

# Preface

March 10, 2017

The international Symposium on Multiparticle Dynamics (ISMD) is a series of major international physics conferences for theorists and experimentalists from three different, but closely related, communities, i.e., high energy, heavy-ion and astro-particle physics, with a common interest in reactions involving a large number of particles in the final state. The 46th International Symposium on Multiparticle Dynamics (ISMD2016)<sup>1</sup> was held from August 29 to September 2, 2016 at the Seogwipo KAL Hotel in Jeju Island, Republic of Korea. The symposium was hosted by a joint committee of the Korean nuclear, high-energy, and astrophysics communities. Total 99 researchers, including 39 young postdocs and students, from 17 countries were participated in ISMD2016.

During ISMD2016 total 63 plenary talks and 18 posters were presented in the following 9 subjects:

- Multi-particle correlations and fluctuations: from small to large systems
- Hadronic final state in high- $p_T$  interactions
- Forward physics and diffraction
- Perturbative and non-perturbative features of QCD
- Collectivity in high-energy collisions: jets, flows and others
- Proton structure, small and large- $x$  physics
- Cosmic ray and astroparticle physics
- Special Session I: Future facility
- Special Session II: Computing

For the first time in a series, the organizing committee set up the flash talk session in the first day of the symposium so that all poster presenters had a chance to speak about their original work in front of all participants. Especially, the Franco Rimondi Association in Italy generously donated 1,000 euros for the best poster award. The poster evaluation committee, chaired by Fabrizio Fabbri from INFN-Bologna, was formed. The committee members carefully evaluated all posters together with their flash talks, and finally selected Yeonju Go, Songkyo Lee and Jaebeom Park from Korea University and Myungkuk Kim from Pusan National University as co-winners. Each winner was awarded the certificate and the cash prize shared equally in the symposium banquet.

The members of Board of Elders (BoE) and the International Advisory Committee (IAC) not only provided useful guides to organize the symposium but also played a key role to select session conveners. Total 21 experimentalists and

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<sup>1</sup> <http://nuclear.korea.ac.kr/ismd2016>

theorists served as session conveners, who worked tirelessly to invite plenary speakers and set up the best scientific program.

The enormous contributions by members of the Local Organizing Committee (LOC) were greatly acknowledged in all aspects: from financial support to publication of proceedings. Many volunteer students, especially, from Korea University took care of the operational details in the whole period of the symposium. The staff members, Ms. Eunyong Choi in particular, from Asia Pacific Center for Theoretical Physics (APCTP) were also acknowledged for taking care of the registration.

We also wish to acknowledge generous supports from Korea University, Pusan National University, Jeju National University, Korean CMS Collaboration, Korean ALICE collaboration, APCTP, Rare Isotope Science Project (RISP), Korean Institute of Science and Technology Information (KISTI) and Global Science Data Center (GSDC).

Finally, we publish the proceeding contributions that have been subjected to peer review and accepted after reasonable revisions requested by conveners of each session.

The next ISMD will take place in the city of Tlaxcala, Mexico, in September 11-15, 2017.

Byungsik Hong (Korea Univ.) Chair

In-Kwon Yoo (Pusan Nat. Univ.) Co-chair

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Shinichi Esumi (University of Tsukuba, Japan)

### **Session Conveners**

- Multi-particle correlations and fluctuations: from small to large systems  
Ilya Selyuzhenkov, EMMI/GSI, Germany  
Soumya Mohapatra, Columbia University, USA  
Wei Li, Rice University, USA  
Grzegorz Wilk, National Centre for Nuclear Research, Poland  
Gabriel Silveira Denicol, Federal university Fluminense (UFF), Brazil
- Hadronic final state in high- $p_T$  interactions

Un-Ki Yang, Seoul National University, Korea  
Manjit Kaur, Panjab Uni, India  
Nicolas Greiner, Zurich University, Switzerland

- Forward physics and diffraction  
Christophe Royon, University of Kansas, USA  
Hans Jozef H Van Haevermaet, University Antwerpen, Belgium  
Francesco Hautmann, Oxford University, UK
- Perturbative and non-perturbative features of QCD  
Maxim Gouzevitch, Lyon, France  
Bowen Xiao, Central China Normal University, China
- Collectivity in high-energy collisions: jets, flows or other  
Yen-Jie Lee, MIT, USA  
Minjung Kweon, Inha University, Korea  
Wojciech Broniowski, Jan Kochanowski University, Poland
- Proton structure, small and large-x physics  
Matthias Grosse-Perdekamp, UIUC, USA  
Yoshitaka Hatta, Kyoto University, Japan
- Cosmic ray and astroparticle physics  
Maurizio Spurio, Universita di Bologna, Italy  
Martin Pohl, DESY, Germany  
Hang Bae Kim, Hanyang University, Korea