

VIKTOR J. CYBULSKIS, P.E.

Syracuse University Biomedical and Chemical Engineering
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EDUCATION

Ph.D.	Purdue University , Chemical Engineering, West Lafayette, IN	2016
B.S.	Purdue University , Chemical Engineering, West Lafayette, IN	2005

PROFESSIONAL EXPERIENCE

Assistant Professor and Co-Director of Teaching Laboratory	Syracuse University , Biomedical and Chemical Engineering, Syracuse, NY	8/2018 – Current
Postdoctoral Scholar	California Institute of Technology , Chemical Engineering, Pasadena, CA (Advisor: Mark E. Davis)	6/2016 – 7/2018
Graduate Research Assistant	Purdue University , Chemical Engineering, West Lafayette, IN (Advisors: Fabio H. Ribeiro, W. Nicholas Delgass)	3/2011 – 6/2016
Production Engineer	TPC Group, Inc. , Baytown, TX	7/2009 – 3/2011
Research Engineer	LyondellBasell Industries , Alvin, TX	4/2007 – 7/2009
Production Engineer	Lyondell Chemical Company , Corpus Christi, TX	7/2005 – 4/2007

AWARDS AND RECOGNITION

Beckman Young Investigator Finalist (<i>Arnold and Mabel Beckman Foundation</i>)	2023
ACS PRF Doctoral New Investigator Award (<i>ACS Petroleum Research Fund</i>)	2021
Organic Reactions Catalysis Society Travel Award (<i>North American Catalysis Society</i>)	2018
Chair of Inaugural Gordon Research Seminar in Catalysis (<i>Gordon Research Conferences</i>)	2018
37 th Annual Spring Symposium Oral Presentation Award (<i>Michigan Catalysis Society</i>)	2016
Graduate Student Symposium Oral Presentation Award (<i>Purdue ChE</i>)	2015
School of Chemical Engineering Excellence in Safety Award (<i>Purdue ChE</i>)	2015
Purdue Presidential Safety Award (<i>Purdue ChE</i>)	2015
Spring Symposium Student Poster Award (<i>Catalysis Club of Chicago</i>)	2013
Eastman Chemical Company Travel Award (<i>Purdue ChE</i>)	2013
Eagle Scout (<i>Boy Scouts of America</i>)	2000

PUBLICATIONS

14. He, W.; Potts, D.S.; Zhang, Z.; Liu, B.; Schuarca, R.L.; Hwang, S-J.; Bond, J.Q.; Flaherty, D.W.; Cybulskis, V.J.; "Lewis acidity and substituent effects influence aldehyde enolization and C-C coupling in beta zeolites." *Journal of Catalysis*. **2023**, *427*, 115105-115118.
13. Roslova, M.; Cybulskis, V.J.; Davis, M.E.; Zones, S.I.; Zou, X.; Xie, D. "Structure Elucidation and Computationally Guided Synthesis of SSZ-43: A One-Dimensional 12-Membered Ring Zeolite with Unique Sinusoidal Channels." *Angewandte Chemie International Edition*. **2022**, *61*, 1-9. (Hot Paper).

