

### List of invited talks (national and international meetings from 2006): Etsuko Fujita

1. "Title TBA" invited talk in the ACS symposium "Physical Chemistry of Solar Energy Conversion", the 246th ACS National Meeting, Indianapolis, Indiana, Sept. 8-12, 2013 (Scheduled)
2. "Artificial Photosynthesis for Fuel Generation and Water Oxidation," Plenary lecture at the Conference on Catalysis (NCCC), Noordwijkerhout, Netherlands, Mar. 11-13, 2013 (Scheduled)
3. "Title TBA" invited talk at the Umeå Renewable Energy Meeting (UREM) 2013, Umeå, Sweden, Feb. 25-27, 2013 (Scheduled).
4. Invited talk in the symposium on "Photonic Assemblies, Materials, and Catalysts for Solar Fuels", Southeast Regional Meeting of the American Chemical Society, Raleigh, NC, Nov. 14-15, 2012 (Scheduled)
5. Invited talk in the Second Biannual Carbon Dioxide Workshop on 'Future Directions in CO<sub>2</sub> Conversion Chemistry', Princeton University, Princeton, NJ, Nov. 9, 2012 (Scheduled)
6. "CO<sub>2</sub> Reduction and Water Oxidation with Metal Complexes having Pendent Bases,' Invited talk in symposium on "Solar Energy Conversion" at Niigata University, Niigata, Japan, Sept. 24, 2012 (Scheduled)
7. "Artificial Photosynthesis: CO<sub>2</sub> Reduction with Metal Complexes having Pendent Bases and Water Oxidation with Ru Mononuclear Complexes," Etsuko Fujita, Jonathan F. Hull, James T. Muckeman, Dmitry E. Polyansky, Wan-Hui Wang, and Yuichiro Himeda, The 62nd Conference of Japan Society Coordination Chemistry (JSCC), Toyama, Japan, Sept. 21-23, 2012 (Scheduled)
8. "Carbon Dioxide Reduction: Current Status and Future Prospects,' invited talk at the Solar Fuels Institution (SOFI) launch event, Telluride, Colorado, Aug. 12-15, 2012
9. "Artificial Photosynthesis for Fuel Generation and Water Oxidation", Gordon Research Conference on Photosynthesis at Davidson College in Davidson, North Carolina, July 8-13, 2012
10. "Water Oxidation Mechanism with Ruthenium Complexes: Direct Pathway via Ru(IV) Oxo Species," D. E. Polyansky, J. T. Muckerman, Y. Badiei, R. Haberdar, R. Zong, R. P. Thummel and E. Fujita, the Symposium on "Solar Fuels Generation by Transition Metals" at the 95<sup>th</sup> Canadian Society for Chemistry (CSC) Conference, Calgary, Canada, May 26-30, 2012
11. "Solar Fuels Generation using Transition-Metal Molecular Catalysts" Etsuko Fujita, James T. Muckerman and Dmitry E. Polyansky, Invited talk in the International Forum on Photo-energy Future (IFPF), Jeju Island, Korea, December 7-9, 2011
12. "Solar Fuels Generation using Transition-Metal Molecular Catalysts," invited talk in the Natural and Artificial Photosynthesis Conference, RPI, Troy, NY, Nov. 4-5, 2011
13. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," invited talk in the DOE Basic Energy Sciences CO<sub>2</sub> Workshop, "CO<sub>2</sub> reduction: comparing natural and synthetic systems", Annapolis, MD, Oct, 24-26, 2011

