Lon A. Porter, Jr., Ph.D.

Associate Professor of Chemistry
Director, Wabash College 3D Printing & Fabrication Center (3D-PFC)
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Wabash College
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Education:

Purdue University (1999-2003)

- Research advisor: Jillian M. Buriak, Associate professor of chemistry
  - presently Professor & Canada Research Chair of Nanomaterials, University of Alberta, Canada
- Support provided by a National Science Foundation Graduate Research Fellowship (NSFGRF)
- Graduated in August 2003 with a Ph.D. in chemistry; Doctoral thesis: ***Intrinsic and Compound Semiconductor Surface Chemistry: Intelligent Interfacial Design Facilitated through Novel Functionalization and Deposition Strategies***
- Cumulative graduate GPA: 3.86

University of Houston (1995-1999)

- Research advisor: T. Randall Lee, Cullen Distinguished Professor of Chemistry
- Graduated (Summa Cum Laude) in May 1999 with a B.S. in chemistry, university honors, and honors in chemistry; Minor: Philosophy
- Membership in the Honors College
- Senior honors thesis: ***Metal Nanoparticles Functionalized by the Adsorption of Thiols and Disulfides***
- Cumulative undergraduate GPA: 3.86 (Cumulative Chemistry GPA: 3.89)

Research Experience:

Associate Professor, Director, Wabash College 3D Printing & Fabrication Center (3D-PFC), & Undergraduate Research Committee Chair: Department of Chemistry, Wabash College (Summer 2003-present); Mentor to over 40 unique undergraduate research students (3-4/summer)

- Developed strategies for integrating novel classroom and laboratory content into undergraduate curricular (*e.g.* nanotechnology, 3D printing, and various instrumental analytical methods)
- Authored several articles and presentations on integrating nanotechnology, 3D printing, and instrumentation into undergraduate courses
- Developed several "hybrid learning" technologies for preparing YouTube based instructional tutorials and problem solving guides to chemical concepts
- Adapted microwave radiation methods for undergraduate laboratories, silicon surface functionalization methods, & comparative studies of porous silicon functionalization reactions

Graduate Research: Jillian M. Buriak Research Group (Jburiak@ualberta.ca), Department of Chemistry, Purdue University (Summer 1999-2003)

- Preparation and characterization of precious metal nanostructured materials on semiconductor and base metal surfaces
- Development of novel micro/nanopatterned metal structures on semiconductor substrates

Undergraduate Research: T. Randall Lee Research Group (Trlee@uh.edu), Department of Chemistry, University of Houston (Summer 1995 - 1999)

- Synthesis, isolation, and characterization of gold and silver nanoparticles functionalized by the adsorption of dialkyl disulfides and partially fluorinated alkanethiols and dialkyl disulfides

Administrative Experience:

- ***Department Chair***, Wabash College Department of Chemistry – 2012-2016
- ***Director***, Wabash College 3D Printing & Fabrication Center – 2015 - present
- ***Chair***, Wabash College Undergraduate Research Committee – 2011- present
- ***Co-Chair***, Wabash College Freshman Seminar Program – 2007-2012

Teaching Experience:

- Instructor, CHE 441: ***Advanced Inorganic Chemistry***, Wabash College – F'03 - present
- Instructor, CHE 211: ***Structure & Reactivity***, Wabash College – S'09 - present
- Instructor, CHE 231: ***Quantitative Chemistry***, Wabash College – S'04 - S'08
- Instructor, CHE 241: ***Descriptive Chemistry***, Wabash College – S'04 - S'08
- Instructor, COL 401: ***Important Books (Sr. Coll.)***, Wabash College – F'04 - present (periodically)
- Instructor, CHE 471: ***Materials Chemistry***, Wabash College – S'08 - present (periodically)
- Instructor, C&T 202: ***Cultures & Traditions***, Wabash College – S'07
- Instructor, CHE 111: ***General Chemistry***, Wabash College – F'03, F'05, & F'07 - present
- Instructor, CHE 101: ***Survey of Chemistry***, Wabash College – F'04, S'05, S'06, F'06, F'08 - present
- Instructor, CHE/PHY 302: ***Scanning Electron Microscopy***, Wabash College – S'11 - present (periodically)
- Instructor, BIO 202: ***Electron Microscopy***, Wabash College – S'05 & S'06
- Instructor, CHE 102: ***Forensic Chemistry***, Wabash College – S'06
- Freshman Tutorial Instructor, FT M: ***Life Lessons from the Undead***, Wabash College – F'11, F'14
- Freshman Tutorial Instructor, FT J: ***Survival Horror & Sci-Fi***, Wabash College – F'08
- Freshman Tutorial Instructor, FT Q: ***Nanoscience and Nanohype***, Wabash College – S'05
- Instructor, CHE 171: ***Chemical Nanotechnology***, Wabash College – S'04
- Teaching Assistant, CHM 641: ***Advanced Inorganic Chemistry***, Purdue University – 2000
- Teaching Assistant, CHM 266: ***Synthetic Organic Chemistry***, Purdue University – 1999
- Teaching Assistant, CHEM 1132: ***Problem Solving in General Chemistry***, University of Houston – 1999
- Teaching Assistant, CHEM 1131: ***Problem Solving in General Chemistry***, University of Houston – 1998

