

July 30, 2012

Please see the symposium website for the latest information.

ISAR-3 **Second Circular**

Third International Symposium on the Arctic Research (ISAR-3)

-Detecting the change in the Arctic system and searching the global influence-

Date: January 14 to 17, 2013

(Public Lecture on January 14, 2013)

Venue: Miraikan (7th Floor)

National Museum of Emerging Science and Innovation

Tokyo, Japan

Organized by:

Committee on Earth and Planetary Sciences, Subcommittee for International Affairs

(National Committee for IASC), Science Council of Japan

Japan Consortium for Arctic Environmental Research (JCAR)

Symposium website: <http://www.jcar.org/isar-3/>

E-mail: isar3@jcar.org

Background and objective

The Arctic environment is changing drastically due to the intensified warming in this region brought about by the interaction of components such as the atmosphere, ocean, cryosphere, and land surface conditions. In order to understand the feedback processes between these various components in the Arctic and sub-Arctic regions, and to make projections for the future, we need to exchange more knowledge and information than ever before, by combining different scientific communities sharing common interests.

This Symposium will be directed to detecting and clarifying the recent changes in this region, and to understanding the essential processes behind them, and to search for their global influence. It will also aim to envision the future through further scientific discussions, and to enhance further national and international cooperation and collaboration, including those between Arctic and non-Arctic countries. Discussion will also be included on the

direction and expected outcomes of the Green Network of Excellence (GRENE) Arctic Climate Research Project in Japan.

ISAR-1 (“Drastic Change under the Global Warming”) was successfully held from November 4 to 6, 2008, followed by ISAR-2 (“Arctic System in a Changing Earth”) from December 7 to 9, 2010. Both were held in Tokyo. (The content of the previous Symposiums can be seen at <<http://www.jamstec.go.jp/iorgc/sympo/isar1/index.html>> and <<http://www-arctic.nipr.ac.jp/isar2/toppage/isar2top.htm>>.) We have now planned ISAR-3, including a number of topics under the theme “Detecting the change in the Arctic system and searching the global influence.” It will be held from January 14 to 17, 2013, in Tokyo. We would like to invite you to attend ISAR-3, which will be launched under the auspices of the National Committee of IASC of the Science Council of Japan and the Japan Consortium for Arctic Environmental Research (JCAR), with the cooperation of several institutions and agencies. The Symposium language is English.

Date and Venue

Date: January 14 to 17, 2013

(Public Lecture on January 14, 2013)

Venue: Miraikan (7th Floor)

National Museum of Emerging Science and Innovation

2-3-6, Aomi, Koto-ku, Tokyo, 135-0064 Japan

http://www.miraikan.jst.go.jp/index_e.html

Sessions

The following seven general sessions and six special sessions will be provided.

General sessions:

- (G1) Atmospheric science
- (G2) Ocean and sea ice
- (G3) Hydrology, permafrost, and snow cover
- (G4) Ice sheets, glaciers, and ice cores
- (G5) Terrestrial ecosystem
- (G6) Marine ecosystem
- (G7) Interdisciplinary modeling studies

Special sessions:

- (S1) Polar (Arctic) amplification in global warming (Conveners: Hiroshi L. TANAKA, Vladimir ALEXEEV)

Recent rapid Arctic warming is considered to be a research frontier in the study of global warming. Arctic sea ice is melting drastically, and exceeding IPCC projections. Although ice–albedo feedback plays an important role in polar (Arctic) amplification, it must be

just an amplifier of certain warming processes in the Arctic. Long-term natural (internal) variability is a candidate cause of polar amplification as well as anthropogenic forcing. The goal of the proposed special session is to pursue a complete understanding of polar amplification by exchanging our latest findings on polar amplification.

