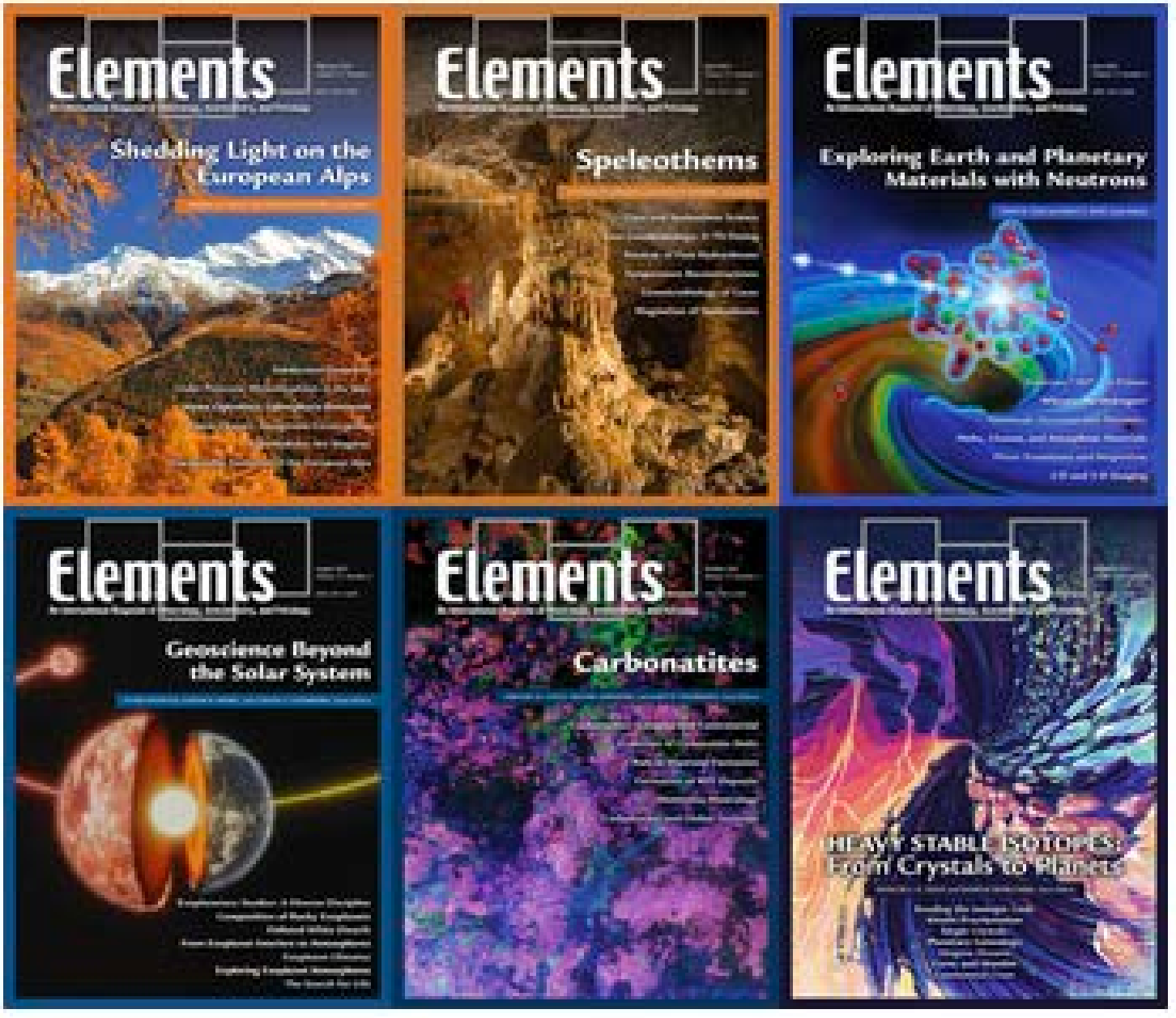
2021

# Volume 17



# Meteoritical Society

## http://meteoriticalsociety.org

### INCOMING PRESIDENT'S 2021 ADDRESS

Brigitte Zanda

I am deeply honored to become President of the Meteoritical Society, having the responsibility to steer it over the next two years. I wish to warmly thank Mini Wadhwa who now becomes our past-president after two eventful years throughout which her leadership has been thoughtful and efficient. I am happy to know that she will remain an honorary member of the executive committee and will assist us with her wisdom. I am also happy to welcome our new vice-president, Nancy Chabot. If there were only three women among the first 31 presidents of our society, there will now be three in succession!

After a PhD on the cosmic ray irradiation effects in meteorites, I was hired into Paul Pellas' group at the Muséum national d'Histoire naturelle (MNHN) in Paris (France). As I knew I was destined to become the curator of meteorites at the MNHN, I wished to study meteoritic samples more closely and started studying chondrites, which are rocks made of a variety of particles, some (or all) of which have witnessed the genesis of the Sun and of the protoplanetary disk. More specifically, I started working on the relationship between chondritic metal and chondrules and their role in generating chondrites with different chemical and isotopic compositions, working with my husband Roger Hewins, his former student Harold Connolly, and several members of their group. This work involved a lot of reflected light microscopy, which I really enjoyed and still consider an essential part of early sample characterization.

I was for 13 years the curator in charge of the MNHN meteorite collection. This gave me the opportunity to handle a large variety of samples and interact with many distinguished colleagues. Eventually, this also led to new scientific interests related to new and exceptional samples, often brought in by collector and dealer Luc Labenne. The most noteworthy of these was the recently discovered Martian regolith breccia NWA 7533, on which I have been privileged to work with Munir Humayun, Roger, and many others, studying events which took place over more than 3 billion years at the surface of Mars.

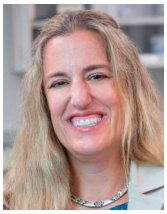
More recently, I have been involved in a large effort to recover the valuable meteorites that fall each year in France and in Europe by establishing a camera network called the Fireball Recovery and InterPlanetary Observation Network (FRIPON), which currently comprises 150 cameras and is still expanding. This network is designed to watch incoming fireballs that signal the arrival of extraterrestrial particles with sizes 1 cm and larger, and to reconstruct their orbits and trajectories. To help recover meteorites, the FRIPON team also launched a citizen science/outreach project named Vigie-Ciel (literally "sky watch"). Its aim is to inform French citizens about the scientific value of meteorites, train them to identify them, and have them participate in their search and recovery. The first meteorite recovered by the FRIPON international network fell in Cavezzo (Italy) on New Year's Day and was found only 3 days later.

The Meteoritical Society has faced difficult situations over the last few years, the latest one being COVID-19 which led to the postponement of the Glasgow (Scotland) meeting and is likely to lead to the Chicago (Illinois, USA) meeting going virtual. This is rather disappointing. But we should consider that our society has weathered worse crises in the past, and we stand by this quotation, which will appeal to the Harry Potter fans: "We are only as strong as we are united, as weak as we are divided" (Albus Dumbledore). A similar idea is actually reflected in our inclusiveness statement: "The Meteoritical Society is a professional Society that prides itself on its inclusive nature. It welcomes all who are interested in understanding planetary and stellar formation and evolution through collection and study of extraterrestrial materials, no matter what their background." I, therefore, intend to build on previous efforts to keep academics, students, and meteorite collectors working collectively towards a common goal. Hence, I particularly wish to thank our Membership Committee for designing our new website, which I believe will be an invaluable tool.

Last but not least, I wish to mention the three new sample-return missions which will make our scientific future even brighter: the Chang'e 5 mission, which is due to come back any day as I write; the Hayabusa 2 mission, which has successfully brought back samples from asteroid Ryugu; and the OSIRIS-Rex mission, which has already sampled asteroid Bennu and will return in a few years. The samples brought back by these outstanding missions will keep us busy for years and help us better understand the connection between the meteorites in our collections and the asteroids we observe with our telescopes. I am really looking forward to the first scientific results based on these new samples.

**Brigitte Zanda**, President of the Meteoritical Society

### OFFICERS AND COUNCIL MEMBERS



Nancy Chabot

Munir Humayun

Tasha Dunn

Mini Wadhwa

The Meteoritical Society will consist of a number of new officers this year. Brigitte Zanda (see above) will be transitioning from Vice President to President, and Nancy Chabot (Johns Hopkins University Applied Physics Laboratory, Maryland, USA) will be the incoming Vice President. Munir Humayun (Florida State University, USA) will continue to serve as Secretary, and Tasha Dunn (Colby College, Maine, USA) will continue as Treasurer. Meenakshi Wadhwa (Arizona State University, USA) will continue to serve, albeit in her new capacity as Past-President. We thank this new slate of officers in advance for their efforts to lead the Meteoritical Society through the next two years.

