

## Abridged Curriculum Vitae: SUSANNAH L. SCOTT

Duncan and Suzanne Mellichamp Chair in Sustainable Catalytic Processing  
Distinguished Professor of Chemical Engineering; and of Chemistry & Biochemistry  
Associate Editor, *ACS Catalysis*; Board of Reviewing Editors, *Science*  
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### Areas of Expertise

- Design of new heterogeneous catalysts for polymerization, metathesis and oxidation;
- Applications of surface organometallic chemistry to active site characterization and thin film fabrication;
- Inorganic reaction kinetics and mechanisms, especially related to the activation of small molecules;
- Development and application of spectroscopic methods, particularly infrared, NMR and X-ray absorption spectroscopies, to the study of interfacial reactions;
- Sustainable catalysis and routes to renewable energy, fuels and chemicals.

### Education

YEAR	DEGREE	DISCIPLINE	INSTITUTION
1987-1991	Ph.D.	Inorganic Chemistry	Iowa State University of Science and Technology
1984-1987	B.Sc.	Chemistry	University of Alberta

### Previous Academic or Professional Appointments

YEAR	TITLE	INSTITUTION
2020-2022	Chair, Academic Senate	University of California, Santa Barbara
2018-2021	Chang Jiang International Visiting Professor	Dalian University of Technology
2014-present	Duncan & Suzanne Mellichamp Academic Initiative Professor	University of California, Santa Barbara
2014-present	Distinguished Professor	University of California, Santa Barbara
2003-present	Professor of Chemical Engineering	University of California, Santa Barbara, USA
2003-present	Professor of Chemistry & Biochemistry	University of California, Santa Barbara, USA
1998-2002	Associate Professor of Chemistry	University of Ottawa, Canada
1994-1998	Assistant Professor of Chemistry	University of Ottawa, Canada
1992-1994	NATO Postdoctoral Fellow	Institut de recherches sur la catalyse, Lyon, France
1992	Postdoctoral Fellow	Ames Laboratory, Ames IA, USA

### Awards and Honors:

1987	Gold Medal in Chemistry, University of Alberta
1987-1991	1967 Centennial Post-graduate Scholarship, NSERC
1989	Teaching Excellence Award, Iowa State University
1991	Research Excellence Award, Iowa State University
1992-1994	NATO Postdoctoral Fellowship
1994	John Charles Polanyi Prize in Chemistry
1994-1999	NSERC Women's Faculty Award
1997	Cottrell Scholar of Research Corporation
1998, 1999	Union Carbide Innovation Recognition Award
1999	University of Ottawa Young Researcher of the Year Award
1999	Premier's Research Excellence Award (Ontario)
2000	YWCA Women of Distinction Award (Information Technology and Science)
2001-2002	Canada Research Chair (Tier II) in Surface Organometallic Catalyst Design
2001	Miller Visiting Research Professorship, University of California – Berkeley
2008	Elected Fellow of the American Association for the Advancement of Science
2012	Visiting Professorship for Senior International Scientists, Chinese Academy of Sciences
2016	Visiting International Professorship, Université de Lille 1 – Sciences et Technologies
2017	Vladimir N. Ipatieff Lectureship in Catalysis, Northwestern University
2017	Grace Hopper Distinguished Lecturer, University of Pennsylvania
2018	John van Geuns Lecturer, University of Amsterdam

2019 Kurt Wohl Memorial Lecturer, University of Delaware  
2019 Boulder Scientific Lecturer, Colorado State University  
2019 Eastman Lecturer, University of California, Berkeley  
2020 Chair, Gordon Research Conference on Catalysis (postponed to 2022)

**Advisory Boards:** Council for Chemical Sciences, Geosciences and Biosciences, Department of Energy-Basic Energy Sciences; Fachbeirat der Fritz-Haber Institut der Max-Planck-Gesellschaft; Science Advisory Board, SUNCAT Center for Interface Science and Catalysis, Stanford University; Joint BioEnergy Institute, UC Berkeley; International Scientific Advisory Committee, Stanford Synchrotron Radiation Lightsource; Bioenergy Technical Review Panel, National Renewable Energy Lab; Scientific Advisory Committee, Ames Laboratory, Editorial Advisory Boards for *Chinese Journal of Catalysis*, *Reaction Kinetics, Mechanisms and Catalysis*, *Reaction Chemistry & Engineering*.

