

# GERALD J. MEYER

Department of Chemistry  
University of North Carolina at Chapel Hill  
Chapel Hill NC 27599-3290

Murray Hall 2202F  
(919) 843-8313  
gjmeyer@email.unc.edu

## Education:

**Ph. D.** (1989) **University of Wisconsin at Madison**, Department of Chemistry with Professor Arthur B. Ellis  
**B.S.** (1985) **State University of New York at Albany**, Departments of Chemistry and Mathematics

## Research Experience:

**Professor:** University of North Carolina at Chapel Hill, Department of Chemistry, (1/14 – present)  
Bernard N. Baker Professor of Chemistry Johns Hopkins University (7/09 –12/13)  
Chair of Chemistry Johns Hopkins University (7/11 – 6/13)  
Johns Hopkins University, Department of Chemistry (7/00 – 12/13)  
Johns Hopkins University, Department of Materials Science & Engineering (7/00 – 12/13)

**Associate Professor:** Johns Hopkins University, Department of Chemistry (7/97 – 6/00)

**Assistant Professor:** Johns Hopkins University, Department of Chemistry (7/91 - 6/97)

**Postdoctoral Associate:** University of North Carolina at Chapel Hill with Thomas J. Meyer (10/89 - 6/91)

## Memberships and Awards:

American Chemical Society	Langmuir Advisory Board (January 2001 – 2009)
Materials Research Society (1998-2008)	Inorganic Advisory Board Chemistry (January 2006-2008)
Electrochemical Society (1991- 2008)	Chemistry of Materials Advisory Board (January 2007 – 2013)
Kavli Frontiers of Science Alumna (2006)	J. Phys. Chem. Advisory Board (September 2012 – 2014)
Inter-American Photochemical Society	Boy Scouts of America, Eagle Rank (1980)
Golden Key Honor Society (1998)	Carrier of the Year Award (1977)
3M Untenured Faculty Award (1994)	IPS International Organizing Committee (2014-2016)
Humboldt Research Award (2022)	

## Research Group

**Current: Graduate Students** (Total 5): Quentin Loague, John Dickerson, Jake Sirlin, Matthew Goodwin, Jackson McCarthy, Emma Dove, Hayden Mann, and Tom Whittemore

**Post-Doctoral Associates:** Matthew Kessinger, Paul Griffin, and Pier Vecchi

**Undergraduates:** Madeline Singletary and Jackson Lyman

**Former: Ph.D. Graduates** (Total 47): Darryn Achey (2013), Shane Ardo (2010), Rachel Bangle (2021), Laura A. Bauer (2004), Tim Barr (2017), Evan Beauvilliers (2017), Bryan Bergeron (2003), Nira S. Birenbaum (2005), Matthew Brady (2020), Erinn Brigham (2015), Felix N. Castellano (1996), Chris Clark (2006), Alexander Deetz (2022), Brian Dimarco (2016), Byron Farnum (2012), Fereshteh Farzhad (1999), Amanda Fond (2007), James Gardner (2008), Georg Hasselman (2000), Todd A. Heimer (1996), Gerard Higgins (2006), Paul Hoertz (2003), Erica James (2020), Ke Hu (2014), Tamae Ito (2006), Andrew Maurer (2020), Ryan O'Donnell (2014), Patrik Johansson (2012), Minh C. Ko (1997), Feng Liu (2005), Andras Marton (2006), Amanda Morris (2009), Tyler Motley (2018), Eric Piechota (2019), Ping Qu (2001), Mark Ruthkosky (1998), Donald V. Scaltrito (2002), Aaron Staniszewski (2008), Jeremy M. Stipkala (1997), Jonathon Stromberg, (2007), Arnold Stux (2003), Michael Turlington (2021), Wesley Swords (2018), Atefeh Taheri (2013), Hailong Xia (2009), John Rowley (2011), William Ward (2014), Sara Wehlin (2020), and Mei Yang (2003).

**Post-Doctoral Associates** (Total 12): Maria Abrahamsson, Bruno Aramburu-Troselj, Jovan Giamio, Craig Kelly, Guocan Li, Sherine O'Bare, Renato S. Sampaio, Jenny Schneider, David Thompson, Ludovic Troian-Gautier, Cassandra Ward, and David Watson.

