



**57th INTERNATIONAL EPR SYMPOSIUM
JULY 26-30, 2015
Snowbird, Utah, USA**

EPR SYMPOSIUM COMMITTEE

Kurt Warncke (Chair)
John Morton (Co-Chair 2015, Chair 2016)
Ania Bleszynski-Jayich
Christoph Boehme
Boris Epel
Fraser MacMillan
John McCracken
Susumu Takahashi

AGENDA

SUNDAY, JULY 26, 2015

Pre-Conference Activities	
4:00-6:00 PM	EasySpin EPR Simulation Tutorial. Stefan Stoll, University of Washington
6:30-10:00 PM	Bruker EPR Users' Meeting <i>Meeting followed by Mixer</i>

MONDAY, JULY 27, 2015

8:10 AM	Welcoming Remarks. Kurt Warncke, EPR Symposium Chair
Session I: Spin Devices I. Ania Bleszynski-Jayich, Chair	
8:15 AM	Purcell-Enhanced Relaxation of Electron Spins. John Morton, University College London
8:45 AM	Optical Hyperpolarization of Donor Electron Spins in Silicon Using a Tunable DBR Laser. Brendon Rose, Princeton University
9:00 AM	Inverse Spin Hall Effect From a Pulsed Ferromagnetic Resonance Driven Spin Current in Organic Semiconductors with Tunable Spin-Orbit Coupling. Marzieh Kavand, University of Utah
9:15 AM	Pulsed Electron Spin Resonance of Shallow Donors in Germanium. Anthony Sigillito, Princeton University
9:30 AM	Spins in a Semiconductor Quantum Dot. Richard Warburton, University of Basel
10:00 AM	<i>Break</i>
Session II: Methods I: Unconventional EPR. Susumu Takahashi, Chair	
10:30 AM	Induction-Detection Electron Spin Resonance With Single Spin Sensitivity. Aharon Blank, Israel Institute of Technology
11:00 AM	Non-Resonant Near-Field EPR Scanning Probe Spectroscopy. Jason Campbell, National Institute of Standards and Technology
11:20 AM	Differentiating Between Hyperfine and Spin-Orbit Coupling in Magnetic Resonance Spectral Broadening of Organic Semiconductors. Hans Malissa, University of Utah
11:40 AM	Multi-Extreme THz ESR: Application to Shastry-Sutherland Model Substance SrCu₂(BO₃)₂. Hitoshi Ohta, Kobe University
12:00 PM	<i>Lunch (included with registration)</i>
Session III: Biological Macromolecules I and II. John McCracken, Chair	
1:30 PM	EPR Analysis of Ligand Binding to Chlorite Dismutase From <i>Magnetospirillum</i> sp. Sabine Van Doorslaer, University of Antwerp
2:00 PM	Understanding the Active Site of [FeFe] Hydrogenases. Agnieszka Adamska-Venkatesh, Max Planck Institute, Mühlheim
2:15 PM	Electronic Structure Characterization of a Cu^{II} Alkoxide Complex. Ellen Hayes, University of Washington
2:35 PM	Insights into the Catalytic Mechanism of Bacillus subtilis Oxalate Decarboxylase: An Electron Paramagnetic Resonance Investigation. Umar Twahir, University of Florida
2:50 PM	Development of New Spin Labelling Strategies for Cysteine Rich Proteins. Bouchra Hajjaj, University of St. Andrews
3:05 PM	<i>Break</i>
3:35 PM	Conformational Behavior of an Ion Channel, and the Quantification of Uncertainty in DEER. Stefan Stoll, University of Washington
4:05 PM	DEER and NMR Reveal the Structural Regulation of HCN Ion Channels by TRIP8b. Hannah DeBerg, University of Washington
4:25 PM	How the Prion Protein Folds – from the Copper’s Perspective. Glenn Millhauser, University of California Santa Cruz
4:45 PM	Chemistry in Warm Little Ponds: On the Application of ESR Spectroscopy for the Identification of Copper Species and Assessing Molecular Fitness for Chemically-Evolving Solutions. Christopher Bender, Fordham University
5:00 PM	Determination of the Zero-Field Splitting Parameters of Novel Gd³⁺ Complexes by Very High Frequency EPR. Jessica Clayton, University of California Santa Barbara
5:30-7:00 PM	<i>Conference Reception</i>
Session IV, Posters	
7:30-9:00 PM	Authors Present for Posters Labeled A

