

Curriculum Vitae

Eleni A. Kyriakidou, PhD

Assistant Professor, Chemical and Biological Engineering Department

University at Buffalo, The State University of New York

613 Furnas Hall, Amherst, NY 14260

Office: (716) 645-1629, Fax: (716) 645-3822, E-mail: elenikyr@buffalo.edu

[Group Website](#)

[Google Scholar](#)

[Web of Science](#)

EDUCATION

- **PhD, Chemical Engineering** [December 2014]
University of South Carolina (USC) – Columbia, SC
Thesis Title: Synthesis of Au and Ag Catalysts with Controlled Sizes of Metal Particles
Advisor: Dr. Michael D. Amiridis
- **Diploma, Chemical Engineering** (5-year curriculum; MS equivalent) [November 2007]
(GPA: 7.24/10 – **top 10% of class**)
Aristotelian University of Thessaloniki – Thessaloniki, Greece
Thesis Title: Catalytic and electrocatalytic production of hydrogen (H₂) Water Gas Shift (WGS) reaction in a proton-conduction cell-reactor using a Pd (palladium) catalyst.
Advisor: Dr. Michael Stoukidis

EMPLOYMENT HISTORY

- State University of New York at Buffalo** [Jan. 2017 – present]
Chemical and Biological Engineering Department
Assistant Professor
- Oak Ridge National Laboratory** [Sept. 2014 – Dec. 2016]
Postdoctoral Research Associate
Mentor: Dr. Todd J. Toops
- University of South Carolina** [Aug. 2008 – Aug. 2014]
Graduate Research and Teaching Assistant, Department of
Chemical Engineering, College of Engineering and Computing
Advisor: Dr. Michael D. Amiridis

HONORS AND AWARDS

- “Catalysis” Gordon Research Conference Travel Award (06/2018).

Prior to UB:

- Richard J. Kokes Award, North American Catalysis Society Meeting (NAM), Louisville, KY, 06/2013.
- Travel award (AIChE Annual Conference 2013) by the Graduate School Office, USC.
- Student Poster Gold Award, 7th International Dendrimer Symposium, Gaithersburg, MD, 06/2011.
- Scholarship from the State Scholarships Foundation of Greece (years 2008 - 11). **Only** Chemical Engineering graduate from the country to receive full graduate fellowship to study in the US.

GRANTS TO STUDENTS

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively)

- “Uniquely Structured Catalysts for Vehicle Emissions Remediation”
Sponsor: Mark Diamond Research Fund (MDRF), UB, Grant Number: SP-21-05
Awarded amount: \$2717.17; 04/2021 – 03/2022, Awardee: *Ms. Chih-Han Liu^G* (Ph.D. student)
- “Atomically Dispersed Pt Catalysts for Low Temperature Diesel Oxidation Applications”
Sponsor: Mark Diamond Research Fund (MDRF), UB, Grant Number: FA-20-02
Awarded amount: \$2249.93; 04/2020 – 03/2021, Awardee: *Mr. Junjie Chen^G*
- “Synthesis of Catalysts for Nitrogen Oxide and Hydrocarbon Capture at Low Temperatures”
Sponsor: Center of Undergraduate Research & Creative Activities Fund (CURCA), UB
Award amount: \$373; 10/2017 – 04/2018, Awardee: *Mr. Lakshay Chopra^{UG}*
- “Novel Catalysts Synthesis for Low Temperature Automotive Applications”
Sponsor: Mark Diamond Research Fund (MDRF), UB, Grant Number: SU-17-04
Awarded amount: \$1,269.85; 07/2017 – 06/2018, Awardee: *Mr. Yiran Chen^G*
- “Catalytic Conversion of Methane to Useful Chemicals”
Sponsor: Mark Diamond Research Fund (MDRF), UB, Grant Number: SU-17-12.
Awarded amount: \$1,346; 07/2017 – 06/2018, Awardee: *Ms. Yuhan Mei^G*

Prior to UB:

- “Preparation of Supported Silver Nanoparticles via a Dendrimer-Mediated Synthetic Route”
Sponsor: Magellan Undergraduate Research Fellowship, USC
Award amount: \$2,500; May 2012 – Aug. 2013, Awardee: *Ms. Christina Papadimitriou* (USC undergraduate student)
- “Synthesis of Ag Catalysts with relatively Small Nanoparticles”
Sponsor: Magellan Mini-grant Undergraduate Research Fellowship, USC
Awarded amount: \$1,000; Aug. 2012 – May 2013, Awardee: *Ms. Christina Papadimitriou* (USC undergraduate student)

CURRENT RESEARCH GROUP

Ph.D. Graduate Students (3)

- Mr. Tala Mon (Jan. 2020 – present), CBE University at Buffalo.
- Ms. Chih Han Liu (Jan. 2018 – present), CBE University at Buffalo.
- Mr. Junjie Chen (Jan. 2017 – present), CBE University at Buffalo.

MS Graduate Students (2)

- Ms. Shweta Singh (May 2021 – present), CBE University at Buffalo.
- Ms. Aditi Patel (May 2021 – present), CBE University at Buffalo.

Undergraduate Students (2)

- Mr. Jesse Canavan (Feb. 2021 – present), CBE University at Buffalo.
- Ms. Angela Aguirre (May 2021 – present), CBE University at Buffalo.

