

Asian Forum for Accelerators and Detectors (AFAD) 2018

Sunday 28 January 2018 - Wednesday 31 January 2018

Daejeon Convention Center (DCC)

Conference Scientific Programme

AFAD 2018 Schedule [Download Program Here!](#)

Registration and reception (**DCC Room 201**)

January 28 17:00~ 20:00

January 29 (DCC Conference hall,

Room 301 for welcome remarks and plenary talks) 8:30~9:00 Registration 9:00~9:10 Welcome

remarks **Plenary session chair:** Youngjoon Kwon, Yonsei Univ. 09:10~9:40 Plenary talk "Status

and prospect of KEK" **Slides** Yasuhiro Okada KEK 9:40~10:10 Plenary talk "Status and Progress

with the High Energy Electron Positron Collider (CEPC)" **Slides** Xinchou Lou IHEP 10:10~10:40

Plenary talk "Operational Status of PLS-II and PAL-XFEL" **Slides** Dong-Eon Kim PAL-XFEL

10:40~11:10 **Photo session and Coffee break** 11:10~11:40 Plenary talk "Status of RAON

construction" **Slides** Young-Kwan Kwon RISP/IBS 11:40~12:10 Plenary talk "KAERI's

Developments of various medical/industrial/ agricultural/basic scientific electron accelerators"

Slides Yujung Kim KAERI 12:10~13:30 **Lunch time** 13:30~18:00 Parallel Sessions for Working

Groups (**Rooms 101 ~ 107**) 18:30~20:30 Forum Dinner (**DCC 2F Grand Ballroom**)

January 30 (DCC Conference hall, Room 301 for afternoon sessions) 9:00 ~ 12:00 Parallel

sessions for WG's (**Rooms 101 ~ 107**) 12:00 ~ 13:00 **Lunch time** 13:00 ~ 13:15 Summary of

WG1 **Slides** Park, Sungju PAL/POSTECH 13:15 ~ 13:30 Summary of WG2 **Slides** Lee,

Sehwook KNU 13:30 ~ 13:45 Summary of WG3 **Slides** Oh, Byung-Hoon KAERI 13:45 ~ 14:00

Summary of WG4 **Slides** Suk, Hyyong GIST 14:00 ~ 14:15 Summary of WG5 **Slides** Chung,

Moses UNIST 14:15 ~ 14:30 Summary of WG6 **Slides** Cho, Kihyeon KISTI 14:30 ~ 14:45

Summary of WG7 **Slides** Kwon, Hueok-Jung KAERI 14:45 ~ 15:15 **Coffee break Plenary**

session chair: Eunil Won Korea Univ. 15:15 ~ 15:45 Plenary talk "Korean Neutrino Observatory"

Slides Seon-Hee Seo Seoul Nat'l Univ. 15:45 ~ 16:15 Plenary talk " Computing for High Energy

Particle Physics" Geoff Taylor CoEPP, Australia 16:15 ~ 16:25 Introduction to sponsoring

companies **Slides** Jongwon Kim RISP/IBS 16:25 ~ 16:35 Closing remarks Director of RISP

RISP/IBS 16:35 ~ 18:30 **Laboratory tour (SRF Test Facility at Munji campus of KAIST)**

January 31 9:00 ~ 17:00 **Excursion in Gongju, Buyeo area (Bus in front of DCC)**

WG1: Accelerator and its related technologies for photon science. Room 101 January 29

Time Title Speaker Affiliation **Session 1 Chair: Dong-Eon Kim (PAL, Korea)** 13:30 - 13:55

Emittance Exchange Program at KEK STF **Slides** Masao Kuriki Hiroshima University, Japan

13:55 - 14:20 Status of Free Electron Lasers in SINAP **Slides** Bo Liu/ZHAO, Zhentang SINAP,

China 14:20 - 14:45 Sub-20-femtosecond timing jitter of PAL-XFEL **Slides** Chang-Ki Min PAL,

Korea 14:45 - 15:10 NOVOSIBIRSK FREE ELECTRON LASER FACILITY **Slides** Yaroslav

Getmanov Budker INP, Russia 15:10 - 15:40 **Coffee break Session 2 Chair: Dong-Eon Kim**

(PAL, Korea) 15:40 - 16:05 Free Electron Laser based Delhi Light Source Project at IUAC,

NewDelhi **Slides** Bhuban Kumar Sahu Inter University Accelerator Centre, India 16:05 - 16:30

Recent Results on X-ray Generation at LUCX **Slides** Junji Urakawa KEK, Japan 16:30 - 16:55

Development of Coherent THz Radiation Source and MIR-FEL in Thailand **Slides** Sakhorn

Rimjaem Chiang Mai University, Thailand 16:55 - 17:20 Accelerator R&D activities at PAL **Slides**

Jang-Hui Han PAL, Korea 17:20 - 17:45 Study of BINP damping ring performance with the streak

camera **Slides** Oleg Meshkov Budker INP, Russia **January 30 Session 3 Chair: Heung-Sik**

Kang (PAL, Korea) 9:00 - 9:25 Harmonic Lasing Self-seeded FEL at PAL-XFEL In-Hyeok Nam

PAL, Korea 9:25 - 9:50 THz generation and another activities at LUCX **Slides** Alexander S.

