**Ambassador of Science of the Republic of Slovenia Award**

**Prof. Dr Uroš Seljak**

**University of California, Berkeley, and Lawrence Berkeley National Laboratory**

**is awarded the Ambassador of Science of the Republic of Slovenia Award for his contribution to the visibility of Slovenia in the field of cosmology and astrophysics**

**Keywords:** natural sciences, physics, astrophysics, galaxies, cosmology

**Explanation:** Prof. Dr. Uroš Seljak significantly strengthens the international visibility and reputation of Slovenian science through his work in the field of cosmology and astrophysics. He is internationally recognised for his research on the cosmic microwave background radiation, which provides the earliest snapshot of the universe. For his outstanding scientific achievements, he has received numerous prestigious awards, including the Gruber Prize, the most prestigious award in cosmology. At the University of Ljubljana, he has established a fund that finances the Dr Uroš Seljak Awards for the best scientific articles by students enrolled in first-cycle and second-cycle study programmes. Alongside his career in the United States, he also maintains strong collaboration with Slovenian research institutions and has hosted several talented Slovenian students through the ASEF Foundation.

**Zois Prize for Lifetime Achievement**

**Acad. Prof. Dr Tatjana Avšič Županc**

**University of Ljubljana, Faculty of Medicine, Institute of Microbiology and Immunology**

**is awarded the Zois Prize for lifetime achievement in the field of medical virology**

**Keywords:** medical virology, viral diseases, molecular epidemiology, diagnosis of viral diseases

**Explanation:** Acad. prof. Dr Tatjana Avšič Županc has made a significant contribution to public health safety through her research on viruses that cause severe diseases in humans. Her work has advanced the understanding and control of dangerous viral outbreaks both in Slovenia and worldwide. She discovered an entirely new virus species, which she named Dobrava. She also developed methods for rapid virus detection, leading to the groundbreaking scientific discovery that Zika virus infection during pregnancy can cause brain damage in the foetus. The results of her research have enabled better prevention and treatment of infectious diseases and represent an important foundation for modern medical virology.

**Zois Prize for Lifetime Achievement**

**Prof. Dr Tomaž Pisanski**

**University of Primorska, Faculty of Mathematics, Natural Sciences and Information Technologies and Andrej Marušič Institute; Institute of Mathematics, Physics and Mechanics**

**is awarded the Zois Prize for lifetime achievement in the field of discrete mathematics**

**Keywords:** discrete mathematics, graph theory, configurations, history of mathematics, discrete mathematical chemistry

**Explanation:** Prof. Dr Tomaž Pisanski is a renowned researcher in discrete mathematics, a field that studies discrete structures such as integers, graphs and statements in logic that do not vary continuously, but have distinct, separated values. By establishing and developing the world-famous Slovenian school of discrete mathematics, he has significantly influenced the development of this field. He founded and led the Department of Theoretical Computer Science at the Institute of Mathematics, Physics and Mechanics, contributed to the founding of the University of Primorska, established and co-edited three scientific journals, including the Slovenian leading scientific journal *Ars Mathematica Contemporanea*, and founded the Slovenian Discrete and Applied Mathematics Society. He organised several international scientific meetings and also chaired the Organising Committee of the 8th European Congress of Mathematics in Portorož. In the history of mathematics, he researched Jurij Vega and Ivo Lah.

**Zois Prize for Outstanding Achievements**

**Prof. Dr Andrej Rahten**

**University of Maribor, Faculty of Arts; Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU), Milko Kos Historical Institute**

**is awarded the Zois Prize for outstanding achievements in the study of Slovenian political history**

**Keywords:** Habsburg Monarchy, Slovenian political history of the 20th century, diplomatic history, biographical studies, post-imperial era

**Explanation:** Prof. Dr Andrej Rahten has significantly contributed to the better understanding of Slovenian political history in the last decades of the Habsburg Monarchy and the post-imperial era through his scientific research work. His most important works include studies on Slovenian-Croatian relations within the Habsburg Monarchy and the Sarajevo assassination, biographies of Izidor Cankar, Ivan Šusteršič and Anton Korošec, a trilogy on the Slovenian perception of the Habsburg dynasty, and several monographs in the field of diplomatic history. His research helps preserve historical memory and deepens the understanding of pivotal events and figures who left a significant mark on the Slovenian lands in the first half of the 20th century.

**Zois Prize for Outstanding Achievements**

**Prof. Dr Polona Žnidaršič Plazl and Prof. Dr Igor Plazl**

**University of Ljubljana, Faculty of Chemistry and Chemical Technology**

**are awarded the Zois Prize for outstanding achievements in the field of chemical and biochemical micro process engineering**

**Keywords:** micro process engineering, process intensification, flow biocatalytic processes, separation processes, sustainable development

**Explanation:** Prof. Dr Polona Žnidaršič Plazl and Prof. Dr Igor Plazl are among the pioneers who are changing the way chemical and biochemical processes are developed. In their laboratories, they design miniaturised flow systems and microreactors – small but extremely powerful devices in which reactions and product isolation take place faster, using less energy and generating less waste. Using mathematical models, they accurately predict the course of processes and thus develop more efficient and environmentally friendly production of medicines and chemicals. Their innovations extend beyond scientific publications; they also transfer their knowledge to Slovenian industry, helping to build the foundations for sustainable production.

