

Dr. Ben W.-L. Jang

Department of Chemistry
Texas A&M University-Commerce
Commerce, TX 75429

phone: 903-886-5383
fax: 903-468-6020
email: ben.jang@tamuc.edu

Professional Preparation

Research Triangle Institute, Heterogeneous Catalysis, Postdoc.
University of Texas at Arlington, Applied Chemistry, DSc.
National Taiwan University, Chemistry, B.S.

Appointments

11/2014-present Regents Professor, Texas A&M University System.
8/2007-present Professor, Department of Chemistry, Texas A&M U.-Commerce.
3/2006-present Program Director, "Research Experience for Undergraduates" Site of National Science Foundation at Texas A&M U.-Commerce, Project Period: 3/15/06-present.
5/2007-7/2014 Department Head, Department of Chemistry, Texas A&M U.-Commerce.
6/2005-8/2005 DOE HERE Program for Faculty at the Oak Ridge National Lab.
7/2003-8/2004 Assistant Head, Department of Chemistry, Texas A&M U.-Commerce.
8/2001-7/2007 Associate Professor, Department of Chemistry, Texas A&M U.-Commerce.
3/1994-6/2001 Research Chemist/Project Manager, Center for Process Research & Center for Engineering and Environmental Technology, Research Triangle Institute, RTP, NC.

TEACHING EXPERIENCES

Taught all level of chemistry courses, including freshmen, upper level and graduate courses. I have started implementing NSF POGIL (Process Orientated Guided Inquiry for Learning) approach to teach Physical Chemistry I & II since Fall 2003. The approach has influenced the teaching approaches of general and organic chemistry in the Chemistry Department.

THESIS DIRECTED

Dr. Jang directed 26 theses to completion since 2003, including 3 honors theses, 22 master theses and one dissertation.

UNIVERSITY COMMITTEE SERVICES

University Research Advisory Board member, 2018-present
Teacher Education Admission, Retention and Appeals Committee, 2017-present
Faculty Mentor Initiative, Fall 2010-present
Adviser for the International Fellowship Association at A&M-Commerce, Jan. 2010-present
Adviser for the Taiwanese Student Association at A&M-Commerce, Sept. 2009-present
Member of the Academy-Regents' Initiative of A&M-Commerce, Sept. 2002-present
Adviser of the Chinese Student Association at A&M-Commerce, Sept. 2001-present

Facility Advisory Committee, Dec. 2009-2015
Faculty Senate, Budget Committee, Sept. 2006- 2012
International Student Committee, Sept. 2004-2014

PROFESSIONAL ASSOCIATIONS

Guest Editor, Catalysis Today Journal, July 2017-present.
Review Panel, 2018 NSF REU Program.
Review Panel, 2015, 2016 & 2017 Fulbright Scholars by Department of State.
Guest Editor, Topic in Catalysis Journal, Sept 2015-March 2017.
Co-Chair of the Organization Committee for the "Catalysis for the Unconventional Energy Source" symposium, ACS National Meeting, Denver, CO, March 2015.
International Advisory Board, 2014 International Symposium on Plasmas for Catalysis and Energy Materials (ISPCEM-2014), Sept. 13-16, 2014, Tianjin, China.
Guest Editor, Catalysis Today Journal, Sept 2012-May 2013.
Chair, International Advisory Board, 2012 International Symposium on Plasmas for Catalysis and Energy Materials (ISPCEM-2012), Sept. 21-24, 2012, Tianjin, China.
Leadership Group, NSF Chemistry REU PIs, 2011-present
Guest Editor, Energy and Environmental Sciences Journal, June 2009-May 2010.
Chair of the Organization Committee for the "Green Chemistry for Fuels of the Future" symposium, ACS National Meeting, San Francisco, CA, March 2010.
Member of the American Chemical Society since 1990.

AWARDS AND HONORS

Research Mentor of the Year, Texas A&M University-Commerce, 2017
Regents Professor, Texas A&M University System, 2014-present
Nomination of 2012 NSF PAESMEM award
The Trezzie Pressley "Ceaseless Industry" Award, 2011
H.M. Lafferty Distinguished Faculty Award for Scholarship and Creative Activity, 2007.
Faculty Development Leave Award (Texas A&M U.-Commerce), 2006-2007.
Nomination for the Neil L. Humfeld Distinguished Faculty Award for Service, 2005.
Distinguished Service Award (Texas A&M U.-Commerce) in March 2002.
Sigma Xi Award (UT-Arlington Chapter) as the Outstanding Doctoral Student, 1992.

