Advances in Space Research: Top Reviewers of 2023

Advances in Space Research (*ASR*), as with any established scientific journal, insists on a rigorous peer-review process to maintain the integrity and quality of its published papers. An essential part of this process is the reviewer, spending his or her valuable time using unique expertise to evaluate the scientific quality of a manuscript and help the Editor make a fair and timely decision.

To further highlight the vital importance of reviewers to the quality *ASR* publications, the Editors have selected their top reviewers for the year 2023, taking into account criteria such as the number and the quality of the referee reports performed during this year. By publishing the names and short biographies of these selected reviewers in this issue of *Space Research Today*, we would like to acknowledge their valuable efforts. Their names is also acknowledged on the journal homepage of ASR (https://www.journals.elsevier.com/advances-in-space-research/reviewers/thank-you-reviewers-aisr).

We also feel deeply obliged to all ASR reviewers who have contributed this past year who are not mentioned here, and we sincerely thank all of them for bringing the journal up to its current scientific standard.

Pascal Willis, ASR Editor-in-Chief

Elbaz Abouelmagd

Elbaz I. Abouelmagd is a Full Professor of Celestial Mechanics and Space Dynamics at National Research Institute of Astronomy and Geophysics (NRIAG), Cairo – Egypt. He has had several academic positions in different Universities and Research Institutes through 2005 up to date. He has founded Celestial Mechanics and Space Dynamics Research Group (CMSDRG) of NRIAG.

Main research interests of Abouelmagd are studying the behavior of the dynamical system, which describe the physical phenomena. In particular, the mathematical systems that are concerned with the problems of astronomical systems, celestial mechanics and space dynamics. More precisely, His researches are oriented to study the motion of infinitesimal bodies under the effect of various perturbing forces and analyze the stability of motion. The perturbation methods are the main used tools to find the periodic solutions. Furthermore, the numerical techniques can be used to evaluate the possible solutions.

Abouelmagd has authored/co-authored over 80 peer reviewed papers in reputed journals. He has served as an Editor,

Member of Editorial Board and Potential Referee of several journals, indexed in Scopus and Web of Science. These Journals publishes original contributions in Astronomy, Space Science, Mathematical Physics, Interdisciplinary Mathematics. Also, He has reviewed hundreds of papers for many International and high potential Journals in the aforementioned fields. Abouelmagd has also developed and participated in many international scientific projects. He has given several Invited Talks in international conferences in the field of Space Science. The produced work is reflected in his H-Index is 29 in Scopus and Clarivate Databases, his awarded by the Award of Scientific Abundance of NRIAG for 5 consecutive years (2018 – 2022). His name was included in the annual influence list of the world's top 2% top scientists according to the American Stanford University study in 2021, 2023.

Dieter Bilitza

Dr. Bilitza obtained his PhD from the Albert-Ludwigs University in Freiburg, Germany in 1984. His area of expertise is ionospheric physics and space weather. He is the principal author of the International Reference Ionosphere (IRI), a widely-used model for the ionosphere for applications in science, engineering and education. IRI was selected as the ISO (International Standardization Organization) standard for the ionosphere and is recognized as such by many other international organizations including COSPAR, URSI (International Union of Radio Science), ITU (International Telecommunication Union), and ECSS (European Cooperation for Space Standardization). He is currently working on improvements of the IRI model in the lower ionosphere, on its extension to the plasmasphere, and on a better representation of real-tie conditions by assimilating real-time measurements of characteristic parameters into the IRI background model. With colleagues at NASA's Space Physics Data Facility (SPDF) he developed the very popular Modelweb interface that was later migrated to NASA's Community Coordinated Modelling Center (CCMC). Dr. Bilitza authored and co-authored over 170 refereed journal articles, served as editor for two dozen special issues and contributed chapters to five books. He is the recipient of the International Union of Radio Science (URSI) Young Scientist Award (1984), the NATO Advanced Study Institute on Space Radiation Fellowship Award (1987), the NASA Space Science Achievement Award (2007), the Kristian Birkeland Medal for Space Weather and Space Climate (2013), and the Karl Rawer Gold Medal of the International Union of Radio Science (2017).

Norma B. Crosby

Norma B. Crosby has an interdisciplinary background in space physics, engineering, and administration. She has a PhD in Astrophysics and Space Technology (University of Paris 7, France), a Master of Science in Chemical Engineering (Technical University of Denmark, Denmark), and has participated in the International Space University Summer Session Programme. Her main research interests cover the analysis and interpretation of solar flares, solar energetic particle events, statistical analyses of space plasma data, extreme space phenomena events, effects of space weather phenomena on technology and human health, and self-organized criticality. She has worked at various Institutes in Europe as well as ESA/ESTEC and NASA/GSFC. Since 2002 she has been working as a research scientist at the Royal Belgian Institute for Space Aeronomy, Belgium, where her function as co-leader of the Space Weather Group concerns linking basic and applied research. She is Coordinator of the ESA Space Weather Service Network Space Radiation Expert Service Centre.

