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APRSAF NEWSLETTER
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LAPAN members of the APRSAF Secretariat
APRSAF-22 December 1–4, 2015, Bali, Indonesia

The 22nd session of the Asia-Pacific Regional Space Agency Forum (APRSAF-22) will be held from December 1–4, 2015, in Bali, Indonesia under the theme, "Sharing Solutions through Synergy in Space." Meeting Details are provided below. The APRSAF Secretariat looks forward to seeing many of you at APRSAF-22.

Meeting Details

DATE: December 1–4, 2015

VENUE: Discovery Kartika Plaza Hotel
Bali, Indonesia

APRSAF-22 will be also supported by the following organizations:
Office of National Space Policy, Cabinet Office, Government of Japan
Ministry of Foreign Affairs of Japan (MOFA)
Ministry of Internal Affairs and Communications (MIC) (Planned)
Ministry of Agriculture, Forestry and Fisheries (MAFF)
Ministry of Economy, Trade and Industry (METI) (Planned)
Ministry of Land, Infrastructure, Transport and Tourism (MLIT)
Ministry of the Environment (MOE) (Planned)
Japan Meteorological Agency (JMA) (Planned)
Japan International Cooperation Agency (JICA)

CO-ORGANIZERS:
Ministry of Research, Technology and Higher Education of Indonesia (RISTEK-DIKTI)
National Institute of Aeronautics and Space (LAPAN)
Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)
Japan Aerospace Exploration Agency (JAXA)

Registration

Please visit the following registration site and complete your registration online no later than October 31, 2015:
http://www.aprsaf.org/annual_meetings/aprsaf22/registration.php

Overall Schedule of APRSAF-22

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During the plenary session, three special sessions are planned to be conducted. Provisional themes of special sessions are: Space and Maritime Applications; Synergies in Space that highlights ongoing and future collaboration among government/space agencies, regional organizations, and development aid agencies; and Regional Cooperation toward Space Exploration.
Greetings from Jakarta!

APRSAF is a well-established and beneficial space-related forum in the Asia-Pacific region. Then, it is our honor to host the APRSAF-22 in the year of 2015. Under the theme of “Sharing Solutions through Synergy in Space,” it means that the forum of APRSAF opens for sharing and discussion in order to look for the proper ways to solve the common world issues and work together in implementing the space science and technology as well as its applications to achieve a sustainable socioeconomic benefits.

LAPAN has been actively participated in APRSAF since 1999. On December 5–9, 2006, LAPAN for the first time hosted the APRSAF-13 in Sari Pan Pacific Hotel, Jakarta. Now, this is the second time for LAPAN to host the APRSAF Session. This is to say that we would like to appreciate APRSAF as a prestigious forum by contributing not only in the initiative projects but also in the enforcement of APRSAF Session.

As a General Co-chair, on behalf of LAPAN-Indonesia, I am looking forward to welcoming you all to APRSAF-22. The venue has been set in Bali. Its geographic condition that is supported by beautiful natures and sea has become our first consideration where all participants could enjoy after having hustled activities. Moreover, Bali’s availability for the international direct flights promotes this place. Bali offers its wonderful cultural heritages to experience as well. Hopefully, the venue will increase the interest of participants to attend the APRSAF-22.

Once again, it is my pleasure to invite all of the APRSAF community to come and participate as well as exchange views for further international cooperation and joint research toward space science and technology along with its applications.

Hand in hand we could do together.

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Message from General Co-chairs

Prof. Dr. Thomas Djamaluddin
Chairman,
National Institute of Aeronautics and Space (LAPAN), Indonesia

Mr. Akinori Mori
Deputy Director General,
Research and Development Bureau,
Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

Dear All APRSAF community members,

APRSAF has expanded its activity for over 20 years, and has become one of the largest space communities in the Asia-Pacific region. Although it has no membership and operates on a voluntary basis, APRSAF has strengthened the relationship among countries in the region through space activities.