The Meteoritical Society Council will consist of Neyda Abreu (NASA's Langley Research Center, Virginia, USA), Henner Busemann [Eidgenössische Technische Hochschule (ETH) Zürich, Switzerland], Sarah Crowther (University of Manchester, UK), Denton Ebel (American Museum of Natural History, New York, USA), Chris Herd (University of Alberta, Canada), Kuljeet Kaur Marhas (Physical Research Laboratory, Ahmedabad, India), Takashi Mikouchi (The University Museum, The University of Tokyo, Japan), and Ann Nguyen (NASA's Johnson Space Center, USA).

We would like to take this opportunity to sincerely thank Trevor Ireland, who is rotating off the council after six years as an officer, and Cari Corrigan, Pierre Rochette, Mario Trieloff, and Maria Eugenia Varela, who are rotating off as councilors, for their years of dedicated service to keeping the Meteoritical Society operating smoothly!

*Cont'd on page 50*

*Cont'd from page 49*

## NEW METEORITICAL SOCIETY FELLOWS


Natalia Artemieva


Linda Elkins-Tanton


Richard Greenwood


Hope Ishii


Candace Kohl


Maria Lugaro


Tomoki Nakamura


Takaaki Noguchi


Gordon Osinski

## WORKSHOP: FRONTIERS IN MARS SAMPLE CHRONOLOGY

Determining the absolute ages of Mars samples is a key objective for current and future Mars exploration. Recent work on Martian meteorites has pushed the analytical envelope in Mars sample geochronology; this work informs future plans for the geochronology of samples returned to Earth through the Mars Sample Return mission, an effort that starts with the collection and caching of samples by the NASA Mars 2020 mission. The goal of this workshop is to review recent results; identify and elaborate on the frontiers in spatial and isotopic resolution, including on minimum sample mass; and consider the advances that will be required to optimize the geochronology of future samples of Mars.

**Dates:** 24–25 March 2021. See website https://www.minersoc.org/mars-chron.html.

**Sponsors:** the Mineralogical Society of Great Britain and Ireland and The Meteoritical Society.

**Co-conveners:** James Darling (University of Portsmouth, UK) and Christopher Herd (University of Alberta, Canada).

### RENEW YOUR MEMBERSHIP NOW!

You can easily renew online at https://meteoritical.org/membership/join.

* Note that this is a new website for membership renewal.

## THE BARRINGER FAMILY FUND FOR METEORITE IMPACT RESEARCH

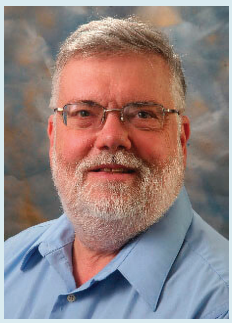
The Barringer Crater Company has established a special fund to support field work by eligible students interested in the study of impact cratering processes. The Barringer Family Fund for Meteorite Impact Research will provide a number of competitive grants in the range of $2,500 to $5,000 for support of field research at known or suspected impact sites worldwide. Grant funds may be used to assist with travel and subsistence costs, as well as laboratory and computer analysis of research samples and findings. Masters, doctoral, and postdoctoral students enrolled in formal university programs are eligible. Application to the fund will be due by 9 April 2021, with notification of grant awards by 11 June 2021.

Additional details about the fund and its application process can be found at: http:/www.lpi.usra.edu/science/kring/Awards/Barringer_Fund.

## ANNUAL MEETING SCHEDULE

| | | |
|---|---|---|
| **2021** | 14–21August | Chicago (Illinois, USA) |
| **2022** | Dates TBD | Glasgow (Scotland, UK) |
| **2023** | 3–8 July | Perth (Western Australia, Australia) |
| **2024** | Dates TBD | Brussels (Belgium) |

## IN MEMORIAM: PROFESSOR H. JAY MELOSH



Professor H. Jay Melosh passed away on 11 September 2020. Jay's research career spanned five decades and four institutions and his research interests were diverse and influential. His work on the geophysics of impact processes revolutionized our understanding of not only impact processes themselves but also the important roles that impacts have played in the evolution of the solar system, Earth, and the development of life.

Jay was born on 23 June 1947 in Patterson (New Jersey, USA). He earned a bachelor's degree (Magna Cum Laude) in physics from Princeton University (New Jersey, USA) in 1969, then attended the California Institute of Technology ("Caltech", USA), earning his PhD in physics and geology in 1972 under the advisement of Nobel laureate Murray Gell-Mann. Although Jay published a highly cited paper on quarks in 1974 while a research associate at the Enrico Fermi Institute at the University of Chicago (Illinois, USA), his passion was geophysics.

In 1976, Jay took a faculty appointment at Caltech. During this time Jay explored the role of impacts in determining the orientation of the Moon, as well as the relationship between the Moon's orientation and mascons. Jay continued to study these enigmatic features as a member of the *GRAIL* lunar spacecraft scientific team, which confirmed the link between mascons and the impact cratering process. Jay joined the State University of New York's Stony Brook University (USA) in 1979 where he was an associate professor of geophysics. In 1982, Jay joined the Planetary Sciences faculty at the University of Arizona (USA), where he continued groundbreaking research on the effects of impacts on Earth and other planetary bodies, writing the book *Impact Cratering* in 1989. Together with his students and postdoctoral researchers, he explained how impacts

on Mars could deliver meteorites to Earth, explored details of how Earth's Moon could have been formed by a giant impact 4.5 Gy, and performed detailed theoretical calculations that led to a more complete understanding of the Chicxulub impact (Mexico). In 2009, Jay moved to Purdue University (Indiana, USA) where he built a planetary science group within the Earth, Atmospheric, and Planetary Sciences Department. At Purdue, Jay and his students continued investigating impact processes and other geophysical phenomena. His work spanned a wide variety of celestial objects: Earth and its Moon, Mercury, Venus, Mars, Pluto, comets, and the giant planet satellites Callisto, Ganymede, Europa, Titan, Miranda.

Jay viewed his role as an educator and mentor with great enthusiasm. Jay advised over 20 graduate students who ultimately received PhDs in the disciplines of geology, planetary science, and physics. Jay also sponsored many undergraduate students, helping them early in their careers to explore what it meant to be a scientist. Jay had a deep passion for geologic field studies, and his field trips at Arizona were legendary. While the development of geologic field expertise was the priority, these trips were seldom without high adventure, much to the dismay of university officials responsible for the repair of vehicles damaged or sacrificed for the sake of learning. Late in his tenure at Arizona, a survey of alumni revealed that many viewed Jay's field trips as the most valuable learning experience they had in graduate school. His understanding of geologic processes and his ability to explain them in terms that not only educated but that engaged students, and his colleagues, was unique. Jay encouraged students to take scientific chances, not to be afraid to consider new ideas or to revisit old ideas that had previously been overlooked. He considered school a time to explore and to make the most of opportunities, even if not directly related to one's research. Jay's love of learning, of questioning established wisdom (often with a mischievous grin), and of searching for answers to mysteries—new or old—were inspiring and exemplified just how much fun scientific investigation can be. He modeled this in his own career.

Jay's scientific accomplishments were widely recognized by the scientific community. He was an active member of the National Academy of Sciences of the United States of America and had been inducted as a Fellow in the American Association for the Advancement of Science, the American Geophysical Union, the Geological Society of America, and the Meteoritical Society. Among his many awards and citations, Jay received the Barringer Medal from the Meteoritical Society in 1999 and the Gilbert Award from the Geological Society of America in 2001. Most recently, he was given the McCoy Award at Purdue University.

Jay is survived by his wife of 18 years, Ellen Germann, and by his sons, Nick and Greg, and their 5 children. Ellen's daughter and son, Margaret and Stephan, also have children who consider Jay to be their "Grandpa Jay."

To view a more complete version of this memorial, see https://meteoritical.org/news/h-jay-melosh-1947-2020.

**Marc W. Caffee, Timothy D. Swindle, Elizabeth (Zibi) P. Turtle**

# Italian Society of Mineralogy and Petrology

www.socminpet.it

## *EUROPEAN JOURNAL OF MINERALOGY*: NEW SERIES OF SPECIAL ISSUES

The *European Journal of Mineralogy* (*EJM*) has launched a new series of special issues with the overarching title of **Probing the Earth: Experimental and Theoretical Advances**.