Vittorio Franzese

Dr. Vittorio Franzese focuses on problems of autonomous navigation and systems engineering for deep-space CubeSats. He is currently a Research Associate at University of Luxembourg and has acted as project manager for spacecraft missions on several Earth-observation and deep-space CubeSat missions projects. He was a post-doctoral researcher at Politecnico di Milano and he holds a PhD cum laude at Politecnico di Milano and the European Space Agency with research on autonomous space missions, optical navigation, model-based systems engineering, and miniaturized components for the new space era. He was involved in several space missions as the ESA LUMIO lunar

cubesat mission, the ESA M-ARGO mission, and the ESA Milani deep-space CubeSat. He is currently working on PocketQube missions at University of Luxembourg.

Oleg Malkov

Soviet/Russian astronomer, born in Moscow in 1961. In 1978, having graduated from school, he entered the Physics Faculty of Moscow State University (Astronomy Department) and graduated in 1984. From March 1984 he has been working at the Institute of Astronomy (called the Astronomical Council of the Soviet Acad. Sci. prior to December 1990) as, consecutively, a probationer-researcher, a junior researcher, a researcher, a senior researcher, a leading researcher and Head of Department of Physics of Stellar Systems. He also conducted scientific research and taught at academic institutions and observatories in France, Germany, Italy, Spain and several developing countries. In 2004 he maintained a thesis in Astrophysics titled "Binary stars and the initial mass function", and received the degree of Doctor of Sciences. He is a scientific secretary of the National Committee of Russian Astronomers.

Oleg Malkov is an author of about 250 scientific papers, most of them are published in area of astrophysics and stellar astronomy. He participated in about 120 international conferences.

In the 1980s and 1990s, in collaboration with A.Piskunov, he improved methods of determination of star formation history in the Galaxy. He revised current views on the initial mass function and showed, in particular, that correct application of the mass-luminosity relation as well as taking into account components of binary stars led to the conclusion that IMF of subsolar mass stars could be power-low. The results he obtained made it possible to move towards a definite decision on one of the most fundamental astrophysical problem, origin of the stellar mass spectrum.

Beginning from the mid-2000s, together with his colleagues, Oleg Malkov has been developing a complex scientific approach to study of binary stars of different observational types. He has proposed another source of local missing mass and has shown that correct registration of photometrically unresolved binary systems can significantly increase the amount of visible matter. He has found (and explained by evolution and selection effects) a noticeable difference in radii and temperatures for components of eclipsing binaries and single stars of the corresponding spectral type. As a result, he has constructed a modern mass-luminosity relation for intermediate mass stars. He has participated in the development of the Gaia space mission photometric system, and has estimated Gaia's possibility to discover binary stars. Twelve stellar catalogues were constructed under his leadership or with his participation. In collaboration with D.Kovaleva and P.Kaygorodov he

designed the world's largest database on binary and multiple systems of all observational types, BDB.

Oleg Malkov is a professor of astronomy at Moscow State University. He has developed university courses entitled "Astronomical data", "Binary stars", "Stellar evolution", and he teaches them in universities and observatories around the world.

He is a member of the European Astronomical Society, International Astronomical Union, Euro-Asian Astronomical Society, Scientific Council on Astronomy of the Russian Acad. Sci., International Astrostatistics Association. He is an exec member of the International Virtual Observatory Alliance and a council member of the Russian Virtual Observatory.

He is a head of Russian regional science operation centre in international space project WSO-UV (Spektr-UF), which is included in the federal space program of Russia. A principal goal of the project is to construct, by 2021, a large space ultraviolet observatory to solve fundamental problems of astrophysics, cosmology and physics.

Oleg Malkov is a permanent member of scientific organizing committees of several Russian and international conferences, he is a reviewer of scientific journals and scientific foundations. He has been active in scientific popularization and makes frequent statements on television and in the print media.

Olga Maltseva

Olga Maltseva is the leading researcher in the Research Institute for Physics of Southern Federal University in Rostov-on-Don of Russia (department of radio physics and space researches). During her long career she has published numerous journal papers and some monographs in the area of modeling propagation of radio waves of different frequency bands in the ionosphere and magnetosphere. She maintains friendly and creative relations with many colleagues, participated in many international conferences. Her current interest includes verification of empirical ionospheric models, assimilation of the total electron content TEC into these models, study of impact of magnetic storms on the global TEC distributions.

