

- Institute for Protein Research, Osaka University Seminar Series 2017 -

Future of Hyper-Polarized Nuclear Spins

- State-of-the-Art DNP Techniques -

Date: August 24 - 25, 2017

Venue: 1F Lecture Hall @ IPR, Osaka University

August 24 (Thu)

13:20-

Director's Address

Haruki Nakamura (IPR, Osaka Univ.)

Opening Remarks

Yoh Matsuki (IPR, Osaka Univ.)

13:30-15:30

• DNP Mechanisms : An Overview and Open Questions

Konstantin L. Ivanov (Russian Academy of Sciences, Russia)

• Current and Future Microwave Sources for MAS-DNP

Monica Blank (CPI Inc., USA)

• MAS-DNP at 16.4T and 30K; Instrumentation and Applications

Yoh Matsuki (IPR, Osaka Univ.)

16:00-18:00

• NMR for Material Science and Toward the Introduction of DNP

Hironori Kaji (ICR, Kyoto Univ.)

• MAS-DNP for Organic/Inorganic Hybrids

Daniel Lee (CEA, France)

• DNP Applied to Complex Biomolecules

Marc Baldus (Utrecht Univ., Netherland)

Banquet (18:00-20:00)

August 25 (Fri)

9:20-11:50

Facility Tour (Optional)(9:20-9:50)

• DNP of Irradiated Polyethylene and Revival of Structural Study Using Polarized Protons and Polarized Neutrons

Takayuki Kumada (MSRC, JAEA)

• High-Resolution DNP-MRI for Small Animal Imaging

Kazuhiro Ichikawa (Faculty of Pharm., Nagasaki International Univ.)

• Continuous-Flow Type Production of Hyperpolarized ^{129}Xe and Its Application to Preclinical MRI

Atsuomi Kimura (Med. Sc., Osaka Univ.)

Lunch (11:50-13:30)

13:30-15:30

• DNP in Quantum Computing

Eisuke Abe (KRC, Keio Univ.)

• Polarization in Particle and Nuclear Physics

Tomohiro Uesaka (Nishina Center, RIKEN)

• Toward Applications of Triplet-DNP

Makoto Negoro (Grad. Eng. Sci., Osaka Univ.)

16:00-18:00

• Magnetic Resonance Force Microscopy and Diamond-Based DNP

Hiroki Takahashi (JEOL RESONANCE Inc.)

• Working with Parahydrogen: Opportunities for the Future

Simon Duckett (Univ. York, UK)

• Time Domain DNP

Robert G. Griffin (Mass. Inst. Tech., USA)

Organizers:

Yoh Matsuki (In-Chief, IPR Osaka Univ.), Hiroki Takahashi (JEOL RESONANCE Inc.), Toshimichi Fujiwara (IPR Osaka Univ.)

Hosted by: Institute for Protein Research, Osaka University

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