RESEARCH GROUP ALUMNI

(Current position in italics)

UB Ph.D. students (1)

- Mr. Jungkuk Lee (Ph.D.) (Jan. 2017 – Mar. 2021). *Postdoctoral Research Associate, Chemical and Biological Engineering Department at Iowa State University, Ames, IA (Mentor: Dr. Wenzhen Li)*

UB Masters students (4)

- Mr. Kevin Giewont (MS with Thesis) (Jan. 2020 – May 2021). *Lithography Process Engineer, Global Foundries, Malta, NY*
- Ms. Caitlin Horvatits (MS with Thesis) (Jan. 2019 – May 2020). *Development Engineer, Unifrax, Tonawanda, NY*
- Mr. Siming Hoo (MEng) (Jan. 2018 – May 2019). *Ph.D. candidate at the Chemical and Materials Engineering Department at New Jersey Institute of Technology*
- Mr. Yiran Chen (MS) (Jan. 2017 – June 2018). *Process Integration Engineer, Intel Corporation, Phoenix, AZ*

UB Undergraduate students (4)

- Mr. Timothy Buchanan (May 2019 – May 2020). *MEng candidate at CBE University at Buffalo*
- Benjamin D. Carlson (June 2018 – May 2019). *Ph.D. candidate at the Chemical Engineering Department at the University of Rochester*
- Mr. Lakshay Chopra (Feb. 2017 – Apr. 2018). *Data Science Engineer, Procter & Gamble, Iowa City, IA*
- Ms. Christine Ma (Jan. 2017 – May 2017). *Multi-Disciplined Engineer, Raytheon Missiles & Defense, Andover, MA*

USC Undergraduate students (3)

- Ms. Christina Papadimitriou (Apr. 2011 – Apr. 2013). *AI/ML Engineer – JPMorgan Chase & Co., New York, NY*
- Mr. Thomas M. Gostanian (May 2011 – Jul. 2011). *Manufacturing Engineer III, Bio-Rad Laboratories, Portland, ME*
- Ms. Cristina Kubicki (Jan. 2010 – Apr. 2010). *Process Automation Lead Engineer, The Dow Chemical Company, Houston, TX*

STUDENTS ACCOMPLISHMENTS

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively)

Awards

- A Travel Award from the Catalysis and Reaction Engineering (CRE) Division to attend the 2020 virtual AIChE annual meeting (\$145), Buffalo, NY (10/2020) [J. Chen^G]
- Three Graduate Student Association (UB) Travel Awards (3x\$550), Buffalo, NY (08-10/2019) [J. Lee^G, J. Chen^G, and C.-H. Liu^G]
- Outstanding presentation certificate, CBE Ph.D. seminar, Buffalo, NY (12/2018) [J. Lee^G]

Prior to UB:

- 2nd Place Oral Presentation Award, AIChE 2013 Regional Conference, University of Kentucky, KY [C. Papadimitriou]
- 2nd Place Oral Presentation Award, AIChE 2012 Regional Conference, Clemson University, SC [C. Papadimitriou]
- 3rd Place Poster Award, AIChE 2011 Annual Student Conference, Minneapolis, MN [T.M. Gostanian]
- 1st Place Award Technical Oral Presentation, Chemical Engineering REU (Research Experience for Undergraduates) Research Symposium 2011, USC [T.M. Gostanian]
- 1st Place Oral Presentation Award, Discovery Day 2010, USC [C. Kubicki]

Additional Presentations

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively, and (*) indicates the presenter)

- J. Chen^{G,*}, B.D. Carlson^{UG}, J.-S. Choi, Z. Li, T.J. Toops, E.A. Kyriakidou, “Complete Combustion of Methane over Ni/CeO₂-based Catalysts: A Kinetic Study”, Oral Presentation, Chemical and Biological Engineering Department Annual Research Symposium, Buffalo, NY (10/2019).

Prior to UB:

- C. Papadimitriou, Oral Presentation - Discovery Day, USC, 04/2013
- C. Papadimitriou, Poster Presentation - AIChE Annual Undergraduate Conference, Pittsburgh, PA, 10/2012.
- C. Papadimitriou, Poster Presentation - AIChE Annual Undergraduate Conference, Minneapolis, MN, 10/2011.

PUBLICATIONS IN REFEREED JOURNALS (Google Scholar Citations: 244, h-index: 7, i10-index: 7)

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively, and (†) indicates the corresponding author(s))

Patents

1. **E.A. Kyriakidou**, T.J. Toops, J.-S. Choi, M.J. Lance, J.E. Parks II, “Exhaust Treatment Catalysts with Enhanced Hydrothermal Stability and Low-Temperature Activity.” US Patent 10,427,137 B2 (October 1, 2019). **Citations: 3.**

Peer-reviewed publications at UB**Manuscripts submitted to Referred Journals**

22. J. Chen^G, T. Buchanan^{UG}, E.A. Walker, T.J. Toops, Z. Li, P. Kunal, **E.A. Kyriakidou**[†], “Mechanistic Understanding of Methane Combustion over Ni/CeO₂: A Combined Experimental and Theoretical Approach.” *Under Revision* (April 2021).
21. S. Mukherjee^{*}, J. Chen^{*,G}, D., Holiharimanana, S. Hwang[†], T. Zhang, C. Lu, M. Chen, P. Srinivas, S. Karakalos, Z. Tang, **E.A. Kyriakidou**[†], Q. Ge[†], G. Wu[†], “Hydrogen Generation *via* Ammonia Decomposition on Ru-free Catalysts: Approaching 100% Conversion at 450 °C.” *Under Review* (March 2021).
20. K. Giewont^G, **E.A. Kyriakidou**[†], E.A. Walker[†], “Investigation of Potential Active Sites for the Methane Oxidation Reaction on Pd/SSZ-13: A DFT Perspective.” *Under Review* (April 2021).

19. J. Chen^G, K. Giewont^G, E.A. Walker, J. Lee^G, Y. Niu, **E.A. Kyriakidou**[†], “Cobalt Induced PdO Formation in Low-Loading Pd/BEA Catalysts for CH₄ Oxidation.” *Under Revision* (April 2021).
18. J. Lee^G, K. Giewont^G, E.A. Walker, **E.A. Kyriakidou**[†], “Ag/ZSM-5 Traps for C₂H₄ and C₇H₈ Adsorption under Cold-Start Conditions.” *Under Review* (December 2020).