Awards and Honors:

- Wabash College McLain-McTurnan-Arnold Excellence in Teaching Award – 2016
- Ball Brothers Foundation Venture Fund – Independent Colleges of Indiana, Grant (BBVFG5) – 2015
- American Chemical Society Petroleum Research Fund, Type GB Grant (44993-GB5) – 2006
- Camille and Henry Dreyfus Foundation Start-up Award (SU-03-041) – 2003
- *National Science Foundation Graduate Research Fellowship – 1999 - 2002*
- Indiana Instrumentation Institute (III) Graduate Research Fellowship – 2002 - 2003
- Research Seminar Award, Purdue University Chemistry Dept. – 2003
- New Orleans ACS National Meeting, Div. of Colloid and Surface Chem. Poster Award – 2003
- Purdue Univ. Sigma Xi Research Poster Competition, *First Place* – 2002
- Purdue Univ. Materials Consortium (MatCon) Research Poster Competition, *First Place* – 2002
- Univ. of Houston, Natural Sciences and Mathematics Alumni Association's Distinguished Young Alum – 2000

Major Publications: (* denotes Wabash undergraduate co-authors)

- ***High-Impact Practices in Materials Science Education: Student Research Internships Leading to Pedagogical Innovation in STEM Laboratory Learning Activities***, Lon A. Porter, Jr., *MRS Adv.* (in press).

- ***Simple and Inexpensive 3D Printed Filter Fluorometer Designs: User-Friendly Instrument Models for Laboratory Learning and Outreach Activities***, Lon A. Porter, Jr., Cole A. Chapman*, and Jacob A. Alaniz*, *J. Chem. Educ*., *J. Chem. Educ.*, **94**, 105 (2017)..

- ***User Friendly 3D Printed Colorimeter Models for Student Exploration of Instrument Design and Performance***, Lon A. Porter, Jr., Benjamin M. Washer*, Mazin H. Hakim*, and Richard F. Dallinger, *J. Chem. Educ.*, **93**, 1305 (2016).

- ***Alkyl-Functionalization of Porous Silicon via Multimode Microwave-Assisted Hydrosilylation***, Jasper C. Small*, Hieu Minh Dam*, Jason L. Siegel*, Anton J. Crepinsek*, Taylor A. Neal*, Austin A. Althoff*, Nathan S. Line*, and Lon A. Porter, Jr., *Polyhedron*, **114**, 225 (2016).

- ***Active Learning and Student Engagement via 3D Printing and Design: Integrating Undergraduate Research, Service Learning, and Cross-Disciplinary Collaborations***, Lon A. Porter, Jr., *MRS Adv.* (2016). DOI: https://doi.org/10.1557/adv.2016.82

- ***Low Frequency Analysis of Carbon Fiber-Reinforced Polymer (CFRP)-Laminate Bond on Reinforced Concrete (RC) Bridges***, Kenneth C. Crawford, Cole A. Chapman*, and Lon A. Porter, Jr., *Proceedings of the 7th International Conference on Advanced Composite Materials in Bridges and Structures* (2016).

- ***Formal NSF Styled Proposal Writing in Preparation for Original Multi-Week Laboratory Projects***, VIPEr (Virtual Inorganic Pedagogical Electronic Resource); (2010).

- ***Functionalized Porous Silicon in a Simulated Gastrointestinal Tract: Modeling the Biocompatibility of a Monolayer Protected Nanostructured Material***, Daniel S. Albrecht*, Jacob T. Lee*, Nick Molby*, Steven D. Rhodes*, Hieu Minh Dam*, Jason L. Siegel*, and Lon A. Porter, Jr., *Materials Research Society (MRS) Symposium Proceedings*, Volume 1063, OO06-01 (2008).

