



## COSPAR 2024 AWARDS

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### **Press Release (for release end first week of July) Committee on Space Research (COSPAR)**

COSPAR is happy to announce the winners of its 2024 Awards, to be presented during the 45<sup>th</sup> COSPAR Scientific Assembly in Busan, South Korea. COSPAR bestows a number of medals and awards each year, some jointly with other institutions or space agencies. Scientists who have made an outstanding contribution to space research and who are working in any of the fields covered by COSPAR are eligible. The coveted COSPAR Awards are aimed at encouraging space science and exploration research and are an important step to achieve international cooperation in the field. This year's nominees have come from a wide range of backgrounds and after careful consideration by the Awards Committee, Bureau, and partner organizations the following selection has been made.

A complete list of citations and a brief description of COSPAR are included below. Previous citations for honors awarded at COSPAR Assemblies can be found [online](#).

Through an agreement with the International Astronomical Union (IAU), recipients of COSPAR awards are honored by the attribution of minor planets designated by the IAU Working Group on Small Bodies Nomenclature.

#### **To be presented on 15 July during the 45th COSPAR Scientific Assembly 13 – 21 July 2024, Busan, South Korea**

See below for complete citations and a brief description of COSPAR.

- COSPAR Space Science Award for outstanding contributions to space science:

**Rosine Lallement (France)**, Research Director, CNRS, Observatoire de Paris-Meudon, Meudon

- COSPAR International Cooperation Medal for distinguished contributions to space science and work that has contributed significantly to the promotion of international scientific cooperation:

**Dieter Bilitza (USA)**, Research Professor, George Mason University, Dept. of Physics and Astronomy, Fairfax, Virginia

- COSPAR William Nordberg Medal commemorating the late William Nordberg and for distinguished contributions to the application of space science in a field covered by COSPAR:

**Matt Griffin (United Kingdom)**, Professor, School of Physics and Astronomy, Cardiff University

**Kanako Seki (Japan)**, Professor, Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo

- COSPAR Harrie Massey Award honoring the memory of Sir Harrie Massey, FRS, for outstanding contributions to the development of space research in which a leadership role is of particular importance:

**Prahlad Chandra Agrawal (India)**, Senior Professor (Retired), Department of Astronomy and Astrophysics, Tata Institute of Fundamental Research

- COSPAR Distinguished Service Medal recognizing extraordinary services rendered to COSPAR over many years.

**Gerhard Kminek (Netherlands)**, Mars & Beyond Science Team Lead, Mars Sample Return Lead Scientist, European Space Agency, Noordwijk



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- [Vikram Sarabhai Medal](#) (a joint award of COSPAR and the Indian Space Research Organization) honoring Vikram Sarabhai, one of the architects of modern India, for outstanding contributions to space research in developing countries:

**Anil Bhardwaj (India)**, Director, Physical Research Laboratory, Ahmedabad

- [Jeoujang Jaw Award](#) (a joint award of COSPAR and the Chinese Academy of Sciences) recognizing scientists who have made distinguished pioneering contributions to promoting space research, establishing new space science research branches and founding new exploration programs:

**Daniel Baker (USA)**, Director and Distinguished Professor, Laboratory for Atmospheric and Space Physics, Boulder, CO

- [COSPAR Outstanding Paper Awards for Young Scientists](#) recognizes first authors under 31 years of age at the time of submission of the manuscript for publication in *Advances in Space Research (ASR)* or in *Life Sciences in Space Research (LSSR)*.