12. Zhu, R.; Liu, B.; Wang, S.; Huang, X.; Schuarca, R.L.; He, W.; Cybulskis, V.J.; Bond, J.Q. “Understanding the Mechanism(s) of Ketone Oxidation on $\text{VO}_x/\gamma\text{-Al}_2\text{O}_3$.” *Journal of Catalysis*. **2021**, *404*, 109-127.
11. Cybulskis, V.J.; Gawecki, P.; Zvinevich, Y.; Gounder, R.; Ribeiro, F.H. “Demonstrating Concepts in Catalysis, Renewable Energy, and Chemical Safety with the Catalytic Oxidation of Hydrogen.” *Journal of Chemical Education*. **2021**, *98*(6), 2036-2041.
10. Cybulskis, V.J.; Gounder, R.; Mojarad, S.; Davis, M.E. “Initiating a Research-Focused Academic Career in Chemical Engineering: Perspectives from Faculty at Different Career Stages.” *AIChE Journal*. **2020**, *66*(4), 1-9.
9. Cybulskis, V.J.; “An Alternate Route: Working Before Graduate School.” *Chemical Engineering Progress*. **2019**, *115*, 26-27.
8. Guo, Q.; Ren, L.; Kumar, P.; Cybulskis, V.J.; Mkhoyan, A.K.; Davis, M.E.; Tsapatsis, M.; “A Chromium Hydroxide/MIL-101(Cr) Composite Catalyst and its use for Selective Glucose Isomerization to Fructose.” *Angewandte Chemie International Edition*. **2018**, *130*, 5020-5024.
7. Cui, Y.; Li, Z.; Zhao, Z.; Cybulskis, V.J.; Sabnis, K.D.; Han, C.W.; Ortalan, V.; Schneider, W.F.; Greeley, J.; Delgass, W.N.; Ribeiro, F.H.; “Participation of Interfacial Hydroxyl Groups in the Water-Gas Shift Reaction Over Au/MgO Catalysts.” *Catalysis Science and Technology*. **2017**, *7*, 5257-5266. (2017 HOT article).
6. Cybulskis, V.J.; Bukowski, B.C.; Tseng, H.-T.; Gallagher, J.R.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Ribeiro, F.H.; Greeley, J.; Miller, J.T. “Zinc Promotion of Platinum for Catalytic Light Alkane Dehydrogenation: Insights into Geometric and Electronic Effects.” *ACS Catalysis*. **2017**, *7*(6), 4173-4181.
5. Cybulskis, V.J.; Pradhan, S.U.; Lovón-Quintana, J.J.; Hock, A.S.; Hu, B.; Zhang, G.; Delgass, W.N.; Ribeiro, F.H.; Miller, J.T. “The Nature of the Isolated Gallium Active Center for Propane Dehydrogenation on Ga/SiO₂.” *Catalysis Letters*. **2017**, *147*, 1252-1262.
4. Cybulskis, V.J.; Harris, J.; Zvinevich, Y.; Ribeiro, F.H.; Gounder, R. “A Transmission Infrared Cell Design for Temperature-Controlled Adsorption and Reactivity Studies on Heterogeneous Catalysts.” *Review of Scientific Instruments*. **2016**, *87*(10), 1031011-1031018.
3. Cybulskis, V.J.; Smeltz, A.D.; Zvinevich, Y.; Gounder, R.; Delgass, W.N.; Ribeiro F.H. “Learning the Fundamentals of Kinetics and Reaction Engineering with the Catalytic Oxidation of Methane.” *Chemical Engineering Education*. **2016**, *50*(3), 202-210.
2. Cybulskis, V.J.; Ribeiro, F.H.; Gounder, R. “Using a Hands-On Hydrogen Peroxide Decomposition Activity to Teach Catalysis Concepts to K-12 Students.” *Journal of Chemical Education*. **2016**, *93*(8), 1406-1410.
1. Cybulskis, V.J.; Wang, J.; Pazmiño, J.H.; Ribeiro, F.H.; Delgass, W.N. “Isotopic Transient Studies of Sodium Promotion of Pt/Al₂O₃ for the Water-Gas Shift Reaction.” *Journal of Catalysis*. **2016**, *339*, 163-172. (Featured Article, July 2016).

MANUSCRIPTS IN PREPARATION

2. Liu, J.; Mon, T.; Schuarca, R.L.; Bolton, B.; Bond, J.Q.; Gounder, R.; Kyriakidou, E.; Cybulskis, V.J.; “Impact of Support Hydrophobicity on Methane Catalytic Combustion over High-Silica Pd/CHA Zeolites under Lean-Burn Conditions.”
1. Bond, J.Q.; Stangland, E.E.; Cybulskis, V.J.; “Best practices in catalyst bulk characterization: a perspective.” *Journal of Catalysis*. 60th Anniversary Issue – Invited.

INVITED PRESENTATIONS

14. “High-Silica Pd-Based Zeolite Catalysts for Lean-burn Natural Gas Emissions Control.” *Catalysis Society of Metropolitan New York*, Somerset, NJ (1/2024).
13. “Designing Pd-Based Zeolite Catalysts for Complete Methane Combustion in Exhaust Gas Aftertreatment Systems.” *University of Virginia*, Charlottesville, VA (11/2023).

