating human biomedical innovation to improve animal health and the environment. Prior to this, he established several of the first programs in planetary health at the World Bank, directing new investment into climate change and health, one health, and oceans. He has published and lectured widely on the relationship of human health to the environment and served as a regular advisor to governments, financial institutions, and industry. He has held fellowships with the US National Academy of Sciences, Rockefeller Foundation, and University of Exeter and holds a certificate in Science and Religion from the Boston Theological Institute. Timothy has degrees in biology, bioethics, geography, and medicine from Tufts, Harvard, Oxford, and Duke.



Roberto Danovaro has been Pro-Rector (Delegated to the Research) at the Polytechnic University of Marche (2010-2013). President of the Scientific Council of WWF Italy, Steering Board Member of OECD (Fostering Innovation in Ocean Economy). Member of the Scientific Council of several research institutions and panels (IUCN, UNEP, EU), editor in chief of international journals and coordinator of several EU and international programs. President of the Italian Society of Ecology (2011-2013), and of the Italian Society of Limnology and Oceanography (2008-2011). President of the European Federation of Scientific Technological Societies (2008-2012). Member of the EU Academy of Sciences. Roberto Danovaro received several Awards, including the World Prize BMC Biology (London, 2010), the Award of French Society of Oceanography (2011), and the ENI Award "Protection of the Environment" (2013). Nominated in 2013 by the Ministry of Education University and Research (MIUR), President of the Stazione Zoologica Anton Dohrn (National Institute of Marine Biology Ecology and Biotechnology). In the 2018 was renewed as President of the Stazione Zoologica (2018-2022). In December 2020 Danovaro has been recognized by ExpertScape as the top World Scientist in the Category "Ocean and Seas" for the decade 2010-2020.



Adrianna Ianora, Vice-President and Member of the Administrative of the Stazione Zoologica Anton Dohrn (SZN), former Head of the Marine Biotechnology Department of the SZN. Author of more than 200 scientific publications, participation in numerous national/international projects, Steering Committee Member of European Networks of Excellence (MARBEF, EUROMARINE, MARS) and ERA-NET MARINE BIOTECHNOLOGY. Co-founder of the SZN-CNR spin-off company BioSEArch srl for the development of new pharmaceuticals, nutraceuticals and cosmeceuticals from marine microalgae where I am Chief Biology Officer and Member of the Administrative Council. My research uses ecological insights on plant-animal interactions in the plankton to increase rates of discovery of possible medicines and other beneficial health products from marine microalgae.



Jim Leape is the William and Eva Price Senior Fellow in the Stanford Woods Institute for the Environment. He also serves as co-director of the Center for Ocean Solutions. Through research, writing and direct engagement with private and public sector leaders, Jim looks at how to drive large-scale systemic shifts to sustainability, with particular interest in expanding private sector leadership on sustainability globally.

Jim has more than four decades of conservation experience, spanning a broad range of conservation issues on every continent. From 2005 to 2014, he served as Director General of WWF International and leader of the global WWF Network, one of the world's largest conservation organizations. In that capacity, he worked with government, business and civil society leaders on climate change, marine conservation, forest protection, water resources management, and sustainability in global commodity markets. Before going to WWF International, Jim directed the conservation and science program of the David and Lucile Packard Foundation, a leading philanthropy in the U.S. Previously, he served as executive vice president of WWF-US in Washington, D.C.; as a lawyer for the United Nations Environment Programme in Nairobi, Kenya; as a law professor; and as a litigator for the National Audubon Society and for the U.S. Department of Justice.

Jim serves on the board of the Marine Stewardship Council, as a member of the World Economic Forum's Friends of Ocean Action, and an expert advisor to the High-Level Panel for a Sustainable Ocean Economy. From 2007 to 2017, he was a member of the China Council for International Cooperation in Environment and Development, which advises the Premier of China. He is a graduate of Harvard College and Harvard Law School.