- ***Introductory Nanoscience and Nanotechnology for Undergraduates: A Liberal Arts Approach***, Lon A. Porter, Jr., in Nanoscale Science and Engineering Education: Issues, Trends and Future Directions, edited by Sudipta Seal and Aldrin E. Sweeney, (American Scientific, New York, 2008). *–Invited*

- ***Chemical Nanotechnology: A Liberal Arts Approach toward a Basic Course in Emerging Interdisciplinary Science and Technology***, Lon A. Porter, Jr., *J. Chem. Educ.*, **84**, 259 (2007).

- ***Nanotechnology and the Future of Bioanalytical Methods***, Lon A. Porter, Jr., in Immunoassay and Other Bioanalytical Techniques, edited by Jeanette van Emon, (Taylor & Francis, Boca Raton, 2007). *–Invited*

- ***Synthesis and Patterning of Gold Nanostructures on InP and GaAs via Galvanic Displacement***, Mohammad Reza Hormozi Nezhad, Masato Aizawa, Lon A. Porter, Jr., Alexander E. Ribbe, and Jillian M. Buriak, *Small*, **1**, 1076 (2005).

- ***It was the Best of Times, it was the Worst of Times: Confessions of a Graduate School Survivor***, Lon A. Porter, Jr., *In Chemistry*, **14**, 16 (2004). *–Invited*

- ***Harnessing Synthetic Versatility Toward Intelligent Interfacial Design: Organic Functionalization of Nanostructured Silicon Surfaces***, Lon A. Porter, Jr. and J. M. Buriak, in Chemistry of Nanostructured Materials, edited by Peidong Yang, (World Scientific, New York, 2003). *–Invited*

- ***Metallic Nanostructures via Static Plowing Lithography***, Lon A. Porter, Jr., Alexander E. Ribbe, and J. M. Buriak, *Nano Letters*, **3**, 1043 (2003).

- ***New Pairs of Inks and Papers for Photolithography, Microcontact Printing, and Scanning Probe Nanolithography***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, Alexander E. Ribbe, and J. M. Buriak, *Materials Research Society (MRS) Symposium Proceedings*, **737**, 341 (2003).

- ***Functionalization of Porous Silicon with Alkenes and Alkynes via Carbocation-Mediated Hydrosilylation***, J. M. Schmeltzer, Lon A. Porter, Jr., Michael P. Stewart, Carmen M. Lopez, and J. M. Buriak, *Materials Research Society (MRS) Symposium Proceedings*, **737**, 561 (2003).

- ***Electroless Deposition and Patterning of Morphologically Complex Precious Metal Films on Semiconductor Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and J. M. Buriak, *Materials Research Society (MRS) Symposium Proceedings*, **737**, 575 (2003).

- ***Electroless Nanoparticle Film Deposition Compatible with Photolithography, Microcontact Printing, and Dip-Pen Nanolithography Patterning Technologies***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, Alexander E. Ribbe, Lindsay C. C. Elliott, and J. M. Buriak, *Nano Letters*, **2**, 1369 (2002).
  - See: **NBC News**, Feb. 2003, "Bio Detector"
  - See: **Materials Today**, Feb. 2003, "Nanoparticles by Accident"
  - See: **MICRO Magazine**, Jan. 2003, "Worth Their Weight"
  - See: **Science News**, Dec. 21, 2002, "Gold Deposits: Scientists Design Nanoparticle Films"

- ***Controlled Electroless Deposition of Noble Metal Nanoparticle Films on Germanium Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and J. M. Buriak, *Nano Letters*, **2**, 1067 (2002).

- ***Hydride Abstraction Initiated Hydrosilylation of Terminal Alkenes and Alkynes on Porous Silicon***, J. M. Schmeltzer, Lon A. Porter, Jr., M. P. Stewart, and J. M. Buriak, *Langmuir*, **18**, 2971 (2002).

- ***Gold and Silver Nanoparticles Functionalized by the Adsorption of Dialkyl Disulfides***, Lon A. Porter, Jr., David Ji, Sarah L. Westcott, Michael Graupe, Roman S. Czernuszewicz, Naomi J. Halas, and T. Randall Lee, *Langmuir*, **14**, 7378 (1998).

- ***Metal Nanoparticles Functionalized by the Adsorption of Thiols and Disulfides***, Lon A. Porter, Jr., *Senior Honors Thesis*, (Advisor, T. Randall Lee - Dept. of Chemistry, Univ. of Houston)

- ***As Big as Texas: The American Chemical Society Affiliates in Dallas***, Lon A. Porter, Jr., *In Chemistry*, **8**, 19 (1998). *–Invited*

Presentations:

- ***Gaining STEAM: Employing a Campus 3D Printing and Fabrication Center to Bridge Digital Design and Materials Science Education in the Liberal Arts,*** Lon A. Porter, Jr., oral presentation, Materials Research Society (MRS) National Meeting, Boston, MA (2016).

