

IESP e.V. - Institute for Earth System Preservation

Ein Institut der Europäischen Akademie der Wissenschaften und Künste

Newsletter 2019

Dear members and friends of IESP.

With the year 2019 in full bloom, we would like to inform you about IESP's equally flourishing activities.

To begin with, we want to formally introduce ourselves as IESP's new executive board, elected during our general assembly in July 2018.

We that is

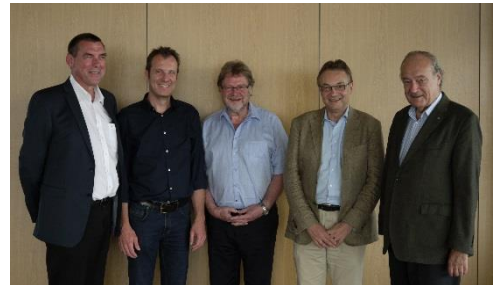
Prof. Dr. [Michael von Hauff](#), Technical University of Kaiserslautern,

Prof. Dr. [Wolfram Mauser](#), Ludwig-Maximilians-University Munich,

Prof. Dr. [Jörg Drewes](#), Technical University Munich,

Dr.-Ing [Martin Steger](#), Coplan AG,

Prof. Dr. [Felix Unger](#), European Academy of Sciences and Arts (ex officio).



Left to right: M Steger, J Drewes, M von Hauff, W Mauser, F Unger

Thank you for your trust in our abilities to lead IESP through the upcoming future.

Obituary

Entirely unexpected, IESP lost two of its prominent longstanding members.

At the age of 80, [Raoul A. Weiler](#) died in Antwerp, Belgium on 21 February 2019. We grieve for a warmhearted person, a most inspiring thinker and a dear friend, who, for many years, guided our way towards a sustainable world.

On May 10, 2019, [Victor Gorshkov](#), passed away. He died in St. Petersburg at the age of 83 years, after more than a year of incurable illness. Victor served for many years honorary member of the Institute of Earth System Preservation (IESP). We, the members of IESP lost an outstanding scientist and friend who inspired us in many ways. In particular, we learned from him understanding the scientific processes activated by forest ecosystems, driving the transport of atmospheric water deep into the continents.

Victor graduated in theoretical physics from the Leningrad University. For several years, he worked as a scientist at the Theory Division of the Petersburg Nuclear Physics Institute. After an almost fatal incident on board of a hijacked airplane, Victor radically changed his research field. Taking advantage of the fundamentals of theoretical physics, he began to study the "Miracle of Life." Since he was convinced that one could not understand nature without experiencing firsthand how nature works, he spent, year by year, several months in the White Sea Forest area for intensive field studies. He taught courses at the Faculty of Physics and Mechanics, today the Polytechnic University of Peter the Great.

Victor's lectures focused on investigating the physical and biological bases of life stability, including such diverse aspects as genetic stability, climate stability, and ecological stability of ecosystems. This integral view on the problem of life is unique and could be formulated only using the approach and methodology of theoretical physics. The findings of his research allowed him to formulate the biotic regulation concept, which quantifies these principles of stability. His [biotic pump concept](#) is an aspect of biotic regulation that relates specifically to how life regulates the water cycle. He developed this concept together with his former graduate student, Anastassia Makarieva. It is based on the physical principles of water vapor disequilibrium. The results of his scientific approaches and his findings are published in various international journals and books. To be mentioned is exemplarily the book entitled "Biotic Regulation of the Environment – Key Issue of Global Change," published by Springer (2000).

General Assembly

In the afternoon of 11 July 2018, IESP held its biannual general assembly at [TUM's Institute for Advanced Study](#) on Garching Research Campus. Chairman Dr.-Ing. Martin Steger led through the account of recently finished and ongoing projects (see below). Part of the agenda was also a set of small changes in the association's statutes mainly due to staff modifications.

The obligatory cash audit confirmed that IESP's finances are orderly and solid. To keep it this way, and to possibly increase the associations own cash basis, the assembly agreed to more actively attract IESP friends and members to contribute and participate in its events. The assembly suggests an annual contribution of 120.- €; and 60.- € for emeriti.