- (S2) Changes in water and carbon cycles of terrestrial ecosystems on permafrost in a warming Arctic (Conveners: Atsuko SUGIMOTO, J. van HUISSTEDEN)

Two research projects, PAGE21 by the EU–FP7 consortium and GRENE-TEA supported by MEXT Japan, which started at almost the same time, have similar goals of employing a pan-Arctic observation network to evaluate the effects of global climate change on Arctic environments and carbon pools, and their feedback effects on the global climate. These projects perform complementary research and contribute to international observation networks, in order to understand the processes of changing terrestrial ecosystems and their global effects. This session offers a platform to present research results, and to foster cooperation relating to water and material cycles (C, N, etc.) of terrestrial ecosystems in biological, geophysical, and interactional processes, not only with regard to these projects, but for all other groups doing research under these scientific themes.

- (S3) Changes in the Greenland ice sheet in the context of interactions with the atmosphere and the ocean (Conveners: Teruo AOKI, Konrad STEFFEN, Shin SUGIYAMA)

Recent observations have shown significant ice mass loss in the Greenland ice sheet. The warming climate is a key driver, but the processes connecting changing climate conditions with ice mass loss are rather complex. For example, warming of the ocean rather than rising air temperature is suspected to be a trigger of retreating outlet glaciers. This session invites contributions in the study of: (1) changes in the Greenland ice sheet in the past, present, and future; (2) physical processes that are driving the recent ice sheet mass loss; and (3) interactions between the ice sheet and the atmosphere and the ocean.

- (S4) International cooperation on Arctic observation and research (Conveners: Tetsuo OHATA, Volker RACHOLD)

International cooperation on research, observation, and also data archiving is essential for understanding the rapidly changing Arctic system. This session will include: (1) status reports on ongoing programs, projects, and activities on Arctic environmental research in various countries as a basis for the discussions on cooperation; and (2) presentations on the promotion of international cooperation such as IASC and the Arctic Council and related projects and initiatives, and programs of the ICSU and WMO and other international bodies relevant to the Arctic region. The session will allow time to discuss gaps and necessities regarding cooperation for better understanding the present and future state of the Arctic.

- (S5) GRENE Arctic project (Conveners: Hiroyuki ENOMOTO, Takashi YAMANOUCHI)

A new Japanese Arctic climate change research project “Rapid Change of the Arctic

Climate System and its Global Influences” has begun within the framework of the GRENE (Green Network of Excellence) Program funded by Japan’s Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2011. This project involves multi-disciplinary approaches to the Arctic climate system and its influences. It also fosters close collaboration between model and observational studies, as their results complement each other: model results help to interpret observations while observations are used to constrain models and validate model outputs. This session invites presentations on the strategy of new research projects, results from new research, data archiving concerns and necessities, and related scientific activities.

(S6) Monitoring of the Arctic environment (Convener: Atsumu OHMURA)

The Arctic is presently monitored from space, through the atmosphere, at the earth’s surface, and down to the ocean floor. An awareness of the need for environmental monitoring is relatively new. Monitoring is understood differently, and its value is often questioned. What makes monitoring different from other observations? Monitoring activities in the Arctic and in similarly sparsely inhabited regions have additional difficulties. The session will look back in history to study the origin and development of monitoring activities, identify present and future objects to be monitored, investigate technical and social requirements for successful monitoring, and formulate what should be monitored specifically in the Arctic and by what means.

Structure of symposium

Presentations

Oral and poster sessions will be held January 15 to 17, 2013.

The Symposium will consist of the following oral and poster presentations:

Oral Presentations

1. Keynote speech
2. Regular oral presentations

Poster presentations

Public lectures

Public lectures will be held on January 14, 2013 at the same venue.

Award

To encourage students to promote their Arctic research, ISAR-3 will award a Best Presentation Award. A presentation by a student will be selected in the Best Presentation Award competition judgment.

Banquet

The Symposium banquet will be held in the evening of January 16 at Hotel Nikko Tokyo (Daiba 1-9-1, Minato-ku, Tokyo). Please sign up for the banquet when you register for the symposium.