Published Journal Articles

17. C.-H. Liu^{*G}, J. Chen^{*G}, T.J. Toops, J.-S. Choi, C. Thomas, M.J. Lance, **E.A. Kyriakidou**[†], “Hydrothermally Stable Pd/SiO₂@Zr Core@Shell Catalysts for Diesel Oxidation Applications.” *Accepted in Chemical Engineering Journal* (June 2021). **IF: 10.652.**
16. T.J. Toops[†], A.J. Binder[†], P. Kunal, **E.A. Kyriakidou**, J.-S. Choi, “Analysis of Ion-Exchanged ZSM-5, BEA, and SSZ-13 Zeolite Trapping Materials under Realistic Exhaust Conditions.” *Catalysts*, 11(4), 449 (2021). **IF: 3.520. Citations: 1.**
15. M.M. Mohammadi, C. Shah, S. Dhandapani, J. Chen^G, S. Abraham, W. Sullivan, R. Buchner, **E.A. Kyriakidou**, H. Lin, C. Lund, M. Swihart[†], “Single-step Flame Aerosol Synthesis of Active and Stable Nanocatalysts for the Dry Reforming of Methane.” *ACS Applied Materials & Interfaces*, DOI: 10.1021/acami.1c02180 (2021). **IF: 8.758. Citations: 1.**
14. C.-H. Liu^G, K. Giewont^G, T.J. Toops, E.A. Walker, C. Horvatits^G, **E.A. Kyriakidou**[†], “Non-catalytic gas phase NO oxidation in the presence of decane.” *Fuel*, 286, 119388 (2021). **IF: 5.578. Citations: 4.**
13. **E.A. Kyriakidou**[†], J. Lee^G, J.-S. Choi, M. Lance, T.J. Toops[†], “A comparative study of silver- and palladium-exchanged zeolites in propylene and nitrogen oxide adsorption and desorption for cold-start applications.” *Catalysis Today*, 360, 220-233 (2021). **IF: 5.825, Citations: 6.**
12. C. Horvatits^G, J. Lee^G, **E.A. Kyriakidou**, E.A. Walker[†], “Characterizing Adsorption Sites on Ag/SSZ-13 Zeolites: Experimental Observations and Bayesian Inference.” *Journal of Physical Chemistry C*, 124, 19174-19186 (2020). **IF: 4.189, Citations: 3.**
11. J. Chen^G, B.D. Carlson^{UG}, T.J. Toops, Z. Li, M.J. Lance, J.-S. Choi, **E.A. Kyriakidou**[†], “Methane combustion over Ni/Ce_xZr_{1-x}O₂ catalysts: impact of ceria/zirconia ratio.” *ChemCatChem*, 12, 5558-5568 (2020). **IF: 4.853, Citations: 3.**
10. J. Chen^G, P. Rohani, M.J. Lance, T.J. Toops, M.T. Swihart, **E.A. Kyriakidou**[†], “Boron-hyperdoped Silicon for the Selective Oxidative Dehydrogenation of Propane to Propylene.” *Chemical Communications*, 56, 9882-9885 (2020). **IF: 5.996, Citations: 4.**
9. C. Horvatits^G, D. Li, M. Dupuis, **E.A. Kyriakidou**, E.A. Walker[†], “Ethylene and Water Co-Adsorption on Ag/SSZ-13 Zeolites: A Theoretical Study.” *Journal of Physical Chemistry C*, 124, 7295-7306 (2020). **IF: 4.189, Citations: 7.**
8. S. Hoang, Y. Guo, A. Binder, W. Tang, S. Wang, J. Liu, T. Huan, X. Lu, Y. Wang, Y. Ding, **E.A. Kyriakidou**, J. Yang, T.J. Toops, T. Pauly, R. Ramprasad, P.-X. Gao[†], “Activating Low-Temperature Diesel Oxidation by Single-Atom Pt on TiO₂ Nanowire Array.” *Nature Communications*, 11(1), 1-10 (2020). **IF: 12.121, Citations: 22.**[featured in Editor’s Highlights]
7. J. Lee^G, J.R. Theis, **E.A. Kyriakidou**[†], “Vehicle emissions trapping materials: successes, challenges, and the path forward.” *Applied Catalysis B: Environmental*, 243, 397-414 (2019). **IF: 16.683, Citations: 64.**
6. S. Du, W. Tang, Y. Guo, A. Binder, **E.A. Kyriakidou**, T.J. Toops, S. Wang, Z. Ren, S. Hoang, P.-X. Gao[†], “Understanding Low Temperature Oxidation Activity of Nano-Array Based Monolithic Catalysts: from Performance Observation to Structural and Chemical Insights.” *Emission Control Science and Technology*, 3, 18-36 (2017). **IF: 2.16, Citations: 16.**

Peer-reviewed publications prior to UB (as Postdoctoral Research Associate and Graduate Research and Teaching Assistant)

Published Journal Articles

5. A.P. Wong, **E.A. Kyriakidou**, T.J. Toops, J.R. Regalbuto[†], “The Catalytic Behavior of Precisely Synthesized Pt-Pd Bimetallic Catalysts for Use as Diesel Oxidation Catalysts.” *Catalysis Today*, 267, 145-156 (2016). **IF: 5.825, Citations: 34.**
4. M.-Y. Kim, **E.A. Kyriakidou**, J.-S. Choi[†], T.J. Toops, A.J. Binder, C. Thomas, J.E. Parks II, V. Schwartz, J. Chen, D.K. Hensley, “Enhancing Low-Temperature Activity and Durability of Pd-based Diesel Oxidation Catalysts Using ZrO₂ Supports.” *Applied Catalysis B: Environmental*, 187, 181-194 (2016). **IF: 16.683, Citations: 44.**
3. **E.A. Kyriakidou**, O.S. Alexeev, A.P. Wong, C. Papadimitriou, M.D. Amiridis, J.R. Regalbuto[†], “Synthesis of Ag Nanoparticles on Oxide and Carbon Supports from Ag Diammine Precursor.” *Journal of Catalysis*, 334, 749-756 (2016). **IF: 7.888, Citations: 15.**
2. **E.A. Kyriakidou**, K. Khivantsev, T.M. Gostanian, O.S. Alexeev[†], M.D. Amiridis[†], “Silica-Supported Gold/Dendrimer Nanocomposites with Controlled Sizes of Gold Particles.” *Applied Catalysis A: General* 504, 482-492 (2015). **IF: 5.006, Citations: 5.**
1. Z. Nazarpour, K. Khivantsev, **Eleni A. Kyriakidou**, C. Kubicki, S. Ma, P.T. Fanson, O.S. Alexeev[†], M.D. Amiridis[†], “Dendrimer-Mediated Synthesis of Supported Rhodium Nanoparticles with Controlled Size: Effect of pH and Dialysis.” *Journal Colloid & Interface Science* 398, 22-32 (2013). **IF: 7.489, Citations: 12.**

