

YOGESH SURENDRANATH

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Professional Appointments

Paul M. Cook Career Development Chair	<i>Massachusetts Institute of Technology</i> July 2016 – present
Associate Professor of Chemistry	<i>Massachusetts Institute of Technology</i> July 2018 – present
Assistant Professor of Chemistry	<i>Massachusetts Institute of Technology</i> July 2013 – June 2018
Postdoctoral Fellow Host: Prof. A. Paul Alivisatos <i>Research Focus: Controlled doping of nanocrystal solids</i>	<i>Miller Institute for Basic Research in Science, UC Berkeley</i> July 2011 – June 2013

Education

Ph.D. in Inorganic Chemistry Advisor: Prof. Daniel G. Nocera <i>Thesis Title: Oxygen Evolution Mediated by Co-Based Thin Film Electrocatalysts</i>	<i>Massachusetts Institute of Technology</i> May 2011
B.S. Chemistry, B.A. Physics Advisor: Prof. W. Dean Harman <i>Thesis Title: Synthesis and Reactivity of Tungsten Diazine Complexes</i>	<i>University of Virginia</i> June 2006

Academic Standing

Refereed Publications	61
Citations	>7900 citations (>125 citations/item)
H-Index	36
Patents	10

Awards and Fellowships

Presidential Early Career Award for Scientists & Engineers	2019
E. Bright Wilson Prize, Harvard University	2019
CIFAR Azrieli Global Scholar	2018
Kavli Frontiers of Science Fellow, Kavli Foundation	2018
Scialog Fellow in Advanced Energy Storage, Research Corporation	2017
Cottrell Scholar Award	2017
Alfred P. Sloan Research Fellow	2016
Toyota Young Investigator Award, The Electrochemical Society	2015
DOE Young Investigator Award	2015

AFOSR Young Investigator Award	2015
Kavli Frontiers of Science Fellow, Kavli Foundation	2015
NSF CAREER Award	2015
Dreyfus Fellowship in Environmental Chemistry	2014
Miller Research Fellowship, UC Berkeley	2011–2013
Alan Davison Prize for Best Inorganic Thesis, MIT Chemistry	2011
Young Investigator Award, ACS Division of Inorganic Chemistry	2011
NSF Graduate Research Fellowship	2009–2011
DOD National Defense Science and Engineering Graduate Fellowship	2006–2009
Solar Revolution Project Fellow, Chesonis Family Foundation	2009–2011
Presidential Fellowship, MIT	2006
Merck Index Award	2006
Undergraduate Fellowship in Synthetic Organic Chemistry, GlaxoSmithKline	2005
Barry M. Goldwater Scholar	2004
Jefferson Scholar, University of Virginia	2002–2006
David A. Harrison Research Award	2005 and 2004
Kenneth C. Bass Scholarship	2005
Albert H. Small Independent Fellowship	2005
National Science Foundation Travel Award for 229th ACS National Meeting	2005
Phi Beta Kappa	2005

Professional Activities and Affiliations

Peer Reviewer Science, Nature, Journal of the American Chemical Society, Nature Communications, Nature Catalysis, Nature Energy, Nature Chemistry, ACS Catalysis, Joule, Chemical Science, Energy and Environmental Sciences, Inorganic Chemistry,

Member of American Chemical Society, Electrochemical Society

Scientific Publications

From Independent Career:

- (61) Ryu, J.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2019**, *Articles ASAP*, DOI: 10.1021/jacs.9b05148
“Tracking Electrical Fields at the Pt/H₂O Interface During Hydrogen Catalysis”
- (60) Jackson, M. N.; Kaminsky, C.; Oh, S.; Melville, J. F.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2019**, *141*, 14160–14167.
“Graphite Conjugation Eliminates Redox Intermediates in Molecular Electrocatalysis”
- (59) Yan, B.; Bisbey, R. P.; Alabugin, A.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2019**, *141*, 11115–11122.
“Mixed Electron–Proton Conductors Enable Spatial Separation of Bond Activation and Charge Transfer in Electrocatalysis”
- (58) Kim, R. S.; **Surendranath, Y.** *ACS Cent. Sci.* **2019**, *2019*, *5*, 1179–1186.
“Electrochemical Reoxidation Enables Continuous Methane-to-Methanol Catalysis with Aqueous Pt Salts”