Aryshev KEK, Japan 9:50 - 10:15 Progress with the 100-mA CW RF Electron Gun for Novosibirsk

ERL FEL **Slides** Vladimir Volkov Budker INP, Russia 10:15 - 10:45 **Coffee break Session 4**

Chair: Heung-Sik Kang (PAL, Korea) 10:45 - 11:10 Status of the DIRAMS C-band standing-wave

accelerator for a radiotherapy machine **Slides** Heuijin Lim DIRAMS, Korea 11:10 - 11:35 The

Commissioning and Early User Operation of Dalian VUV Free Electron Laser **Slides** Weiqing

Zhang Dalian Institute of Chemical Physics, China 11:35 - 12:00 Structured Light from Helical

Undulators **Slides** Shunya Matsuba Hiroshima University, Japan **WG2: Detector technology**

development. Room 102 January 29 Time Title Speaker Affiliation **Session 1 Chair: Sehwook**

LEE (KNU) 13:30-13:50 Large GEM foil production using the double mask method Jason Lee

University of Seoul (UoS) 13:50-14:10 Ceramic GEM **Slides** Shoji Uno KEK 14:10-14:30

GEM-based polarimeter detector development for storage ring proton electric dipole moment

measurement **Slides** Seongtae Park CAPP/IBS 14:30-14:50 LAMPS GEM based TPC R&D

Slides Min Sang Ryu IBS 14:50-15:10 15:10~15:40 **Coffee break Session 2 Chair: Jason LEE**

(UoS) 15:40-16:00 liquid argon TPC for neutrino experiment **Slides** Ken Sakashita KEK

16:00-16:20 Liquid scintillator (neutrino) **Slides** Kyunggang Joo Chonnam National University

16:20-16:40 Dual readout calorimeter **Slides** Tohru Takeshita Shinshu University 16:40-17:00