Session V: Spin Devices II. Ania Bleszynski-Jayich, Chair	
8:15 AM	Exploration of Spin Qubits in Silicon and Diamond. Thomas Schenkel, Lawrence Berkeley National Laboratory
8:45 AM	High-Frequency Optically Detected Magnetic Resonance of Nitrogen-Vacancy Centers in Diamond. Viktor Stepanov, University of Southern California
9:05 AM	Towards Bioimaging on the Nanoscale Using Single Spins in Diamond. Tim Eichhorn, University of California Santa Barbara
9:25 AM	High Precision Vector Magnetometry With Uniaxial Quantum Centers in Silicon Carbide. Andreas Sperlich, Julius-Maximillian University, Würzburg
9:45 AM	Development of a Spin-Selection Rule based Single-Electron Spin Resonance Microscope. Kapildeb Ambal, University of Utah
10:00 AM	<i>Break</i>
Session VI: Materials I. Christoph Boehme, Chair	
10:30 AM	Electrically Detected Magnetic Resonance in 4-H SiC Transistors. Patrick Lenahan, Pennsylvania State University
11:00 AM	Probing Carrier-Pair Spin-Spin Interactions in a Conjugated Polymer by Detuning of Electrically Detected Beating of Spin-Rabi Oscillations. Kipp van Schooten, University of Utah
11:15 AM	Estimation Of The Exciton-Polaron Coupling In Organic Semiconductors Through Pulsed Electrically Detected Magnetic Resonance. Thomas Keevers, University of New South Wales
11:30 AM	Dynamics of Charge Separation in Polymer-Fullerene Bulk Heterojunctions as Revealed by Time-Resolved EPR/ENDOR and DFT. Oleg Poluektov, Argonne National Laboratory
11:45 AM	Spin-Dynamics in Vicinity of Spin-Gap and Antiferromagnetic Phase Transition of Low-Dimensional Organic Conductors (TMTTF)₂X. Toshikazu Nakamura, Institute for Molecular Science
12:00 PM	<i>Lunch (included with registration)</i>
Session VII: Biological EPR I. Fraser MacMillan, Chair	
1:30 PM	Room-Temperature Distance Measurements of Immobilized Spin-Labeled Protein by DEER/PELDOR. Sandra Eaton, University of Denver
2:00 PM	Using Pulsed EPR to Explore Loop Dynamics of the TonB-Dependent Transporter ButB in Native Membranes. Arthur Sikora, University of Virginia
2:15 PM	smFRET and DEER Distance Measurements as Applied to Disordered and Structured Protein. Tatyana Smirnova, North Carolina State University
2:30 PM	Distances and Orientations with Low and High-Field/Frequency PELDOR/DEER. Igor Tkach, Max Planck Institute, Fassberg
2:50 PM	<i>Break</i>
Session VIII: Dynamic Nuclear Polarization. Susumu Takahashi, Chair	
3:20 PM	Development of High-Field DNP Instrumentation for Magic-Angle Spinning ¹³C NMR at 16.4 T and 30 K. Toshimichi Fujiwara, Osaka University
3:50 PM	Comparing Frequency Modulation Schemes for Improving DNP Enhancements. Mallory Guy, Dartmouth College
4:05 PM	Optimizing Frequency-Modulated CW EDMR in Silicon. Lihuang Zhu, Dartmouth College
Session IX: IES Awards. Stephen Hill, Chair	
4:20 pm	Electronic Structure of Novel Paramagnetic Actinide Complexes. Eric McInnes, University of Manchester
4:40 pm	CW and Pulsed EPR Study of Complex Coacervation of the Mussel Foot Protein Inspired Adhesives. Iliia Kaminker, University of California Santa Barbara
Session X: Posters	
7:30-9:00 PM	Authors Present for Posters Labeled B