Space inspires young people as the frontier for human beings. Though over half a century has passed since the first satellite was launched into space, prominent results of space exploration renew our thoughts day by day and strengthen the appeal of space. International space exploration is an effort which aims at promoting such developments at the frontier through the synergy of international cooperation. Japan will host the “2nd International Space Exploration Forum (ISEF-2)” in 2017. We hope that many countries from the Asia-Pacific region will participate in this event.

Over 20 years of APRSAF’s activities, this region has experienced overwhelming developments which have no other example in the world. Development of level of the science and technology along with that of the economy has made space closer to us than ever. Nowadays various countries have their own satellites or use the data derived from satellites. On the other hand, economic growth has brought us common challenges in the region that must be overcome, such as climate change, environmental pollution, forest destruction and disaster. To cope with this challenge, solutions are needed not simply by enhancing our space technology but by contributing to solving these problems.

The theme of APRSAF-22 is “Sharing Solutions through Synergy in Space.” It is essential that various stakeholders, such as space agencies, governmental agencies who use space technology, private companies, universities and international organizations cooperate with each other to solve our practical problems.

As the General Co-Chair, I will do my best to enhance the discussions that lead to the synergy that contribute to solving the problems in the region and to send the appeal of space to the young people. I look forward to seeing all of you in beautiful Bali.
MESSAGE FROM WORKING GROUP CO-CHAIRS

Space Applications Working Group (SAWG)

Dr. Orbita Roswintiarti
Deputy Chairman for Remote Sensing Affairs, LAPAN

Mr. Norimasa Ito
Senior Engineer, Satellite Applications and Operations Center, JAXA

Space Technology Working Group (STWG)

Dr. Rika Andiarti
Deputy Chairman for Aerospace Technology Affairs, LAPAN

Mr. Yasuo Nakamura
Senior Advisor to the Executive Director, JAXA

At the Space Applications Working Group (SAWG) meeting in Indonesia-Bali, we would like to share the progress of SAWG and its key initiatives, and discuss further steps for sharing solutions through exploiting synergies among key space technologies. To foster enhanced cooperation with local operational agencies in each country as well as development aid agencies and international organizations, we appreciate active participation from those entities.

Existing initiatives, Sentinel Asia and Space Applications for Environment (SAFE), outlined their plans toward better serving end-users. For example, the Sentinel Asia initiative plans its evolution that consists of three strategic pillars: strategic management, end-user oriented activities, and cooperated promotion. The first Steering Committee will be held in October and the results will be reported at SAWG meeting.

After the Climate R1 initiative, an ad-hoc task team to discuss a potential new initiative on synergistic applications of geostationary orbit (GEO) and low Earth orbit (LEO) satellites was formed based on the APRSAF-21 recommendations. The task team will report the results of Brisbane workshop and invite all participants to discuss the launch of this potential new initiative.

We are looking forward to meeting you in Indonesia-Bali and sharing/discussing our issues/solutions and future in the Asia-Pacific region.

Based upon successful conclusion and recommendations of Space Technology Working Group (STWG) of APRSAF-21 in 2014, Tokyo, we have started preparation for the forthcoming STWG in order to make the meeting more interesting and fruitful.

Participants in the last meeting agreed to continue those activities, namely exchanging and sharing information on space technologies including topics such as engineering management, capacity-building, and training, and efforts to realize sustainable space activities in order to advance the capability of space technology and encourage wider cooperation among nations/entities in the Asia-Pacific region.

We are developing the STWG session program for this year to embody the above-mentioned aims, and the following topics are to be structured:

- Small satellite: Roadmaps and Strategy, Advanced and Innovative Technology, Missions and Payloads, etc.
- Engineering management: Systems Engineering, Quality Management, Engineering Standards, etc.
- Space debris: Technology for mitigating space debris, Regulations, etc.
- Applications of Space Technology
- Launch and Experiment Opportunities
- Capacity-Building and Training

Interesting presentation on current activities and discussion are expected and exhibition of space-related entities and industries are also planned.