Kenneth Leung is the Director of State Key Laboratory of Marine Pollution and Chair Professor of Environmental Toxicology and Chemistry at Department of Chemistry in the City University of Hong Kong. He accomplished his Higher Diploma in Applied Sciences (Environmental Science & Technology) with distinction at the City Polytechnic of Hong Kong in 1992, a BSc degree in Applied Environmental Sciences with first class honours at the University of Portsmouth in 1993, and a MPhil degree in Environmental Science at the City University of Hong Kong in 1996. As a recipient of the Swire's James Henry Scott PhD Scholarship, he received doctoral training at the University of Glasgow and obtained his PhD in Marine Ecotoxicology in 2000. He was subsequently awarded The Croucher Foundation Fellowship, enabling his postdoctoral study in ecological risk assessment of industrial chemicals at Royal Holloway, University of London (2000-2001). He firstly joined the University of Hong Kong (HKU) as Research Assistant Professor in January 2002 and was promoted to Assistant Professor, Associate Professor (Tenured) and Professor in 2003, 2009 and 2013, respectively. During his tenure at HKU (January 2002 - July 2020), he also served as a Research Scientist at the Swire Institute of Marine Science, the Warden of Morrison Hall (2011-2017), the Associate Dean (Research and Graduate Studies) at Faculty of Science (2014-2016) and Acting/Interim Director of School of Biological Sciences (2018-2019). He is a founding Editor-in-Chief of Regional Studies in Marine Science, and serves on the Editorial Boards of the Canadian Journal of Zoology, Journal of Hazardous Materials Letters, Marine Pollution Bulletin, and Ocean Science Journal. In recognition of his contributions to aquatic ecology and environmental toxicology in Asia-Pacific region, he was awarded the 19th Biwako Prize for Ecology by the Ecological Society of Japan, and conferred as a Fellow of the Society of Environmental Toxicology and Chemistry (SETAC) in 2017. In 2018, he was

selected as one of the top 100 Asian Scientists by Asian Scientist Magazine. In May 2022, Professor Kenneth Leung has been admitted as a Fellow of the Royal Society of Chemistry. Such an honour is given to professionals who have made an impact in any field of chemical sciences.

He is currently serving as an expert member in various advisory committees (e.g. Advisory Council on the Environment, Country and Marine Parks Board) for the Government of the Hong Kong Special Administrative Region (HKSAR). Owing to his professional achievements and dedicated community services, he was selected as one of the “Ten Outstanding Young Persons” for Hong Kong by Junior Chamber International in 2010. In 2018, he was appointed as a Justice of the Peace by the HKSAR Government.



Lisa Levin is Distinguished Professor at the Scripps Institution of Oceanography at the University of California San Diego and was Director of the Center for Marine Biodiversity and Conservation and Oliver Chair from 2011-2017.

Levin is a marine ecologist who studies benthic ecosystems in the deep sea and shallow water. Together with her students, she has worked with a broad range of taxa, from microbes and microalgae to invertebrates, fishes and whales. Her recent research has emphasized 3 major themes: (1) the structure, function and vulnerability of biodiversity on continental margin ecosystems, particularly those subject to oxygen and sulfide stress; (2) wetland biotic interactions as they mediate marsh function, invasion and restoration; and (3) larval ecology of coastal marine populations with emphasis on connectivity. Levin has participated in over 50 oceanographic expeditions in the Pacific, Indian and Atlantic Oceans and served as Chief Scientist on about half of these.

Levin is the author or co-author of more than 300 scientific publications and was a Clarivate highly cited researcher in 2020 and 2021 (top 1%). She has served as Associate Editor of Science Advances, Annual Reviews of Marine Science, Limnology and Oceanography and Marine Ecology Progress Series, north American Editor of Marine Ecology, and has co-edited 5 special volumes on aspects of deep-sea biodiversity.

Dr. Levin is founder and co-lead of the Deep-Ocean Stewardship Initiative (DOSI), which seeks to integrate science, technology, policy, law and economics to advise on ecosystem-based management of resource use in the deep ocean and strategies to maintain the integrity of deep-ocean ecosystems within and beyond national jurisdictions. She co-leads the DOSI climate working group, bringing climate science to policy makers and raising awareness about climate change in the deep ocean. She also helped establish and co-leads the Deep Ocean Observing Strategy (DOOS), a program within the Global Ocean Observing System (GOOS) which aims to coordinate deep ocean-observing to address needs of climate science and society. Levin regularly contributes to IPCC reports, the World Ocean Assessment, and has participated in the past 7 UNFCCC COPs. Dr. Levin is a ‘Fellow of the Association’ of AAAS in Biological Sciences, a Fellow of the American Geophysical Union, and served as Pogo Visiting Professor in Namibia and South Africa. Levin was awarded the American Association of Limnology and Oceanography’s Redfield Lifetime Achievement Award in 2018 and the Prince Albert I Grand Medal in Ocean Science in 2019.