**Undergraduates** (Total 36): Michael Balfour, Ryan Balok, Marc Bennet, Eugene Ceppa, Erica Dun, Arthur Esswein, Lee Friedman, Robert Freundlich, Joseph Gordonecker, Jacqueline Heath, Angela Jones, Jeffrey Jou, Michelle Kim, David Klein, Taisei Kobayashi, Bert Lai, Talita Malewschik, Kanini Mjuguna, John O'Callahan, Emily Orimilikwe, Timothy Park, Rachele Pinlac, Ely Rothblatt, Andrea Sachs, David Sambade, Shin Shoj, Jose Sintas, Solito Sumulong, Michael Thandasetti, Griffon McCutcheon, Matthew Ryan, Matthew Thompson, Jose Veranda, Dylan Vitt, Jeremiah Xu, and Mark Zaros.

## University Services

### Solar Hub Director (2020 – present):

Director of Department of Energy Solar Hub for liquid fuels entitled CHASE, Center for Hybrid Approaches in Solar Energy to Liquid Fuels, [CHASE Solar Hub \(chaseliquidfuels.org\)](http://chaseliquidfuels.org)

### EFRC Director (2018-2021):

Director of Department of Energy supported Energy Research Frontier Center (EFRC) on solar fuels entitled AMPED, Alliance for Molecular Photoelectrode Design.

### NSF REU Director (2018-2024):

Director of the NSF funded REU entitled Summer Undergraduate Research Opportunities in Chemistry (SUROC)

### EFRC Deputy Director (2014-2018):

Deputy Director of Department of Energy supported UNC Energy Research Frontier Center (EFRC) on solar fuels.

### CRAEMS Center Director (2000-2007):

Principle Investigator and director of an NSF Center for Collaborative Research Activities in Environmental Molecular Science (CRAEMS) entitled “Environmental Redox-Mediated Dehalogenation Chemistry.”

### Committees:

Chemistry Department Colloquium Chair, 1995-96	Faculty Student Interaction Program Host 1994
Chemistry Department Graduate Admissions 1994-04	Consortium for Nanostructured Materials Participant
Chemistry Department Graduate Admissions Chair 1999-00	Dunning Hall Renovation Ad Hoc Committee
Chemistry Department Graduate Student Advising 1992-99	Hughes Undergraduate Summer Program, 1998
Chemistry Department Oral Exams 1993-06	NSF Engineering Research Center, DOGEE, 1995
Committee for a New EPR for Chemistry 1995, 1996	Search Committee for Inorganic Hopkins Faculty, 1997
Graduate Student Recruitment Committee Chair, 2000	Search Committee for Physical Hopkins Faculty, 1996
Faculty Committee on Pre-Medical Education, 2007- 2013	Meyerhoff Bridge Summer Program, 2004-2008
Applied Physical Sciences Search Committee, 2014 – 2016	Strategic Planning Committee Chair, 2014
Co-PI, NSF REU Program entitled SUROC, 2017 - present	Vice-Chair for Diversity, 2014-2021
Conflict of Interest Committee, 2017-present	

### Courses Taught:

030.101 *Introductory Chemistry I*, Fall 1997, 1999, 2000, 2005, 2006, 2007, 2008  
030.112 *Introductory Chemistry with Problem Solving*, Fall 2013  
030.356 *Advanced Inorganic Laboratory*, Spring 1992 -98  
030.449 *Chemistry of Inorganic Compounds*, Fall 1993 – 1995, Spring 2010, Fall 2013  
030.466 *Physical and Analytical Methods*, Fall 1996, 1998, 2006  
030.611 *Electron Transfer*, Fall 1992, Spring 1999, 2001, 2009  
030.688 *Physical Inorganic Methods*, Spring 2006, 2008  
Chem 251 *Introduction to Inorganic Chemistry*, Fall 2020  
Chem 451 *Theoretical Inorganic Chemistry*, Fall 2016, 2017  
Chem 452 *Electronic Structure or Transition Metal Complexes*, Spring 2015, 2018, 2019  
Chem 752 *Photochemistry*, Fall 2019, 2021

### New Courses Developed:

*Advanced Inorganic Laboratory*: Designed and offered for the first time in 1992 as required by the American Chemical Society (ACS) for an ACS certified degree.

*Physical and Analytical Methods*: The objective is to teach the fundamental principles upon which modern analytical instrumentation is based. The course is designed for senior undergraduate and first year graduate students.