[2023 Outstanding Paper Awards – ASR publication](#)

[2023 Outstanding Paper Awards – LSSR publication](#)

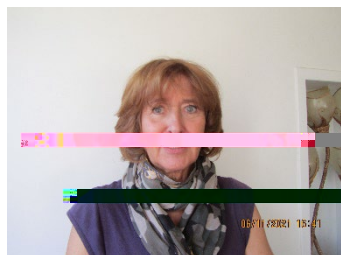
[2022 Outstanding Paper Awards – ASR publication](#)

[2022 Outstanding Paper Awards – LSSR publication](#)

### COSPAR Space Science Award

Rosine Lallement

Research Director, CNRS, Observatoire de Paris-Meudon, Meudon, France



### IAU Minor Planet (5447) Lallement

Dr. Rosine Lallement is a senior researcher at the Paris Observatory and a foreign member of the US National Academy of Sciences and of the Russian Academy of Sciences. Her research involves the analysis of the heliosphere and local interstellar medium based on observations with the SOHO, Voyager, HST, GAIA, and other spacecraft. She has evaluated the properties of hydrogen and helium flowing into the heliosphere, and then studied the flow of interstellar gas in the local interstellar medium by identifying the Local Interstellar Cloud and other clouds from their velocity vectors. An important result was the identification of charge-exchange reactions in the heliosphere as a major source of diffuse X-ray emission. Her recent work includes the analysis of GAIA data to obtain 3-dimensional maps of the interstellar medium out to 3 kiloparsecs from color excess data and diffuse interstellar bands absorptions. Her pioneering work on the heliosphere and the surrounding interstellar medium has led to major new discoveries and opportunities to mentor many students. She has published 207 refereed papers since 1984 with an H-index of 59.



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### **COSPAR International Cooperation Medal**

Dieter Bilitza

Research Professor, George Mason University, Dept. of Physics and Astronomy, Fairfax, Virginia, USA



### **IAU Minor Planet (TBA 15 July 2024)**

Dr Dieter Bilitza is a well-known space scientist, recognized internationally for his ionospheric modelling work and for his active support and promotion of international cooperation in space research over more than three decades. He is the principal author of the International Reference Ionosphere (IRI), the worldwide accepted standard for Earth's ionosphere. Through his involvement and leadership, the IRI project has expanded into an exemplary international cooperation involving and engaging scientists from all parts of the world including developed as well as developing countries. He has initiated and led a large number of multi-lateral projects that have resulted in significant improvements of the prediction and forecast of ionospheric climate and weather. He played a key role in rescuing and fully analyzing data from the Alouette-ISIS satellite mission, an international cooperative satellite program between Canada, USA and many other countries; data that have become an important source for studying the long-term changes of the topside ionosphere. He is playing an active role in COSPAR's Capacity Building Program and has organized Capacity-Building Workshops in many developing countries and is now preparing a workshop in Kenya this September. Throughout his career Dr. Bilitza has made distinguished contributions to space science and has contributed significantly to the promotion of international scientific cooperation, making him a worthy recipient of COSPAR's International Cooperation Medal in 2024.

### **COSPAR William Nordberg Medal**

Matt Griffin

Professor, School of Physics and Astronomy, Cardiff University, UK



### **IAU Minor Planet (TBA 15 July 2024)**

Professor Matt Griffin has been a long-time leader in space-based infrared (IR) astronomy. He obtained his degree at University College Dublin and his MSc and PhD at Queen Mary College London. His studies led him into postdoctoral



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work on the ESA Infrared Space Observatory (ISO) in the 1980s, taking on responsibility for the Long Wavelength Spectrometer (LWS) detector system. ISO was launched in 1995 and operated until May 1998. Subsequent years saw Matt move to Cardiff University. He became Deputy Head of School and Director of Research, Head of School, and