12. “Designing Pd-Based Zeolite Catalysts for Complete Methane Combustion in Exhaust Gas Aftertreatment Systems.” *University of Notre Dame*, South Bend, IN (11/2023).
11. “Engineering Lewis Acid Zeolites for Transforming Carbonyl Compounds in Liquid Phase Catalysis.” *Chevron Energy Technology Company*, Richmond, CA (8/2023).
10. “Investigating the Impact of Reactive Micro-environments in Lewis Acid Zeolites on Carbon-Carbon Coupling.” *American Chemical Society, Fall 2023 National Meeting, Honoring Prof. Fabio H. Ribeiro: 2023 CATL Exceptional Achievement Award*, San Francisco, CA (8/2023).
9. “Consequences of Lewis Acidity and Confinement on Reactivity and Selectivity for Aldol Condensations in Zeolites.” *Purdue University, Chemical Engineering*, West Lafayette, IN (3/2023).
8. “Solid Lewis Acid Zeolites: Tunable Nanoreactors to Activate Carbonyl Compounds for Liquid Phase Catalysis.” *Virginia Polytechnic Institute and State University, Chemical Engineering*, Blacksburg, VA (2/2023).
7. “Catalytic Behavior of Lewis Acid Zeotypes for Cross-Aldol Reactions between Aldehydes.” *American Chemical Society, Spring 2021 National Meeting, Surface Chemistry and Solvation Effects for Catalysis in Confined Environments Symposium*, Virtual (4/2021).
6. “Synthetic Routes to Chemical Building Blocks and Carbohydrates from Formaldehyde.” *Catalysis Society of Metropolitan New York, 2019 Annual Symposium*, Princeton, NY (3/2019).
5. “Connecting Structure and Function: Using Alkane Probe Reactions to Evaluate Physicochemical Properties and Guide Catalyst Design.” *Syracuse University, Biomedical and Chemical Engineering*, Syracuse, NY (2/2018).
4. “Synthesis of Unidimensional Zeolites for Alkane Hydrocracking and Hydroisomerization.” *Chevron Energy Technology Company*, Richmond, CA (11/2016).
3. “Catalysis by Supported Noble Metals for the Water-Gas Shift Reaction.” *Shell Technology Center*, Houston, TX (10/2015).
2. “Catalysis by Supported Metals for Water-Gas Shift and Alkane Dehydrogenation.” *ExxonMobil Chemical Company*, Baytown, TX (10/2015).
1. “Catalysis for Clean Energy.” *Purdue Energy Camp*, West Lafayette, IN (6/2012).

CONTRIBUTED PRESENTATIONS

*Presenting author.

41. Li, W.*; Cybulskis V.J.; “Mercaptosilane-Directed Synthesis of Encapsulated Au Clusters in Ti-MFI Zeolites for Direct Epoxidation of Propylene.” *2023 AIChE Annual Meeting*, Orlando, FL (11/2023).
42. Liu, J.*; Mon, T.; Schuarca, R.L.; Bond, J.Q.; Kyriakidou, E.; Cybulskis, V.J.; “Improved Low-Temperature Catalytic Combustion of Methane over Pd in High-Silica Chabazite Zeolites.” *2023 AIChE Annual Meeting*, Orlando, FL (11/2023).
41. Li, W.*; Cybulskis V.J.; “Encapsulated Au Nanoclusters in Ti-MFI Zeotypes for Enhancing the Direct Epoxidation of Propylene.” *28th North American Meeting of the Catalysis Society*, Providence, RI (6/2023).
40. He, W.; Potts, D.S.; Flaherty, D.W.; Cybulskis V.J.*; “Influence of Lewis Acidity and Confinement on Aldehyde Enolization and C-C Coupling in Beta Zeolites.” *28th North American Meeting of the Catalysis Society*, Providence, RI (6/2023).
39. Mon, T.*; Liu, J.; Cybulskis, V.J.; Kyriakidou, E.; “Low Temperature CH₄ Oxidation for High Silica Pd/LTA Catalysts.” *28th North American Meeting of the Catalysis Society*, Providence, RI (6/2023).
38. Liu, J.*; Mon, T.; Kyriakidou, E.; Cybulskis, V.J.; “Enhanced Stability and Low Temperature Performance of Pd-based CHA Zeolite Catalysts for Complete Methane Oxidation.” *28th North American Meeting of the Catalysis Society*, Providence, RI (6/2023).
37. Liu, J.*; Mon, T.; Kyriakidou, E.; Cybulskis, V.J.; “Improving Low-Temperature CH₄ Oxidation Performance with High-Silica Pd/CHA Zeolite Catalysts.” *2022 AIChE Annual Meeting*, Phoenix, AZ (11/2022).