- (57) Jackson, M. N.; Pegis, M. L.; **Surendranath, Y.** *ACS Cent. Sci.* **2019**, *5*, 831–841.
“Graphite-Conjugated Acids Reveal a Molecular Framework for Proton-Coupled Electron Transfer at Electrode Surfaces”
- (56) Kaminsky, C. J.; Wright, J.; **Surendranath, Y.** *ACS Catal.* **2019**, *9*, 3667–3671.
“Graphite-Conjugation Enhances Porphyrin Electrocatalysis”
- (55) Jackson, M. N.; Jung, O.; Lamotte, H. C.; **Surendranath, Y.** *ACS Catal.* **2019**, *9*, 3737–3743.
“Donor-Dependent Promotion of Interfacial Proton-Coupled Electron Transfer in Aqueous Electrocatalysis”
- (54) Schreier, M.; Yoon, Y.; Jackson, M. N.; **Surendranath, Y.** *Angew. Chem. Int. Ed.* **2018**, *57*, 10221–10225.
“Competition Between H and CO for Active Sites Governs Cu Mediated Electrosynthesis of Hydrocarbon Fuels”
- (53) Ryu, J.; Wuttig, A.; **Surendranath, Y.** *Angew. Chem. Int. Ed.* **2018**, *57*, 9300–9304.
“Quantification of Interfacial pH Variation at Molecular Length Scales Using a Concurrent Non-Faradaic Reaction”
- (52) Yoon, Y.; Yan, B.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2018**, *140*, 2397–2400.
“Suppressing Ion Transfer Enables Versatile Measurements of Electrochemical Surface Area for Intrinsic Activity Comparisons”
- (51) Jackson, M. N.; Oh, S.; Kaminsky, C. J.; Chu, S. B.; Zhang, G.; Miller, J. T.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2018**, *140*, 1004–1010.
“Strong Electronic Coupling of Molecular Sites to Graphitic Electrodes via Pyrazine Conjugation”
- (50) Wuttig, A.; Yoon, Y.; Ryu, J.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2017**, *139*, 17109–17113.
“Bicarbonate is Not a General Acid in Au-Catalyzed CO₂ Electroreduction”
- (49) O’Reilly, M.; Kim, R. S.; Oh, S.; **Surendranath, Y.** *ACS Cent. Sci.* **2017**, *3*, 1174–1179.
“Catalytic Methane Monofunctionalization by an Electrogenenerated High-Valent Pd Intermediate”
- (48) Ricke, N.; Murray, A. T.; Shepherd, J.; Welborn, M.; Fukushima, T.; Van Voorhis, T.; **Surendranath, Y.** *ACS Catal.* **2017**, *7*, 7680–7687.
“Molecular-Level Insights into Oxygen Reduction Catalysis by Graphite-Conjugated Active Sites”
- (47) Yan, B.; Krishnamurthy, D.; Hendon, C. H.; Deshpande, S.; **Surendranath, Y.**; Viswanathan, V. *Joule* **2017**, *1*, 600–612
“Surface Restructuring of Nickel Sulfide Generates Optimally Coordinated Active Sites for Oxygen Reduction Catalysis”
- (46) Yan, B.; Concannon, N. M.; Milshtein, J. D.; Brushett F. R.; **Surendranath, Y.** *Angew. Chem. Int. Ed.* **2017**, *56*, 7496–7499.
“A Membrane-Free Neutral pH Formate Fuel Cell Enabled by a Selective Ni₃S₂ Oxygen Reduction Catalyst”
- (45) Murray, A. T.; **Surendranath, Y.** *ACS Catal.* **2017**, *7*, 3307–3312.
“Reversing the Native Aerobic Oxidation Reactivity of Graphitic Carbon: Heterogeneous Metal-Free Alkene Hydrogenation”

- (44) Chu, S. B.; Fukushima, T.; **Surendranath, Y.** *Chem. Mater.* **2017**, *29*, 495–498.
“Minor Impact of Ligand Shell Steric Profile on Colloidal Nanocarbon Catalysis”
- (43) Yoon, Y.; Hall, A. S.; **Surendranath, Y.** *Angew. Chem. Int. Ed.* **2016**, *55*, 15282–15286.
“Tuning of Silver Catalyst Mesostructure Promotes Selective Carbon Dioxide Conversion into Fuels”
- (42) Wuttig, A.; Can, L.; Peng, Q.; Yaguchi, M.; Motobayashi, K.; Osawa, M.; **Surendranath, Y.** *ACS Cent. Sci.* **2016**, *2*, 522–528.
“Tracking a Common Surface-Bound Intermediate during CO₂-to-Fuels Catalysis”
- (41) Wuttig, A.; Yaguchi, M.; Motobayashi, K.; Osawa, M.; **Surendranath, Y.** *Proc. Natl. Acad. Sci. U. S. A.* **2016**, *113*, E4585–E4593.
“Inhibited Proton Transfer Enhances Au-Catalyzed CO₂-to-Fuels Selectivity.”
- (40) Jackson, M. N.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2016**, *138*, 3228–3234.
“Donor-Dependent Kinetics of Interfacial Proton-Coupled Electron Transfer.”
- (39) Miner, E. M.; Fukushima, T.; Sheberla, D.; Sun, L.; **Surendranath, Y.**; Dincă, M. *Nature Commun.* **2016**, *7*, 10942.
“Electrochemical Oxygen Reduction Catalyzed by Ni₃(hexaiminotriphenylene)₂.”
- (38) Oh, S.; Gallagher, J. R.; Miller, J. T.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2016**, *138*, 1820–1823.
“Graphite-Conjugated Rhenium Catalysts for Carbon Dioxide Reduction.”
- (37) Hall, A. S.; Yoon, Y.; Wuttig, A.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2015**, *137*, 14834–14837.
“Mesostructure-Induced Selectivity in CO₂ Reduction Catalysis.”
- (36) Fukushima, T.; Drisdell, W.; Yano, J.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2015**, *137*, 10926–10929.
“Graphite-Conjugated Pyrazines as Molecularly Tunable Heterogeneous Electrocatalysts.”
- (35) Falkowski, J. M.; Concannon, N. M.; Yan, B.; **Surendranath, Y.** *J. Am. Chem. Soc.* **2015**, *137*, 7978–7981.
“Heazlewoodite, Ni₃S₂: a Potent Catalyst for Oxygen Reduction to Water Under Benign Conditions.”
- (34) Wuttig, A.; **Surendranath, Y.** *ACS Catal.* **2015**, *5*, 4479–4484.
“Impurity Ion Complexation Enhances Carbon Dioxide Reduction Catalysis.”
- (33) Falkowski, J. M.; **Surendranath, Y.** *ACS Catal.* **2015**, *5*, 3411–3416.
“Metal Chalcogenide Nanofilms: Platforms for Mechanistic Studies of Electrocatalysis.”

