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ACADEMIC POSITIONS

2014-present Assistant Professor, Virginia Commonwealth University, Richmond, VA
2019-present Research Member, Center for Pharmaceutical Engineering and Sciences, Virginia Commonwealth University
2019-present Fellow, Center for Risk Management of Engineering Systems, University of Virginia

EDUCATION

2011-2014 Postdoctoral Institute for Work and Health, University of Lausanne, Switzerland
2006-2011 Ph.D. Bioengineering, Rice University, Houston, TX
2002-2006 B.S. Chemical Engineering, *magna cum laude*, Rice University, Houston, TX

HONORS & AWARDS

2017 AIChE 35 Under 35 Award
2014 Leenaards Nested Research Projects Award
2011 Whitaker International Scholar
2010 BIOE Outstanding Graduate Service Award
2009 Robert Lowry Patten Award
2008 National Science Foundation Graduate Research Fellow
2008 National Network for Environmental Management Studies Fellow
2007 SPIE Educational Scholarship in Optical Science and Engineering
2007 Rice Women's Resource Center Impact Award
2006 Howard Hughes Medical Institute Med Into Grad Fellow
2006 Ann and Joe Hightower Superior Award in Chemical Engineering
2005 Barry Goldwater Scholar
2005 Tau Beta Pi, Engineering Honor Society
2004 Phi Lambda Upsilon, Chemical Honor Society

PUBLICATIONS - VCU graduate students underlined, undergraduate students *italicized*

Journal articles

1. Secondo LE, *Wygal NJ*, **Lewinski NA**. "A New Portable In Vitro Exposure Cassette for Aerosol Sampling." *Journal of Visual Experiments*, 2019.
2. **Lewinski NA**, Secondo LE, Ferri JK. "On-Site 3D Printer Aerosol Hazard Assessment: Pilot Study of a Portable In Vitro Exposure Cassette." *Process Safety Progress*, 2019, DOI: 10.1002/prs.12030.
3. Jensen CD, **Lewinski NA**. "Nanoparticle Synthesis to Green Informatics Frameworks" *Current Opinion in Green and Sustainable Chemistry*, 2018, 12, 117-126, DOI: 10.1016/j.cogsc.2018.08.005.

4. *Adawi HI*, *Newbold MA*, Reed JM, Vance ME, Feitshans IL, Bickford LR, **Lewinski NA**. "Nano-enabled personal care products: Current developments in consumer safety." *NanoImpact*, 2018, 11, 170-179, DOI: 10.1016/j.impact.2018.08.002.
5. **Lewinski NA**, Avrutin V, *Izadi T*, Secondo LE, Ullah MB, Ozgur U, Morkoc H, Topsakal E. "Influence of ZnO thin film crystallinity on in vitro biocompatibility." *Toxicology Research*, 2018, 7, 754-759, DOI:10.1039/C8TX00061A.
6. Karcher S, Willighagen EL, Rumble J, Ehrhard F, Evelo CT, Fritts M, Gaheen S, Harper SL, Hoover MD, Jeliazkova N, **Lewinski N**, Marchese Robinson RL, Mills KC, Mustad AP, Thomas DG, Tsiliki G, Hendren CO. "Integration among databases and data sets to support productive nanotechnology: Challenges and recommendations." *NanoImpact*, 2017, 9, 85-101, DOI: 10.1016/j.impact.2017.11.002.
7. **Lewinski N**, *Jimenez I*, McInnes B. "An annotated corpus with nanomedicine and pharmacokinetic parameters." *International Journal of Nanomedicine*, 2017, 12, 7519-7527, DOI: 10.2147/IJN.S137117.
8. Izyumskaya N, Tahira A, Ibupoto ZH, **Lewinski N**, Avrutin V, Ozgur U, Topsakal E, Willander M, Morkoc H. "Electrochemical Biosensors Based on ZnO Nanostructures." *ECS Journal of Solid State Science and Technology*, 2017, 6(8), Q84-Q100, DOI: 10.1149/2.0291708jss.
9. **Lewinski N**, Berthet A, Maurizi L, Eisenbeis A, Hopf N. "Effectiveness of hand washing on the removal of iron oxide nanoparticles from human skin ex vivo." *Journal of Occupational and Environmental Hygiene*, 2017, DOI:10.1080/15459624.2017.1296238.
10. Secondo LE, Liu NJ, **Lewinski NA**. "Methodological considerations when conducting in vitro, air-liquid interface exposures to engineered nanoparticle aerosols." *Critical Reviews in Toxicology*, 2016, 1-38, DOI: 10.1080/10408444.2016.1223015.
11. Graczyk H, **Lewinski N**, Sauvain J, Suarez G, Wild P, Danuser B, Riediker M. "Biokinetics of Oxidative Stress Biomarkers in Apprentice Welders Exposed to Tungsten Inert Gas (TIG) Welding Fume: A Controlled Human Exposure Study." *Particles & Fibre Toxicology*, 2016, 13:31, DOI: 10.1186/s12989-016-0143-7.
12. Graczyk H*, **Lewinski N***, Zhao J, Concha-Lozano N, Riediker M. "Characterization of Tungsten Inert Gas (TIG) Welding Fume Generated by Apprentice Welders." *Annals of Occupational Hygiene*, 2016, 60, (2), 205-219. DOI: 10.1093/annhyg/mev074. *co-first authors
13. Powers C, Mills K, Morris S, Klaessig F, Gaheen S, **Lewinski N**, Hendren C. "Nanocuration Workflows: establishing best practices for identifying, inputting, and sharing data to inform decisions on nanomaterials." *Beilstein Journal of Nanotechnology*, 2015, 6, 1860-1871. DOI: 10.3762/bjnano.6.189.
14. **Lewinski N**, McInnes B. "Using natural language processing to inform research on nanotechnology." *Beilstein Journal of Nanotechnology*, 2015, 6, 1439-1449. DOI: 10.3762/bjnano.6.149.
15. Zhao J, **Lewinski N**, Riediker M. "Characterization and oxidative reactivity evaluation of aged brake wear particles." *Aerosol Science & Technology*, 2015, 49, 65-74, DOI: 10.1080/02786826.2014.998363.
16. Graczyk H, Bryan L, **Lewinski N**, Coullerez G, Suarez G, Bowen P, Riediker M. "Physicochemical Characterization of Nebulized Superparamagnetic Iron Oxide Nanoparticles (SPIONs)." *Journal of Aerosol Medicine and Pulmonary Drug Delivery*, 2015, 28, (1), 43-51, DOI: 10.1089/jamp.2013.1117.