36. Mon, T.*; Liu, J.; Cybulskis, V.J.; Kyriakidou, E.; “High-Silica Pd/H-LTA Catalysts for Low Temperature CH₄ Oxidation.” *2022 AIChE Annual Meeting*, Phoenix, AZ (11/2022).
35. He, W.*; Potts, D.S.; Flaherty, D.W.; Cybulskis V.J.; “Effects of Lewis Acidity and Confinement on Aldol Reactions of Aldehydes in Zeotypes.” *2022 AIChE Annual Meeting*, Phoenix, AZ (11/2022).
34. Cybulskis, V.J.*; “Connecting Principles and Practice: Using the Chemical Engineering Laboratory to Integrate Fundamentals with Real-World Applications.” *ASEE/AIChE Summer School for Engineering Faculty*, Golden, CO (7/2022) – Poster.
33. He, W.*; Zhang, Z.; Flaherty, D.W.; Cybulskis V.J.; “Assessing Lewis Acidity and Confinement for Zeotype-Catalyzed Aldol Condensation between Lower Aldehydes.” *27th North American Meeting of the Catalysis Society*, New York, NY (5/2022).
32. Mon, T.*; Liu, J.; Cybulskis, V.J.; Kyriakidou, E.; “High-Silica Pd/LTA Catalysts for Low Temperature CH₄ Oxidation.” *27th North American Meeting of the Catalysis Society*, New York, NY (5/2022) – Poster.
31. Liu, J.*; Mon, T.; Kyriakidou, E.; Cybulskis, V.J.; “Designing Pd/CHA Zeolite Catalysts for Complete Methane Oxidation.” *27th North American Meeting of the Catalysis Society*, New York, NY (5/2022) – Poster.
30. He, W.*; Cybulskis, V.J.; “Examining Acid-Base Cooperativity in Zeotype Catalysts to Direct Cross-Aldol Condensation Reactions between Aldehydes.” *42nd Annual Michigan Catalysis Society Symposium*, Virtual (9/2021).
29. Liu, J.*; Mon, T.; Kyriakidou, E.; Cybulskis, V.J.; “Examining Pd Small-Pore Zeolites for Low-Temperature Catalytic Oxidation of Methane.” *42nd Annual Michigan Catalysis Society Symposium*, Virtual (9/2021).
28. Mon, T.*; Liu, J.; Cybulskis, V.J.; Kyriakidou, E.; “Improved Low Temperature CH₄ Oxidation over Pd/H-LTA with Si/Al > 8.” *2021 CLEERS Workshop*, Virtual (9/2021).
27. He, W.*; Cybulskis, V.J.; “Examining Acid-Base Cooperativity in Zeotype Catalysts to Direct Cross-Aldol Condensation Reactions between Aldehydes.” *Catalysis Club of Chicago Spring Symposium*, Virtual (5/2021) – Poster.
26. Mon, T.*; Chen, J.; Liu, C.H.; Liu, J.; Cybulskis, V.J.; Kyriakidou, E.; “Development of Zeolite-Based Catalysts for Improved Low Temperature CH₄ Conversion.” *NREL Natural Gas Vehicle Technology Forum*, Virtual (5/2021).
25. Cybulskis, V.J.*; “Synthetic Routes to Chemical Building Blocks from Formaldehyde over Lewis Acidic Molecular Sieves.” *2019 American Institute of Chemical Engineers Annual Meeting*, Orlando, FL (11/2019).
24. Cybulskis, V.J.*; “A Synthetic Route to Platform Chemicals through a Formose-Inspired Approach with Lewis Acidic Zeotypes.” *Nanoporous Materials and Their Applications – Gordon Research Conference*, Andover, NH (8/2019) – Poster.
23. Cybulskis, V.J.*; “Enabling New Reaction Pathways through Creation of Tailored Molecular Sieve Catalysts.” *Catalysis Gordon Research Conference*, New London, NH (6/2018) – Poster.
22. Brand, S.K.; Cybulskis, V.J.*; Davis, M.E.; “Enantioselective Catalysis of Light Oxygenates with Chiral STW Molecular Sieves.” *27th Organic Reaction Catalysis Society Conference*, San Diego, CA (4/2018).
21. Cybulskis, V.J.; Bukowski, B.C.; Tseng, H.-T.*; Gallagher, J.R.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Ribeiro, F.H.; Greeley, J.; Miller, J.T.; “Geometric and Electronic Effects of Zn Promotion on Pt for Ethane Dehydrogenation.” *2017 American Institute of Chemical Engineers Annual Meeting*, Minneapolis, MN (11/2017).
20. Cybulskis, V.J.*; Zones, S.I.; Davis, T.M.; Chen, C.-Y.; Deem, M.W.; Davis, M.E.; “Structure-Property Relationships for Unidimensional, Large and Extra-Large Pore Zeolites Using Alkane Hydrocracking and Hydroisomerization as Probe Reactions.” *2017 American Institute of Chemical Engineers Annual Meeting*, Minneapolis, MN (10/2017).
19. Cybulskis, V.J.*; “Enabling New Reaction Pathways through Creation of Tailored Molecular Sieve Catalysts.” *2017 American Institute of Chemical Engineers Annual Meeting*, Minneapolis, MN (10/2017) – Faculty Candidate Poster.