Doctoral and Postdoctoral Research:

- (32) Manthiram, K.; **Surendranath, Y.**; Alivisatos, A. P. *J. Am. Chem. Soc.* **2014**, *136*, 7237–7240.
“Dendritic Assembly of Gold Nanoparticles During Fuel-Forming Electrocatalysis.”
- (31) Tarafder, K.; **Surendranath, Y.**; Olshansky, J. H.; Alivisatos, A. P.; Wang, L.-W. *J. Am. Chem. Soc.* **2014**, *136*, 5121–5131.
“Hole Transfer Dynamics from a CdSe/CdS Quantum Rod to a Tethered Ferrocene Derivative.”
- (30) Beberwyck, B. J.; **Surendranath, Y.**; Alivisatos, A. P. *J. Phys. Chem. C* **2013**, *117*, 19759–19770.
“Cation Exchange: A Versatile Tool for Nanomaterials Synthesis.” (**Review**)
- (29) Farrow, C. L.; Bediako, D. K.; **Surendranath, Y.**; Nocera, D. G.; Billinge, S. J. L. *J. Am. Chem. Soc.* **2013**, *135*, 6403–6406.

- "Intermediate-Range Structure of Self-Assembled Cobalt-Based Oxygen-Evolving Catalyst"
- (28) Bediako, D. K.; **Surendranath, Y.**; Nocera, D. G. *J. Am. Chem. Soc.* **2013**, *135*, 3662–3674.
"Mechanistic Studies of the Oxygen Evolution Reaction Mediated by a Nickel–Borate Thin Film Electrocatalyst"
- (27) King, A. E.; **Surendranath, Y.**; Piro, N. A.; Bigi, J. P.; Long, J. R.; Chang, C. J. *Chem. Sci.* **2013**, *4*, 1578.
"A mechanistic study of proton reduction catalyzed by a pentapyridine cobalt complex: evidence for involvement of an anion-based pathway"
- (26) Lee, S. W.; Carlton, C.; Risch, M.; **Surendranath, Y.**; Chen, S.; Furutsuki, S.; Yamada, A.; Nocera, D. G.; Shao-Horn, Y. *J. Am. Chem. Soc.* **2012**, *134*, 16959–16962.
"The Nature of Lithium Battery Materials under Oxygen Evolution Reaction Conditions"
- (25) Engel, J. H.;* **Surendranath, Y.**;* Alivisatos, A. P. *J. Am. Chem. Soc.* **2012**, *134*, 13200–13203. (* denotes equal author contribution)
"Controlled Chemical Doping of Semiconductor Nanocrystals Using Redox Buffer"
- (24) **Surendranath, Y.**; Bediako, D. K.; Nocera, D. G. *Proc. Natl. Acad. Sci. U. S. A.* **2012**, *109*, 15617–15621
"Interplay of Oxygen-Evolution Kinetics and Photovoltaic Power Curves on the Construction of Artificial Leaves"
- (23) Thoi, V. S.; Karunadasa, H. I.; **Surendranath, Y.**; Long, J. R.; Chang, C. J. *Energy Environ. Sci.* **2012**, *5*, 7762–7770.
"Electrochemical Generation of Hydrogen from Acetic Acid Using a Molecular Molybdenum-Oxo Catalyst"
- (22) Bediako, D. K.; Lassalle-Kaiser, B.; **Surendranath, Y.**; Yano, J.; Yachandra, V. K.; Nocera, D. G. *J. Am. Chem. Soc.* **2012**, *134*, 6801–6809.
"Structure–Activity Correlations in a Nickel–Borate Oxygen Evolution Catalyst"
- (21) **Surendranath, Y.**; Lutterman, D. A.; Liu, Y.; Nocera, D. G. *J. Am. Chem. Soc.* **2012**, *134*, 6326–6336.
"Nucleation, Growth, and Repair of a Cobalt-Based Oxygen Evolving Catalyst"
- (20) McAlpin, J. G.; Stich, T. A.; Ohlin, C. A.; **Surendranath, Y.**; Nocera, D. G.; Casey, W. H.; Britt, R. D. *J. Am. Chem. Soc.* **2011**, *133*, 15444–15452.
"Electronic Structure Description of a [Co(III)₃Co(IV)O₄] Cluster: A Model for the Paramagnetic Intermediate in Cobalt-Catalyzed Water Oxidation"
- (19) Pijpers, J. J. H.; Winkler, M. T.; **Surendranath, Y.**; Buonassisi, T.; Nocera, D. G. *Proc. Natl. Acad. Sci. U. S. A.* **2011**, *108*, 10056–10061.
"Light-Induced Water Oxidation at Silicon Electrodes Functionalized with a Cobalt Oxygen-Evolving Catalyst"
- (18) **Surendranath, Y.**; Nocera, D. G. *Prog. Inorg. Chem.* **2011**, *57*, 505–560.
"Oxygen Evolution Chemistry of Oxide-Based Electrodes" (**Book Chapter**)
- (17) Symes, M. D.; **Surendranath, Y.**; Lutterman, D. A.; Nocera, D. G. *J. Am. Chem. Soc.* **2011**, *133*, 5174–5177.
"Bidirectional and Unidirectional PCET in a Molecular Model of a Cobalt-Based Oxygen Evolving Catalyst"
- (16) Esswein, A. J.; **Surendranath, Y.**; Reece, S. R.; Nocera, D. G. *Energy Environ. Sci.* **2011**, *4*, 499–504.
"Highly Active Cobalt Phosphate and Borate Based Oxygen Evolving Catalysts Operating in Neutral and Natural Waters"