RECENT PUBLICATIONS

Xinxiang Cao, Tengting Lyu, Wentao Xie, Arash Mirjalili, Adelaide Bradicich, Ricky Huitema, Ben W.-L. Jang, Jong K. Keum, Karren More, Changjun Liu "Preparation and investigation of Pd doped Cu catalysts for selective hydrogenation of acetylene" *Front. Chem. Sci. Eng.*, **2019** accepted.
Dai, Tianchi; Zhou, Hao; Liu, Yang; Cao, Ranran; Zhan, Jingjing; Liu, Lifan; Jang, Ben "Synergy of Lithium, Cobalt and Oxygen Vacancies in Lithium Cobalt Oxide for Airborne Benzene Oxidation: A Concept of Reusing Electronic Wastes for Air Pollutant Removal" *ACS Sus. Chem. Eng.*, **2019**, 7, 5072. DOI: 10.1021/acssuschemeng.8b05894

- Yang Liu, Wenjing Zong, Hao Zhou, Dingsong Wang, Ranran Cao, Jingjing Zhan, Lifen Liu, Ben W.-L. Jang "Tuning the Interlayer Cations of Birnessite-Type MnO₂ to Enhance Its Oxidation Ability for Gaseous Benzene with Water Resistance" *Catal. Sci. & Tech.* **2018**, 52, 5792-5802.
- Zhao Wang, Yao Zhang, Erik C. Neyts, Xinxiang Cao, Ben W.-L. Jang, Chang-jun Liu "Catalyst Preparation with Plasmas: How Does It Work?" *ACS Catal.* **2018**, 8(3), 2093.
- Zhou-jun Wang, Ben W.-L. Jang, Chang-jun Liu; Preface of "Recent Advances in Plasma Catalysis (ISPCEM 2016)" *Topic in Catal.* **2017**, 60, 797
- Yanan Li and Ben Jang "Selective Hydrogenation of Acetylene over Pd/Al₂O₃ Catalysts: Effect of Non-Thermal RF Plasma Preparation Methodologies" *Topic in Catal.* **2017**, 60(12-14), 997-1008.
- Xiaoliang Yan, Jiehua Bao, Chen Yuan, James Wheeler, Wen-Yuan Lin, Ruifeng Li, Ben W.-L. Jang "Gold on carbon and titanium oxides composites: Highly efficient and stable acetylene hydrogenation in large excess of ethylene" *J. Catal.* **2016**, 344, 194.
- Xinxiang Cao, Arash Mirjalili, James Wheeler, Wentao Xie and Ben W.-L. Jang "Investigation of the preparation methodologies of Pd-Cu single atom alloy catalysts for selective hydrogenation of acetylene" *Front. Chem. Sci. Eng.* **2015**, 9(4) 442.
- Yan, Xiaoliang; Li, Sha; Pan, Yunxiang; Xing, Bin ; Li, Ruifeng; Jang, Ben W. -L; Liu, Xuguan "Tunable Ag⁺ ion release from Ag@C for antibacterial and antifouling performances" *RSC ADVANCES*, **2015**, 49(5), 39384.
- Shuo Zhang, Xiao-Song Li, Bin Zhu, Jing-Lin Liu, Xiaobing Zhu, Ai-Min Zhu, Ben W.-L. Jang "Atmospheric-pressure O₂ plasma treatment of Au/TiO₂ catalysts for CO oxidation" *Catal. Today*, **2015**, 256, 142.
- Shuo Zhang, Chu-Ying Chen, Ben W.-L. Jang, Ai-Min Zhu "Radio-frequency H₂ plasma treatment of AuPd/TiO₂ catalyst for selective hydrogenation of acetylene in excess ethylene" *Catal. Today*, **2015**, 256, 161.
- Yang Liu, Xiao-Song Li, Jing-Lin Liu, Chuan Shi, Xiaobing Zhu, Ai-Min Zhu^a and Ben W.-L. Jang "Ozone catalytic oxidation for ammonia removal from simulated air at room temperature" *Catal. Sci. & Tech.*, **2015**, 5, 2227.
- Bhargavi S. Chilukuri and Ben W.-L. Jang "Development of Mesoporous Acid Catalysts for Esterification of Oleic Acid with Methanol" *Am. Chem. Soc., Div. of Energy & Fuels. PREPRINTS*, **2015**, 60(1).

