

SPP 1601

New Frontiers in Sensitivity for EPR Spectroscopy:  
from Biological Cells to Nano Materials



# Joint SPP1601/SharedEPR Conference

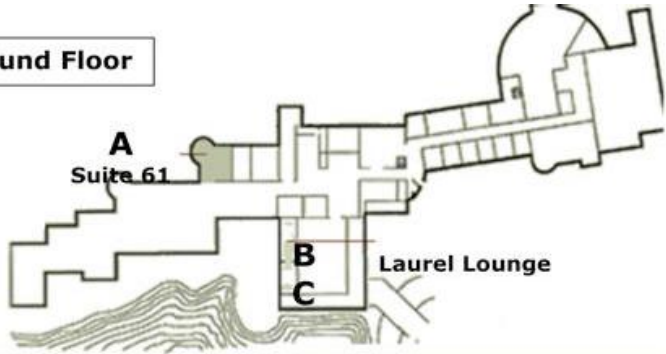
## EPR Present and Future



**Mohonk Mountain House**  
**New Paltz, New York, USA**  
**October 9-12, 2017**



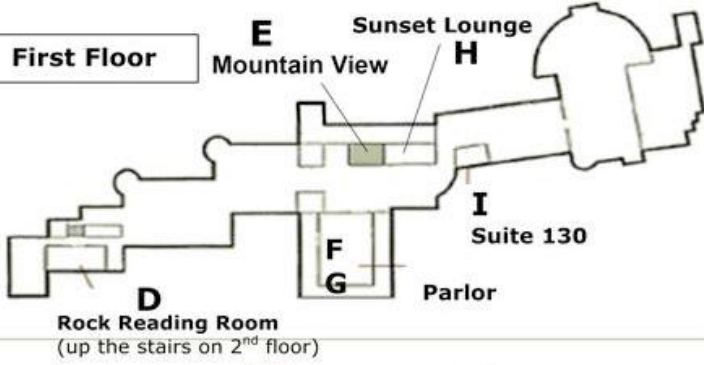
**Ground Floor**



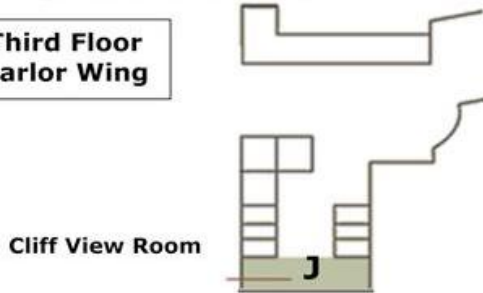
**Mohonk Mountain House**

Room	Capacity	Room	Capacity
A	20	H	10
B	30	I	10
C	8	J	40
D	20	K	24
E	30	L	24
F	70	M	16
G	70	N	16

**First Floor**



**Third Floor Parlor Wing**



**Conference House**





The following activities are available to our overnight guests (please note the accessibility of some activities are based on space availability and some activities are seasonal). **Advanced reservations are required for Carriage Rides, Horseback Riding, Spa Services and Golf Tee Times.\***

### Complimentary Spring, Summer & Fall Activities:

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• 18-Hole Disc Golf Course - complimentary with own disc (discs available starting at \$10)</li> <li>• 18-Hole Putting Green</li> <li>• 85 Miles of Hiking</li> <li>• Award Winning Gardens &amp; Maze</li> <li>• Archery</li> <li>• Barn Museum</li> <li>• Basketball</li> <li>• Billiards Room</li> <li>• Board Games (available first-come/first-serve in Laurel Lounge)</li> </ul> | <ul style="list-style-type: none"> <li>• Boating (Canoes, Kayaks, Row Boats, Paddle Boats, &amp; Stand-Up Paddle Boards on Lake Mohonk)</li> <li>• Croquet</li> <li>• Daily Guided Hikes</li> <li>• Fishing (complimentary on Lake Mohonk with your own pole; you may rent a pole or buy bait for additional cost from the Boat Dock)</li> <li>• Fitness Center</li> <li>• Game Room</li> <li>• Golf (complimentary green fees midweek)</li> <li>• Greenhouse</li> </ul> | <ul style="list-style-type: none"> <li>• Horseshoes</li> <li>• House Campfires (offered weekly, see Activities Schedule)</li> <li>• House History Tours</li> <li>• Indoor Swimming Pool</li> <li>• Lawn Bowling</li> <li>• Nature Walks</li> <li>• Playground</li> <li>• Rock Scrambles</li> <li>• Shuffleboard</li> <li>• Swim Beach</li> <li>• Tennis</li> <li>• Tomahawk Throwing</li> <li>• Volleyball</li> </ul> |
|---|--|---|