- ***High-Impact Practices in Materials Science Education—Student Research Internships Leading to Pedagogical Innovation in STEM Laboratory Learning Activities,*** Lon A. Porter, Jr., poster presentation, Materials Research Society (MRS) National Meeting, Boston, MA (2016).

- ***Preserving and Sharing World History via Photogrammetry and 3D Printing—An Interdisciplinary Effort Bridging Archaeology and Materials Science,*** Lon A. Porter, Jr. & Timothy Howe, poster presentation, Materials Research Society (MRS) National Meeting, Boston, MA (2016).

- ***Instrument Design Challenges for Engaging Active Learners in the Analytical Chemistry Lab: Introducing CAD and 3D Printing into the Analytical Curriculum,*** Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Greeley, CO (2016).

- ***User-Friendly Digital Models for Chemical Educators: 3D Printable Resources for Student Exploration of Instrument Design and Performance,*** Lon A. Porter, Jr., poster presentation, Biennial Conference on Chemical Education (BCCE), Greeley, CO (2016).

- ***Gaining STEAM: Establishing a Campus 3D Printing and Fabrication Center to Explore Cross-Disciplinary Collaboration and Innovation in STEM and the Liberal Arts,*** Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2016). & Invited Sci-Mix Poster

- ***Active Learning and Student Engagement via 3D Printing and Design: Integrating Undergraduate Research, Service Learning, and Cross-Disciplinary Collaborations,*** Lon A. Porter, Jr., poster presentation, Materials Research Society (MRS) National Meeting, Boston, MA (2015).

- ***3D Printing at Wabash: Initial Efforts and New Directions in Teaching, Research, and Outreach,*** Lon A. Porter, Jr., oral presentation, Ides of August Faculty Symposium, Wabash College, IN (2015).

- ***YouTube Chemistry: Online Problem Solving Walkthroughs as Supplemental Learning Tools,*** Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Indianapolis, IN (2013).

- ***Engaging Freshman Seminar Students with Classroom Gaming Activities: Read, Write, and Play On!,*** Lon A. Porter, Jr., oral presentation, Geneva Convention (Gen Con), Indianapolis, IN (2013).

- ***Putting YouTube to Work for the Liberal Arts: Online Problem Solving Walkthroughs as Student Learning Tools,*** Lon A. Porter, Jr., oral presentation, Ides of August Faculty Symposium, Wabash College, IN (2013).

- ***Science without Borders: Piloting a New Module for the Summer Ecuador Program,*** Maureen E. McColgin and Lon A. Porter, Jr., oral presentation, Ides of August Faculty Symposium, Wabash College (2011).

- ***Alkyl-functionalization of Porous Silicon via Multimode Microwave-Assisted Hydrosilylation: Results of an Undergraduate Research Program Exploring Inorganic Materials Chemistry***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Salt Lake City, UT (2009).

- ***Connecting Kids, Chemistry, and the Community: An Innovative Outreach Collaboration with College Mentors with Kids***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Salt Lake City, UT (2009).

- ***Some Nano Giants: Wabash Student Research in Silicon Surface Chemistry***, Lon A. Porter, Jr., oral presentation, Ides of August Faculty Symposium, Wabash College (2008).

- ***Organic Functionalization of Porous Silicon via Hydrosilylation Pathways: Probing Monolayer Stability through Degradation Studies***, Lon A. Porter, Jr., oral presentation, Purdue University, West Lafayette, IN (2008). –***Invited***

- ***Using Nanoscience in a Supporting Role: Introducing Nanoscience into an Upper-Level Undergraduate Materials Chemistry course***, Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Indiana University, Bloomington, IN (2008).

- ***Using Popular Media References to Nanoscience in the Chemistry Classroom: Read, Watch, and Play On!***, Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Indiana University, Bloomington, IN (2008). –***Invited***

- ***Organic Functionalization of Porous Silicon via Hydrosilylation Pathways: Probing Monolayer Stability through Degradation Studies***, Lon A. Porter, Jr., oral presentation, University of Notre Dame, Notre Dame, IN (2008). –***Invited***

- ***Engaging and Challenging Undergraduates via Interdisciplinary Coursework: A New Learner-Centered Approach to Materials Chemistry***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2008).

- ***Comparing Hydrosilylation Routes to Functionalized Porous Silicon***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Boston, MA (2007).

