



# Japan Association of Mineralogical Sciences

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## FROM THE PRESIDENT



Akira Tsuchiyama,  
President

On 1 October 2016, the Japan Association of Mineralogical Sciences (JAMS) transformed from a private association into a general incorporated association. JAMS was established in 2007 as the result of a merger between the Mineralogical Society of Japan (established in 1955 as an independent mineralogy working group of the Geological Society of Japan) and the Japanese Association of Mineralogists, Petrologists and Economic Geologists (originally established in 1928). Thus, JAMS, with its 88-year history, has started a new phase as an incorporated association.

This means that it will have legal compliance and obligations through (1) improved reliability in both its academic and societal functions, (2) legal stability through clarification of responsibilities, and (3) holding of properties. As the first president of this incorporated association, I am happy to make a contribution to JAMS and the Earth and planetary science community.

Part of the JAMS mission is outreach. So, to mark its transformation to an incorporated association, JAMS has selected jadeite (*hisui* in Japanese) as the national stone of Japan. Prior to this, American mineralogist George F. Kunz proposed “rock crystal” as the national stone of Japan in his 1913 book, *The Curious Lore of Precious Stones*. However, based on new knowledge and understanding of the importance of the rocks that form Japan, not only in terms of natural science but also of social science, culture, and art, the national stone was replaced with something more appropriate (see the accompanying article).

Moving to a topic in my own research field, the Japanese spacecraft *Hayabusa2* was launched in 2014 and should arrive at asteroid Ryugu in mid-2018. Samples of this C-type asteroid (carbonaceous chondrite or related material) will be returned to Earth late of 2020. A call for nomination of sub-team leaders for the Initial Analysis Team for samples returned by *Hayabusa2* was recently announced. The sub-teams cover chemistry, petrology and mineralogy, volatiles, and organics. We expect that JAMS members will be selected as some of the sub-team leaders and will contribute to the initial analysis.

Our next annual meeting will be held at Ehime University (Japan) in September 2017. Some members of JAMS will be conveners of the international sessions of the Japan Geoscience Union Meeting 2017, to be held in May at Makuhari (Chiba Prefecture). It is a great honor to meet fellow researchers from all over the world at such conferences.

**Prof. Akira Tsuchiyama, JAMS President**

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### Original Articles

**Internal textures and U-Pb geochronology of zircons in metamorphic rocks from the Southwestern Highland Complex, Sri Lanka** – D. Nuwan Sanjaya WANNIARACHCHI, Masahide AKASAKA, Yasutaka HAYASAKA and L.R.K. PERERA

**Cation ordering of {110} and {211} sectors in grandite garnet from Mali** – Yurie NAKAMURA, Takahiro KURIBAYASHI and Toshiro NAGASE

**Thermal structure of the Kebara Formation and its proximal areas in the western Kii Peninsula, SW Japan: Application of the carbona-**

**ceous material Raman geothermometry** – Kenta YOSHIDA, Naoki AOYAGI, Ryoji KATO and Takao HIRAJIMA

**Evidence for partial melting of eclogite from the Moldanubian Zone of the Bohemian Massif, Czech Republic** – Takahiro MIYAZAKI, Daisuke NAKAMURA, Akihiro TAMURA, Martin SVOJTKA, Shoji ARAI and Takao HIRAJIMA

### Letters

**Pressure-volume-temperature equation of state of  $\epsilon$ -FeOOH to 11 GPa and 700 K** – Akio SUZUKI

**Hydrogen distribution in chondrodite: a first-principles calculation** – Masami KANZAKI



Photograph of a typical green-white jadeite specimen from Itoigawa (Japan) displayed in the National Museum of Nature and Science, Tokyo. PHOTO: JAMS.

## JADEITE: THE NATIONAL STONE OF JAPAN

In 2016, the JAMS selected jadeite as the national stone of Japan. In making this decision, we did not distinguish between minerals and rocks, and we decided to select a stone that is a basic and familiar geological constituent of Japan. We set up the following criteria for the national stone:

- (1) A beautiful stone that occurs naturally in Japan and is known to the Japanese.
- (2) A stone that has global significance, not only in mineral sciences and Earth sciences, but also in other fields.

Additional recommended criteria were as follows:

- (3) A stone that has been used for a long period of time and in a wide variety of ways in Japanese life.
- (4) A stone that is still produced today and can be observed in the field.
- (5) Field observations of the stone can be done in a sustainable way according to conservation law.

We made the selection through a ballot of the society members at the JAMS Annual Meeting on 24 September 2016. Five candidates for the national stone were chosen according to public comments and the recommendations of the JAMS Working Group: these were granite (granitic rocks and their pegmatites), stibnite, native gold, rock crystal (quartz; including Japanese twin, agate, chalcedony and jasper), and jadeite (including jadeitite).

“Jadeite” (*hisui* in Japanese) is a comprehensive term that includes the mineral jadeite and the rock jadeitite. Fine grained and slightly transparent forms are known as the jewel “jadeite jade” (also *hisui* in Japanese). It is accepted that jadeite forms only in divergent plate boundaries, such as the Japanese islands which have cold thermal gradients (Harlow et al. 2015). The occurrence of jadeitite is restricted to associated areas of serpentinites, which are younger than 550 million years. Thus, jadeitite is one of the rocks that indicate a cooling of the Earth. Jadeite (*hisui*) was used for stoneware in the early phase of the Early Jomon period and as *magatama* (comma-shaped beads) until the 8<sup>th</sup> century in Japan. The occurrence of jadeite in Japan faded into obscurity after that time, but it was rediscovered in 1938 in Itoigawa (Kohno 1939). At present, we can observe jadeite in the field at sites all over Japan, and some of these localities are protected by law.

**Prof. Akira Tsuchiyama, JAMS President**

Harlow GE, Tsujimori T, Sorensen SS (2015) Jadeite and plate tectonics. *Annual Review of Earth and Planetary Sciences* 43: 105-138

Kohno Y (1939) New occurrence of jadeite in Japan and its chemical properties. *Journal of the Japanese Association of Mineralogists, Petrologists, and Economic Geologists* 22: 219-225 (in Japanese) [https://www.jstge.jp/article/ganko1929/22/5/22\\_5\\_219/\\_article/-char/ja/](https://www.jstge.jp/article/ganko1929/22/5/22_5_219/_article/-char/ja/)

## INVITATION TO THE JPGU-AGU JOINT MEETING 2017



We are pleased to inform you that the first joint meeting between the JpGU (Japan Geoscience Union) and the AGU (American Geophysical Union) will be held 20–25 May 2017 at Makuhari Messe (Chiba Prefecture, Japan). More than 100 international sessions have been proposed.

Detailed information is available at [http://www.jpgu.org/meeting\\_e2017](http://www.jpgu.org/meeting_e2017).