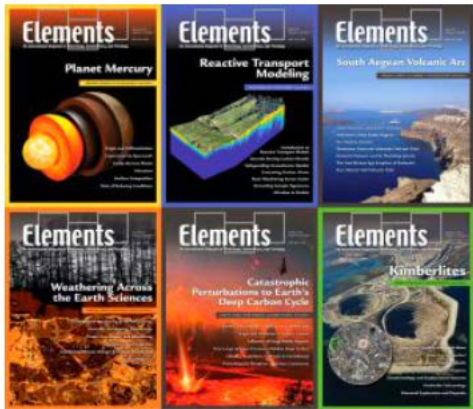


2019

Volume 15



<http://meteoriticalsociety.org>

2019 INCOMING PRESIDENT'S ADDRESS



Meenakshi Wadhwa,
President

It is an honor and pleasure to serve as President of the Meteoritical Society; this society has been my "professional home" for more than two decades. As I begin my term, I want to express my gratitude to Trevor Ireland for his able leadership as president for the last two years, and I welcome Brigitte Zanda as she assumes the role of vice president. By the way, this is the first time in the society's history that women have served as president and vice president at the same time!

I was fortunate to be introduced to the joys of studying meteorites and isotope cosmochemistry in graduate school at Washington University in St. Louis (Missouri, USA) by Ghislaine Crozaz and Ernst Zinner. After completing my doctorate in 1994, I had the honor of working with Guenter Lugmair as a postdoctoral researcher at the University of California at San Diego (USA) and was subsequently appointed curator of meteorites at the Field Museum in Chicago (Illinois, USA). My eleven years in Chicago (1995–2006) were thoroughly fun: I worked with wonderful colleagues, established an isotope cosmochemistry laboratory, and was even there for the Park Forest meteorite fall (in March of 2003)! In 2006, I was appointed Director of the Center for Meteorites Studies and a professor in the newly established School of Earth and Space Exploration at Arizona State University (USA). Arizona State University has been a tremendously exciting place to be, with the best part being the opportunity to mentor some wonderful students.

My research interests are broadly in the area of isotope and trace element geochemistry of planetary materials, including meteorites, to understand the timescales and processes involved in the formation of the solar system and planets. A common thread through much of my career has been a deep interest and involvement in the collection and curation of planetary materials (whether they are meteorites recovered here on Earth, or materials returned by spacecraft), the unique research that is enabled by them, as well as the education and outreach opportunities afforded by them. I recognize that we are at a particularly exciting time for our field: both the *Hayabusa2* and *OSIRIS-REx* spacecraft recently reached their target asteroids (Ryugu and Bennu, respectively), and it has been amazing to see their surfaces come into view for the first time. These spacecraft will soon be sampling these two asteroids, with *Hayabusa2* expected to bring back samples from Ryugu by end of my term as president in late 2020, and *OSIRIS-REx* expected to return samples of Bennu a little less than three years later. Moreover, there is even hope for samples to be returned from the surface of a comet, the Moon, and Mars in the not too distant future. Indeed, we are at the threshold of the golden age of sample-return missions, and it is exciting to consider the astounding discoveries that await us. So, what better time than now to make a push for making the Meteoritical Society more inclusive and diverse than it has been? We need, and welcome, the breadth of perspectives and expertise to learn as much as possible from the samples that are expected to be brought back from different places in our solar system!

During my term as president, I will work to encourage the participation of women and underrepresented minorities in meteoritics and planetary science. Also, I believe that we, as an international organization, should support initiatives that foster even greater involvement by our international members at our annual meetings and other society matters. Please do not hesitate to reach out to me with your suggestions in these areas.

Meenakshi (Mini) Wadhwa
Meteoritical Society President 2019–2020

OFFICERS AND COUNCIL MEMBERS



Brigitte Zanda



Karen Ziegler



Munir Humayun



Trevor Ireland

The Meteoritical Society will consist of a number of new officers this year. **Meenakshi Wadhwa** (Arizona State University, see above) will be transitioning from vice president to president, and **Brigitte Zanda** (Muséum national d'Histoire naturelle, Paris, France) will be the incoming vice president. **Munir Humayun** (University of Central Florida, USA) will serve as our new secretary, and **Karen Ziegler** (University of New Mexico, USA) will begin her term as our new treasurer. **Trevor Ireland** (Australian National University) will continue to serve, albeit in his 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** (Pennsylvania State University in DuBois, USA), **Catherine (Cari) Corrigan** (Smithsonian Institution, National Museum of Natural History, Washington, DC, 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), **Pierre Rochette** (Aix-Marseille University, Marseille, France), **Mario Trieloff** (Heidelberg University, Heidelberg, Germany), and **Maria Eugenia Varela** (Instituto de Ciencias Astronómicas, de la Tierra y del Espacio, Buenos Aires, Argentina).

We would like to take this opportunity to sincerely thank **Mike Zolensky**, who is rotating off of the council after six years as an officer; **Mike Weisberg** as secretary; **Candace Kohl** as treasurer; and **Keiko Nakamura-Messenger**, **François Robert**, **Caroline Smith**, who are rotating off as councilors, for their years of dedicated service to keeping the Meteoritical Society operating smoothly! We would also like to honor **Christine Floss** for her years of service to the society before she passed away earlier this year.

RENEW YOUR MEMBERSHIP NOW!

Please renew by 31 March 2019; after that date, a US\$15 late fee will be assessed. You can renew online at:
<http://metsoc.meteoriticalsociety.net>

2018 SOCIETY FELLOWS



Audrey Bouvier
(University of Western Ontario, Canada)



Hasnaa Chennaoui-Aoudjehane (Hassan II University of Casablanca, Morocco)



Takashi Mikouchi
(The University Museum, The University of Tokyo, Japan)



Henner Busemann
(Institute for Geochemistry and Petrology, ETH Zurich, Switzerland)



Barbara Cohen
(NASA Goddard Space Flight Center, Maryland, USA)



Akira Tsuchiyama
(University of Kyoto, Japan)



Nancy Chabot
(Johns Hopkins Applied Physics Laboratory, Maryland, USA)



Ian Franchi
(The Open University, UK)



Qing-Zhu Yin
(University of California at Davis, USA)

THE BARRINGER FAMILY FUND FOR METEORITE IMPACT RESEARCH

The Barringer Crater Company has established a special fund to support fieldwork 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 US\$2,500 to US\$5,000 to support field research at known or suspected impact sites worldwide. Grant funds may be used to assist with travel and subsistence costs, as well as for laboratory and computer analysis of research samples and findings. Master's, doctoral and postdoctoral students enrolled in formal university programs are eligible. Applications to the fund are due by 7 April 2019, with notification of grant awards by 9 June 2019. 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

2019	Sapporo (Japan)	8–12 July
2020	Glasgow (Scotland)	9–13 August
2021	Chicago (Illinois, USA)	dates TBD
2022	Perth (Australia)	dates TBD

WORKSHOP ON CURATION OF METEORITES AND EXTRATERRESTRIAL MATERIALS

The first Workshop on the Curation of Meteorites and Extraterrestrial Samples was hosted 10–13 September 2018 by the Vatican Observatory in Castel Gandolfo (Italy). Thirty curators and manager of collections attended the meeting, representing 23 institutions from all over the globe; three more curators participated by telepresence.