Two special issues scheduled for 2020–2021 are the following:


**Probing the Earth: Reviews of OH Groups in Anhydrous and Hydrous Minerals**

SUBMISSION:
01 March 2020–31 March 2021

EDITORS: Patrick Cordier, Etienne Balan, István Kovács, and Roland Stalder

**Probing the Earth: Experiments and Mineral Physics at Mantle Depths**

SUBMISSION:
01 February 2020–30 June 2021

EDITORS: Elisabetta Rampone, Patrizia Fumagalli, Stephan Klemme, Monika Koch-Müller, Didier Laporte, and Max Wilke

More information can be found at https://www.european-journal-of-mineralogy.net.

Authors will profit from the reduced article processing charge costs devoted to SIMP members (€40 per page). In addition, for each special issue the senior editor will have the possibility of selecting two or three papers for Gold Open Access.

We encourage all the SIMP community to take advantage of this opportunity.

**Elisabetta Rampone**
Chief Editor of *European Journal of Mineralogy*

## GOLD OPEN ACCESS ON *EJM*: A 2021 PROMOTION FOR YOUNG RESEARCHERS WHO ARE SIMP MEMBERS

The SIMP offers a special promotion for Gold Open Access publication, devoted to young (under 35 years) SIMP members.

The society will provide a contribution of €600 per article (corresponding to 10 pages free of charge) for open access publication of 5 papers (total cost €3,000) that are submitted in 2021 by young SIMP members who are also the corresponding authors.

When submitting the paper, the corresponding author must indicate her/his willingness to apply for the **Special Young Researcher SIMP Promotion 2021** to get full payment of open access costs for 10 printed pages.

The promotion will apply to the *first 5 papers* that are accepted in 2021.

The papers can be submitted on different topics (i.e., to different topic editors). Managing Editor Ingrin Jannick will track the entire process and inform the society accordingly.

We encourage all members of the young SIMP community to benefit from this opportunity.

**Elisabetta Rampone**
Chief Editor of *European Journal of Mineralogy*

# Meteoritical Society

## http://meteoriticalsociety.org

### THANK YOU TO OUR SOCIETY'S COMMITTEE MEMBERS

The Meteoritical Society (MetSoc) would like to extend its sincere thanks to all those members who are serving on society committees this year. We have listed their names in the accompanying table, with the names of the committee chairs in bold. Without the generous help of these members, the MetSoc could not function. We greatly appreciate their help!

**New Committees Formed!** The Meteoritical Society recently voted to establish three new committees. The first is a digital outreach/communications committee. This has been filled and members are listed in the table (under the provisional title "Digital Outreach Committee"). This committee will oversee all website content and ensure its smooth operation. It will also coordinate with the Membership Committee in an effort to increase and retain membership, to make joining the Meteoritical Society very easy, and to improve participation from those in developing countries. One of the main goals of this committee will be to develop new content, with a particular focus on features that will bridge the gap between the scientific community and the public. We hope to add outreach materials that will engage students of all ages, from elementary school through graduate students. Scientific content, such as new information on impact craters, will be added as well. Stay tuned for new content on our website, including a page for meteorite collection histories and other initiatives directed towards nonacademic members.

The second new committee is the Impact Crater Committee. The third is an ad hoc Ethics Committee. The positions within these latter two committees are currently being filled. The goals of these committees and their members, once finalized, will be posted in the society's news page in *Elements*, as well as on the Meteoritical Society's website in the near future. Stay tuned!

| 2021 | | |
|---|---|---|
| **Past President** | Meenakshi Wadhwa | Arizona State University (USA) |
| **President** | Brigitte Zanda | National Museum of Natural History (Paris, France) |
| **Vice President** | Nancy Chabot | Johns Hopkins University Applied Physics Laboratory (USA) |
| **Treasurer** | Tasha Dunn | Colby College (Maine, USA) |
| **Secretary** | Munir Humayun | Florida State University (USA) |
| **Councilors** | Neyda Abreu | NASA Langley Research Center (Virginia, USA) |
| | Henner Busemann | ETH Zürich (Switzerland) |
| | Sarah Crowther | University of Manchester (UK) |
| | Denton Ebel | American Museum of Natural History (New York, USA) |
| | Chris Herd | University of Alberta (Canada) |
| | Kuljeet Kaur Marhas | Physical Research Laboratory (India) |
| | Takashi Mikouchi | University of Tokyo (Japan) |
| | Ann Nguyen | NASA Johnson Space Center (USA) |
| **Editorial Personnel** | | |
| Editor *Meteoritics and Planetary Science* | A. J. Timothy Jull | University of Arizona (USA) |
| Executive Editor *Geochimica et Cosmochimica Acta* | Jeff Catalano | Washington University in St Louis (USA) |
| Editor *Elements* | Cari Corrigan | Smithsonian National Museum of Natural History (Washington DC, USA) |
| Website | Mendy Ouzillou | Skyfall Meteorites, Global Meteorite Association |
| **Leonard Medal Committee** | **Hiroshi Hidaka** (chair) | Nagoya University (Japan) |
| | Maria Schönbächler | ETH Zürich (Switzerland) |
| | Zita Martins | Instituto Superior Técnico (Portugal) |
| | Jeff Cuzzi | NASA Ames Research Center (USA) |
| | Alexander N. Krot | University of Hawai'i (USA) |
| **Barringer Award Committee** | **Michael Zanetti** (chair) | Washington University in St Louis (USA) |
| | Sarah T. Stewart | University of California at Davis (USA) |
| | Roger Gibson | University of the Witwatersrand (South Africa) |
| | Thomas Kenkmann | Albert Ludwig University of Freiburg (Germany) |
| **Publications Committee** | **Ian Lyon** (chair) | University of Manchester (UK) |
| | Nancy Chabot | Johns Hopkins University Applied Physics Lab (USA) |
| | Hikaru Yabuta | Hiroshima University (Japan) |
| | Sandeep Sahijpal | Panjab University (India) |
| | Janice Bishop | SETI Institute (USA) |
| | Suzanne Schwenzer | The Open University (UK) |
| **Joint Publications Committee** | **Alex Ruzicka** (chair, MS) | Portland State University (Oregon, USA) |
| | Rosemary Hickey-Vargas (GS) | Florida International University (USA) |
| | Karim Benzarara (GS) | Institute of Mineralogy, Physics of Materials and Cosmochemistry (Paris, France) |
| | Jon Friedrich (MS) | Fordham University (USA) |
| | Sara Russell (MS) | Natural History Museum (London, UK) |
| | Caroline Peacock (GS) | University of Leeds (UK) |
| **Endowment Committee** | **Drew Barringer** (co-chair) | Barringer Crater Company (Arizona, USA) |
| | **Allan Treiman** (co-chair) | Universities Space Research Association, Lunar and Planetary Institute (Maryland, USA) |
| | Gary Huss | University of Hawai'i (USA) |
| | Rhian Jones | University of Manchester (UK) |
| | Candace Kohl | Del Mar (California, USA) |
| **Nomenclature Committee** | **Audrey Bouvier** (chair) | Bavarian Geoinstitute, University of Bayreuth (Germany) |
| | Francis McCubbin | NASA Johnson Space Center (USA) |
| | Mutsumi Komatsu | Waseda University (Japan) |
| | Hasnaa Chennaoui-Aoudjehane | University of Hassan II (Casablanca, Morocco) |
| | Vinciane Debaille | Université Libre de Bruxelles (Belgium) |
| | Emma Bullock | Carnegie Institution of Washington (USA) |
| | Bingkui Miao | University of Münster (Germany) |
| | Devin Schrader | Arizona State University (USA) |
| | Massimo D'Orazio | Università di Pisa (Italy) |