later Head of the Astronomy Instrumentation Group and Co-Director of the Cardiff Hub for Astrophysics Research and Technology. He took on leadership roles in the emerging ESA Herschel and Planck missions, consolidating his position as a world-class astronomer providing leadership in the development and exploitation of major space projects. He led the multi-national consortium that successfully proposed to ESA, in 1998, the SPIRE instrument for Herschel and became the Principal Investigator for the project. Herschel was launched in 2009 and finished its operational phase in 2013, with the Post-Operations programme finishing in 2016. Herschel is one of ESA's most scientifically productive observatories and it provided the foundation for major advances in IR astronomy. Matt's leadership as PI of the Herschel/SPIRE consortium led him to become UK Co-PI for the Atmospheric Remote-sensing Infrared Exoplanet Large-survey (ARIEL) which will fly as ESA's M4 mission. ARIEL will characterise the physics and composition of over 1000 exoplanet atmospheres. At the heart of Matt's endeavours is a keen interest in astronomy, and the quality of his personal research is illustrated by his record of over 270 publications to date, largely in experimental and observational astronomy, with a h-index of 78 (NASA ADS) and over 24,000 citations. His leadership qualities have also been recognised by his participation in, and chairmanship of, numerous UK national and international panels, boards and committees. He served on ESA's Science Programme Committee between 2002 and 2006. With his leadership of major projects Matt has directed IR astronomy to greater heights. He has shown himself to be an accomplished astronomer, an exceptional leader of space instrumentation and an excellent strategist. His influence on IR astronomy has been enormous.

### **COSPAR William Nordberg Medal**

Kanako Seki

Professor, Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo, Japan



### **IAU Minor Planet (TBA 15 July 2024)**

Professor Kanako Seki is selected for the COSPAR William Nordberg medal for her numerous significant contributions to our understanding of ion loss from rocky planet magnetospheres. Ion loss is a topic that involves rich physics, touches multiple COSPAR communities, and has broad implications for planetary evolution and habitability. Professor Seki's earliest results used spacecraft observations to challenge our understanding of ion outflow from Earth, revising estimates of oxygen loss from Earth's atmosphere and reporting the puzzling discovery of escaping cold ions behind the planet. Since then, she has expanded her scientific reach, using spacecraft observations and computer simulations to make forefront discoveries probing the physics of atmospheric escape from Earth, solar system planets past and present, and exoplanets. Professor Seki is involved in numerous spacecraft missions from space agencies on three continents, sometimes in management roles in addition to science roles. She serves in the leadership of multiple space science organizations in Japan. Through her outstanding science, tireless advocacy, and generous service, Professor Seki is a role model to students and postdocs from the many communities she represents.

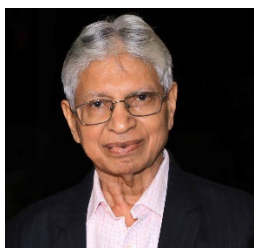


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### **COSPAR Harrie Massey Award**

Prahlad Chandra Agrawal  
Senior Professor (Retired), Department of Astronomy and Astrophysics, Tata Institute of Fundamental Research



### **IAU Minor Planet (TBA 15 July 2024)**

Professor Prahlad Chandra Agrawal has made outstanding contributions to the advancement of space research in general and specifically to X-ray Astronomy. Under his leadership innovative space-borne science instruments for use in Balloon, Rocket and Satellite missions were successfully developed and used. As a Post-Doctoral Researcher at Caltech (1972-75) and JPL (1978-80), he contributed immensely to the realization of NASA's HEAO-1 A4 instrument launched in 1976, which produced notable new science. He proposed and led a team to realize the Indian X-ray Astronomy Experiment (IXAE) aboard the Indian satellite IRS-P3 launched in March 1996. He was the originator of the proposal and the Principal Investigator (2001-11) of the Indian Multiwavelength Astronomy Satellite (AstroSat) launched in 2015, which produced discovery class results and is still working well after 9 years in orbit. He was a member of the Lunar Task Force set up by ISRO to prepare the Project Report of India's first Moon mission (Chandrayan-1) to define its objectives, techniques, and instruments. He is an effective and decisive leader who motivated and guided the instrumentation teams to overcome the challenges.

He served as Chairperson of the COSPAR Panel on Technical Problem Related to Scientific Ballooning (1998-2006) and as a member of the Science Advisory Committee to Chairman ISRO (2005-18) that reviewed proposals and payloads for the Lunar, Planetary and Space Astronomy missions. He was a member or Chairperson of Governing Councils of several premier Indian institutions like Indian Institute of Astrophysics (IIA), Aryabhata Research Institute of Observational Science (ARIES), Inter-University Centre for Astronomy and Astrophysics (IUCAA) and Raman Research Institute (RRI) and significantly contributed to the evolution of their research programmes.