Thanks in part to a travel assistance grant provided by the Meteoritical Society, most of the large and a few smaller worldwide collections were represented. The main objectives of the meeting were to better organize the meteorite curation community, to share best practices, to discuss problems and issues pertinent to scientific curation, and to provide an opportunity to familiarize ourselves with the different collections and how they are curated. We were also able to move forward with a recommendation for the recognition of individual specimens and sources in publications. The workshop was organized around presentations that introduced institutional collections and that were interspersed with presentations and discussions on topics of concern for the group, such as how best to preserve and make accessible the record of specimens, concerns regarding new acquisitions and keeping track of laws regarding meteorite possession and purchase in various countries, how to enforce loan conditions for scientific researchers who use collection specimens, and so on. Understanding the vastly different structures under which individual collections operate and how those structures influence decisions, as well as finding common ground, was an important outcome of the meeting.

The workshop was organized by R. Macke (Vatican Observatory) and L. Ferrière (Natural History Museum Vienna, Austria) with the hope of better serving the community of researchers in extraterrestrial materials.



THANKS TO OUR SOCIETY'S COMMITTEE MEMBERS

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

Committees	2019	Affiliation	Ends
Meteoritical Society Council (2019–2020)			
Past President	Trevor Ireland	Australian National University	2019
President	Meenakhshi Wadhwa	Arizona State University (USA)	2019
Vice President	Brigitte Zanda	Muséum national d'Histoire naturelle, Paris (France)	
Secretary	Munir Humayun	Florida State University (USA)	
Treasurer	Karen Ziegler	University of New Mexico (USA)	
Councilors	Neyda Abreu	Pennsylvania State University, DuBois (USA)	
	Catherine Corrigan	Smithsonian National Museum of Natural History, Washington DC (USA)	
	Chris Herd	University of Alberta (Canada)	
	Kuljeet K. Marhas	Physical Research Laboratory (Gujarat, India)	
	Takashi Mikouchi	University of Tokyo (Japan)	
	Pierre Rochette	Aix-Marseille University (France)	
	Mario Trieloff	Heidelberg University (Germany)	
	Maria Eugenia Varela	National Scientific and Technical Research Council (Argentina)	
Audit			
3 members; 3-year terms	Jutta Zipfel	Senckenberg Research Institute, Frankfurt (Germany)	2019
	Kevin McKeegan	University of California at Los Angeles (USA)	2020
	Denton Ebel	American Museum of Natural History (New York, USA)	2021
Barringer Award			
4 members, 4-year terms	Akiko Nakamura (Chair)	Kobe University (Japan)	2019
	Michael Poelchau	University of Freiburg (Germany)	2020
	Michael Zanetti	Washington University of St. Louis (Missouri, USA)	2021
	Sarah T. Stewart	University of California at Davis (USA)	2022
Endowment			
5 members; 3-year terms & treasurer	Rhian Jones	University of Manchester (UK)	2019
	Allan Treiman	Lunar and Planetary Institute (Texas, USA)	2019
	Drew Barringer (Co-chair)	The Barringer Crater Company (Arizona, USA)	2020

Committees	2019	Affiliation	Ends
	Gary Huss	University of Hawaii (USA)	2021
	Uwe Reimold (Co-chair)	Museum für Naturkunde (Leibniz Institute) Berlin (Germany)	2021
	Karen Ziegler (Treasurer, ex-officio)	University of New Mexico (USA)	
Leonard Medal and Nier Prize			
5 members; 3-year terms	Richard Binzel	Massachusetts Institute of Technology (USA)	2019
	Roger Hewins (Chair)	Rutgers University (New Jersey, USA)	2020
	Maria Schönbachler	ETH Zürich (Switzerland)	2021
	Hiroshi Hidaka	Hiroshima University (Japan)	2022
	Zita Martins	Natural History Museum, London (UK)	2023
McKay Award			
6-8 members; 1-year term	Tasha Dunn (Chair)	Colby College (Maine, USA)	2019
	Hisayoshi Yurimoto (Vice Chair)	Hokkaido University (Japan)	2019
Membership and Service Award			
5 members; 3-year terms	Devin Schrader	Arizona State University (USA)	2019
	Gretchin Benedix	Curtin University (Australia)	2019
	Matthias Meier	ETH Zürich (Switzerland)	2019
	Ludovic Ferriere	Natural History Museum, Vienna (Austria)	2020
	Mendy Ouzillou	Private meteorite collector	2020
	Tomas Kohout	University of Helsinki (Finland)	2020
Nomenclature			
Editor MetBull	Jerome Gattacceca Bulletin Editor, ex-officio	Centre Européen de Recherche et d'enseignement des Géosciences de l'Environnement (Marseille, France)	
Editor Database	Jeff Grossman Database Editor, ex-officio	NASA Headquarters (Washington DC, USA)	
12 members; 3-year terms 3 ex officio	Mutsumi Komatsu	Waseda University (Japan)	2019
	Tasha Dunn	Colby College (Maine, USA)	2019
	Massimo D'Orazio	Università di Pisa (Italy)	2019
	Vinciane Debaille	Université Libre de Bruxelles (Belgium)	2020
	Emma Bullock	Carnegie Institution of Washington Geophysical Laboratory (Washington DC, USA)	2020

Committees	2019	Affiliation	Ends
	Hasnaa Chennaoui-Aoudjehane	University of Hassan II, Casablanca (Morocco)	2020
	Audrey Bouvier (Chair)	Bayerisches Geoinstitut, Universität Bayreuth (Germany)	2021
	Miao, Bingkui	Universität Münster (Germany)	2021
	Francis McCubbin	Johnson Space Center, NASA (Texas, USA)	2021
	Brigitte Zanda (ex-officio)	Muséum national d'Histoire naturelle, Paris (France)	

Nominating

6 members; 2-year term	Rhonda Stroud (Chair)	US Naval Research Laboratory (USA)	2020
	Rhiannon Mayne	Texas Christian University (USA)	2020
	Tim McCoy	Smithsonian Institution (USA)	2020
	Gordon Osinski	University of Western Ontario (Canada)	2020
	Tomo Usui	ISAS/JAXA (Japan)	2020
	Jutta Zipfel	Senckenberg Forschungsinstitut und Naturmuseum (Germany)	2020