- (15) Cook, T. R.; Dogutan, D. K.; Reece, S. Y.; **Surendranath, Y.**; Teets T. S.; Nocera, D. G. *Chem. Rev.* **2010**, *110*, 6474–6502.
"Solar Energy Supply and Storage for the Legacy and Non-legacy Worlds" (**Review**)
- (14) **Surendranath, Y.**; Kanan, M. W.; Nocera, D. G. *J. Am. Chem. Soc.* **2010**, *132*, 16501–16509.
"Mechanistic Studies of the Oxygen Evolution Reaction by a Cobalt-Phosphate Catalyst at Neutral pH"
- (13) Kanan, M. W.; Yano, J.; **Surendranath, Y.**; Dincă, M.; Yachandra, V. K.; Nocera, D. G. *J. Am. Chem. Soc.* **2010**, *132*, 13692-13701.
"Structure and Valency of a Cobalt–Phosphate Water Oxidation Catalyst Determined by in Situ X-ray Spectroscopy"
- (12) McAlpin, J. G.; **Surendranath, Y.**; Dincă, M.; Stich, T. A.; Stoian, S. A.; Casey, W. H.; Nocera, D. G.; Britt, R. D. *J. Am. Chem. Soc.* **2010**, *132*, 6882-6883.
"EPR Evidence for Co(IV) Species Produced During Water Oxidation at Neutral pH"
- (11) Dincă, M.; **Surendranath, Y.**; Nocera, D. G. *Proc. Natl. Acad. Sci. U. S. A.* **2010**, *107*, 10337-10341.
"Nickel-Borate Oxygen-Evolving Catalyst that Functions Under Benign Conditions"
- (10) **Surendranath, Y.**; Dincă, M.; Nocera, D. G. *J. Am. Chem. Soc.* **2009**, *131*, 2615-2620.
"Electrolyte-Dependent Electrosynthesis and Activity of Cobalt-Based Water Oxidation Catalysts"
- (9) Lutterman, D. A.; **Surendranath, Y.**; Nocera, D. G. *J. Am. Chem. Soc.* **2009**, *131*, 3838-3839.
"A Self-Healing Oxygen-Evolving Catalyst"
- (8) Kanan, M. W.; **Surendranath, Y.**; Nocera, D. G. *Chem. Soc. Rev.* **2009**, *38*, 109-114.
"Cobalt-Phosphate Oxygen-Evolving Compound" (**Review**)
- (7) Cook, T. R.; **Surendranath, Y.**; Nocera, D. G. *J. Am. Chem. Soc.* **2009**, *131*, 28-29.
"Chlorine Photoelimination from a D diplatinum Core: Circumventing the Back Reaction"
- (6) Betley, T. A.; **Surendranath, Y.**; Childress, M. V.; Alliger, G. E.; Fu, R.; Cummins, C. C.; Nocera, D. G. *Philosophical Transactions of the Royal Society B-Biological Sciences* **2008**, *363*, 1293-1303.
"A Ligand Field Chemistry of Oxygen Generation by the Oxygen-Evolving Complex and Synthetic Active Sites" (**Review**)
- (5) Delafuente, D. A.; Kosturko, G. W.; Graham, P. M.; Harman, W. H.; Myers, W. H.; **Surendranath, Y.**; Klet, R. C.; Welch, K. D.; Trindle, C. O.; Sabat, M.; Harman, W. D. *J. Am. Chem. Soc.* **2007**, *129*, 406-416.
"Isomerization Dynamics and Control of the η^2/N Equilibrium for Pyridine Complexes"
- (4) Cooper, D. R.; **Surendranath, Y.**; Devedjiev, Y.; Bielnicki, J.; Derewenda, Z. S. *Acta Crystallographica Section D-Biological Crystallography* **2007**, *63*, 1269-1273.
"Structure of the *Bacillus subtilis* Ohrb Hydroperoxide-Resistance Protein in a Fully Oxidized State"
- (3) **Surendranath, Y.**; Welch, K. D.; Nash, B. W.; Harman, W. H.; Myers, W. H.; Harman, W. D. *Organometallics* **2006**, *25*, 5852-5853.
"Tungsten-Promoted Dearomatization of Heterocycles: Uncovering the Latent 2-Azadiene Character of Pyrimidines"
- (2) **Surendranath, Y.**; Harman, W. D. *Dalton Trans.* **2006**, 3957-3965.
"The Role of Electrochemistry in the Development of pi-Basic Dearomatization Agents" (**Review**)
- (1) Devedjiev, Y.; **Surendranath, Y.**; Derewenda, U.; Gabrys, A.; Cooper, D. R.; Zhang, R. G.; Lezondra, L.; Joachimiak, A.; Derewenda, Z. S. *J. Mol. Biol.* **2004**, *343*, 395-406.
"The Structure and Ligand Binding Properties of the *B. subtilis* Ykof Gene Product, a Member of a Novel Family of Thiamin/HMP-Binding Proteins"

