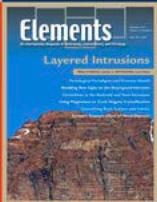


Volume 13

2017



<http://meteoriticalsociety.org>

2017 INCOMING PRESIDENT'S ADDRESS



Trevor Ireland,
President

It is a great honour and a privilege to become President of the Meteoritical Society. I thank Past-President Mike Zolensky for his term and for allowing me to pick up where he left off. Thankfully, Mike will be there for the next two years to help us figure out what he has done. I am also looking forward to working with Meenakshi (Mini) Wadhwa, newly elected Vice President, whom I am sure will sort out both Mike and myself.

I was introduced to meteorites by Paul Sipiera (Planetary Studies Foundation) when we were both students at Otago University in New Zealand. It was my intention to study isotopic anomalies in meteorites with William Compston on the then newly commissioned SHRIMP at the Australian National University (ANU). Paul introduced me to these awful looking rocks called carbonaceous chondrites. After learning igneous and metamorphic petrology as an undergraduate, these rocks were the weirdest things I had ever seen.

Still, I persevered and was then introduced to the strange mineral hibonite by Ernst K. Zinner (1937–2015). I had been working at ANU to try and resolve the +1‰ ⁵⁰Ti anomaly in Allende CV3 calcium-aluminium inclusions (CAIs). While I was successful in doing this by single collector mass spectrometry, and was working on improving the measurements by using multiple ion counters, Ernst revealed that much larger anomalies were present in hibonite grains from CM2 chondrites. That was the end of resolving 1‰.

The scale of the isotopic anomalies in hibonites is similar to that found in pre-solar grains, yet these objects were formed in our Solar System. It is simply the chemical memory of the precursors of these grains that were heated to extreme levels in our Solar System some 4.57 billion years ago.

Meteorites are samples of the Solar System that have largely escaped much of the planetary homogenisation evident on Earth. With the discovery of more and more exoplanets, meteorites also provide the only ground truth of what an evolving planetary system must have looked like and what processes were active. Unfortunately, meteorites lack context. We must infer location within the current Solar System from where they are now, and then the early Solar System from whence the components came.

Two major developments are helping us out. Fireball networks, such as the Desert Fireball Network being run in Australia by my colleague Phil Bland, allow the placement of meteors back into their Solar System neighbourhoods. Recovering the meteorite also allows a compositional fix to be made. Compositional and locational data provide essential context for our current meteorite collections.

ANNUAL MEETING SCHEDULE

- 2017: July 24–28 at Santa Fe, New Mexico (USA)
- 2018: Moscow (Russia), dates TBD
- 2019: Sapporo (Japan), dates TBD
- 2020: Glasgow (Scotland), dates TBD

RENEW YOUR MEMBERSHIP NOW!

Please renew by 31 March 2017; after that date, a \$15 late fee will be assessed. You can renew online at: <http://metsoc.meteoritical-society.net>

The other major development for meteoritics is the operation of asteroid sample return missions. I have been proud to participate in the Japan's JAXA *Hayabusa* sample-return mission from the S-type rubble-pile asteroid of Itokawa. This was an outstanding mission, driving out into the Solar System to visit a small asteroid, and then coming back to Earth, with a few interesting adventures along the way. Over a thousand grains of LL chondrite were recovered from Itokawa. But, they have a surprisingly young age. Some chronometry indicates ages of less than a thousand years from this body. How did this happen, or rather, what is happening now? New missions *Hayabusa 2* (JAXA), and *Osiris REX* (NASA) are now flying to the more common C-type asteroids of Ryugu and Bennu, respectively. Will they find that these really are parent bodies of carbonaceous chondrites? During my presidency, we will go a long way towards finding out answers to that question. And, shortly thereafter, we will have more samples of our Solar System back on Earth.

Trevor Ireland
President 2017–2018

OFFICERS AND COUNCIL MEMBERS

The Meteoritical Society will consist of a number of new officers this year. **Trevor Ireland** (Australian National University, see above) will be transitioning from Vice President to President, and **Meenakshi Wadhwa** (Arizona State University, USA) will be the incoming Vice President. **Mike Weisberg** (City University of New York, USA) will continue as our Secretary for a second term, and **Candace Kohl** (University of California at San Diego, USA) will also stay on for a second term as our Treasurer. **Mike Zolensky** (NASA, Johnson Space Center, USA) 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.



Meenakshi Wadhwa



Mike Weisberg



Candace Kohl



Mike Zolensky

The Meteoritical Society Council will consist of **Cari Corrigan** (Smithsonian Institution, NMNH, Washington DC, USA), **Christine Floss** (Washington University, St. Louis, Missouri, USA), **Keiko Nakamura-Messenger** (NASA Johnson Space Center, Houston, Texas, USA), **François Robert** (Muséum National d'Histoire Naturelle, Paris, France), **Pierre Rochette** (Aix-Marseille University, Marseille, France), **Caroline Smith** (Natural History Museum London, UK), **Mario Trieloff** (Heidelberg University, 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 **Monica Grady**, who is rotating off the council as an officer, and **Sasha Krot**, **Jay Melosh**, **Larry Nittler**, **Kevin Righter**, **Maria Schönbacher**, and **Hisayoshi Yurimoto** who are rotating off as councilors, for their years of dedicated service to keeping the Meteoritical Society operating smoothly!



Mineralogical Society of Poland

www.ptmin.agh.edu.pl

2016 SOCIETY FELLOWS



Carl Agee
(University of New Mexico, Albuquerque, New Mexico, USA)



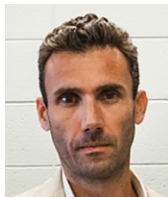
Guy Libourel
(Observatoire de la Côte d'Azur, Nice, France)



Bill Bottke
(Southwest Research Institute, Boulder, Colorado, USA)



Carle Pieters
(Brown University, Providence, Rhode Island, USA)



Nicolas Dauphas
(University of Chicago, Illinois, USA)



Alex Ruzicka
(Portland State University, Portland, Oregon, USA)



Chris Herd
(University of Alberta, Edmonton, Alberta, Canada)



Steve Simon
(University of Chicago, Illinois, USA)



Lindsay Keller (NASA Johnson Space Center, Houston, Texas, 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 \$2,500 to \$5,000 for support of field research at known or suspected impact sites worldwide. Grant funds may be used assist with travel and subsistence costs, as well as laboratory and computer analysis of research samples and findings. Masters, doctoral and post-doctoral students enrolled in formal university programs are eligible. Application to the fund will be due by 7 April 2017, with notification of grant awards by 9 June 2017. Additional details about the fund and its application process can be found at: http://www.lpi.usra.edu/science/kring/Awards/Barringer_Fund.

