



# 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 2014 society awards. The **Japan Association of Mineralogical Sciences Award for Young Scientists** is presented to three scientists this year who are under 37 years of age and have made exceptional contributions to the mineralogical and related sciences. The **Japan Association of Mineralogical Sciences Award for Applied Mineralogy** is bestowed on a scientist who has made remarkable contributions to the field of applied mineralogy. The **Japan Association of Mineralogical Sciences Research Paper Award** is given to the authors of two excellent publications in the *Journal of Mineralogical and Petrological Sciences (JMPS)* and *Ganseki-Kobutsu-Kagaku (GKK)* that were published during the previous three years. Congratulations to the awardees!

### Japan Association of Mineralogical Sciences Award for Young Scientists to Hiroshi Sakuma, Satoshi (Tetsu) Saito, and Tadashi Yokoyama



**Hiroshi Sakuma** is a senior researcher in the Environmental Remediation Materials Unit, National Institute for Materials Science, Tsukuba, Japan. He obtained his PhD from Tohoku University under the supervision of Professor Kenshiro Otsuki. Sakuma has studied mineral-fluid interfaces with the aim of understanding fault mechanics, enhanced oil recovery, and supercritical fluids in the Earth's crust. Using a

surface forces apparatus, he discovered that a very small amount of water with a thickness of 1 nm on a muscovite surface can act as a good lubricant. In order to remove water molecules confined between muscovite surfaces, a differential compressive stress of over 10 GPa is required at room temperature. These new findings are important for the development of the physics of fault slips in the Earth's crust. Currently, he is trying to predict the physical properties of supercritical fluids in the Earth's crust in order to better understand the effects of such fluids on earthquakes.



**Satoshi (Tetsu) Saito** is an assistant professor at the Graduate School of Science and Engineering, Ehime University, Japan. He obtained a PhD in petrology from Yokohama National University under the supervision of Professor Makoto Arima. His current research interests are in igneous and metamorphic petrology, experimental petrology, experimental rock physics, and environmental geochemistry. One of his studies, "Petrogenesis of

Neogene Granitoid Plutons in the Izu Collision Zone, Central Japan," has significantly furthered the understanding of continental crustal evolution. He has worked on geochemically diverse granitoid rocks that form in the arc-arc collision zone of Japan. He proposed a new petrogenetic and tectonic model for explaining the geochemical diversity of the granitoid plutons and demonstrated the influence of the collisional process on the transformation of a juvenile oceanic arc into mature continental crust.



**Tadashi Yokoyama** is an assistant professor in the Department of Earth and Space Science, Graduate School of Science, Osaka University, Osaka, Japan. He received his PhD from the University of Tokyo under the supervision of Professor Takashi Murakami. Yokoyama has studied water-rock interactions and material

transport in rocks. He investigated porous rhyolites with well-constrained weathering conditions from Kozushima. He determined a dissolution rate in the field by comparing rhyolites with different durations of weathering. He also conducted laboratory dissolution experiments using the rhyolite under ambient conditions and obtained dissolution rates 12 to 1000 times greater than the field rate. After detailed characterization of the reaction and transport properties of the rhyolite, he performed reactive transport analyses to bridge the field-lab discrepancy and showed that the rate-reducing effect of saturation (proximity to chemical equilibrium) was large in the early stage of weathering and became smaller with time. Dr. Yokoyama has also evaluated various aspects of rhyolite weathering, such as glass hydration, clay formation, and transformation of ferrihydrite to goethite. His research results have contributed to our understanding of rock weathering.

### Japan Association of Mineralogical Sciences Award for Applied Mineralogy to Koichi Momma



**Koichi Momma** is a researcher at the National Museum of Nature and Science, Japan. He has been working on the development of crystallographic visualization software for 10 years. The computer program VESTA is one of his main products for 3-D visualization of crystal structures, volumetric data such as electron and nuclear densities, and crystal morphologies. VESTA is also capable of calculating physical properties from

crystal structures and electron densities. The program has been widely used in thousands of research papers, not only in the field of mineralogy but also in a variety of areas including chemistry, materials science, bioscience, and electronic state calculations. He has also developed a program for maximum-entropy-method analyses of electron or nuclear densities from diffraction data. These programs are distributed free of charge and are often used for educational purposes. Using these programs, he carries out crystal structure analyses of various minerals.

### Japan Association of Mineralogical Sciences Research Paper Award

**Yoshihiro NAKAMURA and Junji AKAI (2013)**



Microstructural evolution of carbonaceous material during graphitization in the Gyoja-yama contact aureole: HRTEM, XRD and Raman spectroscopic study.