Alison Moraes

Alison de Oliveira Moraes holds a B.S. in Telecommunications Engineering (2003) from University of Taubate (UNITAU), SP, Brazil, and a D.Sc. in Electronic and Computer Engineering (2013) from Aeronautics Technological Institute (ITA), SP, Brazil. Currently he serves as a Senior Technologist at Institute of Aeronautics and Space (IAE), SP, Brazil, where he designs and develops space vehicle payloads, focusing on avionics and systems engineering. Over the course of his career, he has supervised more than 50 undergraduate, masters, and doctoral students. Dr. Moraes has a research portfolio of over 60 articles in peer-reviewed journals. Since 2017, he is the Associate Editor of the Journal of Aerospace Technology and Management (JATM). Additionally, he has provided more than 175 verified peer reviews for different academic journals. His main research interests are focused on fading communication channels, GNSS applications for space weather monitoring, GNSS augmentation systems, low-cost electronic platforms for the dissemination of scientific knowledge, avionics, and temporal, spectral, and statistical analysis of aerospace data.

Heike Peter

Heike Peter is senior consultant at PosiTim UG in Germany. She received her Ph.D. in satellite geodesy from the Astronomical Institute of the University of Bern (AIUB) in Switzerland in 2003. Her main research interests are the precise orbit modelling of Low Earth Orbiting Satellites (e.g., Swarm, Sentinel, Spire CubeSats) using the three space observation techniques GNSS, DORIS and SLR and GNSS data processing in general. Since 2014 she is working for PosiTim and she is member of the Copernicus POD Service, a European consortium responsible for delivering orbital and auxiliary data products of the Copernicus Sentinel satellites to corresponding user communities. She is associate member of several international organisations such as International GNSS Service (IGS), International Laser Ranging Service (ILRS), International DORIS Service

(IDS), and International Association of Geodesy (IAG). She is involved in activities of the COSPAR Panel on Satellite Dynamics (PSD) for more than ten years. Recently she became member of the Editorial Board of COSPAR's information bulletin *Space Research Today* as Associated Editor.

Brigitte Schmieder

Brigitte Schmieder is Professor Emeritus at the *Observatoire de Paris* where and where she began her career and was a Professor from 1991 to 2012. She was Adjunct Professor between 1996 and 2006 at the University of Oslo (Norway). She is presently a visiting Professor at the University KU Leuven, and since 2020, an Honorary Professor at the University of Glasgow (Scotland).

She was vice-president of SCOSTEP between 2007-2011 and developed the CAWSES program.

In 2010, in France, she received the honor of *knight*, and in 2012, *officer* of the *Légion d'Honneur* for her research and teaching.

She received an award from SCOSTEP in 2015.

Her PhD thesis was focused on the study of acoustic waves for heating the solar corona. Her main research interests focus on ground based and space observations of dynamical events in the solar corona (eruption, prominences and jets). She recently expanded her interest domain to heliospheric activity with coronal mass ejections, solar wind and particle acceleration.

She has published more than 300 publications in peer reviewed Journals and has organized many sessions in the *COSPAR General Assembly*.

Krzysztof Sosnica

Prof. Krzysztof Sośnica obtained a PhD degree in Physics at the Astronomical Institute of the University of Bern (Switzerland). Currently, he is a professor in the field of satellite geodesy at the Institute of Geodesy and Geoinformatics of the Wrocław University of Environmental and Life Sciences (Poland). His research focuses on the development of satellite observation techniques, in particular Global Navigation Satellite Systems

(GNSS), such as GPS, GLONASS, Galileo, BeiDou, and QZSS, as well as the integration of Satellite Laser Ranging (SLR) and GNSS observations, gravity field determination, Earth rotation, precise orbit determination, and general relativistic effects in geodesy. Krzysztof Sośnica is a fellow member of the International Association of Geodesy, a member of the ESA GNSS Scientific Advisory Board (GSAC), and the Governing Board member of the Global Geodetic Observing System (GGOS).

He was a principal investigator in many projects, including "Determination of global geodetic parameters using the Galileo satellite system", "Integrated terrestrial reference frames based on SLR observations to geodetic, LEO, and GNSS satellites", "EAGLE - EArth Gravity fieLd Evolution", "Innovative methods of tropospheric delay modelling in satellite laser ranging". He was also involved in international projects, such as ESA's "Fundamental Techniques, models and Algorithms for a Lunar Radio Navigation System" or "EPOS: European Plate Observing System".

