



**32<sup>nd</sup> International EPR Symposium**  
July 20-23, 2009

**51<sup>st</sup> Rocky Mountain Conference on Analytical Chemistry**  
July 19-23, 2009  
Snowmass Conference Center - Snowmass, Colorado

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**Register** at [www.rockychem.com](http://www.rockychem.com)

**Admission** to all technical sessions and the exhibition is by name badge only.

**Registration materials** may be picked up at the RMCAC registration area located at the Snowmass Conference Center between 12:00 noon and 5:00 pm on Sunday, July 19 or 8:00 am and 5:00 pm anytime Monday, July 20 through Thursday, July 23.  
Conference Lunch

**Complimentary lunches** are being provided July 20, 21 and 22 to all registered symposia attendees. You will receive your luncheon ticket(s) upon check-in at the Rocky Mountain Conference registration desk. Tickets are date-specific and cannot be interchanged with another day. Lost tickets cannot be replaced. Unused tickets cannot be redeemed for another day. The lunch will be served each designated day from 12:00 noon until 1:00 pm.

**MONDAY, JULY 20, 2009**

<b>Session I, Advances in High Field EPR, David Budil Chairing</b>	
8:20 a.m.	Welcoming Remarks. <b>Hassane S Mchaourab</b>
8:25 a.m.	Introduction to Session. <b>David Budil</b>
8:30 a.m.	<b>High Frequency Dynamic Nuclear Polarization in Solids and Liquids.</b> <u>Robert G. Griffin</u> , Massachusetts Institute of Technology
9:00 a.m.	<b>High Bandwidth, High Sensitivity, Orientation Selective, DEER Spectroscopy At 94GHz.</b> <u>Graham M. Smith</u> , University of St. Andrews
9:30 a.m.	<b>Development of Multi-Extreme High Frequency ESR Measurement System and Its Applications.</b> <u>Hitoshi Ohta</u> , Kobe University
10:00 a.m.	<i>Break</i>
10:30 a.m.	<b>A 263 GHz EPR Spectrometer for CW and Pulse Applications.</b> <u>Peter Höfer</u> , Bruker Biospin
11:00 a.m.	<b>High Frequency EPR of Protein-based Radicals.</b> <u>Gary J. Gerfen</u> , Albert Einstein College of Medicine
11:30 a.m.	<b>Pulsed Time-Resolved High-Frequency EPR of Photosystem I: Spin-Dynamics of Spin-Correlated Radical Pairs.</b> <u>Oleg Poluektov</u> , Argonne National Laboratory
12:00 p.m.	<i>Lunch (included w/registration)</i>
<b>Session I (continued), Advances in High Field EPR, David Budil Chairing</b>	
1:30 p.m.	<b>Spectral Domain and Time Domain EPR above 100 GHz: A Short Review.</b> <u>Louis Claude Brunel</u> , University of California Santa Barbara
1:55 p.m.	<b>Heterogeneous Dielectric and Hydrogen Bonding Environment of Transmembrane <math>\alpha</math>-Helical Peptides: CW X-band, D-band, and HYSORE EPR of Spin-labeled WAL,</b> <u>Alexander I. Smirnov</u> , North Carolina State University
2:25 p.m.	<b>Protein Dynamics By Multi-Frequency ESR.</b> <u>Jack H. Freed</u> , Cornell University
2:55 p.m.	<i>Break</i>
<b>Session II, Spin Labeling, Eric Hustedt Chairing</b>	
3:15 p.m.	<b>Structure of the CDB3 - ankD34 Complex From Site-Directed Spin-Labeling Studies.</b> <u>Eric Hustedt</u> , Vanderbilt University
3:35 p.m.	<b>Membrane Insertion of Peptides Mimicking E2 Domain of Sindbis Virus is Modulated by Cholesterol.</b> <u>Tatyana Smirnova</u> , North Carolina State University
3:55 p.m.	<b>Structural Change of the Force Generating Region in Myosin During the Recovery Stroke.</b> <u>Yuri E. Nesmelov</u> , University of Minnesota
4:15 p.m.	<b>Assessing How Natural Evolution and Drug Pressure Selected Mutations Alter Inhibitor and Substrate Interactions in HIV-1 Protease: Correlating Results From Double Electron-Electron Resonance With Solution NMR Spectroscopy.</b> <u>Gail E. Fanucci</u> , University of Florida
4:35 p.m.	<b>Things You Should Know About Protein Crystallization, and How EPR Spectroscopy Can Help</b> <u>David S. Cafiso</u> , University of Virginia
5:00-7:00 p.m.	<i>Conference Reception</i>
<b>Session III, Posters</b>	
7:30-9:30 p.m.	<b>Authors Present for Posters Labeled A</b>

