

**56th Rocky Mountain Conference on Magnetic Resonance
Solid-State NMR Symposium
Poster Presentations**

Monday, July 14: 7:30-9:00 p.m. (Poster Session A)

Wednesday, July 16: 7:30-9:00 p.m. (Poster Session B)

A	Nucleotide-Type Chemical Shift Assignment of the Encapsulated 40 kbp dsDNA in Intact Bacteriophage T7 by MAS Solid-State NMR. Gili Abramov, Tel Aviv University
B	New Concept in Solid-State NMR and New Methods. Jean Paul Amoureux, Lille University
A	¹³C NMR Spectra and T₁^C Analyses of Natural Rubber Rolled by MAS. Atsushi Asano, National Defense Academy
B	NO and H₂O Adsorption in Cu₃(btc)₂ type MOFs Investigated by ¹H and ¹³C Solid-State NMR. Marko Bertmer, Leipzig University
A	Solid-State NMR Characterisation of ¹⁷O-Enriched UTL-Derived Zeolites. Giulia P. M. Bignami, University of St Andrews
B	Probing Surface Sites With Solid-state NMR in Three-layer Dion-Jacobson Niobates Alkoxylated Using a Novel Microwave Irradiation Method. Joshua R Boykin, Clark University
A	Solid-State NMR Study of Zeolite Nucleation and Structure. Shelley L Brace, Keele University
B	Coexistence of Polar and Non-polar Phases in Relaxor Ferroelectrics as Evidenced by ²³Na NMR. Pedro Braga Groszewicz, Technische Universität Darmstadt
A	⁴³Ca Electric Field Gradient and Chemical Shift Tensors as Local Probes for Ligand-Metal Bonding in Calcium-Containing Materials. Kevin M. N. Burgess, University of Ottawa
B	Chemical Architecture, Molecular Flexibility, and Mechanical Performance in Protective Macromolecular Assemblies of Natural and Engineered Potato Periderms. Subhasish Chatterjee, City College of New York, City University of New York
A	Liquid and Solid-State NMR Study of Imidazolium Ionic-liquids Composed of BF₄⁻ and HF₂⁻ Anions Praveen Chaudhary, University of Lethbridge
B	Assessing the Performance of the Computationally-optimised FAM-N Conversion Pulses for MQMAS Experiments Under Challenging Conditions. Henri Colaux, University of St Andrews
A	Quadruple-Resonance (¹H/¹³C/²H/¹⁵N) 800MHz MAS NMR Probes. Kelsey A Collier, University of California Irvine
B	Investigating Host-Guest Interactions in Cu(II)-Based MOFs. Daniel M Dawson, University of St Andrews
A	Dynamic Nuclear Polarization facilities at 600 MHz / 395 GHz. Thierry Dubroca, National High Magnetic Field Laboratory
B	Investigations of the Electrochemical Cycling of Li(Ni_{1/3}Co_{1/3}Mn_{1/3})O₂ and Li(Li_{0.2}Mn_{0.54}Ni_{0.13}Co_{0.13})O₂ by 6Li MAS NMR. Mark J R Dunham, McMaster University

