Alexander G. Agrios

Associate Professor
Al Geib Professor of Environmental Engineering Research and Education
Department of Civil & Environmental Engineering
Center for Clean Energy Engineering
University of Connecticut
261 Glenbrook Road, Unit 3037, Storrs, CT 06269
agrios@uconn.edu

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EXPERIENCE

University of Connecticut, Department of Civil & Environmental Engineering and Center for Clean Energy Engineering, Storrs, Conn., USA, August 2009 – present
Associate Professor (2016-present). Inventing schemes to improve charge collection and improve voltage produced by in dye-sensitized solar cells, including novel composite semiconductor nanostructures for fast electron transport and dye-anchored nanocatalysts to reduce overpotential losses. Also affiliated with the Chemical Engineering Graduate Faculty.

Royal Institute of Technology (KTH), Stockholm, and **Uppsala University,** Uppsala, Sweden, Department of Physical Chemistry, 2005–2009 (group moved in January 2008 from KTH to UU)
NSF International Research Fellow and Wallenberg Research Fellow. With Prof. Anders Hagfeldt, studied electron transport in dye-sensitized solar cells made from TiO_2 films deposited by electrostatic layer-by-layer (ELBL) deposition including TiO_2-coated ZnO nanorods, and hole transport in organic dye molecules.

École Polytechnique Fédérale de Lausanne (Swiss Federal Institute of Technology), Laboratory of Photonics and Interfaces, Lausanne, Switzerland, 2004–2005
NSF International Research Fellow. In the laboratory of Prof. Michael Grätzel, used electrostatic layer-by-layer (LbL) deposition to fabricate novel structured films for use in dye-sensitized solar cells.

École Centrale de Lyon, Laboratory of Photocatalysis and the Environment, Ecully, France, 2004
Postdoctoral Fellow. Conducted research with Prof. Pierre Pichat comparing proximate to remote mechanisms of TiO_2 photocatalytic degradation and assessing the photocatalytic effects of the catalyst sintering temperature, using phenol, anisole, and pyridine as probe molecules.

EDUCATION

Northwestern University, **PhD** June 2003, **MS** Dec 1998, Evanston, Ill.

Department:	Civil & Environmental Engineering / Institute for Environmental Catalysis
Advisor:	Prof. Kimberly A. Gray
Dissertation:	"Visible Light Photocatalysis: Adsorption, Complexation, and Reaction of Chlorophenols on Titanium Dioxide"

Duke University, BSE May 1996, Durham, N.C.

First Major:	Civil & Environmental Engineering
Second Major:	Chemistry

PUBLICATIONS (>4900 citations)

Peer-Reviewed Journal Publications

Sifat, I.; Biswas, K.; Ayers, J.; Park, S.-Y.; Agrios, A.G. "A multimodal analysis of degradation processes in 10W PV panels under thermal and mechanical stress." *Sol. Energy Mater. Sol. Cells* **2025**, *287*, 113617. doi:10.1016/j.solmat.2025.113617

Emanuele, E.; Agrios, A.G.; Alleva, A.; Bonanni, V.; Ciancio, R.; Gianoncelli, A.; Guzzi, F.; Kourousias, G.; Bassi, A.L.; Macrelli, A.; Ronchese, P.; Sifat, I.; Žižić, M.; Bozzini, B. "Carbon-Cloth Supported ZnO Nanorods as Binder-Free Zinc-Ion Battery Anodes: An Investigation into the Electrode Formation Process." *Adv. Sust. Sys.* **2025**, *9*, 2400921. doi:10.1002/adsu.202400921

Yang, B.; Agrios, A.G. "Attachment of Pt nanoparticles to a metal oxide surface using a thiol–carboxyl bifunctional molecule." *J. Colloid Interf. Sci.* **2018**, 513:464-469. doi:10.1016/j.jcis.2017.11.058

Manthina, V.; Agrios, A.G. "Facile synthesis of $Zn_{1-x}Co_xO$/ZnO core/shell nanostructures and their application to dye-sensitized solar cells." *Superlatt. Microstruct.* **2017**, 104:374-381. doi: 10.1016/j.spmi.2017.02.020