Session XI: Biological EPR II. Fraser MacMillan, Chair	
8:15 AM	Genetically Encoded Spin Labels and In-Cell EPR. Malte Drescher, University of Konstanz
8:45 AM	New Approaches for Distance Measurements in Nucleic Acids Using Nitroxyl and Trityl Spin Labels. Matvey Fedin, International Tomography Center, Novosibirsk
9:05 AM	Spin-Labeling Magnetic Resonance Studies of Conformational Dynamics and Flexibility of the 232 nt Glycine Riboswitch. Gail Fanucci, University of Florida
9:25 AM	Electrostatics of Bio-Interfaces by EPR of Proteins and Phospholipids Labeled with pH-Sensitive Nitroxides. Alex Smirnov, North Carolina State University
9:45 AM	G-Quadruplex Targeting by Pt(II) Complexes Studied Using Site-Directed Spin Labeling. Peter Qin, University of Southern California
10:05 AM	<i>Break</i>
Session XII: Methods II: Pulse and Detection Optimization, and EPR Simulation. Susumu Takahashi, Chair	
10:35 AM	Optimal Control of Spin Dynamics. Steffen Glaser, Technical University, Munich
11:05 AM	Considerations on Frequency-Swept Excitation Pulses. Andrin Doll, ETH Zürich
11:20 AM	Field-Stepped Direct Detection Electron Paramagnetic Resonance. Zhelin Yu, University of Denver
11:40 AM	Adiabatic Pulses for Improved Electrically and Optically Detected Magnetic Resonance. Joanna Guse, University of New South Wales
12:00 PM	<i>Lunch (included with registration)</i>
Session XIII: In Vivo EPR. Boris Epel, Chair	
1:30 PM	In Vivo EPR Profiling of the Tumor Microenvironment Using Multifunctional Nitroxide and Trityl Probes. Valery Khrantsov, The Ohio State University
2:00 PM	Nitroxides as Biological Sensors. Joseph Kao, University of Maryland
2:30 PM	Multifunctional Probing of Microenvironment by Monophosphonated Trityl Radical Using FT and ESE Pulsed EPR Technique. Andrey Bobko, The Ohio State University
2:45 PM	Field Modulated Pulse EPR Spectroscopy and Imaging. Mark Tseytlin, University of Denver
3:00 PM	Skin Structure of Psoriasis Vulgaris Investigated by CW EPR and 9 GHz EPR Imaging. Kouichi Nakagawa, Hirosaki University
Piette Award, Introduction by Sandra Eaton	
3:20 PM	Melanin – An Important Biological Pigment with Unique Physico-chemical Properties. Lawrence H. Piette Memorial Lecture, Tadeusz Sarna, Jagiellonian University
RMC General Business Meeting	
5:00 PM	Kurt Warncke, Chair
IES General Business Meeting	
5:30 PM	Hitoshi Ohta, Chair
EPR Banquet	
6:30-8:00 PM	<i>Enjoy an evening of comradeship and fine food. (Pre-registration required)</i>

THURSDAY, JULY 30, 2015

Session XIV: Methods III: Noble Methods for Biology & HF EPR. Susumu Takahashi, Chair	
8:15 AM	Pulsed Dipolar EPR Spectroscopy with Broadband Microwave Pulses. Thomas Prisner, Goethe University
8:45 AM	ESR of Spin-Labeled Lipid Bilayers Directly Tethered to a High Sensitivity Non-Resonant ESR Probe. Pragma Shrestha, National Institute of Standards and Technology
9:00 AM	EPR Spectroscopy on Mixed Phase Samples under Flow Conditions. Eric Walter, Pacific Northwest Laboratory
9:20 AM	Electron Spin Interactions and Electron Spin Relaxation at High Field. Johan van Tol, National High Magnetic Field Laboratory
9:40 AM	Electron-Spin-Echo Decay of Low- and High-Spin species at 240 GHz. Blake Wilson, University of California Santa Barbara
9:55 AM	<i>Break</i>
Session XV: EPR Materials II. Christoph Boehme, Chair	
10:25 AM	Probing Single Electron Spins. Jörg Wachtrup, University of Stuttgart
10:55 AM	Quantum Coherence in Mn-Based Single Molecule Magnets. Susumu Takahashi, University of Southern California
11:15 AM	Magnetic Phase Transition in Ferroelectric Lithium Niobate Doped with Erbium. Galina Malovichko, Montana State University
11:35 AM	Simulation of Magnetic Resonance Spectra of Low-Symmetry Systems. Valentin Grachev, Montana State University
11:55 PM	Closing Remarks. Kurt Warncke, EPR Symposium Chair