**Representative Peer-Reviewed Publications** (of approx. 170):

- Polyethylene Upcycling to Long-chain Alkylaromatics by Tandem Hydrogenolysis/Aromatization. F. Zhang, M. Zeng, R. D. Yappert, J. Sun, Y.-H. Lee, A.M. Lapointe, B. Peters, M.M. Abu-Omar, S.L. Scott, *Science*, **2020**, in press.
- Phosphonate-Modified UiO-66 Brønsted Acid Catalyst and Its Use in Dehydro-Decyclization of 2-Methyltetrahydrofuran to Pentadienes. M. Dorneles de Mello, G. Kumar, T. Tabassum, S.K. Jain, T.-H. Chen, S. Caratzoulas, X. Li, D. G. Vlachos, S.-I. Han, S.L. Scott, P. Dauenhauer, M. Tsapatsis. *Angew. Chem. Int. Ed.* **2020**, *59*, 13260-13266.
- Tuning Molecular Adsorption in SBA-15-Type Periodic Mesoporous Organosilicas by Systematic Variation of their Surface Polarity. H. Moon, S. Han, S.L. Scott. *Chem. Sci.*, **2020**, *11*, 3702-3712.
- Unraveling the Dynamic Network in the Reactions of an Alkyl Aryl Ether Catalyzed by Ni/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> in 2-Propanol. L. Qi, A. Chamas, Z. Jones, E. Walter, D. Hoyt, N. Washton, S.L. Scott. *J. Am. Chem. Soc.* **2019**, *141*, 17370-17381.
- Upcycling Single-Use Polyethylene into High-Quality Liquid Products. G. Celik, R.M. Kennedy, R.A. Hackler, M. Ferrandon, A. Tennakoon, S. Patnaik, A.M. Lapointe, S.C. Ammal, A. Heyden, F.A. Perras, M. Pruski, S.L. Scott, K.R. Poepelmeier, A.D. Sadow, M. Delferro *ACS Central Sci.* **2019**, *5*, 1795-1803.
- Direct, Selective Production of Aromatic Alcohols from Ethanol Using a Tailored Bifunctional Cobalt-Hydroxyapatite Catalyst. Q.-N. Wang, X.-F. Weng, B.-C. Zhou, S.-P. Lv, S. Miao, D. Zhang, Y. Han, S.L. Scott, F. Schüth, A.-H. Lu. *ACS Catal.* **2019**, *9*, 7204-7216.
- Enhanced Metathesis Activity and Stability of Methyltrioxorhenium on a Mostly Amorphous Alumina: Role of the Local Grafting Environment. F. Zhang, K. C. Szeto, M. Taoufik, L. Delevoye, R.M. Gauvin, S.L. Scott. *J. Am. Chem. Soc.* **2018**, *140*, 13854-13868.
- An Organometallic Cu<sub>20</sub> Nanocluster: Synthesis, Characterization, Immobilization on Silica, and “Click” Chemistry. A.W. Cook, Z. Jones, G. Wu, S.L. Scott, T.W. Hayton. *J. Am. Chem. Soc.* **2018**, *140*, 394-400.
- A Strong Support Effect in Selective Propane Dehydrogenation Catalyzed by Ga(*n*-Bu)<sub>3</sub> Grafted onto Silica and  $\gamma$ -Alumina. K.C. Szeto, N. Merle, C. Rios, A. Gallo, Z.R. Jones, L. Delevoye, R.M. Gauvin, S.L. Scott, M. Taoufik. *ACS Catal.* **2018**, *8*, 7566-7577.
- Mechanism of Initiation in the Phillips Ethylene Polymerization Catalyst: Ethylene Activation by Cr(II) and the Structure of the Resulting Active Site. C. Brown, A. Lita, M. Crosswhite, Y. Tao, M. Mileham, J. Krzystek, R. Achey, R. Fu, M. Polinski, N. Peek, Y. Wang, L. van de Burgt, S. Profeta, A.E. Stiegman, S.L. Scott. *ACS Catal.* **2017**, *7*, 7442-7455.
- Operando* Solid-state NMR Observation of Solvent-Mediated Adsorption-Reaction of Carbohydrates in Zeolites. L. Qi, R. Alamillo, W.A. Elliott, A. Andersen, D.W. Hoyt, E.D. Walter, K.S. Han, N.M. Washton, R.M. Rioux, J.A. Dumesic, S.L. Scott. *ACS Catal.* **2017**, *7*, 3489-3500.
- Ligand Exchange-Mediated Activation and Stabilization of a Re-based Olefin Metathesis Catalyst by chlorinated alumina. A. Gallo, A. Fong, K.C. Szeto, J. Rieb, L. Delevoye, R.M. Gauvin, M. Taoufik, B. Peters, S.L. Scott. *J. Am. Chem. Soc.* **2016**, *138*, 12935-12947.
- Rate-Enhancing Roles of Water Molecules in Methyltrioxorhenium-Catalyzed Olefin Epoxidation by Hydrogen Peroxide. B. Goldsmith, T. Hwang, S. Seritan, B. Peters, S.L. Scott. *J. Am. Chem. Soc.* **2015**, *137*, 9604-9616.
- Ligand Exchange-Induced Growth of an Atomically Precise Cu<sub>29</sub> Nanocluster from a Smaller Cluster. T.-A.D. Nguyen, Z.R. Jones, D.F. Leto, G. Wu, S.L. Scott, T.W. Hayton. *Chem. Mater.* **2016**, *28*, 8385-8390.
- A Cu<sub>25</sub> Nanocluster with Metallic Copper Character. T.D. Nguyen, Z.R. Jones, B.R. Goldsmith, W.R. Buratto, G. Wu, B. Peters, S.L. Scott, T.W. Hayton. *J. Am. Chem. Soc.* **2015**, *137*, 13319-13324.

