HyMaR: Hyperpolarization Methods in Magnetic Resonance

Friday, 27th May 2022, Online on Zoom

Nuclear magnetic resonance methods are widely recognized as powerful analytical tools in chemical, physical and biomedical sciences. Hyperpolarization methods aim to overcome the inherent low sensitivity of magnetic resonance methods by generating a non-Boltzmann distribution of the nuclear spin energy levels. The enormous increase in sensitivity (up to 5 orders of magnitude) holds promise to power new discoveries in chemical, pharmaceutical and material sciences as well as in medicine. In this meeting, we bring together a set of leading experts in the field to discuss the latest exciting developments across a variety of hyperpolarisation methodologies including PHIP, SABRE, solid-state DNP, dissolution-DNP and more.

Scientific Program (Central European Time)

09:50-10:00		**Welcome**
10:00-10:30	Lyndon Emsley	*MAS DNP*
10:30-10:50	Dominik J. Kubicki	*Polarizing agents for MAS DNP*
10:50-11:10	Giulia Mollica	*Monitoring crystallization processes with NMR and DNP*
11:10-11:20		**Coffee Break**
11:20-11:50	Francesca Reineri	*Application of hydrogenative-PHIP to biologically relevant substrates*
11:50-12:10	Stefan Glöggler	*Rapidly enhanced metabolites to study the effect of proteinopathies*
12:10-12:30	Laurynas Dagys	*Deuteron decoupling in para-hydrogen induced polarization at low magnetic fields*
12:30-13:00	Simon Duckett	*Using SABRE to explore reactivity*
13:00-14:30		**Lunch Break**
14:30-14:50	Marco Tessari	*Enantiomeric Discrimination via non-hydrogenative Parahydrogen Induced Polarization*
14:50-15:10	Eduard Chekmenev	*SABRE-SHEATH hyperpolarization of pyruvate and other structurally similar biomolecules*
15:10-15:20		**Coffee Break**
15:20-15:50	Benno Meier	*Bullet-Dynamic Nuclear Polarization*
15:50-16:10	Andrea Capozzi	*A 320 km hyperpolarization journey: performing [U-13C, d7]-glucose DNP in Copenhagen and hyperpolarised 13C-MR in Aarhus*
16:10-16:30	Tomas Orlando	*Polarization transfer mechanisms in liquid state DNP via Overhauser effect*
16:30-16-40		**Coffee Break**
16:40-17:00	Claudia E. Avalos	*Hyperpolarisation with NV-centres in diamonds*
17:00-17:20	Tim R. Eichhorn	*Hyperpolarised solution-state NMR via the intermolecular Nuclear Overhauser effect using optically polarized crystals*
17:20-17:40	Marilena di Valentin	*Light-induced pulsed dipolar EPR spectroscopy based on electron spin hyperpolarization for distance and orientation analysis*
17:40-18:00		**Closing Remarks**

Scientific and Organising Committee

Salvatore Mamone, Gabriele Stevanato
Giuseppe Pileio, Maria Concistrè

To Participate:

Register for free at: www.gidrm.org by midnight 15 May 2022
Contacts: g.pileio@soton.ac.uk
A Zoom link will be provided by e-mail before the event

MAX-PLANCK-INSTITUT FÜR MULTIDISZIPLINÄRE NATURWISSENSCHAFTEN

University of Southampton

Organised with the support of:

GIDRM Gruppo Italiano Discussione Risonanze Magnetiche