| 2021 | | |
|---|---|---|
| Database Editor; ex-officio | Jeff Grossman | NASA Headquarters (Washington DC, USA) |
| *Met Bull* Editor; ex-officio | Jérôme Gattacceca | CEREGE (France) |
| Met Soc Vice President;ex-officio | Nancy Chabot | Johns Hopkins University Applied Physics Lab (USA) |
| **Audit Committee** | **Kevin McKeegan** (chair) | University of California at Los Angeles (USA) |
| | Denton Ebel | American Museum of Natural History (USA) |
| | Caroline Smith | Natural History Museum (London, UK) |
| **Pellas–Ryder Award Committee** | **Joseph Boesenberg** (chair, MS) | Brown University (USA) |
| | Debra Needham | NASA Johnson Space Center (USA) |
| | Nick Lang | Mercyhurst University (USA) |
| | Jemma Davidson | Arizona State University (USA) |
| | Marisa Palucis | Dartmouth College (USA) |
| | Steven B. Simon | University of New Mexico (USA) |
| **Membership Committee** | **Arya Udry** (chair) | University of Nevada, Las Vegas (USA) |
| | Lucy Forman | Curtin University (Australia) |
| | Hasnaa Chennaoui-Aoudjehane | University of Hassan II (Casablanca, Morocco) |
| | Beda Hofmann | Natural History Museum (Bern, Switzerland) |
| | Chris Koeberl | Natural History Museum (Vienna, Austria) |
| | Shigekazu Yoneda | National Museum of Nature and Science (Japan) |
| **McKay Award Committee** | **Romy D. Hanna** (chair) | University of Texas (USA) |
| | Philipp Heck | The Field Museum (Illinois, USA) |
| **Jessberger Award Committee** | **Mario Trieloff** (chair) | Heidelberg University (Germany) |
| | Noriko Kita | University of Wisconsin (USA) |
| | Zita Martins | Instituto Superior Técnico (Portugal) |
| | Sara Russell | Natural History Museum (London, UK) |
| | Thomas Stephan | The University of Chicago (Illinois, USA) |
| **Digital Outreach Committee** | **Mendy Ouzillou** (chair) | Skyfall Meteorites, Global Meteorite Association |
| | Cari Corrigan | Smithsonian National Museum of Natural History (USA) |
| | Philippe Claeys | Vrije Universiteit Brussel (Belgium) |
| | Zoe Wilbur | University of Arizona (USA) |
| | Steffanie Sillitoe-Kukas | Florida State University (USA) |
| | Allan Treiman | Universities Space Research Association, Lunar and Planetary Institute (Maryland, USA) |

## ANNUAL MEETING SCHEDULE

| | | |
|---|---|---|
| **2021** | Chicago (Illinois, USA) | 14–21 August |
| **2022** | Glasgow (Scotland) | 14–19 August |
| **2023** | Perth (Australia) | 3–8 July |
| **2024** | Brussels (Belgium) | Dates TBD |

## IN MEMORIAM: JAMES J. PAPIKE

James J. Papike passed away 21 December 2020 at the age of 83, just two days after the loss of his wife, Pauline. A long-time member of the MetSoc, Jim's many research interests included howardites, eucrites and diogenites, lunar meteorites, and martian meteorites. Jim completed his bachelor's degree in geological engineering at the South Dakota School of Mines and Technology (USA) and his doctorate in geology from the University of Minnesota (USA).

Over the course of his career, Jim, a natural leader, was a major presence at six institutions. He was Director of the Institute for the Study of Mineral Deposits at the South Dakota School of Mines and Technology and, later, the Director of the Institute of Meteoritics at the University of New Mexico (USA). During his two director tenures, he expanded the analytical facilities of both institutes. He influenced the research community through his mentoring of many undergraduate and graduate students, postdocs, and early career professionals, and through his participation and leadership in over 40 national committees, spanning everything from Apollo program site selection and continental scientific drilling to US Department of Energy working groups on the geologic disposal of nuclear waste. He was active in, and was an officer or councilor of, numerous professional organizations, including being a Fellow of the Meteoritical Society.

Jim was always ahead of the curve in anticipating new questions worthy of major initiatives, and he enjoyed finding innovative analytical approaches to reexamine scientific problems. His thorough review papers are classics that will continue to be cited for many years to come.

For additional career details and photos, see "Preface to the Jim Papike special issue" by Shearer et al. (*American Mineralogist*, 2006, v91, pp1459-1460).

**Charles K. "Chip" Shearer** and **Steven B. Simon**
University of New Mexico

Please see the original, longer version of this tribute to Jim on the Meteoritical Society's website.

## RENEW YOUR MEMBERSHIP NOW!

**Don't forget to renew your Meteoritical Society membership!**
**Online at: https://meteoritical.org/membership/join**

# Meteoritical Society

## http://meteoriticalsociety.org

## REPORT OF THE METEORITE NOMENCLATURE COMMITTEE

The classification and reporting of new meteorites to the Nomenclature Committee (NomCom) of the Meteoritical Society (MetSoc) has continued throughout this pandemic year. We have passed 65,000 approved meteorites in the database, some 12,000 having a classification description and which includes over 430 lunar and 290 martian meteorites. I would like to thank all the NomCom members and all the finders and classifiers for their continuous effort to safeguard proper documentation for the naming, classification, and correct repository of specimens. Special acknowledgements go to outgoing members Emma Bullock (Carnegie Institution of Washington, USA), Hasnaa Chennaoui Aoudjehane (Université Hassan II de Casablanca, Morocco), Vinciane Debaille (Université Libre de Bruxelles, Belgium), and Brigitte Zanda (Muséum national d'Histoire naturelle Paris, France) who finished their terms. We welcomed four new members last January: Cyrena Goodrich (Lunar and Planetary Institute, Texas, USA), Ansgar Greshake (Museum für Naturkunde Berlin, Germany), Juliane Gross (Rutgers University, New Jersey, USA), and Nancy Chabot (MetSoc Vice President; Johns Hopkins University Applied Physics Laboratory, Maryland, USA).

NomCom is currently composed of nine appointed members: Audrey Bouvier (Chair; Universität Bayreuth, Germany), Massimo D'Orazio (Università di Pisa, Italy), Cyrena Goodrich, Ansgar Greshake, Juliane Gross, Mutsumi Komatsu (Sōkendai, Japan), Francis McCubbin (Deputy Editor; NASA Johnson Space Center, Texas, USA), Bengkui Miao (Guilin University of Technology, China), and Devin Schrader (Arizona State University, USA). There are also three ex-officio NomCom members: Jérôme Gattacceca (*Meteoritical Bulletin* Editor; CEREGE, Aix-en-Provence, France), Jeff Grossman (Database Editor; NASA Headquarters in Washington DC, USA), and Nancy Chabot (MetSoc Vice President; Johns Hopkins University Applied Physics Laboratory, Maryland, USA).

The purpose of the Nomenclature Committee is to approve new meteorite names and to establish guidelines and make decisions regarding the naming and classification of meteorites. New meteorites, dense collection areas, type-specimen repository collections, and revisions are published through the *Meteoritical Bulletin* and the Meteoritical Bulletin Database (MBDB) (https://www.lpi.usra.edu/meteor/).

***Meteorites*:** The 2019 entries of the MBDB, which totals 2,141 meteorites, have been published by Gattacceca et al. (2020) in issue 108 of the *Meteoritical Bulletin* (*MB*). The full write ups of 1,394 non-Antarctic meteorites and supplementary tables can be found online as supporting information and in the MBDB Archive. The *MB* issue 108 includes 12 approved falls, including four more for 2018: Benenitra (L6, Madagascar, 27 July), Komaki (L6, Japan, 26 September), Ksar El Goraane (H5, Morocco, 28 October), Mhabes el Hamra (H4/5, Mauritania, 23 December) and four for 2019 with Aguas Zarcas (CM2, Costa Rica, 23 April), Oued Sfayat (H5, Algeria, 16 May), Taqtaq-e Rasoul (H5, Iran, 10 August), and Viñales (L6, Cuba, 1 February).

*Meteoritical Bulletin* issue 109, which will contain meteorites approved in 2020, is in preparation. It will contain 2,790 meteorites, including 1,249 non-Antarctic meteorites and a remarkable 17 falls. These are 4 more for 2019 Al Farciya (L6, Western Sahara, 20 August), Flensburg (C1-ungrouped, Germany, 12 September), Mahadeva (H5, India, 22 July), and Wad Lahteyba (H5, Morocco/Western Sahara, 27 June); and, 8 so far reported for 2020: Cavezzo (L5-an, Italy, 1 January), Gatuto (L6, Kenya, 24 April), Kolang (CM1/2, Indonesia, 1 August), Narashino (H5, Japan, 2 July), Novo Mesto (L5, Slovenia, 28 February), Santa Filomena (H5-6, Brazil, 19 August), Tarda (C2-ungrouped, Morocco, 25 August), Tiros (Eucrite, Brazil, 8 May), and Zhob (H3-4, Pakistan, 9 January).

***Dense Collection Areas*:** There are currently over 370 collection areas named as dense collection areas (DCAs).

Twenty-one new DCAs were defined last year in Algeria (Hassi el Biod Algeria, Hassi el Madani, Rafsa, Tibertatine); Chile (Toconao); China (Pakepake, Tazhong, Kuiyibage, Liuyuan); Iran; Libya (Gadamis, Ghadduwah, Oiuru); Mali (Tisserlitine); Mauritania (El Hassan Ould Hamed); Morocco (Akka, Tata, Tazzarine); Niger (Gouchi); and United States (Black Butte Nevada, Crescent Valley).

