58th Rocky Mountain Conference on Magnetic Resonance
Solid-State NMR Symposium
Poster Presentations

Monday, July 18: 7:30-9:30 p.m. (Authors Present for Posters Labeled A)

Tuesday, July 19: 7:30-9:30 p.m. (Authors Present for Posters Labeled B)

A	**Aluminum for Solution-processed Oxide Dielectrics.** Yvonne Afriyie, Washington University in St. Louis
B	**Cryogenic Technology for In-Cell Structural Biology with Dynamic Nuclear Polarization NMR.** Nicholas Alaniva, Washington University in St. Louis
A	**DNP MAS NMR with Novel Cryogenic Technology.** Nicholas Alaniva, Washington University in St. Louis
B	**Ceramics for Waste Encapsulation: Insight into Composition, Structure and Disorder Using Solid-State NMR and DFT Calculations.** Sharon Ashbrook, University of St. Andrews
A	**Effects of Steric Hindrance and Electron Relaxation on DNP Enhancement at High Field.** Claudia Avalos, Ecole Polytechnique Fédérale de Lausanne Institut des Sciences et Ingénierie Chimiques
B	**Solving Crystal Structures from Powder NMR Crystallography.** Maria Baias, New York University Abu Dhabi
A	**A Sensitive Sample for a More Accurate NMR Thermometer.** Guy Bernard, University of Alberta
B	**Synthesis, Enrichment and Solid-State NMR Characterisation of ADORable Zeolites.** Giulia Bignami, University of St. Andrews
A	**Structure and Sodium Ion Dynamics in Na doped $SrSiO_3$ Investigated by Multinuclear Solid-State NMR.** Frédéric Blanc, University of Liverpool
B	**NMR Meets Dark Matter: The Cosmic Axion Spin Precession Experiment (CASPEr).** John W. Blanchard, Helmholtz-Institut Mainz
A	**DNP MAS Applied to Natural Calcifications: the Study of Microgram-Samples and Revisiting GIPAW Calculations of Calcium Oxalates.** Christian Bonhomme, Universite Pierre et Marie Curie
B	**Characterization of Elastic Interactions in GaAs/Si Composites by Optically Pumped Nuclear Magnetic Resonance.** Clifford Bowers, University of Florida

A	**Application of Advanced Catalytic Nanomaterials Engineering to Parahydrogen Induced Polarization.** Clifford Bowers, University of Florida
B	**Minimizing the Effects of RF Inhomogeneity and Phase Transients Allows Resolution of Two Peaks in the ^{1}H CRAMPS NMR Spectrum of Adamantane.** Darren Brouwer, Redeemer University College
A	**Towards NMR Crystallography of Materials with Multispin Networks.** Darren Brouwer, Redeemer University College
B	**Structure Elucidation of Amorphous Photocatalytic Active Polymers from Dynamic Nuclear Polarization Enhanced Solid State Nuclear Magnetic Resonance.** Nick J. Brownbill, University of Liverpool
A	**Novel Quasi-Optical Components for DNP and Frequency Swept EPR of Diamonds.** Anne Carroll, Yale University
B	**Direct Interrogation of a Quinonoid Intermediate in PLP-Dependent Tryptophan Synthase.** Bethany G. Caulkins, University of California Riverside
A	**New Developments in Solid-State Dynamic Nuclear Polarization at High-Field, High-Temperature and Fast Magic Angle Spinning.** Sachin Rama Chaudhari, Centre de RMN à Très Hauts Champs, Institut des Sciences Analytiques
A	**$^{13}CO_2$ chemisorption (for "Carbon Capture") on Solid Amine Sorbents by ^{13}C, ^{15}N CPMAS and REDOR.** Chia-Hsin Chen, Washington University in St. Louis
B	**Carbon Capture and Storage – Geosequestration of $^{13}CO_2$ with Sintered Forsterite Sample Monitored by Solid-State NMR.** Jinlei Cui, Washington University in St. Louis
A	**Study of Singlet Fission in Pentacene: C60 Photovoltaic Devices Using Magnetic Resonance Force Microscopy (MRFM).** Elizabeth Curley, Cornell University
B	**Accessing the Structure of Well-defined Grafted Catalysts with Experimental and First Principles ^{17}O Solid-State NMR Methodology.** Laurent Delevoye, CNRS - UCCS UMR 8181
A	**Satellite Transition Selective ^{27}Al/^{1}H Proton-detected *D*-HMQC Experiment at Ultrafast MAS for the Determination of Quadrupolar Coupling Constants.** Nghia Tuan Duong, RIKEN Yokohama
B	**Flexibility and Solvation of Amyloid-β Hydrophobic Core.** Isaac Falconer, University of Colorado Denver
A	**Quantifying Proton Dynamics in Phosphate Solid Acids Below the Superprotonic Transition Temperature.** Gabrielle Foran, McMaster University