We as the Co-chairs of STWG are very much hoping that a lot of experts will gather in this exciting opportunity and are looking forward to seeing you in Bali soon.

NEWS ON APRSAF ACTIVITIES

7th SAFE Workshop Held in Vietnam

The 7th Space Applications For Environment (SAFE) workshop was held successfully on June 17, 2015, in Ho Chi Minh City, Vietnam. The workshop was co-hosted by the Ho Chi Minh City Institute of Resources and Geography (HCMIRG) and the Japan Aerospace Exploration Agency. Sixty-seven participants from 31 organizations attended. A representative from the local host organization, Dr. Pham Thi Mai Thy appreciated the workshop, saying that “this was a good chance for participants from Cambodia, Indonesia, Malaysia, Thailand and local researchers to exchange and discuss on satellite remote sensing technology applications, especially in agriculture, water resources, land use/land cover, and climate change.”

In the workshop, five ongoing projects reported their current status, and their good progress was confirmed. One proposal from Malaysia, titled “Oil Palm Management,” was approved with revising proposal. One completed project, “Monitoring of Agricultural Land Abandonment Using Remote Sensing” from Malaysia, made its final report; their achievements were highly recognized and the project was expected to move forward to the next phase of operational prosperity.

Following these presentations, the SAFE secretariat proposed the future plan of SAFE for improving its mechanism and producing better results, which will lead to sustainable and operational use after the completion of prototyping projects. The plan will be discussed by a steering committee and submitted to the Space Applications Working Group at APRSAF-22.

In addition to the presentations by prototyping projects, local and international stakeholders made relevant presentations at the workshop.

For more information including the program, presentation materials and comments for each project, please visit the SAFE portal: http://www.eorc.jaxa.jp/SAFE/events/7thws_report.html

(NEWS ON APRSAF ACTIVITIES Continued to page 6.)
Space Environment Utilization Working Group (SEUWG) was the function for sharing needs and exchanges information on subjects related to the advantages and framework of using ISS/Kibo. Now, our objective has moved into the Development and Verification Phase from that survey phase. Kibo facility’s system into stable phase now will be able to provide for space experiment at any time. Toward Kibo/ISS of utilization realize, implementation of the technical evaluation and the presentation of concrete user’s guide, the lecture of an introduction to the frame process of the external financing, we will actively approach them, to the space agency, government agencies, and ministries that becomes the axis of the countries in the Asia-Pacific region.

The exposed facility utilization is useful and easily available to use. Exposure experiment that aims to develop new materials has started and will promote the rich Asian region of natural mineral resources.

Small-satellite deployment from the ISS, it is started from 2013 and approximately 100 aircrafts have been released, and will also start the 50 kg class satellite deployed from 2016. That usage fee is most inexpensive in the world and this system has gained the high reliability on it.

The devices such as Biology Experiment Facility (CBEF), Aquatic habitat (AQB), Electrostatic Levitation Furnace (ELF), or Mouse Habitat Unit (MHU) in the pressurized module have high functionality and have developed a remote control function from the ground, it became friendlier to researchers.

This WG aims to realize the use of Kibo/ISS and to bring a variety of benefits to the Asia-Pacific region. Very welcome to the many participating countries and looking forward to meeting with you and sharing/discussing our future.

Message from ExCom

Established in 2013, the APRSAF Executive Committee (ExCom) has made effort toward enhanced operation of APRSAF. ExCom this year consists of four organizations from past, present, and confirmed future co-organizers of APRSAF, namely VAST (Vietnam), JAXA (Japan), LAPAN (Indonesia), DOST (the Philippines), and Working Group chairs. It has worked on organizing APRSAF-22 to be held from December 1 to 4, 2015, Bali, Indonesia to make it more dynamic.