### Activities which require an additional charge:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• <b>Carriage Rides (reservation required):</b> <ul style="list-style-type: none"> <li>○ Reservation required; to book: 845.256.2784 or <a href="mailto:stables@mohonk.com">stables@mohonk.com</a></li> <li>○ \$16 per person for a half-hour tour of the grounds; \$32 per person for 1 hour tour; and \$55 per person to Sky Top</li> <li>○ Private Carriage start at \$500 per hour</li> </ul> </li> <li>• <b>Fly Fishing Lessons (reservation required):</b><br/>Please inquire at 845.256.2186</li> <li>• <b>Golf (reservation required):</b> <ul style="list-style-type: none"> <li>○ For tee times: 845.256.2154 or <a href="mailto:golf@mohonk.com">golf@mohonk.com</a></li> <li>○ Prices:           <ul style="list-style-type: none"> <li>▪ Complimentary green fees on weekdays for overnight guests.</li> <li>▪ On weekends &amp; holidays, the price is \$26 per person for 9 holes and \$33 per person for 18 holes.</li> <li>▪ Prices for motorized carts are per person: \$10 for 9 holes and \$15 for 18 holes. Pull carts are \$5.</li> <li>▪ Rental clubs are \$20 per set of clubs.</li> </ul> </li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>Horseback Riding (reservation required):</b> <ul style="list-style-type: none"> <li>○ Reservation required; to book: 845.256.2784 or <a href="mailto:stables@mohonk.com">stables@mohonk.com</a></li> <li>○ House Rides- 3 times a day in season, weather dependent- \$55 per person</li> <li>○ Pony Rides - \$15 per person</li> <li>○ Private guided rides can be booked depending on availability starting at \$300 for 2 people</li> </ul> </li> <li>• <b>Mountain Biking:</b> \$30 per person per day (845.256.2147)</li> <li>• <b>Private Garden Tour (reservation required):</b> \$125 for up to 25 people; inquire at 845.256.2021 or <a href="mailto:gardening@mohonk.com">gardening@mohonk.com</a></li> <li>• <b>Rock Climbing (reservation required):</b> contact us for more details at 845-256-2752 or <a href="mailto:rockclimbing@mohonk.com">rockclimbing@mohonk.com</a> or <a href="http://www.mohonkmountainguides.com">http://www.mohonkmountainguides.com</a></li> <li>• <b>Spa Services (reservation required):</b> \$50-\$400, depending on the services selected (for reservations: 877.877.2664 or <a href="mailto:spa@mohonk.com">spa@mohonk.com</a>)</li> </ul> |
|---|--|

### Complimentary Winter Activities:

- |               |             |               |               |
|---------------|-------------|---------------|---------------|
| • Ice Skating | • XC Skiing | • Snowshoeing | • Snow Tubing |
|---------------|-------------|---------------|---------------|

\*Rates as of March 2017

[www.mohonk.com](http://www.mohonk.com)



## Monday, October 9, 2017

8:00 AM	Conference House	Arrival and poster setup
12:00 AM	Lunch	
Scientific Talks Session I Chair: Klaus-Peter Dinse		
1:20 PM	Main Room	Welcome and Introduction
1:30 PM	Main Room	<b>How Metal Ions in the Brain Tip the Toxic Balance of the Killer Prion Protein</b> Glenn Millhauser, University of California, Santa Cruz
1:50 PM	Main Room	<b>High-Field EPR Studies of Manganese Superoxide Dismutases</b> Sun Un, CEA Paris, Saclay
2:10 PM	Main Room	<b>Cu<sup>2+</sup> -ion as an ESR probe of protein structure</b> Sunil Saxena, University of Pittsburgh
2:30 PM	Main Room	<b>The High Field EPR Program at the NHMFL: Current and Future Developments</b> Stephen Hill, Florida State University
2:50 PM	Main Room	<b>High-resolution Pulsed EPR Spectroscopy of the Solar Water Oxidation Reaction of Photosystem II</b> K.V. Lakshmi, Rensselaer Polytechnic Institute
3:10 PM	Break	
Scientific Talks Session II Chair: Alexander Schnegg		
3:40 PM	Main Room	<b>Multifrequency EDMR at silicon heterointerfaces</b> Klaus Lips, Helmholtz Institute Berlin
4:00 PM	Main Room	<b>Probing silicon surfaces with magnetic resonance</b> Chandrasekhar Ramanathan, Dartmouth
4:20 PM	Main Room	<b>Transient EDMR – Recent Progress</b> Jan Behrends, FU Berlin
4:40 PM	Main Room	<b>Nanoscale EPR spectroscopy using NV centers in Diamond</b> Susumu Takahashi, University of Southern California
5:00 PM	Main Room	<b>Electrically detected magnetic resonance with shaped microwave pulses: Optimum control and microscopy</b> Martin Brandt, TU München
5:20 PM	Main Room	<b>Combining PELDOR and SAXS to study the conformation of the type-III-effector YopO from <i>Yersinia pestis</i> in solution</b> Gregor Hagelueken, University of Bonn
6:00 PM	Dinner	
Scientific Talks Session III Chair: Marina Bennati		
7:30 PM	Main Room	<b>Pressure-resolved DEER reveals the structural basis for constitutive activity of the <math>\beta_2</math>-adrenergic receptor</b> Michael Lerch, Medical College of Wisconsin
7:50 PM	Main Room	<b>Cross-polarization edited ENDOR on 2H nuclei in protein radicals</b> Isabel Bejenke, Max Planck Institute for Biophysical Chemistry, Goettingen
8:10 PM	Main Room	<b>Advancing Liquid-State Overhauser DNP Instrumentation and Interpretation</b> John Frank, Syracuse University
8:30 PM	Main Room	<b>Broadband experiments for measuring and correlating electron dipolar or nuclear frequencies</b> Gunnar Jeschke, ETH Zürich

