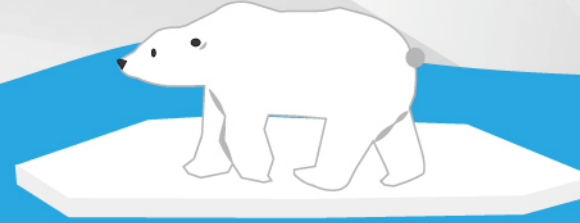


Report on the Asian School on Superconductivity and Cryogenics for Accelerators (ASSCA2017)

H. Nakai, Y. Hayashi, E. Kako, Y. Makida, T. Shidara,
J. Urakawa (KEK) and T. S. Datta (IUAC)



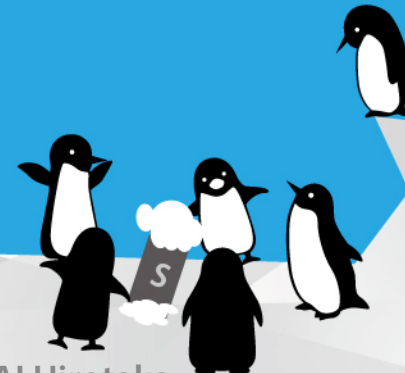
Overview (I)



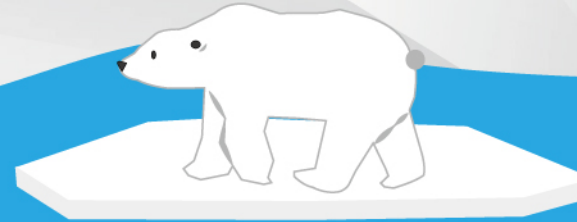
- Date : December 10-17, 2017
- Venue : High Energy Accelerator Organization (KEK), Tsukuba, Japan
- Registration fee : none (cv and recommendation required)
- Number of attendees : limited to 40 for effective hands-on training
- Contact :

E-mail: assca-office@ml.post.kek.jp

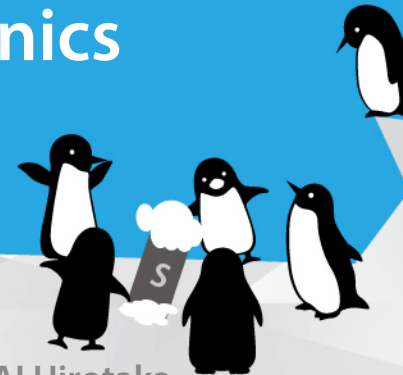
URL: <http://www-conf.kek.jp/assca/>



Overview (2)

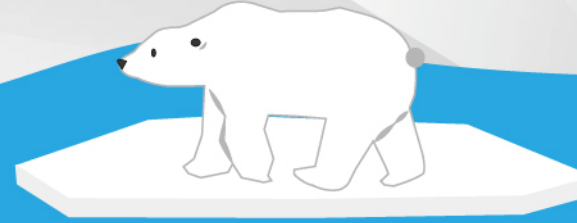


- Objectives :
 - To educate next generation who has possibility to contribute to future accelerators
 - To provide not only knowledge on superconductivity and cryogenics for accelerators but also experience on them through training
- Program
 - Lectures and training on superconducting cavities, superconducting magnets and Cryogenics



School Time Table (as of Nov. 13, 2017)

Time	Dec. 10, 2017 Sunday	Dec. 11, 2017 Monday	Dec. 12, 2017 Tuesday	Dec. 13, 2017 Wednesday	Dec. 14, 2017 Thursday	Dec. 15, 2017 Friday	Dec. 16, 2017 Saturday	Dec. 17, 2017 Sunday	Dec. 18, 2017 Monday
- 8:30	Arrival Day	Breakfast							
8:30 - 8:40 (10 min.)		Welcome	Information / Announcement					Excursion	Departure Day
8:40 - 10:10 (90 min.)		Introduction 1 (SC & Cryogenics)	SC Magnet (Theory 1)	SC Magnet (Eng. 2)	SC Cavity (Theory 2)	Special Talk 2 (SC Cavity)	Cryogenics (Eng. 1)		
10:10 - 10:30 (20 min.)		Group Photo	Coffee Break						
10:30 - 12:00 (90 min.)		Introduction 2 (Accelerator 1)	SC Magnet (Theory 2)	Special Talk 1 (SC Magnet)	SC Cavity (Eng. 1)	Cryogenics (Theory 1)	Cryogenics (Eng. 2)		
12:00 - 13:10 (70 min.)		Lunch							
13:10 - 14:40 (90 min.)		Introduction 3 (Accelerator 2)	SC Magnet (Eng. 1)	SC Cavity (Theory 1)	SC Cavity (Eng. 2)	Cryogenics (Theory 2)	Special Talk 3 (SC & Cryogenics)		
14:40 -15:00 (20 min.)		Coffee Break							
15:00 - 16:00 (60 min.)		Training A Introduction	Training A	Training B Introduction	Training B	Training C Introduction	Training C		
16:00 - 18:30 (150 min.)		Training A		Training B		Training C			
18:30 -		Welcome Party	Dinner				Banquet	Dinner	