The theme of APRSAF-22 is “Sharing Solutions through Synergy in Space.” Looking back on the theme of APRSAF-21—“Leap to the Next Stage: Delivering Innovative Ideas and Solutions”—we of the APRSAF community will work further to bring solutions that are enabled by innovative space technologies and their synergistic applications. By joining the hands of space agencies and relevant entities, we will share such benefits to the broader populations in the Asia-Pacific region. In this effort, we will work in close cooperation with support agencies, and aim at creating high-quality solutions that pervade our daily activities and well-being.

ExCom continues its efforts to have the APRSAF community obtain satisfied achievements at APRSAF-22 in accordance with the theme, “Sharing Solutions through Synergy in Space.”
The 1st Space Exploration and Kibo Utilization for Asia Workshop, organized by the Space Environment Utilization Working Group (SEUWG) and hosted by the National Institute of Aeronautics and Space of Indonesia (LAPAN), was held successfully on May 28, 2015, in Jakarta, Indonesia. The workshop saw approximately 100 participants from 15 organizations in the Asia-Pacific region.

This workshop was held in compliance with the recommendations of APRSAF-21, in which SEUWG is recommended to hold workshops dedicated to space exploration once or twice a year as part of the working group’s activities to ensure the firm progress of Asia-Pacific countries in developing and conducting their own missions.

The one-day workshop in Indonesia consisted of mainly two parts: Kibo utilization for Asia and space exploration. In the former part, following the presentation about the latest status of Kibo utilization by JAXA, presentations in four research areas, such as agricultural experiment, science and engineering, medical science, and physics and materials science, were made by Indonesian researchers. More detailed discussion on some of those topics will be conducted between Indonesian researchers and JAXA, for studying their feasibility to be experimented in Kibo. Ms. Clara Yatini, Director of Space Science Center, LAPAN, showed her expectation for the possibility of some of the experiments to be conducted in orbit, saying “A research onboard Kibo will help us much in understanding the influence of space environment to our life.”

Two Japanese space companies also made their presentations about the development of space experiment devices and future trends of manned space exploration in the same Kibo utilization part of the workshop.

In the latter part, on the space exploration, Professor Hitoshi Kuninaka of JAXA reported the purposes and scientific significance of Hayabusa, Hayabusa2, and KAGUYA missions, which are the source of Japanese experiences and findings in space exploration. He also introduced the concept of the Space Exploration Innovation Hub with expectations to be joined by Asian researchers who had technologies and/or ideas for space exploration.

Later day, looking back on the workshop, Mr. Agus Hidayt, Director of Cooperation and Public Relation Bureau, LAPAN, provided his comment; “This workshop was very important for the Indonesian side to obtain complete information about the possibilities and opportunities to participate in space exploration activities using Kibo facilities.” Regarding Indonesia’s participation in space exploration programs, he sees budget as the biggest issue, and regional cooperation will be one of the solutions for it. “For example, 2, 3, or 4 ASEAN countries may develop a joint activity using Kibo facilities and share some budgets needed to support the activity. In this case ASEAN Secretariat may play a big role to bridge between ASEAN countries and JAXA/Japanese government,” he added.

More details about the workshop including its program and presentation files are available at the following website: http://iss.jaxa.jp/en/kuso/news/150630_workshop_report.html.
Try Zero-G for Asian Youth 2015

Japanese astronaut Kimiya Yui started his long-duration stay in the International Space Station (ISS) in July. Various missions such as scientific experiments and observations, science, engineering and technology development, and others are scheduled during his stay, which will be ended by his returning to the Earth around December. Among his wide-range activities in the ISS, Try Zero-G, scientific experiments whose theme has been proposed by children in the Asia-Pacific region, was conducted in the Japanese Experimental Module, or Kibo, of the ISS on August 21, 2015.

Since 2011, Try Zero-G has been performed by Japanese astronauts during their long-stay mission in the ISS. Each time, themes for experiments are selected from proposals by youth in the Asia-Pacific region through the framework of Kibo-ABC initiative, in which the member agencies make the final selection after feasibility assessments by JAXA.