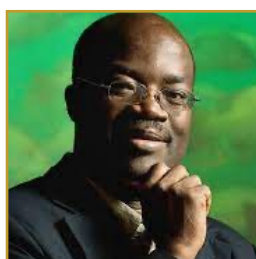
Jeffrey D. Sachs is widely recognized for bold and effective strategies to address complex challenges including the escape from extreme poverty, the global battle against human-induced climate change, international debt and financial crises, national economic reforms, and the control of pandemic and epidemic diseases.

Sachs serves as the Director of the Center for Sustainable Development at Columbia University, where he holds the rank of University Professor, the university’s highest academic rank. Sachs held the position of Director of the Earth Institute at Columbia University from 2002 to 2016. He is President of the UN Sustainable Development Solutions Network, Chair of the Lancet COVID-19 Commission, Co-Chair of the UN Council of Engineers for the Energy Transition, Commissioner of the UN Broadband Commission for Development, Tan Sri Jeffrey Cheah Honorary Distinguished Professor of Sustainable Development at Sunway University, academician of the Pontifical Academy of Social Sciences at the Vatican, and an SDG Advocate for UN Secretary General António Guterres. From 2001-18, Sachs served as Special Advisor to UN Secretaries-General Kofi Annan (2001-7), Ban Ki-moon (2008-16), and António Guterres (2017-18).

Sachs has authored and edited numerous books, including three New York Times bestsellers: *The End of Poverty* (2005), *Common Wealth: Economics for a Crowded Planet* (2008), and *The Price of Civilization* (2011). Other books include *To Move the World: JFK's Quest for Peace* (2013), *The Age of Sustainable Development* (2015), *Building the New American Economy: Smart, Fair & Sustainable* (2017), *A New Foreign Policy: Beyond American Exceptionalism* (2018), and most recently, *The Ages of Globalization: Geography, Technology, and Institutions* (2020).

Sachs was the co-recipient of the 2015 Blue Planet Prize, the leading global prize for environmental leadership. He was twice named among Time magazine's 100 most influential world leaders. Sachs has received 38 honorary doctorates. In 2021, Sachs received the TÜBA Academy Prize from the Turkish Academy of Sciences, the Legion of Honor by decree of the President of the Republic of France, and the Order of the Cross from Estonia, and honorary doctorates from Amrita University, Kerala, India, Macau University of Science and Technology, and the University of Siena, Italy.

Prior to joining Columbia, Sachs spent over twenty years as a professor at Harvard University, most recently as the Galen L. Stone Professor of International Trade. A native of Detroit, Michigan, Sachs received his B.A., M.A., and Ph.D. degrees at Harvard.



Rashid Sumaila is a Professor and Canada Research Chair (Tier 1) in Interdisciplinary Ocean and Fisheries Economics at the Institute for the Oceans and Fisheries, and the School of Public Policy and Global Affairs, University of British Columbia. His research focuses on bioeconomics, marine ecosystem valuation and the analysis of global issues such as fisheries subsidies, marine protected areas, illegal fishing, climate change, marine plastic pollution, and oil spills. Sumaila has experience working in fisheries and natural resource projects in Norway, Canada and the North Atlantic region, Namibia and the Southern African region, Ghana and the West African region and Hong Kong and the South China Sea. Dr. Sumaila received his Ph.D. (Economics) from the University of Bergen and his B.Sc. (Quantity Surveying) from the Ahmadu Bello University. Sumaila is widely published and cited. He won the 2017 Volvo Environment Prize and was named a Fellow of the Royal Society of Canada in 2019. His interest in the environment started early in life when his grandfather used to say people should “walk as if the ground feels pain” – this is sophisticated environmentalism! His specific interest in ocean and fisheries was picked in Norway. Sumaila enjoys exploring novel ideas and mentoring future thinkers. He loves waking up each day thinking of how best to contribute to ensuring that we bequeath a healthy ocean to our children and grandchildren so they too can have the option to do the same.



Thomas Telsnig graduated from the Technical University of Vienna in 2009 with a Master of Science degree in industrial engineering. He received his Ph.D. from the Institute of Energy Economics and Rational Energy Use (IER), University of Stuttgart in 2015. At IER he worked on numerous international research projects aiming for a sustainable energy transition in developing and transition countries.

