

Friday, November 9

- 02:00 – 05:00 PM **Early arrivals:** Tour of the world-renowned Westervelt Warner Museum of American Art (www.warnermuseum.org) and/or tour of Shelby Hall. Let us know of your interest.
- 05:00 – 09:00 PM **Registration** (Shelby Rotunda)
Poster Setup (Second Floor - Shelby Rotunda and 250)
- 07:00 – 09:00 PM **Introduction** by Michael Bowman (Shelby 151)
Opening Talks: James S. Hyde, Medical College of Wisconsin
Saturation Recovery EPR and ELDOR at W-Band for Spin Labels
- Joanna R. Long**, University of Florida
Solid State NMR Studies of Protein Structure
- Reception with Hors d'Oeuvres following** (Shelby Rotunda)
Sponsored by Spin Industries

Saturday, November 10

- 07:30 – 11:55 AM **Registration** (Shelby Rotunda)

Metalloenzymes

- Chair: Tatyana Smirnova, North Carolina State University (Shelby 151)

- 08:10 – 08:15 AM **Welcome**
- 08:15 – 08:40 AM **Paul D. Ellis**, Pacific Northwest National Laboratory
Can a Protein Bound Zn(II)-OH₂ be Considered a Weak Acid? The Answer will be Illustrated From of our Work on Zinc Metalloproteins
Sponsored by Research Coordination Network and The University of Alabama
- 08:40 – 09:00 AM **Betty J. Gaffney**, Florida State University
Manganese and Iron Lipoygenases: EPR Lineshape Analyses and Comparison
- 09:00 – 09:20 AM **Amit Singh**, University of Alabama at Birmingham
Mycobacterium Tuberculosis WhiB3 Responds to Dormancy Signals Through its [4Fe-4S] Cluster.
- 09:20 – 09:40 AM **Alexander Angerhofer**, University of Florida
Multifrequency EPR Studies on the Mn(II) Centers of Oxalate Decarboxylase
- 09:40 – 10:00 AM **John McCracken**, Michigan State University
Coordination Chemistry at the Fe(II) Site of Taurine/ α -Ketoglutarate Dependent Hydroxylases
- 10:00 – 10:15 AM **Break** (coffee, tea and snacks)
Sponsored by Doty Scientific, Inc.

Membrane Proteins

Chair: Laura Busenlehner, The University of Alabama

(Shelby 151)

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- 10:15 – 10:40 AM **Albert H. Beth**, Vanderbilt University
EPR/DEER Studies of the Structure of Erythrocyte CDB3 Hereditary Spherocytosis Variant P327R: Band 3 Tuscaloosa
- 10:40 – 11:05 AM **Smita Mohanty**, Auburn University
Pheromone Perception: Structure and Function of Pheromone Binding Protein
- 11:05 – 11:30 AM **Ronald P. Mason**, National Institute of Environmental Health Sciences
Unraveling the Causative Role of Inducible Nitric Oxide Synthase-mediated Free Radical Production in the Pathogenesis of Diabetes
- 11:30 – 11:55 PM **Hassane McHaourab**, Vanderbilt University
Using DEER to Investigate Conformational Motion of Transporters
- 11:55 – 12:15 PM **Gary Lorigan**, Miami University
Probing the Structural and Dynamic Properties of Integral Membrane Proteins with Solid-State NMR Spectroscopy and EPR Spectroscopy
- 12:15 – 01:15 PM **Lunch** (Shelby Rotunda)
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Student and Post-Doc Session

Chairs: Joanna R. Long & Gail E. Fanucci, University of Florida

(Shelby 151)

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- 1:15 – 1:30 PM **K. V. Narasimhulu**, The University of Alabama
Cofactors of Electron Transfer Chain in Chlamydomonas reinhardtii – EPR Studies at Conventional and High Magnetic Fields
- 1:30 – 1:45 PM **Johnson Inbaraj Jutson**, Miami University
Topology and Helical Tilt Angle of Membrane Protein Determined in an Aligned Lipid Bilayer Media Using EPR Spectroscopy
- 1:45 – 2:00 PM **Brian R. Davis**, North Carolina State University
Gd(III)-Nitroxide Pairs for Membrane Proteins Studies: A Multifrequency EPR Approach
- 2:00 – 2:15 PM **Li Sun**, Emory University
Study of the Critical Structural and Catalytic Role of Arginine 160 in EutB Protein from Coenzyme B12-Dependent Ethanolamine Ammonia-Lyase
- 2:15– 2:30 PM **Takahisa Tokumoto**, Florida State University/NHMFL
Antiferromagnetic d-Electron Exchange Via a Spin-Singlet π -Electron Ground State in an Organic Conductor

Sunday, November 11

Instrumentation and Technique Development

Chair: Alex I. Smirnov, North Carolina State University

(Shelby 151)

- 08:15 – 08:40 AM **Tim Mewes**, The University of Alabama
Magnetic Resonance Force Macroscopy: Seeing Single Isolated Spins and More.
- 08:40 – 09:00 AM **Peter L. Gor'kov**, National High Magnetic Field Laboratory
A Low-E Probe for ^{19}F - ^1H NMR in Dilute Biological Solids
- 09:00 – 09:20 AM **Johan van Tol**, National High Magnetic Field Laboratory
Multi-Frequency Pulsed EPR and ENDOR at 120, 240, and 336 GHz, and The Prospects of High Power Pulsed EPR at Frequencies up to 1200 GHz
- 09:20 – 09:40 AM **Daniel W. Bearden**, Hollings Marine Laboratory
NMR-Based Marine Environmental Metabolomics at the Hollings Marine Laboratory
- 09:40 – 10:00 AM **Naresh Dalal**, Florida State Univ. & National High Magnetic Field Lab
Modern High - Field EPR and NMR: Their Complementary Nature and Applications to Single Molecule Magnetism
- 10:00 – 10:15 AM **Break**
- 10:15 – 10:35 AM **Gail Fanucci**, University of Florida
Biophysical Characterization of the GM2 Activator Protein with Phosphatidylcholine Bilayers
- 10:35 – 10:55 AM **Stephen Hill**, University of Florida
Recent Developments in High-Frequency EPR at the University of Florida
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Biological Electron Transfer

Chair: Kurt Warncke, Emory University

(Shelby 151)

- 11:00 – 11:25 AM **Gary W. Brudvig**, Yale University
EPR Studies of Photosystem II and Artificial Systems
- 11:30 – 11:55 AM **Oleg Poluektov**, Argonne National Laboratory
Imaging Electron Transfer Pathways in Natural Photosynthesis Using Time-Resolved High-Field EPR/ENDOR Spectroscopy
- 11:55 – 12:20 PM **Fraser MacMillan**, University of East Anglia
Correlating the structure & function of oxidoreductases using REFINE'd EPR spectroscopy

12:20 – 12:45 PM **R. David Britt**, University of California, Davis
Photosynthetic Water Splitting: Investigations by Multifrequency Pulsed EPR Methods
Sponsored by The University of Alabama

12:45 – 01:30 PM **Box Lunch and Discussion of Morning Session**

01:30 – 02:00 PM **Business Meeting and Adjournment**

For those who can stay: Tour of the world-renowned Westervelt Warner Museum of American Art (www.warnermuseum.org) and/or tour of Shelby Hall.