*Electron Transfer*: The ubiquitous and essential role electron transfer processes play in many physical, chemical, and biological processes is highlighted in this course. Theory, techniques, and literature examples are discussed.

*Physical Inorganic Methods*: This course provides fundamental examples of the kinds of information that can be obtained by applications of methods to inorganic chemistry. Topics covered include symmetry, group theory, spectroscopy, magnetism and ionization methods.

*Photochemistry*: The goal of this course is to provide a thorough and fundamental understanding of light initiated chemical transformations. Particular emphasis is placed on luminescent transition metal complexes and inorganic materials with applications in environmental chemistry, synthetic chemistry, organic light emitting diodes, and solar energy conversion.

## Outside Services

**Deputy and Founding Editor of ACS-Applied Energy Materials, 2017 – present.**

**Associate Editor of ACS-Applied Materials & Interfaces, May 2012 - 2018.**

**President of the Inter-American Photochemical Society (I-APS), July 2015 – 2018.**

**Conference and Workshop Co-Organizer:**

1. “Photochemistry” Gordon Research Conference, Boston, MA, July 2011.
2. “Electron Donor-Acceptor Interactions” Gordon Research Conference, Newport RI, July 2010.
3. NSF Workshop on Sustainability and Chemistry, Arlington VA, May 30-June 1 2006.
4. XIVth Inter-American Photochemical Society (I-APS) Meeting, Clear Water Beach FL, January 2-5, 2003.

**Symposium Co-Organizer:**

1. “PCET for Solar Fuel Production” 255<sup>th</sup> A.C.S Meeting, INORG Division, New Orleans LA March, 2018.
2. “Organic-Inorganic Photocells” 240<sup>th</sup> A.C.S. Meeting, COLL Division, Boston MA, August, 2010.
3. “Science & Technology of Next Generation Photovoltaics” 232<sup>nd</sup> A.C.S. Meeting, PMSE Division, San Francisco CA, September, 2006.
4. “Nanostructured Electronic and Photonic Materials” 200<sup>th</sup> Electrochem. Soc. Meeting, Philadelphia, PA, 2002.
5. “State of the Art: Semiconductor and Metal Nanoparticles for Light Energy Conversion” 222<sup>nd</sup> A.C.S. Meeting, Chicago, IL, 2001.
6. “Nanostructured Materials in Electrochemistry” 187<sup>th</sup> E.C.S. Meeting, Reno, NV May, 1995.

**Panel Review and Workshop Participant:**

1. “Panel on Solar Fuels and Chemicals” Royal Society of Chemistry, London (Virtual), October 20, 2021.
2. “Catalytic H<sub>2</sub> Generation (H<sub>2</sub>Gen)” National Science Foundation (NSF), Arlington, VA, February 11-12, 2016.
3. “Catalysis for Energy” National Science Foundation (NSF), Arlington, VA, March 1-2, 2012.
4. “Germany-USA Conference on Energy and Climate Research” NSF, Arlington, VA, February 18, 2010.
5. “Molecular Solar Workshop”, National Science Foundation, Estes Park, CO, September 4-9, 2007.
6. Solar Energy Technologies Program Review, Department of Energy, Denver CO November 6-9, 2005.
7. “Basic Research Needs for Solar Energy Utilization”, Department of Energy, Bethesda MD, April 18-21, 2005.
8. Review of Notre Dame Radiation Laboratory, Notre Dame, IN April 17-19, 2002.
9. “Career Grants”, National Science Foundation, Arlington, VA Oct 23-24, 2000.
10. “Small Business Innovative Research/Small Business Technology Transfer” NSF, Arlington, VA Sept. 14, 1999.
11. “Basic Research Opportunities in Photovoltaics” NREL, Seattle, WA May 3, 1999.
12. “Research Opportunities in Photochemical Sciences” Department of Energy, Estes Park, CO February 5-8, 1996.

## Invited Presentations

**National/Governmental Laboratories** (8 Total): Argonne National Laboratory, Argonne IL; Army Research Laboratory at Adelphi, MD; Brookhaven National Laboratory, Upton NY; Los Alamos National Laboratory, Los Alamos NM; National Institute of Standards, Gaithersburg MD; National Renewable Energy Laboratory, Golden CO; Office of Naval Research, Washington DC; and the US Naval Academy, Annapolis, MD.