Pellas/Ryder Award

3 MetSoc; 3 GS; 3-year terms	Katherine Joy (MS)	University of Manchester (UK)	2019
	Emily Martin (GS)	National Air and Space Museum, Smithsonian Institution (Washington DC, USA)	2019
	Sharon Wilson Purdy (GS)	National Air and Space Museum, Smithsonian Institution (Washington DC, USA)	2019

Committees	2019	Affiliation	Ends
	Jon Friedrich (MS) (Chair)	Fordham University (New York, USA)	2019
	Lindsay Keller (MS)	Johnson Space Centre, NASA (Texas, USA)	2020
	Debra Needham (GS)	Marshall Space Flight Center, NASA (Alabama, USA)	2021

Publications

6 members; 3-year terms & treasurer	Tomoki Nakamura	Tohoku University (Japan)	2019
	Martin Bizzarro	Natural History Museum, Copenhagen (Denmark)	2019
	Ian Lyon	University of Manchester (UK)	2020
	Qingzhu Yin	University of California at Davis (USA)	2020
	Cecile Engrand (Chair)	University of Paris (France)	2020
	Nancy Chabot	Johns Hopkins University, Applied Physics Laboratory (Maryland, USA)	2021
	Karen Ziegler (Treasurer, ex-officio)	University of New Mexico (USA)	

Publications (Joint Publications)

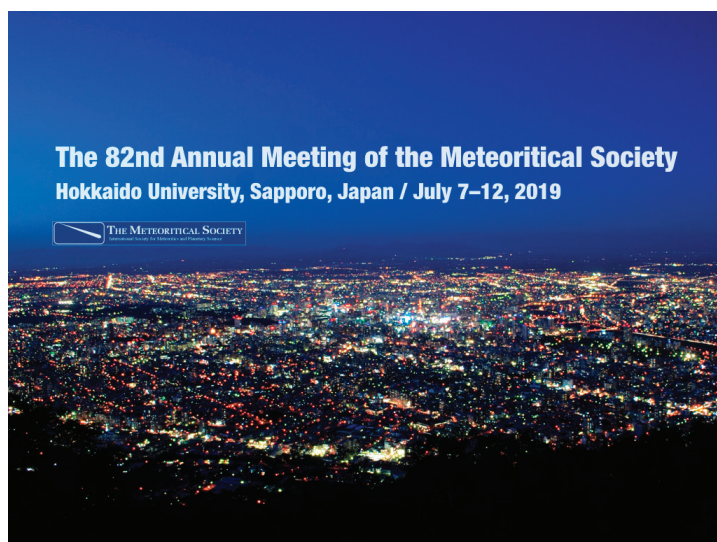
6 members; 3-year terms	Thorsten Kleine (MS) (Chair)	University of Münster (Germany)	2019
	Park, Jisun (MS)	Kingsborough Community College, City University of New York (USA)	2019
	Mark Rehkemper (GS)	Imperial College London (UK)	2019
	Rosemary-Hickey Vargas (GS)	Florida International University (USA)	2021
	Tina van de Fliertd (GS)	Imperial College London (UK)	2020
	Alex Ruzicka (MS)	Portland State University (Oregon, USA)	2021

ANNUAL MEETING SCHEDULE

2019	Sapporo (Japan)	7–12 July
2020	Glasgow (Scotland)	9–13 August
2021	Chicago (Illinois, USA)	16–20 August
2022	Perth (Australia)	Dates TBD

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Meteoritical Society

<http://meteoriticalsociety.org>

REPORT OF THE METEORITE NOMENCLATURE COMMITTEE



Audrey Bouvier

The purpose of the Meteoritical Society's Nomenclature Committee (NomCom) 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/>).

I would like to thank Laurence Garvie (Arizona State University, USA) for his service as Chair of NomCom from 2016 to 2018, as well as Knut Metzler (Universität Münster, Germany) and Mini Wadhwa (Arizona State University) for their service on the committee. Special thanks go to Jérôme Gattacceca (Editor; CEREGE, France) and Francis McCubbin (Deputy Editor; NASA's Johnson Space Center, Texas, USA) who are handling hundreds of annual submissions and revisions of meteorites, and Jeff Grossman (NASA, USA) for maintaining the MBDB website. The annual number of approved meteorites continues to grow significantly.

The current membership of NomCom is as follows, with nine appointed members: Audrey Bouvier (Chair; Universität Bayreuth, Germany), Emma Bullock (Carnegie Institution of Washington, USA), Hasnaa Chennaoui Aoudjehane (Université Hassan II de Casablanca, Morocco), Vinciane Debaille (Université Libre de Bruxelles, Belgium), Tasha Dunn (Colby College, Maine, USA), Massimo D'Orazio (Università di Pisa, Italy), Mutsumi Komatsu (Sökendai, Japan), Francis McCubbin (NASA Johnson Space Center), and Bengkui Miao (Guilin University of Technology,

China); and three ex-officio NomCom members: Jérôme Gattacceca (*Meteoritical Bulletin* Editor; CEREGE), Jeff Grossman (Database Editor; NASA) and Brigitte Zanda (MetSoc Vice President; Muséum national d'histoire naturelle, Paris, France).

Meteorites The 2017 entries of the MBDB are published in the *Meteorite Bulletin* (No. 106) and in *Meteoritics & Planetary Science* (2019, v54, pp 469-471). The full write-ups and supplementary tables can be found online as supporting information and in the MBDB Archive. Remember to reference the corresponding *Meteorite Bulletin* when using these data.

Meteoritical Bulletin No. 107 is currently in preparation and will include all meteorites approved in 2018. These will comprise 2,714 meteorites (compared to 1,868 in 2017), including 1,145 non-Antarctic meteorites. Over 200 submissions from South America (made after the publication of *Meteoritical Bulletin* Nos 102 and 106) were approved. Notable entries include 7 meteorites from fall events reported in 2018: Hamburg (Michigan, USA, 16 January), Ablaketa (Kazakhstan, 16 February), Aba Panu (Nigeria, 19 April), Mangui (China, 1 June), Ozerki (Russia, 21 June), Renchen (Germany, 10 July), and Gueltat Zemmour (Morocco, 21 August).

Dense Collection Areas There are currently 400 named dense collection areas (DCAs). Twenty-four were created in 2018, including 13 new DCAs in China. A list of all DCAs with their corresponding coordinates and KMZ files with map locations that are viewable in Google Earth® can be found at <https://www.lpi.usra.edu/meteor/DenseAreas.php>.