***Type-Specimen Repositories*:** Five new type-specimen repositories were approved:

*AuckMus* – Auckland War Memorial Museum (New Zealand); *IST-USTHB* – Université des Sciences et de la Technologie H. Boumediene, Algiers (Algeria); *UBayr* – Bayerisches Geoinstitut, University of Bayreuth (Germany); *UGött* – Georg-August-Universität Göttingen (Germany); and *UOslo* – Natural History Museum University of Oslo (Norway).

***Meteorite naming*:** Remember to send your write-ups for new and provisional names to the NomCom at least three weeks before submitting your conference abstract or manuscript to journals to avoid potential issues with naming and classification and delays in publication. The release of the write-up to the database may be held on request if there is an embargo from publishers.

***Useful database tools*:** Meteorites and associated open source data of the MBDB can be searched by various categories including oxygen isotopes. Once a search is made, a weblink is created at the bottom of the search page and can be imported into a data spreadsheet software program to create tabulated data.

Finally, please do not hesitate to contact us with questions or concerns about the NomCom, especially with suggestions for improvement.

**Audrey Bouvier**
Chair of the Nomenclature Committee
Universität Bayreuth

### REFERENCE

Gattacceca J, McCubbin FM, Bouvier A, Grossman JN (2020) The Meteoritical Bulletin, No. 108. Meteoritics & Planetary Science 55: 1146–1150

## GIFTS AND GRANTS GUIDELINES

The stated mission of the Meteoritical Society is "to promote research and education in planetary science with emphasis on studies of meteorites and other extraterrestrial materials that further our understanding of the origin and history of the solar system." Besides the society's publications, the annual scientific meetings, establishing official names for newly found meteorites, and the awards sponsored by the society, there are other ways by which we work toward furthering our mission. This includes supporting student travel to conferences and workshops; supporting student research; assisting scientists from economically disadvantaged countries; supporting classes or field schools, especially those that bring meteoritics and planetary science to developing countries; compiling oral histories from prominent members of the society; and supporting outreach to the broader public community on meteoritics and planetary science.

To support these activities, the society has created the Endowment Fund. The majority of the endowment consists of the General Fund, which can support one-time activities that are not part of the normal society business. The Endowment Fund also has named funds: the

Nier Fund, the McKay Fund, and the Travel for International Members Fund, all of which were established for the specific purposes described in the following section. Details about activities supported by all of these funds are given under the "Activities Supported" section of the society's website.

For those who wish to assist in this mission, donations can be made to the General Fund or to any of the specific funds (see "Ways to Contribute" on the society website).

## ANNUAL MEETING SCHEDULE

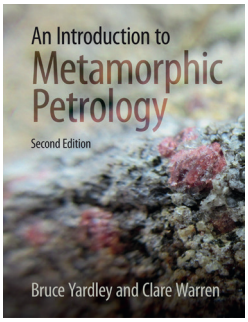
| | | |
|---|---|---|
| **2021** | Chicago (Illinois, USA) | 15–20 August |
| **2022** | Glasgow (Scotland, UK) | 14–19 August |
| **2023** | Perth (Western Australia) | 2–7 July |
| **2024** | Brussels (Belgium) | Dates TBD |


### RENEW YOUR MEMBERSHIP NOW!

Please don't forget to renew your membership for 2021. Students: this is particularly important if you are interested in applying for one of our student presentation awards, as you must be a member to be eligible. You can renew online at: https://meteoritical.org/membership/join



## *AN INTRODUCTION TO METAMORPHIC PETROLOGY* / 2nd EDITION[1]




In 1989, Longman published a seminal book by Bruce Yardley entitled *An Introduction to Metamorphic Petrology*. Clearly written and well-illustrated, this was a much-needed textbook. I will not have been the only academic who built lecture courses around it and put it on the "must buy" list for libraries and students. Just over 30 years later and a second edition has arrived, published by Cambridge University Press and with Clare Warren (Professor of Metamorphic Petrology at the Open University, UK) as a co-author.

In those 30 years, the science of metamorphic petrology has seen significant steps forward. Leaps forward in microbeam technology have enabled better imaging, mapping, and microanalysis. But there have been two key game changers: first, thermodynamic modelling incorporating not only *P*–*T* calculations but also pseudosection analysis; second, the increased precision of isotopic dating that enables precise calculations of *P*–*T*–*t* paths. This is what Professor Mike Brown (University of Maryland, USA) has referred to as a "Golden Age of metamorphic petrology".

In their preface, Yardley and Warren say that this "is a completely new edition" designed as a "core textbook for second and third year undergraduate metamorphic petrology courses and to support more-advanced teaching". Although this is true, the structure of the book is, at heart, little changed. Chapters entitled "The Concept of Metamorphism", "Metamorphism of Pelitic Rocks", "Metamorphism of Basic Igneous Rocks" and "Metamorphism of Calc-Silicate Rocks" are all there, although greatly updated. Other chapters have been split into two, and there is a new chapter entitled, "The Duration of Metamorphism".

The early chapters are built around the importance of attaining chemical equilibrium in determining metamorphic assemblages. The later chapters integrate this with the role of deformation and overall tectonic processes. Although not much is made here of pseudosections or of the thermodynamics that supports them, these chapters are underpinned by the advances in technology which can link *P*–*T*–*t* paths to deformation histories. Chapters 9 ("The Duration of Metamorphism") and 10 ("Metamorphism and Tectonics") both utilise key examples and are excellent syntheses of the current state-of-the-art. A key question might be this: Is this book built around description of fact or around processes? That the two overlap is implicitly obvious in understanding metamorphism. I think that this book leans towards the former, which is not necessarily a bad thing.

Many of the diagrams from the original edition are included, although most are redrawn and in colour. There is also a welcome increase in the number of field images and petrographic images that are in colour. The only issue that I have is that a lot of these images are too small. This is clearly an editorial decision, but I do wonder whether increasing the size of many of these images (albeit at the expense of increasing the number of pages) would have been worthwhile. Although there are more pages in this book than in the first edition, I doubt if the word count is any greater because the font size is much larger. The font size and layout make this a very pleasant book to read. It is easy on the eye.

The first edition of this book was excellent. This second edition is a great successor and it comes with a Cambridge University Press hosted webpage which contains supplementary material. I have no hesitation in recommending this excellent book to any academic who is teaching a metamorphic petrology course or to any student wishing to follow a route into metamorphic petrology.

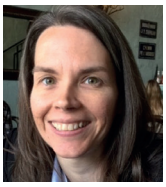
**Peter J. Treloar**

1 Yardley, B.W.D and Warren, C.E. 2021. *An Introduction to Metamorphic Petrology*. Cambridge University Press. Pp 333. ISBN. 978-1-47155-8 (hardback); 978-1-45648-7 (paperback).

# Meteoritical Society

## http://meteoriticalsociety.org

## 2021 METEORITICAL SOCIETY TREASURER'S REPORT



The Meteoritical Society's finances continue to be on a sound footing, and both the Operating Fund and the Investment Fund are currently very healthy. A large portion of the operating budget relates to the publication of *Meteoritics and Planetary Science* (*MAPS*), our international monthly journal of planetary science which publishes on the origin and history of the Solar System, planets and natural satellites, interplanetary dust and the interstellar medium, lunar samples, meteors, meteorites, asteroids, comets, craters, and tektites. The *MAPS* journal has been published by Wiley since 2010, and our income from Wiley typically exceeds the expenses of the editorial office at the University of Arizona (USA), which is managed by Editor Tim Jull.

Society memberships include subscriptions to *MAPS* and *Elements*. Membership with subscription to only the electronic version of *MAPS* is a popular option, although many of our members still purchase the printed version. To keep up with rising publication costs, dues for members desiring the print copy of the journal were raised this year. Collection of membership dues for 2022 will begin in October 2021. I would like to encourage members to pay their dues in a timely manner: this helps greatly with financial planning.

Our Investment Fund, which includes a number of endowed funds, continues to do well. The Nier Fund supports the annual Nier Prize, which recognizes outstanding research by young scientists in meteoritics and closely allied fields. The recipient for 2021 is Dr. Nan Lui of the Washington University in St Louis (Missouri, USA). The newly established Jessberger Fund supports the Elmar K. Jessberger Award, which recognizes outstanding research in the field of isotope cosmochemistry by a mid-career female scientist. This Jessberger Award will be awarded for the first time at the 2021 meeting in Chicago (Illinois, USA) to Dr. Maria Schönbächler at ETH Zürich (Switzerland). The Gordon A. McKay Fund supports the McKay Award, which is presented to the student who gives the best oral presentation at the annual meeting. The McKay Award was not awarded last year because the annual meeting was cancelled.