Since 2016 he is working as an energy analyst, with a focus on wind energy, at the Joint Research Centre (JRC) of the European Commission, which supports EU policies with independent scientific evidence throughout the whole policy cycle.

Thomas provides policy support in the area of onshore and offshore wind, assisting the European Commission in the design and strategic direction of programmes and strategies. Main working areas include technology assessments, global markets, supply chain, industrial intelligence, analysis of R&D investments, collaboration patterns and competitiveness indicators.

Selected duties and responsibilities at the JRC:

- Contribute to the Strategic Energy Technologies Information System (SETIS) of the SET-Plan activities on wind
- Acting as Alternate Member of the European Commission in the IEA Technology Collaboration Programme on wind energy systems (IEA TCP Wind)
- Contributing to and representing JRC in different organisations (IEA Technology Collaboration Programme (TCP) Task 26 Cost of Wind Energy, SET-Plan TWG Offshore Wind)
- Provide substantive technological, methodological and strategic advice, inputs

and expertise to the EC's EU Blue Economy Report, the JRC's Low Carbon Energy Observatory (LCEO), the Clean Energy Technology Observatory (CETO), the EC's Coal Regions in Transition Platform, the EC's NER 300 initiative and the review of National Energy and Climate Plans (NECPs).

- Policy support to the EC's Recovery and Resilience Facility (RRF), the Offshore RES strategy of the European Green Deal, EC's Competitiveness progress reports and the EC's State of the Energy Union reports



Martin Visbeck is head of research unit Physical Oceanography at GEOMAR Helmholtz Centre for Ocean Research Kiel and professor at Kiel University, Germany.

His research interests revolve around ocean's role in the climate system, ocean circulation, upwelling systems, integrated global ocean observation, digital-twins of the ocean and the ocean dimension of sustainable development. He led the 'Future Ocean' Network in Kiel to advance integrated marine sciences by bringing together different disciplines to work on marine issues.

He serves on a number of national and international advisory committees including the WMO Research Board, Joint Scientific Committee of the World Climate Research Programme (WCRP), leadership council of the Sustainable Development Solutions Network (SDSN), Interim Decade Advisory Board for the UN Decade of Ocean Science Decade for Sustainable Development 2021-2030 and the Assembly supporting the development of the EU Horizon Europe Ocean Mission. He is the past President of The Oceanography Society (TOS), and was elected fellow of the AGU, AMS, TOS and the European Academy of Sciences.

Visbeck is involved in strategic planning and decision-making processes about the ocean and sustainable development at a national, European and global level.

For the biographies of PAS President, Chancellor and Immediate Past Chancellor, please see www.pas.va.



LOGISTICS: IN-PERSON ATTENDANCE

Dress Code is formal business attire.

Transfer from the Hotel to the Casina Pio IV and back: A shuttle bus will be waiting for you at **8:30 at the corner of Borgo Pio and via del Mascherino** (just a two minute walk from Hotel della Conciliazione) to bring you up to the Pontifical Academy of Sciences. After dinner, the shuttle will take you back to the Hotel della Conciliazione.

Food: We will provide coffee breaks, lunch and dinner on June 8th. If you have any food allergies or dietary requirements, kindly let us know in advance.

Covid restrictions: In-person participants will be required to follow all testing and travel protocols. Please continue to refer to government pages and <https://tinyurl.com/2p98p266> to understand evolving travel requirements.

The Vatican requires proof of full vaccination/Covid passport for entry.

During the workshop, participants are kindly requested to keep their FFP2/KN95 masks on indoors, except when giving their speech and during coffee breaks and meals.

Should you require tests for your return journey, there are a number of pharmacies just outside the Vatican walls where both PCR and rapid tests can be done without an appointment.

Security: invites are strictly personal. Please remember to bring a valid ID.

WEBINAR

<https://us02web.zoom.us/j/82613109888?pwd=S2IrK2FRVStmYnRHTjhraG9EY2RrQT09>

PRESS ACCREDITATION PROCEDURE

Journalists and media operators who wish to conduct interviews during the breaks must apply, no less than 24 hours before the event, through the Holy See Press Office online accreditation System available at: press.vatican.va/accreditamenti

Interview and media coordination: Max Mizau Perczel max.mizzauperczel@gmail.com

FOR MORE INFORMATION

Please refer to www.pas.va and www.pass.va for further information on the Academies, the Academicians, and current and past events.