Type-Specimen Repositories Eight new type-specimen repositories were approved: **CUB** (Mineralogical Museum of Comenius University, Bratislava, Slovakia), **GSI** (Geological Survey of India in Calcutta), **IGCAS** (Institute of Geochemistry, Chinese Academy of Sciences,

Cont'd on page 214

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LATEST RELEASE IN OUR TOPICS IN MINERAL SCIENCES, FORMERLY SHORT COURSE, SERIES

Applied Isotope Geochemistry

Topics in Mineral Sciences, volume 48

Short course delivered at the Research for Future Generations, June 2018, Vancouver (British Columbia, Canada)

EDITORS: Bruce Eglington, Mostafa Fayek and Kurt Kyser

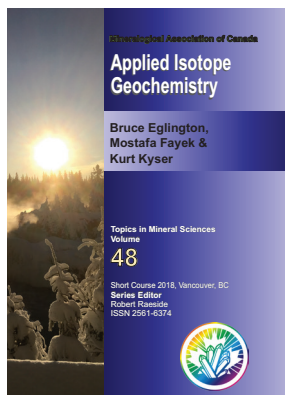
SERIES EDITOR: Robert Raeside

ISSN 2561-6374

ISBN 978-0-921294-62-7, SC48,

200 pages, soft cover, 2019

Isotope geochemistry is an integral part of the Earth sciences. This subdiscipline reveals the fourth dimension of our science (time), as well as revealing the processes involved in natural systems and the means by which to trace the flux of elements through the geosphere-hydrosphere-biosphere. As such, isotope geochemistry is built on a platform of pure and theoretical science, but is primarily an applied science that adds value to mineral exploration, environmental stewardship, whole Earth ecology, the timing and causes of evolution, paleoclimate and even food authentication.



Therefore, the aim of this short course was to introduce to the greater geoscience community the utility of using isotopes to understand the processes that govern mass transport in the geosphere. Although whole books, and chapters within books, have been written on the application of isotopes, this particular short course volume is dedicated to both radiogenic and stable isotope applications for the geosciences.

The concept of this book was envisioned by Professor Kurt Kyser (1951–2017), formerly of Queen's University (Ontario, Canada). The volume begins with the application of isotopes to the exploration of volcanic massive sulfide deposits. The next three chapters focus on the application of radiogenic isotopes to mineral and fluid systems, and chapter 5 introduces current approaches to data assessment, primarily for detrital zircon samples, and introduces some new approaches which aid in the simultaneous treatment of large sets of data. Chapter 6 applies noble gas isotopes to geothermal systems, and in Chapter 7 heavy metal isotopes are used to trace anthropogenic contaminants in the environment. The final chapter is about the application of clumped isotopes and their utility in obtaining information about paleo-environments.

This volume does have some glaring omissions, however, including transition metal isotopes and the application of isotopes to understanding clay minerals and the hydrosphere. It is our hope that other researchers will be inspired by this work and, as techniques continue to evolve, a complementary volume will be organized in the future.

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Guiyang, China), **FMMR** (Fersman Mineralogical Museum, Moscow, Russia), **SNM** (Natural History Museum of the Slovak National Museum, Bratislava, Slovakia), **UND** (University of North Dakota, USA), **UNIL** (Mineralogy and Petrography Department, Musée cantonal de géologie, Lausanne, Switzerland), **HMG** (Hunan Provincial Museum of Geology, China).

In accordance with §7.1f of the *Guidelines for Meteorite Nomenclature*, type specimens of all new meteorites "... must be deposited in institutions that have well-curated meteorite collections and long-standing commitments to such curation." The minimum mass of a type specimen should be 20% of the total mass, or 20 g, whichever is the lesser amount. However, for larger meteorites, type specimens are recommended (but not required) to be at least 5% of the total mass for 0.4–10 kg, and at least 500 g for meteorites >10 kg.

Website The *Meteorite Bulletin's* website has been updated with additional resources for the Nomenclature Committee – see <https://www.lpi.usra.edu/meteor/metbull.php>.

I encourage meteorite researchers and enthusiasts to check out the NomCom resources on the Meteoritical Bulletin Database webpage. Submitters of new meteorites will find the FAQ webpage particularly useful when preparing their submissions to the *Meteoritical Bulletin*. A well-prepared submission helps the editors to open these for subsequent review by 12 voting members. Sufficient details about the finding history and petrographic and geochemical information should be included.

Guidelines NomCom guidelines in §4.2c have recently been updated to handle the submissions of large pairing groups encompassing one or more dense collection areas. Field information when recovering tens or hundreds of stones is particularly important for researchers. We would like to ensure that stones can be adequately paired and tracked, not only for naming but also for future curation, research, publication, and in particular cases such as heterogeneous falls (e.g., Almahata Sitta, Nubian Desert, Sudan). Only stones submitted with coordinates and masses of such large pairing groups will be named and entered in the database.

In relation to this, **strewnfield** data can now be plotted into Google Earth. For example, the Sutter's Mill (California, USA) meteorite strewnfield is shown in FIGURE 1. Data are available in the Meteoritical Bulletin Database by following the strewnfield link on the meteorite page or search tool. We encourage submission of location coordinates for past and future strewnfields.

Use of official meteorite names in abstracts and publications Names of meteorites have to be approved by NomCom and published in the Meteoritical Bulletin Database to be used in abstracts and publications. It is critical to give correct meteorite names, any collection numbers when available, and also acknowledge meteorite loan sources. Such information can be used to track samples and data, to ensure that research on meteorites is reproducible, and to prevent confusion in the literature. The 2019 article "Best Practices for the Use of Meteorite Names in Publications" by Heck et al. (*Meteoritics & Planetary Science*, 10.1111/maps.13291) provides recommendations that should become the standard for meteorite research.

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

Reference

Jenniskens P and 70 coauthors (2012) Radar-enabled recovery of Sutter's Mill meteorite, a carbonaceous chondrite regolith breccia. *Science* 338: 1583-1587

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. These include 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 an endowment fund. The majority of the endowment consists of the General Endowment Fund which can support one-time activities that are not part of the normal society business. The endowment fund also has specific named funds: the Nier Fund, the Gordon A. McKay Fund, and the Travel for International Members Fund. Specific details on the activities supported by these funds can be found on the society's website under Activities Supported.

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

CALL FOR NEW MEETING LOCATION PROPOSALS

The society is currently accepting proposals for future annual meeting locations. The next meeting location to be chosen will be for the year 2023. Please submit questions and/or proposals to metsec@gmail.com.

ANNUAL MEETING SCHEDULE

2019	Sapporo (Japan)	7–12 July
2020	Glasgow (Scotland)	9–13 August
2021	Chicago (Illinois, USA)	16–20 August
2022	Perth (Australia)	Dates TBD

RENEW YOUR MEMBERSHIP NOW!

Please don't forget to renew your membership for 2019. Students, this is particularly important if you are interested in applying for one of our student presentation awards, because you must be a member to be eligible. You can renew online at: <http://metsec.meteoriticalsociety.net>.

