



44th INTERNATIONAL EPR SYMPOSIUM
JULY 23-27, 2023
DENVER, COLORADO, USA

EPR SYMPOSIUM COMMITTEE

Dane McCamey (Chair)
Songi Han (Co-Chair 2023, Chair 2024)
Claudia Avalos
Christoph Boehme
Sandra Eaton
Mrignayani Kotecha
Petr Neugebauer
Shekar Ramanathan
Sunil Saxena

AGENDA

SUNDAY, JULY 23, 2023

Pre-Conference Activities	
12:30 PM - 2:300 PM	Workshop: Resonator Design (including OpenPCBLGR). Thorsten Maly, Bridge 12 Technologies, Inc.
2:45 PM – 4:45 PM	Workshop: EasySpin. Stefan Stoll, University of Washington
5:30 PM	Bruker EPR Users' Group Meeting at University of Denver

MONDAY, JULY 24, 2023

Metals in Biology	
8:55 AM	From Molecular-level EPR Data to Drug Development. Sharon Ruthstein, Bar Ilan University
9:25 AM	Application of Pulsed EPR Methods to Interrogate Structure-function Relationships within a Thiol Dioxygenase Enzyme-substrate Complex. Brad S. Pierce, University of Alabama
9:45 AM	Biological Radical initiation by Radical SAM Enzymes. Hao Yang, Northwestern University
Methods 2 Bio	
10:05 AM	Two-dimensional Reconstruction of Distance Distributions in Pulsed Dipolar Spectroscopy. Madhur Srivastava, Cornell University
10:25 AM	<i>Break</i>
10:45 AM	TBA. Glenn Millhauser,
11:15 AM	Capturing an Elusive Seconds-timescale Conformational Change using Cu(II)-based EPR Coupled with Atomistic MD Simulations. Xiaowei Bogetti, University of Pittsburgh
11:35 AM	Recent Advancements in DEER Sensitivity for Site-Directed Cu(II) Spin Labels. Josh Casto, University of Pittsburgh
11:55 AM	Molecular Determinants of the Sidechain Protonation State and T-Cell Receptor Assembly. Tatyana I. Smirnova, North Carolina State University
12:15 PM	<i>Lunch</i>
EPR Imaging	
1:30 PM	Biologic Confirmation of Pulse Spin Lattice Relaxation EPR pO₂ Images. Howard Halpern, University of Chicago
Spin Devices	
2:00 PM	Electrical Detection of Monochromatic Multi-photon Resonances in a Two-level Spin System Through Magnetic Resonance Spectroscopy with OLEDs. Sebastian I. Atwood, University of Utah
2:20 PM	Coherent Spin–Electric Coupling in Molecular Nanomagnets Revealed by EPR. Junjie Liu, University of Oxford
2:50 PM	<i>Break</i>
Materials II Bio	
3:20 PM	Native Membrane Environment Alters Protein Allostery and Structure in Outer Membrane Bacterial Transporters. David S. Cafiso, University of Virginia
3:50 PM	TBA. Gail Fanucci
4:10 PM	A DNA Unwinding Equilibrium Serves as a Checkpoint for CRISPR-Cas12a Target Discrimination. Peter Z. Qin, University of Southern California
4:30 PM	Application of T₁-edited DEER to Resolve Monomer- and Oligomer-specific Distances in β_1-adrenergic Receptor and Huntingtin Protein. Thomas Schmidt, National Institutes of Health
5:30-7:00 PM	<i>Conference Reception (included with registration)</i>
Posters	
7:00-9:00 PM	Authors Present for Posters Labeled A

Methods 2 Bio.	
8:45 AM	Evaluating Lung Redox Status in Acute Lung Injury: EPR Imaging as a Tool for Biomedical Research and Clinical Applications. Hanan Elajaili, University of Colorado Anschutz Medical Campus
9:15 AM	A 'Model Kit' for Understanding Orientational Selectivity in Cu(II)-based Distance Measurements. Zikri Hasanbasr, University of Pittsburgh
9:35 AM	Molecular Mechanism of Activation of AsLOV2: Role of Hydration Water? Shiny Maity, University of California Santa Barbara
9:55 AM	Estimation of Relaxation Times on the Coherent Pathways, $p = +1$ and $p = -1$, During Free Evolution on the SECSY Signal of an Electron-nuclear Spin-coupled System in a γ-irradiated Malonic Acid Single Crystal. Sushil. K. Misra, Concordia University
10:15 AM	<i>Break</i>
Spin Centres 1 - NV	
10:55 AM	14 T DNP and EPR of P1 Centers in Diamonds. Ilia Kaminker, Tel-Aviv University
11:25 AM	Diamond NVs as a Playground for Quantum Cavity-spin Dynamics at Ambient Conditions. Aharon Blank, Technion - Israel Institute of Technology
11:45 AM	Maser Threshold Characterization by Resonator Q-Factor Tuning. Christopher W. M. Kay, University College London, Saarland University
12:05 AM	Investigation of Intrinsic Linewidths in NV-detected ^{13}C NMR at 4.2 Tesla. <u>Yuhang Ren</u> , University of Southern California
12:25 PM	<i>Lunch</i>
1:30 PM	TBA. Victor Acosta
Spin centres 2 - Fission	
2:00 PM	Reversible Spin-Optical Interface in Luminescent Organic Radicals. Sebastian Gorgon, University of Cambridge, University of Oxford
2:20 PM	Quintet and Triplet Dynamics in Intramolecular Singlet Fission of Diphenylhexatriene Oligomers. Jeannine Grünen, University of Cambridge
2:40 PM	Transient EPR and Transient Absorption Spectroscopy of Pentacene-Nitroxide Derivatives. Trent A. McHenry, New York University
3:00 PM	<i>Break</i>
Spin Centre - Undefined	
3:30 PM	Developing Optically Addressable Molecular Qubits for Quantum Technologies. L.R.Weiss, University of Chicago, Tohoku University
4:00 PM	High-Field Pulsed EPR for Spin Population Transfer in a Gd^{3+} Molecular Crystal. M.V.H. Subramanya, National High Magnetic Field Laboratory, Florida State University
4:20 PM	ESR Characterization of Zero-Field Clock Transitions in Silica-Glass Defects. Brendan C. Sheehan, Amherst College, University of Massachusetts Amherst
4:40 PM	Spin-Electric Coupling in a Copper(II)-Based Spin Triangle Revealed by Electric-Field-Modulated Electron Paramagnetic Resonance Spectroscopy. Maria Fittipaldi, University of Florence
Posters	
7:00-9:00 PM	Authors Present for Posters Labeled B