**Industry** (9 Total): BP Solar, Taona VA; DuPont, Wilmington DE; GE Global Research, Schenectady NY; Pittsburg Paint & Glass, Pittsburg PA; Polysciences Inc., Warrington PA; Rohm & Haus, Philadelphia PA; 3M Company, St. Paul MN; Universal Display Corporation, Ewing NJ; and Watson Pharmaceuticals, Salt Lake City UT.

**US Universities and Colleges** (99 Total): Amherst College, Amherst MA; Arizona State University, Tempe AZ; Auburn University, Auburn AL; Bloomsburg University, Bloomsburg PA; Bowdoin College, Brunswick, ME; Bowling Green State University, Bowling Green OH; Brigham Young University, Provo UT; California Institute of Technology, Pasadena CA; Case Western Reserve University, Cleveland OH; City College of New York, New York NY; Catholic University of America, Washington DC; Colorado State University, Fort Collins CO; Davidson College, Davidson, NC; Drexel University, Philadelphia PA; Duke, Durham NC; Eastern College, St. David’s PA; Emory, Atlanta GA; Furman University, Greenville SC; George Mason University, Fairfax VA; George Washington University, Washington DC; Georgetown University, Washington DC; Georgia Institute of Technology, Atlanta GA; Gettysburg College, Gettysburg PA; Goucher College, Towson MD; Hood College, Frederick, MD; Howard University, Washington DC; Indiana University, Bloomington, IN; Johns Hopkins University, Baltimore MD; La Salle University, Philadelphia PA; Lebanon Valley College, Annville PA; Lehigh University, Bethlehem, PA; Lincoln University, Lincoln PA; Loyola College, Baltimore MD; Marquette, Milwaukee WI; Michigan State University, East Lansing MI; Muhlenburg College, Allentown PA; North Carolina State University, Raleigh, NC; Northwestern University, Evanston IL; Ohio State University, Columbus OH; Ohio University, Athens, OH; Penn State University, College Station PA; Princeton University, Princeton NJ; Rensselaer Polytechnic Institute, Troy, NY; Rice University, Houston TX; Rochester University, Rochester NY; Roger Williams University, Bristol RI; Rutgers University, Passaic NJ; Rutgers University, Newark NJ; St. Michael’s College, Burlington, VT; SUNY-Binghamton, Binghamton NY; SUNY-Buffalo, Buffalo NY; Temple University, Philadelphia PA; Towson University, Towson MD; Tulane University, New Orleans LA; University of Alabama,

Birmingham AL; University of California, Berkeley CA; University of California, Irvine CA; University of California, Los Angeles CA; University of California, Riverside CA; University of California, San Diego CA; University of California, Santa Barbara CA; University of Chicago, Chicago IL; University of Delaware, Newark DE; University of Florida, Gainesville FL; University of Kentucky, Lexington KY; University of Maryland, College Park MD; University of Maryland at Baltimore County, Catonsville, MD; University of Maryland at Baltimore, Baltimore MD; University of Massachusetts-Boston; University of Miami, Miami FL; University of Minnesota, Minneapolis, MN; University of New Hampshire, Durham, NH; University of North Carolina, Chapel Hill NC; University of North Carolina, Greensboro NC; University of South Carolina, Columbia SC; University of Southern California, Los Angeles, CA; University of Pennsylvania, Philadelphia PA; University of Pittsburgh, Pittsburgh, PA; University of Richmond, Richmond VA; University of Texas at Houston, Houston TX; University of Utah, Salt Lake City UT; University of Virginia, Charlottesville VA (virtual); University of Washington, Seattle WA; University of Wisconsin, Madison WI; University of Wyoming, Laramie WY; Utah State, Logan UT; Vanderbilt University, Nashville, TN; Virginia Commonwealth University, Richmond, VA; Virginia Tech, Blacksburg VA; Virginia Wesleyan College, Norfolk VA; Wake Forest University, Winston-Salem NC; Washington University, St. Louis MO; Wayne State University, Detroit MI; Washington College, Chestertown MD; West Virginia University, Morgantown; and William Paterson University, Wayne NJ.