17. **Lewinski N**, Graczyk H, Riediker M. "Human inhalation exposure to iron oxide particles." *BioNanoMaterials*, 2013, 14, (1-2), 5-23, DOI: 10.1515/bnm-2013-0007.
18. **Lewinski N**, Zhu H, Ouyang C, Conner G, Wagner D, Colvin V, Drezek R. "Trophic transfer of amphiphilic polymer coated CdSe/ZnS quantum dots to *Danio rerio*." *Nanoscale*, 2011, 3, 3080-3083, DOI: 10.1039/c1nr10319a.
19. Young J, **Lewinski N**, Langsner R, Kennedy L, Satyanarayan A, Nammalvar V, Lin A, Drezek R. "Size-Controlled Synthesis of Monodispersed Gold Nanoparticles via Carbon Monoxide Gas Reduction." *Nanoscale Research Letters*, 2011, 6, 428, DOI: 10.1186/1556-276X-6-428.
20. Kennedy L, Bear A, Young J, **Lewinski N**, Kim, J., Foster, A., Drezek, R. "T cells enhance gold nanoparticle delivery to tumors *in vivo*." *Nanoscale Research Letters*, 2011, 6, 283, DOI: 10.1186/1556-276X-6-283.
21. Kennedy L, Bickford L, **Lewinski N**, Coughlin A, Hu Y, Day E, West J, and Drezek R. "A New Era for Cancer Therapy: Gold Nanoparticles Mediated Thermal Therapies." *Small*, 2011, 7, (2), 169-183, DOI: 10.1002/smll.201000134.
22. Day E, Thompson P, Zhang L, **Lewinski N**, Ahmed N, Drezek R, Blaney S, West J. "Nanoshell-Mediated Photothermal Therapy Improves Survival in a Murine Glioma Model." *Journal of Neuro-Oncology*, 2010, 104, (1), 55-63, DOI: 10.1007/s11060-010-0470-8.
23. **Lewinski N**, Zhu H, Jo H-J, Pham D, Kamath R, Ouyang C,Vulpe C, Colvin V, Drezek R. "Quantification of water solubilized CdSe/ZnS quantum dots in *Daphnia magna*." *Environmental Science & Technology*, 2010, 44 (5), 1841-1846, DOI: 10.1021/es902728a.
24. **Lewinski N**, Colvin V, Drezek R. "Cytotoxicity of Nanoparticles." *Small*, 2008, 4, (1), 26-49. DOI: 10.1002/smll.200700595. ***** Over 2000 citations and featured in Nature Nanotechnology article (doi: 10.1038/nnano.2008.196)**
25. Bickford L, Sun J, Fu K, **Lewinski N**, Nammalvar V, Chang J, Drezek R. "Enhanced Multi-Spectral Imaging of Live Breast Cancer Cells Using Immunotargeted Gold Nanoshells and Two-Photon Excitation Microscopy." *Nanotechnology*, 2008, 19, 315102, DOI: 10.1088/0957-4484/19/31/315102.
26. Sun J, Zhu MQ, Fu K, **Lewinski N**, Drezek RA. "Lead sulfide near-infrared quantum dot bioconjugates for targeted molecular imaging." *International Journal of Nanomedicine*, 2007, 2, (2), 235-240.
27. Lin A, **Lewinski N**, Lee MH, Drezek R. "Reflectance spectroscopy of gold nanoshells: computational predictions and experimental measurements." *Journal of Nanoparticle Research*, 2006, 8, (5), 681-692, DOI: 10.1007/s11051-006-9136-z.
28. Lin A, **Lewinski N**, West J, Halas N, Drezek R. "Optically Tunable Nanoparticle Contrast Agents for Early Cancer Detection: Model-based Analysis of Gold Nanoshells." *Journal of Biomedical Optics*, 2005, 10, (6), 0604035, DOI: 10.1117/1.2141825.