NEOS Detector for Measuring Energy of Reactor Neutrinos **Slides** Young Ju Ko CUP/IBS
 17:00-17:20 On the limits of the hadronic energy resolution of calorimeters **Slides** Sehwook Lee
 Kyungpook National University (KNU) **January 30 Session 3 Chair: Seongtae PARK (CAPP/IBS)**
 9:00-9:20 The design and progress of the Central Detector of JUNO **Slides** Yuekun Heng
 Chinese Academy of Sciences 9:20-9:40 5µm-Pore Microchannel-Plate and its performance
Slides Shulin Liu Chinese Academy of Sciences 9:40-10:00 The performances of the 20 inch
 MCP-PMT in China **Slides** Sen Qian Chinese Academy of Sciences 10:00-10:20 **Coffee break**
 10:20-10:40 Research on Liquid Scintillator Cherenkov Detector **Slides** Ziyi Guo Tsinghua Univ
 10:40-11:00 PandaX-4T Dark Matter Detector **Slides** Jinkai Xia Shanghai Jiaotong Univ
 11:00-11:20 PandaX-III High Pressure Xenon TPC for the Neutrinoless Double Decay Search
Slides Shaobo Wang Shanghai Jiaotong Univ **WG3: Accelerator technologies for industrial &**
medical applications. Room 103 January 29 Time Title Speaker Affiliation **Session 1 Chair:**
Ken Takayama (KEK) 13:00-13:30 Present status of Cryomodule and Cryoplant for LIPAc
Slides K. Sakamoto ITER, Aomori Fusion Energy Center 13:30-14:00 Transmission- and
 Scanning- Muon Microscopy **Slides** Dr. Nagatani KEK J-PARC 14:00-14:30 Electron linacs for
 radiotherapy **Slides** Chuanxiang Tang/Hao Zha Tsinghua University/China 14:30-15:00 Proton
 Radiotherapy **Slides** Kuanjun Fan/Deming Li HUST/Sinap, China 15:00-15:30 Carbon Ion
 Radiotherapy Guoqing Xiao/Jiawen Xia IMP, China 15:30-16:00 **Coffee break Session 2**
Chair: Dr. Tang Chuanxiang (Tsinghua University) 16:00-16:30 Towards a Hadron Driver for the
 Next Generation of Cancer Therapy **Slides** Ken Takayama KEK, Japan 16:30-17:00 Full-Body
 PET Camera based on Liq. Xenon TPC technology **Slides** Prof. Tauchi KEK, Japan 17:00-17:30
 Compact radiation therapy machine with high power Laser system M.Y. Jung ETRI, Korea
 17:30-18:00 Physical design of the proton linac injector for the synchrotron based proton therapy
 system in China **Slides** Shuxin Zheng/Qingzi Xing Tsinghua University, China **January 30**
Session 3 Chair: B.H.Oh (KAERI) 9:00-9:30 Electron Accelerator (or neutrons) for radiography
 B.C. Lee KAERI/Korea 9:30-10:00 Medical Imaging and Therapy Radioisotope Production
 Techniques with High Current Cyclotrons **Slides** W. Gelbart, K. Butalag, RR Johnson Advanced
 System Design Ltd/TeamBest/U. of British Columbia 10:00-10:30 Start of mutation breeding
 research using ion beam in Korea **Slides** Si-Yong Kang KAERI/Korea 10:30-10:50 **Coffee break**
 10:50-11:20 Irradiation electron linacs **Slides** Huaibi Chen Tsinghua University/China **WG4:**
Innovative Accelerator Techniques. Room 104 January 29 Time Title Speaker Affiliation
Session 1 Chair: Kazuyoshi Koyama (Univ. of Tokyo, KEK) 13:40-14:05 Development of the
 laser driven ion injector for the new generation heavy ion cancer therapy machine **Slides** Kiminori
 Kondo QST, Japan 14:05-14:30 Compact charged particle accelerators for applications **Slides**
 Seong Hee Park Korea Univ. Korea 14:30-14:55 Ion acceleration by shock waves and
 pulse-recycling TNSA **Slides** Young-Kuk Kim UNIST, Korea 14:55-15:30 **Coffee break Session 2**
Chair: Seong Hee Park (Korea Univ.) 15:30-15:55 Novel laser-plasma electron acceleration
 experiments at SJTU based on ionization injection and two-color laser pulses **Slides** Nasr Hafz
 SJTU, China 15:55-16:20 Laser wakefield accelerator for medical application at KERI Jaehoon Kim
 KERI, Korea 16:20-16:45 Laser Plasma Acceleration using the evolution of plasma wave and
 nanoparticle **Slides** Myung-Hoon Cho IBS/CoReIS, Korea **January 30 Session 3 Chair:**
Yen-Chieh Huang (Tsing Hua Univ., Taiwan) 9:00-9:25 Recent studies on plasma-based
 acceleration at IHEP **Slides** Dazhang LI IHEP China 9:25-9:50 Researches on laser-driven
 electron accelerators in Japan **Slides** Kazuyoshi Koyama Univ. Tokyo/KEK, Japan 9:50-10:15
 Generation of ion beams with narrow energy spread from a metal-polymer double layer target
 irradiated by an ultraintense laser pulse Kitae Lee KAERI, Korea 10:15-10:40 **Coffee break**
Session 3 Chair: Dazhang Li (IHEP) 10:40-11:05 Opportunities of dielectric laser accelerator on
 high-brightness radiation **Slides** Yen-Chieh Huang Tsing Hua Univ., Taiwan 11:05-11:30
 Laser-plasma-based THz radiation sources and their applications **Slides** Hyyong Suk GIST,
 Korea 11:30-11:55 Radiation burst from laser-plasma interactions **Slides** Min Sup Hur UNIST,
 Korea **WG5: Accelerator and its related technologies for hadron (neutron) science. Room**
105 January 29 Time Title Speaker Affiliation **Session 1 Chair: Moses Chung (UNIST)**
 13:30-13:50 Upgrade of Hokkaido University neutron source (HUNS) **Slides** Michihiro Furusaka
 Hokkaido University 13:50-14:10 Status of the RIKEN Linac upgrade **Slides** Narushiko Sakamoto
 RIKEN 14:10-14:30 Challenge and status of HIAF Jiancheng YANG IMP 14:30-14:50
 Accelerator-driven compact neutron sources in Japan **Slides** Katsuya Hirota Nagoya University
 14:50-15:10 Design of 6 MeV compact cyclotron for neutron based safety inspection **Slides**