After long years of dedicated service, IESP's founder Prof. Dr. Peter Wilderer and his wife Jaroslava Wilderer stepped down from their offices as chairman and treasurer. We want to thank them again, for their investment in IESP, and hope to count on them as active IESPers for the next years. After several years Dr.-Ing. Martin Steger also stepped down as acting chairman but remains part of the executive board.



IESP General Assembly 2018 from left to right: Martin Grambow, Martin Steger, Franz-Theo Gottwald, Jörg Drewes, Peter Wilderer, Michael von Hauff, Jaroslava Wilderer, Wolfram Mauser, Felix Unger, Klaus Arzet, Raoul Weiler, Werner Bauer, Daphne Keilmann-Gondhalekar, Helmut Fluhrer, Patrick Dewilde

Climate Change in Rural Areas

On 17 February 2018, the Bavarian Ministry of Environment and Consumer Protection (StMUV) together with the Bavarian Ministry of Food, Agriculture, and Forestry (StMELF), organized a public forum to discuss the impact of climate change in rural areas. Its topics ranged from the dangers deriving from soil erosion over extreme weather events to cooperative projects of cadastral reorganization.

Among the speakers were Prof. Dr. Martin Grambow (StMUV) and Dr. Annette Freibauer of the Bavarian State Office of Agriculture (LfL), both members of the steering committee of IESP's climate change project.

IESP will take up the ignited conversation and intensify it over the next years in the project cycle "Landwirtschaft – Wasserwirtschaft – Klimawandel: Neue Perspektiven für Landwirtschaft und Umwelt."

New Perspectives for Agriculture and the Environment

In April 2018, IESP launched a new project entitled, "[Landwirtschaft – Wasserwirtschaft – Klimawandel: Neue Perspektiven für Landwirtschaft & Umwelt.](#)" Designed as an event series of four alternating closed workshops and public forums, the project aims to foster mutual understanding among interest groups involved in agricultural and water management practice and policy-making, as well as science and civil society.



Over a course of four years, StMUV granted IESP a funding volume of €655.000 to organize respective events and support IESP's administration with two positions at TUM-IAS. The project's interdisciplinary and cross-institutional steering committee consists of Martin Steger (Coplan AG), Wolfram Mauser (LMU), Martin Grambow (StMUV), Alois Heißenhuber (TUM), Annette Freibauer (LfL), Bernhard Gill (LMU), Andreas Kolbinger (StMUV), and Ernst Rank (TUM; ex officio).

In attending a conversation between scientists, practitioners, and politicians, the project aims to support re-establishing agricultural and water politics as a central part of the social policy (not only) in Bavaria.

Agriculture – Water Management – Climate Change

Increasing extreme weather events lead to significant loss of agricultural soil and increased nutrient input to water sources, stressing the quality of surface waters in particular. Another climate-variable factor affecting the relationship of water and soil quality is biodiversity. Its progressing loss has more than eco-systemic significance, as it sensitively affects cultural landscapes as an asset for tourism-based economy. To meet climate change's structural challenges effectively, the interest groups involved need to develop solutions in a participatory approach.

Therefore, the event brought together responsible agents in agriculture and environmental management, science and society, drawing on their knowledge in various disciplines for a constructive exchange of ideas. The workshop wanted to enable and advance an open dialogue between different stakeholders to address shared problems interactively.

From February 7-9, 2019, a group of 46 expert scientists and political administrators gathered at the conference center Kloster Seeon and approached the question of why political leadership struggles to implement knowledge about climate change and the environment into viable agricultural politics.



Participants in alphabetical order: Klaus Arzet, Karl Auerswald, Michael Belau, Regina Birner, Hubert Bittlmayer, Stefan Bösch, Veit Braun, Rüdiger Detsch, Jörg Drewes, Annette Freibauer, Jürgen Geist, Maria Gerullis, Bernhard Gill, Franz-Theo Gottwald, Martin Grambow, Wolfram Güthler, Jan Christian Habel, Michael von Hauff, Alois Heißenhuber, Katharina Helming, Ulrich Hildebrandt, Andreas Kolbinger, Markus Leibnath, Petra Liedl, Agnes Limmer, Wolfram Mauser, Jonas Meier, Annette Menzel, Heino von Meyer, Helmut Milz, Manfred Miosga, Armin Reller, Marco Roelcke, Jürgen Schmude, Wolfgang Sprenger, Friedhelm Taube, Ludwig Wanner, Hubert Weidner, Raoul Weiler, Wolfgang Weißer, Jessica Westermayr, Christine Wieck, Gordon Winder