THE 23rd SESSION OF THE PETROLOGY GROUP OF THE MINERALOGICAL SOCIETY OF POLAND: "SUBDUCTION SYSTEMS IN THE SUDETES AND RELATED AREAS"



Participants from the conference visit the ultrahigh-pressure eclogite outcrop in Międzygórze (Poland). PHOTO: W. MATYSZCZAK

The 23rd Session of the Petrology Group of the Mineralogical Society of Poland was held 20–23 October 2016 in Stara Morawa (Poland). The meeting was devoted to recent studies on the subduction systems in the Sudetes (northeastern Bohemian Massif, Central Europe) and related areas, examining both ancient and current analogues. The aim of the session was to bring together a wide spectrum of Polish petrologists, including senior researchers, early career scientists, graduates and undergraduate students. The meeting was attended by ~80 participants from Poland and abroad. Invited lectures on the Cadomian and Variscan subduction systems in the Bohemian Massif, as well as on high-pressure mineralogy and fluids activity in the high-pressure rocks, were given by Reiner Klemm (GeoZentrum Nordbayern, Germany), Jana Kotková (Czech Geological Survey), Ulf Linnemann (Senckenberg Natural History Collections of Dresden, Germany) and Hans-Joachim Massonne (Universität Stuttgart, Germany).

An integral part of the proceedings was to award students for the best oral and poster presentations. This year, the best oral presentation award went to Iwona Klonowska (Uppsala University, Sweden) for, "Diamond-bearing Gneisses in the Seve Nappe Complex, Scandinavian Caledonides – What is Known about their *P-T-t* Evolution?"; the best poster presentation award went to Marcin Goleń (University of Wrocław, Poland) for, "Prograde Metamorphic History Preserved in Mica Schists from the Kamieniec Metamorphic Belt (Bohemian Massif, Fore-Sudetic Block) based on Quantitative Pressure–Temperature Path from Garnet Zoning". The meeting was also an occasion to commemorate the former President of the Mineralogical Society of Poland, Ryszard Kryza, who passed away in 2016. Kryza's excellent research on the subduction systems in the Sudetes had been highlighted by several speakers. Oral and poster sessions were followed by the field trip that focused on the metamorphic rocks of the Śnieżnik Massif. Animated discussions at the outcrops made the field trip very stimulating.

In conclusion, the 23rd Session of the Petrology Group was a scientific and social success. Official and unofficial parts of the meeting resulted in many fruitful discussions, including plans for future scientific activities. The organizing team led by researchers from the AGH (University of Science and Technology in Kraków, Poland) would like to thank all the participants for this great experience.

We are already looking forward to the 24th Session of the Petrology Group, which in 2017 will be held in the city of Wrocław.

On behalf of the organizing committee,

Jarosław Majka

<http://meteoriticalsociety.org>

COMMITTEE MEMBERS THANKED

Many thanks to all those members who are serving on the Meteoritical Society's committees this year. We have listed their names below with names of the committee chairs in **bold**. Without the generous help of all these members, the society could not function. We greatly appreciate their help.

Name	Affiliation	Ends
LEONARD MEDAL AND NIER PRIZE • 5 members; 3-year term		
Sara Russell (Chair)	Natural History Museum, London (UK)	2018
Phil Bland	Curtin University (Australia)	2017
Richard Binzel	Massachusetts Institute of Technology (USA)	2019
Roger Hewins	Rutgers University (USA)	2020
Maria Schönabächler	ETH Zürich (Switzerland)	2021
BARRINGER AWARD • 4 members, 4-year term		
Alex Deutsch (Chair)	Universität Münster (Germany)	2017
John Spray	University of New Brunswick (Canada)	2018
Akiko Nakamura	Kobe University (Japan)	2019
Philippe Claeys	Vrije University, Brussels (Belgium)	2020
PELLAS/Ryder AWARD • 3 MetSoc; 3 GS; 3-year term		
Katherine Joy (MS, Chair)	University of Manchester (UK)	2018
Randy Korotev (MS)	Washington University in St. Louis (USA)	2017
Brad Thomson (GS)	University of Tennessee (USA)	2018
Emily Martin (GS)	New York University (USA)	2019
Sharon Wilson Purdy (GS)	Smithsonian/National Air and Space Museum (USA)	2019
Jon Friedrich (MS)	Fordham University (USA)	2019
MCKAY AWARD • 6-8 members; 1-year term		
Tasha Dunn (Chair)	Illinois State University (USA)	2017
Karen Ziegler (Vice Chair)	University of New Mexico (USA)	2017
NOMENCLATURE • 12 members; 3-year term • 3 ex officio		
Audrey Bouvier, Bulletin Editor, ex-officio	University of Western Ontario (Canada)	2018
Jeff Grossman, Database Editor, ex-officio	NASA Headquarters (USA)	2019
Laurence Garvie (Chair)	Arizona State University (USA)	2019
Knut Metzler	Universität Münster (Germany)	2017
Vinciane Debaille	Université Libre de Bruxelles (Belgium)	2017
Emma Bullock	Carnegie Institution of Washington (USA)	2017
Hasnaa Chennaoui-Aoudjehane	Université Hassan II de Casablanca (Morocco)	2017
Meenakshi Wadhwa (ex-officio)	Arizona State University (USA)	2018
Francis McCubbin	NASA/JSC (USA)	2019
Mutsumi Komatsu	Waseda University (Japan)	2019
Tasha Dunn	Colby College (USA)	2019
Jerome Gattacceca	CEREGE (CNRS), Aix-en-Provence (France)	2019