**International Universities and Colleges** (31 Total): Academia Sinica, Taipei Taiwan; Bologna University, Italy; Catholic University of Chile, Temuco Chile; Chalmers University, Friedrich-Schiller-Universität Jena, Germany; Gothenburg Sweden; Fudan University, Shanghai, China; Harbin Institute of Technology, China; Imperial University, London England; Lund University, Sweden; Institut de Chimie de Strasbourg, France; Ludwig Maximilian University, Munich Germany; Nantes University, France; Nanyang Technological University, Singapore; Newcastle University, England (virtual); Pontifical Catholic University of Chile, Santiago Chile; Stockholm University, Stockholm Sweden; technical University of Vienna, Austria; KTH Royal Institute of Technology, Stockholm Sweden; Ciudad Universitaria, Buenos Aires Argentina; Unidad Mérida, Mérida, Yucatán, México; Universidad De Santiago De Chile, Santiago Chile; University of Basel, Switzerland; University of Calgary, Alberta Canada; University of Ferrara, Ferrara Italy; University of Grenoble, France; University of Strasbourg, France; University of Padova, Padova Italy; University of Milan, Italy; University of Vienna, Austria; University of Zurich, Switzerland; and Uppsala University, Sweden.

**Invited Presentations at Professional Meetings (2014→ present):**

ACS Spring 2024 National Meeting & Exposition, New Orleans, LA (March 19, 2024)  
*Spectroelectrochemical Characterization of Inorganic Complexes and Materials*

ACS Spring 2024 National Meeting & Exposition, New Orleans, LA (March 19, 2024)  
Celebrating Diversity in Chemistry  
*Efforts to Promote Diversity in Chemistry*

ACS Spring 2024 National Meeting & Exposition, New Orleans, LA (March 19, 2024)  
Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in Honor of Sara V. Thoi  
*Raising the Bar on Energy Research at Johns Hopkins*

Physical Inorganic Tutorial: Spectroelectrochemistry, American Chemical Society (Virtual) (November 8, 2023)  
*Spectroelectrochemical Analysis of Inorganic Materials and Complexes*

Société Royale de Chimie, Louvain-la-Neuve Brussels Belgium (October 19, 2023)  
*Solar Energy Conversion with Molecular-Semiconductor Hybrid Photoelectrodes*

244th Electrochemical Society Meeting, Gothenburg Sweden (October 10, 2023)  
Crosscutting Materials Innovation for Transformational Chemical and Electrochemical Energy Conversion Technologies 4  
*Crosscutting Materials and Molecular Catalysts in Hybrid Photoelectrodes for Liquid Solar Fuel Production*

The 12<sup>th</sup> Soltech Conference, Wurzburg, Germany (October 2, 2023)  
CHASE: Solar Energy Conversion with Molecular-Semiconductor Hybrids

**Invited Presentations at Professional Meetings (2014→) (Con't):**

ACS Spring 2022 National Meeting & Exposition, San Francisco CA (August 13, 2023)  
Molecular and Heterogeneous Photocatalysts: Advances in Experiments and Theory  
*Reorganization Energies for Interfacial Electron Transfer within the Electric Double Layer*

PCET4 Tarragona Spain (June 9, 2023)  
*PCET Reactivity of Metal Formyl Complexes and Organic Hydrides within CHASE*

Duke Materials Initiative Symposium on Sustainable Energy Solutions for Climate Change, Durham NC (April 28, 2023)  
*Liquid Solar Fuels in CHASE*

The Center for Electrochemistry Annual Workshop on Electrochemistry, Austin TX (February 12, 2023)  
*Marcus Analysis of Electron Transfer Kinetics within the Electric Double Layer*

Symposium in Memory of Franco Scandola, Ferrara Italy (December 14, 2022)  
*Supramolecular Photochemistry with Franco*

NC Photochemistry, Columbia, SC (October 8, 2022)  
*Photochemistry in CHASE*

Electrochemistry Gordon Research Conference, Ventura CA (September 16, 2022)  
Fundamental to Applied Electrochemistry: New Frontiers  
*Marcus-Gerischer Analysis of Interfacial Electron Transfer Kinetics Within the Electric Double Layer.*

2022 Electron Donor Acceptor Interactions Gordon Research Conference, Newport RI (August 2, 2022)  
*Interfacial Electron Transfer Kinetics as a Probe of Electronic Couplings and Molecular Reorganization Energies*

The 24<sup>th</sup> International Symposium on the Photochemistry and Photophysics of Coordination Compounds (ISPPCC), University of British Columbia, Vancouver Canada, (July 28, 2022).  
*Can We Control Encounter Complex Formation in Bimolecular Photochemistry?*