TEACHING ACTIVITIES

Formal courses taught at UB

CE 509, Transport Phenomena I (graduate core course; 3 credit hours)

Fall 2020; enrollment: 22 students

Fall 2018; enrollment: 29 students

Fall 2017; enrollment: 16 students

CE 400/500, Principles and Practice of Environmental Catalysis (graduate/undergraduate elective; 3 credit hours)

Spring 2021; enrollment: 5 student – all graduate students

Spring 2020; enrollment: 22 students – 18 graduate and 4 undergraduate students

Spring 2019; enrollment: 18 students – 13 graduate and 5 undergraduate students

Spring 2018; enrollment: 14 students – 11 graduate and 3 undergraduate students

Other courses taught at UB

CE498, Undergraduate Research

CE501 & CE502, Individual Problems (MS level)

CE503 & CE504, Engineering Projects (MEng level)

CE506, Master’s Research

CE559 & CE560, Thesis (MS level)

CE601 & CE602, Individual Problems (PhD level)

CE659 & CE660, Dissertation (PhD level)

For the above courses, the semester offered and enrollment details are not listed here. These courses comprise several additional credit hours per semester as reflected in the number of students advised who have registered for these courses: 4 PhD; 5 Masters’; 1 undergraduate.

DEPARTMENT SERVICE

- Participated in Science Teachers Association of New York State (STANYS) Science Fair hosted by CBE (June 2018).
- Judge for CE 408 presentations (May 2018, 2019).
- Participated in CBE's Open House for future undergraduate students (Apr. 15th, 2018, Apr. 20th, 2019).
- Graduate Student Recruitment Event, AIChE Annual Meeting (San Francisco, CA 11/2016, Minneapolis, MN 11/2017).
- Graduate Recruitment Committee Member (Jan. 2017-Apr. 2018).
- Undergraduate Committee Member (Apr. 2018 – present).
- Serving as a co-organizer for annual Graduate Research Symposium in Department of Chemical and Biological Engineering at UB, 2017-present.
- Member of PhD Dissertation and MS Thesis Committees of:

<i>Student Name</i>	<i>Degree</i>	<i>Department</i>	<i>Major Advisor</i>
Mr. Jungkuk Lee	Ph.D. (2021)	CBE	E.A. Kyriakidou
Mr. Cameron Priest	Ph.D. candidate	CBE	G. Wu
Ms. Kate Chen	Ph.D. candidate	CBE	G. Wu
Mr. Kaleb Friedman	Ph.D. candidate	CBE	M. Yu
Mr. Junjie Chen	Ph.D. candidate	CBE	E.A. Kyriakidou
Ms. Chih-Han Liu	Ph.D. candidate	CBE	E.A. Kyriakidou
Ms. Nadia Mohd Adli	Ph.D. candidate	CBE	G. Wu
Ms. Shreya Mukherjee	Ph.D. candidate	CBE	G. Wu
Mr. Kevin Giewont	MS (2021)	CBE	E.A. Kyriakidou
Mr. Mihr Ragesh Shah	MS (2021)	CBE	M. Swihart
Ms. Caitlin Horvatits	MS (2020)	CBE	E.A. Kyriakidou
Mr. Qing Lan	MS (2018)	CBE	G. Wu
Mr. Yiran Chen	MS (2018)	CBE	E.A. Kyriakidou

SERVICE

Conference Session Chair/Co-Chair

Session Chair, 1) Emission Control Sessions 3A and 4A (11th International Conference of Environmental Catalysis (ICEC), Virtual (09/2020), Catalysis and Reaction Engineering Division: Sessions: 2) Environmental & Automotive Catalysis (AIChE Annual Meeting, Boston, MA, 11/2021), 3) Emissions Control I: Passive NO_x Adsorbers and Hydrocarbon Traps (AIChE Annual Meeting, Virtual (11/2020)), 4) Environmental and Automotive Catalysis I (AIChE Annual Meeting, Orlando, FL, 11/2019), 5) Fundamentals of Catalysis V (AIChE Annual Meeting, Pittsburgh, PA, 11/2018), 6) Applied Environmental Catalysis I & II, 6) Future Automotive Catalysis, 7) Fundamentals of Supported Catalysis I: Hydrocarbon Reactions (AIChE Annual Meeting, Minneapolis, MN, 10/2017), 8) Environmental Catalysis II: Gas Emission Control (AIChE Annual Meeting, Salt Lake City, UT, 11/2015).

Session Co-Chair, Catalysis and Reaction Engineering Division: Sessions: 1) Future Automotive Catalysis I, 2) Fundamentals of Supported Catalysis III (AIChE Annual Meeting, Pittsburgh, PA, 11/2018), 1) Future Automotive Catalysis: Automotive Emissions Control, 2) Catalytic Processing of Fossil and Biorenewable Feedstocks V: Acids and Polyols (AIChE Annual Meeting, San Francisco, CA, 11/2016), 3) Environmental Catalysis I: Gas Emission Control (AIChE Annual Meeting, Salt Lake City, UT, 11/2015).