The formulated recommendations for action (in German) are [for download](#) on the project website on www.iesp.de

Developments in Water Management

On 12 July 2018, Peter Wilderer and Raoul Weiler invited a group of distinguished experts on water engineering, management, and finance to meet at TUM-IAS. They invited professionals to contribute to answering the pressing question of how societies can establish sustainable and needs-based practices in water use worldwide. Over a lively afternoon, the attendants discussed a variety of methods and best practices with a focus on developing regions.

The contributions by Peter Wilderer (TUM), Martin Grambow (StMUV), Jan Janssens (World Bank), Helmuth Fluhrer (WeatherTec), Wolfram Mauser (LMU), and Raoul Weiler (Club of Rome) ranged from technological rainfall enhancement to counteract migration to local examples of successful governance, and institutional strategies for planning and financing water management solutions.

This event stands exemplary for IESP's commitment to solving our global environmental crisis.



Visualization of Environmental Data

With [ViewBay](#), IESP co-chair Wolfram Mauser launched a cooperative project of Munich universities and research institutions. Utilizing the possibilities offered by SuperMUC's computational power, the project visualizes environmental data. Funded by the StMUV for the years 2018-2021, ViewBay aims to depict a more detailed image of our environment and the ongoing environmental processes. The project's results can boost environmental research and potentially support environmental decision-making and administration.

In this project, IESP partakes through Prof. Mauser's engagement, a proportional research position, but also through intertwining the project with Prof. Wilderer's "Violated Earth -- Violent Earth" workshop.

Violated Earth – Violent Earth

From 20-22 March 2019 forty members of the human society from diverse scientific backgrounds as well as entrepreneurs and members of governmental and non-governmental institutions assembled at the [TUM Science and Study Centre in Raitenhaslach](#). They wanted to think up realistic, workable solutions for earth system degradation and climate change. "Violated Earth – Violent Earth. Causes and effects of human's misdemeanor and nature's power" was the motto of their gathering. During three days of closed workshop, the participants formulated 12 recommendations for action and a video message; both are [accessible at via the event website](#) at www.iesp.de



To ensure a sustainable impact of our work, it is crucial to take into account and involve all those humans who have "skin in the game." Please feel invited to spread the documents among your networks.

IESP organized this workshop in close collaboration with the [TUM Emeriti of Excellence](#) project, represented by Prof. Michael Molls. [StMUV](#), [Schweisfurth Stiftung](#), and the [BÜCHL Group](#) provided financial support.

Public Forum 2019

Not as a follow up event per se, but in close relation to the workshop in Seeon, a small public forum was held in early July 2019 at TUM-IAS. The event's lay on "Irrigation in rural areas." During a lively day of exchange participants from all over Bavaria discussed existing solutions, positive strategies, and successful projects; while at the same time evaluating negative experiences and future needs of water users. Please visit the [event website for more information](#), including the presentation material.



Agenda 2030 at IESP in 2030

For 2020, IESP plans a joint forum and workshop with the European Academy of Science and Arts. A cross-comparative evaluation of the UN's 30 Sustainable Development Goals shows a conflict between the individual goals and their prioritization. Therefore, our question for this workshop will be:

Are we able meet these sustainable development goals, or are we already failing before we really get started? The preliminary program is available for download on www.iesp.de



IESP-Web Presence

Last, but not least, we would like to invite you to revisit the [IESP homepage](http://www.iesp.de). It is now a sub-branch of the TUM-IAS webpage tree, and therefore changed in style.

We have also been trying to revive our Wikipedia entries in both [English](#) and [German](#). Both sites are still under construction, therefore, we look forward to your feedback.

If you have any news to share with the IESP community via website, email or newsletter, please send the information to iesp@ias.tum.de, and we will take it from there.

Looking forward to hearing from you.

Very best wishes,

Michael von Hauff, for the executive board