ACS Spring 2022 National Meeting & Exposition, San Diego CA (March 20, 2022)  
*Photoelectrochemistry at the Intersection of Molecular Catalysts and Semiconducting Electrodes*

Pacificchem 2021, Honolulu HI (virtual) (December 20, 2021)  
From Electron Transfer to Electrochemistry to Mixed Valence Molecules to Photosynthesis (In memory of the late Prof. Noel Hush)  
*Hush Analysis of Adiabatic and Nonadiabatic Redox Equilibria.*

Southeast Regional Meeting of the ACS (SERMACS), Birmingham, AL (November 11, 2021)  
Electron Transfer Symposium  
*CHASE Hybrid Photoelectrodes for Water Oxidation*

Erlangen Webinar on Solar Energy Conversion, Erlangen Germany (virtual) (November 8, 2021)  
*The Center for Hybrid Approaches in Solar Energy to Liquid Fuels (CHASE): A Vision for Sustainable Energy at the Interface of Molecules and Materials*

240<sup>th</sup> Electrochemical Society Meeting, Orlando FL (virtual) (October 1, 2021)  
*A Vision for Sustainable Energy: The Center for Hybrid Approaches in Solar Energy to Liquid Fuels (CHASE)*

ACS Science Talk, Virtual Lecture Series (April 23, 2021)  
*Dye-Sensitized Electron Transfer*

ACS Spring 2021 National Meeting & Exposition, San Antonio, TX (virtual) (April 14, 2021)  
*Shining light on Karlin complexes.*

ACS Spring 2021 National Meeting & Exposition, San Antonio, TX (virtual) (April 7, 2021)  
Harry Gray Award for Creative Work by a Young Investigator: Symposium in Honor of Smaranda Marinescu  
*Reorganization energies for electron and proton-coupled electron transfer at conductive interfaces*

**Invited Presentations at Professional Meetings (2014→) (Con't):**

ACS Spring 2021 National Meeting & Exposition, San Antonio, TX (virtual) (April 5, 2021)

*Acid-base and photoredox chemistry at illuminated semiconductor-liquid interfaces.*

nanoGe Spring Meeting, Madrid Spain (virtual) (March 9, 2021)

*Transparent Conductive Oxides for Fundamental Analysis of Dye-Sensitization*

5<sup>th</sup> International Symposium on Energy Chemistry & Materials, Fudan University, Shanghai, China (October 14, 2019)

*Solar Energy Conversion with Molecules and Materials*

JSU-UCSB PREM Material Science Conference, Jackson, MI (July 24, 2019)

*The Quest for Sustainable Energy*

23rd International Symposium on Photochemistry of Coordination Compounds (ISSPPCC), Hong Kong, China (July 15, 2019)

*Radiative and Non-radiative Decay of Ru<sup>II</sup> Charge Transfer Excited States Ion-Paired with Halide Ions.*

ACS Spring 2019 National Meeting & Exposition, Orlando FL (April 1, 2019)

Through the Lens of Inorganic Chemistry: Understanding Heterogeneous Processes in Energy Conversion & Storage

*Adiabatic and non-adiabatic electron transfer at heterogeneous dye-sensitized titanium dioxide interfaces*

ACS Spring 2019 National Meeting & Exposition, Orlando FL (March 31, 2019)

Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in Honor of Jillian L. Dempsey

*Excited State Oxidation of Iodide Ions in Terionic Assemblies*

31st Workshop on Quantum Solar Energy Conversion (QUANTSOL 2019), Rauris Austria (March 18, 2019)

*The Influence of Electronic Coupling on the Free Energy and Barriers for Electron Transfer*

2019 Fitzpatrick Institute for Photonics Symposium. Materials & Photonics: Advancing The World (March 12, 2019)

*Dye-Sensitization of Semiconductor Nanocrystallites for Solar Energy Conversion*

John Albert Southern Lecture, Furman University, Greenville SC (February 12, 2019)

*The Quest for Sustainable and Renewable Energy*

Rajendra Rathore Memorial Symposium, Marquette University, Milwaukee WI (October 18, 2018)

*Frontier Orbitals, Bridges, and Stable Cations: Contributions from a Compassionate Chemist and Friend*