ANNUAL MEETING SCHEDULE



2017, July 25–28, Santa Fe, New Mexico (USA)

2018, July 23–27, Moscow (Russia)

2019, July 8–12, Sapporo (Japan)

2020, Dates to be determined, Glasgow (Scotland, UK)

Name	Affiliation	Ends
ENDOWMENT • 5 members; 3-year terms		
Drew Barringer (Co-Chair)	The Barringer Crater Company, Arizona (USA)	2017
Uwe Reimold (Co-Chair)	Leibniz Institute @ Humboldt-Universität Berlin (Germany)	2017
Gary Huss	University of Hawaii (USA)	2017
Rhian Jones	University Manchester (UK)	2019
Candace Kohl (ex-officio)		
Trevor Ireland (ex-officio)		
AUDIT • 3 members; 3-year terms		
Beda Hofmann (Chair)	Natural History Museum, Bern (Switzerland)	2017
Harold Connolly	Rowan University (USA)	2019
Jutta Zipfel	Senckenberg Research Institute, Frankfurt (Germany)	2020
PUBLICATIONS • 6 members+Treas; 3-year terms		
Cecile Engrand (Chair)	University of Paris (France)	2017
Ian Lyon	University of Manchester (UK)	2017
Akira Tsuchiyama	Kyoto University (Japan)	2017
Alan Rubin	University of California, Los Angeles (USA)	2018
Martin Bizzarro	Natural History Museum, Copenhagen (Denmark)	2019
Tomoki Nakamura	Tohoku University (Japan)	2019
JOINT PUBLICATIONS • 6 members; 3-year terms		
Liz Canuel (GS) (Chair)	Virginia Institute of Marine Science (USA)	2017
Steve Shirey (GS)	Carnegie Institution of Washington (USA)	2018
George Flynn (MetSoc)	SUNY Plattsburgh (USA)	2018
Thorsten Kleine (MetSoc)	Universität Münster (Germany)	2019
Jisun Park (MetSoc)	Kingsborough Community College, CUNY (USA)	2019
Mark Rehkammer (GS)	Imperial College, London (UK)	2019
MEMBERSHIP AND SERVICE AWARD		
Erin Walton (Chair)	MacEwan University (Canada)	2018
Devin Schrader	Arizona State University (USA)	2019
Ludovic Ferriere	Natural History Museum, Vienna (Austria)	2017
Gretcein Benedix	Curtin University (USA)	2019
Rhiannon Mayne	Texas Christian University (USA)	2017
Matthias Meier	ETH Zürich (Switzerland)	2019
Tomas Kohout	University of Helsinki (Finland)	2018

RENEW YOUR MEMBERSHIP NOW!

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<http://meteoriticalsociety.org>

METEORITE NOMENCLATURE COMMITTEE REPORT



Laurence Garvie

The purpose of the Meteoritical Society's Meteorite Nomenclature Committee (NomCom) is to approve new meteorite names, to establish guidelines, and to make decisions regarding the naming of meteorites. The committee also keeps the meteorite community informed of new meteorites through notices in the *Meteoritical Bulletin* and entries in the Meteoritical Bulletin Database (<https://www.lpi.usra.edu/meteor/>). While the yearly publication of the *Meteoritical Bulletin* (e.g. MB103 = 2014, MB104 = 2015) lags behind the

database entries, new meteorites are automatically added to the next issue of the bulletin by the database editor. The contents of the bulletin are accessible using the Publication dropdown window in the database. MB104 contains 2,282 meteorites (1,285 non-Antarctic) and MB105 contains 2,666 meteorites (1,121 non-Antarctic).

I would like to thank Takashi Mikouchi and Trevor Ireland (ex-officio) for their service on the NomCom. I also welcome Mutsumi Komatsu and Meenakshi Wadhwa (MetSoc Vice President) as new NomCom members. Current membership is as follows:

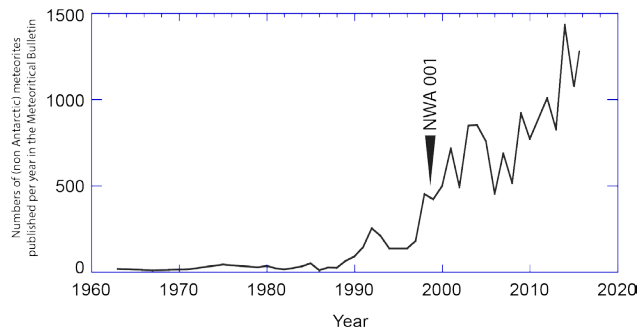
NomCom Committee	Expiry Date
Laurence Garvie (Chair)	2018
Mutsumi Komatsu (1 st term)	2019
Knut Metzler (2 nd term)	2018
Jérôme Gattacceca (2 nd term, Deputy Editor)	2019
Tasha Dunn (2 nd term)	2019
Emma Bullock (1 st term)	2017
Vinciane Debaille (1 st term)	2017
Hasnaa Chennaoui (1 st term)	2017
Francis McCubbin (1 st term)	2018

Three ex-officio NomCom Members

Audrey Bouvier (MetBull Editor) – 2nd term
 Jeff Grossman (Database Editor) – 3rd term
 Meenakshi Wadhwa (MetSoc Vice President)

Meteoritical Bulletin Database (MBDB)

Meteorites: First and foremost, the database is a record of all recognized and classified meteorites as accepted by the Meteorite Nomenclature Committee (NomCom) of the Meteoritical Society. In addition, the database lists all approved dense collection areas (DCAs), including their keyhole markup language (KML) coordinates for direct viewing in Google Earth, and keeps a list of all collections and repositories. The Meteoritical Bulletin Database continues to grow significantly (Fig. 2), with over 3,145 meteorites added over the last calendar year for a total of 56,214 classified meteorites (as of 3 April 2017). Of these latter 3,145 meteorites, some 1,456 are not from Antarctica. The database also reflects changes in discovery and recognition of meteorites. For example, the NomCom has approved an astonishing 43 lunar meteorites during the last year alone, for a total mass near 40 kg! The database also shows some interesting numbers. Of the 42,173 approved meteorites from Antarctica, only 35 are lunar, with the largest being 1,226 g. However, of the 13,771 classified non-Antarctic meteorites, 252 are lunar, of which 31 have a mass greater than one kg, with several above 15 kg.