14. "Water Oxidation with Mononuclear Ru Complexes with Pendent Bases," Etsuko Fujita, James T. Muckerman, Dmitry E. Polyansky, Ruifa Zong, Randolph P. Thummel The Post Faraday Discussion 155 Meeting, Edinburgh, UK, Sept. 8-9, 2011
15. "Steric Effect for Proton, Hydrogen-Atom, and Hydride Transfer Reactions with Geometric Isomers of NADH-Model Ruthenium Complexes," B. W. Cohen, D. E. Polyansky, P. Achord, D. Cabelli, J. T. Muckerman, K. Tanaka, R. P. Thummel, R. Zong, and E. Fujita, Artificial Photosynthesis: Faraday Discussion 155, Edinburgh, UK, Sept. 5-7, 2011
16. "Carbon dioxide reduction using transition-metal complexes," Etsuko Fujita and Carol Creutz, The 242<sup>nd</sup> ACS National Meeting, a special symposium "100th Year Anniversary of Marie Curie's Nobel Prize", Physical Chemistry Division, Denver, CO, Aug. 28- Sept. 1, 2011 (Canceled due to Hurricane Irene)
17. Characterization of intermediates involved in water oxidation and CO<sub>2</sub> reduction, Etsuko Fujita, James T. Muckerman, Dmitry E. Polyansky, Ruifa Zong, and Randolph P. Thummel The 242<sup>nd</sup> ACS National Meeting, Symposium on "Fifty Years of Inorganic Chemistry - A Celebration of Past, Present and Future", Denver, CO, Aug. 28-31, 2011 (Canceled due to Hurricane Irene)
18. "Solar Fuel Production from Carbon Dioxide," Keynote lecture in the 11th International Conference on Carbon Dioxide Utilization, Université de Bourgogne, Dijon, France, June 27-30, 2011
19. "Catalyzed Water Oxidation by Solar Irradiation of Band-Gap-Narrowed Semiconductors," Etsuko Fujita, Peter Khalifah, Sergei Lymer, James T. Muckerman, José Rodriguez, The 33rd DOE Solar Photochemistry Research Conference, Wintergreen, VA, June 5-8, 2011
20. "Photochemical CO<sub>2</sub> reduction: Going beyond the current problems," Etsuko Fujita, Carol Creutz, David C. Grills, James T. Muckerman, and Dmitry E. Polyansky "Symposium on Chemical Carbon Mitigation – A Physiochemical Approach", The 241st ACS National Meeting, "Symposium on Chemical Carbon Mitigation – A Physiochemical Approach", Anaheim Convention Center, Anaheim, CA, Mar. 27-31, 2011
21. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects", invited talk in the ACS New York Section-Wide Conference, Jan. 15, 2011
22. "Solar Fuel Generation using Transition Metal Complexes," Etsuko Fujita and James T. Muckerman, The Symposium on "Coordination Chemistry toward Artificial Photosynthesis and Energy Conversion Processes" at PACIFICHEM 2010, Honolulu, HI, December 15-20, 2010
23. "Characterization of Ruthenium 2-Iminoquinone Complexes through Experimental and Theoretical Studies," Jonathan Rochford, Ming-Kang Tsai, James T. Muckerman, and Etsuko Fujita, Symposium on "Redox Redux: The Renaissance on Non-innocent Ligand Complexes" at PACIFICHEM 2010, Honolulu, HI, December 15-20, 2010

24. "Redox Catalysis for Solar Fuel generation," in The General Electric Global Research Center's "Solar Fuels Symposium," The GE Global Research Center, Niskayuna, NY, Nov. 1, 2010
25. "Solar Fuel Generation using Coordination Compounds: Water Splitting and CO<sub>2</sub> Reduction," Etsuko Fujita and James t. Muckerman, The 60th JSCC meeting and 60CCCO in Osaka, Osaka, Japan, Sept. 28-30, 2010
26. "Redox Catalysis for Solar Fuel Generation," invited talk in the 2nd International Symposium on Solar Fuels and Solar Cells, Dalian, China, August 28-31, 2010
27. "Redox Catalysis for Solar Fuel Generation," invited talk in the Gordon Research Conference on Inorganic Chemistry, The University of New England, Biddeford, Maine, June 20-25, 2010
28. "Artificial Photosynthesis: Current Status and Challenges," in the 1st METI-DOE Clean Energy Workshop, Albuquerque, NM, June 2-6, 2010
29. "Solar Fuel Generation Research at BNL: Photochemical Water Splitting and CO<sub>2</sub> Reduction," in the 3rd Argonne-Northwestern Solar Energy Research (ANSER) Center Symposium, Northwestern University, May 6-7, 2010
30. "Photochemical CO<sub>2</sub> Reduction: Current Status and Challenges," in the Symposium on "Sustainable Fuels from CO<sub>2</sub>, H<sub>2</sub>O and Carbon-Free Energy," Columbia University, New York, NY, May 4, 2010
31. "Photochemical CO<sub>2</sub> Reduction using Transition Metal Complexes: Current Status and Future Prospects," invited talk in the Symposium on "Photoenergy and Materials Conversion: Future for Artificial Photosynthesis", The 90th CSJ Spring Meeting, Kinki University, Higashi-Osaka, Japan, Mar. 26-29, 2010
32. "Redox Catalysis for Solar Fuel Generation," Etsuko Fujita, Carol Creutz, David C. Grills, James T. Muckerman, and Dmitry E. Polyansky, The Symposium on "Solar Cells and Solar Fuels", Fuel Chemistry Division, The 239th ACS National Meeting, San Francisco, Mar. 21-25, 2010
33. "Photocatalytic CO<sub>2</sub> Reduction: If Nature Can Do It, Why Can't We?," invited talk in the International Conference with Women Chemists, Nagoya Institute of Technology, Nagoya, Japan, Dec. 11, 2009
34. "Water oxidation by Molecular Catalysts having a Proton Relay or a Non-Innocent Ligand," Etsuko Fujita, Julie Boyer, James T. Muckerman, Dmitry E. Polyansky, Koji Tanaka, Randolph Thummel, Tohru Wada, and Ruifa Zong, invited talk in the International Conference on Molecular Science for Solar Fuel, Sigtuna, Sweden, Nov. 1-5, 2009
35. "Toward more efficient photochemical CO<sub>2</sub> reduction: Use of scCO<sub>2</sub> or photogenerated hydrides," Etsuko Fujita, Mark D. Doherty, David C. Grills, James T. Muckerman, Dmitry E. Polyansky, and Koji Tanaka, Invited talk in "Mechanisms in Chemistry," The 42<sup>nd</sup> IUPAC Congress Chemistry Solutions, Glasgow, UK, Aug. 2-7, 2009
36. "Kinetics and Thermodynamics of Small Molecule binding to a Rh<sup>I</sup>(PCP) Complex: Direct Addition to a Three-Coordinate Intermediate," Etsuko Fujita, Mark D. Doherty,