**Zois Prize for Outstanding Achievements**

**Assoc. Prof. Dr Matjaž Humar**

**Jožef Stefan Institute; University of Ljubljana, Faculty of Mathematics and Physics; Centre of Excellence in Nanoscience and Nanotechnology – NANOCENTER**

**is awarded the Zois Prize for outstanding achievements in the field of microscopic sources of laser and quantum light**

**Keywords:** sources of entangled photons, microlasers, liquid crystals, cells, soap bubbles

**Explanation:** Assist. Prof. Dr Matjaž Humarresearchesnew optical devices that are not made from traditional solid materials, but from soft and biological substances. Because of this, they possess unique properties and can be used in quantum technology, medical diagnostics and the study of processes within cells.With his team of researchers, he was the first in the world to develop highly sensitive lasers from soap bubbles and lasers embedded in living cells. They were also the first to generate entangled photons in liquid crystals, enabling, for the first time, the manipulation of the quantum properties of light using an electric field – similar to how LCD screens work.

**Zois Prize for Outstanding Achievements**

**Prof. Dr Kristina Gruden**

**National Institute of Biology**

**is awarded the Zois Prize for outstanding achievements in the field of systems and molecular biology**

**Keywords:** systems biology, molecular biology, computational models, plant biology, abiotic and biotic stress

**Explanation:** Prof. Dr Kristina Gruden is a leading researcher in the field of plant biology. Her research work and achievements enhance our understanding of how plants survive in a world challenged by diseases, pests and increasingly frequent extreme weather events such as droughts, heat waves and floods. Her work combines biology, computational modelling and biotechnology, contributing to the development of new research fields, promoting the cultivation of more resilient plants, and supporting sustainable agriculture. Through her contributions, she significantly influences European scientific directions and promotes closer collaboration between science and industry.

**Zois Award**

**Assist. Prof. Dr Luka Vidmar**

**Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU), Institute of Slovenian Literature and Literary Studies**

**is awarded the Zois Award for significant achievements in the field of interdisciplinary research of literature and culture between the 16th and 19th centuries**

**Keywords:** literature, culture, Reformation, baroque, Enlightenment

**Explanation:** Assist. Prof. Dr Luka Vidmar has shed new light on the literature and culture of the Slovenian lands between the 16th and 19th centuries through his research. He explained the fate of the copies of Bohorič's grammar book and demonstrated the connection between Protestant and Catholic views of the Slovenian Christian community. He has studied the influence of censorship, the beginnings of Slovenian secular drama, as well as German novels and travelogues. He examined Zois's influence on administrative and educational reforms and his collections of Slovenian and Slavic books. His research draws on previously unexplored manuscripts, successfully linking literary, cultural and art history. His work makes an important contribution to the preservation of written cultural heritage, particularly Zois's library.

**Zois Award**

**Dr Jožica Gričar**

**Slovenian Forestry Institute**

**is awarded the Zois Award for significant achievements in the field of tree biology**

**Keywords:** tree biology, radial growth of trees, structure of wood and bark, climate change

**Explanation:** Through her research, Dr Jožica Gričar has made an important contribution to the global understanding of how stress affects physiological processes in trees and their radial growth. She has found that trees respond to changing conditions by adjusting the development of their tissues (wood) and organs (leaves, trunk, roots), which is reflected in their structure. In times of climate change and increasingly frequent extreme weather events, her findings are particularly valuable as they assist in selecting the most suitable tree species or populations for different environments.

**Zois Award**

**Prof. Dr Urban Bren**

**University of Maribor, Faculty of Chemistry and Chemical Engineering; University of Primorska, Faculty of Mathematics, Natural Sciences and Information Technologies; Institute of Environmental Protection and Sensors**

**is awarded the Zois Award for significant achievements in the field of biomolecular simulations**

**Keywords:** development of cancer and neurological disorders, effects of microwave radiation on health, biological effects of natural compounds, computer-aided drug design, super-selective biosensors

**Explanation:** Prof. Dr Urban Bren uses computer simulations to study how various chemicals affect human health and develops new, more selective diagnostic methods. He was the first to demonstrate that the chemical reactivity of substances is a good predictor of their potential carcinogenicity. He is also involved in the search for natural compounds that could inhibit cancer development – with the long-term goal of creating dietary supplements that would help prevent the disease. Additionally, he studies the impact of microwave radiation on the risk of developing cancer or neurological diseases. Using advanced computational tools, he designs new therapeutic agents, such as more effective antiviral drugs and safer painkillers.