Orcas 2018: Clean Energy Institute, University of Washington, Orcas Island, WA (September 8, 2018)

*The Influence of Electronic Coupling on Electron Transfer and Electrochemical Energy Storage*

22nd International Conference on Photochemical Conversion and Storage of Solar Energy, Hefei, China (July 31, 2018)

*Electronic Coupling at Dye-Sensitized TiO<sub>2</sub> Interfaces Lowers the Free Energy Change that Accompanies Electron Transfer*

Photo-IUPAC, Dublin Ireland (July 10, 2018)

*Excited-State Sensing, Release, and Oxidation of Halide Ions*

The Solar Energy Research Conference (SERC) at SERMACS, Charlotte NC (November 9, 2017)

*Dye-Sensitized Water Oxidation*

The 7<sup>th</sup> Chemical Sciences and Society Summit (CS3), Solar Energy for a Sustainable Future, Dalian China (September 6, 2017)

*Artificial Photosynthesis and CO<sub>2</sub> Reduction*

2017 EFRC-Hub DOE Contractor's Meeting, Washington DC (July 25, 2017)

*Multi-electron and proton transfers for solar water oxidation*

28<sup>th</sup> International Conference on Photochemistry, Strasbourg, France (July 18, 2017)

*Dye-Sensitized Hole and PCET Transfer for Water Oxidation*

**Invited Presentations at Professional Meetings (2014→) (Con't):**

22nd International Symposium on Photochemistry of Coordination Compounds (ISSPPCC), Oxford, England (July 10, 2017)  
*Iodide Photo-oxidation*

Applications of Photoactive Coordination Compounds, University of St. Andrews, Scotland (July 6, 2017)  
*MLCT Excited States*

39<sup>th</sup> DOE Solar Photochemistry Contractor's Meeting, Gaithersburg, MD (June 8, 2017)  
*Electron Transfer Dynamics in Efficient Molecular Solar Cells*

Resource Chemistry Workshop, Shanghai Normal University, Shanghai China (May 16, 2017)  
*Applications of Dye-Sensitization in the Production of Electrical Power and Chemical Fuels with Sunlight*

The 2016 Makhoul Haddadin Symposium, American University of Beirut, Lebanon (October 20, 2016)  
*Dye Sensitization for Sustainable Energy*

Southern California Inorganic Photochemistry (SCIP) Conference, Catalina Island, CA (September 17, 2016)  
*Charge Transfer Excited States at Metal Oxide Interfaces*

"Manipulation of Energy & Electron Transfer in Molecules" 252<sup>nd</sup> National A.C.S. Meeting Philadelphia PA (August 24, 2016)  
*Light-driven, multi-electron transfer activation of a water oxidation catalyst*

21<sup>st</sup> International Conference on Photochemical Conversion and Storage of Solar Energy, St. Petersburg Russia (July 27, 2016)  
*Photocatalytic Water Oxidation with Dye-Sensitized Metal Oxides*

5<sup>th</sup> International Conference from Nanoparticles and Nanomaterials to Nanodevices, Porto Helio Greece (June 27, 2016)  
*Dye-Sensitized Core-Shell Nanostructures for Sustainable Energy.*

"Inorganic Complexes for Solar Energy Harvesting" Pacificchem. Honolulu HA (December 18, 2015)  
*Ruthenium Polypyridyl Complexes that Photo-oxidize Halide Ions in Fluid Solution and at TiO<sub>2</sub> Interfaces*

"International Conference on Materials Science" ICMS 2015 Valdivia Chile (October 19, 2015)  
*A Through-Bond Mechanism for Light Driven Interfacial Electron Transfer*

"Biological Inspiration for Environmental Sustainability..." 250<sup>th</sup> National A.C.S. Meeting Boston, MA (August 19, 2015)  
*Bioinspired approaches for energy storage: Molecular excited states that drive bond formation*

"Solar Solutions to Energy and Environmental Problems" TSRC, Telluride CO (August 4, 2015)  
*Dye-Sensitized Photoelectrosynthesis Cells*

Hybrid Organic Photovoltaics (HOPV15), Rome Italy (May 11, 2015)  
*Halide Electron Transfer Chemistry for Solar Energy Conversion.*

25<sup>th</sup> Inter-American Photochemical Society Conference, Sarasota, FL (January 3, 2015)  
*Do Atomistic Changes to Molecular Sensitizers Influence Interfacial Electron Transfer in Dye-Sensitized Solar Cells?*