**TUESDAY, JULY 21, 2009**

<b>Session IV, Spin Labeling of Nucleic Acids, Vickie DeRose and Peter Qin Chairing</b>	
8:10 a.m.	<b>Studying Structure and Dynamics of Nucleic Acids Using a Sequence-Independent Nitroxide Probe.</b> <u>Peter Z. Qin</u> , University of Southern California
8:40 a.m.	<b>A New Generation of Nitroxide Spin Labels for Nucleic Acids.</b> <u>Snorri Th. Sigurdsson</u> , University of Iceland
9:10 a.m.	<b>PELDOR: Beyond Distance Measurements in Oligonucleotides.</b> <u>Olav Schiemann</u> , University of St Andrews
9:40 a.m.	<b>Conformational Equilibria of Folded DNA and RNA Structures Determined By EPR.</b> <u>Bruce H. Robinson</u> , University of Washington
10:10 a.m.	<i>Break</i>
10:20 a.m.	<b>Spin-Labeled Stem-Loop RNA and DNA Secondary Structures That Interact With the Zinc-Finger Protein NCp7.</b> <u>Charles P. Scholes</u> , University at Albany
<b>Session V, Metalloproteins, Peter Doan and Dave Tierney Chairing</b>	
10:45 a.m.	<b>Probing the Speciation of Manganese Antioxidant Species in Yeast Cells Using Pulsed Electron-Nuclear Double Resonance Techniques.</b> <u>Rebecca McNaughton</u> and Brian Hoffman, Northwestern University; Kevin Barnese and Joan Valentine, University of California Los Angeles; Leah Rosenfeld, Amit Reddi and Valeria Culotta, Johns Hopkins University
11:05 a.m.	<b>Coordination Chemistry at the Fe(II) Site of Taurine/a-Ketoglutarate Dioxygenase.</b> <u>John McCracken</u> , Matthew D. Kryzaniak, Shannon Morey, Meng Li, Piotr K. Grzyska and Robert P. Hausinger, Michigan State University; Patrick J. Cappolina and John P. Caradonna, Boston University
11:25 a.m.	<b>One Electron Changes in Lipoygenase-Enzyme and Investigator Derived.</b> <u>Betty J. Gaffney</u> , Florida State University
11:50 a.m.	<b>K<sub>a</sub>-band <sup>17</sup>O ESEEM Investigation of Exchangeable Oxygens in the Vicinity of the Mo(V) Center of Sulfite-oxidizing Enzymes.</b> <u>Andrei V. Astashkin</u> , Eric L. Klein, Kayunta Johnson-Winters and John H. Enemark, University of Arizona; Dmitry Ganyushin and Frank Neese, Universität Bonn; Ulrike Kappler, University of Queensland
12:10 p.m.	<i>Lunch (included w/registration)</i>
<b>Afternoon: ENJOY THE MOUNTAINS</b>	
5:00-6:30 p.m.	<i>IES/Organizers Reception for IES Medal Winners and Light Dinner</i>
<b>Session VI, Award Lectures</b>	
6:30 p.m.	<b>The Spin Trapping of Superoxide: Challenges vs Information - IES Silver Medal in Biology.</b> Garry R. Buettner, University of Iowa
7:00 p.m.	<b>Introduction to Lawrence H. Piette Memorial Lecture</b>
7:05 p.m.	<b>2009 Lawrence H. Piette Memorial Lecture - Paul Tordo</b> , Université de Provence
<b>Session VII, Posters</b>	
7:45-9:45 p.m.	<b>Authors Present for Posters Labeled B</b>