Krzysztof Sośnica is an author of more than 70 peer-reviewed scientific publications published in Journal of Geodesy, GPS Solutions, Advances in Space Research, Journal of Geophysical Research, Geophysical Research Letters, IEEE Transactions on Geoscience and Remote Sensing, Acta Astronautica, Celestial Mechanics and Dynamical Astronomy, Earth, Planets and Space, and many others. He supervised five successful doctoral theses and currently supervises five PhD candidates. He served as a reviewer in doctoral proceedings in Poland, Germany, Switzerland, and Finland.

Jungang Wang
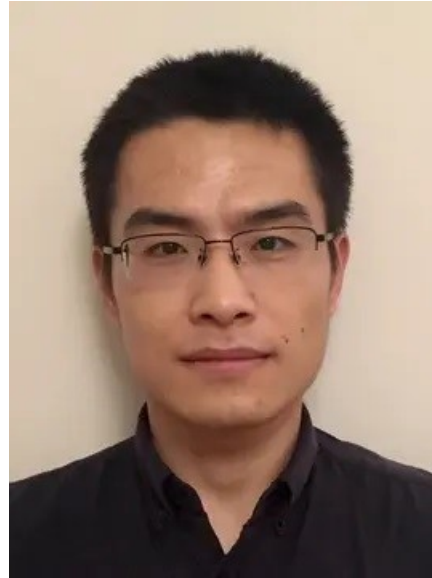
Jungang Wang is a postdoc researcher at the Technical University of Berlin. He received his PhD in Geodesy from TU Berlin in 2021, and later worked as a postdoc researcher at GFZ German Research Centre for Geosciences and Shanghai Astronomical Observatory.

His main research focus is the data analysis of space geodetic techniques including Global Navigation Satellite Systems, Very Long Baseline Interferometry, Satellite Laser Ranging, and the multi-technique combination. He developed the VLBI and SLR modules in the Positioning And Navigation Data Analyst (PANDA) software. He also focuses on the atmospheric delay effects in space geodetic techniques, GNSS precise orbit determination, and real-time GNSS applications.

Zheng Hong (George) Zhu
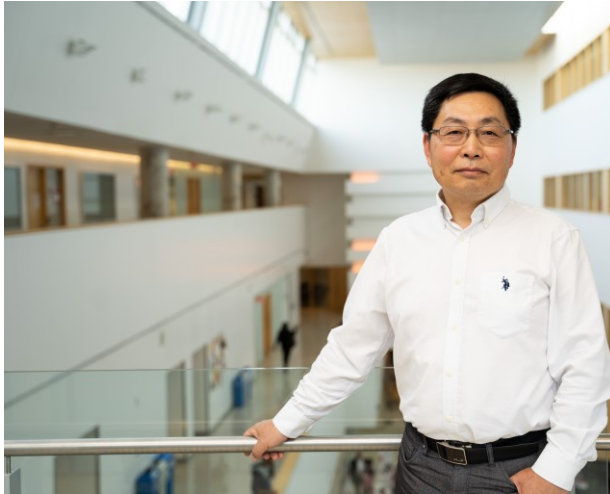
Mechanical Engineering, and the 2019 Engineering Medal – R&D from Professional Engineers Ontario.

Dr. Zheng Hong (George) Zhu is a Professor and Tier 1 York Research Chair in Space Technology (2017-2022) in the Department of Mechanical Engineering at York University in Toronto, Canada. He was the inaugural Academic Director of Research Commons (2019-2022) in the Office of Vice-President of Research and Innovation. He is also an Honorary Treasurer of the Canadian Society of Mechanical Engineering. Before he joined York University in 2006, he was a research associate at the University of Toronto (1993-1995) and then a senior stress/structural engineer at Curtiss-Wright Indal Technologies (1995-2006). His research includes the dynamics and control of tethered spacecraft, autonomous space robotics, visual servo, CubeSat technology, and additive manufacturing in space. He has published over 350 papers in peer-reviewed journals and conference proceedings. He is an elected Corresponding Member of the International Academy of Astronautics, College Member of the Royal Society of Canada, Fellow of the Canadian Academy of Canada, Fellow of the Engineering Institute of Canada, Fellow of the Canadian Society of Mechanical Engineering, Fellow of American Society of Mechanical Engineers, and Associate fellow of American Institute of Aeronautics and Astronautics. Dr. Zhu is the recipient of 2021 York University President's Research Excellence Award, 2021 Robert W. Angus Medal from Canadian Society for