Haynes, V.N.; Ward, J.E.; Russell, B.J.; Agrios, A.G. "Photocatalytic effects of titanium dioxide nanoparticles on aquatic organisms—Current knowledge and suggestions for future research." *Aquat. Toxicol.* **2017**, 185:138-148. doi:10.1016/j.aquatox.2017.02.012

Manthina, V.; Agrios, A.G. "Synthesis of hybrid organic-inorganic perovskite platelets by vacuum impregnation." *Solid State Sci.* **2016**, 61:116-120. doi:10.1016/j.solidstatesciences.2016.08.009

Manthina, V.; Agrios, A.G. "Single-pot ZnO nanostructure synthesis by chemical bath deposition and their applications," *Nano-Structures & Nano-Objects* **2016** 7:1-11. doi:10.1016/j.nanoso.2016.03.005

Correa Baena, J.P.; Artyushkova, K.; Santoro, C.; Atanassov, P.; Agrios, A.G. "Morphological Characterization of ALD and Doping Effects on Mesoporous SnO_2 Aerogels by XPS and Quantitative SEM Image Analysis," *ACS Appl. Mater. Interfaces* **2016** 8:9849–9854. doi: 10.1021/acsami.6b00019

Correa Baena, J.P.; Kriz, D.A.; Giotto, M.; Suib, S.L.; Agrios, A.G. "Fluoride additive in epoxide-initiated sol-gel synthesis enables thin-film applications of SnO_2 aerogels." *RSC Adv.* **2016** 6:21326-21331. doi:10.1039/C6RA01015F

Manthina, V.; Agrios, A.G. "Blocking layers for nanocomposite photoanodes in dye sensitized solar cells: Comparison of atomic layer deposition and $TiCl_4$ treatment." *Thin Solid Films* **2016** 598:54-59. doi:10.1016/j.tsf.2015.11.054

Noor, N.; Lucera, L.; Capuano, T.; Manthina, V.; Agrios, A.G.; Silva, H.; Gokirmak, A. "Blue and white light emission from zinc oxide nanoforests." *Beilstein J. Nanotechnol.* **2015** 6:2463-2469. doi:10.3762/bjnano.6.255

Noor, N.; Manthina, V.; Cil, K.; Adnane, L.; Agrios, A.G.; Gokirmak, A.; Silva, H. "Atmospheric pressure microplasmas in ZnO nanoforests under high voltage stress." *AIP Adv.* **2015** 5:097212. doi:10.1063/1.4932037

Hewage, N.; Yang, B.; Agrios, A.G.; Brückner, C. "Introduction of Carboxylic Ester and Acid Functionalities to meso-Tetrakis(pentafluorophenyl)porphyrin and their Limited Electronic Effects on the Chromophore." *Dyes and Pigments* **2015** 121:159-169. doi:10.1016/j.dyepig.2015.05.006

Manthina, V.; Agrios, A.G. "Band edge engineering of composite photoanodes for dye-sensitized solar cells." *Electrochimica Acta* **2015** 169:416-423. doi:10.1016/j.electacta.2015.04.080

Correa Baena, J.P.; Agrios, A.G. "Transparent Conducting Aerogels of Antimony-Doped Tin Oxide." *ACS Appl. Mater. Interf.* **2014** 6:19127-19134. doi:10.1021/am505115x

Kopecky, A.; Liu, G.; Agushi, A.; Agrios, A.G.; Galoppini, E. "Synthesis of bifunctional Ru complexes with 1,2-dithiolane and carboxylate-substituted ligands." *Tetrahedron* **2014** 70:6271-6275 (NANOTEK special issue). doi:10.1016/j.tet.2014.04.042

Correa Baena, J.P.; Agrios, A.G. "Antimony-Doped Tin Oxide Aerogels as Porous Electron Collectors for Dye-Sensitized Solar Cells." *J. Phys. Chem. C.* **2014** 118:17028-17035 (Invited paper for Michael Grätzel "Festschrift" special issue). doi:10.1021/jp500542v

Manthina, V.; Patel, T.; Agrios, A.G. "Number Density and Diameter Control of Chemical Bath Deposition of ZnO Nanorods on FTO by Forced Hydrolysis of Seed Crystals." *J. Amer. Ceram. Soc.* **2014** 94:1028-1034. doi:10.1111/jace.12819