18. Cybulskis, V.J.*; Zones, S.I.; Davis, T.M.; Chen, C.-Y.; Deem, M.W.; Davis, M.E.; “Structure-Property Relationships for Unidimensional, Large and Extra-Large Pore Zeolites Using Alkane Hydrocracking and Hydroisomerization as Probe Reactions.” *Nanoporous Materials and Their Applications – Gordon Research Conference*, Andover, NH (8/2017) – Poster.
17. Cybulskis, V.J.*; Zones, S.I.; Davis, T.M.; Chen, C.-Y.; Deem, M.W.; Davis, M.E.; “Structure-Property Relationships for Unidimensional, Large and Extra-Large Pore Zeolites Using Alkane Hydrocracking and Hydroisomerization as Probe Reactions.” *Nanoporous Materials and Their Applications – Gordon Research Seminar*, Andover, NH (8/2017).
16. Cybulskis, V.J.*; Zones, S.I.; Chen, C.-Y.; Davis, M.E.; “High-Silica, Large-Pore Zeolites for Alkane Hydrocracking and Hydroisomerization.” *25th North American Meeting of the Catalysis Society*, Denver, CO (6/2017).
15. Cybulskis, V.J.; Bukowski, B.C.; Tseng, H.-T.*; Gallagher, J.R.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Ribeiro, F.H.; Greeley, J.; Miller, J.T.; “Toward Predictive Design of Supported Metal Catalysts for Light Alkane Upgrading.” *25th North American Meeting of the Catalysis Society*, Denver, CO (6/2017).
14. Cybulskis, V.J.*; Davis, M.E.; “Synthesis of Formaldehyde-Derived Intermediates by Lewis Acidic Molecular Sieves.” *Catalysis Center for Energy Innovation Spring Symposium*, Newark, DE (5/2017) – Poster.
13. Cybulskis, V.J.; Gallagher, J.R.; Tseng, H.-T.; Bukowski, B.C.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Greeley, J.; Ribeiro, F.H.; Miller, J.T.*; “Tuning Nanoparticle Alloys to Enhance C-H Bond Activation for the Catalytic Dehydrogenation of Ethane.” *253rd American Chemical Society Meeting*, San Francisco, CA (3/2017) – Priestley Medalist Symposium.
12. Cybulskis, V.J.*; Gallagher, J.R.; Tseng, H.-T.; Bukowski, B.C.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Greeley, J.; Ribeiro, F.H.; Miller, J.T.; “Tuning Nanoparticle Alloys to Enhance C-H Bond Activation for the Catalytic Dehydrogenation of Ethane.” *2016 American Institute of Chemical Engineers Annual Meeting*, San Francisco, CA (11/2016).
11. Cybulskis, V.J.*; Cui, Y.; Shekhar, M.; Lovón-Quintana, J.J.; Delgass, W.N.; Ribeiro, F.H.; “The Role of the Support for Pt Catalysts during the Water-Gas Shift Reaction.” *2016 American Institute of Chemical Engineers Annual Meeting*, San Francisco, CA (11/2016).
10. Cybulskis, V.J.*; Cui, Y.; Shekhar, M.; Lovón-Quintana, J.J.; Delgass, W.N.; Ribeiro, F.H.; “The Role of the Support for Pt Catalysts during the Water-Gas Shift Reaction.” *37th Annual Michigan Catalysis Society Spring Symposium*, Midland, MI (5/2016).
9. Cybulskis, V.J.; Bukowski, B.C.; Tseng, H.-T.; Gallagher, J.R.; Wu, Z.; Wegener, E.; Kropf, A.J.; Ravel, B.; Ribeiro, F.H.*; Greeley, J.; Miller, J.T.; “Selective C-H Bond Activation by Supported Pt₁Zn₁ Nanoparticle Alloys during the Catalytic Dehydrogenation of Ethane.” *11th Natural Gas Conversion Symposium*, Tromsø, Norway (6/2016) – Keynote Presentation.
8. Cybulskis, V.J.; Cui, Y.; Shekhar, M.; Lovón-Quintana, J.J.; Delgass, W.N.; Ribeiro, F.H.*; “Water Activation by the Supports for Pt Catalysts during the Water-Gas Shift Reaction.” *251st American Chemical Society Meeting*, San Diego, CA (3/2016) – Ipatieff Award Symposium.
7. Cui, Y.*; Li, Z.; Sabnis, K.D.; Cybulskis, V.J.; Zhao, Z.-J.; Han, C.W.; Ortolan, V.; Greeley, J.P.; Delgass, W.N.; Ribeiro, F.H.; “Au/MgO Catalyst for the Water Gas Shift Reaction.” *2015 American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT (11/2015).
6. Cybulskis, V.J.*; Pradhan, S.U.; Lovón-Quintana, J.J.; Hock, A.S.; Hu, B.; Zhang, G.; Miller, J.T.; Delgass, W.N.; Ribeiro, F.H.; “Operando X-ray Absorption and Kinetic Study of Single-Site Gallium Catalysts for Propane Dehydrogenation.” *24th North American Meeting of the Catalysis Society*, Pittsburgh, PA (6/2015).
5. Cybulskis, V.J.*; Lovón-Quintana, J.J.; Cui, Y.; Delgass, W.N.; Ribeiro, F.H.; “Isotopic Transient Studies of Water Activation on Supported Pt Catalysts during the Water-Gas Shift Reaction.” *Catalysis Club of Chicago Spring Symposium*, Naperville, IL (5/2015) – Poster.
4. Cui, Y.*; Sabnis, K.D.; Cybulskis, V.J.; Li, Z.; Akatay, M.C.; Delgass, W.N.; Ribeiro, F.H.; “Fe-Promoted Au/Rutile for the Water-Gas Shift Reaction.” *2014 American Institute of Chemical Engineers Annual Meeting*, Atlanta, GA (11/2014).