A	Athabasca Oil-Sands Asphaltenes: Using Solid-State NMR Spectroscopy to Characterize Molecular Structure and Aggregation in a Solvent-free Environment. Rudraksha Dutta Majumdar, University of Lethbridge
B	Distance Measurements Between ^7Li and ^{13}C Using Multiple Quantum Coherences. Uzi Eliav, Tel Aviv University
A	Investigation of the Mechanism and Influence of the Reaction Conditions on the Quality of Silver Nanoparticles Protected With Functionalized Random Copolymers of 4-vinylbenzyl Chloride. Farhad Faghihi, University of Lethbridge
B	Boron-arsenic Spin-pairs Featuring Large ^{75}As Quadrupolar Coupling Constants: Residual Dipolar Coupling Under ^{11}B MAS NMR Conditions and Breakdown of the High-field Approximation. Alexandra Faucher, University of Alberta
A	Solid-State NMR Studies of Immobilised Enzyme Systems. Nicole Fauré, University of Glasgow
B	Structure and Reactivity of a Heated Montmorillonite Clay Probed by ^{29}Si and ^{27}Al MAS NMR Spectroscopy. Nishant Garg
A	Influenza Virus Fusion Peptide: Detection of Semi-Closed Structure in Membranes and Correlation With Fusogenicity. Ujjayini Ghosh, Michigan State University
B	Analyzing the Geometry of Dynamic Process Based on Solid-State NMR Powder Line Shapes. Robert Graf, Max-Planck-Institute for Polymer Research
A	Center for NMR Spectroscopy and Imaging of Proteins. Christopher Grant
B	Ion Counting in Supercapacitor Electrodes using NMR Spectroscopy. John M Griffin, University of Cambridge
A	Structural Studies of HIV-1 Capsid Protein Assemblies by Sensitivity Enhanced Magic Angle Spinning NMR. Rupal Gupta, University of Delaware
B	Solid State ^{71}Ga NMR Study of the Nanoscale Inorganic Clusters $[\text{Ga}_{13-x}\text{In}_x(\mu_3\text{-OH})_6(\mu_2\text{-OH})_{18}(\text{H}_2\text{O})_{24}](\text{NO}_3)_{15}$ ($x = 1-6$). Blake A Hammann, Washington University in St. Louis
A	Monitoring Silica Nano-Particle Growth Inside Rubber Matrices via Real-Time HR-MAS NMR Spectroscopy and SAXS. Michael Ryan Hansen, Aarhus University
B	Including $^{14}\text{N}/^{13}\text{C}$ Distances Measurements in NMR Crystallography. Jim Harper, University of Central Florida
A	Using Solid-State NMR to Study Nanostructured Materials Designed for Energy Storage. Kris Harris, McMaster University
B	Optically-pumped NMR of Multiple Quantum Wells of GaAs/AlGaAs and Hanle Curve Measurements. Sophia E Hayes, Washington University
A	Probing Slow Chemical Exchange of Pyridine Molecules at Acid Surfaces by ^{15}N NMR. Felix Hemmann, BAM Federal Institute for Materials Research and Testing
B	Structural Characterization of Rare-Earth Nanoparticles. David Hirsh, University of Windsor

A	Frequency Agile Gyrotron for DNP and Electron Decoupling. Daniel E. M. Hoff, Washington University
B	Solid-State NMR Studies of Solid-Electrolyte Interphases in Rechargeable Li-ion Battery Materials. Yan-Yan Hu, University of Cambridge
A	Elimination of Artifacts in NMR Spectroscopy made “EASY”. Christian Jaeger, BAM Federal Institute for Materials Research and Testing
B	Novel Cross-Polarization Scheme Among Longitudinal Magnetizations Under Magic-Angle Spinning. Takayuki Kamihara, Kyoto University
A	Sensitive ¹H/^X/^Y and ¹H/^X MAS NMR Probes for Biological and Materials Applications. Jason A Kitchen, National High Magnetic Field Laboratory
B	Reclaiming Lost Cross-Polarization in Uniaxially Rotating Membrane Proteins. Sophie N Koroloff, North Carolina State University
A	Structure and Speciation in Borogallate, Boroaluminate and Borovanadate Glasses: The View from Multinuclear Magnetic Resonance. Scott Kroeker, University of Manitoba
B	First-Principles Nuclear Magnetic Resonance of ²⁹Si for Structural Analysis of Metal-Silicate Glasses. Peter Kroll, University of Texas at Arlington
A	Hyperpolarization Techniques for Small Metabolites Using Dissolution DNP Method With Polarization at 5 T and <1.2 K. Bimala Lama, University of Florida
B	EMSL: User Facility for Magnetic Resonance Applications Applied to Environmental Questions in Plants, Soils, and Radioactive Materials. Andrew S Lipton, Pacific Northwest National Laboratory
A	NMR Hardware Development for the 1.5 GHz Series-connected Hybrid (SCH) Magnet at the National High Magnetic Field Laboratory. Ilya M. Litvak, National High Magnetic Field Laboratory
B	Direct (non-CP) Dynamic Nuclear Polarization of Dilute ²⁷Al Surface Sites at 7 Tesla and Liquid Helium Temperatures. Alicia Lund, University of California Santa Barbara
A	Solid State ⁶⁹Ga and ⁷¹Ga NMR Study of Molecular Inorganic Clusters of Hydroxobridged Gallium Species. Zayd L Ma, Washington University
B	MELD: Modeling Employing Limited Data. Justin L MacCallum, University of Calgary
A	NMR Spectroscopy Applied to the Study of Actinide Interactions at Solid Surfaces. Harris E Mason, Lawrence Livermore National Laboratory
B	CODEX Investigation of Tackifier and Rubber Motion in Pressure Sensitive Adhesives. Mark McCormick, 3M
A	Solid-State ¹³C Nuclear Magnetic Resonance Studies of CO₂ Capture and Sequestration. Jeremy K Moore, Washington University in St. Louis
B	Capsid Model of the Intact M13 Filamentous Bacteriophage Virus From Magic-angle Spinning NMR and Rosetta Modeling. Omry Morag, Tel Aviv University