- A Tailored Microenvironment for Catalytic Biomass Conversion in Inorganic-Organic Nanoreactors. R. Alamillo, A.J. Crisci, J. M. Gallo, S.L. Scott, J.A. Dumesic. *Angew. Chem. Int. Ed.* **2013**, *52*, 10349-51.
- Stabilization by Atomic Layer Deposition of Copper Catalysts for Liquid Phase Reactions. B.J. O'Neill, D.H.K. Jackson, A.J. Crisci, C.A. Farberow, F. Shi, J. Lu, P.J. Dietrich, X. Gu, C.L. Marshall, P.C. Stair, J.W. Elam, J.T. Miller, F.H. Ribeiro, P.M. Voyles, J. Greeley, M. Mavrikakis, S.L. Scott, T.F. Kuech, J.A. Dumesic, *Angew. Chem. Int. Ed.* **2013**, *52*, 13808-13812.
- Tandem Catalytic Conversion of Glucose to 5-Hydroxymethylfurfural with an Immobilized Enzyme and a Solid Acid. H. Huang, C.A. Denard, R. Alamillo, A.J. Crisci, Y. Miao, J.A. Dumesic, S.L. Scott, H. Zhao. *ACS Catal.* **2014**, *4*, 2165-2168.
- Q.-X. Luo, Y.-B. Zhang, L. Qi, S. L. Scott, "Glucose Isomerization and Epimerization over Metal-Organic Frameworks with Single-Site Active Centers", *ChemCatChem*, **2019**, *11*, 1903-1909.
- F. Che, J.T. Gray, S. Ha, N. Kruse, S.L. Scott, J.-S. McEwen, "The Role of the Electric Field in Catalysis: A Perspective", *ACS Catal.* **2018**, *8*, 5153-5174.
- C. Moisii, D. Jeffcoat, N. Peek, L. van de Burgt, S.L. Scott, A. E. Stiegman, "Do Mono-Oxo Sites Exist in Silica-Supported Cr(VI) Materials? Reassessment of the Resonance Raman Spectra", *J. Phys. Chem. C*, **2018**, *122*, 17149-17160.
- B.R. Goldsmith, B. Peters, J.K. Johnson, B.C. Gates, S.L. Scott, "Beyond Ordered Materials: Understanding Catalytic Sites on Amorphous Solids", *ACS Catal.* **2017**, *7*, 7543-7557.
- C. Sievers, Y. Noda, L. Qi, E.M. Albuquerque, R.M. Rioux, S.L. Scott, "Phenomena Affecting Catalytic Reactions at Solid-Liquid Interfaces", *ACS Catal.* **2016**, *6*, 8286-8307.