Sessions Organized

1) Abstract reviewer for the 17th International Congress on Catalysis (ICC), San Diego, CA (06/2020), 2) NAM26 North American Catalysis Society Meeting technical program committee, Environmental Catalysis session, Chicago, IL (06/2019), 3) 254th ACS National Meeting, Division of Catalysis Science and Technology, Nanoporous Materials for Catalysis session (15 invited speakers), Washington, DC, 08/2017.

Reviewer for scientific journals

Applied Catalysis A: General, Applied Catalysis B: Environmental, Catalysis Today, Catalysis Communications, Catalysis Science & Technology, SAE International Journal of Fuels and Lubricants, Emission Control Science & Technology, Journal of Molecular Catalysis A: Chemical, ACS Catalysis, Industrial & Engineering Chemistry Research (ACS publications), Chemical Engineering Journal, Catalysis Letters, ChemCatChem, New Journal of Chemistry, Energy Technology, Catalysts

Proposal Reviewer

NSF Future Manufacturing (FM), remote/virtual (2021), NSF CBET, Washington, DC (2017, 2018, 2019), ACS Petroleum Research Fund (2019)

Poster Judge

Catalysis Society of Metro New York (NYCS), *virtual*, 03/2021
 SEAS Graduate Poster Competition, Buffalo, NY, 04/2017
 Catalysis Society of Metro New York (NYCS), Clinton, NJ, 03/2017
 AIChE Annual Meeting, Chemical Reaction Engineering poster session, San Francisco, CA, 11/2016
 15th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC, 09/2016
 19th Annual Chemical & Biological Engineering Graduate Student Research Symposium, Buffalo, NY, 09/2016

Outreach Activities

Terra Rochester Finger Lakes Science and Engineering Fair (TRFSEF) poster judge (March 2021), Western New York Regional Science and Engineering Fair (WNYRSEF) poster judge (March 2019), Volunteer with “Science is Elementary” (Kindergarten, 1st - 3rd grades) through the School of Engineering and Applied Sciences at Westminster Charter School in Buffalo, NY (Feb. 2019, Apr. 2018) and at Highgate Heights Elementary School in Buffalo, NY (Oct. 2019), TINKER Program (9th-12th grade) through CBE Society of Women Engineers (Aug. 2017)

Memberships

American Chemical Society (ACS) member since 2017, Catalysis Society of Metropolitan New York (NYCS) member since 2017, Catalysis and Reaction Engineering Division (CRE) in AIChE member since 2016, Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) member since 2015, Southeastern Catalysis Society member since 2010, North American Catalysis Society (NACS) member since 2009, American Institute of Chemical Engineers (AIChE), member since 2008

INVITED PRESENTATIONS

(G superscript indicates UB graduate students advised by E.A. Kyriakidou, and () indicates the presenter)*

- K. Giewont^G, E.A. Kyriakidou, E.A. Walker*, “Investigation of Potential Active Sites for the Methane Oxidation Reaction on Pd/SSZ-13”, AIChE Annual Conference, Virtual, Session: Advances in Zeolites Science and Technology III – Future Horizons (Invited Talks) (11/2020).

- E.A. Kyriakidou*, “Precise Catalyst Design for Emission Control Applications: from Diesel to Compressed Natural Gas Vehicles”, The University of Tennessee – Department of Chemical and Biomolecular Engineering, Knoxville, TN (02/2020).
- E.A. Kyriakidou*, “Novel Catalytic Materials for Low Temperature Vehicle Emission Remediation”, Clarkson University – Department of Chemical and Biomolecular Engineering, Potsdam, NY (01/2020).
- E.A. Kyriakidou*, “Rational Design of Catalytic Materials to Meet Automotive Emissions Regulations”, West Virginia University - Department of Chemical and Biomedical Engineering, Morgantown, WV (01/2018).
- E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and BEA-Zeolites for Low Temperature Passive Adsorption”, 254th ACS National Meeting - Advanced Nanomaterials Catalysts for Sustainable Energy & Fuel, Washington, DC (08/2017).
- E.A. Kyriakidou*, “Minimizing low temperature emissions through advances in metal oxide catalysts, supports and traps”, University at Buffalo, The State University of New York - Department of Civil, Structural and Environmental Engineering, Buffalo, NY (03/2017).
- E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “Minimizing low temperature emissions through advances in metal oxide catalysts, supports and traps”, Catalysis Society of Metro New York (NYCS), Clinton, NJ (03/2017).

Prior to UB:

- E.A. Kyriakidou*, “Rational Design of Catalytic Materials to Meet Automotive Emissions Regulations”, University at Buffalo, The State University of New York - Chemical & Biological Engineering Department, Buffalo, NY (09/2016).
- E.A. Kyriakidou*, “Synthesis of Rh and Au Catalysts with Controlled Sizes of Metal Particles”, Oak Ridge National Laboratory - National Transportation Research Center, Knoxville, TN (04/2014).

CONFERENCE PRESENTATIONS

Oral Presentations

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively, and () indicates the presenter)*

26. T. Mon^{G,*}, J. Chen^G, C.-H. Liu^G, J. Liu, V.J. Cybulskis, E.A. Kyriakidou, “Development of Zeolite-based Catalysts with Improved Low-Temperature CH₄ Conversion”, Natural Gas Vehicle Technology Forum (NGVTF) 2021, *virtual* (05/2021).
25. J. Lee^G, J. Chen^G, E.A. Kyriakidou*, “Bimetallic PdCo/BEA zeolites for passive NO_x adsorption”, 23rd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, *virtual* (09/2020).
24. J. Chen^{G,*}, P. Rohani, M.T. Swihart, E.A. Kyriakidou, “Boron-Hyperdoped Silicon for the Selective Oxidative Dehydrogenation of Propane to Propylene”, AIChE Annual Conference, *Virtual* (11/2020).
23. J. Chen^{G,*}, J. Lee^G, E.A. Kyriakidou, “Cobalt as an Efficient Promoter in Low-Loading Pd/BEA Catalysts for CH₄ Oxidation”, AIChE Annual Conference, *Virtual* (11/2020).
22. J. Lee^{G,*}, J. Chen^G, E.A. Kyriakidou, “Bimetallic PdCo/BEA Zeolites for Passive NO_x Adsorption”, AIChE Annual Conference, *Virtual* (11/2020).
21. C. Horvath^G, J. Lee^G, E.A. Kyriakidou, E.A. Walker*, “Modeling Adsorption Capacity of Ag/SSZ-13 Zeolite: A Bayesian Update from Experiments”, AIChE Annual Conference, *Virtual* (11/2020).
20. J. Chen^{G,*}, B. Carlson^{UG}, J.-S. Choi, Z. Li, T.J. Toops, E.A. Kyriakidou, “A Detailed Kinetic Study of the Complete Combustion of Methane over Ni/CeO₂ Catalysts”, 11th International Conference of Environmental Catalysis (ICEC), *Virtual* (09/2020).
19. J. Lee^{G,*}, J. Chen^G, E.A. Kyriakidou, “Bimetallic PdCo/BEA Zeolites for Passive NO_x Adsorption”, 11th International Conference of Environmental Catalysis (ICEC), *Virtual* (09/2020).