- ***Fostering Student Engagement via Interdisciplinary Themes: A Liberal Arts Approach to Chemistry for Non-Majors***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Boston, MA (2007).
  - See: **CHEMICAL & ENGINEERING NEWS**, Sept. 2007, Vol. 85, No. 38, pp. 38-40, " Chemistry Isn't Just For Majors"

- ***Engaging Non-Majors Beyond Introductory Chemistry: A Liberal Arts Science Course in Forensic Chemistry***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Boston, MA (2007).

- ***Functionalized Porous Silicon in a Simulated Gastrointestinal Tract: Modeling the Biocompatibility of a Monolayer Protected Nanostructured Material.***, Lon A. Porter, Jr., oral presentation, Materials Research Society (MRS) National Meeting, Boston, MA (2007).

- ***Discerning Science from Hype: A Liberal Arts Science Course in Forensic Chemistry.***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) Central Regional Meeting, Covington, KY (2007).

- ***All Monolayers are Not Created Equal: Functionlized Porous Silicon Stability Studies***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Chicago, IL (2007).

- ***Tabula Rasa: Tablet PCs in the Classroom and Beyond***, Lon A. Porter, Jr., oral presentation, Tech Talk, Wabash College (2006).

- ***An "Investigator-centered" Approach to a Capstone Laboratory Experience: Undergraduate Proposal Writing and Collaborative Research (CHE 441L)***, Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Purdue University, West Lafayette, IN (2006). –***Invited***

- ***Forensic Chemistry and the Educated Citizen: A Liberal Arts Approach***, Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Purdue University, West Lafayette, IN (2006).

- ***Exploring Nanoscience and Nanohype: A Liberal Arts Approach to Emerging Interdisciplinary Science and Technology,***, Lon A. Porter, Jr., oral presentation, Biennial Conference on Chemical Education (BCCE), Purdue University, West Lafayette, IN (2006).

- ***Discerning Science from Hype: A Liberal Arts Science Course in Forensic Chemistry***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Atlanta, GA (2006).

- ***Degradation of Alkyl Functionalized Porous Silicon in Simulated Acellular Plasma (blood)***, Benjamin T. Edquist, Trayton B. White, Gregory R. Fulmer, Daniel R. Thornberry, and Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, Atlanta, GA (2006).

- ***Nanoscience-fiction Resources for the Chemistry Classroom: Read, Watch, and Play On!***, Lon A. Porter, Jr., poster presentation, American Chemical Society (ACS) National Meeting, San Francisco, CA (2006).

- ***Functionalized Porous Silicon: Tunable Platforms for Bioanalytical Sensor Design***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, San Francisco, CA (2006). –***Invited***

- ***Read, Watch, and Play on! Nanoscience Fiction Resources for the Chemistry Classroom***, Lon A. Porter, Jr., oral presentation and faculty session, Annual Meeting of the Midwestern Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC), Lawrence University, Appleton, WI (2005). –***Invited***

- ***Applications of Symmetry and Group Theory in Bonding and Vibrational Spectroscopy***, Lon A. Porter, Jr., oral presentation, Math/CS Colloqium, Wabash College (2005). –***Invited***

- ***From the PC to the ER: Wabash Student Research toward Silicon BioChip Technology***, Lon A. Porter, Jr., oral presentation,

  -Northeastern Illinois University, Chicago, IL (2005) –***Invited***

  -Wabash College, Ides of August (2005).

- ***Utilizing Learning Centered Approaches toward an Interdisciplinary Course in Chemical Nanotechnology***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Degradation of Alkyl Functionalized Porous Silicon in Simulated Acellular Plasma (blood)***, Daniel R. Thornberry, Gregory R. Fulmer, Steven D. Rhodes, and Lon A. Porter, Jr., poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Utilizing Learning Centered Approaches toward an Interdisciplinary Course in Chemical Nanotechnology***, Lon A. Porter, Jr., oral presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Undergraduate Proposal Writing and Collaborative Investigation: A Learning Centered Approach to a Capstone Laboratory Experience***, Lon A. Porter, Jr., poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Discerning Science from Hype: A New Course in Chemical Nanotechnology***, Lon A. Porter, Jr., oral presentation, 18th Biennial Conference on Chemical Education (BCCE), Ames, IA (2004).

- ***Chemical Nanotechnology: A Balanced Course Approach toward Emerging Science and Technology***, Lon A. Porter, Jr., oral presentation,

  -American Chemical Society (ACS) National Meeting, Anaheim, CA (2004).

  -American Chemical Society (ACS) Great Lakes Central Regional Meeting, Peoria, IL (2004).

  -American Chemical Society (ACS) Central Regional Meeting, Indianapolis, IN (2004).

