Sara Yu Choung

Point Loma Nazarene University
3900 Lomaland Drive
San Diego, CA 92106
Phone: 619.849.2627 Fax: 619.849.3452
Email: sarachoung@pointloma.edu

EDUCATION

Ph.D. Chemical Engineering, University of California at Berkeley, 2001
- Advisor: Professor Enrique Iglesia
- Dissertation Topic: Coupling Alkane Dehydrogenation with Hydrogenation Reactions on Cation-Exchanged Zeolites

B.S. Chemical Engineering, Music Minor, Massachusetts Institute of Technology, 1996

EMPLOYMENT

Chair of Chemistry, Point Loma Nazarene University, 2014 – present
Professor of Chemistry, Point Loma Nazarene University, 2011 – present
Pre-Health Professions Advisor, Point Loma Nazarene University, 2010 – present
Associate Professor of Chemistry, Point Loma Nazarene University, 2007 – 2011
Assistant Professor of Chemistry, Point Loma Nazarene University, 2004 – 2007
Adjunct Professor of Chemistry, Point Loma Nazarene University, 2004
Adjunct Professor of Chemistry, Grossmont College, 2004
Adjunct Professor of Chemistry, San Diego City College, 2004
Principal Scientist, Argonne National Laboratory, 2001 – 2004
Graduate Student, University of California at Berkeley, 1996 – 2001
Undergraduate Research Student, University of California at Berkeley, 1995
Undergraduate Research Student, Massachusetts Institute of Technology, 1994

TEACHING EXPERIENCE

Point Loma Nazarene University
- Physical Science (PSC110)
- Chemistry and Society (CHE101)
- Introduction to General, Organic, and Biological Chemistry Lab (CHE103L)
- General Chemistry I Tutorial (CHE151)
- General Chemistry I (CHE152)
- General Chemistry I Lab (CHE152L)
- General Chemistry I Lab (CHE153L)
- Analytical Chemistry (CHE213)
- Instrumental Analysis (CHE370)

Grossmont College
- Fundamentals of Chemistry (CHEM115)

San Diego City College
- Introduction to General Chemistry (CHEM152)

University of California at Berkeley
- Graduate Student Instructor for General Chemistry (CHEM1A)
- Graduate Student Instructor for Polymer Science and Technology (CHMENG178)
- Supervised and mentored two undergraduate research students

STUDENT MENTORING (Research and Pre-Health Honors Projects)

Blair Riddle (Biology 2014)	2013-2014
Kinzi Halle (Biology 2013)	2012-2013
Bradly Baer (Chemistry 2013)	2011
Chris Evans (Biology-Chemistry 2012)	2011
Justin Bordley (Chemistry 2010)	2009-2010
Anthony Pistotti (Chemistry 2009)	2009
Julianne Thomsen (Chemistry 2010)	2008-2010
Jenna Kopp (Biology-Chemistry 2009)	2008
Jeremy Spry (Junior, Chemistry)	2006
Jean Jensen (Senior, Biology-Chemistry)	2005-2006

PUBLICATIONS

1. Nair, H., Gatt, J.E., Zhang, R., Thomsen, J.M., Bordley, J.A., Choung, S.Y., Baertsch, C.D., Industrial and Engineering Chemistry Research, Ind. Eng. Chem. Res., 2011, 50 (19), 10972-10981, "Simulating the Performance of a Catalytic Microsensor for Quantifying Ethanol in Inert and Reactive Environments."
2. Choung, S.Y., Ferrandon, M., and Krause, T., Catalysis Today, 99 (2005) 257-262, "Pt-Re bimetallic supported on CeO_2-ZrO_2 mixed oxides as water-gas shift catalysts."
3. Waku, T., Yu, S.Y., and Iglesia, E., Industrial and Engineering Chemistry Research, 42 (2003) 3680-3689, "Staged O_2 Introduction and Selective H_2 Combustion during Catalytic Reactions of Alkanes on Cation-Exchanged H-ZSM5."
4. Yu, S.Y., Waku, T., and Iglesia, E., Applied Catalysis A, 242 (2003) 111-121, "Catalytic Desulfurization of Thiophene on H-ZSM5 using Alkanes as Co-Reactants."
5. Yu, S.Y., Biscardi, J.A., and Iglesia, E., Journal of Physical Chemistry B, 106 (2002) 9642-9648, "Kinetic Relevance of Hydrogen Desorption Steps and Virtual Pressures on Catalytic Surfaces During Reactions of Light Alkanes."
6. Yu, S.Y., Yu, G.J., Li, W., and Iglesia, E., Journal of Physical Chemistry B 106 (2002) 4714-4720, "Kinetics and Reaction Pathways for Propane Dehydrogenation and Aromatization on Co/H-ZSM5 and H-ZSM5."