You can also view previous PAS workshops on the Casina Pio IV YouTube channel:

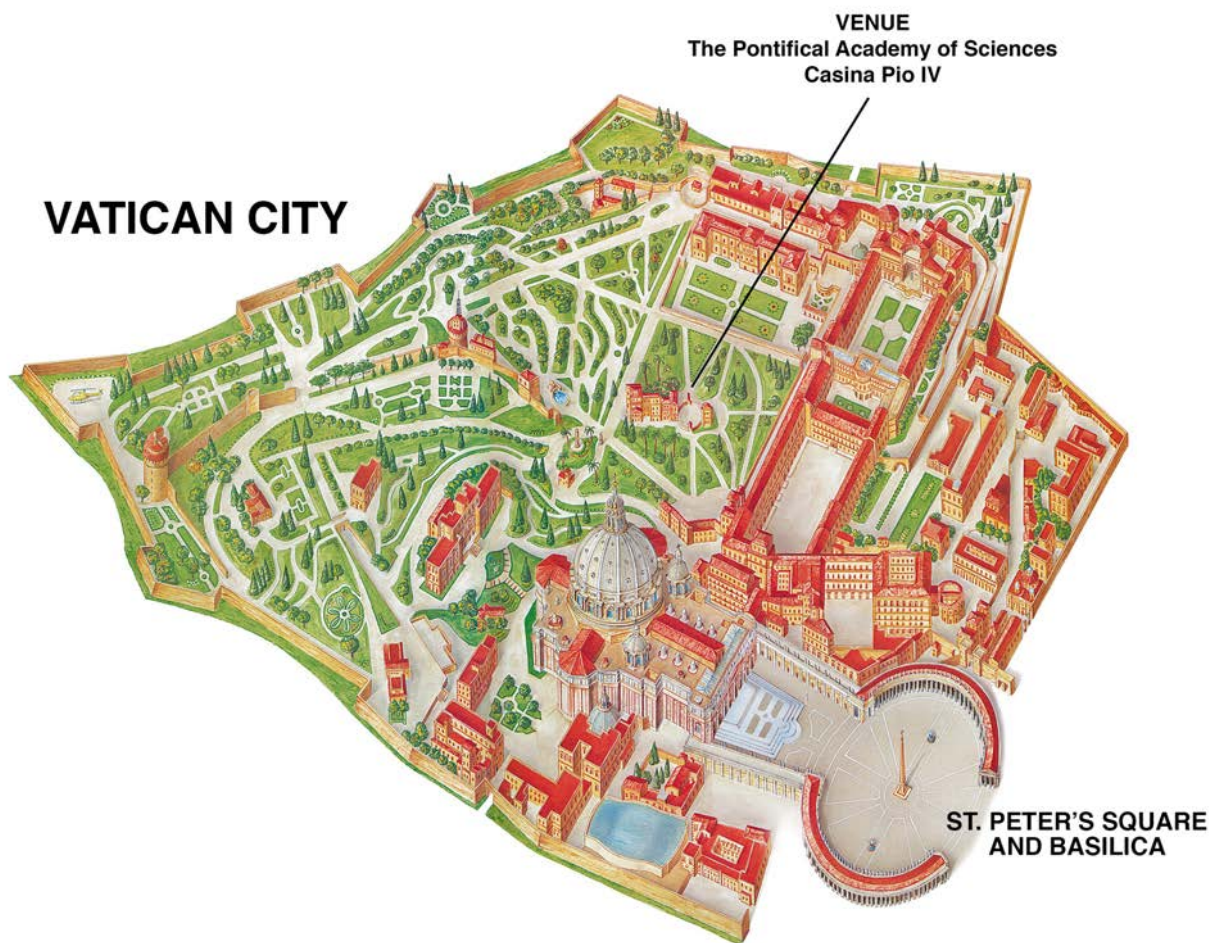
www.youtube.com/c/CasinaPioIV

Front Cover, Duccio di Buoninsegna, The Calling of the Apostles Peter and Andrews, 1308 - 1311

Photo on page 2 by Gabriella Clare Marino / PAS

Photos on pages 8, 13 and 15 by Gabriella Clare Marino / Unsplash





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