**WEDNESDAY, JULY 22, 2009**

<b>Session VIII, Materials and Methods, Alex Angerhofer Chairing</b>	
8:20 a.m.	<b>High Spin Chemistry Underlying Organic Molecule-Based Magnetism and Beyond: Applications to Molecular Spin Quantum Computers</b> — IES Silver Medal Award Presentation. <u>Takeji Takui</u> , Osaka City University
8:50 a.m.	<b>Magnetic Resonance in Molecular Magnetism.</b> <u>Joris van Slageren</u> , University of Nottingham
9:20 a.m.	<b>Pulsed Electrically Detected Magnetic Resonance Spectroscopy on Organic Light Emitting Diodes.</b> <u>Christoph M. Boehme</u> , University of Utah
9:50 a.m.	<i>Break</i>
10:15 a.m.	<b>EPR Spectroscopy on Micrometer Sized Samples.</b> <u>Giovanni Boero</u> , ETH Lausanne
10:45 a.m.	<b>Solid State Quantum Memory: Quantum Coherence Beyond a Second.</b> <u>John L. Morton</u> , Oxford University
11:05 a.m.	<b>DEPR: a CW Digital Electron Paramagnetic Resonance Spectrometer.</b> <u>Karoly Holczer</u> , UCLA
11:25 a.m.	<b>Structural Characterization and Dynamics of Macromolecular Free Radicals and Model Systems in Liquid Solution Studied by Time-Resolved EPR Spectroscopy.</b> <u>Malcolm D. E. Forbes</u> , University of North Carolina
11:45 a.m.	<b>EPR Studies of Nano and Bulk <math>\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3</math> Dispersed in Polyvinyl Alcohol: Interplay of Dysonian and Magnetocrystalline Anisotropy Effects.</b> <u>K.G.Padmalekha</u> and <u>S.V. Bhat</u> , Indian Institute of Science
12:00 p.m.	<i>Lunch (included w/registration)</i>
<b>Session IX, Young Investigators, Hassane Mchaourab Chairing</b>	
1:20 p.m.	<b>Exploring Radicals in Enzymatic Reactions by EPR.</b> IES Young Investigator Award Presentation; <u>Stefan Stoll</u> and R. David Britt, University of California Davis
1:45 p.m.	<b>Spin Label Structure and Dynamics Determined by Rosetta Rotamer Libraries.</b> <u>Nathan Alexander</u> , Kristian Kaufmann, Hassane Mchaourab and Jens Meiler, Vanderbilt University
2:00 p.m.	<b>Structural Rearrangements of the ABC Transporter LmrA During the Catalytic Cycle Revealed by Electron Paramagnetic Resonance Spectroscopy.</b> <u>Sevdalina Lyubenova</u> , Ute Hellmich, Clemens Glaubitz, and Thomas F. Prisner. Goethe University
2:15 p.m.	<b>Connecting Spectroscopy to Structure: Resolving the Controversy of Complex I (NADH:ubiquinone oxidoreductase) Using Pulsed EPR.</b> <u>Maxie M. Roessler</u> , Fraser A. Armstrong and Jeffrey Harmer, University of Oxford; Martin S. King, Alan J. Robinson and Judy Hirst, Medical Research Council Mitochondrial Biology Unit
2:30 p.m.	<b>In the Arms of EcoRI - Probing the Binding Specificity of the Restriction Endonuclease Using Electron Spin Resonance.</b> <u>Jessica Sarver</u> , Katherine Stone, Jacque Townsend, Paul Sapienza, Linda Jen-Jacobson and Sunil Saxena, University of Pittsburgh
2:45 p.m.	<b>Site Directed Overhauser Spectroscopy of Local Water to Study Macromolecular Complexation.</b> <u>Ravinath Kausik</u> and Songi Han, University of California Santa Barbara
3:00 p.m.	<b>Distance Measurement Through Electron Spin Decoherence at 240 GHz,</b> <u>Devin T. Edwards</u> , University of California Santa Barbara
3:15 p.m.	<i>Break</i>
<b>General Business Meeting</b>	
5:00 p.m.	<b>Selection of the Organizing Committee for 2010</b>

**THURSDAY, JULY 23, 2009**

<b>Session XI, In Vivo EPR, Howard Halpern Chairing</b>	
8:25 a.m.	<b>High Resolution <i>In-Vivo</i> Pulse Electron Paramagnetic Resonance Imaging (EPRI).</b> <u>Payam Seifi</u> , University of Chicago
8:55 a.m.	<b>Retrospective Radiation Dosimetry Using In Vivo EPR.</b> <u>Benjamin Williams</u> , Dartmouth Medical School
9:25 a.m.	<b>Evolution of Time Domain EPR Imaging at NCI.</b> <u>Nallathamby Devasahayam</u> , National Institutes of Health
9:55 a.m.	<i>Break</i>
10:15 a.m.	<b>In Vivo Oximetry in the Heart: Effect of Oxygenation on Stem-cell Therapy for Myocardial Infarction.</b> <u>Periannan Kuppusamy</u> , Ohio State University
10:45 a.m.	<b>Combining the Absorption and Dispersion Signals to Improve Signal-to-Noise for Rapid Scan EPR Imaging.</b> <u>Mark Tseitlin</u> , University of Denver
11:05 a.m.	<b>Oxygen Imaging In Vivo: The Comparison of Electron Spin Echo and Continuous Wave Methodologies.</b> <u>Boris Epel</u> , University of Chicago
11:25 a.m.	<b>Closing Remarks,</b> Glenn Millhauser, Chair 2010 EPR Symposium.