RECENT PRESENTATIONS

- Seunga Kim, Kathryn Willbanks, Wentao Xie, and Ben-W.-L. Jang "Development of novel Pd-ceria catalyst system for selective hydrogenation of acetylene" 257th ACS National Meetings, Orlando FL, Mar. 31- April 4, **2019**.
- Martin Perez, Michael Pimentel and Ben Jang "Comparison of bio-oil produced via hydrothermal liquefaction using ethanol vs. water" 257th ACS National Meetings, Orlando FL, Mar. 31- April 4, **2019**.
- Seunga Kim, Kathryn Willbanks, Wentao Xie, and Ben-W.-L. Jang "Development of novel Pd-ceria catalyst system for selective hydrogenation of acetylene" ACS 74th SWRM, Little Rock, AR, Nov. 7-10, **2018**.

- Tengteng Lyu, Thomas Blaine Williams, Keith O'Bryant Vinson II, and Ben W. -L. Jang "Selective Hydrogenation of Acetylene over Pd/CeO₂" ACS 74th SWRM, Little Rock, AR, Nov. 7-10, **2018**.
- Martin Perez, Michael Pimentel and Ben Jang "Comparison of bio-oil produced via hydrothermal liquefaction using ethanol vs. water" ACS 74th SWRM, Little Rock, AR, Nov. 7-10, **2018**.
- Michael Pimentel, Martin Perez and Ben Jang "Catalytic vs non Catalytic synthesis of bio-oil via the conversion of biomass" ACS 74th SWRM, Little Rock, AR, Nov. 7-10, **2018**.
- Syed S. A. Hussaini, Kenneth Mackenzie, Ben W.-L. Jang and Bukuo Ni "Supported Pd Catalysts for Liquid Phase Semi-hydrogenation of Ethyl Phenylpropiolate" ACS 74th SWRM, Little Rock, AR, Nov. 7-10, **2018**.
- Sam Kaiser, the 51st ACS DFW MiM, Dallas, TX, April 21, **2018**.
- Lucy Kim and Ben Jang "Investigation of PdCeO₂ solid solution catalysts for selective hydrogenation of acetylene" 51st ACS DFW MiM, Dallas, TX, April 21, **2018**.
- Tengteng Lyu, Kai Li and Ben W.-L. Jang "Investigation of Pd/CeO₂ Catalysts for Acetylene Selective Hydrogenatio" 51st ACS DFW MiM, Dallas, TX, April 21, **2018**.
- Adelaide Bradicich and Ben Jang "Pretreatment effects on Pd-Ceria/Al₂O₃ for selective hydrogenation of acetylene" Annual Research Symposium, Commerce TX, April 3, **2018**.
- Lucy Kim, Adelaide Bradicich and Ben Jang "Plasma Technology for Materials Modification" Annual Research Symposium, Commerce TX, April 3, **2018**.
- Michael Pimentel and Ben Jang "Synthesis of bio-oil via Hydrothermal Liquefaction" Annual Research Symposium, Commerce TX, April 3, **2018**.
- Syed S. A. Hussaini, Bukuo Ni and Ben W.-L. Jang "Supported Palladium Catalysts for Liquid Phase Selective Hydrogenation of Ethyl Phenylpropiolate" Annual Research Symposium, Commerce TX, April 3, **2018**.
- M. Irfan Z. Omer and Ben W.-L. Jang "Synthesis of High Surface Area Mesoporous Catalysts for the Production of Biodiesel" Annual Research Symposium, Commerce TX, April 3, **2018**.
- Sam Kaiser, Nicole Humphries, and Ben Jang "Catalytic Hydrothermal Liquefaction of Chlorella into Bio-Oil" 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- Seunga Kim, Wentao Xie, and Ben-W.-L. Jang "Development of novel Pd-ceria catalyst system for selective hydrogenation of acetylene" 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- Michael Pimentel, Amber Flores, Sam Kaiser and Ben Jang "Synthesis of bio-oil via catalytic hydrothermal liquefaction of sludge and algae" 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- M. Irfan Z. Omer and Ben W.-L. Jang "Synthesis of High Surface Area mesoporous Catalysts from Carbon Sources for the Production of Biodiesel" 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- Adelaide Bradicich and Ben W.-L. Jang "Ceria loading and pretreatment effects on Pd/Al₂O₃ for selective hydrogenation of acetylene" 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.