B	**Thin Ice Under Pressure on Graphene: A Theoretical NMR Study.** Uwe Gerstmann, University of Paderborn
A	**Visualization of Steady-State Ionic Concentration Profiles Formed in Electrolytes During Li-Ion Battery Operation a by In-Situ Magnetic Resonance Imaging.** Gillian R. Goward, McMaster University
B	**Structure and Intermolecular Interface of CAP-Gly Domain on Polymeric Microtubules Determined by Magic Angle Spinning NMR Spectroscopy.** Changmiao Guo, University of Delaware
A	**Surface Organometallic Chemistry and Dynamic Nuclear Polarization Surface Enhanced NMR Spectroscopy. When MCM41 is the Mediator!** Andrei Gurinov, King Abdullah University of Science and Technology
B	**New Frontiers in Solid-state NMR Spectroscopy and Synthesis of Group 13 Clusters and Thin Films.** Blake A. Hammann, Washington University in St. Louis
A	**A Multinuclear Solid-State NMR and GIPAW DFT Approach Towards the Evaluation of the Proposed Structural Motifs of Vaterite.** John V. Hanna, University of Warwick
B	**Characterization of the Surface of Silicon Nanoparticles by Solid-State NMR.** Michael P. Hanrahan, Iowa State University
A	**Distinguishing Between COOH, COO^- and H Disordered COOH Moieties with ^{13}C Shift Tensor and T_1 Data.** James K. Harper, University of Central Florida
B	**Fragment-Based Electronic Structure Approach for Computing Nuclear Magnetic Resonance Chemical Shifts in Molecular Crystals.** Joshua D. Hartman, University of California Riverside
A	**Detection of Active Pharmaceutical Ingredients in Dosage Forms using DNP-Enhanced ^{35}Cl Solid-State NMR Spectroscopy.** David Hirsh, University of Windsor
B	**Multinuclear Solid-State NMR Study of an Unknown Gallophosphate.** Joseph E. Hooper, University of St. Andrews
A	**Gd^{3+} as Polarizing Agent at High Field: Solid Effect vs Cross Effect Dynamic Nuclear Polarization.** Monu Kaushik, Goethe University Frankfurt
B	**Design and Construction of ssNMR Probes for the Investigation of Oriented Solids and Liquids**. John E. Kelly, University of California Irvine
A	**Room-Temperature *in situ* Nuclear Spin Hyperpolarization from Optically-Pumped Nitrogen Vacancy Centers in Diamond.** Jonathan King, University of California Berkeley
B	**Atomic-scale Exploration of Catalyst Sufaces: Homonuclear Correlation Approach Using Dynamic Nuclear Polarization (DNP).** Takeshi Kobayashi, U.S. DOE Ames Laboratory

A	**^{29}Si and ^{17}O NMR for Structural Analysis of Silicon Oxycarbide Ceramics: Computational Investigations Enhancing Experimental Studies.** Peter Kroll, University of Texas Arlington
B	**Linking Microscopic Structural Rearrangement to Macroscopic Motion with NMR Crystallography.** Ryan Kudla, University of California Riverside
A	**Study of Proton and Carbon Hyperpolarization at Low Temperature With Different Radicals and Spin Concentrations.** Bimala Lama, University of Florida
B	**Dynamic Allostery Governs Cyclophilin A - HIV-1 Capsid Interplay.** Manman Lu, University of Delaware
A	**Multinuclear Solid-State NMR Structural and Dynamics Analyses of Modified Carbon Allotrope Systems.** Adam R. MacIntosh, McMaster University
B	**Solid-State NMR as a Probe for CO_2 Dynamics in Metal-Organic Framework (MOF) Materials and Characterization of Aluminum Carbide-Derived Carbons.** Robert Marti, Washington University in St. Louis
A	**Coupling Powder Diffraction, Electron Microscopy, Solid-State NMR and GIPAW Calculations: Structure and Dynamics of Inorganic Fluorides.** Charlotte Martineau-Corcos, ILV & CEMHTI
B	**A Tiered Approach to Biophysical ^{17}O Solid-State NMR: High Fields, Labelling and Dynamics.** Vladimir Michaelis, University of Alberta
A	**High Resolution Solid-State NMR Lighting of Alkali Borates Glasses Properties.** Valerie Montouillout, CNRS-CEMHTI
B	**Multi-nuclear Solid-State NMR in Photocatalytically Active Dion-Jacobson Triple-layered Perovskites.** Igor Moudrakovski, Max-Planck Institute for Solid State Research
A	**Solid-State NMR and NQR in Methylammonium Lead Iodide.** Igor Moudrakovski, Max-Planck Institute for Solid State Research
B	**Rapid Measurements of ^{15}N Paramagnetic Relaxation Enhancements in Cu(II)-EDTA Tagged Proteins.** Dwaipayan Mukhopadhyay, The Ohio State University
A	**Design of an RF Isolated Multiple-Sample NMR Probe.** Eric J. Munson, University of Kentucky
B	**Selective Excitation for Spectroscopic Assignment and Establishing Nearest-Neighbor Correlations in Solid-State NMR of Macroscopically Aligned Samples.** Alexander Nevzorov, North Carolina State University
A	**Characterizing Donor/acceptor Interfaces in Organic Photovoltaics via Solid-State NMR**. Ryan Nieuwendaal, NIST
B	**Mechanistic Study of the Solid-State Synthesis of a Zeolitic Imidazolate Framework Using Multinuclear SSNMR.** Christopher O'Keefe, University of Windsor

