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Bodossaki Excellence Award 2024: The Greek space researcher, Chryssa Kouveliotou, Professor of Astrophysics with a long career at NASA, and the leading researcher of modern biomedical research, Professor Nektarios Tavernarakis, who leads Greece's active participation in European research activities, have been recognised for their decisive contribution to the development of science

The Bodossaki Foundation is pleased to announce the names of two distinguished scientists who have been honoured with the Bodossaki Excellence Award for the entirety of their lifetime's groundbreaking work, which began in our own country and has given a global reputation to Greek intellectual achievement.

The Bodossaki Excellence Award for 2024 is awarded, in the field of Natural Sciences, to Chryssa Kouveliotou, Professor of Astrophysics in the Department of Physics at the Columbian College of Arts and Sciences at George Washington University and, in the field of Biomedical Sciences, to Nektarios Tavernarakis, Professor of Molecular Systems Biology at the University of Crete Medical School, President of the Foundation for Research and Technology-Hellas, and President of the European Institute of Innovation and Technology. The two Bodossaki Excellence Awards will be presented by the President of the Hellenic Republic, Katerina Sakellaropoulou, at a ceremony to be held at the Zappeion Hall on Tuesday 25 June 2024.

The Bodossaki Excellence Award was launched in 2002 and now returns renewed, 13 years after the last awards, with a new Prize Committee, consisting of eight internationally renowned foreign

scientists who have received the highest distinctions in their fields globally, including the Nobel and Spinoza Prizes and the ACM Turing Award. They are also prominent members of scientific academies at an international level. Every two years, two Excellence Awards, each accompanied by a cash prize of €100,000, are presented in two scientific fields. This year, the Excellence Awards will be given in the fields of Natural Sciences and Biomedical Sciences.

Bodossaki Excellence Award in the Physical Sciences

Chryssa Kouveliotou: decoding the celestial phenomena

The internationally renowned astrophysicist Chryssa Kouveliotou, who has worked with NASA over 25 years, has contributed substantially and systematically throughout her career to a deeper understanding of transient celestial phenomena. Her research in the field of High-Energy Astrophysics and specifically the study of phenomena related to black holes, neutron stars and gamma-ray bursts has expanded knowledge and understanding of celestial phenomena.

As a postdoctoral researcher at NASA she discovered, through studying data obtained from a solar mission, the first phenomena subsequently identified as Magnetars, neutron stars with extreme magnetic fields. She was subsequently invited to NASA/MSFC to work on a new mission, in which she studied phenomena arising from the collapses and mergers of stars. Shortly thereafter, she received a grant to search for and study magnetar bursts and established neutron stars with extreme magnetic fields (magnetars) as a new and important class of astrophysical object, opening up a new field in which research is thriving today.

Chryssa Kouveliotou left NASA in 2013 with the highest rank in the field of research to continue her academic career as Professor of Astrophysics at George Washington University, while also founding the Astronomy, Physics and Statistics Institute (APSIS) at GWU. With a rich research background, she has been included in Time Magazine's list of the 25 most influential people in the field of outer space, and in the list of the 250 most cited researchers worldwide in space science with 493 peer-reviewed publications in scientific journals. Chryssa Kouveliotou is a member of the US National Academy of Science, the US Academy of Arts and Sciences, an overseas member of the Royal Dutch Academy of Sciences and a corresponding member of the Academy of Athens. In her long career she has received numerous prestigious honours such as the Descartes Prize (2002), the Rossi Prize (2003), and the Dannie Heineman Prize (2012), and more recently the Shaw Prize in Astronomy (2021), while the Greek Government has honoured her with the Cross of the Order of the Commander of the Order of Honor for excellence in science (2015).

Bodossaki Excellence Award in Biological Sciences

Nektarios Tavernarakis: Revealing the secrets of the cell, of memory, and of ageing

Nektarios Tavernarakis is at the forefront of modern biomedical research in the fields of ageing, cell death and neurodegeneration. Among his major scientific discoveries are specific categories of

enzymes involved in necrotic cell death, the uncovering of the role of key regulators of protein synthesis in ageing, and a key contribution to the discovery of mitochondrial quality control mechanisms associated with the regulation of cellular energy homeostasis and ageing. Among other things, Nektarios Tavernarakis also elucidated the role of autophagy in specific areas of the brain in regulating synaptic plasticity and behaviour under stress conditions, and identified novel molecular mechanisms that protect cells and organisms from necrotic insults.

Throughout his long career at the Foundation for Research and Technology and the University of Crete, he established the first multiphoton biomedical imaging facility in Greece, and the Postgraduate Programme in Bioinformatics. He has also helped to connect FORTH and the country's research network with the European and international research community, so that Greece can participate and help to shape developments and research policies in Europe. He participates actively in the National Roadmap of Research Infrastructures, coordinating the National Bioimaging Infrastructure, and serves as coordinator of the National Network of Personalised Medicine for Neurodegenerative Disorders, supporting the development of scientific research in Greece. In addition, he leads the European Institute of Innovation and Technology (EIT) as its only Greek President to date, a position to which he was elected in recognition of his brilliant research and administrative career in cutting-edge scientific research. Among other positions, Nektarios Tavernarakis is a member of the American Association for the Advancement of Science (AAAS), the European Molecular Biology Organisation (EMBO), the German National Academy of Sciences, the European Academy of Sciences, and a corresponding member of the Academy of Athens. In his long scientific career he has received the Young Investigator Award of the European Molecular Biology Organisation (EMBO), the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt Foundation, the Helmholtz International Fellow Award, the Galien Scientific Research Award, the Aretaeio Award for Biomedical Sciences from the Academy of Athens, and the 2005 Bodossaki Foundation Scientific Award in the field of Life Sciences.