Invited Seminars

From Independent Career:

- (135) University of New Hampshire, Department of Chemistry – Durham, NH, September 2019.
- (134) American Chemical Society National Meeting, Symposium on Charge & Substrate Transport in 3D Electrocatalytic Materials – San Diego, CA, August 2019.
- (133) American Chemical Society National Meeting, Symposium on Sustainable Energy & Water via Innovative Electrocatalytic, Photocatalytic & Hybrid Catalytic Systems – San Diego, CA, August 2019.
- (132) American Chemical Society National Meeting, Symposium on Inorganic Chemistry for Sustainable Energy & Environment – San Diego, CA, August 2019.
- (131) American Chemical Society National Meeting, Symposium on Molecular, Electronic, & Ionic Transport in Materials for Energy – San Diego, CA, August 2019.
- (130) Exxon-Mobil Research and Engineering – Clinton, NJ, August 2019.
- (129) Department of Energy, Basic Energy Sciences, Catalysis Science Program Meeting – Gaithersburg, MD, July 2019.
- (128) Telluride Workshop: Solar Solutions to Environmental Problems – Telluride, CO, July 2019.
- (127) Telluride Town Talk – Telluride, CO, July 2019.
- (126) Telluride Workshop: Platinum Group Metal-free Electrocatalysts – Telluride, CO, June 2019.
- (125) Keynote Lecture, Northeastern Regional Meeting of the American Chemical Society – Seratoga Springs, NY, June 2019.
- (124) Canadian Chemistry Conference and Exhibition, Symposium on Molecules and Materials for Solar Fuels Generation – Quebec City, Canada, June 2019.
- (123) University of Washington, Department of Chemistry – Seattle, WA, May 2019.
- (122) University of British Columbia, Department of Chemistry – Vancouver, Canada, May 2019.
- (121) Symposium on Applied Chemistry, Max Planck Institute for Chemical Energy Conversion – Berlin, Germany, April 2019.
- (120) MURI Program Review on Molecular Electrochemistry, Emory University – Atlanta, GA, April 2019.
- (119) University of Chicago, Department of Chemistry – Chicago, IL, April 2019.
- (118) Keynote Lecture, 24th Special Topical Meeting of the International Society of Electrochemistry – Merida, Mexico, April 2019.
- (117) American Chemical Society National Meeting, Symposium on Chemistry at the Interface of Solution-processed Inorganic Materials – Orlando, FL, April 2019.
- (116) American Chemical Society National Meeting, Symposium on Applied Electrocatalysis for Renewable Energy & Synthesis – Orlando, FL, April 2019.
- (115) American Chemical Society National Meeting, Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in honor of Jillian Dempsey – Orlando, FL, March 2019.
- (114) Bio-Inspired Solar Energy Program, Canadian Institute for Advanced Research – Princeton, New Jersey, March 2019.
- (113) Mohammed VI Polytechnic University – Ben Guerir, Morocco, March 2019.
- (112) California Institute of Technology, Department of Chemistry – Pasadena, CA, March 2019.
- (111) University of California, San Diego, Department of Chemistry – La Jolla, CA, March 2019.
- (110) Columbia University, Department of Chemistry – New York City, NY, February 2019.
- (109) Texas A&M University, Department of Chemistry – College Station, TX, February 2019.
- (108) University of Texas at Austin, Department of Chemistry – Austin, TX, February 2019.
- (107) E. B. Wilson Prize Lecture, Harvard University, Department of Chemistry – Cambridge, MA, January 2019.
- (106) University of Pittsburgh, Department of Chemistry – Pittsburgh, PA, January 2019.