<http://meteoriticalsociety.org>

2019 METEORITICAL SOCIETY TREASURER'S REPORT



Candace Kohl

The Meteoritical Society's finances continue to be on a sound footing, and both the Operating Fund and our Investment Fund are currently healthy. This is despite the fact that this year the society was the unfortunate target of a phishing scam and we suffered some losses from our Operating Account. The situation is stable and the council is working to mitigate the loss and see that it is reported to all appropriate agencies and that all recourses are pursued. The present financial situation of the society is secure.

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 covers topics including 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 closely matches 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 to *Elements*. Membership with subscription to only the electronic version of *MAPS* has become a popular option, although many of our members still purchase the printed version. Dues were raised this year for those desiring the print copy of the journal. Collection of membership dues for 2020 will begin in October 2019. Dues for print copies of the journal *MAPS* will again be increased. I would like to encourage members to pay their dues in a timely manner, as this helps greatly with financial planning. Healthy finances depend on a stable number of memberships.

Our Investment Fund, which includes a number of endowed funds, continues to do fairly well. The Nier Fund supports the annual Nier Prize, which recognizes outstanding research by young scientists in meteoritics and closely allied fields. The 2019 recipient is Dr. Aki Takigawa of Kyoto University (Japan). The Gordon A. McKay Fund supports an award to the student who gives the best oral presentation at the annual meeting of the society. The 2018 award was given to Timothy Gregory at the University of Bristol (UK).

The Travel for International Members (TIM) Fund to support travel to Meteoritical Society meetings for professional members of the society from low-income countries continues to grow and, this year, funds that are donated to it will be used to fund travel to our 2019 meeting in Sapporo (Japan). Tim Swindle continues his generous annual donation to this fund. The O. Richard Norton Fund, which is generously supported by John H. and Dorothy Norton Kashuba, will be used for travel to the annual meeting this year in Sapporo, with preference given to early career scientists. The first O. Richard Norton Travel Awards were given out for the 2018 Moscow (Russia) meeting and the fund will provide an ongoing resource for future meetings.

The society is very excited to announce a new prize award. The Elmar K. Jessberger Award recognizes outstanding research in the field of isotope cosmochemistry by a mid-career female scientist. The recipient will be a woman who received her doctorate between 10 years and 20 years before the year she is selected by the council. The award will be presented every other year and will come with prize money of US\$1,500. The award was established in 2019 to honor the memory of Elmar K. Jessberger, and is supported by an endowment established by the Jessberger family.

The General Endowment Fund supports a variety of outreach projects. Over the last year, this fund has been used to provide travel support to attend the Meteorite Curators Meeting at the Vatican Observatory (Vatican City State); for student travel to the first ever Workshop on Meteorite Studies, Analytical Techniques, and Current Meteorite Collections in Istanbul (Turkey); support for early career scientist to attend the Gordon Research Conference on Origins of Solar Systems; and support for South American and other postgraduate students and recent post-docs to attend the Large Meteorite Impacts and Planetary Evolution Conference at the University of Brasilia (Brazil). The Endowment Fund was also used to support travel for students to attend the Meteoritical Society meeting in Moscow (Russia). In 2019, the General Endowment Fund will be used to fund students and post-doctoral scholars to attend the meeting in Sapporo. 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.

Many society members contribute generously to support all of these funds, and your donations are always greatly appreciated. It is simple to donate to any of our funds at the same time as you renew your membership. Donations by check (cheque) or other means are also welcomed.

In addition to major contributions, a total of over \$16,000 was donated to the various funds from our generous members. Over 250 separate donations were received this fiscal year. Your contributions provide direct support that helps to strengthen our international community.

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.



Simon Lock

For 2018, the award for the Best Student Paper in Planetary Sciences has been given to Simon Lock, formerly a PhD student at Harvard University (USA) and now a postdoc at the California Institute of Technology (USA). The award is in recognition of the paper "The Origin of The Moon within a Terrestrial Synestia", (2018, *Journal of Geophysical Research: Planets*, v123 pp910-951). The paper makes a transformative contribution toward understanding the origin of the Earth and the Moon. The study modeled the Moon as forming

within a new type of astronomical object, called a synestia. In the aftermath of a high-energy, high-angular-momentum giant impact, the vaporized Earth-impactor body forms a rapidly spinning donut-shaped object that is the synestia. Formation within a terrestrial synestia can explain the Moon's unusual chemical relationship and isotopic similarity to the Earth. Simon presents the new theory and discusses how the thermodynamics and chemistry of molten silicates within the cooling synestia produced the volatile element depletion but retained the isotopic similarity observed in the Moon. His results will undoubtedly help meteoriticists and planetary scientists better understand the origin of the Earth–Moon system.

2019 MEMBERSHIP REPORT

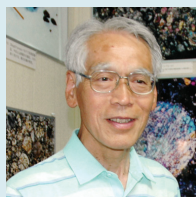
As of June 2019, the Meteoritical Society comprises 625 regular members, 127 students, 155 retired members, 29 life members, 13 members from developing countries and 4 complimentary members. This brings us to a grand total of 957 members. Many thanks to Gretchen Benedix for providing these statistics. We now have members in 50 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 remain an inexpensive US\$40 and continue to subsidize the registration fee 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 where they can interact with their peers and 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 at <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 society web page at www.meteoriticalsociety.org.

MEETING INFO

2020	Glasgow (Scotland, UK)	9–14 August
2021	Chicago (Illinois, USA)	16–20 August
2022	Perth (Australia)	Dates TBD

IN MEMORIAM



Prof. **Keizo Yanai**, a founder of Antarctic meteorite research, passed away 17 December 2018 at the age of 77. He was born 25 July 1941 in Furudono (Fukushima, Japan), received his BS from Akita University (Japan) and his PhD degree in petrology (Mesozoic igneous rocks) from Tohoku

University (Japan). Keizo served for many years as a curator at the National Institute of Polar Research (NIPR) of Japan where he collected and allocated thousands of Antarctic meteorites for our community. Keizo left NIPR to move to Iwate University (Japan) in 1995, where he worked as a professor until his retirement in 2007. After his retirement, he continued his passion for meteorite research and taught about meteorites to high school students in the museum.

He received many awards, including the Prime Minister's Award of Japan (1969), the Antarctic Service Medal from the United States (1979) and was a Fellow of the Meteoritical Society (1990). His name is immortalized in the sky as the asteroid 9206 Yanaikeizo. He is survived by his wife, Yoko, and two sons, Kazuhiro and Akihiko.