### **COSPAR Distinguished Service Medal**

Gerhard Kminek  
Mars & Beyond Science Team Lead, Mars Sample Return Lead Scientist, European Space Agency, Noordwijk



### **IAU Minor Planet (TBA 15 July 2024)**



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In space exploration, the relentless and benevolent activities of some of our colleagues open the way to the COSPAR community for efficient exchange of knowledge and constructive collaborations. Gerhard Kminek has placed his

excellence in science and his expertise in the development of space missions at the service of all researchers and engineers.

Dr Kminek worked in ESA's Advanced Concepts Team and the Aurora Exploration Program. He then established the field of planetary protection at ESA, where he served as the Planetary Protection Officer for about 15 years. He pursued this important activity with long-lasting dedication as Vice-Chair and Chair of the COSPAR Panel on Planetary Protection. He is currently the ESA Lead Scientist for the joint NASA-ESA Mars Sample Return Campaign, Lead of ESAs Mars & Beyond Science Team, and the Chair of COSPAR's Scientific Sub-Commission B4. His interfaces with NASA, Roscosmos, JAXA and several other agencies, are a testimony to his highly-respected international aura.

He has initiated and organised several important meetings, workshops, standards, agreements, and conventions bridging COSPAR members and other stakeholders, for the benefit of the space family as a whole. Dr Kminek's eminent contributions to COSPAR in the past decades establish him as a most exceptional recipient of the COSPAR Distinguished Service Medal.

### **Joint COSPAR / Indian Space Research Organisation (ISRO) Vikram Sarabhai Medal** *for outstanding contributions to space research in developing countries*

Anil Bhardwaj  
Director, Physical Research Laboratory, Ahmedabad, India



Prof. Anil Bhardwaj, Director of Physical Research Laboratory, Ahmedabad, India is a respected space and planetary scientist, having contributions in the development of instruments for planetary and space missions, multi-wavelength observations of solar system bodies, and theoretical studies of planetary atmospheric-ionospheric processes. After MS from Lucknow University and PhD from Institute of Technology at Banaras Hindu University, he joined Indian Space Research Organization (ISRO) in 1993 at Space Physics Laboratory (SPL) of the Vikram Sarabhai Space Centre (VSSC), where he initiated research in planetary science, trained several students and young scientists and engineers and developed a vibrant planetary research group. He was the Director of SPL-VSSC during 2014-2017.

Prof. Anil Bhardwaj has conceived and led his team to fly scientific experiments in all the Indian missions to Moon (Chandrayaan-1, -2, -3), to Mars (Mangalyaan), and the solar mission Aditya-L1. This includes, Indo-European experiment SARA on Chandrayaan-1, mass spectrometer-based experiment MENCA on Mars Orbiter Mission, X-ray based-XSM and mass spectrometer-based CHACE-2 experiments on Chandrayaan-2 Lunar Orbiter, in-situ APXS on Chandrayaan-3 Pragyan rover, and energetic charged particle-based ASPEX on Aditya-L1. Currently, he has a lead role in the science planning for future planetary missions of India. He has also made important contributions in the field of Solar System X-rays, and radio observations of Jupiter and Venus using the Giant Meter-wave Radio Telescope of India. He developed Monte Carlo models for degradation of charged particles in planetary atmospheres to explain dayglow emissions on Mars, Venus,





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Titan, Io, and the outer planets, and ionospheric chemistry on Titan, Mars, and comets.

Prof. Anil Bhardwaj has over 200 peer-reviewed journal publications and chapters in books, and played leadership roles in AOGS, IAA, AGU, IUGG, URSI, EGU, and was the Vice-Chair of COSPAR Commission B (2012-2020). He formed Indian Planetary Science Association in 2023, and is significantly contributing to shaping diverse research in India through membership in Governing/ Research Council of many elite research institutions. He is an elected member of all the three National Science Academies in India, and has received several recognitions nationally and internationally, including two most coveted science awards in India – Shanti Swarup Bhatnagar Prize (2007) and Infosys Prize (2016), as well as Distinguished Alumni Award from both of his alma mater, IIT-BHU (2014) and Lucknow University (2022). All the above extraordinary achievements make Prof. Anil Bhardwaj a well-deserving recipient of the 2024 COSPAR Vikram Sarabhai Medal.