- (105) NanoGe Conference on New Advances in Materials Research for Solar Fuels Production – Terramolinós, Spain, October 2018.
- (104) Instituto Catalonia in Quimica (ICIQ) – Terragona, Spain, October 2018.
- (103) Ecole Polytechnique Federale de Lausanne (EPFL), Department of Chemistry and Chemical Engineering – Lausanne, Switzerland, October 2018.
- (102) University of Illinois Urbana-Champaign, Department of Chemistry – Urbana, IL, October 2018.
- (101) Frontiers of Molecular Engineering, Institute for Molecular Engineering, University of Chicago – Chicago, IL, September 2018.
- (100) Third International Seminar in Electro Chemistry – Curitiba, Brazil, August 2018.
- (99) LightCHeC Summer School – Les Diablerets, Switzerland, August 2018.
- (98) Gerischer Electrochemistry Today Conference – Boulder, CO, August 2018.
- (97) SurfCat Summer School – Gilleleje, Denmark, August 2018.
- (96) Telluride Workshop: Molecular Chemistry in Electrochemical Energy Storage – Telluride, CO, July 2018.
- (95) CCI Solar Capstone Meeting – Ventura, CA, July 2018.
- (94) University of Cambridge, Department of Chemistry – Cambridge, United Kingdom, June 2018.
- (93) Paris Diderot University, Department of Chemistry – Paris, France, June 2018.
- (92) Delft University of Technology – Delft, Netherlands, June 2018.
- (91) Leiden University – Leiden, Netherlands, June 2018.
- (90) PCET2018, 3rd International Conference on Proton Coupled Electron Transfer – Blowing Rock, NC, June 2018.
- (89) Air Force Office of Scientific Research Program Review – Albuquerque, NM, May 2018.
- (88) Technical University of Denmark, Department of Physics – Lyngby, Denmark, May 2018.
- (87) Stockholm University, Department of Chemistry – Stockholm, Sweden, May 2018.
- (86) Uppsala University, Department of Chemistry – Uppsala, Sweden, May 2018.
- (85) Workshop on Proton Coupled Electron Transfer – Göttingen, Germany, May 2018.
- (84) New England Section of the Electrochemical Society Meeting – Boston, MA, May 2018.
- (83) Stanford University, Department of Chemistry – Stanford, CA, May 2018.
- (82) University of Wisconsin, Madison, Department of Chemistry – Madison, WI, April 2018.
- (81) University of Michigan, Department of Chemistry – Ann Arbor, MI, April 2018.
- (80) Cornell University, Department of Chemistry – Ithaca, NY, March 2018.
- (79) University of North Carolina, Chapel Hill, Department of Chemistry – Chapel Hill, NC, March 2018.
- (78) American Chemical Society National Meeting, ACS Award in Pure Chemistry: Symposium in honor of Mircea Dinca – New Orleans, LA, March 2018.
- (77) American Chemical Society National Meeting, Symposium on PCET PhotoCatalysis with Inorganic Molecules & Materials – New Orleans, LA, March 2018.
- (76) 29th Kavli Frontiers of Science Symposium – Irvine, CA, February 2018.
- (75) University of California, Irvine, Department of Chemistry – Irvine, CA, February 2018.
- (74) University of California, Santa Barbara, Department of Chemistry – Santa Barbara, CA, February 2018.
- (73) University of Southern California, Department of Chemistry – Los Angeles, CA, January 2018.
- (72) University of California, Los Angeles, Department of Chemistry – Los Angeles, CA, January 2018.
- (71) Purdue University, Department of Chemistry – West Lafayette, IN, January 2018.
- (70) Gordon Research Conference on Electrochemistry – Ventura, CA, January 2018.
- (69) Materials Research Society Fall Meeting, Symposium on Earth Abundant Metal Oxides; Sulfides and Selenides For Energy Systems And Devices – Boston, MA, December 2017.