Hiroshi Naraoka, Kyushu University, Japan
(please see full citation at the MetSoc's website)

Country	Developing Country	Member	Retired Member	Student	Life Member	Complimentary	Total
Algeria	2			1			3
Argentina		1					1
Australia		15	2	7			24
Austria		5	3	2			10
Belgium		5	1	7			13
Brazil		5	1				6
Canada	1	18	6	9	1		35
Chile		1		2			3
China	1	15		4			20
Colombia		1					1
Czech Republic		2	1	1			4
Denmark		2	1		1		4
Estonia		1					1
Finland		3					3
France		24	8	6	3		41
Germany		61	15	8	4		88
Greece		1					1
Holy See (Vatican City State)		2					2
Hungary		3					3
India	2	2	1	3			8
Indonesia		1					1
Ireland			1				1
Italy		9	1	1			11
Japan		73	10	19			102
Jordan	1						1
Korea, Republic of		4		2			6
Latvia				1			1
Luxembourg			1				1
Malaysia		1					1
Mexico		1					1
Morocco	4						4
Netherlands		4	1	1			6
Norway		2					2
Oman	1	1					2
Poland		3	1				4
Portugal		1					1
Romania	1						1
Russian Federation		12		3			15
Slovak Republic		1					1
South Africa, Republic of		2		1			3
Spain		6	1				7
Sweden		4		1			5
Switzerland		14	7	5	1		27
Turkey		2		3			5
United Arab Emirates		1					1
United Kingdom		33	4	16			53
United States of America		282	89	28	19	4	422
Uruguay		1					1
48 Countries	13	625	155	131	29	4	957



Meteoritical Society

<http://meteoriticalsociety.org>

2020 ANNUAL METSOC MEETING INVITATION

You are cordially invited to attend the 83rd Annual Meeting of the Meteoritical Society (MetSoc), which will take place 9–14 August 2020 at the Scottish Event Campus in Glasgow (Scotland). The meeting will be 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 welcome reception begins at 5 PM on Sunday, 9 August 2020, 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 (10 August 2020), the City of Glasgow will offer you all a warm welcome. The city is providing a free welcome drinks reception for all MetSoc delegates at which will be a representative of the city's Lord Provost (Mayor) who 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 (12 August 2020) excursions will be offered both within the city and that explore the neighbouring countryside, including whisky tasting at one of Scotland's most scenic distilleries, or a boat trip along Loch Lomond.

The Conference Banquet, with ceilidh (pronounced "kaylee", Scottish music and dance), 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 to experience world-class geology, hiking, beer and whisky; trips to Edinburgh and St Andrews, for geology, castles, cathedrals, golf (and probably whisky); and to NW Scotland to see the dramatic Stac Fada and Skye impact members and to have a boat trip to see Loch Coruisk and the Small Isles ... and possibly taste some more whisky!

Rooms will be reserved in multiple hotels, having 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, possessing 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: there are over 3,000 restaurants to choose from across the city, more than 700 bars and cosy pubs, and over 130 music events

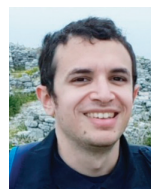
in the city each week. It is also an easy destination to reach and travel around, with three international airports within an hour's drive, plus good rail, subway and bus links.

We are looking forward to welcoming you to Glasgow!

Lydia Hallis (email: metSOC2020@glasgow.ac.uk)

INTERNATIONAL MINERALS COLLECTORS ASSOCIATION: BRIAN MASON AWARD

In 1997, Joel Schiff, the first editor of the popular *Meteorite* magazine, created a travel award in honor of Brian Mason, who was born in New Zealand and spent the majority of his career as a curator at the Smithsonian Institution (USA). The award is given to a student attending the annual meeting of the society who submits an abstract that presents exciting results that are clearly explained and that are of particular interest to readers of *Meteorite* magazine. The recipient is required to write a popular account of their work for the magazine. Since 2008, the award has been generously funded by the International Meteorite Collectors Association.



Nicola Mari



Jack Percy

This year, the Program Committee for the Sapporo meeting selected **Nicola Mari** and **Jack Percy** to win the Brian Mason Award. Nicola Mari is a graduate student at the University of Glasgow (United Kingdom). His abstract was entitled "Chlorine Abundance in the Shergottite Parental Melt Amphibole and Apatite in Tissint and Zagami" and authors were N. Mari, L.J. Hallis, and M.R. Lee. Jack Percy is a graduate student at the University of Leicester (United Kingdom). His abstract was entitled "Olivine Alteration in Shergottite Northwest Africa 10416" and authors were J.D. Percy, J.C. Bridges, L.J. Hicks, J.L. MacArthur, R.C. Greenwood, and I.A. Franchi.

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 15 January 2020 (January 31 for the Service Award and for the Pellas-Ryder Award). For more information and details on how to submit a nomination for any of these awards, please see the latest *Meteoritical Society Newsletter* at the society's website, or e-mail the secretary.

The society gives a number of 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 for the first time in 2020 to a mid-career female scientist in the field of isotope cosmochemistry.

2019 ANNUAL MEETING STUDENT TRAVEL AWARDS

On behalf of the Meteoritical Society, we would like to thank the organizations whose generous sponsorships provided student travel grants, postdoc travel grants and travel grants for scientists from countries with limited financial resources. These sponsoring organizations, and the recipients of the travel awards, are listed below.

This year, 45 travel grants were given to students and researchers to attend the annual meeting of the society in Sapporo (Hokkaido, Japan). Student travel grants and travel grants for scientists from countries with limited financial resources are generously sponsored by the Barringer Crater Company, the O. Richard Norton Fund, NASA (Emerging Worlds), the National Institute of Polar Research (NIPR), JAXA, Elsevier, the Meteoritical Society (Travel for International Members Fund and the Endowment Fund), the International Mineral Collectors Association (Brian Mason Award), the Maine Mineral and Gem Museum, the Planetary Studies Foundation, and the Darryl Pitt/Macovich Collection.

Barringer Crater Company

Chaves, Laura, *Purdue University (Colombia/United States)*

Choi, Jisu, *Korea Polar Research Institute (South Korea)*

Florin, Guillaume, *CRPG-CNRS (Australia/France)*

Griffin, Samantha, *University of Glasgow (New Zealand/United Kingdom)*

McCain, Kaitlyn, *UCLA (United States)*

Patzek, Markus, *University of Münster (Germany)*

Plan, Anders, *Lund University (Sweden)*

Wu, Yunhua, *Purple Mountain Observatory (China)*

Zhang, Bidong, *University of Western Ontario (China/Canada)*

Elsevier

Ebert, Samuel, *Westfälische Wilhelms-Universität Münster (United States/Germany)*

Isa, Junko, *Université Grenoble Alpes (Japan/France)*

Takenouchi, Atsushi, *National Institute for Polar Research (Japan)*

International Mineral Collectors Association Brian Mason Award

Mari, Nicola, *University of Glasgow (Italy/United Kingdom)*

Piercy, Jack, *University of Leicester (United Kingdom)*

Maine Mineral and Gem Museum

Cicero, Fabio, *University of Calgary (Italy/Canada)*

O. Richard Norton Award

Baeza, Leonardo, *Australian National University (Chile/Australia)*

Dunham, Emilie, *Arizona State University (United States)*

Hayashi, Hideyuki, *University of Tokyo (Japan)*

Ishimaru, Kana, *University of Tokyo (Japan)*

Krietsch, Daniela, *ETH Zürich (Germany/Switzerland)*

Wang, Nian, *Institute of Geology and Geophysics, Chinese Academy of Sciences (China)*