WEDNESDAY, JULY 26, 2023

Materials I.	
8:55 AM	In situ EPR Investigation of Oxygen Vacancies Induced Ferrimagnetism in Metal Oxide Catalysts. Mikhail Agrachev, ETH Zurich
9:15 AM	EPR Study of Charge Transfer Co-crystals of Perylene/TCNQ, Anthracene/TCNQ and DBTTF/F4TCNQ. Raanan Carmiel, Weizmann Institute of Science
9:35 AM	Clock Transition and ESEEM in the Cr₇Mn Molecular Nanomagnet. Guanchu Chen, Amherst College, University of Massachusetts Amherst
9:55 AM	TBA
10:15 AM	<i>Break</i>
10:55 AM	Dinuclear Cr(III) Complexes with Uncommon Bridges and the Importance of the Biquadratic Exchange Interactions. Andrew Ozarowski, National High Magnetic Field Laboratory
11:15 AM	Multifrequency Electrically Detected Magnetic Resonance Setup based on a sub-THz FraScan Spectrometer. Artur Solodovnyk, Pennsylvania State University, Brno University of Technology
Methods I.	
11:35 AM	Patches and Pockets of Weird Water: New Frontiers for ODNP. John M Franck, Syracuse University
11:55 AM	Improving Sensitivity of Distance Measurements at Nanomolar Protein Concentrations using Double Quantum Coherence. Alysia Mandato, University of Pittsburgh
12:15 PM	<i>Lunch</i>
1:30 PM	Can Magnetic Resonance Force Microscopy Detect and Image Individual Nitroxide Spins? John A. Marohn, Cornell University
1:50 PM	Demonstration of Electrically Detected Magnetic Resonance and Near Zero Field Magnetoresistance in Packaged SiC MOSFETs. Colin G. McKay, Sandia National Laboratories
2:10 PM	Rapid scan ESR: A Versatile Tool for the Spin Relaxation Studies at (sub)THz Frequencies. P. Neugebauer, Brno University of Technology
2:30 PM	Time-Frequency Analysis of Two-Dimensional Electron Spin Resonance Signals. Gyana Ranjan Sahoo, Cornell University
2:50 PM	<i>Break</i>
3:30 PM	Photonic Band Gap Resonators for mm-Wave Pulsed EPR. Alex I. Smirnov, North Carolina State University
3:50 PM	Quasi-optical Sample Holder with Order-of-magnitude Improvement in Signal to Noise Ratio for a Frequency-agile Electron Magnetic Resonance Spectrometer Powered by Free-electron Laser. Antonin Sojka, University of California, Santa Barbara
4:10 PM	1 GHz EPR Imaging of Small Numbers of Nitroxide Spins Using Rapid Scan Direct Detection. Lukas B. Woodcock, University of Denver
7:00-9:00 PM	Conference Banquet & Awards Ceremony <i>(Enjoy an evening of comradeship, fine food and recognition of peers. Pre-registration required.)</i>
8:00 PM	Welcoming Remarks.
8:05 PM	TBA

THURSDAY, JULY 27, 2023

Methods 2 Bio.	
8:55 AM	Rapid-Scan-Enabled Time-resolved Gd-Gd EPR for “Filming” a Protein at Physiological Temperatures. Brad D. Price, University of California Santa Barbara
9:15 AM	A Simulation Independent Wavelet-Based Approach for cw ESR Spectral Analysis. Aritro Sinha Roy, Cornell University
9:35 AM	Site Directed Spin Labeling and Integrative Protein Modeling with chiLife. Stefan Stoll, University of Washington
9:55 AM	A Wavelet-based Approach to Background Correction in Pulsed Dipolar Spectroscopy. Karen Tsay, University of California Santa Barbara
10:15 AM	<i>Break</i>
EPR Imaging.	
10:45 AM	Oxygen Enhanced EPR Imaging for Evaluations of Radiotherapy in Preclinical Tumor Models. Mark D. Pagel, University of Texas MD Anderson Cancer Center
11:15 AM	Behind BBB: Trityl-based Oxygen Imaging of Systemic Neuroinflammation in Mice. Boris Epel, The University of Chicago
11:35 AM	Nondestructive, Longitudinal, 3D Cell Viability Assessment in a Multi-Well Plate System Using EPR Oxygen Imaging. Mrignayani Kotecha, O2M Technologies, LLC
11:55 AM	A Data Processing Approach for High Resolution Electron Spin Resonance Imaging. Nimesh Srivastava, Cornell University