Experiments are recorded and the image data are sent to the Kibo-ABC member agencies so that Asian youth can see how the selected experiments are being conducted and what the results are like.

For this time of Try Zero-G 2015 performed by Mr. Yui, the following proposals were selected out of 80 proposals. Similar proposals were merged through the selection process.

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<tr>
<th>Country</th>
<th>Title</th>
<th>Proposed operation</th>
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<td>Malaysia</td>
<td>Spinning a ball on its own axis within a finger</td>
<td>Behavior observation of touching and spinning any solid object (e.g., ruler, book, laptop, or anything) on contact with a fingertip</td>
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<tr>
<td>Thailand and Philippines*</td>
<td>Can we make wind in the space?</td>
<td>Behavior observation of solid objects with different masses by fanning a large piece of paper (background sheet)</td>
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<tr>
<td>Philippines</td>
<td>The incredible hoop glider!</td>
<td>Behavior observation of various variants of hoop glider</td>
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<td>Bangladesh and Australia*</td>
<td>Paper ball in the water ball</td>
<td>Observing the effect on a paper ball when it is inserted in a water ball in microgravity environment</td>
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<td>Thailand</td>
<td>Zero-G painting</td>
<td>Observing changing figures of painting and signing on various direction—sideways, upside down, and usual direction</td>
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<tr>
<td>Philippines (4 similar Ideas*) and Malaysia *</td>
<td>Sizable substance set on somersaulting stretched slinky</td>
<td>Behavior observation of a slinky attached an aluminum weight when it is let go after spinning horizontally with supporting opposite end from the weight</td>
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After finishing these experiments, Mr. Yui gave his message to our colleagues in the Asia-Pacific region. The message and experiments are now available at the Kibo Utilization Office for Asia (KUOA) website: http://iss.jaxa.jp/en/kuoa/news/yui_try_zero-g_2015.html

Past Try Zero-G movies can be seen at the JAXA Digital Archives: http://jda.jaxa.jp/search.php?lang=e&keyword=Try+zero
The Japan International Cooperation Agency (JICA) is an executing agency of Japanese Official Development Assistance (ODA). In accordance with its vision of “Inclusive and Dynamic Development,” JICA supports developing countries by solving development issues and challenges with use of various aid modalities and methodologies. Among the methods, we expect space technology to enhance the effectiveness and efficiency of its development activities especially based on the partnership agreement between JICA and Japan Aerospace Exploration Agency (JAXA) signed in April 2014.

We have been applying space technology in our projects. For example, we supported the government of Gabonese Republic to develop its capacity of monitoring its forest resources and sustainable forest management through the utilization of satellite information of Advanced Land Observing Satellite-2 “DAICHI-2” (ALOS-2) with the support of JAXA (“Project for enhancing national forest resources inventory system contributing to sustainable forest management”). Furthermore, we anticipate the utilizing of space technology in many different sectors such as disaster risk management, water and natural resources management, topographic and time series mapping agriculture, fishery and so on in the future.

We recognize the APRSAF provides us with good opportunities to exchange information of the latest space technology and its demands in addition to other development agencies’ projects utilizing space technology. Under the theme entitled “Sharing Solutions through Synergy in Space” of this APRSAF, we continue the dialog with important players of space sectors and find the way for further “Inclusive and Dynamic Development” of developing countries.

Finally, we wish continuous outstanding success of APRSAF and expect that it will be the platform of collaboration as well as sharing the knowledge among universities, research institutions, private sectors and concerned agencies for the further consolidation which leads to development of the Asia-Pacific Region.

MESSAGE TO APRSAF COMMUNITY MEMBERS

Kunihiro Yamauchi
Director General, Global Environment Department, Japan International Cooperation Agency (JICA)

APRSAF CALENDAR

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We welcome your updates on space-related activities and also your comments and suggestions to the APRSAF Secretariat.

For further information about APRSAF, please visit http://www.aprsaf.org