Many submitters understand the importance of the database as a worldwide source for meteoritical information, and the depth of their submissions reflect this understanding. I encourage submitters to see these submissions as mini-refereed publications – they are reviewed by the NomCom, a body that consists of 12 of your fellow scientists. Often, this submission will be the only time the meteorite is studied, and, as such, sufficient petrographic and geochemical information should be included to be useful for future scientists.

Dense Collection Areas (DCAs): There are currently 258 named and used dense collecting areas (DCAs). The NomCom voted on and approved 23 new DCAs in the last year, with the highest numbers from Iran (7) and Western Sahara/Morocco (5). A list of all DCAs can be found at <https://www.lpi.usra.edu/meteor/DenseAreas.php>.

Type-Specimen Repositories: The NomCom voted on and approved two new type-specimen repositories: the University of Leicester (UK) and the University of Silesia (Poland). The NomCom currently recognizes 80 institutions as repositories for meteorite type specimens. According to §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.” Repository information is at <https://www.lpi.usra.edu/meteor/MetBullAddresses.php?grp=country>.

Essential information on meteorite nomenclature, instructions and the template for reporting new meteorites, and NomCom membership can be found at http://meteoriticalsociety.org/?page_id=106. The template that should be filled out for a new submission can be found at http://meteoriticalsociety.org/?page_id=63. This template is in Excel format and contains instructions both on page one of this file and header for each column (just let your mouse hover over the column header name). Here is where I would like to make a special plea – please take the time to follow these instructions, especially for special characters such as micron, degrees etc. Having been the NomCom editor from 2011 to 2013, I found myself spending many hours editing submissions before sending them out for vote. In my opinion, the editor positions, which are currently held by Audrey Bouvier and Deputy Editor Jérôme Gattacceca, are the most time-consuming on the committee – a big “Thank You” to Audrey and Jérôme for taking on this mammoth task!

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

Laurence Garvie
NomCom Chair

ANNUAL MEETING SCHEDULE

2017: July 24–28, Santa Fe, New Mexico (USA)
 2018: July 23–27, Moscow (Russia)
 2019: July 8–12, Sapporo (Japan)



<http://meteoriticalsociety.org>

2017 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 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 covers topics that include 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). The editorial office is managed by Editor Tim Jull.

Society memberships include subscriptions to MAPS and *Elements*. Membership with subscription to only the electronic version of MAPS has become a popular option, although more than half of our membership still purchases the printed version. Collection of membership dues for 2018 will begin in October 2017. I encourage members to pay their dues in a timely manner because this helps greatly with financial planning. Healthy finances depend on a stable number of memberships.

Our investment fund includes four separate endowed funds and continues to do as well as we can expect with the current market situation. Many society members contribute generously to supporting all of these funds, and your donations are always greatly appreciated. The Nier Fund supports the annual Nier Prize, which recognizes outstanding research by young scientists in meteoritics and closely allied fields. This year's recipient (2017) is Dr. Francis McCubbin of the Johnson Space Center (USA). The Gordon A. McKay Fund supports an award to the student who gives the best oral presentation at the annual meeting of the society. Last year's award (2016) was given to Danielle N. Simkus from the University of Alberta (Canada). 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 donated to it will be used to fund travel to the 2017 Annual Meeting of the Meteoritical Society, to be held 24–28 July in Santa Fe (New Mexico, USA).

The General Endowment Fund supports a variety of outreach projects. Over the last year, this fund has been used to provide travel support for students to attend meetings on four different continents: workshops on Chondrules in the Protoplastic Disk (UK), Extraterrestrial Materials (UK), and Chondrules as Astrophysical Objects (Canada); the International Workshop on Shock Metamorphism (Australia); the 1st British Planetary Science Congress (Scotland); and the Meteoritics and Planetary Science sessions of the 3MA [Magmatism, Metamorphism and Associated Mineralizations] Colloquium (Morocco). Endowment Funds were also used to support travel for students to attend the Meteoritical Society meeting in Berlin (Germany). This year, endowment funds will be used to fund students and post-doctoral scholars to attend the society's annual meeting in Santa Fe. Some of the money used has been contributed directly as part of the annual membership renewal. 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.

A total of over \$15,000 was donated to the various funds from our generous members. 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.



Gerrit Budde



James Keane

For 2016, the Committee for the Paul Pellas–Graham Ryder Award found that two of the nominated papers were of equal excellence. Thus, the Award for the Best Student Paper in Planetary Sciences for 2016 has been given to two students this year: **Gerrit Budde**, a graduate student in the Wilhelms-Universität Münster (Germany); and **James Keane**, a student at the University of Arizona (USA). The award to Gerrit Budde is in recognition of the paper, "Tungsten Isotopic Constraints on the Age and Origin of Chondrules", published in the *Proceedings of the National Academy of Sciences of the United States of America* (2016, v113, pp 2886–2891). The award to James Keane is for his paper, "Reorientation and Faulting of Pluto due to Volatile Loading within Sputnik Planitia" published in *Nature* (2016, v540, pp 90–93).

MEETING INFO

- 2018, July 23–27, Moscow (Russia)
- 2019, July 8–12, Sapporo (Japan)
- 2020, dates TBD, Glasgow (Scotland)

2017 MEMBERSHIP REPORT

As of May 2017, the Meteoritical Society is made up of 679 regular members, 117 students, 154 retired members, 27 life members and 13 members from developing countries. This brings us to a grand total of 991 members (see table on page 275). Many thanks to Erin Walton for providing these statistics. This year, we have added the Ukraine to the growing list of countries in which we have membership. We can be proud that we have members in 48 countries, but the statistics show that we still have a lot to do to gain members in many other countries. The society does have a mechanism 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 for more information.

For those wishing to avoid the hassle of paying dues every year, consider becoming a life member! For more information and details on how to become a member of the Meteoritical Society, please see our web page at www.meteoriticalsociety.org.



