

**FRIDAY***November 11*

- 5:00 - 9:00 pm    **Registration, MSC Atrium**
- 6:00 - 8:00 pm    **Varian Mixer, MSC Atrium**  
**Open Houses: Emory EPR & NMR Facilities**

**SATURDAY***November 12*

- 8:00 -11:30 am    **Registration, MSC Atrium**
- 7:30 - 8:25 am    **Breakfast, MSC Atrium**
- Oral Sessions 1-4 & 6-8 will be held in E208 Mathematics & Science Center (MSC)*  
*Oral Session 5 will be held in the Carlos Museum Reception Hall*
- 8:25 -8:30 am    **Opening Remarks**

**Session 1: Protein Structure & Dynamics: Solid State**

Chair: Dale Edmondson (Emory University)

- 8:30 - 9:00 am    *Multifrequency Pulsed-EPR/ENDOR of Photosystem II Paramagnetic Centers*  
R. David Britt (University of California, Davis)
- 9:00 - 9:25 am    *Applications of EPR to Radiation Biology*  
William H. Nelson (Georgia State University)
- 9:25 - 9:55 am    *Tuning of Protein Electron Transfer Properties: Time-Resolved High-Field  
ENDOR of the Spin-Correlated Radical Pairs*  
Oleg Poluektov (Argonne National Laboratory)
- 9:55 -10:25 am    *Elucidation of Ligand Hyperfine Couplings for Multi-Copper Oxidases Using Two  
Dimensional ESEEM Spectroscopy*  
John McCracken (Michigan State University)

- 10:25 -10:40 am    **Coffee Break**

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**Session 2: Protein Structure & Dynamics: Solution**

Chair: Al Beth (Vanderbilt University)

- 10:40 -11:05 am     *Watching Multidrug Transporters Work*  
Hassane Mchaourab (Vanderbilt University)
- 11:05 -11:30 am     *Conformational and Functional Switching of Calmodulin by Methionine Oxidation*  
Jeffrey Urbauer (University of Georgia)
- 11:30 -11:55 am     *Following Virion Dynamics by Spin-Labeling EPR Spectroscopy*  
Tatyana Smirnova (North Carolina State University)
- 11:55 -12:20 pm     *Structural Analysis and Rational Design of Calcium-Binding Proteins*  
Jenny Yang (Georgia State University)
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12:25 - 1:25 pm     **Buffet Lunch, MSC Atrium**

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**Session 3: Magnetic Resonance of Materials**

Chair: Haskell Beckham (Georgia Institute of Technology)

- 1:30 - 1:55 pm     *Cooperativity and Self-Assembly of Lipids and Lipid-Protein Systems Confined by Nanopores*  
Alex Smirnov (North Carolina State University)
- 1:55 - 2:20 pm     *Fluid Transport through Complex Geometries by NMR Microscopy*  
Johannes Leisen (Georgia Institute of Technology)
- 2:20 - 2:45 pm     *Application of the High-Field, High-Frequency EPR to Studies on Polynuclear Transition Metal Complexes*  
Andrew Ozarowski (NHMFL, Florida State University)
- 2:45 - 3:10 pm     *Plasticization of Polyethylene Oxide in Fluid CO<sub>2</sub> Measured by In situ NMR*  
Louis Madsen (University of North Carolina)
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3:10 - 3:25 pm     **Coffee Break, MSC Atrium**

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**Session 4: Magnetic Resonance of Amyloid Protein Diseases**

Chair: David Lynn (Emory University)

- 3:25 - 3:55 pm *The Ever Changing Shape of the Prion Protein: EPR Identifies Three Distinct Copper Binding Modes*  
Glenn Millhauser (University of California, Santa Cruz)
- 3:55 - 4:20 pm *EPR Spectroscopic Characterization of the Copper Binding Domain of Amyloid- $\beta$*   
Veronika Szalai (University of Maryland, BC)
- 4:20 - 4:40 pm *EPR and ESEEM Spectroscopies Reveal Structural Features of the Cu<sup>II</sup> Coordination Sites in Soluble and Fibrillar Truncated Forms of the  $\beta$ -Amyloid Peptide of Alzheimer's Disease*  
Kurt Warncke (Emory University)
- 4:40 - 5:05 pm *Structural Investigations of Alzheimer's Beta-Amyloid Fibrils by Solid State NMR*  
Aneta Petkova (University of Florida)
- 5:05 - 5:30 pm *Structure of Amyloid Fibrils, Ribbons and Nano-Tubes by Solid-State NMR*  
Anil Mehta (Emory University)

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5:30 - 7:15 pm **Poster Session, MSC Atrium**

5:30 - 7:00 pm **Bar & Hors D'oeuvres, MSC Atrium**

7:30 - 8:30 pm **Dinner, Carlos Museum**

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**Session 5: Dinner Program: Magnetic Resonance Imaging (Carlos Museum)**

Chair: Arthur Edison (University of Florida)

- 8:15 - 8:20 pm *Reminiscences of SEMRC's Past*  
Raymond DuVarney (Emory University)
- 8:20 - 8:45 pm *Using MRI for the Sorting of Fresh Fruit*  
Michael McCarthy (University of California, Davis)
- 8:45 - 9:10 pm *In Vivo MRI: A Practitioner's Overview*  
Xiaoping Hu (Emory University & Georgia Institute of Technology)

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9:30 - 11:00 pm **Poster Viewing, MSC Atrium**

9:30 - 11:00 pm **Bar, MSC Atrium**

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**SUNDAY**  
*November 13*

7:30 - 8:30 am    **Breakfast, MSC Atrium**

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**Session 6: Glycoprotein Structure & Dynamics**

Chair: David Cafiso (University of Virginia)

- 8:30 - 8:55 am    *Characterization of Recombinant Glycoproteins using High Resolution NMR Spectroscopy*  
Timothy Logan (NHMFL, Florida State University)
- 8:55 - 9:20 am    *Membrane Interactions of GM2AP via Site-Directed Spin Labeling EPR*  
Gail Fanucci (University of Florida)
- 9:20 - 9:50 am    *New NMR Methods for Large Glycosylated Proteins*  
James Prestegard (University of Georgia)
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**Session 7: Poster Award Presentations**

Chair: Jeffrey Canfield (Emory University)

- 9:55 -10:10 am    *Poster Awardee to be Announced*
- 10:10 -10:25 am    *Poster Awardee to be Announced*
- 10:25 -10:40 am    *Poster Awardee to be Announced*
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10:40 -10:55 am    **Coffee Break, MSC Atrium**

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**Session 8: New Methods and Applications in Magnetic Resonance**

Chair: Lowell Kispert (University of Alabama)

- 11:00 -11:30 am    *Computationally Enhanced NMR Methods and Applications*  
Rafael Brüschweiler (NHMFL, Florida State University)
- 11:30 -11:50 am    *Complete Scheme for Two-Qubit Quantum Computing using Pulsed ESR of  $^{15}\text{N}@C_{60}$*   
Gavin Morley (NHMFL, Florida State University)
- 11:50 -12:20 pm    *Novel Approach for Electron Magnetic Resonance: A Free Electron Laser based Time Domain EMR Spectrometer. Fundamentals and Applications.*  
Louis-Claude Brunel (NHMFL, Florida State University)
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12:20 -12:30 pm    **SEMRC Business Meeting**

12:30 pm    **Conference Adjournment**

12:30 pm    **Box Lunch, MSC**

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