The society also has two endowed funds that supports members who want to travel to our annual meetings. The Travel for International Members (TIM) Fund supports travel for members from low-income countries, while the O. Richard Norton Fund, which is generously supported by John H. and Dorothy Norton Kashuba, supports travel for early career scientists. We thank Tim Swindle for his continued support of the TIM Fund.

## IN MEMORIAM – STUART ROSS TAYLOR

Stuart Ross Taylor, Leonard Medalist (1998) and former president of the Meteoritical Society (1989–1990), passed away 23 May 2021 in Canberra (Australia) surrounded by family. Ross was a geochemist who made seminal contributions to our understanding of the origin and evolution of Earth's continental crust and of the composition and origin of the Moon, meteorites, tektites, and the Solar System. Please see a more complete version of this tribute on our website: https://meteoritical.org/news/stuart-ross-taylor-1925-2021.

In addition to major contributions, our members donated US$9,765 to the various funds in the first half of the 2021 fiscal year. Your generous contributions provide direct support that helps to strengthen our international community.

The General Endowment Fund supports a variety of outreach projects. However, endowment spending has been much lower than typical this year due to the COVID-19 pandemic and the cancellation of our annual meeting. To encourage early career scientists to participate in virtual conferences, endowment funds were used to support society memberships for 31 students and post-doctoral researchers so that they could present their work at either the 2020 Goldschmidt meeting or the 2021 Lunar and Planetary Science Conference meeting. In addition, the General Endowment Fund also provided support for the Rocky Worlds II Conference, which will take place in Oxford (UK) during January 2022. We always welcome suggestions and ideas for ways in which the General Endowment Fund can be utilized to promote the goals of the society and enrich its activities.

Donations are always greatly appreciated. It is simple to donate to any of our funds while renewing your membership. You can donate at any time using the following link: https://meteoritical.org/membership/donate. Donations by check (cheque) are also accepted. Please contact me directly if you would like to donate via check.

**Tasha Dunn**, Society Treasurer

## PAUL PELLAS/GRAHAM RYDER AWARD WINNER

The Pellas–Ryder Award for the best student paper in planetary sciences is jointly sponsored by the Meteoritical Society and the Planetary Geology Division of the Geological Society of America. It is awarded to an undergraduate or graduate student who is first author of the best planetary science paper published in a peer-reviewed scientific journal during the year prior to the award. The award has been given since 2001 and honors the memories of meteoriticist Paul Pellas and lunar scientist Graham Ryder.

**Jan L. Hellmann**, currently a postdoc at the Institut für Planetologie, University of Münster (Germany) is awarded the 2021 Pellas–Ryder Award for the paper entitled "Origin of volatile element depletion among carbonaceous chondrites" published in *Earth and Planetary Science Letters* in 2020. Jan was a PhD student at the Institut für Planetologie working with Thorsten Kleine when the paper was submitted. Jan analyzed the isotopic composition of tellurium (Te), a moderately volatile element, in carbonaceous chondrites to find that mass-dependent Te isotope fractionation correlated with matrix mass fraction and nucleosynthetic chromium (Cr) isotope compositions. Jan's work showed that each carbonaceous chondrite class has its own Te isotope composition and that the lighter Te isotopes are enriched in the most volatile-depleted carbonaceous chondrites, particularly in the chondrule-dominated portion. This implies that condensation, rather than the expected evaporation, processes controlled volatile distribution. Jan observed that CR chondrites [carbonaceous chondrites of the Renazzo group] do not follow the trend defined by Te isotopes vs. $^{54}$Cr anomalies, which implies a distinct provenance for CRs in contrast to other carbonaceous chondrites. Jan also showed that the relative abundance of terrestrial composition CI chondrites [carbonaceous chondrites of the Ivuna type] is not uniquely linked to the accretion of CI-like material but could be the result of accretion of any type of carbonaceous chondrite.

## MEETING INFO

**2022** (85th Annual Meeting) August 14-19, Glasgow (Scotland, UK)
**2023** (86th Annual Meeting) August TBD, Los Angeles (California, USA)
**2024** (87th Annual Meeting) July/August TBD, Brussels (Belgium)
**2025** (88th Annual Meeting) July TBD, Perth (Australia)
**2026** (89th Annual Meeting) July/August TBD, Frankfurt (Germany)

## 2021 MEMBERSHIP REPORT

As of June 2021, the Meteoritical Society comprised 534 regular members, 78 students, 173 retired members, 39 life members, 11 members from developing countries, and 4 complimentary members. This brings us to a grand total of 839 members. Many thanks to Arya Udry for providing these statistics. We have members in 49 countries; however, the statistics show that we still have a lot to do to gain members in many countries and to increase the number of student members. Student memberships are an inexpensive US$40, and we continue to subsidize students' registration fees for the Meteoritical Society's Annual Meeting. Student members also have the opportunity to attend a Student Reception at this meeting, which provides an excellent forum to interact with their peers and to meet senior scientists in the community. Please encourage your students to join! In addition, the society does have a mechanism in place to subsidize annual dues for members in low-income countries. Prior approval is required from the Membership Committee for this rate—please refer to our website (http://www.meteoriticalsociety.org) for more information.

For those wishing to avoid the hassle of paying dues every year, consider a life membership! For more information and details on how to become a member of the Meteoritical Society, please see our web page at https://meteoritical.org/membership/join.

| Country | Complimentary | Developing Country | Lifetime | Retired | Standard | Student | Total |
|---|---|---|---|---|---|---|---|
| Algeria | | 2 | | | | | 2 |
| Argentina | | | | | 1 | | 1 |
| Australia | | | | 2 | 13 | 2 | 17 |
| Austria | | | | 3 | 6 | 1 | 10 |
| Belgium | | | | 1 | 6 | 2 | 9 |
| Bolivia | | | | | 1 | | 1 |
| Brazil | | | | | 5 | 2 | 7 |
| Canada | | | 3 | 9 | 18 | 5 | 35 |
| Chile | | | | | | 1 | 1 |
| China | | 2 | 1 | | 11 | | 14 |
| Colombia | | | | | | 1 | 1 |
| Costa Rica | | | | | 1 | | 1 |
| The Czech Republic | | | | | 2 | 1 | 3 |
| Denmark | | | | 1 | 2 | | 3 |
| Finland | | | | | 2 | | 2 |
| France | | | 3 | 10 | 19 | 6 | 38 |
| Germany | | 1 | 8 | 9 | 52 | 3 | 73 |
| Greece | | | | | 2 | | 2 |
| Holy See | | | | | 2 | | 2 |
| Hungary | | | 1 | | 1 | | 2 |
| India | | 1 | | | 1 | 1 | 3 |
| Ireland | | | | 1 | | | 1 |
| Italy | | | | 2 | 8 | 1 | 11 |
| Japan | | | | 8 | 71 | 5 | 84 |
| Korea (the Republic of) | | | | | 3 | | 3 |
| Latvia | | | | | | 1 | 1 |
| Lithuania | | | | | 1 | | 1 |
| Luxembourg | | | | 1 | | | 1 |
| Malaysia | | | | | 1 | | 1 |
| Mexico | | | | 1 | | | 1 |
| Morocco | | 4 | | | | | 4 |
| Netherlands | | | | 2 | 1 | | 3 |
| Norway | | | | 1 | 1 | | 2 |
| Oman | | | | | 2 | | 2 |
| Poland | | | | 1 | 2 | | 3 |
| Romania | | 1 | | | 1 | 1 | 3 |
| Russian Federation | | | | | 10 | | 10 |
| Saudi Arabia | | | | | 1 | | 1 |
| Slovakia | | | | | 1 | | 1 |
| South Africa | 1 | | | | 2 | | 3 |
| Spain | | | | 1 | 11 | 1 | 13 |
| Sweden | | | | | 3 | 1 | 4 |
| Switzerland | | | 1 | 5 | 14 | 3 | 23 |
| Taiwan | | | | | 1 | | 1 |
| Turkey | | | | | 1 | | 1 |
| Ukraine | | | | | 1 | | 1 |
| United Kingdom | | | | 8 | 31 | 10 | 49 |
| United States of America | 3 | | 22 | 107 | 221 | 30 | 383 |
| Uruguay | | | | | 1 | | 1 |
| Countries (n = 49) | 4 | 11 | 39 | 173 | 534 | 78 | 839 |

# Meteoritical Society

## http://meteoriticalsociety.org

### 2022 ANNUAL METSOC MEETING – YOUR INVITATION TO GLASGOW (AGAIN!)

You are cordially invited to attend the 85th Annual Meeting of The Meteoritical Society (MetSoc), which will take place 14–19 August 2022 at the Scottish Event Campus in Glasgow (Scotland, UK). The meeting is hosted by the University of Glasgow planetary science research group.