Country	Developing Country	Regular Member	Retired Member	Student Member	Life Member	Complimentary Member	Total
Algeria	3						3
Argentina		1					1
Australia		21	3	8			32
Austria		6	3	2			11
Belgium		6	1	2			9
Brazil		2		2			4
Canada		19	9	9	1		38
Chile		1		1			2
China	1	10		1			12
Croatia				1			1
Czech Republic		3	1				4
Denmark		4	1		1		6
Estonia		1					1
Finland		2	1	1			4
France		26	6	1	2		35
Germany		69	16	15	4		104
Greece		2					2
Holy See (Vatican City State)		2					2
Hungary		3					3
India	2	3	2				7
Ireland		1					1
Italy		10					10
Japan		79	10	9			98
Jordan	1						1
Korea, Republic of		3	1				4
Latvia				1			1
Luxembourg			1				1
Malaysia		1					1
Mexico		1					1
Morocco	3						3
Netherlands		5	2	1			8
New Zealand					1		1
Norway		2					2
Oman	1						1
Poland		5	1	1			7
Romania	1						1
Russian Federation		7		3			10
Slovakia Republic		1					1
South Africa		1		1			2
Spain		5	2				7
Sweden		4	1				5
Switzerland		18	5	4	1		28
Taiwan		1					1
Ukraine	1						1
United Kingdom		39	4	18			61
United States of America		314	84	36	17	2	453
Uruguay		1					1
48 Countries	13	679	154	117	27	2	991

EMU RESEARCH EXCELLENCE MEDAL

One of the means by which the European Mineralogical Unions (EMU) fosters and encourages research in the mineralogical sciences is to present a silver medal each year. The “EMU Research Excellence Medal” is presented to young scientists (not older than 40 years) who have made significant contributions to research and who are active in strengthening European scientific links. During the period 2012–2016, Richard Harrison, Diego Gatta, Razvan Caracas, Encarnación Ruiz-Agudo, István Kovács, and Sylvie Demouchy were honoured with this prestigious distinction. By tradition, the medal is presented at an awards ceremony during an international meeting, such as the Goldschmidt meeting or a combined meeting of EMU member societies. Dr Demouchy will receive her medal and present her award talk at the 2017 Goldschmidt conference in Paris (France). The award winner for 2018 will also be announced at the Goldschmidt conference.




Every year, usually with a deadline in May, the EMU Medal Committee calls upon the member societies and all European mineralogists for nominations. The nomination process is quite straightforward and requires only a cover page (available at <http://eurominunion.org/wp-content/uploads/2016/12/cover-page-EMU-award.pdf>); a cover letter from the nominator outlining the candidate’s qualifications in light of the criteria for the award; supporting letters from at least two, but no more than four, co-sponsors; and a complete CV, including the nominee’s complete publication list.

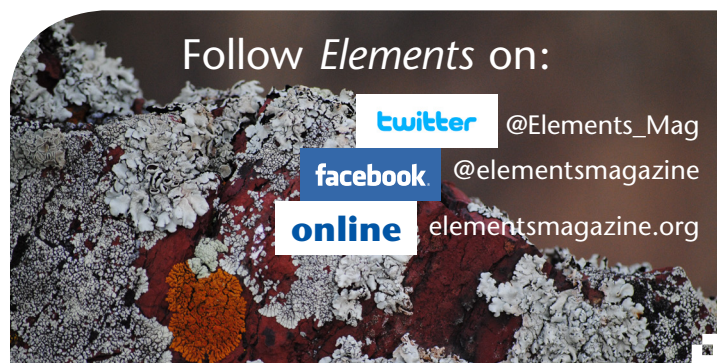
All members of the EMU societies are encouraged to consider nominating suitable candidates from among their colleagues, to recognise their outstanding scientific contributions to the mineralogical sciences (in the broadest sense).

Please feel free to contact the President of EMU, Michael Carpenter (mc43@esc.cam.ac.uk), at any time with questions or suggestions about the EMU Research Medal.

For more information, visit eurominunion.org/?page_id=152

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<http://meteoritalsociety.org>

2018 ANNUAL METSOC MEETING: YOUR INVITATION TO MOSCOW

You are cordially invited to attend the 81st Annual Meeting of the Meteoritical Society, which will take place 22–27 July 2018 in Moscow (Russia). The meeting is jointly organized by the V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry of Russian Academy of Sciences, the Vernadsky Geological State Museum, the Ural Federal University and the Kazan Federal University (all in Russia).

Most foreign citizens require a visa to enter the Russian Federation. We strongly recommend applying for a tourist visa. An AIM TOURISM visa includes: exhibition visit and participation in conferences and other events. Travel arrangements, including visa support, accommodation, transportation, and guided tours will be provided by the “Reisebuero WELT” Company. Please follow the link for TRAVEL ARRANGEMENT on our website (<http://metsoc81-moscow.ru>).

Oral sessions will take place in the conference halls of the Academy of Science Presidium building (“Golden Brain”); plenary sessions, invited lectures, the Barringer lecture, and the award ceremony will take place in the largest hall, which seats 1,000 participants. The Golden Brain building will also house the poster sessions.

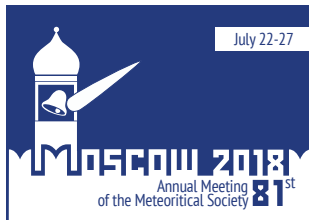
Conference registration begins at 4:00 p.m. on Sunday, 22 July 2018 at the Vernadsky State Geological Museum in the historical center of Moscow, right across from Red Square and the Kremlin. At 5:30 p.m. on Sunday, a welcome party will be held in the museum. On Wednesday afternoon of the meeting, several excursions will be offered that explore Moscow (such as a city tour, a boat trip along the Moscow River, or a Red Square and Kremlin guided tour). The conference banquet will be held in the comfortable Korston Hotel banquet hall at 6:00 p.m.