18. J. Chen^G, B.D. Carlson^{UG}, J.-S. Choi, Z. Li, T.J. Toops, E.A. Kyriakidou*, “A Kinetic Study of Methane Combustion over Ni/CeO₂ Based Catalysts”, 17th International Congress on Catalysis (ICC), San Diego, CA (06/2020) *Accepted*.
17. J. Chen^{G,*}, B.D. Carlson^{UG}, J.-S. Choi, Z. Li, T.J. Toops, E.A. Kyriakidou, “A Detailed Kinetics Study for Complete Methane Combustion over Ni/Ce_xZr_{1-x}O₂ Catalysts”, AIChE Annual Conference, Orlando, FL (11/2019).
16. J. Chen^{G,*}, B.D. Carlson^{UG}, J.-S. Choi, T.J. Toops, E.A. Kyriakidou, “Complete Methane Oxidation over Ni/Ce_xZr_{1-x}O₂ Catalysts”, AIChE Annual Conference, Orlando, FL (11/2019).
15. E. Walker*, C. Horvathits^G, D. Li, M. Dupuis, E.A. Kyriakidou, “Trapping Properties of Ag/SSZ-13 Zeolite: Modeling Adsorption Capacity”, AIChE Annual Conference, Orlando, FL (11/2019).
14. C.-H. Liu^{G,*}, J. Chen^G, T.J. Toops, E.A. Kyriakidou, “Controlled Synthesis of High Surface Area Pd and Pt/SiO₂(core)@ZrO₂(shell) Catalysts for Low Temperature Oxidation Applications”, AIChE Annual Conference, Orlando, FL (11/2019).
13. J. Lee^G, E.A. Kyriakidou*, “Ion-Exchanged Zeolites for Hydrocarbon Traps and Passive NO_x Adsorption Applications”, AIChE Annual Conference, Pittsburgh, PA (11/2018).

Prior to UB:

12. E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and BEA-Zeolites for Low Temperature Passive Adsorption”, AIChE Annual Conference, Minneapolis, MN (11/2017).
11. E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and BEA Zeolites for Low Temperature Passive Adsorption”, 25th North American Catalysis Society Meeting (NAM), Denver, CO (06/2017).
10. E.A. Kyriakidou*, T.J. Toops, M.J. Lance, A.J. Binder, J.E. Parks II, “Impact of Mixed Oxides Supports, on the Durability and Low-Temperature Performance of Pd-Based Diesel Oxidation Catalysts”, AIChE Annual Conference, San Francisco, CA (11/2016).
9. E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and BEA-Zeolites for Hydrocarbon Trap Applications under “Cold-Start” Conditions”, AIChE Annual Conference, San Francisco, CA (11/2016).
8. E.A. Kyriakidou*, T.J. Toops, M.J. Lance, J.-S. Choi, J.E. Parks II, “Impact of Mixed Oxides Supports on the Durability and Low-Temperature Performance of Pd-based Diesel Oxidation Catalysts”, 15th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC (09/2016).
7. E.A. Kyriakidou*, J.-S. Choi, M.-Y. Kim, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and Beta-Zeolites for Hydrocarbon Trap Applications under “Cold-Start” Conditions”, AIChE Annual Conference, Salt Lake City, UT (11/2015).
6. M.-Y. Kim, E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, C. Thomas, A. Binder, J.E. Parks II, V. Schwartz, J. Chen, “Impact of ZrO₂ Supports on the Durability and Low-Temperature Performance of Pd-Based Diesel Oxidation Catalysts”, 24th North American Catalysis Society Meeting (NAM), Pittsburgh, PA (06/2015).
5. E.A. Kyriakidou*, K. Khivantsev, T.M. Gostanian, O.S. Alexeev, M.D. Amiridis, “Silica-Supported Gold/Dendrimer Nanocomposites with Controlled Sizes of Gold Particles”, 13th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC (09/2014).
4. E.A. Kyriakidou*, C. Papadimitriou, O.S. Alexeev, J.R. Regalbuto, M.D. Amiridis, “Ag Diammine Impregnation on Oxides/Oxidized Carbon Using Strong Electrostatic Adsorption”, 23rd North American Catalysis Society Meeting (NAM), Louisville, KY (06/2013).
3. E.A. Kyriakidou*, K.V. Khivantsev, C. Papadimitriou, T.M. Gostanian, P.T. Fanson, O.S. Alexeev, M.D. Amiridis, “Preparation and quantitative analysis of PAMAM-stabilized metal ions in aqueous solutions: Effect of pH and dialysis”, AIChE Annual Conference, Pittsburgh, PA (11/2012).

2. E.A. Kyriakidou*, C. Papadimitriou, O.S. Alexeev, M.D. Amiridis, “Synthesis of Dendrimer-Derived Fe Nanocomposites in Aqueous Solution: Effect of pH and Dialysis”, Graduate Student Day – University of South Carolina, Columbia, SC (03/2012).
1. E.A. Kyriakidou*, T.M. Gostanian, K.V. Khivantsev, O.S. Alexeev, M.D. Amiridis, “Preparation and Quantitative Analysis of PAMAM-Stabilized Cu/Au Nanoparticles”, 10th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC (09/2011).