- Syed S. A. Hussaini, Ken Mackenzie, Bukuo Ni, Ben W.-L. Jang “Alumina Supported Monometallic and Bimetallic Palladium Catalysts for Liquid Phase Semi-hydrogenation of Alkynes” 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- Tengteng Lyu, Kai Li, Yi Xu and Ben W. -L. Jang “Selective Hydrogenation of Acetylene over Pd/CeO₂” 255th ACS National Meetings, New Orleans, LA, March 18-22, **2018**.
- Sam Kaiser, Nicole Humphries Austin Recker and Ben Jang “Catalytic Hydrothermal Liquefaction of Chlorella into Bio-Oil” 14th Texas A&M System Pathway Symposium, Stephenville, TX, Nov. 2-3, **2017**.
- Lucy Kim and Ben Jang “Development of novel Pd-ceria catalyst system for selective hydrogenation of acetylene” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Syed Hussaini, Ken Mackenzie and Ben Jang “Alumina-supported palladium catalyst for liquid phase semi-hydrogenation of alkynes” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Tengteng Lyu, Yi Xu and Ben Jang “Investigation of Pd/CeO₂ Catalysts for Acetylene Selective Hydrogenation” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Michael Pimentel, Amber Flores and Ben Jang “Catalytic vs. non-catalytic synthesis of bio-oil via the hydrothermal liquefaction of sludge from waste water treatment plants” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Chanwoong Park, Seung Kim, Adelaide Bradicich and Ben Jang “Investigation of Alpha-Alumina Supported Palladium catalysts for selective hydrogenation of acetylene in ethylene” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Irfan M. Omer and Ben Jang “Synthesis of high-surface-area mesoporous carbon catalysts with high-acid density for the production of biodiesel” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Adelaide Bradicich, Hermon Feron and Ben Jang “Promoted Pd catalysts for selective hydrogenation of acetylene in ethylene” ACS 73rd SWRM, Lubbock, TX, Oct. 29-Nov.1, **2017**.
- Nicole Humphries, Michael Pimentel, Ever Rodriguez, and Ben Jang “Synthesis of bio-oil via the hydrothermal liquefaction of chlorella in the presence of a KOH” 254th ACS National Meetings, Washington DC, August 20-24 **2017**.
- Kai Li, Wentao Xie, Teng teng Lyu and Ben Jang “Investigation of Pd-Ceria catalysts for selective hydrogenation of acetylene in ethylene” 254th ACS National Meetings, Washington DC, August 20-24 **2017**.
- Jonathan Flores, Ever Rodriguez, Nicole Humphries, Sam Kaiser, Francisco Rogers, and Ben W. Jang “Sodium Carbonate as a Catalyst for the Formation of Bio-Oil from Chlorella vulgaris” Annual Research Symposium, Commerce TX, April 6, **2017**.
- Mohammed Irfan Zakir Omer and Ben Jang “Mesoporous Catalyst For The Synthesis Of Biodiesel” Annual Research Symposium, Commerce TX, April 6, **2017**.
- Syed Shah Abdullah Hussaini, Kenneth J. MacKenzie, Ben Jang, and Bukuo Ni “Alumina supported Palladium catalyst for Liquid-phase Semi-hydrogenation of Alkynes” Annual Research Symposium, Commerce TX, April 6, **2017**.
- Kenneth J. MacKenzie, Jessica Velazquez, Syed S.A. Hussaini, Bukuo Ni and Ben W. Jang “High Surface Area Palladium Catalysts, for the Selective Hydrogenation of

- Diphenylacetylene” Annual Research Symposium, Commerce TX, April 6, **2017**.
- Seung Kim and Ben Jang “Co-precipitation synthesis of palladium and cerium solid solution as efficient catalysts for selective hydrogenation of acetylene in ethylene” Annual Research Symposium, Commerce TX, April 6, **2017**.
- Mohammed Irfan Omer and Ben Jang “Mesoporous Catalysts For The Synthesis Of Biodiesel “Symposium of Federation of North Texas Area Universities, Denton, March 31, **2017**.
- Kenneth J. MacKenzie, Jessica Velazquez, Syed S.A. Hussaini, Bukuo Ni and Ben W. Jang ”High Surface Area Palladium Catalysts, for the Selective Hydrogenation of Diphenylacetylene” Symposium of Federation of North Texas Area Universities, Denton, March 31, **2017**.
- Tengteng Lyu and Ben Jang “Investigation of Pd-CeO₂ Nanocrystal Catalysts for Acetylene Selective Hydrogenation” Symposium of Federation of North Texas Area Universities, Denton, March 31, **2017**.