A	Detection of cis and trans Peptide Bonds in Peptides and Proteins by MAS Solid-State NMR Spectroscopy. <u>Dwaipayan Mukhopadhyay</u> , The Ohio State University
B	Predicting Stability of Amorphous Dispersions Using Solid-State NMR Spectroscopy and Molecular Dynamics Simulations. <u>Eric J. Munson</u> , University of Kentucky
A	A Biosilification Study of R5 Using ssNMR $^{15}\text{N}\{^{29}\text{Si}\}$ REDOR. <u>Moise Ndao</u> , University of Washington
B	Stochastic Liouville Equation in Oriented-Sample and MAS NMR. <u>Alexander A. Nevzorov</u> , North Carolina State University
A	Insight into Phosphate Sequestration and Recycling From Solid-State NMR Spectroscopy. <u>Ulla Gro Nielsen</u> , University of Southern Denmark
B	Probing Interfacial Structures in Organic Photovoltaic Blends via a Combination of ^1H Spin Diffusion and $^{13}\text{C}\{^2\text{H}\}$ REDOR Measurements. <u>Ryan Nieuwendaal</u> , NIST
A	First-principles Investigations of Silicon Oxycarbide: Using Computed ^{29}Si NMR to Determine Structural Details. <u>John P Nimmo</u> , University of Texas at Arlington
B	Finite-pulse Radio Frequency-driven Recoupling on ^1H at 100 kHz MAS. <u>Yusuke Nishiyama</u> , JEOL RESONANCE Inc.
A	Investigation of Chlorine Ligands in Transition-Metal Complexes Using ^{35}Cl SSNMR and First-Principles DFT Calculations. <u>Christopher A. O'Keefe</u> , University of Windsor
B	Analysis of Local Structure and Morphology of Silk II type <i>Bombyx mori</i> Silk Fibroin via the Solid-State 2D ^{13}C-^{13}C DARR and Relaxation Measurement. <u>Keiko Okushita</u> , Tokyo University of Agriculture and Technology
A	Using Paramagnetic Interactions in Solid-State MAS-NMR to Investigate Short-range Order/disorder and Site Occupancy in Geologic Materials. <u>Aaron C Palke</u> , Stanford University
B	MAS NMR Studies of the HIV-1 Gag Polyprotein Assembled into Virus-Like Particles. <u>Caitlin M Quinn</u> , University of Delaware
A	Investigation of Inorganic Catalysts by Multinuclear Solid-State NMR. <u>Andrew G M Rankin</u> , University of St Andrews
B	Identification of Electrochemical Reaction Products by ^7Li Nutation NMR. <u>Zoe E. M. Reeve</u> , McMaster University
A	Characterization of <i>S. aureus</i> Cell Walls with Uniform ^{13}C, ^{15}N Labeling and Selective REDOR. <u>David M Rice</u> , Stanford University
B	DNP Enhanced Solid-State NMR for Micro-Particulate Solids and Pharmaceutical Formulations. <u>Aaron J Rossini</u> , CRMN/ENS Lyon
A	Using ^{77}Se and ^{125}Te NMR Solid-State NMR to Study Chalcogen-containing Materials. <u>Paula Sanz Camacho</u> , University of St Andrews
B	A Natural Abundance ^{33}S STMAS NMR Study of Ettringite. <u>Akiko Sasaki</u> , University of Glasgow