3. Wang, J.; Pazmiño, J.H.; Cybulskis, V.J.*; Delgass, W.N.; Ribeiro, F.H.; “An Investigation of Sodium Promotion of Pt/Al₂O₃ for the Water-Gas Shift Reaction by Isotopic Transient Techniques.” *23rd North American Meeting of the Catalysis Society*, Louisville, KY (6/2013).
2. Wang, J.; Pazmiño, J.H.; Cybulskis, V.J.*; Delgass, W.N.; Ribeiro, F.H.; “The Use of Isotopic Transient Techniques to Study Sodium Promotion of Pt/Al₂O₃ for the Water-Gas Shift Reaction.” *Catalysis Club of Chicago Spring Symposium*, Naperville, IL (5/2013) – Poster.
1. Wang, J.*; Pazmiño, J.H.; Cybulskis, V.J.; Shekhar, M.; Williams, W.D.; Miller, J.T.; Delgass, W.N.; Ribeiro, F.H.; “The Use of Isotopic Transient Techniques to Investigate the Nature of Alkali Promotion for the Water-Gas Shift Reaction on Pt Catalysts.” *2012 American Institute of Chemical Engineers Annual Meeting*, Pittsburgh, PA (10/2012).

PATENTS

3. Kyriakidou, E.; Mon, T.; Cybulskis, V.J.; Liu, J.; “High-Silica Pd-Based Small Pore Zeolite Catalysts for Low Temperature CH₄ Oxidation.” U.S. Provisional Patent Application 63/406,832 filed on September 15 (2022).
2. Cybulskis, V.J.; “On-site Destruction of Recalcitrant Perfluoroalkyl Substances by Molecular Sieves.” U.S. Patent Application US-20220356080-A1 filed on November 18 (2021).
1. Cybulskis, V.J.; Webber, K.M.; “Steam Cracking Process.” U.S. Patent Application US-20110073524-A1 (2011), filed on September 25 (2009).