Liu, G.; Arellano-Jiménez, M. J.; Carter, C.B.; Agrios, A.G. "Preparation of functionalized platinum nanoparticles: A comparison of different methods and reagents." *J. Nanoparticle Res.* **2013** 15:1744-1756. doi:10.1007/s11051-013-1744-9

Wang, X.; Santoro, C.; Cristiani, P.; Squadrito, G.; Lei, Y.; Agrios, A.G.; Pasaogullari, U.; Li, B. "Influence of Electrode Characteristics on Coulombic Efficiency (CE) in Microbial Fuel Cells (MFCs) Treating Wastewater." *J. Electrochem. Soc.* **2013** 160:G3117-G3122. doi:10.1149/2.019307jes

Manthina, V.; Correa Baena, J.P.; Liu, G.; Agrios, A.G. "ZnO–TiO_2 Nanocomposite Films for High Light Harvesting Efficiency and Fast Electron Transport in Dye-Sensitized Solar Cells." *J. Phys. Chem. C* **2012** 116:23864-23870. doi:10.1021/jp304622d

Santoro, C.; Agrios, A.G.; Pasaogullari, U.; Li, B.K. "Effects of gas diffusion layer (GDL) and micro porous layer (MPL) on cathode performance in microbial fuel cells (MFCs)." *Int. J. Hydrogen Energy* **2011** 36:13096-13104. doi:10.1016/j.ijhydene.2011.07.030

Boschloo, G.; Marinado, T.; Nonomura, K.; Edvinsson, T.; Agrios, A.G.; Hagberg, D.P.; Sun, L.; Quintana, M.; Karthikeyan, C.S.; Thelakkat, M.; Hagfeldt, A. "A comparative study of a polyene-diphenylaniline dye and $Ru(dcbpy)_2(NCS)_2$ in electrolyte-based and solid-state dye-sensitized solar cells." *Thin Solid Films* **2008** 516:7214-7217.

Agrios, A.G.; Hagfeldt, A. "Low-temperature TiO_2 films for dye-sensitized solar cells: Factors affecting energy conversion efficiency." *J. Phys. Chem. C* **2008** 112:10021-10026.

Enríquez, R.; Agrios, A.G.; Pichat, P. "Probing multiple effects of TiO_2 sintering temperature on photocatalytic activity in water by use of a series of organic pollutant molecules." *Catal. Today* **2007** 120:196-202.

Hurum, D.C.; Agrios, A.G.; Crist, S.E.; Gray, K.A.; Rajh, T.; Thurnauer, M.C. "Probing reaction mechanisms in mixed phase TiO_2 by EPR." *J. Electron Spectrosc. Relat. Phenom.* **2006** 150:155-163.

Agrios, A.G.; Pichat, P. "Recombination rate of photogenerated charges versus surface area: Opposing effects of TiO_2 sintering temperature on photocatalytic removal of phenol, anisole, and pyridine in water." *J. Photochem. Photobiol., A* **2006** 180:130-135.

Agrios, A.G.; Cesar, I.; Comte, P.; Nazeeruddin, M.K.; Grätzel, M. "Nanostructured composite films for dye-sensitized solar cells by electrostatic layer-by-layer deposition." *Chem. Mater.* **2006** 18:5395-5397.

Agrios, A.G.; Pichat, P. "State of the art and perspectives on materials and applications of photocatalysis over TiO_2." *Journal of Applied Electrochemistry* **2005** 33:655-663.

Agrios, A.G.; Gray, K.A.; Weitz, E. "Narrow-band irradiation of a homologous series of chlorophenols on TiO_2: Charge-transfer complex formation and reactivity." *Langmuir* **2004** 20:5911-5917.

Hurum, D.C.; Agrios, A.G.; Gray, K.A.; Rajh, T.; Thurnauer, M.C. "Explaining the Enhanced Photocatalytic Activity of Mixed Phase TiO2 Using EPR." *J. Phys. Chem. B* **2003** 107:4545-4549.

Agrios, A.G.; Gray, K.A.; Weitz, E. "Photocatalytic transformation of 2,4,5-trichlorophenol on TiO_2 under sub-band-gap illumination." *Langmuir* **2003** 19:1402-1409.