A	Combined Solid-State NMR, DNP NMR and EPR Investigation on Polyelectrolyte Systems. <u>Ulrich Scheler</u> , Leibniz-Institut für Polymerforschung Dresden e.V.
B	New NMR Approaches for Measuring Domain Sizes in Multi-Component Solids. <u>Judith Schlagnitweit</u> , CRMN Lyon
A	Bulk Nuclear Hyperpolarization in Diamonds at High Magnetic Fields. <u>Eric Scott</u>
B	Magic Angle Spinning NMR Studies on THF Clathrate Hydrates. <u>Suvrajit Sengupta</u> , University of California Irvine
A	Mapping Water Populations in Pfl Bacteriophage by SSNMR. <u>Ivan V Sergeev</u> , Columbia University
B	Application of NMR Crystallography to the Investigation of Charge-Balancing Mechanisms in the Aluminophosphate STA-2. <u>Valerie R Seymour</u> , University of St Andrews
A	Histone H3 and H4 N-Terminal Tails in Nucleosome Arrays at Cellular Concentrations Probed by Magic Angle Spinning NMR Spectroscopy. <u>Matthew D Shannon</u> , The Ohio State University
B	Solid-State ²³Na and ⁷Li NMR Studies of Na Fluorophosphate Cathode Materials for Na-Ion Batteries. <u>Danielle L Smiley</u> , McMaster University
A	Lipid-induced Conformational Changes of Bacteriophage Coat Protein Pfl Reconstituted in Nanopore-supported Bilayers Revealed by ssNMR. <u>Alex I Smirnov</u> , North Carolina State University
B	A Method for the DNP Enhancement of Biomembranes. <u>Adam N Smith</u> , University of Florida
A	Application of WURST-echoes to Quadrupolar MAS Spectra. <u>Luis J Smith</u> , Clark University
B	Investigating the Cation Disorder and Phase Distribution in Y₂(Sn,X)₂O₇ (X = Hf, Zr) Using Solid-State NMR and First-principles Calculations. <u>Scott Sneddon</u> , University of St Andrews
A	New Immobilized Wilkinson's-like catalyst "Preparation, Solid State NMR Characterization, and Application." <u>Mohamad Srou</u> , Technische Universität Darmstadt
B	Nonuniform Sampling Methods for Enhanced Sensitivity in MAS NMR Spectra of High Dynamic Range and Studies of HIV-1 Maturation Intermediates. <u>Christopher L Suiter</u> , University of Delaware
A	Speeding up Data Acquisition and Obtaining Contrasting Information via the Use of Free Radicals in Oriented-Sample NMR. <u>Deanna M Tesch</u> , North Carolina State University
B	Solid-State NMR Studies of Amyloid Fibrils Formed by Y145Stop Prion Protein Variants. <u>Theint Theint</u> , Ohio State University
A	SSNMR Studies of the Conformation, Dynamics and Small-Molecule Interactions of Wild-Type and S31N Mutant Influenza M2 Proton Channels. <u>Daniel Tietze</u> , TU Darmstadt
B	A Solid-State NMR study of the Translocator Protein, TSPO. <u>Krisztina Varga</u> , University of Wyoming
A	Strategies for Optimizing the Acquisition of Ultra-Wideline ¹⁴N Solid-State NMR Spectra. <u>Stanislav L. Veinberg</u> , University of Windsor

B	Analyzing Synthetic Polymers by Dynamic Nuclear Polarization Solid-State NMR. Stéphane Viel, Aix-Marseille Université, CNRS, ICR UMR 7273
A	Solid-State NMR Insight into Halogen Bonds via Quadrupolar and Spin-Spin Coupling Constants. Jasmine Viger-Gravel, University of Ottawa
B	Solid-State NMR of Amino Acids, and the Origin of Life. Yali Wang, University of Nebraska at Lincoln
A	Optical Pumping NMR Investigations of CdTe Semiconductors Matthew Willmering, Washington University in St. Louis
B	Aβ(1-42) Fibril Structure Illuminates Propagation Barrier in Alzheimer's. Yiling Xiao, University of Illinois at Chicago
A	NMR Crystallography of a Photo-Intermediate in the Solid-state Crystal-to-Crystal Photo-Reaction of 9TBAE Chen Yang
B	Applications of Ultra Fast MAS NMR. Koji Yazawa, JEOL RESONANCE Inc.