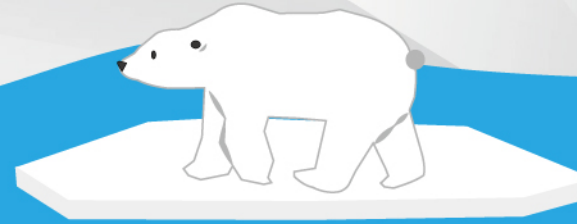


1. Funds from KEK
2. Foundation for High Energy Accelerator Science (FAS)
3. Balance brought forward from previous accelerator school
4. “Sakura Exchange Program in Science” of Japan Agency for Science and Technology (JST)
5. Contributions from companies in Japan and China



Contributing Companies

- Air Liquide Japan Ltd.
- Mayekawa Manufacturing Company
- Mitsubishi Heavy Industries Machinery Systems, Ltd.
- Nippon Advanced Technology Co., Ltd.
- Nomura Plating Co., Ltd.
- Okazaki Manufacturing Company
- Taiyo Nippon Sanso Corporation
- Tokyo Denkai Co., Ltd.
- Toshiba Electron Tube & Devices Co., Ltd.
- Vacree Technologies Co., Ltd.





- Introductory lectures (2 lectures)
- Lectures on theoretical and engineering aspects on superconducting cavities, superconducting magnets and cryogenics (10 lectures)
- Special topics on superconducting cavities, superconducting magnets and cryogenics (6 lectures)





Superconducting Cavities

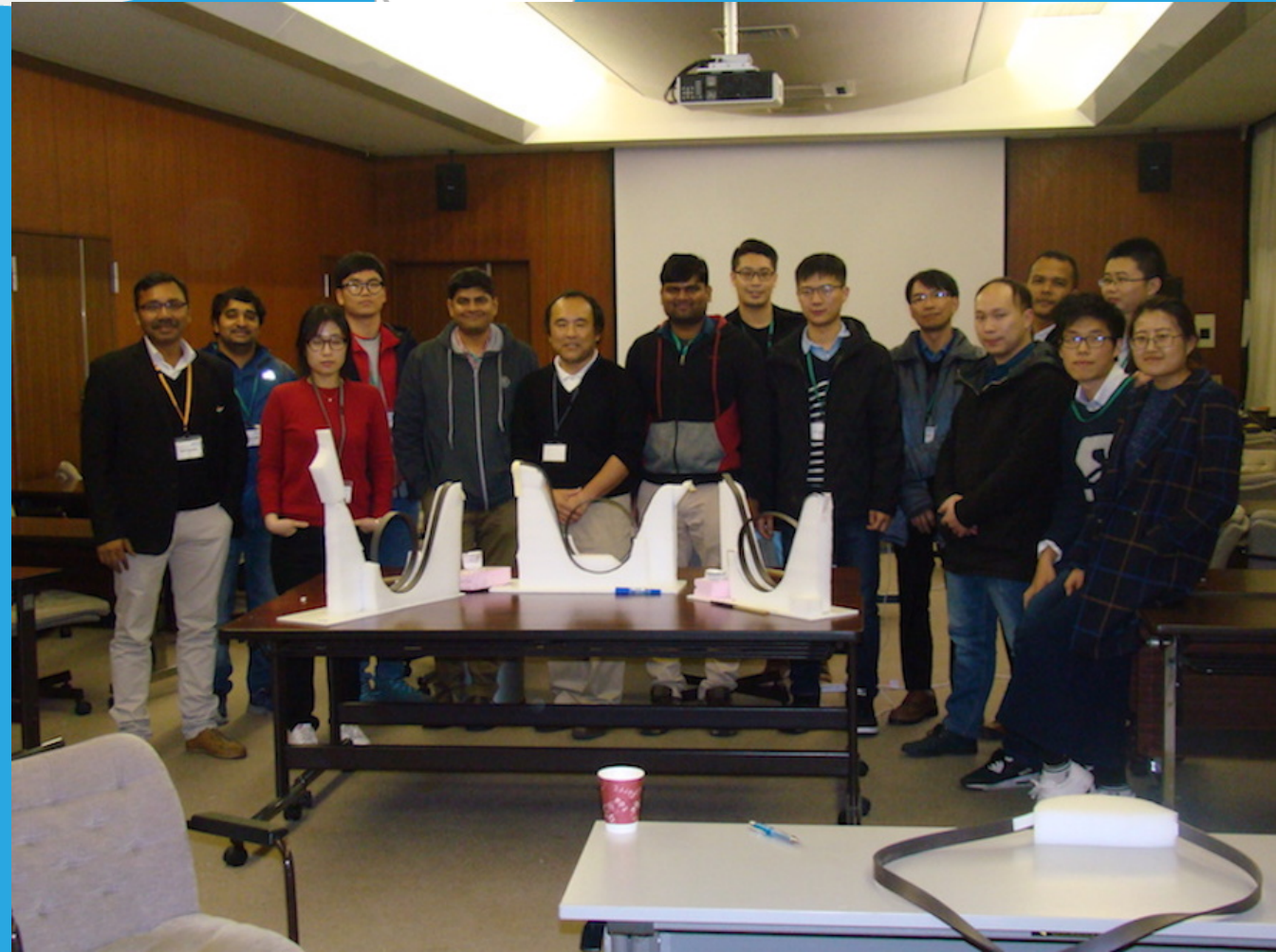
- RRR measurement of niobium
- Resonant frequency measurement of copper and niobium cavities at room temperature
- Q-factor measurement of copper and niobium cavities at room temperature