Conference Proceedings

Simatupang, D.; Biswas, K.; Sifat, I.; Agrios, A.G.; Ayers, J.; Park, S.Y. "Photovoltaic Characterization based on Light Intensity Modulation Impedance Spectroscopy." *IEEE Energy Conversion Congress and Exposition,* **2023** 6521-6523.

Santoro, C.; Karra, U.; Li, B.; Agrios, A.G.; Squadrito, G.; Cristiani, P. "Effects of Cathodic Platinum Loadings and Organic Substrate Concentrations on the Performance of Single Chamber Microbial Fuel Cells Treating Wastewater." *ECS Trans.* **2013** 50:47-54.

Santoro, C.; Cristiani, P.; Agrios, A.G.; Li, B. "Effects of Anode and Cathode Areas on Organic Compounds Removal and Power Generation in Membraneless Microbial Fuel Cell (MFC)." *ECS Trans.* **2012** 41:57-63.

Santoro, C.; Agrios, A.G.; Li, B.; Cristiani, P. "The Correlation of the Anodic and Cathodic Open Circuit Potential (OCP) and Power Generation in Microbial Fuel Cells (MFCs)." *ECS Trans.* **2012** 41:45-53.

Book Chapters

Manthina, V.; Agrios, A.G.; Ahmad, S. "Photovoltaics—Current and Emerging Technologies and Materials for Solar Power Conversion." In *Sustainability in Mineral and Energy Sectors;* Devasahayam, S.; Dowling, K.; Mahapatra, M.K., Eds., Taylor & Francis, **2016**.

Agrios, A.G.; Gray, K.A. "Photocatalysis and beyond: Novel preparations, uses, and studies of TiO_2." In *Environmental Catalysis*; Grassian, V. H., Ed.; Taylor & Francis: Boca Raton, Fla., **2005**.

PRESENTATIONS

OP = oral presentation; PP = poster presentation; presenter is underlined

Yang, B.; Weiss, I.; Galoppini, E.; Agrios, A.G. "Dye-anchored nanocatalysts." *Gordon Research Conference on Electron Donor–Acceptor Interactions*, Newport, R.I., Aug. 5-10, **2018**. PP

Yang, B.; Weiss, I.; Galoppini, E.; Agrios, A.G. "Investigation of Pt–S bonding for dye-anchored platinum nanocatalysts." *Connecticut Microelectronics and Optoelectronics Symposium (CMOC)*, New Haven, CT, April 4, **2018**. OP *(won best oral presentation award)*

Yang, B.; Weiss, I.; Catsoulis, P.; Galoppini, E.; Agrios, A.G. "Attachment of nanocatalysts to bifunctional dyes for low-overpotential regeneration by iodide/triiodide." 9*th International Conference on Hybrid and Organic Photovoltaics (HOPV-17),* Lausanne, Switzerland, May 21-24, **2017**. OP

Yang, B.; Weiss, I.; Willis, W.; Suib, S.L.; Galoppini, E.; Agrios, A.G. "Investigation of Pt–S bonding for dye-anchored platinum nanocatalysts." 9*th International Conference on Hybrid and Organic Photovoltaics (HOPV-17),* Lausanne, Switzerland, May 21-24, **2017**. PP

Yang, B.; Weiss, I.; Catsoulis, P.; Galoppini, E.; Agrios, A.G. "Catalyzed dye regeneration by iodide using dithiolane and thiol nanocatalyst anchors." 8*th International Conference on Hybrid and Organic Photovoltaics (HOPV-16),* Swansea, Wales, UK, June 30-July 1, **2016**. OP

Grulke, E.; Yang, B.; Agrios, A.G. "Environmental Effects on Perovskite Degradation." *2015 MRS Fall Meeting & Exhibit*, Boston, Nov. 30-Dec. 4, **2015**. PP

Weiss, I.; Catsoulis, P.; Sun, R.; Yang, B.; Agrios, A.G.; Galoppini, E. "Dye Molecule-Anchored Platinum Nanocatalysts." *Supramolecular Photochemistry: Faraday Discussion,* Cambridge, UK, Sept. 15-17, **2015**. PP