A number of pre- and post-conference tours are being prepared: a 3-day trip to Saint-Petersburg, including a visit to the Russian Geological Institute (VSEGEI) which has a special exhibition dedicated to the Popigai impact structure; a 2-day tour to Yaroslavl, including a visit to the public museum of Russia’s deep-drilling projects and a visit to the deep-core repository which stores kerns from the famous 5 km deep drill core of the Puchezh–Katunki impact crater and the super-deep Kola borehole; a 4-day trip to Ekaterinburg to visit the boundary between Europe and Asia, the underground museum of gold mining (with its crocoite room), and the fall site of the Chelyabinsk meteorite; and a 3-day trip to the famous ancient city of Kazan, including a tour to the Karla impact crater.

We have reserved rooms in multiple hotels, offering a range of price categories and distances from the “Golden Brain” building. And because only one of the hotels is within walking distance of the Academy of Sciences Presidium building, we will offer a 7-day travel pass to all participants of the conference.

Moscow is the capital of Russia: its political, economic, cultural and scientific center. It was founded eight centuries ago by Prince Yuri Dolgoruky. Historians have accepted the year of 1147 as the start of Moscow’s history. Though Peter the Great moved the capital to St. Petersburg in 1712, Moscow remained the heart of Russia. Now, Moscow is one of the largest cities in Europe. Moscow has three international airports (Sheremetyevo, Domodedovo and Vnukovo); its express trains, buses and taxis allow one to reach the city center within one hour; and its famous subway system and renovated public transportation operate from 6:00 a.m. to 1:00 a.m. We look forward to welcoming you to Moscow.

Marina Ivanova, e-mail: metsoc2018@gmail.com



2017 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, 63 travel grants were given to students and researchers who attended the annual meeting of the society in Berlin (Germany). Travel grants were generously sponsored by the Barringer Crater Company, the Planetary Studies Foundation, NASA Emerging Worlds, Elsevier, the Meteoritical Society’s Endowment and Travel for International Members Funds, and the International Mineral Collectors Association (the Brian Mason Award).

The Barringer Crater Company

Morgan A. Cox, Curtin University (Australia)
 Samuel Ebert, Westfälische Wilhelms University (Münster, Germany)
 Runlian Pang, Nanjing University/Friedrich Schiller University (China)
 Marcus Patzek, Westfälische Wilhelms University (Münster, Germany)
 Soumya Ray, Arizona State University (USA)
 Jan Render, Westfälische Wilhelms University (Münster, Germany)
 Poorna Srinivasan, University of New Mexico (USA)
 Martin D. Suttle, Imperial College, London (UK)
 Zachary Torrano, Arizona State University (USA)
 Takash Yoshizaki, Tohoku University (Japan)
 Daniela Weimer, ETH Zürich (Germany)
 Patrizia Will, ETH-Zürich (Germany)
 Weifan Xing, Chinese Academy of Sciences/China University of Geosciences (China)
 Bidong Zhang, University of Western Ontario (Canada)
 Mingming Zhang, Chinese Academy of Sciences (China)

Planetary Studies Foundation

Daniel R. Dunlap, Arizona State University (USA)
 Paul W. Scholar, Case Western Research University (USA)

NASA Emerging Worlds

John N. Bigolski, CUNY Graduate Center/American Museum of Natural History (USA)
 Michael Bojazi, Clemson University (USA)
 Caroline Caplan, University of Hawaii (USA)
 Samuel D. Crossley, University of Maryland (USA)
 Leticia P. De Marchi, Auburn University (USA)
 Crystaylynda Fudge, Arizona State University (USA)
 Jennika Greer, University of Chicago (USA)
 Brendan A. Haas, Washington University (USA)
 Rachel Rahib, University of Nevada, Las Vegas (USA)
 Sarah Roberts, University of Tennessee (USA)
 Sheryl Ann Singerling, University of New Mexico (USA)
 Krysten L. Villalon, University of Chicago (USA)

Elsevier

Queenie H. S. Chan, The Open University, UK
 Nan Liu, Carnegie Institute, USA

The Meteoritical Society Endowment Fund

Luke Daly, University of Glasgow (UK)
 Pierre Haenecour, University of Arizona (USA)
 Nicole Lunning, Smithsonian Institution (USA)
 My Riebe, Carnegie Institution of Washington (USA)
 Reto Trappitsch, Lawrence Livermore National Laboratory (USA)



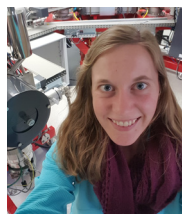
The Meteoritical Society's Travel for International Members (TIM) Fund

Houda El Kerni, Hassan II University (Morocco)
Fazia Kassab, University of Science and Technology Houari Boumediène (Algeria)
Taha Shisseh, Hassan II University (Morocco)

International 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 (Washington DC, USA). The award is given to a student attending the annual meeting of the society who submits an abstract that clearly explains exciting results 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.

This year, the Program Committee for the Santa Fe meeting awarded Levke Kööp and Emilie Dunham the Brian Mason Award. **Levke Kööp** is a postdoctoral fellow at the University of Chicago (USA). His abstract was entitled, "Calcium and Titanium Isotope Systematics in Refractory Inclusions from CM, CO, and CR Chondrites" and the authors were L. Kööp, A. Davis, A. Krot, K. Nagashima, and S. Simon. **Emilie Dunham** is a graduate student at Arizona State University (USA). Her abstract was entitled, "The Range of Initial $^{10}\text{Be}/^9\text{Be}$ Ratios in the Early Solar System: A Re-assessment based on Analyses of New CAIs and Melilite Composition Glass Standards" and the authors were E. Dunham, M. Wadhwa, and M.-C. Liu.



Emilie Dunham



Levke Kööp

CALL FOR AWARD NOMINATIONS

Please nominate a colleague for one of the society's awards. Nominations should be sent to Secretary Mike Weisberg (metsosec@gmail.com) **by 15 January 2017** (31 January 2017 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 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** recognize 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.

IN MEMORIAL

Stanisław Hałas – passionate person, teacher, scientist, inventor, and experimenter



Professor Stanisław Hałas

Professor Stanisław Hałas, a full professor and world-renowned researcher in isotope geochemistry at the University of Maria Curie-Skłodowska (UMCS) in Lublin (Poland) passed away 3 May 2017. He was 72 years old.