Poster Presentations

(presentations at the CBE Annual Graduate Research Symposium are not included)

(UG and G superscripts indicate UB undergraduate and graduate students advised by E.A. Kyriakidou, respectively, and (*) indicates the presenter)

28. K. Giewont^{G,*}, E.A. Walker, E.A. Kyriakidou, “Investigation of Potential Active Sites for the Methane Oxidation Reaction on Pd/SSZ-13”, Annual Catalysis Society of Metro New York (NYCS), *virtual* (03/2021).
27. C.-H. Liu^{G,*}, J. Chen^{G,*}, T.J. Toops, J.-S. Choi, C. Thomas, M.J. Lance, E.A. Kyriakidou, “Hydrothermally Stable Pd/SiO₂@ZrO₂ Core@Shell Catalysts for Diesel Oxidation Applications”, Annual Catalysis Society of Metro New York (NYCS), *virtual* (03/2021).
26. J. Chen^{G,*}, K. Giewont^{G,*}, E.A. Walker, Y. Niu, J. Lee^{G,*}, E.A. Kyriakidou, “Cobalt Induced PdO Formation in Low-Loading Pd/BEA Catalysts for CH₄ Oxidation”, Annual Catalysis Society of Metro New York (NYCS), *virtual* (03/2021).
25. J. Lee^{G,*}, E.A. Kyriakidou, “Ag Ion-Exchanged ZSM-5 Zeolites for Hydrocarbon Trapping Applications”, AIChE Annual Conference, *virtual* (11/2020).
24. J. Chen^{G,*}, J. Lee^G, E.A. Kyriakidou, “Cobalt as an Efficient Promoter in Low-loading Pd/BEA Catalysts for CH₄ Oxidation”, 23rd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, *virtual* (09/2020).
23. C.-H. Liu^{G,*}, K. Giewont^G, T.J. Toops, E.A. Walker, C. Horvatits^G, E.A. Kyriakidou, “Non-catalytic gas-phase NO oxidation in the presence of decane”, 23rd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, *virtual* (09/2020).
22. C.-H. Liu^{G,*}, T.J. Toops, E.A. Kyriakidou, “Hydrothermally Stable Pd and Pt/CeO₂(core)@ZrO₂(shell) Catalysts for Low Temperature TWC Applications”, 23rd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, *virtual* (09/2020).
21. E.A. Walker*, C. Horvatits^G, D. Li, M. Dupuis, E.A. Kyriakidou, “Trapping Properties of Ag/SSZ-13 Zeolite: Modeling Adsorption Capacity”, 17th International Congress on Catalysis (ICC), San Diego, CA (06/2020) *Accepted*.
20. J. Lee^G, E.A. Kyriakidou*, “Ag Ion-Exchanged ZSM-5 Zeolites for Hydrocarbon Trapping Applications”, 17th International Congress on Catalysis (ICC), San Diego, CA (06/2020) *Accepted*.
19. J. Lee^{G,*}, E.A. Kyriakidou, “Bimetallic Pd-Co/BEA zeolites for passive NO_x adsorption”, 22nd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (09/2019).
18. J. Lee^{G,*}, E.A. Kyriakidou, “Ag ion-exchanged ZSM-5 zeolites for hydrocarbon trapping applications”, 22nd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (09/2019).
17. C.-H. Liu^{G,*}, Y. Chen^G, E.A. Kyriakidou, “Low temperature methane combustion over palladium ion-exchanged zeolites”, 22nd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (09/2019).
16. C.-H. Liu^{G,*}, J. Chen^G, T.J. Toops, E.A. Kyriakidou, “Controlled Synthesis of High Surface Area Pd and Pt/SiO₂(core)@ZrO₂(shell) Catalysts for Low Temperature Oxidation Applications”, 22nd Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (09/2019).

15. J. Chen^{G*}, B.D. Carlson^{UG}, J.-S. Choi, Z. Li, T.J. Toops, E.A. Kyriakidou, “Complete methane combustion over Ni/Ce_xZr_{1-x}O₂ catalysts”, 26th North American Catalysis Society Meeting (NAM), Chicago, IL (06/2019).
14. J. Lee^G, L. Chopra^{UG}, E.A. Kyriakidou*, “Ion-exchanged zeolites for hydrocarbon traps and passive NO_x adsorption applications”, Catalysis Gordon Research Conference – Accelerating Catalytic Solutions to Global Grand Challenges, New London, NH (06/2018).

Prior to UB:

13. E.A. Kyriakidou*, T.J. Toops, M.J. Lance, A. Binder, J.E. Parks II, “Impact of Mixed Oxide Supports on the Durability and Low-Temperature Performance of Pd-based Diesel Oxidation Catalysts”, 19th Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (04/2016).
12. E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and BEA-Zeolites for Hydrocarbon Trap Applications under “Cold-Start” Conditions”, 19th Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Ann Arbor, MI (04/2016).
11. E.A. Kyriakidou*, “Rational Design of Catalytic and Hydrocarbon Trapping Materials to Meet Automotive Emissions Regulations”, AIChE Annual Conference, Salt Lake City, UT (11/2015).
10. E.A. Kyriakidou*, J.-S. Choi, M.-Y. Kim, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and β -Zeolites for Hydrocarbon Trap Applications under “Cold-Start” Conditions, 14th Annual Symposium of the Southeastern Catalysis Society, Clemson, SC (09/2015).
9. E.A. Kyriakidou*, C. Papadimitriou, O.S. Alexeev, J.R. Regalbuto, M.D. Amiridis, “Synthesis of Ag Supported Catalysts on Oxides”, 14th Annual Symposium of the Southeastern Catalysis Society, Clemson, SC (09/2015).
8. M.-Y. Kim, E.A. Kyriakidou*, J.-S. Choi, T.J. Toops, C. Thomas, A. Binder, J.E. Parks II, V. Schwartz, J. Chen, “Impact of ZrO₂ Supports on the Durability and Low Temperature Performance of Pd-based Diesel Oxidation Catalysts”, 18th Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Dearborn, MI (04/2015).
7. E.A. Kyriakidou*, J.-S. Choi, M.-Y. Kim, T.J. Toops, J.E. Parks II, “A Comparative Study of ZSM-5 and β -Zeolites for Hydrocarbon Trap Applications under “Cold-Start” Conditions”, 18th Cross-Cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Workshop, Dearborn, MI (04/2015).
6. E.A. Kyriakidou*, K.V. Khivantsev, T.M. Gostanian, O.S. Alexeev, M.D. Amiridis, “Preparation and Quantitative Analysis of Dendrimer-Stabilized Au Nanoparticles”, 23rd North American Catalysis Society Meeting (NAM), Louisville, KY (06/2013).
5. E.A. Kyriakidou*, O.S. Alexeev, J.R. Regalbuto, M.D. Amiridis, “Investigation of Ag Diammine Impregnation on Low/High PZC Oxides and Carbon Using Strong Electrostatic Adsorption”, AIChE Annual Conference, Pittsburgh, PA (11/2012).
4. E.A. Kyriakidou*, P.T. Fanson, O.S. Alexeev, M.D. Amiridis, “Preparation of M-G4OH Nanocomposites in Aqueous Solution: Effect of Dialysis and pH Adjustment”, 22nd North American Catalysis Society Meeting (NAM), Detroit, MI (06/2011).
3. E.A. Kyriakidou*, P.T. Fanson, O.S. Alexeev, M.D. Amiridis, “Preparation of M-G4OH Nanocomposites in Aqueous Solution: Effect of Dialysis and pH adjustment”, 7th International Dendrimer Symposium, Gaithersburg, MD (06/2011).
2. E.A. Kyriakidou*, O.S. Alexeev, M.D. Amiridis, “Preparation and quantitative analysis of PAMAM-stabilized Metal Nanoparticles: Effect of Dialysis and pH Adjustment”, Graduate Student Symposium – University of South Carolina, Columbia, SC (04/2011).
1. E.A. Kyriakidou*, O.S. Alexeev, M.D. Amiridis, “Preparation and Quantitative Analysis of PAMAM-Stabilized Metal Nanoparticles: Effect of Dialysis and pH Adjustments”, 9th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC (09/2010).

CONTRIBUTED PRESENTATIONS

(*G* superscript indicates UB graduate student advised by E.A. Kyriakidou and (*) indicates the presenter)

Oral Presentations

8. T.J. Toops*, P. Kunal, E.A. Kyriakidou, C.H. Liu^G, “Low temperature emissions reduction with zeolite-based adsorbers and novel Pd/Pt based oxidation catalysts”, 11th International Conference of Environmental Catalysis (ICEC), Manchester, UK (09/2020).
7. T.J. Toops*, P. Kunal, E.A. Kyriakidou, C.H. Liu^G, “Low temperature emissions reduction with zeolite-based adsorbers and novel Pd/Pt based oxidation catalysts”, 17th International Congress on Catalysis (ICC), San Diego, CA (06/2020) *Accepted*.
6. P. Kunal*, T.J. Toops, C.-H. Liu^G, E.A. Kyriakidou, M. Kidder, “Design, synthesis, and applications of multifunctional catalytic beds for low-temperature emission control”, WCX SAE World Congress Experience, Detroit, MI (04/2020).
5. T.J. Toops*, M. Kidder, A. Binder, E.A. Kyriakidou, “Analysis of Ion-Exchanged Zeolite Trapping Materials Under Realistic Exhaust Conditions for Cold-Start Emissions Control”, WCX SAE World Congress Experience, Detroit, MI (04/2019).
4. E.A. Kyriakidou, M.J. Lance, J.-S. Choi, T.J. Toops*, “Advanced support modifications to improve the low-temperature activity and durability of Pd-based emissions control catalysts”, 25th North American Catalysis Society Meeting (NAM), Denver, CO (06/2017).
3. S. Hoang*, W. Tang, S. Wang, Y. Guo, A.J. Binder, E.A. Kyriakidou, T.J. Toops, J. Liu, T. Pauly, P.-X. Gao, “Exceptional Low Temperature Diesel Activity over Pt Supported TiO₂ Nano-Array Integrated Monolithic Catalysts”, 25th North American Catalysis Society Meeting (NAM), Denver, CO (06/2017).
2. S. Hoang*, Y. Guo, W. Tang, S. Wang, A.J. Binder, E.A. Kyriakidou, T.J. Toops, C.-Y. Nam, Y. Ding, P.-X. Gao, “Low Temperature Propane Oxidation over Atomic Layer Deposited Pt Supported TiO₂ Nano-Array Integrated Monolithic Catalysts”, 25th North American Catalysis Society Meeting (NAM), Denver, CO (06/2017).
1. T.J. Toops*, E.A. Kyriakidou, J.-S. Choi, J.E. Parks II, “A comparative study of ZSM-5 and BEA-Zeolites for hydrocarbon trap applications under “cold-start conditions”, International Conference on Environmental Catalysis (ICEC), Newcastle, Australia (07/2016).

Poster Presentations

2. E.A. Kyriakidou, J.-S. Choi*, T.J. Toops, J.E. Parks II, “A comparative study of ZSM-5 and β -zeolites for hydrocarbon trap applications under “cold-start” conditions”, International Congress on Catalysis (ICC), Beijing, China (07/2016).
1. E.A. Kyriakidou, M.J. Lance, J.-S. Choi, T.J. Toops*, “Impact of ZrO₂-based Supports on the Durability and Low-Temperature Performance of Pd-based Oxidation Catalysts”, International Conference on Environmental Catalysis (ICEC), Newcastle, Australia (07/2016).