David C. Grills, Kuo-Wei Huang, James T. Muckerman, Dmitry E. Polyansky, and Rudi van Eldik, The 18th International Symposium on the Photochemistry and Photophysics of Coordination Compounds, Jul. 4-9, 2009, Sapporo, Japan

37. "Photogeneration of Hydride Donors and Their Use toward CO<sub>2</sub> Reduction," Etsuko Fujita, James T. Muckerman, Dmitry E. Polyansky, Invited talk in the 31<sup>st</sup> DOE Solar Photochemistry Research Conference, Westin Annapolis Hotel, Annapolis, MD, Jun. 7-10, 2009
38. "Toward More Efficient Photochemical CO<sub>2</sub> Reduction: Use of scCO<sub>2</sub> or Photogenerated Hydrides," Etsuko Fujita, Mark Doherty, David C. Grills, James T. Muckerman and Dmitry E. Polyansky, Invited talk in the Symposium on "Capturing and Storing Solar Energy - Inorganic Chemistry to the Rescue", the 237<sup>th</sup> ACS National Meeting in Salt Lake City, UT, Mar. 21-26, 2009
39. "Toward Photochemical CO<sub>2</sub> Reduction using Renewable Hydride Donors," invited talk in the Gordon Research Conference on Renewable Energy: Solar Fuels, Ventura, CA, Feb. 1-5, 2009
40. "A Coordination Chemistry Approach to Artificial Photosynthesis," Keynote talk in the Graduate Research Seminar, Gordon Research Conference on Renewable Energy: Solar Fuels, Ventura, CA, Jan. 31-Feb. 1, 2009
41. "Photochemical CO<sub>2</sub> Reduction: Current Status and Challenges," Invited talk in the Osaka University Forum 2008 in San Francisco, Global COE Program, Bio-Environmental Chemistry, San Francisco, CA, Dec. 8-10, 2008
42. "Photochemical CO<sub>2</sub> Reduction: Current Status and Challenges", Invited talk in the Kumamoto Symposium on Design and Applications of Advanced Molecular Materials - *Strategies for Novel Energy Conversion by Coordination Compounds*-, Kumamoto University, Japan, Dec. 2, 2008
43. "Photochemical generation of A Hydride Donor and Its Reactions," E. Fujita, D. E. Polyansky, D. Cabelli, P. Achord, T. Fukushima, K. Tanaka, and J.T. Muckerman, Invited talk in the 58th Conference of Japan Society Coordination Chemistry (JSCC), Kanazawa, Japan, Sept. 20-22, 2008
44. "Water Oxidation Catalysts: Ruthenium Complexes with Non-Innocent Quinone Ligands," Etsuko Fujita, Tohru Wada, Koji Tanaka, and James T. Muckerman, Invited talk in the Symposium on "Guilty Pleasures: The Joys of Metal Complexes of Non-Innocent, Redox-Active Ligands", the 236<sup>th</sup> ACS National Meeting, Philadelphia, PA, Aug. 17-21, 2008
45. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," invited talk in the Workshop on "Efficient Conversion of Solar Energy to Electricity and Fuels: Critical Research Directions and Tutorial", Boulder, CO, Aug. 13-15, 2008
46. "Toward CO<sub>2</sub> Reduction using Photochemically Produced Hydride Donors," invited talk in the, NSF workshop on "Reversing Global Warming: Chemical Recycling and Utilization of CO<sub>2</sub>", Davidson Conference Center, University of Southern California, LA, Jul. 9-10, 2008

