



Japan Association of Mineralogical Sciences

<http://jams.la.coocan.jp>

JAPAN ASSOCIATION OF MINERALOGICAL SCIENCES AWARDEES

The Japan Association of Mineralogical Sciences (JAMS) is proud to announce the recipients of its 2019 society awards. The **Japan Association of Mineralogical Sciences Award** is presented to a maximum of two scientists in any one year and is awarded for exceptional contributions to mineralogical and related sciences. The **Manjiro Watanabe Award**—named in honour of Professor Manjiro Watanabe, a noted Japanese mineralogist, and founded at his bequest—is awarded every year to one scientist who has significantly contributed to mineralogical and related sciences over the greater part of his or her career.

Japan Association of Mineralogical Sciences Award to Takaaki Noguchi



Takaaki Noguchi is a professor at the Faculty of Arts and Science, Kyushu University (Japan). He studies the mineralogy and petrology of extraterrestrial materials. He started to study meteorites as a student at the laboratory of petrology of the University of Tokyo under the supervision of Dr. Hiroko Nagahara. After receiving his PhD, he investigated meteorites as a post-doctoral research fellow under the guidance of Dr. Kiyoshi Fujino at the Mineralogical Laboratory of Ehime University

(Japan). He learned how to use the transmission electron microscope (TEM) from Dr. Fujino, and the TEM subsequently became his preferred analytical tool for his research. His professional career started at Ibaraki University (Japan) where he developed a technique by which to prepare meteorite samples for TEM analysis using an ultramicrotome. From this, he could investigate, using electrons, the petrography of meteorites. Since 1997, he has been investigating Antarctic micrometeorites (AMMs). He has found that the major hydrated AMMs have a similar mineralogy to that of the matrix of the Tagish Lake meteorite (British Columbia, Canada), a result that contradicted the belief of the day. More recently, he has found that highly porous anhydrous AMMs are indistinguishable from chondritic porous interplanetary dust particles (CP IDPs), the latter having been regarded as cometary dust. These AMMs, thus, give a new opportunity to investigate cometary material in the laboratory. Dr. Noguchi is currently working on the early stages of aqueous alteration of comet-like materials by using these CP IDP-like AMMs, which will help us to understand the early evolution of very primitive volatile-rich solar system bodies. By making use of these experiences, he has been investigating fine-grained samples returned from a comet, an asteroid, the Moon, and the international space station. In the Hayabusa 1 mission, he worked as a member of the JAXA/Institute of Space and Astronautical Science curation team and found that the surface of the returned fine grains from asteroid Itokawa had been damaged by the irradiation of solar wind (charged particles). In the Hayabusa 2 mission, he is going to investigate samples of asteroid Ryugu as a sub-team leader of the initial analysis team.

Japan Association of Mineralogical Sciences Award to Daisuke Yamazaki



Daisuke Yamazaki, an associate professor at the Institute for Planetary Materials, Okayama University (Japan), is a high-pressure experimentalist who is interested in the rheology of Earth's interior. High-pressure experiments are powerful methods to investigate the Earth's interior, and Dr. Yamazaki has developed this technique using the Kawai-type multi-anvil apparatus. For example, Dr. Yamazaki has succeeded in extending the pressure

range to ~120 GPa, corresponding to the pressure at the bottom layer of Earth's mantle (the D" layer). Using this advanced technique, he determined that the grain growth rate of ϵ -iron, the dominant phase in the Earth's inner core, is high enough for appreciable grain growth to occur. This result indicates that grain size and stress-insensitive rheology (Harper–Dorn creep) is likely to be the dominant deformation mechanism in the inner core and that a uniform viscosity is to be expected. His research on mantle rheology has shown that periclase is a few orders of magnitude softer than bridgmanite, as inferred from the measurement of silicon diffusion rates in bridgmanite; he has, thus, also discussed the important role of periclase on mantle rheology, viewing the lower mantle as if a two-phase rock. His research group has measured a variety of rheological properties of mantle minerals. Dislocation mobilities in ringwoodite and bridgmanite have been determined, which in turn led Dr. Yamazaki to investigate the viscosity contrast between the transition zone and the lower mantle. He has measured the preferred orientations of the crystal lattices for olivine, stishovite, bridgmanite and a post-perovskite analogue, as caused by deformation, to better interpret seismic observations and to constrain mantle dynamics.

Manjiro Watanabe Award to Yoshikazu Aoki



Yoshikazu Aoki was appointed to an academic position at the Faculty of Science in Kyushu University (Japan) in April 1963 when he was still a master's student at the university. After serving as a technical officer for the former Geological Survey of Japan—the Agency of Industrial Science and Technology, the former Ministry of International Trade and Industry—for five years beginning in September 1966, he returned to Kyushu University as a research assistant at the

Faculty of Science in September 1971. He received his Doctor of Science degree in 1978 from Kyushu University with his thesis, "The Morphology of Crystals Grown from Highly Supersaturated Solution." Thereafter, he was promoted to assistant professor in 1978 and to professor in 1989. Dr. Aoki taught and guided the students at Kyushu University until his retirement in 2003. During this period, he was engaged in (i) research on descriptive mineralogy, (ii) surveys and research on ore deposits, and (iii) research on crystal growth. His research significantly contributed to the development of mineralogy in Japan, as described below.

(i) Descriptive mineralogy. Dr. Aoki described two new minerals, namely, "taneyamalite" and "nambulite." He also reported on five minerals newly confirmed to occur in Japan. Among these, his description that taneyamalite, a new mineral of manganese silicate, is a manganese analog of howieite led to him being awarded the Sakurai Medal in 1987. This was a mark of honor for his contributions to our understanding of the metamorphism of manganese iron cherts, particularly under low-temperature and high-pressure conditions.