Zhu, Ke, *Institut de Physique du Globe de Paris (China/France)*

NASA Emerging Worlds

Alpert, Samuel, *American Museum of Natural History (United States)*

Cato, Michael, *University of New Mexico (United States)*

DellaGiustina, Daniella, *University of Arizona (United States)*

Greer, Jennika, *University of Chicago (United States)*

Ostwald, Amanda, *University of Nevada (United States)*

Ray, Soumya, *Arizona State University (India/United States)*

Planetary Studies Foundation

Crossley, Samuel, *University of Maryland (United States)*

Torrano, Zachary, *Arizona State University (United States)*

Darryl Pitt/Macovich Collection

Krämer Ruggiu, Lisa, *CEREGE (France)*

National Institute of Polar Research (NIPR)

Ono, Haruka, *University of Tokyo (Japan)*

Takaharu, Saito, *Nagoya University (Japan)*

Will, Patrizia, *ETH Zürich (Switzerland)*

Japan Aerospace Exploration Agency (JAXA)

Kamibayashi, Michiru, *University of Tokyo (Japan)*

Laczniaik, Dara, *Purdue University (United States)*

Martinez, Marina, *University of New Mexico (Spain/United States)*

Takahashi, Miki, *Tohoku University (Japan)*

Villalon, Krysten, *University of Chicago (United States)*

Visser, Robbin, *Freie Universität Berlin (Germany)*

Wada, Sohei, *Hokkaido University (Japan)*

The Meteoritical Society Endowment Fund

Daly, Luke, *University of Glasgow (United Kingdom)*

Yamamoto, Daiki, *Japan Aerospace Exploration Agency (Japan)*

The Meteoritical Society TIM Fund

Chennaoui Aoudjehane, Hasnaa, *Hassan II University (Morocco)*

Kassab, Fazia, *University of Sciences and Technology (USTHB) (Algeria)*

IN MEMORIAM: LAUREL WILKENING (1944–2019)

Prof. Laurel Wilkening, a meteoriticist, university administrator, and advocate for planetary science and for women's issues, passed away 4 June 2019 at the age of 74. She was born in Richland (Washington, USA) on 23 November 1944 and grew up in Socorro (New Mexico, USA). Laurel got her bachelor's degree in chemistry from Reed College (Oregon, USA) followed by her PhD from the University of California at San Diego (USA) in 1970, working with Hans Seuss.

Wilkening began her scientific career studying the first samples returned from the Moon, and compared the exposure record of lunar samples, particularly as revealed by damage tracks from cosmic rays, with that of meteoritic regolith breccias. Later, her interests turned to comets. She edited the 1982 University of Arizona Press volume *Comets*, and was deeply involved with planning of a U.S. mission to Halley's Comet that never materialized. After her graduation, she worked and studied at several institutions, including the Tata Institute of Fundamental Research in Mumbai (India), the Max Planck Institute for Cosmochemistry in Mainz (Germany), and the Muséum National d'Histoire Naturelle in Paris (France).

Laurel became a faculty member at the University of Arizona (USA) in 1973 in the newly formed Department of Planetary Sciences. In 1981, she became head of the department and director of the department's associated Lunar and Planetary Laboratory. Shortly thereafter, she became the



Acting Dean of Sciences at the university when that position was created, and then Vice President for Research. From the beginning of her career at Arizona, she was instrumental in advocating for women's issues, including pay equity, and was a key figure in the establishment of what is now the Department of Gender and Women's Studies.

In 1988, she became Provost of the University of Washington (USA), the first female to hold that position. In 1993, she became Chancellor of the University of California Irvine (USA), a post from which she retired in 1998.

Throughout her career, Wilkening was a nationally prominent member of the planetary science community. She served as Vice Chair of the Advisory Committee on the Future of the U.S. Space Programs, Chair of the Space Policy Advisory Board, and Vice Chair of the National Commission on Space during the presidencies of Ronald Reagan and George H. W. Bush. Later, she became a member of the Board of Directors of the Planetary Society, serving four years as Vice President of the society.

Asteroid 75562 is named Wilkening in her honor. She was elected a Fellow of the Meteoritical Society in 1978.

Prof. Timothy D. Swindle

Director, Lunar and Planetary Laboratory, University of Arizona
(see society webpage for full citation)



Meteoritical Society

<http://meteoriticalsociety.org>

2019 ANNUAL MEETING REPORT

The 82nd Annual Meeting of the Meteoritical Society (MetSoc) was held 7–12 July 2019 in Sapporo (Japan). The conference was hosted in Hokkaido University's Sapporo campus. There were 418 participants from 21 different countries registered for the meeting, including 287 professionals (scientists + exhibitors), 118 student participants, and 13 guests. A total of 289 registrants were MetSoc members. The MetSoc exhibition hosted booths for Japan's National Institute of Polar Research (NIPR), the Tokyo Institute of Technology's Earth–Life Science Institute (ELSI), the Japan Agency for Marine–Earth Science and Technology (JAMSTEC), and the analytical instrument manufacturers of JEOL, CAMECA, Hitachi High-Tech, Oxford Instruments, and the Isotope Image Laboratory of Hokkaido University. In total, 509 abstracts were accepted for 272 oral, 235 poster and 2 print-only presentations. Oral presentations were scheduled in three parallel sessions from Monday (8 July) to Friday (12 July).

A total of 45 travel awards were allocated to student members, early career scientists, and scientists from low-income countries through generous sponsorships donated by the Barringer Crater Company, the NASA Cosmochemistry Program, the International Meteorite Collectors Association (IMCA), the Planetary Studies Foundation (PSF), Elsevier, the Meteoritical Society's Endowment and Travel for International Members Fund, Maine Mineral and Gem Museum, O. Richard Norton, Darryl Pitt/Macovich Collection, National Institute of Polar Research (NIPR), and Japan Aerospace Exploration Agency (JAXA).

The conference kicked off on Sunday (7 July) with the pre-conference workshop entitled Workshop: Minerals, Organics, and Water in 3-D View, which was convened by Drs. Akira Tsuchiyama and Aki Takigawa at the University Conference Hall. This was followed by the Welcome Reception at the Hokkaido University Museum.

The official opening ceremony took place on Monday (8 July) with greetings by Prof. Masanori Kasahara, Deputy President of Hokkaido University and Mr. Koyu Kishi, President of the Sapporo International Communication Plaza Foundation. The opening ceremony was followed by the Special Annual Lecture, "Tsunami Geology and Geomorphology: Extreme Events in the Earth's and Human Histories", which was sponsored by the Meteoritical Society and given by Prof. Kazuhisa Goto of the Department of Earth and Planetary Science, University of Tokyo. The Annual Barringer Invitational Lecture on Monday evening was "The Search for Antarctic Meteorites – Fifty Years from the Discovery of the Yamato Meteorites" and was given by Prof. Kazuyuki Shiraishi of the National Institute of Polar Research. The lecture was open to the public and had a simultaneous translation to Japanese by student member Ms. Kana Ishimaru. This talk attracted a large audience.