7. Yu, S.Y., Garcia-Martinez, J., Li, W., Meitzner, G.D., and Iglesia, E., Physical Chemistry and Chemical Physics 4 (2002) 1241-1251, "Kinetic, infrared, and X-ray absorption studies of adsorption, desorption, and reactions of thiophene on H-ZSM5 and Co/H-ZSM5."
8. Li, W., Yu, S.Y., and Iglesia, E., Journal of Catalysis 207 (2002) 31-36, "Deuterium Isotopic Tracer Studies of Thiophene Desulfurization Pathways using Propane or Dihydrogen as Co-Reactants."
9. Li, W., Yu, S.Y., and Iglesia, E., Journal of Catalysis 203 (2001) 175-183, "Isotopic Tracer Studies of Thiophene Desulfurization Reactions Using Hydrogen from Alkanes on H-ZSM5 and Co/H-ZSM5."
10. Li, W., Yu, S.Y., Meitzner, G.D., and Iglesia, E., Journal of Physical Chemistry B 105 (2001) 1176-1184, "Structure and Properties of Cobalt-Exchanged H-ZSM5 for the Dehydrogenation and Dehydrocyclization of Alkanes."
11. Li, W., Yu, S.Y., and Iglesia, E., Studies in Surface Science and Catalysis 130 (2000) 899-904, "Coupling Alkane Dehydrogenation with Hydrogenation Reactions on Cation-Exchanged Zeolites."
12. Yu, S.Y., Li, W., and Iglesia, E., Journal of Catalysis 187 (1999) 257-261, "Desulfurization of Thiophene via Hydrogen Transfer from Alkanes on Cation-Modified ZSM5."
13. Iglesia, E., Wang, T., and Yu, S.Y., Studies in Surface Science and Catalysis 119 (1998) 527-532, "Chain Growth Reactions of Methanol on SAPO-34 and H-ZSM5."

PRESENTATIONS

1. Amber Gillett, Josh Blessing, Caitlyn McGue, Allison Zakaroff, Jacob Milligan, Silverio Cajbon, Justin Hsu, Sara Yu Choung and Matthieu Rouffet, presented at 2013 Spring Meeting of American Chemical Society, New Orleans, LA (4/13). "Sharing Chemistry with the Greater San Diego Area."
2. Summer Bunting, Amber Gillett, Kayla Kendric, Luke Vickers, Troy Kurz, Seth Simonds, and Sara Yu Choung, presented at 2012 Spring Meeting of American Chemical Society, San Diego, CA (3/12). "Sharing Chemistry with Students in the Greater San Diego Area."
3. Mark Boerneke, Carli Coco, Summer Bunting, Amber Gillett, Ryne Holmberg, Parker Horn, Troy Kurz, Renae Minnema, Seth Simonds, David Vandenbroek, and Sara Yu Choung, presented at 2011 Spring Meeting of American Chemical Society, Anaheim, CA (3/11). "Sharing Chemistry with Students at PLNU and in the San Diego Area."
4. Justin A. Bordley, Julianne M. Thomsen, Joseph E. Gatt, Chelsey D. Baertsch, and Sara Yu Choung, presented at 2010 Spring Meeting of American Chemical Society, San Francisco, CA (3/10). "Studies of the Partial Oxidation of Ethanol and Methanol over an Iron Molybdate Catalyst and the Effect of Sulfur Compounds."
5. Julianne M. Thomsen, Justin A. Bordley, Joseph E. Gatt, Chelsey D. Baertsch, and Sara Yu Choung, presented at 2010 Spring Meeting of American Chemical Society, San Francisco, CA (3/10). "Effect of Methanol and Nitrogen Containing Compounds on the Activity, Selectivity and Stability of $Fe_2(MoO_4)_3$ Catalysts in the Partial Oxidation of Ethanol."
6. Mark Boerneke, Justin Bordley, Summer Bunting, Vanessa Franz, Nicole Freyschlag, Danielle Hassler, Amber Kerk, Anthony Montano, Kristen Moser, Seth Simonds,
   Ricardo Solano, Adam Sweeney, Julie Thomsen, Jacob Thorpe, David Vandenbroek, Sara Yu Choung, and Gary L. N. Smith, presented at 2010 Spring Meeting of American Chemical Society, San Francisco, CA (3/10). "Sharing Chemistry with Students in the Greater San Diego Area."
7. Justin A. Bordley, Julianne M. Thomsen, Joseph E. Gatt, Chelsey D. Baertsch, and Sara Yu Choung, presented at Point Loma Nazarene University Science Celebration, San Diego, CA (11/09). "Studies of the Partial Oxidation of Ethanol and Methanol over an Iron Molybdate Catalyst."