Liu, G.; Kopecky, A.; Yang, B.; Weiss, I.; Galoppini, E.; Agrios, A.G. "Dye-anchored nanocatalysts for reduced voltage loss with inexpensive iodide/triiodide electrolytes." 7*th International Conference on Hybrid and Organic Photovoltaics (HOPV-15),* Rome, May 10-13, **2015**. OP

Correa Baena, J.P.; Agrios, A.G. "Transparent Conducting Aerogels for Dye-Sensitized Solar Cells." *20th International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-20)*, Berlin, Germany, July 27 - Aug 1, **2014**. OP

Correa Baena, J.P.; Agrios, A.G. "Antimony-Doped Tin Oxide Aerogels in Dye-Sensitized Solar Cells." 6*th International Conference on Hybrid and Organic Photovoltaics (HOPV-14),* Lausanne, Switzerland, May 11-14, **2014**. PP

Correa Baena, J.P.; Agrios, A.G. "Antimony-Doped Tin Oxide Aerogels for Applications in Dye Sensitized Solar Cells." *2013 MRS Fall Meeting & Exhibit*, Boston, Dec. 1-6, **2013**. PP

Agrios, A.G.; Manthina, V.; Correa Baena, J.P. "Active Layer–Transport Layer Concept for Composite Semiconductor Films in Nanostructured Solar Cells." *5th International Conference on Hybrid and Organic Photovoltaics (HOPV-13),* Seville, Spain, May 5-8, **2013**. OP

Manthina, V.; G. Liu; Agrios, A.G. "Band Edge Engineering of Nancomposites for Dye Sensitized Solar Cells." *5th International Conference on Hybrid and Organic Photovoltaics (HOPV-13),* Seville, Spain, May 5-8, **2013**. PP

Correa Baena, J.P.; Agrios, A.G.. "Characterization of Fluorine-Doped Tin Oxide Aerogels for Applications in Dye Sensitized Solar Cells." *5th International Conference on Hybrid and Organic Photovoltaics (HOPV-13),* Seville, Spain, May 5-8, **2013**. PP

Correa Baena, J.P.; Agrios, A.G. "FTO Aerogels as scaffolds for TiO_2 in DSC." *2012 MRS Fall Meeting & Exhibit,* Boston, Nov. 25-30, **2012**. OP

Manthina, V.; Agrios, A.G. "Facile Synthesis of $Zn_{1-x}Co_xO$/ZnO Core/Shell Nanostructures and Their Application to Dye-sensitized Solar Cells." *2012 MRS Fall Meeting & Exhibit,* Boston, Nov. 25-30, **2012**. PP

Manthina, V.; Agrios, A.G. "Control of Hydrothermal ZnO Nanorod Growth and Number Density by Forced Hydrolysis of Seed Crystals." *2012 MRS Fall Meeting & Exhibit,* Boston, Nov. 25-30, **2012**. PP

Correa Baena, J.P.; Agrios, A.G. "Conducting Aerogels of Fluorine-doped Tin Oxide for Dye-sensitized Solar Cells." *2012 MRS Fall Meeting & Exhibit,* Boston, Nov. 25-30, **2012**. OP

Correa Baena, J.P.; Agrios, A.G. "Fluorine-Doped Tin Oxide (FTO) Aerogel as Conductive Scaffold for TiO_2-Coated Dye-Sensitized Solar Cells (DSC)." *244th ACS National Meeting,* Philadelphia, Aug. 19-23, **2012**. OP

Agushi, A.; Kopecky, A.; Galoppini, E.; Agrios, A.G. "Ruthenium chromophores for anchoring platinum nanoparticles to titanium dioxide semiconductors in dye-sensitized solar cells." *ACS Middle Atlantic Regional Meeting (MARM 2012),* Baltimore, May 31-June 2, **2012**. PP

Correa Baena, J.P.; Agrios, A.G. "F:SnO_2 (FTO) aerogel as conductive scaffold for TiO_2-coated dye-sensitized solar cells (DSC)." *Connecticut Microelectronics and Optoelectronics Consortium (CMOC) 21st Annual Symposium,* Storrs, Conn., April 11, **2012**. PP

Liu, G.; Arellano-Jiménez, M.J.; Carter, C.B.; Agrios, A.G. "Preparation of Pt Nanoparticles and the Application as Localized Catalysis for Improved Solar Energy Conversion Efficiency." *Connecticut Microelectronics and Optoelectronics Consortium (CMOC) 21st Annual Symposium,* Storrs, Conn., April 11, **2012**. OP

