



Department of Biotechnology
Ministry of Science and Technology
Government of India

DBT



National Institute of
Advanced Industrial Science
and Technology

AIST

DBT - AIST International Laboratory for Advanced Biomedicine



Since Oct. 3, 2013

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Inauguration of DAILAB@IIT-Delhi

Background: DAILAB (DBT-AIST International Laboratory for Advanced Biomedicine) at the Biomedical Research Institute (BMRI), Tsukuba campus of the National Institute of Advanced Industrial Science & Technology (AIST), Japan is the first International laboratory in Life Sciences & Biotechnology. Emerged as a step up from bilateral MoU and aimed to promote close and effective research collaboration and networking, it was established on Oct 3, 2013. Signing and Opening Ceremony by AIST President, Dr. R. Chubachi and DBT Secretary, Prof. K. VijayRaghavan was also graced by the presence of Her Excellency Ms. Deepa Gopalan Wadhwa, Ambassador of India to Japan. DAILAB has been conducting basic to applied research on disease prevention and therapeutics for increasing the Quality of Life (with focus on old age and cancer) and has published **25 original research articles in high impact factor** International peer reviewed journals. <http://web.iitd.ac.in/~sundar/dailab>. In addition, DAILAB has been achieving its goals in training young talents by embarking on a variety of interesting and motivating educational and networking activities as described below.

❖ Highlights of activities (Oct 2013 - March 2016)

Imaging Workshops: DAILAB has been conducting one-week full residential training workshop for bioimaging that ranged from the principles of light microscopy to high-resolution imaging instructed by AIST experts with assistance from Nikon, Olympus, Zeiss and ATTO Corporations. Three workshops (Jan 19-25, 2014; Dec 9-14, 2014 and Jan 18-23, 2016) enrolling 20 young selected researchers in each workshop from countries including India, Malaysia, Thailand, Indonesia, Korea, China, Iran, Sri Lanka, Nepal, Nigeria and Russia have been successfully completed. Intensive lectures in the mornings by experts in the field were followed by hands-on microscope training in the afternoons. A tour to Leica and Zeiss showrooms in Tokyo was organized on the last day for providing a feel of connectivity of science to technology, and was thoroughly appreciated at all ends including organizers, trainees and industries. 30 young researchers from India were trained in this program. This year, a highlight of the third imaging workshop was a joint PIKNIKH with CHANEL on Dec 18, 2016 where scientists from AIST and CHANEL presented their research strategies and outcomes on the use of imaging technologies for functional cosmetics and health care.

3rd Imaging Workshop “Hands-on Training”



Poster Bar



Concluding Ceremony and Farewell



Poster Presentation Awards

- ◆ **DAILAB-STAR Program:** STAR (Student Training for Advanced Research) Program has been offering training in an International and highly organized environment for a period of 3-12 months. Several young researchers have been benefited by this program and many are currently enrolled. Some of them have opted to stay in Japan for long term degree courses.
- ◆ **DAILAB-DACTOR Program:** In order to Develop Application and Clinical Trial Oriented Research, DAILAB launched a new program called **DACTOR** program. The purpose of this program is to create opportunity for students and young researchers to meet medical doctors, academia & industry experts from diverse disciplines so that the broad innovative aspects of research could be conceived and discussed. The program has received high appreciation by 6 participants last year and will be continued for coming terms.
- ◆ **DAILAB-CAFÉ (Classroom for Advanced & Frontier Education):** Held once in about 6 weeks, **DAILAB-CAFÉ** provides relaxed CAFÉ-like environment for study and learning. It features an informal CAFÉ like atmosphere and free interaction over tea/coffee and snacks. Frontier topics selected for CAFÉ talks are presented at an educational level, and being skyped to overseas institutions including IIT-Delhi, India; Peking Union Medical College Tsinghua University, China; Hanyang University, Korea and Brawijaya University, Indonesia. Thirteen CAFÉs have been completed.
- ◆ **DAILAB-CAFÉ-PLUS (Presentation-Learning for Young Scholars):** DAILAB has started a new forum of CAFÉ called **CAFÉ-PLUS**. The aim is to offer chance to Young Scholars to present their work and train them for “Clear, Crisp, Careful and Concise” presentations. Three CAFÉ-PLUS Series have been completed.
- ◆ **DAILAB-PIKNIKH (Platform for Innovating Knowledge to International Know Hows):** DAILAB has initiated a new forum of informal scientific meetings/symposia/sessions to be held in Japan and overseas to promote direct personal interactions, interdisciplinary thinking, innovating opportunities and to reach remote areas in India and the world. Eight series of PIKNIKH have been successfully completed and thoroughly enjoyed.
- ◆ **DAILAB-SISTERS:** DAILAB has initiated **SISTER (Satellite Institutes for Special Training Education and Research)** labs to further promote joint research and training programs.
- ✧ First SISTER DAILAB was launched at the Indian Institute of Technology Delhi (IIT-Delhi) on November 04, 2015 by Dr. Renu Swarup, Senior Adviser, Department of Biotechnology (DBT), Government of India, in the presence of Prof. R. Chidambaram, Principal Scientific Advisor to Govt. of India and AIST delegation. Five IIT-D faculty members, Dr. D. SUNDAR, Dr. V. KOUL, Dr. R. KULSHRESHTHA, Dr. R. ELANGOVAN and Dr. V. PERUMAL have joined SISTER DAILAB@IIT-D and will contribute to its research and networking activities by their diverse expertise. IIT-D has announced support to this SISTER DAILAB in several ways. On the same day November 04, 2015, an Indian delegation led by Dr. Harsh Vardhan, Hon'ble Union Minister for Science & Technology along with officials from the Embassy of India in Japan, visited the DAILAB@AIST in Tsukuba, Japan. Dr. Vardhan launched the DAILAB website from DAILAB@AIST Tsukuba on this occasion.
<http://web.iitd.ac.in/~sundar/dailab>