The scientific program covered 20 topics. These were organized under the themes of achondrites, carbonaceous chondrites, non-carbonaceous chondrites, chondrules, methods and analytical technique, volatiles, solar system chronology, impacts, Mars, geochemistry of lunar meteorites, organic matter, pre-solar grains, space weathering, differentiated bodies, and nebular dynamics. The program also included the special sessions "Ryugu, Bennu, and Small Bodies", "Analysis of Lunar Samples: A Celebration of 50 Years Since Apollo 11", and "50 Years of Japanese Antarctic Meteorites, Allende and Murchison".

Prof. Hisayoshi Yurimoto, the awardee of the Leonard Medal, gave his lecture on Wednesday morning. Several excursions were conducted to enjoy the nature and culture of Hokkaido on Wednesday afternoon, city bus tour, city walk with sushi lunch, harbor city and stained glass museum (Otaru), whiskey distillery (Yoichi), volcano and lake in Shikotsu area, the Hokkaido Museum, and the Arte Piazza Bibai–Kan Yasuda sculpture park.

The conference banquet took place on Wednesday evening at the Sapporo Park Hotel inside the Nakajima Koen Park, close to downtown Sapporo. Participants enjoyed buffet-style Hokkaido food, Yosakoi Soran dance, and Taiko drumming.

Both poster sessions on Tuesday and Thursday evenings were very well attended, and hopefully many good discussions were had over drinks at the posters.

The conference concluded on Friday afternoon (12 July) with a Farewell Party, where participants met each other at Faculty House Trillium in the Hokkaido University Sapporo campus.

A post-conference excursion to Horoman Peridotite Complex (ophiolites) and Mt. Apoi Geopark was organized for 13–14 July. Dr. Kiyooki Niida, Director of GeoLab Mt. Apoi, led the tour, and 14 participants enjoyed observing various peridotite rocks and the plate boundary between the North American and Eurasian plates, which formed during a tectonic convergence approximately 13 million years ago.

The conference program and abstract volume can be accessed on the website of the Lunar and Planetary Institute: https://www.hou.usra.edu/meetings/metsoc2019/pdf/metsoc2019_program.htm, and on the dedicated conference website: <https://www.metsoc19-sapporo.com/>.

We would like to thank the numerous colleagues, students, and volunteers whose tireless efforts made it all possible. We also thank the Office for International Academic Support, Faculty of Science, Hokkaido University, which helped participants with visas. We want to emphasize the great support from the members of the Local Organizing Committee, the Scientific Program Committee, and the Travel Award Committee, and from all those who made themselves available as session conveners, student assistants, guides on conference tours and across a multitude of other essential functions.

Hisayoshi Yurimoto

MetSoc 2019 Chair of the Local Organizing Committee

SOCIETY AWARD WINNERS

The society gives four major awards each year. For more information on individual awards, see the Call for Nominations section of the society's webpage.



The LEONARD MEDAL is the society's highest and oldest award and 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 Meteoritical Society. The 2019 awardee is **Hisayoshi Yurimoto**, for his fundamental contributions to understanding the micro-distribution of oxygen isotopes in the proto-solar cloud, proto-planetary disk, and in samples returned from asteroids. The citation was given by Sasha Krot.



The BARRINGER MEDAL AND AWARD are sponsored by the Barringer Crater Company 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 Medal and Award is given to **Mark Cintala** (NASA Johnson Space Center, Houston, Texas, USA) for his fundamental contributions to our understanding of hypervelocity impacts as a major geological process throughout the solar system. The citation was written by Fred Hörz and Jennifer Anderson, and delivered by Munir Humayun. The award was accepted on behalf of Mark by Lindsay Keller.



The NIER PRIZE is awarded to a young scientist in the field of meteoritics. The 2019 prize goes to **Aki Takigawa** of Kyoto University (Japan). Aki receives this award for her significant contributions to our understanding of the refractory dust in stars and in the early solar system through the synthesis of multiple analytical methods. The citation was given by Rhonda Stroud.



The SERVICE AWARD is given to a person who significantly advances the goals of the society. The 2019 award goes to **Rainer Bartoschewitz** (Bartoschewitz Meteorite Lab, Germany), not only for his effort in advancing the goals of the society but also for the far-reaching impact of his work. His contribution to the society's goals has been accomplished through his collection of meteorites and extensive outreach activities related to meteorites and planetary science. The citation was written by Klaus Becker and delivered by Jisun Park.



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 82nd Annual Meeting of the Meteoritical Society in Sapporo goes to **Dara L. Laczniak** (Purdue University, USA) for her talk in Sapporo entitled

“Coordinated Analyses of Ion Irradiated Carbonaceous Chondrites.” The award comes with a prize of US\$1,000 and a certificate.

The 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, they sponsored five awards of US\$500 each. **Laura Bouvier** (University of Copenhagen, Copenhagen, Denmark) for her presentation “Probing Magma Ocean Crystallization in Rocky Planets using Zirconium Isotopes – Preliminary Results from Ancient Zircons from Earth and Mars”. **Cécile Deligny** (Centre de Recherches Petrographiques et Geochimiques, CNRS-UL, Nancy, France) for her presentation “Origin and Timing of Volatile (N, H) Delivery to the Angrite Parent Body”. **Marina Martínez** (University of New Mexico, Albuquerque, New Mexico, USA) for her presentation “Smooth Rims in Queen Alexandra (Range (QUE) 99177: The Earliest Stages of Fluid–Rock Interactions in the Most Pristine CR Chondrite”. **Robbin Visser** (Freie Universität Berlin, Berlin, Germany) for his presentation “Manganese–Chromium Ages of Carbonates in Aqueously-Altered Carbonaceous Chondrites and Clasts”. **Ke Zhu** (Institut de Physique du Globe de Paris, Paris, France) for his presentation “Chromium Isotopic Constraints on the Origin of the Ureilite Parent Body”.



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 15 January (or 31 January 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.

ANNUAL MEETING SCHEDULE

2020 (83rd) 9–14 August, Glasgow (Scotland)

2021 (84th) 14–21 August, Chicago (Illinois, USA)

2022 (85th) Dates to be determined, Perth (Australia)

2023 (86th) Dates to be determined, Brussels (Belgium)

RENEW YOUR MEMBERSHIP NOW!

Please renew by 31 March 2020; after that date, a \$15 late fee will be assessed. You can renew online at: <http://metsoc.meteoritical-society.net>.