- ***Chemical Nanotechnology: A Liberal Arts Approach toward a Basic Course in Emerging Science and Technology***, Lon A. Porter, Jr., poster presentation,

  -18th Biennial Conference on Chemical Education (BCCE), Ames, IA (2004).

  -American Chemical Society (ACS) National Meeting, Anaheim, CA (2004).

  -American Chemical Society (ACS) Central Regional Meeting, Indianapolis, IN (2004).

- ***Nanopatterning Noble Metals onto Semiconductor Substrates via Scanning Probe Nanolithography***, Lon A. Porter, Jr., Alexander E. Ribbe, and Jillian M. Buriak, oral presentation, American Chemical Society (ACS) National Meeting, Anaheim, CA (2004). -***Invited***

- ***Noble Metal Nanostructures on Semiconductor Substrates: Fabrication via Scanning Probe Nanolithography***, Lon A. Porter, Jr., Alexander E. Ribbe, and Jillian M. Buriak, poster presentation, American Chemical Society (ACS) National Meeting, Anaheim, CA (2004). -***Invited***

- ***Electroless Deposition of Noble Metal Nanoparticle Films: Facile Routes to Patterned Surfaces via Photolithography, Microcontact Printing, and Scanning Probe Nanolithography***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, Alexander E. Ribbe, and Jillian M. Buriak, oral presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2003). -***Invited***

- ***Preparation and Characterization of Noble Metal Nanoparticle Films on Semiconductor Substrates***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and Jillian M. Buriak, poster presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2003). -***Poster Award (COLL Division)***

- ***Facile Electroless Deposition Routes to Noble Metal Nanoparticle Films: New High-Surface-Area Substrates for Fundamental and Applied Investigations***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and Jillian M. Buriak, oral presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2003).

- ***Facile Electroless Deposition Routes to Noble Metal Nanoparticle Films: New High-Surface-Area Substrates for Fundamental and Applied Investigations***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and Jillian M. Buriak, oral presentation, International Society for Optical Engineering (SPIE) International Symposium on Microlithography, Santa Clara, CA (2003).

- ***Electroless Deposition and Patterning of Morphologically Complex Precious Metal Films on Semiconductor Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and Jillian M. Buriak, oral presentation, Materials Research Society (MRS) Fall Meeting, Boston, MA (2002).

- ***Nanoscale Patterning of Organic and Inorganic Structures on Silicon Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, J. M. Schmeltzer, and Jillian M. Buriak, oral presentation, Materials Research Society (MRS) Fall Meeting, Boston, MA (2002).

- ***New Pairs of Inks and Papers for Photolithography, Microcontact Printing, and Scanning Probe Nanolithography***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, J. M. Schmeltzer, and Jillian M. Buriak, poster presentation, Materials Research Society (MRS) Fall Meeting, Boston, MA (2002).

- ***Patterned Electroless Deposition of Precious Metal Nanoparticles on Semiconductor Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, and Jillian M. Buriak, oral presentation, American Chemical Society (ACS) Great Lakes Regional Meeting, Minneapolis, MN (2002).

- ***Organic Monolayers on Silicon and Germanium Surfaces: Harnessing Synthetic Versatility Toward Intelligent Interfacial Design***, Lon A. Porter, Jr., J. M. Schmeltzer, and Jillian M. Buriak, oral presentation, Annual Meeting of the American Physical Society (APS), Indianapolis, IN (2002). -***Invited***

- ***Noble Metal Nanoparticle Films Compatible with Photolithography, Microcontact Printing, and Dip-Pen Nanolithography Patterning Technologies***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, Alexander E. Ribbe, and J. M. Buriak, oral presentation, Purdue-Indiana-Notre Dame Universities (PINDU) Inorganic Chemistry Conference, Bloomington, IN (2002).

- ***Electroless Deposition of Morphologically Complex Noble Metal Films on Semiconductor Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, Alexander E. Ribbe, and J. M. Buriak, poster presentation, Purdue-Indiana-Notre Dame Universities (PINDU) Inorganic Chemistry Conference, Bloomington, IN (2002).