"Workshop on Applied Functional Materials Chemistry" KAUST, Saudi Arabia (October 27, 2014)  
*Local Electric Fields at Sensitized Semiconductor Interfaces*

"9<sup>th</sup> Workshop of Computational Chemistry and Molecular Spectroscopy", Punta de Tralca, Chile (October 15, 2014)  
*Hole Transfer Reactions at Semiconductor Interfaces*

"Renewable Energy Generation at the Interface ... Experiment" 243<sup>rd</sup> National A.C.S. Meeting, San Francisco CA (August 13, 2014)  
*Mechanisms of iodide electron transfer chemistry for solar energy conversion*

Hybrid Organic Photovoltaics (HOPV14), Lausanne Switzerland (May 12, 2014)  
*The Roles of Iodide Ions in Dye Sensitized Solar Cells*

### **Invited Presentations at Professional Meetings (2014→) (Con't):**

“Molecular Inorganic Chemistry at the Frontiers of Energy Research” 247<sup>th</sup> National ACS Meeting, Dallas TX (March 16, 2014)  
*Photoinduced electron transfer at TiO<sub>2</sub> interfaces sensitized to visible light with cycloruthenated complexes.*

### **Publications:**

#### **Journal Publications:**

- 1) **Evidence for Adduct Information at the Semiconductor-Gas Interface. Photoluminescent Properties of Cadmium Selenide in the Presence of Amines.** Meyer, G.J.; Lisensky, G.C.; Ellis, A.B. *J. Amer. Chem. Soc.* **1988**, *110*, 4914.
- 2) **A Selective Detector for Gas Chromatography Based on Adduct-Modulated Semiconductor Photoluminescence.** Lisensky, G.C.; Meyer, G.J.; Ellis, A.B. *Anal. Chem.* **1988**, *60*, 2531.
- 3) **Dioxygen-Copper Reactivity. Models for Hemocyanin: Reversible O<sub>2</sub> and CO Binding to Structurally Characterized Dicopper(I) Complexes Containing Hydrocarbon-Linked Bis[2-(2-pyridyl)ethyl]amine Units.** Karlin, K.D.; Haka, M.S.; Cruse, R.W.; Meyer, G.J.; Farooq, A.; Gultneh, Y.; Hayes, J.C.; Zubieta, J. *J. Amer. Chem. Soc.* **1988**, *110*, 1196.
- 4) **Semiconductor-Olefin Adducts. Photoluminescent Properties of Cadmium Sulfide and Cadmium Selenide in the Presence of Butenes.** Meyer, G.J.; Leung, L.K.; Yu, J.C.; Lisensky, G.C.; Ellis, A.B. *J. Amer. Chem. Soc.* **1989**, *111*, 5146.
- 5) **Time-Resolved Luminescence of Electron-Hole Pairs in Cd(S,Se) Graded Semiconductors.** Hane, J.K.; Prisant, M.G.; Harris, C.B.; Meyer, G.J.; Leung, L.K.; Ellis, A.B. *J. Phys. Chem.* **1989**, *93*, 7975.
- 6) **Modulation of the Time-Resolved Photoluminescence of Cadmium Selenide by Adduct Formation with Gaseous Amines.** Leung, L.K.; Meyer, G.J.; Lisensky, G.C.; Ellis, A.B. *J. Phys. Chem.* **1990**, *94*, 1214.
- 7) **Synthesis of Redox Derivatives of Lysine and Related Peptides Containing Phenothiazine or Tris(2,2'-bipyridine) Ruthenium(II).** Peek, B.M.; Ross, G.T.; Edwards, S.W.; Meyer, G.J.; Meyer, T.J.; Erickson, B.W. *Int. J. Peptide Protein Res.* **1991**, *38*, 114.
- 8) **Photoelectrochemical Solar Energy Conversion at Nanostructured Materials.** Meyer, G.J.; Searson, P.C. *Interface* **1993**, *2*, 23-27.
- 9) **Molecular Level Photovoltaics: The Electro-Optical Properties of Metal Cyanide Complexes Anchored to Titanium Dioxide.** Heimer, T.A.; Bignozzi, C.A.; Meyer, G.J. *J. Phys. Chem.* **1993**, *97*, 11987-11994.
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