Professor Hałas received his MSc degree in physics in 1968 from UMCS. Following his degree, he joined the Institute of Physics at UMCS where he remained for the rest of his career. He obtained the title of professor in 1992 and was, for many years, the chair of the Department of Mass Spectrometry in the Institute of Physics UMCS. Stan was a distinguished scientist in the fields of mass spectrometry and isotope geochemistry and geochronology, and he was a pioneer in developing new measurement and analytical techniques. Stan was, above all, a creator: he was a novel inventor and could seemingly make something from almost nothing. His authorship or coauthorship of 24 patents is not surprising. Stan Hałas was also the author of hundreds of scientific papers and was one of the most cited Polish scientists in his discipline.

Stan was highly committed to teaching thousands of students and to the careful training of his graduate students and postdoctoral associates. He supervised six PhD students and introduced many Polish scientists to isotope geochemistry during the 50-year lifespan of his hospitable laboratory. He collaborated with others, working in laboratories in Calgary (Canada), Heidelberg (Germany), East Kilbride (Scotland) and Potsdam (Germany). Professor Hałas was distinguished by numerous decorations and awards, both Polish and international, and he was either a president or a member of numerous Polish and foreign scientific societies.

Stan was a physicist by education, but his intensive and extensive activities in isotope studies of rocks and minerals left his mark on Polish mineralogy, petrology and geochemistry. Stan will be remembered as the best physicist among geologists, and the best geologist among physicists. Even after he retired, Stan actively participated in research and was always full of new ideas and trying to initiate new projects.

Professor Hałas was active not only professionally. Among his other interests included observing the sky, giving public demonstrations of physics, car touring, swimming and gardening. He is survived by his wife, six children, and six grandchildren. He will be very much missed by his colleagues, friends, family and all who knew him.

Ziggy Sawlowicz

<http://meteoriticalsociety.org>



2017 ANNUAL MEETING REPORT

The 80th Annual Meeting of the Meteoritical Society was held 23–28 July 2017 in the Santa Fe Convention Center in Santa Fe, the New Mexico (USA) state capital. With 410 registered participants, this annual meeting was an average size for a North American Meteoritical Society (MetSoc) meeting. In total, 418 abstracts were accepted for 264 oral and 154 poster presentations. Oral presentations were scheduled in three parallel sessions from Monday (24 July) to Friday (28 July), and all posters were on display for the entire duration of the conference. Of the 410 registrants, 370 were scientists, 84 were student participants, 34 were guests, and 6 were one-day registrants. A total of 284 registrants were MetSoc members.

A total of 41 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, and the Meteoritical Society Endowment and the Travel for International Members Fund.

The conference kicked off on Sunday (23 July) with registration in the La Fonda Hotel and two pre-conference workshops: Recognizing the Criteria for Ancient Impact Structures (Drs. Aaron Cavosie and Shawn Wright); and Mars Sample Return: Sample Priorities, Investigations and Measurements (Drs. Dave Beatty and Hap McSween). The day concluded with the Welcome Function held in the Ballroom of the La Fonda Hotel, and with Spanish Flamenco entertainment.

The scientific program covered 26 topics: these were organized under the themes of achondrites, carbonaceous chondrites, ordinary chondrites, chondrules, sample return analyses, volatiles, Solar System chronology, impacts, Mars, 40 seasons of ANSMET [Antarctic Search for Meteorites], geochemistry of lunar meteorites, organic matter, presolar grains, interplanetary dust particles, and differentiated bodies.

The Annual Barringer Invitational Lecture on Monday evening was presented by Harrison “Jack” Schmitt, the only geologist to have ever walked on the Moon. His outstanding and entertaining lecture about his adventures as a lunar astronaut and the geology of the Moon received minutes of standing ovations, and was one of the highlights of the conference.

The Special Annual Lecturer, sponsored by MetSoc, on Thursday morning was Dr. Mark Boslough (Sandia National Laboratories, University of New Mexico). He presented a fascinating and captivating story entitled, “Explosions in the Sky: The Science of Airbursts”.

The society’s Award Ceremony, and the Leonard Medal and Barringer Award medalist talks by Profs. Mark Thiemens and Akira Fujiwara, respectively, were presented on Wednesday morning (July 26). Following

the award ceremony, most conference attendees enjoyed exploring the beautiful city of Santa Fe. Two separate field trips to the Santa Fe Impact Structure were offered and were highly popular.

Later that evening, the annual Conference Banquet was held at the La Fonda Hotel. Following drinks and live Mariachi entertainment, the delicious buffet was opened. However, THE big hit of the banquet was the following Karaoke session! You have never seen so many meteorite-, cosmo-, planetary scientists enjoy and sing and dance away their souls!! Everybody seemed to have the times of their lives! [Note to future MetSoc organizers: please let this become a “tradition”.]

To conclude on the topic of festivities, both poster sessions on Tuesday and Thursday evenings were well catered for, were very well attended, and hopefully many good discussions were made over drinks and posters – the beautiful setting of the poster rooms opening up into the sunny courtyard certainly helped encourage exchanges between young and old.

We also had, during Tuesday lunch, for the first time at MetSoc, a “student meet & greet” at the beautiful terrace of the La Fonda. We offered this as a free event to encourage student participation, and we supplied sandwiches and beer. It was a success! I received plenty of very positive feedback from both students and the “senior scientists”, and I urge future MetSoc organizers to keep this type of event in mind.

The conference concluded on Friday afternoon with a Farewell function, where we were entertained and enchanted by a Native American flute trio.

Two post-conference field-trips were offered, both of which were well attended:

1. A 3-day trip to the Meteor Crater & Northern Arizona; Saturday, July 29 – Monday 31, 2017 (Dr. David Kring)
2. Rio Puerco Volcanic Field (Roots of Volcanoes, Mantle Nodules, Marine Sediments, and Western Rio Grande Rift); Saturday, July 29, 2017 (Drs. Larry Crumpler, Jayne Aubele)

The post-conference workshop Martian Meteorites Under the Microscope (Dr. Tony Irving) was very successful and was held on the UNM campus in the Institute of Meteoritics on Saturday.