**Zois Award**

**Assoc. Prof. Dr Marko Jošt**

**University of Ljubljana, Faculty of Electrical Engineering**

**is awarded the Zois Award for significant achievements in the field of photovoltaics**

**Keywords:** photovoltaics, solar cells, perovskites, tandem solar cells, long-term stability

**Explanation:** Assoc. Prof. Dr Marko Jošt focuses his research in the field of photovoltaics and solar cells on new materials for converting sunlight into electricity, with particular emphasis on perovskites. He studies both structurally simpler single-junction and more advanced tandem perovskite solar cells, which are among the emerging photovoltaic technologies. His work has contributed to improving the efficiency of perovskite-based solar cells, deepening the understanding of their operation and extending their lifespan. Through these efforts, he has made a significant contribution to the global development of this new technology and its application in industrial production.

**Zois Award**

**Prof. Dr Andrej Zorko**

**Jožef Stefan Institute; University of Ljubljana, Faculty of Mathematics and Physics**

**is awarded the Zois Award for significant achievements in the field of quantum materials**

**Keywords:** quantum science, quantum materials, quantum spin liquids, superposition of states, quantum entanglement, quantum technologies

**Explanation:** Prof. Dr Andrej Zorko, with his numerous groundbreaking discoveries of entirely new quantum states and phenomena, sets the direction for the rapidly evolving scientific field of quantum materials. These are materials whose properties cannot be explained within the framework of classical physics but require concepts from quantum mechanics. The discovery and understanding of these materials provide valuable insight into the complex quantum nature of matter and open the door to the development of advanced technologies, such as highly powerful quantum computers and extremely sensitive quantum sensors. His scientific achievements have gained international recognition and enable the development of modern high-tech applications.

**Zois Award**

**Prof. Dr Miroslav Verbič**

**University of Ljubljana, School of Economics and Business; Institute for Economic Research**

**is awarded the Zois Award for significant achievements research on financial uncertainty and economic policies**

**Keywords:** financial crises, economic policies, investment dynamics, fiscal stability, econometric modelling

**Explanation:** The research of Prof. Dr Miroslav Verbič contributes to a better understanding of the impacts of financial crises and government decisions on businesses and the overall economy, particularly in Slovenia and the euro area. His research demonstrates how financial uncertainty can hinder business investments and economic growth and proposes measures that governments and central banks could adopt to increase stability during difficult times. This provides policymakers with better guidance to protect jobs, support businesses and ensure financial stability. His findings are a valuable tool for strategic governance, particularly during periods of crisis.

**Puh Prize for Lifetime Achievement**

**Prof. Dr Franc Vrečer**

**KRKA d. d.; University of Ljubljana, Faculty of Pharmacy**

**is awarded the Puh Prize for lifetime achievement in the field of pharmaceutical product development and technological processes in industry**

**Keywords:** pellets in pharmaceutical products, solid dispersions, preformulation studies, thermal analysis, patents

**Explanation:** Prof. Dr Franc Vrečer has significantly marked the Slovenian pharmaceutical industry with his innovative contribution in the development of pharmaceutical solid dosage forms. At KRKA, he led numerous development projects and played an important role in introducing new working methods. He made a key contribution to the development of modern pharmaceutical forms, such as pharmaceutical pellets, which secured KRKA a leading position among generic manufacturers. He is the co-author of more than 30 international patents and the author of numerous highly cited scientific publications. As a full professor at the Faculty of Pharmacy, University of Ljubljana, he contributed significantly to the establishment of the Industrial Pharmacy master's study programme and collaborated in the development of professional pharmaceutical terminology.

**Puh Prize for Outstanding Achievements**

**Dr Mateja Gabrijel Blatnik1,2, Prof. Dr Helena H. Chowdhury1,2, Prof. Dr Marko Kreft1,2,3, Assist. Prof. Dr Simon Hawlina4,5, Prof. Dr Matjaž Jeras6 and Acad. Prof. Dr Robert Zorec1,2**

**Cell Engineering Laboratory, Celica Biomedical (1); University of Ljubljana, Faculty of Medicine, Laboratory of Neuroendocrinology – Molecular Cell Physiology, Institute of Pathophysiology (2), University of Ljubljana, Biotechnical Faculty (3), University Medical Centre Ljubljana, Department of Urology (4); University of Ljubljana, Faculty of Medicine; Department of Surgery (5), University of Ljubljana, Faculty of Pharmacy (6)**

**are awarded the Puh Prize for outstanding achievements in the development and application of an advanced form of cell immunotherapy for the treatment of prostate cancer**

**Keywords:** prostate cancer, autologous immunohybridomas, clinical trial, innovative cellular drug, cancer immunotherapy

**Explanation:** This group of researchers has developed an advanced form of cellular immunotherapy that represents a safer and more effective treatment option for cancer. Instead of classic immunotherapies, which are often associated with serious side effects, they used the patient's own dendritic cells to "teach" the immune system to recognise and destroy cancer cells. By applying an electrical impulse, these cells were fused with the patient's tumour cells to create immunohybridomas, which trigger a targeted immune response. The therapy was tested on patients with prostate cancer, and the results showed that the treatment is safe, alters patients' immune responses and can prolong their survival.