

**Meteoritical Society** 

## http://meteoriticalsociety.org

# REPORT OF THE METEORITE NOMENCLATURE COMMITTEE



The classification and reporting of new meteorites to the Nomenclature Committee (NomCom) of the Meteoritical Society (MetSoc) has continued throughout this pandemic year. We have passed 65,000 approved meteorites in the database, some 12,000 having a classification description and which includes over 430 lunar and 290 martian meteorites. I would like to thank all the NomCom

members and all the finders and classifiers for their continuous effort to safeguard proper documentation for the naming, classification, and correct repository of specimens. Special acknowledgements go to outgoing members Emma Bullock (Carnegie Institution of Washington, USA), Hasnaa Chennaoui Aoudjehane (Université Hassan II de Casablanca, Morocco), Vinciane Debaille (Université Libre de Bruxelles, Belgium), and Brigitte Zanda (Muséum national d'Histoire naturelle Paris, France) who finished their terms. We welcomed four new members last January: Cyrena Goodrich (Lunar and Planetary Institute, Texas, USA), Ansgar Greshake (Museum für Naturkunde Berlin, Germany), Juliane Gross (Rutgers University, New Jersey, USA), and Nancy Chabot (MetSoc Vice President; Johns Hopkins University Applied Physics Laboratory, Maryland, USA).

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

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

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

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

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

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

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

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

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

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

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

#### **Audrey Bouvier**

Chair of the Nomenclature Committee Universität Bayreuth

#### REFERENCE

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

## **GIFTS AND GRANTS GUIDELINES**

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

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

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

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

## **ANNUAL MEETING SCHEDULE**

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



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

## AN INTRODUCTION TO METAMORPHIC PETROLOGY / 2<sup>nd</sup> EDITION<sup>1</sup>

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



In those 30 years, the science of metamor-

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

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

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

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

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

#### Peter J. Treloar

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