PROFESSIONAL SERVICE AND ACTIVITIES

Licenses and Certifications:

- Professional Engineer:
 - Indiana PE11400325 (2014-Current)
 - New York 102007 (2019-Current)
- Adult and Pediatric First Aid/CPR/AED certified (2023-2025)

Leadership and Conference Organization:

- Symposium Organizer, ACS CATL Division (Spring 2023, Fall 2023, Spring 2024)
- Technical Program Committee Member, 28th North American Catalysis Society Meeting, Providence, RI (2022-2023)
- Secretary, AIChE Licensing and Professional Development Committee (2020-Current)
- Chair, Gordon Research Seminar in Catalysis (2018)
- Academia Liaison, AIChE Young Professionals Committee (2015-2017)

Sessions Chaired and Organized:

- North American Catalysis Society Meeting (2019, 2022, 2023)
- AIChE Annual Meeting CRE Division (2017-2022), MSED (2023)

Manuscript Reviewer: ACS Catalysis, ACS Engineering Au, Chemical Engineering Science, Crystal Growth & Design, Chemistry of Materials, Journal of the American Chemical Society, Journal of Catalysis, Journal of Chemical Education, Journal of Physical Chemistry C, Physical Chemistry Chemical Physics, Reaction Chemistry and Engineering, Science Advances

Proposal Reviewer: American Chemical Society Petroleum Research Fund, CenterState NY Corporation for Economic Opportunity (Grants for Growth), National Science Foundation (CBET-Catalysis, CHE-Chemical Catalysis), U.S. Department of Energy (Office of Science-Catalysis Science, SBIR-STTR)

Conference Abstract Peer Reviewer: North American Catalysis Society Meeting (2013, 2019, 2022)

Department and University Service:

- Syracuse BMCE Graduate Seminar Series (2021-Current)

- Syracuse University Chemical Receiving & Tracking Work Group (2019-2021)
- Syracuse BMCE Graduate Admissions Committee (2019-Current)
- Syracuse BMCE Faculty Search Committee (2018-2022)
- Purdue ChE Head Search Committee (2015-2016)
- Purdue ChE Safety Committee (2014-2015)
- Purdue ChE Laboratory Safety Officer (2013-2014)

Outreach Activities (K-12):

- Innovation-to-Reality (I2R) through Purdue Women In Engineering program (10/2015)
- Engineering FYI: For Your Imagination through Purdue Women In Engineering program (7/2015)
- Duke Energy Academy at Purdue (6/2015)
- Innovation-to-Reality (I2R) through Purdue Women In Engineering program (4/2015)
- Purdue Energy Camp (6/2012)

Member: American Chemical Society (ACS), American Institute of Chemical Engineers (AIChE), International Zeolite Association (IZA), North American Catalysis Society (NACS)

TEACHING EXPERIENCE

Process Design (CEN 474), Undergraduate Core Course: Spring 2023 (17 students), Spring 2022 (Co-Instructor, 19 students)

Methods in Materials Characterization (CEN 429/629), Elective Course: Spring 2021 (16 students), Spring 2020 (16 students)

Chemical Engineering Laboratory II (CEN 412), Undergraduate Core Course: Fall 2023 (10 students), Fall 2022 (19 students), Fall 2021 (19 students), Fall 2020 (22 students), Fall 2019 (25 students), Fall 2018 (28 students)

Teaching and Professional Development: National Center for Faculty Development and Diversity Faculty Success Program (2022), ASEE/AIChE Summer School for Engineering Faculty (2022), Aspen Tech Process Modeling using Aspen Plus (2021), Gateway Course Redesign Workshop at Syracuse University (2019)

CURRENT RESEARCH GROUP

Ph.D. Students (4)

- Baqi Atimah (9/2023-Current)
- Nelson Donkor (9/2023-Current)
- Weixin Li (8/2020-Current)
- Jingzhi Liu (8/2019-Current)

RESEARCH GROUP ALUMNI

*Undergraduate student enrolled in graduate school.

Undergraduate Students (6)

- Jacob Shellhamer (2020), Associate Nuclear Engineer at Naval Nuclear Laboratory
- Brent Gosselin (2020), Supply Chain Management Associate at Gorton's
- Reem AlQasayar* (2020), Ph.D. Student at UPenn (*Daeyeon Lee, Ray Gorte*)
- Dakota Story (2019), Thin Films Process Engineer at WaferTech
- Wenlin He (2019)
- Jingzhi Liu* (2019), Ph.D. Student at Syracuse University