- ***Patterned Electroless Deposition of Precious Metal Nanoparticles on Metal and Semiconductor Surfaces***, Lon A. Porter, Jr., J. M. Schmeltzer, Hee Cheul Choi, and Jillian M. Buriak, poster presentation, Purdue Univ. Sigma Xi Graduate Research Poster Symposium, West Lafayette, IN (2002). -**First Place Award**

- ***Photopatterned Electroless Deposition of Precious Metal Nanoparticles on Semiconductor Surfaces***, Lon A. Porter, Jr., Hee Cheul Choi, J. M. Schmeltzer, and Jillian M. Buriak, poster presentation, Purdue Univ. Materials Consortium (MatCon) Graduate Research Poster Symposium, West Lafayette, IN (2002). -**First Place Award**

- ***Chemical Weapons of Mass Destruction: History, Synthesis, Toxicology, and Detection of Organophosphorous Nerve Agents***, Lon A. Porter, Jr., oral presentation, Inorganic Division Literature Seminar, Purdue Univ., West Lafayette, IN (2002).

- ***Bioelectronic Sensor Arrays as Viable Sensing Alternatives for Analytes of Domestic and Defense Interest***, Lon A. Porter, Jr., oral presentation, Ecology Division, Biology Department, Purdue Univ., West Lafayette, IN (2001). -***Invited***

- ***From the Backyard to the Battlefield: Arthropod-Based Neural BioFET Arrays as Viable Sensing Alternatives for Analytes of Domestic and Defense Interest***, Lon A. Porter, Jr., oral presentation, Inorganic Division Original Proposal (OP), Purdue Univ., West Lafayette, IN (2001).

- ***Hydride Abstraction Initiated Hydrosilylation of Terminal Alkenes and Alkynes on Porous Silicon***, M. P. Stewart, Lon A. Porter, Jr., J. M. Schmeltzer, and J. M. Buriak, poster presentation, Purdue-Indiana-Notre Dame Universities (PINDU) Inorganic Chemistry Conference, West Lafayette, IN (2001).

- ***Hydride Abstraction Initiated Hydrosilylation of Terminal Alkenes and Alkynes on Porous Silicon***, M. P. Stewart, Lon A. Porter, Jr., J. M. Schmeltzer, and J. M. Buriak, poster presentation, American Chemical Society (ACS) National Meeting, Chicago, IL (2001).

Major Wabash Student Research Intern Presentations:

- ***Design and Fabrication of a 3D Printed Fluorometer: A Low-Cost Tool for Student Exploration of Instrument Design and Performance,*** Cole Chapman, Jacob Alaniz, and Lon A. Porter, Jr., poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2016).

- ***From CAD to Reality: A Simple and Inexpensive 3D Printed Colorimeter for Laboratory and Outreach Activities,*** Benjamin Washer, Mazin Hakim, and Lon A. Porter, Jr., poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2016).

- ***Functionalization of Photoluminescent N-Type Porous Silicon with Aldehydes via Hydrosilylation Reactions: Oxidation and Degradation Monitored via Transmission Mode Fourier Transform Infrared (FTIR) Spectroscopy,*** Austin Althoff, Adam Pagryzinski, Cole Chapman, & Ivan Koutsopatriy, and Lon A. Porter, Jr., graduate poster presentation, Materials Research Society (MRS) National Meeting, San Francisco, CA (2014).

- ***Exploring the Stability of Organic Monolayers Covalently bound to Hydride-Terminated Porous Silicon Surfaces: Degradation Studies Monitored via Transmission Mode FTIR,*** Anton J. Crepinsek, Adam R Pagryzinski, Austin A Althoff, Taylor A Neal, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2012).

- ***Bonding Organic Molecules to Silicon Surfaces: Hydrosilylation of Aldehydes onto Hydride-Terminated Porous Silicon,*** Anton J. Crepinsek, Taylor A Neal, Austin A Althoff, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2012).

- ***Microwave Functionalization of Hydride-Terminated Porous Silicon: Initial Steps toward New Solid-Supported Catalysts,*** Nathan J Line and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Anaheim, CA (2011).

- ***Oxidation of Porous Silicon in Organic Solvents: FTIR and SEM Analysis,*** Nathan J Line and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Francisco, CA (2010).

- ***Oxidative Degradation of Alkyl-Functionalized Porous Silicon in Simulated Acellular Blood Plasma Monitored via FTIR and SEM,*** Chad Sorenson, Lucas Evans, Forrest Craig, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Francisco, CA (2010).

- ***Comparing Hydrosilylation Routes to Functionalized Porous Silicon: Oxidation of Functionalized Porous Silicon in Organic Solvents***, Nathan J. Line, Matt Roy, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Salt Lake City, UT (2009).

- ***Organic Functionalization of Porous Silicon via Multimode Microwave Reactor-Assisted Hydrosilylation***, Jasper Small, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Salt Lake City, UT (2009).

- ***Functionalized Porous Silicon Oxidation in Simulated Gastric and Intestinal Fluids***, Jake T. Lee, Nick Molby, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2008).