47. "Catalyzed Water Oxidation by Solar Irradiation of Band-Gap-Narrowed Semiconductors," Etsuko Fujita and James T. Muckerman, Hydrogen Fuel Initiative Contractors' Meeting, Arlington, VA, Jun. 9-13, 2008
48. "Photochemical CO<sub>2</sub> Reduction by Rhenium and Ruthenium Complexes," Etsuko Fujita, James T. Muckerman, and Koji Tanaka, Invited talk in the Symposium on "Hybrid Nanotechnologies for an Enhanced CO<sub>2</sub> Fixation", the 235th ACS National Meeting, New Orleans, Louisiana, Apr. 6-10, 2008
49. "Solar Fuel Generation: Water Splitting and CO<sub>2</sub> Reduction," Stony Brook/Brookhaven Symposium on Catalysis, Wang Center, Stony Brook University, Stony Brook, Mar. 31, 2008
50. "Catalyzed Water Oxidation by Solar Irradiation of Band-Gap-Narrowed Semiconductors," E. Fujita, J. T. Muckerman, S. Lyman, J. Rodriguez, and P. Sutter, The Twenty-Ninth DOE Solar Photochemistry Research Conference, Airlie Conference Center, Warrenton, Virginia, June 10-13, 2007
51. "Photochemical Production of Hydride Donor via a MLCT-Excited State of a Ru(II) Complex," E. Fujita, D. E. Polyansky, D. Cabelli, J. T. Muckerman, and K. Tanaka, Invited talk at Symposium on "Illuminating Molecules", the Central Regional Meeting of the American Chemical Society, Northern Kentucky Convention Center, Covington, KY, May 20-23, 2007
52. "Photochemical Production of a Functionalized Polypyridylruthenium Hydride Donor," E. Fujita, D. E. Polyansky, D. Cabelli, J. T. Muckerman, and K. Tanaka, The Symposium on "Catalysis Relevant to Energy and Sustainability", the 233<sup>rd</sup> ACS National Meeting, Chicago, IL, Mar. 25-29, 2007
53. "Photocatalytic CO<sub>2</sub> Reduction: If Nature Can Do It, Why Can't We?" invited talk at the 36<sup>th</sup> Inorganic Reaction Mechanism Group Meeting of the Royal Society of Chemistry, The University of York, UK, Mar. 18-20, 2007
54. "Toward Photochemical Water Oxidation with Band-Gap-Narrowed Semiconductors and Polypyridylruthenium Complexes as Catalysts" The First Annual the Caltech-MIT Chemical Bonding Center Retreat, Ventura, CA, Jan. 26-27, 2007
55. "Toward Photochemical Water Oxidation with Band-Gap-Narrowed Semiconductors and Polypyridylruthenium Complexes as Catalysts" E. Fujita, D. Polyansky, J. T. Muckerman, T. Wada, K. Tanaka, R. Zong, and R. Thumme<sup>1</sup>, Invited talk in the 6<sup>2nd</sup> ACS Southwest Regional Meeting, Houston, TX, Oct. 19-22, 2006
56. "Photochemical Production of a Functionalized Polypyridylruthenium Hydride Donor," E. Fujita, D. E. Polyansky, D. Cabelli, J. T. Muckerman, T. Koizumi, T. Fukushima, T. Wada, and K. Tanaka, Invited talk in the 34<sup>th</sup> ACS Northwest Regional Meeting, Binghamton, NY, Oct. 5-7, 2006
57. "Photoinduced Reaction of Functionalized Polypyridylruthenium Complexes with an NAD<sup>+</sup>/NADH Model Ligand", D. Polyansky, D. Cabelli, J. T. Muckerman, E. Fujita, T. Koizumi and K. Tanaka, The 28th DOE Solar Photochemistry Research Conference the Airlie Conference Center, Airlie, Virginia, Jun. 4-7, 2006