8. Mark Boerneke, Summer Bunting, Kevyn Davenport, Vanessa Franz, Madison Kempton, Kristin Mitrovich, Anthony Montano, Rebekah Schneider, Seth Simonds, Elyse Swift, Luke Tatum, Julie Thomsen, Jacob Thorpe, David Vandenbroek, Karl Wilhelm, Sara Yu Choung, and Gary L. N. Smith, presented at 2009 Spring Meeting of American Chemical Society, Salt Lake City, UT (3/09). "Sharing Chemistry with Middle School and High School Students Through Interactive and Stimulating Educational Methods."
9. Jenna Kopp, Julianne Thomsen, and Sara Yu Choung, presented at Baertsch Research Group Seminar in Chemical Engineering Department at Purdue University, West Lafayette, IN (7/08). "Ethanol Partial Oxidation for Sensor Applications.
10. Jeff Boerneke, Rachel Jones, Madison Kempton, Kristin Mitrovich, Gareth Moore, Sean Ryland, Becky Schneider, Nathan Singh, Luke Tatum, Julie Thomsen, Ryan Weiss, Karl Wilhelm, Jordan Yasutomi, and Sara Yu Choung, presented at 2008 Spring Meeting of American Chemical Society, New Orleans, LA (4/08). "Sharing Chemistry with Middle and High School Students Through Interactive and Stimulating Methods."
11. Jeff Boerneke, Jenna Kopp, Kristin Mitrovich, Gareth Moore, Lisa Sator, Daniel Sullivan, Julie Thomsen, Ryan Weiss, Jordan Yasutomi, and Sara Yu Choung, presented at 2007 Spring Meeting of American Chemical Society, Chicago, IL (3/07). "Sharing Chemistry with Middle and High School Students Through Interactive and Stimulating Educational Methods."
12. Choung, S.Y., Krebs, J., Ferrandon, M., and Krause, T., presented at 2003 Fall Meeting of the American Chemical Society, Symposium on Fuel Cell Systems and Fuel Processing for Fuel Cell Applications, New York, NY (9/03). "Water-Gas Shift Catalysis on Pt Bimetallic Catalysts."
13. Waku, T., Biscardi, J.A., Yu, S.Y., and Iglesia, E., presented at 2003 North American Catalysis Society Meeting, Cancun, Mexico (6/03). "H_2 Removal via Selective Combustion with O_2 During Alkane Dehydrogenation and Aromatization on Modified ZSM5 Catalysts."
14. Choung, S.Y., Krebs, J., Ferrandon, M., Souleimanova, R., Myers, D., and Krause, T., presented at DOE Hydrogen, Fuel Cells, and Infrastructure Technologies 2003 Merit Review Meeting, Berkeley, CA (5/03). "Water-Gas Shift Catalysis."
15. Myers, D., Krebs, J., Carter, J.D., Krause, T., Yu, S.Y., Kumar, R., and Krumpelt, M., presented at 2002 Fall Meeting of the American Chemical Society, Symposium on Advances in Hydrogen Energy, Boston, MA (8/02). "Metal/Ceria Water-Gas Shift Catalysts for Automotive Polymer Electrolyte Fuel Cell Systems."
16. Myers, D., Krebs, J., Yu, S.Y., and Krumpelt, M., presented at Annual National Laboratory R&D Meeting DOE Fuel Cells for Transportation Program, Golden, CO (5/02). "Water-Gas Shift Catalysis."
17. Yu, S.Y., Li, W., and Iglesia, E., presented at 2001 North American Catalysis Society Meeting, Toronto, Canada (6/01). "Desulfurization of Thiophene using Hydrogen from Alkanes on Cation Exchanged ZSM5."
18. Yu, S.Y. and Iglesia, E., presented at the Chemical Engineering Colloquium, University of California at Berkeley, Berkeley, CA (2/01). "Coupling Propane Dehydrogenation and Thiophene Desulfurization on Cation-Modified H-ZSM5."
19. Iglesia, E., Yu, S.Y., Li, W., and Ding, W., presented at Pacifichem 2000, Symposium on Selective Heterogeneous Catalysis, Honolulu, HI (12/00). "Kinetic Coupling of Dehydrogenation-Hydrogenation Reactions during Catalytic Activation of Alkanes."
20. Yu, S.Y., Li, W., and Iglesia, E., presented at 2000 Annual Meeting of the American Institute of Chemical Engineers, Symposium on Zeolite Catalysis, Los Angeles, CA (11/00). "Reaction Pathways