*Journal of Mineralogical and Petrological Sciences*  
108: 131-143

**Shunsuke ENDO, Izabella NOWAK, and Simon R. WALLIS (2013)**



High-pressure garnet amphibolite from the Funaokayama unit, western Kii Peninsula and the extent of eclogite facies metamorphism in the Sanbagawa belt.

*Journal of Mineralogical and Petrological Sciences*  
108: 189-200

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## 2014 SOCIETY AWARD WINNERS

The Society gives out four major awards each year. For more information on individual awards, please see the Society web page.



The **LEONARD MEDAL**, which is the Society's highest and oldest award, is given to individuals who have made outstanding original contributions to the science of meteoritics or closely allied fields. It is named for Frederick C. Leonard, who was a founder and the first president of the Society. The 2014 winner of the Leonard Medal is **Roger Hewins** of the IMPMC, Paris, France, and Rutgers University, USA, for seminal petrologic and experimental studies on the origin of chondrules and,

by extension, the mechanisms and environments of formation of these essential building blocks of meteorites and planetary bodies. The citation for this award was given by Harold Connolly.



The **BARRINGER MEDAL AND AWARD**, sponsored by the Barringer Crater Company, were created in memory of D. Moreau Barringer Sr. and his son, D. Moreau Barringer Jr. The award is given for outstanding work in the field of impact cratering. This year, the Barringer Award is given to **Alex Deutsch**, of the Westfälische Wilhelms-Universität, Münster, Germany, for his broad contributions to the understanding of impact cratering, particularly in the areas of radiometric

dating of terrestrial and lunar impact events, isotopic geochemistry and petrology of impact rocks from terrestrial impact craters, and experiments in shock metamorphism. The citation for this award was given by Falko Langenhorst.



The **NIER PRIZE** recognizes young scientists in the field of meteoritics. This year's winner is **James Day**, of Scripps Institution of Oceanography, University of California, San Diego, USA. James receives his award for significant contributions to an improved understanding of the late accretionary history of the terrestrial planets and smaller planetary bodies of the inner Solar System. The citation for this award was given by Frederic Moynier.



The **METEORITICAL SOCIETY SERVICE AWARD** is given this year to **Roy Clarke Jr.**, emeritus curator at the Smithsonian Institution in Washington, DC, USA. Roy receives this award for his role in helping to build the meteorite collection at the Smithsonian into a national and international resource, for archival and historical work important to the Society, and for his efforts that helped guide the Society at critical moments. The citation for this award was written by Tim McCoy and presented at a special reception in Washington, DC, for Roy,

who was unable to travel to the conference, and the citation was presented in Morocco by Ed Scott.

## RENEW YOUR MEMBERSHIP NOW!

Please renew your membership by March 31, 2015; after that date, a \$15 late fee will be assessed. You can renew online at <http://metsoc.meteoriticalsociety.net>.

## CALL FOR AWARD NOMINATIONS

**Please consider nominating a colleague for one of the Society's awards. Nominations should be sent to Secretary Michael Weisberg ([metsocsec@gmail.com](mailto:metsocsec@gmail.com)) by January 15 (January 31 for the Service Award and the Pellas-Ryder Award). For more information and details on how to submit a nomination for any of these awards, please see the latest Newsletter on the Society 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** 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 (under 35). 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.

## ANNUAL MEETING SCHEDULE

- 2015 July 27–31, Berkeley, California
- 2016 August 7–12, Berlin, Germany
- 2017 Dates to be determined, New Mexico, USA (Albuquerque or Santa Fe)
- 2018 Dates to be determined, Moscow, Russia

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## JOURNAL OF MINERALOGICAL AND PETROLOGICAL SCIENCES

**Vol. 109, no. 5, October 2014**

### ORIGINAL ARTICLES

#### **Petrogenesis and zircon U–Pb ages of the Thien Ke granitic pluton in the Tam Dao region: Implications for early Paleozoic tectonic evolution in NE Vietnam**

Thuy Thi Bich NGUYEN, Pham Trung HIEU, Tran Thanh HAI, Bui The ANH, Nguyen Thi XUAN, and Dang My CUNG

#### **Crystal structure of suzukiite from the Mogurazawa mine, Gunma Prefecture, Japan**

Miku ITO, Satoshi MATSUBARA, Kazumi YOKOYAMA, Koichi MOMMA, Ritsuro MIYAWAKI, Izumi NAKAI, and Akira KATO

#### **The influence of organic-rich shear zones on pelagic sediment deformation and seismogenesis in a subduction zone**

Jun KAMEDA, Yui KOUKETSU, Mayuko SHIMIZU, Asuka YAMAGUCHI, Yohei HAMADA, Mari HAMAHASHI, Hiroaki KOGE, Rina FUKUCHI, Masayuki IKEDA, Toshihiro KOGURE, and Gaku KIMURA