## Tuesday, October 10, 2017

8:00 AM	Breakfast	
Scientific Talks Session IV Chair: Peter Höfer		
9:00 AM	Main Room	<b>The Future of ESR at ACERT</b> Jack Freed, Cornell University
9:20 AM	Main Room	<b>Optimal control of Spins Based on Cooperative Pulses</b> Steffen Glaser, TU München
9:40 AM	Main Room	<b>Digital Saturation Recovery with an Arbitrary Waveform Generator Source</b> Sandra Eaton, University of Denver
10:00 AM	Main Room	<b>Pulsed dipolar EPR spectroscopy with shaped pulses</b> Thomas Prisner, University of Frankfurt
10:20 PM	Break	
Scientific Talks Session V Chair: Dieter Suter		
10:50 PM	Main Room	<b>How to Improve EPR Sensitivity</b> Gareth Eaton, University of Denver
11:10 PM	Main Room	<b>Pulsed EPR using superconducting resonators</b> Hans Hübl, Bayerische Akademie der Wissenschaften, Garching
11:30 PM	Main Room	<b>In-cell EPR</b> Malte Drescher, University of Konstanz
12:00 PM	Lunch	
Scientific Talks Session VI Chair: Heinz-Jürgen Steinhoff		
1:20 PM	Main Room	<b>Metal complexes as spin labels – synthesis, model compounds, properties</b> Adelheid Godt, University of Bielefeld
1:40 PM	Main Room	<b>Methods to achieve efficient spin-labeling and EPR spectroscopy of outer-membrane proteins in whole bacteria and native membranes</b> David Cafiso, University of Virginia
2:00 PM	Main Room	<b>In-cell EPR: Recent progress and applications</b> Christian Teutloff, FU Berlin
2:20 PM	Main Room	<b>Revealing contributions of protein configurations and fluctuations, and coupled solvent dynamics, to the chemical steps of enzyme catalysis by using EPR spectroscopic approaches</b> Kurt Warncke, Emory University
2:40 PM	Break	
Scientific Talks Session VII Chair: Stefan Stoll		
3:10 PM	Main Room	<b>A progress report on force detection of light induced paramagnetic systems</b> Stefan Weber, University of Freiburg
3:30 PM	Main Room	<b>Difference between Optical Excitation and Electrical Generation in Donor-Acceptor based OLEDs</b> Andreas Sperlich, University of Würzburg
3:50 PM	Main Room	<b>TBD</b> Hassane Mchaourab, Vanderbilt
4:10 PM	Free time/SPP 1601 Business Meeting	
6:00 PM	Dinner	
Roadmap Document Session I		
7:30 PM	Main Room	<b>Planning session: Determine the EPR subdisciplines which will be section titles in roadmap paper. Working title of paper: "EPR Spectroscopy for 21st Century Science and Technology"</b>

### Wednesday, October 11, 2017

8:00 AM	<b>Breakfast</b>	
<b>Roadmap Document Session II</b>		
9:00 AM	Sunset Lounge	<b>EPR subdiscipline A</b>
9:00 AM	Suite 61	<b>EPR subdiscipline B</b>
9:00 AM	Rock Reading Room	<b>EPR subdiscipline C</b>
9:00 AM	West Dining Room	<b>EPR subdiscipline D</b>
10:30 PM	<b>Break</b>	
11:00 AM	Sunset Lounge	<b>EPR subdiscipline A</b>
11:00 AM	Suite 61	<b>EPR subdiscipline B</b>
11:00 AM	Rock Reading Room	<b>EPR subdiscipline C</b>
11:00 AM	West Dining Room	<b>EPR subdiscipline D</b>
12:00 PM	<b>Lunch</b>	
<b>Roadmap Document Session III</b>		
1:00 PM	Sunset Lounge	<b>EPR subdiscipline A</b>
1:00 PM	Suite 61	<b>EPR subdiscipline B</b>
1:00 PM	Rock Reading Room	<b>EPR subdiscipline C</b>
1:00 PM	West Dining Room	<b>EPR subdiscipline D</b>
3:00 PM	<b>Break</b>	
<b>Roadmap Document Session IV</b>		
3:30 PM	Main Room	<b>Combined Disciplines</b>
6:00 PM	<b>Dinner</b>	
<b>Roadmap Document Session V</b>		
7:30 PM	Main Room	<b>Combined Disciplines</b>

**Thursday, October 12, 2017**

Departure