Submission of abstract and notification of acceptance

Participants wishing to present an oral/poster presentation are requested to submit an abstract of no more than one page of text (A4 size paper, 500 words maximum, PDF file). The abstract must be submitted by September 15, 2012. Refer to the Symposium website for details. Notification of acceptance will be made to participants by the middle of October.

Paper (peer-reviewed) publication

If your abstract is accepted for an oral or poster presentation at ISAR-3, you are strongly encouraged to submit the paper(s) (scientific paper or research note) to the proceedings of ISAR-3, which will be published in *Polar Science*. *Polar Science* is an international peer-reviewed quarterly journal. It is dedicated to providing original research articles for sciences related to the polar regions of Earth and other planets (<http://www.journals.elsevier.com/polar-science/>). *Polar Science* appeared in the IPY 2007-2008 period and offers benefits to authors including fast and easy online submission, no page charges, worldwide distribution, and 25 free offprints or a PDF.

Indicate your intention to submit your paper when we notify you that your abstract has been accepted. Papers to be submitted to *Polar Science* need to satisfy the following conditions.

- (1) The presentation (oral or poster) of the paper is executed by the author or co-author at the Symposium.
- (2) The manuscript of the paper is submitted to *Polar Science* by February 15 (Friday), 2013 via the Elsevier Electronic Submission system (<http://ees.elsevier.com/polar/>).

Please refer to the *Polar Science* Guide for Authors.

http://www.elsevier.com/wps/find/journaldescription.cws_home/711700/authorinstructions

The issue of *Polar Science* for ISAR-3 is expected to be published in 2014 (Volume 8).

The papers of the previous symposium (ISAR-2; held in Tokyo from December 7 to 9, 2010) were also published in *Polar Science* as a special issue (Volume 6, Issue 1, pp. 1-154), and are currently distributed online (<http://www.sciencedirect.com/science/journal/18739652/6/1>).

Important Dates and Deadlines

Abstract submission starts: July 30, 2012

Deadline for abstract submission: September 15, 2012

Notice of acceptance of abstracts and start of registration: by October 15, 2012

Early bird registration ends: October 31, 2012

Program announcement: November 15, 2012

Registration of presenters ends: November 20, 2012

Symposium: January 14 to 17, 2013

Deadline for paper submission: February 15, 2013

Registration and Banquet Fees

Registration and banquet fees are as follows. Online registration is available through the Symposium website.

	Early Bird Before October 31	Regular After November 1	Banquet
Full	8,000 JPY	10,000 JPY	5,000 JPY
Student*	Free	2,000 JPY	3,000 JPY
Over 70 years old	Free	Free	5,000 JPY
Accompanying person	4,000 JPY	5,000 JPY	5,000 JPY

*Please show your student identification card at the Symposium reception desk.

Travel support

We plan to support travel expenses for certain number of young scientists. Refer to the Symposium website for details.

Accommodation

We request that you book your own accommodation.

The venue is located in the Odaiba district of central Tokyo.

Some accommodation websites are provided below.

<http://travel.rakuten.co.jp/en/>

<http://www.japanican.com/index.aspx>

Side meetings

Groups who wish to find a room for side meetings during the Symposium should please contact the Symposium Secretariat.

Organized by:

Committee on Earth and Planetary Sciences, Subcommittee for International Affairs
(Japan National Committee for IASC), Science Council of Japan
Japan Consortium for Arctic Environmental Research (JCAR)

Symposium Organizing Committee

Chair: Tetsuo OHATA, RIGC/JAMSTEC (Chair of JCAR)

Co-chair: Atsuko SUGIMOTO, Hokkaido University (Chair of the Japan National Committee for IASC)

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Useful Link

(Transportations)

Yurikamome: <http://www.yurikamome.co.jp/en/index.php>

Tokyo Metro: <http://www.tokyometro.jp/global/en/index.html>

Toei: <http://www.kotsu.metro.tokyo.jp/english/index.html>

(Travel Tips)

Train route finder: <http://www.jorudan.co.jp/english/norikae/e-norikayin.html>

Weather: <http://www.timeanddate.com/weather/japan/tokyo>