- ***Degradation Studies of Alkyl-Functionalized Porous Silicon in Organic Solvents***, Nathan J. Line, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2008).

- ***Controlling Surface Functional Groups on Monolayer Protected Porous Silicon***, Jason L. Siegel, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, New Orleans, LA (2008).

- ***Stability of Functionalized Porous Silicon in a Simulated Gastrointestinal Track***, Daniel S. Albrecht, Hieu Minh (Duncan) Dam, Jason L. Siegel, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Chicago, IL (2007).

- ***Probing Monolayer Stability via Deterioration of Functionalized Porous Silicon in Alkaline Environments***, Wassim W. Labaki and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Chicago, IL (2007).

- ***Probing Monolayer Stability through Chemical Reactions on Functionalized Porous Silicon***, Steven D. Rhodes, Syud M. Ahmed, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Atlanta, GA (2006).

- ***Degradation of Long-chain Alkyl Functionalized Porous Silicon in Simulated Acellular Plasma***, Benjamin T. Edquist, Trayton B. White, Gregory R. Fulmer, Daniel R. Thornberry, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Atlanta, GA (2006).

- ***Degradation of Short-chain Alkyl Functionalized Porous Silicon in Simulated Acellular Plasma***, Trayton B. White, Benjamin T. Edquist, Gregory R. Fulmer, Daniel R. Thornberry, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, Atlanta, GA (2006).

- ***Degradation of Functionalized Porous Silicon in Simulated Gastric Fluid***, Daniel R. Thornberry, Gregory R. Fulmer, Steven D. Rhodes, and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Degradation of Functionalized Porous Silicon in Simulated Body Fluids***, Gregory R. Fulmer, Daniel R. Thornberry, Steven D. Rhodes, and Lon A. Porter, Jr., student poster presentation, presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Organic Synthesis on a Chip: Chemical Reactions on Functionalized Porous Silicon***, Steven D. Rhodes and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) National Meeting, San Diego, CA (2005).

- ***Carbocation Mediated Hydrosilylation of Porous Silicon: A Route toward Organic Synthesis on a Chip***, Steven D. Rhodes and Lon A. Porter, Jr., student poster presentation, American Chemical Society (ACS) Indiana Local Section Poster Session (2004).

- ***Initial Efforts toward the Preparation, Isolation, and Characterization of Polymeric Monolayer Protected Gold Clusters***, Syud M. Ahmed and Lon A. Porter, Jr., student poster presentation, Wabash Celebration of Student Research, Scholarship, and Creative Work (2004).

Affiliations and Leadership Experience:

- American Chemical Society (ACS) – 1998 – present
  - Younger Chemist Committee (National Committee Member) – 2006 - 2008
- Materials Research Society – 2002 - present
  - Academic Affairs Committee (National Committee Member) – 2003 - 2007
- Midwestern Association of Chemistry Teachers in Liberal Arts Colleges – 2005 - present
- Reviewer, *Journal of Chemical Education* – 2003 - present
- Chair and Organizer, *Evolving Nature of Nanoscience in the Undergraduate Chemistry Curriculum*, 20th Biennial Conference on Chemical Education (BCCE), Bloomington, IN. – 2008
- Chair and Organizer, *Forensic Chemistry in the Undergraduate Curriculum*, Chemical Education Division (CHED), 234th Annual National Meeting of the American Chemical Society, Boston, CA. – 2007
- Chair, *Chemical Educators and Nanotechnology Development*, 19th Biennial Conference on Chemical Education (BCCE), West Lafayette, IN. – 2006

- Chair, *Surface Chemistry of Inorganic Materials: Biological Interfaces with Inorganic Materials*, Inorganic Division (INOR), 227th Annual National Meeting of the American Chemical Society, Anaheim, CA. – 2004
- Chair and Organizer, *Award Symposium for Jillian M. Buriak* (2003 ACS Award in Pure Chemistry), Inorganic Division (INOR), 225th Annual National Meeting of the American Chemical Society, New Orleans, LA. – 2002 - 2003
- Chair, *Symposium F: Nanocrystalline Semiconductors Materials and Devices* (Semiconductor Nanowires and Nanotubes I), 2002 Materials Research Society (MRS) Fall Meeting, Boston, MA. – 2002
- American Physical Society (APS) – 2002 - 2003
- International Society for Optical Engineering (SPIE) – 2002 - 2003
- The National Journal of Young Investigators (an undergraduate research journal sponsored by NSF, AAAS, and supervised by *Science* magazine)

    - Associate Editor – Chemistry (Interfacial and Materials Science) – 1999 - 2000