58. "Proton-Coupled Electron-Transfer and Hydrogen-Atom-Transfer Reactions Involving Metal Complexes" at the International Symposium on Frontier Life Science and Technology, Osaka, Japan, Apr. 7-9, 2006
59. "Coupled Proton and Electron Transfer with Ruthenium and Osmium Complexes" in the Symposium on "Multi-Electron Redox Catalysis," Innovation Center, Tokyo Institute of Technology, Tamachi, Tokyo, Mar. 3, 2006
60. "Photoinduced Small Molecule Activation and M-M Bond Formation/Cleavage: Investigations by Time-Resolved UV-vis and FTIR Spectroscopy," Mesilla Workshop on "Organometallic Complexes: Energetics-Solvation-Reactions," Meson de Mesilla, Mesilla, NM, Feb. 4-8, 2006

### **Seminar talks (universities and institutions from 2006)**

1. Seminar in the Joint Center for Artificial Photosynthesis North, Lawrence Berkeley National Laboratory, Nov. 30, 2012 (Scheduled)
2. Seminar at Stanford University, Nov. 29, 2012 (Scheduled)
3. Four lectures on artificial photosynthesis in "World Class University Program on Photovoltaic Materials", Korea University, Seoul, Korea, Oct. 30-Nov. 4, 2012 (Scheduled)
4. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," Seminar at the University of Memphis, Memphis, Oct. 26, 2012 (Scheduled)
5. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," Seminar at Indiana University, Indianapolis, IN, Oct. 28, 2011
6. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," Seminar at Purdue University, West Lafayette, IN, Oct. 27, 2011
7. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," Seminar at CEA, Grenoble, France, Jul. 4, 2011
8. A series of lectures on "Solar Fuel Generation using Inorganic Compounds," Department of Chemistry, Ochanomizu University, Tokyo, Sept. 26-Oct. 1, 2010
9. "Artificial Photosynthesis: Current Status and Future Prospect," Seminar at Ochanomizu University, Tokyo, Japan, Sept. 25, 2010
10. "Photochemical CO<sub>2</sub> Reduction using Transition Metal Complexes: Current Status and Future Prospects," Seminar in the Pennergy Colloquium Series, The Penn Center for Energy Innovation, The University of Pennsylvania, Apr. 22-23, 2010
11. "Photochemical CO<sub>2</sub> Reduction: Current Status and Future Prospects," Seminar at University of New Hampshire, Nov. 12, 2009
12. "Artificial Photosynthesis: Light Absorption, Charge Separation, Water Oxidation, and CO<sub>2</sub> Reduction," Seminar at the 2008-2009 Harvard-MIT Seminar Series, Harvard University, Cambridge, MA, Feb. 11, 2009

13. A series of lectures on artificial photosynthesis using coordination compounds, Kumamoto University, Japan, Nov. 28-Dec.1, 2008
14. "Photocatalytic CO<sub>2</sub> Reduction: If Nature Can Do It, Why Can't We?" Seminar at University of Wisconsin, Madison, WI, Nov. 12, 2008
15. "Artificial Photosynthesis: Light Absorption, Charge Separation, Water Oxidation, and CO<sub>2</sub> Reduction," Seminar at Bowling Green State University, Nov. 5, 2008
16. "Photochemical Fuel Production," Seminar at Tulane University, Feb. 18, 2008
17. "Photocatalytic CO<sub>2</sub> Reduction: If Nature Can Do It, Why Can't We?" Seminar at The University of Nottingham, UK, Mar. 16, 2007
18. "Photocatalytic CO<sub>2</sub> Reduction: If Nature Can Do It, Why Can't We?" Seminar at California Institute of Technology, Jan. 29, 2007.
19. "Toward Photochemical Water Oxidation with Polypyridylruthenium Complexes as Catalysts," Seminar at Institute for Molecular Science, Okazaki, Japan, Nov. 21, 2006
20. "Solar Energy Utilization: Toward Photochemical Water Splitting using Band-Gap-Narrowed Semiconductors," Seminar at Toyota Central Research and Development Labs, Inc., Nagakute-cho, Aichi-gun, Aichi, Japan, Nov. 24, 2006
21. "Toward Photochemical CO<sub>2</sub> reduction and Water Splitting: If Nature Can Do It, Why Can't We?" Seminar at Pacific Northwest National Laboratory, Richland, WA, Aug. 17, 2006