A	**The Study of PAH Aggregation of Compounds Using Relaxation, Cross Relaxation and Diffusion Coefficient Determined by NMR.** Temidayo Amos Orimolade, University of Lethbridge
B	**NMR Investigations of the Interactions Between Liquid Adsorbates and Metal Organic Frameworks.** Thomas Osborn Popp, University of California Berkeley
A	**Fluorescent DNP Polarizing Agents for Optical Localization.** Seong Ho Pahng, Washington University in St. Louis
B	**Cellulose Substrates and their Application to SS-NMR of Lithium Ion Batteries: A Case Study in Silicon Monoxide.** Allen D. Pauric, McMaster University
A	**Precise Structural Characterization of Heterogeneous Catalyst Surfaces by Combining DNP and Dipolar Recoupling.** Frédéric A. Perras, US DOE, Ames Laboratory
B	**Correlations Between Local Environments and ^{29}Si NMR Chemical Shifts in Hafnia-silica Glasses Computed by Density Functional Calculations.** Ilia Ponomarev, University of Texas at Arlington
A	**DNP-NMR Investigation of the Structure of Si-γ-Alumina Materials.** Andrew Rankin, University of St. Andrews
B	**A Structural Analysis of Asphaltenes Using NMR Spectroscopy Techniques.** Yeasmin Ratna, University of Lethbridge
A	**Rapid Acquisition of Wideline Solid-State NMR Spectra with Fast MAS and Proton Detection.** Aaron J. Rossini, Iowa State University
B	**Frequency Swept Microwaves for Hyperfine Decoupling and Time Domain DNP in Rotating Solids.** Edward P. Saliba, Washington University in St. Louis
A	**Proper Selection of Desired Coherence Transfer Pathways in Echo-train Acquisition.** Roman A. Shakhovoy, CNRS CEMHTI
B	**^{15}N Solid-State NMR of Surface Amine Groups for Carbon Capture.** Daphna Shimon, Washington University in St. Louis
A	**Static Dynamic Nuclear Polarization on Heteronuclear Samples: ^{1}H and ^{2}H with TEMPOL.** Daphna Shimon, Washington University in St. Louis
B	**NMR Analysis of an Unlabelled Peptide Based Nanocarrier and Cargo Complexes.** Inumidun Damilola Shotonwa, University of Lethbridge
A	**Investigation of Zeolitic Imidazolate Frameworks by Solid-State NMR Spectroscopy.** Scott Sneddon, University of St. Andrews

B	**Measuring Molecular Domain Sizes in Heterogeneous Polymers with Solid State NMR.** Eric G. Sorte, Sandia National Lab (for US DOE)
A	**Spinning Slowly for Highly Accurate Chemical Shift Tensors.** Sarah E. Soss, University of Utah
B	**Solid Electrolytes: Extremely Fast Charge Carriers in Single Crystalline Garnet-Type $Li_6La_3ZrTaO_{12}$.** Bernhard Stanje, Graz University of Technology
A	**The Effects of Point Mutations in Surfactant Protein B_{1-25} (SP-B_{1-25}) on Lipid Dynamics via ^{2}H and ^{31}P NMR.** Nhi Tran, University of Florida
B	**Solid-State NMR Studies of Aggregates of Cellular Prion Protein and Toxic Amyloid-β Oligomers.** Marcus Tuttle, Yale University
A	**Unraveling the Structure of beta-Endorphin Amyloid Fibrils.** Joeri Verasdonck, ETH Zurich
B	**Investigating Small- and Large-Scale Structure of $(CdSe)_{13}$(*n*-propylamine)$_{13}$ Nanoparticles Using Solid-State $^{113}Cd/^{77}Se$ CPMAS NMR and Computational Modeling.** Michael E. West, Washington University in St. Louis
A	**Cross-Polarization Phenomena in the NMR of Fast Spinning Solids Subject to Adiabatic Sweeps.** Sungsool Wi, National High Magnetic Field Laboratory
B	**Understanding the Gas Adsorption Properties in Metal-Organic Frameworks by Solid-State NMR.** Jun Xu, University of California Berkeley
A	**Homonuclear ^{19}F-^{19}F Double Quantum NMR Dynamics Studies in Proton-conducting Polymers.** Z. Blossom Yan, McMaster University
B	**Solid state ^{31}P and ^{1}H Magic Angle Spinning Micro-imaging on Biological Sample and Biomaterials.** Maxime Yon, CEMHTI-CNRS
A	**Protonation States and Reaction Specificity in Tryptophan Synthase from NMR Crystallography.** Robert P. Young, University of California Riverside