Jong-Seo Chai SungKyunKwan University 15:10~15:40 **Coffee break Session 2 Chair: Narushiko Sakamoto (RIKEN)** 15:40-16:00 Development of CW heavy ion linac at IMP Xuejun YIN IMP 16:00-16:20 A Plan for a Pulsed Neutron Source Based on the KOMAC 100-MeV Proton Linac **Slides** Hyuk-Joong Kwon KAERI 16:20-16:40 Development of BNCT at DawonSys **Slides** Dong-Soo Kim DawonSys 16:40-17:00 Current Status of a SC-ECRIS of the Rare Isotope Science Project -Low field experiment with 18GHz MW power **Slides** Yong-Hwan Kim RISP/IBS 17:00-17:20 Compact neutron source Development with SKKUCY-13 Cyclotron Mitra Ghergherehchi SungKyunKwan University **January 30 Session 3 Chair: Jiancheng Yang (IMP)** 9:00-9:20 Construction and Preliminary Beam Test of RISP 81.25 MHz CW RFQ for Heavy Ions **Slides** Bum-Sik Park RISP/IBS 9:20-9:40 The current status and future plans of Versatile Ion Beam Accelerator Facility **Slides** B. S. Lee KBSI 9:40-10:00 BEST 70P Cyclotron beam commissioning at LN Legnaro **Slides** Vladimir Ryjkov Best Cyclotron Inc. 10:00-10:30 **Coffee break** 10:30-10:50 Status of an Electron Beam Ion Source for Charge Breeding for RISP **Slides** Young-Ho Park RISP/IBS 10:50-11:10 An X-band Compact Electron Linac Development for a Neutron Radiography **Slides** Seung-Wook SHIN SungKyunKwan University **WG6: Network & Computing. Room 106 January 29 Session 1 Chair: Tomoaki Nakamura** Time Title Speaker Affiliation 13:30-13:50 Networking and Computing in China **Slides** Fazhi Qi IHEP, China 13:50-14:10 Grid Deployment at KEK: Status and Plan **Slides** Go Iwai KEK, Japan 14:10-14:30 Networking in Korea **Slides** Buseung Cho KISTI, Korea 14:30-14:50 Computing in Korea **Slides** Kihyeon Cho KISTI, Korea 14:50-15:10 Status report from Tokyo Tier2 at ICEPP **Slides** Tomoe Kishimoto ICEPP, Utokyo, Japan 15:10~15:40 **Coffee break Session 2 Chair: Kihyeon Cho** 15:40-16:00 Networking and Computing in Taiwan **Slides** Eric Yen ASGC, Taiwan 16:00-16:20 Networking and Computing in Thailand **Slides** Burin Asavapibhop Chulalongkorn University, Thailand 16:20-16:40 Belle II Computing **Slides** Doris Kim Soongsil U., Korea 16:40-17:00 CMS Tier-2 Dongchul Son KNU, Korea 17:00-17:20 GSDC@KISTI **Slides** Seo-Young Noh KISTI, Korea 17:20~17:50 Networks for High Energy Physics: LHCOPN and LHCONE **Slides** Edoardo Martelli CERN, Switzerland **January 30 Session 3 Chair: Buseung Cho** 9:00~9:30 Status report in TEIN **Slides** ByungKyu Kim TEIN*CC, Korea 9:30~10:00 NDN for Large-scale Scientific Data and Its Status on HEP **Slides** Huhnkuk Lim KISTI, Korea 10:00~10:30 CoEPP Tier 2 in Melbourne **Slides** Sean Crosby and Lucien Boland U. of Melbourne, Australia 10:30~11:00 **Coffee break Session 4 Chair: Gang Chen** 11:00~12:00 Discussion Gang Chen **WG7: Cryogenics, Cryomodule and Superconducting Technology for Accelerator. Room 107 January 29** Time Title Speaker Affiliation **Session 1 Chair: Hirotaka Nakai (KEK)** 13:30-13:50 Status of Vertical Test Facility for HWR and QWR at RISP **Slides** JuWan Kim RISP 13:50-14:10 Operation of Cryomodules for Chinese ADS Front-end Demo Linac Feng Bai IMP 14:10-14:30 Progress of CEPC cryogenic system **Slides** Jianqing Zhang IHEP 14:30-14:50 A plan of the HWR superconducting linac development at KOMAC **Slides** Han-Sung Kim KOMAC 14:50-15:10 The HWRs for Chinese ADS project Weiming Yue IMP 15:10~15:40 **Coffee break Session 2 Chair: H. J. Kwon (KAERI)** 15:40-16:00 Report on the Asian School on Superconductivity and Cryogenics for Accelerators (ASSCA2017) **Slides** Hirotaka Nakai KEK 16:00-16:20 Cryogenic system of the SuperKEKB IR final focusing SC magnets **Slides** Zhanguo Zong KEK 16:20-16:40 Introduction of PAPS cryogenic system **Slides** Shaopeng Li IHEP 16:40-17:00 Current status of cryomodule development for SCL3 of RAON **Slides** Minki Lee RISP **January 30 Session 3 Chair: Shaopeng Li (IHEP)** 9:00-9:20 Conceptual design of CEPC superconducting RF system **Slides** Jiyuan Zhai IHEP 9:20-9:40 Progress of cryomodule and cryoplant for IFMIF Prototype Accelerator **Slides** Keishi Sakamoto QST Rokkasho 9:40-10:00 Current status and challenges of cryogenic systems for RAON accelerator **Slides** Tae Kyung Ki RISP 10:0~10:30 **Coffee break**