The conference program and abstract volume can be accessed on the website of the Lunar and Planetary Institute: <https://www.hou.usra.edu/meetings/metsoc2017/pdf/program.pdf>, and on the dedicated conference website: <http://metsoc2017-santafe.com/>.

This report would not be complete without thanking the numerous colleagues and students, whose tireless efforts made it all possible. We want to emphasize the dedicated 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 judges of student presentations, guides on conference tours, student assistants, and in many other functions.

The MetSoc 2017 Chair of the Local Organizing Committee
Karen Ziegler

RENEW YOUR MEMBERSHIP NOW!

Please renew by 31 March 2018; after that date, a \$15 late fee will be assessed. You can renew online at: <http://metsoc.meteoriticalsociety.net>

SOCIETY AWARD WINNERS

The society gives four major awards each year. For more information see the Call for Nominations and the MetSoc's webpage.



The LEONARD MEDAL. This 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 of the MetSoc and its first president. This year the award was presented to

Mark Thiemens (University of California, San Diego, USA), for the fundamental insight that local chemical fractionation processes can explain oxygen isotope systematics in the early Solar System, a seminal breakthrough in understanding one of the most important observations in meteoritics. The citation was given by François Robert.



The BARRINGER MEDAL AND AWARD. Both these are sponsored by the Barringer Crater Company and 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

Akira Fujiwara (Institute of Space and Astronautical Science, and the Japan Aerospace Exploration Agency) for his pioneering work in the investigation of the collisional disruption of small bodies in the Solar System. The citation was given by Masanao Abe.



The NIER PRIZE. This prize is awarded to a young scientist in the field of meteoritics, and the 2017 winner is

Francis McCubbin of the NASA Johnson Space Center (Houston, Texas, USA). Francis receives this award for his significant contributions to our understanding of lunar volatiles, and the cosmochemical implications for both lunar and Solar System evolution. The citation was given by Carl Agee.



The SERVICE AWARD. **Cecilia Satterwhite** of Jacobs, Inc. (at NASA Johnson Space Center), in Houston, Texas, is the winner of this year's Meteoritical Society Service Award. Cecilia receives this award for her effort in curatorial work that is critical to implementation of essentially all research on the US Antarctic Meteorite (ANSMET) Collections. The citation was given by Kevin Righter.



The GORDON MCKAY AWARD. This award is given for the best oral presentation by a student at the annual meeting of the 80th Annual Meeting of the Meteoritical Society. The 2017 award goes to

Jennika Greer of the University of Chicago (Illinois, USA) for her talk entitled "Atom Probe Tomography of Lunar Regolith Ilmenite Grain Surfaces."

CALL FOR AWARD NOMINATIONS

Please consider nominating a colleague for one of the MetSoc awards. Nominations should be sent to Secretary Michael Weisberg (metsocsec@gmail.com) by 15 January 2018 (31 January 2018 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 *Meteoritical Society Newsletter* at the society's website, or email the secretary.



The WILEY-BLACKWELL AWARDS. Wiley-Blackwell, publishers of *Meteoritics and Planetary Science*, sponsored four awards of \$500 (USD) each for outstanding presentations by students at the 80th Annual Meeting of the Society in Santa Fe. The winners and their talks were as follows: **Daniel Dunlap** (Arizona State University, Tempe, Arizona, USA) for his talk entitled "²⁶Al-²⁶Mg Systematics of the Ungrouped Achondrite Northwest Africa 11119: Timing of Extraterrestrial Silica-rich magmatism"; **Maximilien Verdier** (Muséum National d'Histoire Naturelle, Paris, France) for the presentation, "Temperature Precipitation of Ca-Carbonates in CM Chondrites Inferred from in-situ Oxygen Isotopes"; **Jonas Pape** (University of Bern, Switzerland) for the presentation, "In-Situ ²⁶Al-²⁶Mg Dating of Single Chondrules by Secondary Ion Mass Spectrometry"; and **Lionel Vacher** (Université de Lorraine, France) for his presentation, "Petrographic and Isotopic C and O Survey of the Earliest Stages of Aqueous Alteration of CM Chondrites."

ANNUAL MEETING SCHEDULE

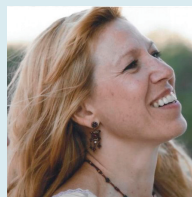
2018: 23–27 July, Moscow (Russia)

2019: 8–12 July, Sapporo (Japan)

2020: Dates TBD, Glasgow (Scotland)

2021: Dates TBD, Chicago (Illinois, USA)

IN MEMORIAM: FARA LINDSAY



Fara Lindsay, an astute petrologist, inspiring teacher, and talented dancer, died 14 June 2017 from cancer. A native of Bayonne (New Jersey, USA) she received her BA in 1983 from the State University of New York, Brockport, specializing in movement analysis. Fara went on to dance professionally in the US with the Alvin Ailey American Dance Theater and in Europe with the Broadway Musical Company. In the late

1990s, she returned to college, this time enrolling at Rutgers University (New Jersey) where she earned a second bachelor's degree, a BS this time, with a double major in chemistry and geology. This was followed in 2009 by a PhD under the direction of volcanologist Michael J. Carr.

From 2009 through 2017, Fara did research on extraterrestrial materials with our group at Rutgers, where she was a superb mentor for undergraduates. She was equally at home with the electron microprobe, the petrographic microscope, or a centrifuge tube, although if given her preference she'd always choose the probe. She brought her considerable skills to bear on problems relating to the Moon, meteorites, and micrometeorites. Her main focus was ⁴⁰Ar/³⁹Ar dating of microsamples of meteorites, by means of which she examined a rich chronological landscape not readily accessible from analyses of bulk materials or mineral separates. She presented the results of her work at many international conferences, and had 42 publications to her name. In 2016, Fara joined the MoonDB program at Lamont–Doherty Geological Laboratories (New York, USA) with Kerstin Lehnert.

Fara leaves behind many friends among whom we are glad to count ourselves. The echo of her laughter resonates in the halls of Rutgers Geology Department.

**Gail Ashley, Jerry Delaney, Gregory Herzog,
Jisun Park, Carl Swisher, Brent Turrin**