Liu, G.; Arellano-Jiménez, M.J.; Carter, C.B.; Agrios, A.G. "Molecularly anchored Pt nanocatalysts for localized catalysis." *243rd ACS National Meeting,* San Diego, March 25-29, **2012**. OP

Lucera, L.; Adnane, L.; Cil, K.; Manthina, V.; Agrios, A.G.; Silva, H.; Gokirmak, A. "Light emission from electrically stressed ZnO nanorods." *APS March Meeting 2012,* Boston, Feb. 27 - March 2, **2012**. OP

Santoro, C.; Cristiani, P.; Agrios, A.G.; Li, B. "Effects of anode and cathode areas on organic compounds removal and power generation in membraneless microbial fuel cell (MFC)." *220th Electrochemical Society Meeting,* Boston, Oct. 9-14, **2011**. OP

Santoro, C.; Agrios, A.G.; Li, B.; Cristiani, P. "The correlation of the anodic and cathodic open circuit potential (OCP) and power generation in microbial fuel cells (MFCs)." *220th Electrochemical Society Meeting,* Boston, Oct. 9-14, **2011**. OP

Manthina, V.; Agrios, A.G. "Electron Transfer Between TiO_2 and ZnO in nano-composite photoanodes for dye-sensitized solar cells." *220th Electrochemical Society Meeting,* Boston, Oct. 9-14, **2011**. OP

Manthina, V.; Agrios, A.G. "ZnO-TiO_2 nanocomposite films for high light harvesting efficiency and fast electron transport in dye-sensitized solar cells." *3rd Hybrid and Organic Photovoltaics Conference (HOPV-11),* Valencia, Spain, May 15-18, **2011**. PP

Agrios, A.G.; Boschloo, G.; Hagfeldt, A. "Impact of dye-to-dye charge transfer on the performance of dye-sensitized solar cells." *3rd Hybrid and Organic Photovoltaics Conference (HOPV-11),* Valencia, Spain, May 15-18, **2011**. OP

Agrios, A.G.; Hagfeldt, A. "A TiO_2 nanoparticle/ZnO nanorod hybrid structure for dye-sensitized solar cells made by electrostatic layer-by-layer deposition." *European Materials Research Society (E-MRS) 2009 Spring Meeting,* Strasbourg, France, June 8-12, **2009**. PP

Agrios, A.G. "Novel structures for dye-sensitized solar cells." *Gordon Research Conference on Solid State Studies in Ceramics,* Colby-Sawyer College, New London, N.H., Aug. 15-20, **2009**. Invited OP

Agrios, A.G.; Boschloo, G.; Hagfeldt, A. "Hole transport in TiO_2-adsorbed monolayers of organic dyes containing triarylamine moieties." *17th International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-17),* Sydney, Australia, July 28 - Aug. 2, **2008**. PP

Agrios, A.G.; Hagfeldt, A. "Nanostructured semiconductor films for DSCs by electrostatic layer-by-layer deposition." *19th Workshop on Quantum Solar Energy Conversion (QUANTSOL 2007),* Bad Hofgastein, Austria, March 18-24, **2007**. OP

Agrios, A.G.; Cesar, I.; Compte, P.; Nazeeruddin, M.K.; Grätzel, M.; Hagfeldt, A. "Electron kinetics and solar energy conversion in dye-sensitized solar cells based on nanocomposite electrostatic layer-by-layer TiO_2 films." *16th International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-16),* Uppsala, Sweden, July 2-7, **2006**. PP

Agrios, A.G.; Pichat, P. "Tradeoff between reduced recombination rate and reduced surface area in effects of increasing TiO_2 sintering temperature on aqueous photocatalytic degradation kinetics of phenol, anisole, and pyridine." *228th ACS National Meeting,* Philadelphia, Aug. 22-26, **2004**. OP

Agrios, A.G.; Pichat, P. "Competition between TiO_2 surface area and recombination rate of photoproduced charges in determining photocatalytic removal rates of phenol, anisole, and pyridine in water." *15th International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-15),* Paris, July 4-9, **2004**. PP