Some people may require a visa to visit the United Kingdom. To find out whether you need a visa, and how to apply, see the UK Visas and Immigration website: https://www.gov.uk/check-uk-visa.

Oral and poster sessions, plenary sessions, and the Barringer Invitational Lecture, will take place within the Loch Suite of the Scottish Event Campus: https://www.sec.co.uk/organise-an-event/event-spaces/loch-suite.

Conference registration and the Welcome Reception will begin at 5 pm on Sunday, 14 August 2022 at the Hunterian Museum (https://www.gla.ac.uk/hunterian/), which is housed within the historic main building of the University of Glasgow.

On Monday night, the City of Glasgow offers you all a warm welcome. The city are providing a free welcome drinks reception for all the MetSoc delegates where a representative of the city's Lord Provost (Mayor) will personally attend to welcome us. This will be hosted in the Glasgow City Chambers, Glasgow's finest example of 19th Century architecture, located in the heart of George Square in the city centre.

On Wednesday (17 August 2022), excursions will be offered both within the city and exploring the neighbouring countryside.

The Conference Banquet with ceilidh will be held on Wednesday night at the magnificent Kelvingrove Art Gallery and Museum, the UK's most popular museum outside of London. The Kelvingrove is home to internationally important natural history and archaeological collections, as well as artwork by Salvador Dalí, Van Gogh, Whistler, Monet, and Botticelli, https://www.glasgowlife.org.uk/museums/venues/kelvingrove-art-gallery-and-museum.

Several multi-day excursions will be offered, including trips to the Isle of Arran (with its world class geology, hiking, beer and whisky); to Edinburgh and St Andrews (for geology, castles, cathedrals, golf, and probably beer and whisky); and to NW Scotland, including to the Stac Fada and Skye impact members, plus a boat trip to see Loch Coruisk and the Small Isles, and probably more whiskey!

Rooms will be reserved in multiple hotels, offering a range of prices. As the Scottish Event Campus is located in the centre of Glasgow, there are six hotels within easy walking distance, and many more a stroll away. For hotels a little further away, public transport in Glasgow is generally frequent and reliable, and the Scottish Event Campus has its own train station, bus stops, and taxi ranks.

Glasgow is undoubtedly one of Europe's most dynamic cultural capitals, steeped in culture, rich in history, and alive with excitement. Glasgow was named one of the world's top ten 'must see' cities in 2014 by Fodor's and the Rough Guide, and is Scotland's cultural hub with over 20 museums and galleries, most offering free entry. Glasgow is also the envy of many European cities for its amazing and eclectic restaurant and café scene, with over 3,000 restaurants to choose from across the city, more than 700 bars and cosy pubs, and over 130 music events happening in the city each week. It is also an easy destination to reach and travel around, with 3 international airports within an hour's drive, and good rail, subway, and bus links.

We are looking forward to welcoming you to Glasgow!

**Lydia Hallis** (email: metsoc2020@glasgow.ac.uk)

### 2021 ANNUAL MEETING TRAVEL AWARD WINNERS

The Meteoritical Society would like to congratulate the winners of awards for travel to the 84th Annual Meeting in Chicago (Illinois, USA). We would also like to thank the sponsors of these awards who every year enable students, early career researchers, and researchers from low-income nations to travel to annual meetings in order to facilitate career-enhancing interactions with a wide array of international society members.

**Elsevier Early Career Award**: Jens Barosch and Bidong Zhang.

**O. Richard Norton Award**: Simon Anghel, Ioannis Baziotis, Mark Boyd, Emilie Dunham, Yankun Di, Timothy Hahn, and Zoltan Vaci.

**Darryl Pitt/Macovich Collection Award**: Virgile Malarewicz.

**Meteoritical Society Travel for International Members Award**: Hasnaa Chennaoui Aoudjehane

**Barringer Crater Company Award**: Marine Ciocco, Faye Davies, Claudia Samanta Aravena González, Ashley Herbst, Clara Elena Kampf, Imene Kerraouch, Ioannis Kouvatsis, Lisa Krämer Ruggiu, and Daniel Sheikh.

**NASA Award**: Samuel Alpert, Laura Chaves, Jessica Clarke, Marina Gemma, Mabel Gray, Kana Ishimaru, Alexander Kling, Dara Laczniak, Kaitlyn McCain, Amanda Ostwald, Amanda Stadermann, and Zoe Wilbur.

### CALL FOR AWARD NOMINATIONS

**Please consider nominating a colleague for one of the MetSoc's awards. Nominations should be sent to Secretary Munir Humayun (metsocsec@gmail.com) by January 15 (January 31 for the Service Award and the Pellas–Ryder Award). For more information and details on how to submit a nomination for any of these awards, please see the latest newsletter at the society's website or e-mail the secretary.**

The society gives a number awards each year. The **Leonard Medal** honors outstanding contributions to the science of meteoritics and closely allied fields. The **Barringer Medal and Award** recognizes outstanding work in the field of impact cratering and/or work that has led to a better understanding of impact phenomena. The **Nier Prize** recognizes outstanding research in meteoritics and closely allied fields by young scientists. The **Service Award** honors members who have advanced the goals of the Meteoritical Society to promote research and education in meteoritics and planetary science in ways other than by conducting scientific research. The **Paul Pellas–Graham Ryder Award** is given for the best student paper in planetary science and is awarded jointly by the Meteoritical Society and the Planetary Geology Division of the Geological Society of America. The newest society award, the **Elmar Jessberger Award**, will be given to a mid-career female scientist in the field of isotope cosmochemistry.

### CORRECTION

In the April 2021 Meteoritical Society news page of *Elements*, the following committee members for the Nomenclature Committee were inadvertently omitted: Cyrena Goodrich (Lunar and Planetary Institute, USA), Juliane Gross (Rutgers University, USA), and Ansgar Greshake (Museum für Naturkunde Berlin, Germany). These three are the newest members of the committee. Emma Bullock, Vinciane Debaille, and Hasnaa Chennaoui Aoudjehane rotated off as of January 2020.

In addition, Miao was incorrectly listed with Universität Muenster (Germany) as his affiliation: his correct affiliation is with the Guilin University of Technology (China).

# Meteoritical Society

## http://meteoriticalsociety.org

## 2021 ANNUAL MEETING REPORT

The 84th Annual Meeting of the Meteoritical Society (Met Soc) was held in August 2021 in Chicago (Illinois, USA) as the first hybrid Met Soc meeting. The in-person meeting venue was in the Hilton Chicago downtown with views overlooking Grant Park, Lake Michigan, and the Museum Campus. Due to COVID-19 pandemic-related travel restrictions, participation was less than average. A total of 308 people attended the meeting with 146 in-person participants (46%) and 162 (53%) online participants. The majority of in-person participants were from institutions based in the United States but we also had several participants from South America, Europe, and Africa. Remote talks were prerecorded and like the in-person talks broadcast live. All talks were recorded and are available for online viewing to registered participants for one year after the meeting. This has enabled participants to view all talks of interest even if they were held in parallel. Another benefit of the hybrid mode was access to the conference for those who were not able to travel, or who did not feel comfortable travelling, due to the pandemic, or those who didn't have the financial means to attend in person even if they could otherwise travel. A voluntary survey indicated a 100% vaccination rate of the in-person participants at the time of the start of the meeting. All participants were required to wear masks at the meeting venue except when presenting. The meeting included strict COVID-19 precautions and code of conduct to make the meeting as safe and enjoyable as possible for everyone.

The program included two parallel oral sessions, one of which was virtual, and one in-person poster session. The meeting also included two town hall meetings, one entitled "OSIRIS-REx Sample Analysis", presented by Dante Lauretta (University of Arizona, USA), and the other one entitled "Status of the Mars Sample Return Campaign", convened by David Beaty (Jet Propulsion Laboratory, USA), Brandi Carrier (Jet Propulsion Laboratory), Chris Herd (University of Alberta, Canada), and Meenakshi Wadhwa (Arizona State University, USA). The Barringer Lecture, "Glimpsing the Exoplanet Composition Distribution", was given by Leslie Rogers from the University of Chicago (USA). The postconference workshop was Meteorite Ownership and Legal Issues – Current Situation and Perspectives. The Meteoritical Society combined the Award Ceremony for the cancelled 2020 meeting with this year's 2021 meeting. Social events were scaled down due to pandemic-related restrictions, and participation required being fully vaccinated against COVID-19. The events included a welcome reception at the Hilton Hotel, guided tours of the Field Museum's meteorite and dinosaur collections, and self-guided visits of the Field Museum exhibits, which included, among others, the atom probe and meteorite exhibits, the Evolving Planet exhibit, and the Grainger Hall of Gems. Participants were also invited to a dome show "Imagine the Moon" at the Adler Planetarium. We were delighted to hold a served banquet with a regional menu in the Field Museum's spectacular Stanley Field Hall, featuring gleaming white marble, vaulted ceilings, and gracious columns. Participants dined safely among two African elephants prepared by famed taxidermist Carl Akeley, large hanging gardens, flying pterosaurs, and Máximo the Titanosaur. In line with the recent Met Soc tradition, a karaoke session followed the banquet for a memorable experience in a different setting.