### **Joint COSPAR / Chinese Academy of Sciences (CAS) Jeoujang Jaw Award**

for pioneering contributions to promoting space research, establishing new space science research branches and founding new exploration programs.

Daniel Baker

Director and Distinguished Professor, Laboratory for Atmospheric and Space Physics, Boulder, CO, USA



Professor Daniel Baker's contributions to planetary science range from his pioneering work with James Van Allen on the Jovian magnetosphere (1974-76) to his most recent work on Mercury (2008 – 2020) with the MESSENGER program. He was a central player in the International Solar Terrestrial Physics program and served as an investigator on a large number of space missions, terrestrial and planetary. He has been a hands-on experimenter but, most importantly, he has had a presence in all phases of a mission: concept, management, implementation, operations, data analysis and publication. In this respect, with more than 900 journal papers published, that have received over 50,000 citations, and with an h-index of 127, he has been one of the most prolific writers in the entire discipline. Professor Baker has actively promoted space weather research, calling the attention of the public to it and informing the US Congress about the potential hazards to humankind of extreme space weather events. He is one of the few scientists who can grasp scientific research in the context of the social and economic context. His contribution to our understanding of the Van Allen radiation belts through experiment, discovery, and interpretation of observations is without comparison. He has made major scientific contributions across a wide range of topics in space plasma physics and taken a leading role in developing the nation's space weather program. His expertise in experimental studies of energetic particle processes in space, their relationship to the radiation belts, and ensuing impacts on technical systems orbiting Earth has been amplified by his leadership at national and academic laboratories and in educating the next generation of space scientists. Professor Baker has led scientific investigations on numerous NASA missions as well as unselfishly served the space research community in significant capacities. He held leadership positions at two national laboratories, Los Alamos and NASA Goddard Space Flight Center, and since 1994 has been the director of the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado. He served with great distinction as chair of the most recent US National Academies' decadal survey in solar and space physics and has continued to advocate strongly for new



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scientific missions and strengthening our technological infrastructure through greater understanding of the potential extreme variability of the natural space environment. Daniel Baker is a recognized leader and a true team player, inspiring people to work together toward common goals. Most recently, Prof. Baker has chaired

the Task Group on establishing a Constellation of Small Satellites (TGCS) to advance the goals of COSPAR in international cooperative science.

### **Outstanding Paper Award for Young Scientists 2022 and 2023**

[2023 Outstanding Paper Awards – ASR publication](#)

[2023 Outstanding Paper Awards – LSSR publication](#)

[2022 Outstanding Paper Awards – ASR publication](#)

[2022 Outstanding Paper Awards – LSSR publication](#)

### **COSPAR TODAY**

COSPAR, the largest international scientific society dedicated to promoting global cooperation in space research, was established in 1958. It serves as a neutral platform for scientific dialogue among scientists from around the world. Today, COSPAR comprises 46 national scientific institutions and 13 international scientific unions, with 13,000 space scientists actively participating in its activities, including attending Scientific Assemblies, contributing to panels and roadmaps, and publishing in its journals.

COSPAR's core mission is to facilitate dialogue and encourage international collaboration among space stakeholders across the globe. It operates through scientific commissions, panels and task groups that encompass all disciplines of space science, from Earth and atmospheric sciences to planetary science, astrophysics, solar and space plasma physics, and life and microgravity sciences. A recent focus has been on strengthening ties between science and industry. This was achieved by forming the Committee on Industry Relations, which includes 18 leading aerospace companies worldwide. The Committee advises COSPAR on integrating industry capabilities into its activities, ensuring mutual benefits for both science and industry.

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