(ii) Ore deposit research. Dr. Aoki discovered the existence of a globally rare type of beryllium ore deposit comprising beryllium minerals (denalite and phenakite) at Mihara Mine in Hiroshima Prefecture. He then mineralogically and geochemically examined how this ore deposit formed.

(iii) Crystal growth. He theoretically studied the growth form of single crystals and the form of twin crystals to reveal the factors and mechanisms of nucleation and crystal formation.

Dr. Aoki not only helped in the development of mineralogy in terms of the abovementioned viewpoints but also contributed significantly to activities that promoted mineral sciences in Japan. For example,



Mineralogical Society of Poland

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THE THIRD EUROPEAN MINERALOGICAL CONFERENCE

6–10 September 2020 in Cracow [Kraków] (Poland)

The 3rd European Mineralogical Conference (emc2020) will be organized by the Mineralogical Society of Poland on behalf of the following European mineralogical societies: Deutsche Mineralogische Gesellschaft, Mineralogical Society of Great Britain and Ireland, Mineralogical Society of Finland, Österreichische Mineralogische Gesellschaft, Russian Mineralogical Society, Sociedad Española de Mineralogía, Société Française de Minéralogie et de Cristallographie, Società Italiana di Mineralogia e Petrologia, Swiss Society of Mineralogy and Petrology, and the participation of the European Mineralogical Union.

Registration opens 1 March 2020.

Website: <https://emc2020.ptmin.eu/>. Contact: emc2020@ptmin.eu

The 3rd European Mineralogical Conference has the thematic title “Mineralogy in the Modern World”. As such, the conference will focus on the current and future challenges that face the geosciences (including the planetary and environmental sciences) and how to foster an exchange of new views and research results between scientists from Europe and beyond. The main themes are as follows: advanced analytical techniques; applied mineralogy; archaeometry; atomistic

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he helped develop the modern Japan Association of Mineralogical Sciences when he was the chairman of the previous Mineralogical Society of Japan from June 1996 to October 1998. To honor Dr. Aoki for his achievements, the Japan Association of Mineralogical Sciences awarded him the title of Honorary Member in 2015.

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Original Articles

Crystal chemistry and Raman spectroscopy of momoite from Japan – Shunsuke ENDO, Mariko NAGASHIMA and Masaki ENAMI
Peak metamorphic temperature of the Nishisonogi unit of the Nagasaki Metamorphic Rocks, western Kyushu, Japan – Yasushi MORI, Miki SHIGENO, Kazuhiro MIYAZAKI and Tadao NISHIYAMA

Crystal structure, large distortion of the Zn tetrahedron, and statistical displacement of water molecules in skorpionite – Tsubasa TOBASE, Akira YOSHIASA, Satoshi JINNOUCHI, Ginga KITAHARA, Hidetomo HONGU, Makoto TOKUDA, Maki OKUBE and Kazumasa SUGIYAMA

Crystal structure change in grossular–Si-free katoite solid solution: Oxygen position splitting in katoite – Atsushi KYONO and Shubhi ARORA

Common occurrence of calcic plagioclase in granitoids from Mt. Kaizuki area, central Japan – Hong Mei, Masaki ENAMI, Motohiro TSUBOI and Yoshihiro ASAHARA

Letter

Raman spectra of tridymite modifications: MC, MX-1, and PO-10 – Masami KANZAKI

and thermodynamic modelling; education and mineralogy; environmental mineralogy and low-*T* geochemistry; experimental mineralogy and petrology; geobiochemistry, geomicrobiology and biomineralogy; geochronology; magmatism and volcanology; mantle petrology and geochemistry; metamorphism; mineral deposits and raw materials; mineral diversity and evolution; mineral physics; mineralogical crystallography; planetary materials and processes; radioactive materials.

The local organizing committee are Tomasz Bajda and Justyna Topolska, both of the AGH University of Science and Technology in Kraków (Poland).

The 3rd European Mineralogical Conference Cracow, Poland • 6-10 September 2020

is organized by the **Mineralogical Society of Poland** on behalf of other European mineralogical societies:

DMG	Deutsche Mineralogische Gesellschaft
MinSoc	Mineralogical Society of Great Britain & Ireland
MinSocFin	Mineralogical Society of Finland
ÖMG	Österreichische Mineralogische Gesellschaft
RMS	Russian Mineralogical Society
SEM	Sociedad Española de Mineralogía
SFMC	Société Française de Minéralogie et de Cristallographie
SIMP	Società Italiana di Mineralogia e Petrologia
SSMP	Swiss Society of Mineralogy and Petrology

with participation of:

EMU European Mineralogical Union

Registration opens: 1 March 2020

website: <https://emc2020.ptmin.eu/>

Under the theme: **Mineralogy in the modern world** the 3rd emc²⁰²⁰ will be focused on presenting current and future challenges in the Earth, planetary and environmental sciences and fostering an exchange of new views and research results between scientists from Europe and beyond. The main themes are: Advanced analytical techniques • Applied mineralogy • Archaeometry • Atomistic and thermodynamic modelling • Education and mineralogy • Environmental mineralogy and low-temperature geochemistry • Experimental mineralogy and petrology • Geobiochemistry, geomicrobiology and biomineralogy • Geochronology • Magmatism and volcanology • Mantle petrology and geochemistry • Metamorphism • Mineral deposits and raw materials • Mineral diversity and evolution • Mineral physics • Mineralogical crystallography • Planetary materials and processes • Radioactive materials

The local organizing committee:

Tomasz Bajda and Justyna Topolska

Contact: emc2020@ptmin.eu