Superconducting Magnets

- Laboratory tour
(superconducting magnet facilities)
- Making of high T_c
superconducting maglev toy



Hands-on Trainings (3)



Cryogenics

- Scientific toys
 - Oxygen liquefaction with liquid nitrogen
 - High T_c superconducting coaster
 - Eddy current experience with various metals at different temperatures
- Production of superfluid helium
- Thermometry at low temperature



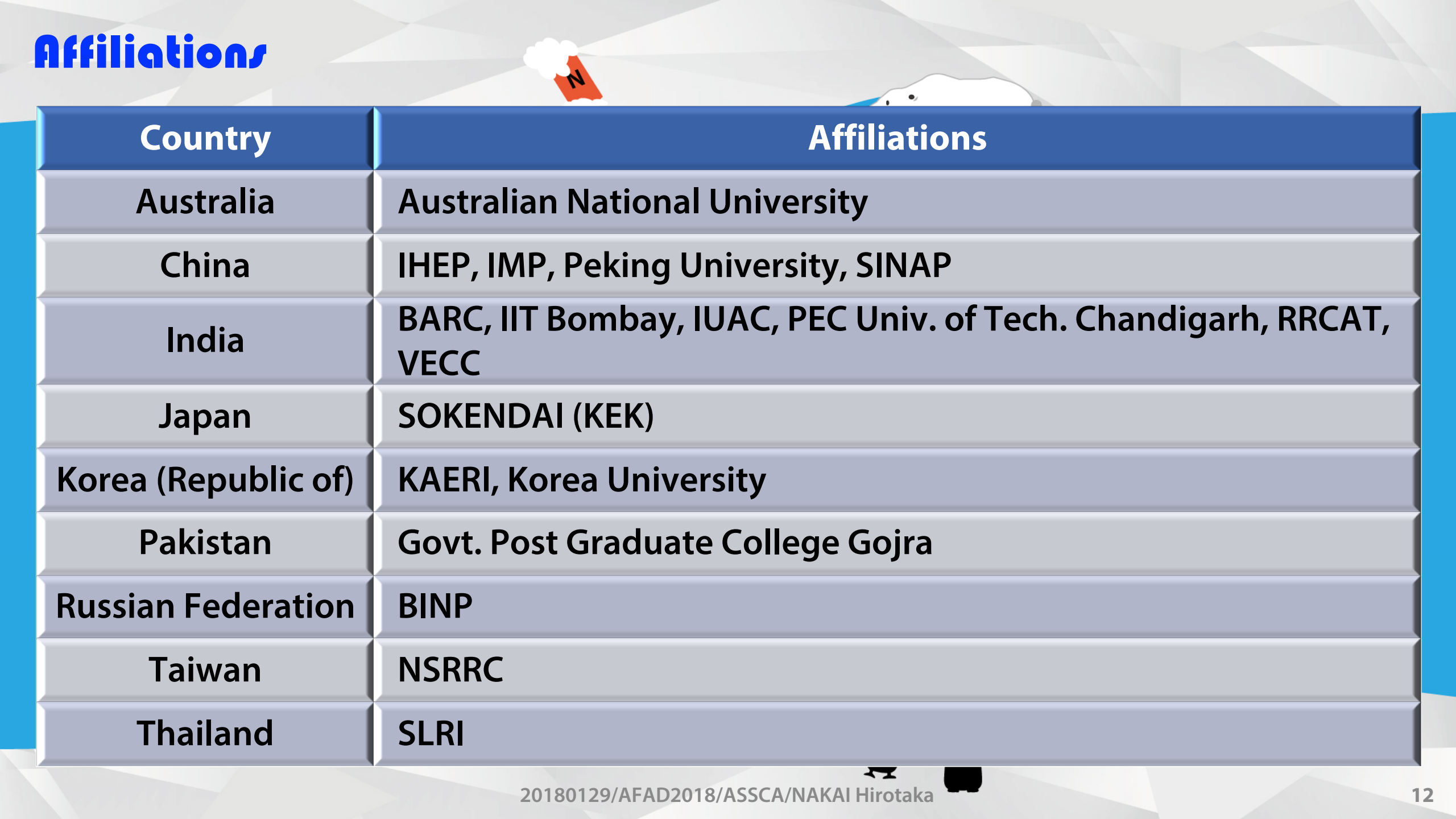
Countries



Country	Attendees	Lecturers	Total
Australia	1	0	1
China	15	1	15
India	10	2	13
Japan	1	12	13
Korea (Republic of)	4	0	4
Pakistan	1	0	1
Russian Federation	1	0	1
Taiwan	5	0	5
Thailand	4	0	4
Total	42	15	57



Affiliations



Country	Affiliations
Australia	Australian National University
China	IHEP, IMP, Peking University, SINAP
India	BARC, IIT Bombay, IUAC, PEC Univ. of Tech. Chandigarh, RRCAT, VECC