- (68) 44th Boston Regional Inorganic Colloquium – Medford, MA, October 2017.
- (67) Global Research Center for Environment and Energy Based on Nanomaterials Science (GREEN), National Institute for Materials Science – Tsukuba, Japan, October 2017.
- (66) Yale University, Department of Chemistry – New Haven, CT, October 2017.
- (65) University of California, Berkeley, Department of Chemistry – Berkeley, CA, September 2017.
- (64) SolarFuel17 Conference – Barcelona, Spain, September 2017.
- (63) American Chemical Society National Meeting, Symposium on Innovative Chemistry & Electrocatalysis for Low-Carbon Energy & Fuels: Discovery to Application – Washington, DC, August 2017.
- (62) American Chemical Society National Meeting, Symposium on Personal and Global Energy Conversion in Chemistry and Biology – Washington, DC, August 2017.
- (61) Penn Conference on Theoretical Chemistry, University of Pennsylvania – Philadelphia, PA, August 2017.
- (60) SUNCAT Summer Institute Conference, Stanford University – Stanford, CA, August 2017.
- (59) Telluride Solar Solutions Workshop – Telluride, CO, June 2017.
- (58) Boston University, Department of Materials Science and Engineering – Boston, MA, May 2017.
- (57) American Chemical Society National Meeting, Presidential Symposium – San Francisco, CA, April 2017.
- (56) Gordon Research Conference on Inorganic Reaction Mechanisms – Galveston, TX, March 2017.
- (55) NSF-CCI Solar Annual Retreat – Newport Beach, CA, January 2017.
- (54) Boston College, Department of Chemistry – Chestnut Hill, MA, September 2016.
- (53) Michigan State University, Department of Chemistry – East Lansing, MI, September 2016.
- (52) Summer School on Interfaces and Energy, Max Plank - EPFL Center for Molecular Nanoscience – Göttingen, Germany, September 2016.
- (51) Inorganic Chemistry Conference Erlangen, Friedrich-Alexander University – Erlangen, Germany, September 2016.
- (50) Siemens Central Research – Erlangen, Germany, September 2016.
- (49) Research Battery Technologies, BMW Group – Munich, Germany, August 2016.
- (48) American Chemical Society National Meeting – Philadelphia, PA, August 2016.
- (47) Toyota Research Institute of North America – Ann Arbor, MI, August 2016.
- (46) Young Investigator Program Review, Air Force Office of Scientific Research – Arlington, VA, June 2016.
- (45) National Rural Utilities Cooperative Financial Corporation National Forum – Seattle, WA, June 2016.
- (44) New England Catalysis Society, Spring Meeting – Providence, RI, May 2016.
- (43) ExxonMobil Chemical Company – Baytown, TX, April 2016.
- (42) University of Oregon, Department of Chemistry and Biochemistry – Eugene, OR, April 2016.
- (41) American Chemical Society National Meeting – San Diego, CA, March 2016.
- (40) Gordon Research Conference on Renewable Energy: Solar Fuels – Tuscany, Italy, March 2016.
- (39) IHS Energy CERAWEEK, Plenary Session – Houston, Texas, February 2016.
- (38) Bridgewater State University, Department of Chemistry – Bridgewater, MA, February 2016.
- (37) AFOSR MURI Novel Catalytic Mechanisms for the Chemical Reduction of Carbon Dioxide to Energy-Dense Liquids, University of California, San Diego – La Jolla, CA, January 2016.
- (36) Gordon Research Conference on Electrochemistry – Ventura, CA, January 2016.
- (35) Northwestern University, Argonne-Northwestern Solar Energy Research Center – Evanston, IL, December 2015.

- (34) University of California Berkeley, Nanosciences & Nanoengineering Institute – Berkeley, CA, November 2015.
- (33) University of Richmond, Department of Chemistry – Richmond, VA, September 2015.
- (32) University of Tokyo, Department of Chemical System Engineering – Tokyo, Japan, July 2015.
- (31) Hokkaido University, Catalysis Research Center – Sapporo, Japan, July 2015.
- (30) Kyoto University, Department of Synthetic Chemistry – Kyoto, Japan, July 2015.
- (29) Third Biennial CO₂ Workshop, Princeton University, Department of Chemistry – Princeton, NJ, March 2015.
- (28) Israeli-American Kavli Frontiers of Science Symposium – Jerusalem, Israel, February 2015.
- (27) AFOSR MURI Novel Catalytic Mechanisms for the Chemical Reduction of Carbon Dioxide to Energy-Dense Liquids, University of California, San Diego – La Jolla, CA, January 2015.
- (26) American Chemical Society National Meeting – San Francisco, CA, August 2014.
- (25) Brown University, Department of Chemistry – Providence, RI, August 2014.
- (24) Gordon Research Conference on Electrodeposition – Biddeford, ME, July 2014.
- (23) nanoGe: International Conference on New Advances in Materials Research for Solar Fuels Production – Montreal, Canada, June 2014.