Inauguration of SISTER DAILAB@IIT-Delhi and Launching of DAILAB Website



❖ Second SISTER DAILAB was inaugurated at the Regional Centre for Biotechnology (RCB, an academic institution of DBT with global partnership with UNESCO to support world class education, training and research). Dr. S Sinha, Executive Director, RCB inaugurated the laboratory niche along with Dr. Y. Kamagata, Deputy Director General, AIST, Y. Ohmiya, Director, BMRI-AIST and Dr. Madhan Mohan, Adviser, DBT. Dr. Sukhdeb Sinha, Adviser, DBT and faculty from AIST and RCB made presentations on this occasion and interacted for future collaboration.



◆ **DAILAB-TENJI (Teachings/Technology Exhibits & Networking to Jump to Innovation/Industrialization):** DAILAB has been participating in industrial trade fairs held in India and Japan to skill technology exhibiting and networking for innovation and industrialization. Some of these included (i) 21st International Engineering & Technology Fair (IETF) at Pragati Maidan, New Delhi, India and (ii) DBT Indian Pavilion at the BioTech Japan 2015 held at Tokyo Big Sight. In this term, DAILAB participated/hosted the following TENJIs.

❖ **Japan-India Innovation Seminar in Honour of HE Shinzo Abe, Prime Minister of Japan:** The seminar was hosted by the Japan External Trade Organization (JETRO) at the Taj Palace Hotel, New Delhi, India on December 11, 2015. Delegation led by AIST President Dr. Chubachi, Vice-President Dr. Matsuoka and members of DAILAB participated in the event. President Chubachi gave an introductory presentation of AIST and highlighted its partnership with DBT and IIT-Delhi as DAILAB@AIST and DAILAB@IIT-Delhi, respectively, in the area of health research.



❖ **Delegation lead by AIST Vice-President Dr. Matsuoka visited IIT-Delhi:** Dr. K. Gupta, IIT-D Officiating Director and Dr. S. Tuli, Dean (R&D) IIT-D welcomed the delegation on December 12th, 2015. Posters and technology exhibits by DAILAB@IIT-D were enjoyed by interactions and discussions. Collaboration in several projects were initiated.



◆ **DAILAB-JUKU (Join Universities for Kindering Youth):** DAILAB members have been offering training to young students in universities by serving as faculty in various workshops. In this term, Dr. R. Wadhwa and Dr. S. Kaul served as faculty in the IBRO/APRC school held at the Panjab University (Oct 28-30, 2015). Wadhwa has also been offering mentorship to IIT-Delhi students. Ms. Vidhi Malik and Ms. Anjani Singh are conducting their Ph.D. and M.S (Research) projects under joint mentorship of Dr. Wadhwa (AIST) and Dr. Sundar (IIT-Delhi). Regular MENTOR meetings are held through Skype to monitor the progress of students.



An academic cooperation MoU between Panjab University and Biomedical Research Institute, AIST, Japan was signed by Dr. A. K. Bhandari (Registrar, PU) and Dr. Y. Ohmiya (Director, BMRI).

◆ **DAILAB- DOSTI (Discover Opportunities for Science and Technology Innovation & Industrialization):**

✧ **Visit of Dr. Harsh Vardhan, Hon'ble Minister for Science & Tech. and Earth Sciences, India:**

Dr. Harsh Vardhan and members from the Department of Science & Technology (India), Department of Biotechnology (India), Embassy of India (Tokyo) visited DAILAB@AIST, Tsukuba on November 4th, 2015. AIST President Dr. Chubachi welcomed the delegation at his AIST-Tsukuba Head Quarter office. Overview of research at the Department of Life Sciences, an area of interest to the Hon'ble Minister, was delivered by Dr. Matsuoka, Vice-President. Dr. Chubachi himself guided the delegation to the DAILAB facilities. At DAILAB, Dr. Vardhan showed immense interest in the research topics as well as facilities. He very much enjoyed interacting with the International team of DAILAB.



✧ **Visit to CSIR, India:** A delegation led by AIST President Ryoji Chubachi was welcomed by Dr. Girish Sahni, Director General, CSIR & Secretary, DSIR and CSIR officials at the CSIR Science Centre, Lodhi Road, New Delhi on Dec 12, 2015. Presentations on AIST research policies, BMRI & DAILAB activities, and discussions on a new partnership for Science Innovation and Industrialization marked the event. Both institutions have mandate for developing science training for industrial research, and plan to collaborate closely by initiating new programs under an existing comprehensive MoU.





◆ DAILAB Executive Team

- Patron - N. Yumoto, Fellow, AIST
- Executive Director - Y. Ohmiya, Director, Biomedical Research Institute (BMRI)
- Coordinator - S. Kaul, Chief Senior Research Scientist, BMRI
- Leader - R. Wadhwa, Prime Senior Research Scientist, BMRI
- Fellow - Y. Onishi, Group Leader, Physiologically Active Substances Research Group, BMRI
- Fellow - M. Doi, Group Leader, Molecular Neurobiology Group, BMRI
- Fellow - R. Kurita, Group Leader, Nano Biodevice Group, BMRI

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