The Bodossaki Foundation remains committed to the continuous and comprehensive support of scientific work, in line with the deep convictions of its founder, Prodromos Bodossakis Athanasiadis, for the important and essential benefits that scientific excellence offers to society as a whole.

According to the **President of the Board of Directors of the Bodossaki Foundation, Athina Dessypri:**

"The Bodossaki Excellence Award aims to recognise and honour the entire scientific career and contribution of Greek male and female scientists who have played a catalytic role in the development of their respective scientific fields, with a conscious commitment and passion for scientific research, and the promotion and advancement of knowledge. The process of selecting the awardees has once again highlighted the scientific wealth and breadth of the achievements of Greek scientists."

The Excellence Award Committee

The difficult task of selecting among the candidates was carried out by the Excellence Award Committee. This is what the two Co-Chairs of the Excellence Award Committee for the field of Sciences and Medical and Biological Sciences, who will introduce the awardees at the Award Ceremony, have to say about the institution:

Daan Frenkel, Emeritus Professor of Chemistry, University of Cambridge, ForMemRS, Member KNAW, AAAS, TWAS, NAS, Academia Europaea, Recipient of the Spinoza Prize:

"The Bodossaki Excellence Award honours the tremendous contribution of Greek academics in the sciences, highlighting the shared roots of Greek academics worldwide. It gives prominence to exemplary role models who will encourage young Greek students to aspire to an academic career at the highest possible level."

Frank Grosveld, Professor, Former Head of the Department of Cell Biology, Erasmus MC, FRS, Member KNAW, Recipient of the Spinoza Prize and the Louis Jeantet Prize:

"The Bodossaki Excellence Award is a prestigious accolade, given to recognise the contribution of Greek scientists to the advancement of science at national and international levels and to the education and training of the next generation. It was an honour for me to participate in this difficult selection process, because the number of exceptional Greek scientists is much higher than one would expect given the size of the Greek population, *a remarkable fact worthy of celebration*!"

The overall composition of the Excellence Awards Committee is as follows (in alphabetical order):

- **Sir Richard Blundell,** David Ricardo Professor of Political Economy, Department of Economics, UCL, CBE FBA
- **Arup Chakraborty,** Institute Professor; Professor of Chemical Engineering, Physics, & Chemistry, Core Faculty Member and Former Founding Director, Institute for Medical Engineering & Science, MIT, Founding Steering Committee Member, Ragon Institute of MGH, MIT, & Harvard, Member NAE, NAS, NAM
- **Daan Frenkel**, Emeritus Professor of Chemistry, University of Cambridge, ForMemRS, Member KNAW, AAAS, TWAS, NAS, Academia Europaea, Recipient of Spinoza Prize
- **Shaffi Goldwasser**, Director, Simons Institute for the Theory of Computing, and C. Lester Hogan Professor in Electrical Engineering and Computer Sciences, UC Berkeley, RSA Professor of Electrical Engineering and Computer Science, MIT, and Professor of Computer Science and Applied Mathematics, Weizmann Institute of Science in Israel, Recipient of ACM Turing Award
- **Frank Grosveld,** Professor, Former Head of the Department of Cell Biology, Erasmus MC, FRS, Member KNAW, Recipient of Spinoza Prize and the Louis Jeantet Prize
- **Paola Ricciardi-Castagnoli**, Scientific Director of Toscana Life Sciences Foundation and Chief Scientist of Menarini Biomarkers Singapore, former Chair of Immunology and General Pathology, University of Milano-Bicocca, Founder and Scientific Director, Singapore Immunology Network (SIgN), A-STAR Singapore, Member GNAS Leopoldina, EMBO

- **Daniela Rus**, Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science and Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, Member NAE, AAAS
- **Jean Tirole**, Honorary Chairman, Foundation JJ Laffont-Toulouse School of Economics (TSE), Institute for Advanced Study in Toulouse (IAST), and Scientific Director, TSE-Partnership, Recipient of Nobel Memorial Prize in Economic Sciences.

The Excellence Awards Committee includes, as *ex officio* members, the President of the Bodossaki Foundation's Board of Directors, Athina Dessypri, and the Board's Vice President, Theodoros Theodorou, Professor at the School of Chemical Engineering of the National Technical University of Athens, Member of the National Academy of Engineering (NAE).

In addition to the two winners of the 2024 Bodossaki Excellence Award, to date seven distinguished figures in the international scientific community have been awarded the Bodossaki Excellence Award for their exceptionally important work, namely Professors **Georgios Chroussos** (2011), **Charalambos Moutsopoulos** (2011), **Evangelos Moudrianakis** (2009), **Dimitrios Christodoulou** (2006), **Athanasios Fokas** (2006), **Kyriakos Nikolaou** (2004) and **Ioannis Iliopoulos** (2002).