Agrios, A.G.; Gray, K.A. "Detailing interfacial phenomena of 2,4,5-trichlorophenol on TiO_2 surfaces." *222nd ACS National Meeting,* Chicago, Aug. 26-30, **2001**. OP

Agrios, A.G.; Gray, K.A. "Enhanced adsorption and degradation on TiO_2 due to visible light." *Second International Conference on the Remediation of Chlorinated and Recalcitrant Compounds,* Monterey, Calif., May 22-25, **2000**. PP

Agrios, A.G.; Gray, K.A. "Visible light effects on a trichlorophenol/TiO_2 system." *23rd Annual Midwest Environmental Chemistry Workshop,* Kalamazoo, Mich., Oct. 6-8, **2000**. OP

Agrios, A.G.; Gray, K.A. "Photoenhanced adsorption on TiO_2 due to visible light." *22nd Annual Midwest Environmental Chemistry Workshop,* Houghton, Mich., Oct. 2-3, **1999**. OP

Agrios, A.G.; Gray, K.A. "Photocatalytic polishing of a treated wastewater: Effects of high inorganic anion concentration." *21st Annual Midwest Environmental Chemistry Workshop,* Ann Arbor, Mich., Oct. 16-18, **1998**. OP

PROFESSIONAL MEMBERSHIP

American Chemical Society (ACS), 1998–present

Materials Research Society (MRS), 2009-present

RESEARCH FUNDING

"Performance Assessment of Photovoltaic Panels Using Impedance Spectroscopy", DOE/SETO, $181,129, 8/2022 – 4/2024. Co-PI

"Dye Molecule-Anchored Platinum Nanocatalysts", NSF/CBET, $254,601 to UCONN ($501,684 total), 9/1/2014 – 8/31/2017. PI

"Novel Interfaces for Nanostructured Solar Cells", NSF/CBET, $89,839, 3/15/2013–2/28/2015. PI

"Addressing Social Challenges through Creativity, Engineering, Nanotechnology, and Diversity", NSF/NUE, $200,000, 9/1/2012 – 8/31/2015. Co-PI

"Composite Nanostructures for Fast Transport in Dye-Sensitized Solar Cells", UConn Research Foundation, $21,483, 1/1/2012-12/31/2012. PI

"Dye-Anchored Nanocatalysts for Improved Solar Energy Conversion Efficiency", NSF/CBET, $56,662 to UCONN ($107,888 total), 4/1/2011 – 3/31/2013. PI

"Nanofabrication Facility", UConn Research Foundation, $297,000, 10/20/2010-6/30/2011. Co-PI

SERVICE

Grant Proposal Peer Reviews

Panelist on 12 panels for NSF and combined NSF/DOE

Ad-hoc reviews for NSF, ACS Petroleum Research Fund, California Energy Commission, Czech Science Foundation, Indo-US Science & Technology Forum

Journal Article Peer Reviews

Reviewer of >100 articles for *ACS Nano, Angewandte Chemie, Small, J. Phys. Chem. B&C, Inorg. Chem., Royal Soc. Chem., Mater. Sci. Engr. B, J. Amer. Ceram. Soc., Appl. Catal. A, Wat. Sci. Technol., Electrochimica Acta, Spectrosc. Lett., Langmuir, Optical Mater., Mater. Sci. Semicond. Process., J. Alloys Compounds., Chem. Eng. J., Catal. Sci. Technol.*

Education & Outreach

da Vinci workshop (for K-12 teachers, 2 times)

Hosted Joule fellows (K-12 teacher summer research experience, 2 times)

CT Kids Fueling the Future demos

UCONN Open House, ENVE lab demos

Catalyst Energy Outreach demo

GRADUATE STUDENTS

Graduated PhD Students and Present Employment

Venkata Manthina, May 2014 — PsiQuantum

Guangliang (Perry) Liu, May 2014 — Chinese Space Agency

Juan Pablo Correa Baena, Aug 2014 — Faculty, Georgia Tech

Bowen Yang, Aug 2018 — Postdoc, Uppsala University, Anders Hagfeldt group

Iram Sifat, January 2025 — Engineer, SKYRE

Graduated MS (with thesis) Students

Luca Lucera, May 2012

Avinash Badagala, May 2013

Eric Grulke, May 2016