

News Release

The Art of Dealing Wisely with the Planet Earth

Rising world population, increasing urbanization, advances in technology and medicine, changes in lifestyles even in developing and emerging countries –all these characterize the world we live in today. The consequences: an ever-growing exploitation, often an overexploitation, of natural resources and the pollution of water, soil, and the atmosphere. Planet Earth is responding with global warming and climate change. Are these perhaps the precursors of the progressive erosion of Earth's life-sustaining systems?

From September 23 to 26, in Wildbad Kreuth, Bavaria, 44 internationally renowned scientists will discuss how the Earth's system can be kept in balance. During this conference, which is being held at the invitation of the Institute for Advanced Study TU Munich (TUM-IAS), in cooperation with the Club of Rome and the European Academy of Sciences and Arts under the auspices of UNESCO and the Bavarian Environment Minister, the topic of discussion will be to what extent the Earth's system can be managed, in order to continue to provide a life-sustaining environment for humans in the future. "However," states Prof. Peter Wilderer, the organizer of the conference, "our actions must be planned with careful consideration and farsightedness. With the current state of development, we cannot allow ourselves to make mistakes. Each mistake that is made by science today could trigger irreversible events to our disadvantage."

These are haunting words from the Emeritus of Water Quality and Waste Management at the Munich Technical University. Engineer Peter Wilderer devoted himself to the subject of the environmentally-sensitive usage of water and the implementation and conservation of a "healthy" water cycle. In 2003, he was awarded the "Stockholm Water Prize" for his lifetime scholarly achievements. To date, he is the only German scientist to be awarded the "Water Nobel Prize", highly coveted among experts. Today Professor Wilderer is a member of the Board of Trustees of the TUM Institute of Advanced Study. Together with the Club of Rome and UNESCO, he initiated the conference in Wildbad Kreuth.

"Technology is the engineer's response to overcoming problems," says Peter Wilderer, convinced that his profession could solve the imminent problem of global warming and the resulting climate change with innovation and ingenuity.

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saule@zv.tum.de haupt@zv.tum.de Unfortunately, however, it is not that simple. "After a critical evaluation of engineering achievements, we must admit that while solving an urgent problem with technical solutions, we have in many cases uncovered or created new problems," Wilderer acknowledges. As long as the long-term impact of a not entirely thought-out solution remains regional, the consequences can be minimized by even better technology. However, what happens if a well-intentioned but wrong decision impacts the entire Earth and turns the system in a wrong direction regarding the survival of the human race?

Those types of wrong decisions by the human race are evident in many parts of the Earth. The clearing of forests and the desiccation of wetlands have resulted in a loss of species diversity and the self-regulating abilities of the Earth's system. "The rain forest, the wetlands and the oceans are all ecosystems that decisively contribute to the preservation of the human habitat," warns the Emeritus, because these ecosystems play an important role in the production of oxygen, the compounding of carbon dioxide, and the retention of water. Just as important for the Earth's climate are the diversity of species and the variety of interlinked metabolic reactions, which scientists know today are the precondition for maintaining flexibility in coping with outside influences.

The conference "Earth System Engineering – the Art of Dealing Wisely with the Planet Earth" in Wildbad Kreuth has set itself two major objectives. Firstly, outstanding scientists from Europe, North America, Asia, and Australia will discuss which measures must take place in order to deal wisely with Planet Earth. To achieve this, the scientists must work in an interdisciplinary manner, so that a problem that gets resolved in one place does not reappear in another place. Therefore, water experts, physicists, atmosphere researchers, chemists, sociologists, and economists will collectively discuss how we can cautiously intervene in the fragile earth system in order to keep the planet liveable. The second objective of this conference will be to transcend a scientific discussion. "Decision-makers in politics and business must also understand that the self-regulating and self-healing powers of an ecosystem cannot be replaced by technology, no matter how sophisticated it is." states Wilderer. "We must all learn that the human being in not the measure of all things." We are only a part of the bigger picture and must modestly fit ourselves into the global, regional, and local ecological networks. Only by doing so will it be possible to secure the survival of the human race."

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During the three day conference, the scientists will draft a declaration that will be ratified and signed by all participating scientists on Friday, September 26, at the "Schneefernerhaus" on Zugspitze mountain.

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Technische Universität München (TUM) is one of Germany's leading universities. It has roughly 420 professors, 6,500 academic and non-academic staff (including those at the university hospital "Rechts der Isar"), and 22,000 students. It focuses on the engineering sciences, natural sciences, life sciences, medicine, and economic sciences. After winning numerous awards, it was selected as an "Elite University" in 2006 by the Science Council (Wissenschaftsrat) and the German Research Foundation (DFG). The university's global network includes an outpost in Singapore. TUM is dedicated to the ideal of a top-level research based entrepreneurial university. http://www.tum.de

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