of the Coupling of Thiophene Desulfurization and Propane Dehydrogenation on Cation-Modified H-ZSM5."

21. Yu, S.Y., Li, W., and Iglesia, E., presented at 2000 California Catalysis Society Meeting, Richmond, CA (10/00). "Reaction Pathways of the Coupling of Thiophene Desulfurization and Propane Dehydrogenation on Cation-Modified H-ZSM5." (Best Paper Award)
22. Iglesia, E., Yu, S.Y., and Li, W., presented at 12th International Congress on Catalysis, Granada, Spain (7/00). "Coupling Alkane Dehydrogenation with Hydrogenation Reactions on Cation-Exchanged Zeolites."
23. Iglesia, E., Yu, S.Y., Li, W., and Biscardi, J.A., presented at 2000 Spring Meeting of the American Chemical Society, Award Symposium, Award for Industrial Practice, San Francisco, CA (3/00). "C-H Bond Activation, Hydrogen Desorption, and their Kinetic Coupling in Alkane Conversion Reactions on Cation-Modified Zeolites."
24. Yu, S.Y., Li, W., and Iglesia, E., presented at 2000 Spring Meeting of the American Chemical Society, Symposium on Meeting Sulfur Specifications for 2000 and Beyond, San Francisco, CA (3/00). "Desulfurization of Thiophene using Hydrogen from Alkanes on Cation-Modified H-ZSM5."
25. Li, W., Yu, S.Y., and Iglesia, E., presented at 1999 Annual Meeting of the American Institute of Chemical Engineers, Symposium on Zeolite Catalysis, Dallas, TX (11/99). "Desulfurization of Thiophene on Cation-Modified ZSM5 using Hydrogen from Alkanes."
26. Yu, S.Y., Li, W., and Iglesia, E., presented at 1999 California Catalysis Society Meeting, Los Angeles, CA (10/99). "Desulfurization of Thiophene using Hydrogen from Alkanes on Cation-Modified H-ZSM5."
27. Yu, S.Y., Li, W., and Iglesia, E., presented at 1999 North American Catalysis Society Meeting, Boston, MA (6/99). "Direct Desulfurization of Thiophene on Cation-Modified ZSM5 using Hydrogen from Alkanes."
28. Iglesia, E., Baumgartner, J.E., Biscardi, J.A., Yu, S.Y., and Wang, T.C., presented at UOP, Des Plaines, IL (4/96). "Synthesis of Light Olefins from Methanol on SAPO-34 and H-ZSM5."

PROFESSIONAL MEMBERSHIP

Current

- American Chemical Society
- National Association of Advisors for the Health Professions

Previous

- American Institute of Chemical Engineers
- Catalysis Club of Chicago
- California Catalysis Society
- Council on Undergraduate Research
- North American Catalysis Society