Japan	SOKENDAI (KEK)
Korea (Republic of)	KAERI, Korea University
Pakistan	Govt. Post Graduate College Gojra
Russian Federation	BINP
Taiwan	NSRRC
Thailand	SLRI



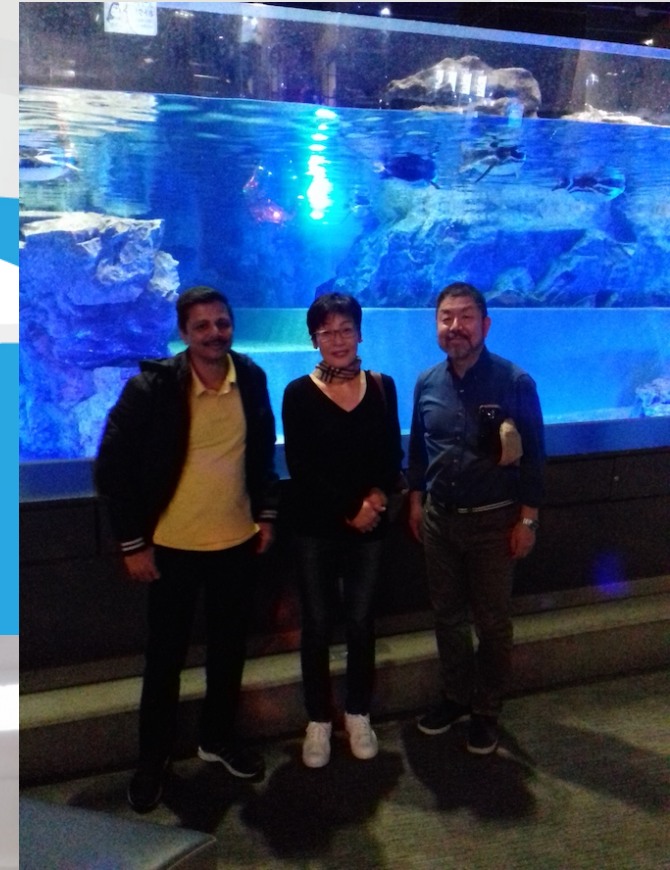
Position	Number of Attendees	Ratio [%]
Researcher / Scientist	15	36
Engineer / Technician	13	31
Postdoctoral	3	7
Graduate Student / Student	11	26
Total	42	100

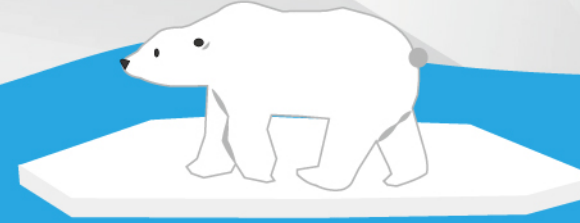


Banquet (optional)



Excursion (optional)





- Asian School on Superconductivity and Cryogenics for Accelerators (ASSCA) was successfully accomplished
- 42 attendees and 15 lecturers from 9 countries, including SOKENDAI students and staffs of KEK
- 18 lectures and 3 hands-on trainings offered on superconducting cavities, superconducting magnets and cryogenics
- More revenues than expenditures even without registration fee





Thank you for your attention