Doctoral and Postdoctoral Research:

- (22) Argonne National Laboratory – Argonne, IL, March 2013.
- (21) University of Illinois, Department of Chemistry – Urbana-Campaign, IL, February 2013.
- (20) University of California, Department of Chemistry – Berkeley, CA, January 2013.
- (19) Harvard University, Department of Chemistry – Cambridge, MA, January 2013.
- (18) Columbia University, Department of Chemistry – New York, NY, January 2013.
- (17) Princeton University, Department of Chemistry – Princeton, NJ, January 2013.
- (16) Massachusetts Institute of Technology, Department of Chemistry – Cambridge, MA, January 2013.
- (15) California Institute of Technology, Department of Chemistry – Pasadena, CA, January 2013.
- (14) University of Wisconsin, Department of Chemistry – Madison, WI, December 2012.
- (13) University of Michigan, Department of Chemistry – Ann Arbor, MI, December 2012.
- (12) University of California, Department of Chemistry – San Diego, CA, December 2012.
- (11) University of Washington, Department of Chemistry – Seattle, WA, December 2012.
- (10) Yale University, Department of Chemistry – New Haven, CT, November 2012.
- (9) University of Chicago, Department of Chemistry – Chicago, IL, November 2012.
- (8) Young Investigator Award Symposium, 242nd ACS National Meeting – Denver, CO, August 2011.
- (7) Gordon Research Conference on Renewable Energy: Solar Fuels – Ventura, CA, January 2011.
- (6) Gordon Research Conference on Solid State Chemistry – New London, NH, August 2010.
- (5) Gordon Research Conference on Inorganic Chemistry – Biddeford, ME, June 2010.
- (4) Gordon-Kenan Research Seminar on Electrochemistry – Ventura, CA, January 2010.
- (3) OSA Optics and Photonics for Advanced Energy Technology – Cambridge, MA, June 2009.
- (2) 19th Boston Regional Inorganic Colloquium – Amherst, MA, May 2009.
- (1) Gordon-Kenan Research Seminar on Renewable Energy: Solar Fuels – Ventura, CA, February 2009.

Patents (Issued and Pending)

- (10) Licini, A.; **Surendranath, Y.** Molten Metaphosphate Electrolysis for Production of White Phosphorus. U.S. Provisional Patent Application No: 62/735,168

- (9) Yan, B.; Schreier, M.; **Surendranath, Y.** Driving Heterogeneous Catalysis Via Electrochemical Proton Pumping In Proton-Electron Conducting Films. U.S. Provisional Patent Application No: 62/717,381
- (8) Murray, A.; Voskian, S.; Hatton, T. A.; **Surendranath, Y.** Production Of Chemical Products Using Electrochemical Flow Systems And Mediators And Associated Methods. U.S. Provisional Patent Application No: 62/718,745
- (7) Voskian, S.; Murray, A.; Hatton, T. A.; **Surendranath, Y.** Production Of Chemical Products Using Electrochemical Flow Systems And Slug Flow And Associated Methods. U.S. Provisional Patent Application No: 62/718,752
- (6) O'Reilly, M. O.; **Surendranath, Y.** Electrochemical Oxidation of Aliphatic and Aromatic Compounds U.S. Provisional Patent Application No: 62/373,558; 62/465,935
- (5) Fukushima, T.; O'Reilly, M. O.; Oh, S.; Murray, A. T.; Kaminsky, C. J.; Chu, S. B.; Jackson, M. N.; **Surendranath, Y.** Molecularly Tunable Heterogeneous Catalysts by Edge Functionalization of Graphitic Carbons. U.S. Patent Application No: 15/236,963.
- (4) Kilyanek, S. M.; Chu, S. B.; **Surendranath, Y.** Fluorinated Coatings for High Performance Electrodes. U.S. Patent Application No: 15/012,089.
- (3) Nocera, D. G.; Kanan, M. W.; **Surendranath, Y.**; Reece, S. Y.; Esswein, A. J. Catalytic materials, photoanodes, and photoelectrochemical cells for water electrolysis and other electrochemical techniques. PCT Int. Appl. (2010), WO 2010042197 A1 20100415.
- (2) Nocera, D. G.; Kanan, M. W.; Moore, T. A.; **Surendranath, Y.**; Reece, S. Y.; Esswein, A. J. Catalytic materials, photoanodes, and photoelectrochemical cells for water electrolysis and other electrochemical techniques. PCT Int. Appl. (2010), WO 2010042196 A1 20100415.
- (1) Nocera, D. G.; Kanan, M. W.; **Surendranath, Y.**; Dinca, M.; Lutterman, D. A.; Reece, S. Y.; Esswein, A. J. Catalytic materials, electrodes, and systems for water electrolysis and other electrochemical techniques PCT Int. Appl. (2009), WO 2009154753 A2 20091223.