The local organizers included Philipp Heck (Field Museum and University of Chicago); meeting convener and chair of the Local Organizing Committee, Emily Hallock and Jonathan Hense (Field Museum); and colleagues from the Field Museum and the University of Chicago. The Scientific Organizing Committee was chaired by Fred Ciesla (University of Chicago) and included local as well as national and international committee members. So did the Travel Award Committee that was chaired by Jemma Davidson (Arizona State University). Linda Garcia (Lunar and Planetary Institute, Texas, USA) and her team provided outstanding support for organizing this meeting. The meeting organization was challenging due to the many pandemic-related uncertainties regarding restrictions, travel, and participation. The author would like to thank all who were involved for their hard work and persistence. I would also like to thank the sponsors, the Meteoritical Society, the Field Museum, JEOL, ThermoFisher Scientific, CAMECA, WITec, and Oxford Instruments for their financial support.

**Philipp Heck**
Convener MetSoc 2021
Chair of the Local Organization Committee

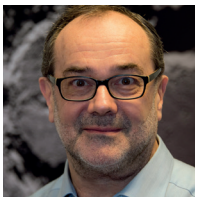
## SOCIETY AWARD WINNERS

The society now gives five major awards each year. For more information on individual awards, please see the Call for Nominations and the society's webpage.

The LEONARD MEDAL, which is the society's highest and oldest award, is given to individuals who have made outstanding original contributions to the science of meteoritics or closely allied fields. It is named for Frederick C. Leonard who was a founder and the first president of the society. The 2021 winner is **Katharina Lodders** (Washington University in St. Louis, Missouri, USA). The Meteoritical Society recognizes Katharina with its Leonard Medal for her work on "the condensation of presolar grains in stellar atmospheres and her compilation of the Solar System abundances of the elements and the condensation temperatures of the elements". The citation was given by Denton Ebel.

The BARRINGER MEDAL AND AWARD, which are sponsored by the Barringer Crater Company, were created in memory of D. Moreau Barringer, Sr and his son D. Moreau Barringer, Jr. The award is given for outstanding work in the field of impact cratering. This year, the Barringer Award is given to **Gordon Osinski** (University of Western Ontario, Canada) for his "prolific studies on impact melt rock and hydrothermal alteration processes in terrestrial craters with a particular focus on understanding melting, ejecta emplacement, and habitability, as well as his work on the 'suevite conundrum'". The citation will be given at the annual meeting in Glasgow (UK) in 2022.

The NIER PRIZE is awarded for young scientists in the field of meteoritics. This year's winner of the Nier Prize is **Nan Liu** (Washington University St. Louis). Nan receives this award for her "contributions to the field of presolar grains and nucleosynthesis, using a wide range of analytical techniques". The citation was given by Larry Nittler.



The METEORITICAL SOCIETY SERVICE AWARD recipient for 2021 is **Christian Koeberl** of the Natural History Museum of Austria. Christian receives this award "for his transformative decade-long tenure as Director General of the Natural History Museum, Vienna during which the museum was extensively modernized and renovated resulting in a doubling of the number of visitors. He is also recognized for his tireless public outreach activities in meteoritics and impact cratering and impressive societal service contributions." The citation was given by Janice Bishop.

The JESSBERGER AWARD is awarded every other year to a mid-career, female isotope geochemist thanks to an endowment from the family of Dr. Elmar K. Jessberger. **Maria Schönbächler** is the winner of the inaugural Elmar Jessberger Award. Maria receives this award for her contributions to geochronology using the Pd–Ag and Nb–Zr chronometers and for her contributions to the understanding of nucleosynthetic anomalies in elements such as Zr and Pd. The citation and presentation of this award will be given at the annual meeting in Glasgow in 2022.

The GORDON MCKAY AWARD is given each year to the student who gives the best oral presentation at the annual meeting of the society. The award honors the memory of Gordon A. McKay and is supported by the McKay Fund, which was established in 2008 as a part of the Meteoritical Society's endowment. The McKay Award for the 84th Annual Meeting of the Meteoritical Society in Chicago goes to **Amanda Ostwald** (University of Nevada Las Vegas, USA) for the talk "Nakhlite and Chassignite Parental Melt Compositions Compared". The award comes with a prize of US$1,000 and a certificate.

Sammy Griffin

Dara Laczniak

Virgile Malarewicz

The

Kaitlyn McCain

Ben Rider-Stokes

WILEY-BLACKWELL AWARD is presented for outstanding presentations by students at the annual meeting of the society. Wiley-Blackwell are the publishers of *Meteoritics and Planetary Science* and, for the 82nd meeting in Sapporo (Japan), they sponsored five awards of US$500 each. The winners for 2021 are as follows: **Sammy Griffin** (University of Glasgow, UK) for the presentation "Nakhlite Emplacement Mechanisms from Electron Backscatter Diffraction"; **Dara Laczniak** (Purdue University, Indiana, USA) for the presentation "Investigating Space Weathering of Carbonaceous Asteroids through Low-Flux and High-Flux $H^+$ and $He^+$ Irradiation of the Murchison Meteorite"; **Virgile Malarewicz** (GEOPS – Géosciences Paris Sud, CNRS, Université Paris-Saclay) for the presentation "Investigating Main and Accessory Minerals in the Martian Regolith Breccia Northwest Africa 7533 by Raman and Luminescence Spectroscopy"; **Kaitlyn McCain** (University of California Los Angeles, USA) for the presentation "Matrix-Matched $^{53}Mn^{53}Cr$ Ages of Dolomite and Calcite in CM and CI Chondrites"; and **Ben Rider-Stokes** (The Open University, UK) for the presentation "Revising the Angrite Fractionation Line: New Insights from High-Precision Oxygen Isotope Studies".

## NEW COUNCIL MEMBER

Due to a change in employment and increased responsibilities, Meteoritical Society Councilor Neyda Abreu has had to step out of her term early. We would like to thank Neyda for her service to the society and wish her well in her new position. According to the Met Soc constitution, *"Vacancies in the position of Secretary, Treasurer or Councilor shall be filled by appointment by the Council"*. In accordance with this, **Elena Dobrica** has been chosen by council to fill the position vacated by Neyda. Elena is an assistant researcher at the Hawai'i Institute of Geophysics and Planetology, University of Hawai'i at Mānoa (USA). Her research focuses on the characterization of textures, mineralogy, and isotopic compositions of the fine-grained materials in chondrites, dust particles, and return samples. However, lately, a large part of her work has focused on laboratory experiments designed to constrain the chemical, structural, and morphological characteristics of synthesized samples that reproduce those of materials observed and/or expected in small Solar System bodies. Elena was recently appointed as the new representative for the University of Hawai'i at Mānoa to the Universities Space Research Association's Council of Institutions.

## CALL FOR AWARD NOMINATIONS

Please consider nominating a colleague for one of the society's awards. Nominations should be sent to Secretary Munir Humayun (metsocsec@gmail.com) by January 15 (January 31 for the Pellas–Ryder Award and the Service Award). For more information and details on how to submit a nomination for any of these awards, please see the latest *Newsletter* at the society's website or e-mail the secretary.

## UPDATED ANNUAL MEETING CALENDAR

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| 2022 | (85th Annual Meeting) August 14–19, Glasgow (UK) |
| 2023 | (86th Annual Meeting) August TBD, Los Angeles (California, USA) |
| 2024 | (87th Annual Meeting) July/August TBD, Brussels (Belgium) |
| 2025 | (88th Annual Meeting) July TBD, Perth (Australia) |
| 2026 | (89th Annual Meeting) July/August TBD, Frankfurt (Germany) |

## RENEW YOUR MEMBERSHIP NOW!

Please renew by 31 March 2022; after that date, a $15 late fee will be assessed. You can renew online at: http://metsoc.meteoriticalsociety.net