Proceedings

29. **Lewinski NA**, Secondo LE, Ferri JK. "Enabling Real-Time Hazard Assessment at the Workplace." Proceedings of the 14th Global Congress on Process Safety, 2018, P513649.
30. Asimakopoulou A, Daskalos E, **Lewinski N**, Riediker M, Papaioannou E, Konstandopoulos A. "Development of a Dose-Controlled Multiculture Cell Exposure Chamber for Efficient Delivery of Airborne and Engineered Nanoparticles." *Journal of Physics: Conference Series*, 2013, 429, 012023, DOI:10.1088/1742-6596/429/1/012023.
31. Day ES, Zhang L, **Lewinski NA,** Thompson PA, Drezek RA, Blaney SM, West JL. "Photothermal Therapy of Glioma in a Mouse Model With Near-Infrared Excited

Nanoshells." *ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology*, 2010, Jan 1, 219-220. DOI: 10.1115/NEMB2010-13179.

32. Lin A, **Lewinski N**; Rakalin A, Lee M, Halas N, Drezek R. "Modeling and experimental observations of gold nanoshell reflectance." Proceedings of the SPIE, 2005, 6010, 123-130, DOI: 10.1117/12.633420.

Book Chapters

1. **Lewinski N**, McInnes B. "NanoNLP." In Nanoinformatics: Principles and Practices, First Edition, M. Hoover Eds., Wiley, 2017 (accepted).
2. **Lewinski N**, Liu N, Asimakopoulou A, Papaioannou E, Konstandopoulos A, Riediker M. "Air-liquid interface cell exposures to nanoparticle aerosols." In Biomedical Nanotechnology: Methods and Protocols, Second Edition, S. Hurst Petrosko and E. Day Eds., Springer, 2016. DOI: 10.1007/978-1-4939-6840-4.
3. **Lewinski N**. "Nanoparticle Cytotoxicity." in Springer References: Encyclopedia of Nanotechnology, B. Bhushan Ed., Springer, 2012.
4. Bickford L, Day E, Hu Y, Sun J, Fu K, Chang J, **Lewinski N**, Yu K, Drezek R. "Chapter 15: Biomedical Applications of Multi-functional Silica-Based Gold Nanoshells." in Handbook of Materials for Nanomedicine, M. M. Amiji, and V. P. Torchilin Eds., Pan Stanford Publishing, 2010.
5. **Lewinski N**, Zhu H, Drezek R. "Chapter 22: Evaluating Strategies for Risk Assessment of Nanomaterials." In Nanotoxicity - From In Vivo and In Vitro Models to Health Risks, S.C. Sahu & D.A. Casciano Eds., John Wiley & Sons, 459-498, 2009. DOI: 10.1002/9780470747803.ch22.

Reports

1. **Lewinski N**. "Nanotechnology for Waste Minimization and Pollution Prevention." NNEMS Report, Aug. 2008.
2. **Lewinski N**. "Nanotechnology Policy and Environmental Regulatory Issues." Journal of Engineering and Public Policy. Aug. 2005. vol. 9 <http://www.wise-intern.org>

Other writings

1. **Lewinski N**. "Lesson for the New Professor." Chemical Engineering Progress, 2018, 114, (7), 46.
2. **Lewinski N**, "Nanomaterials: What are the Environmental and Health Impacts?" Chemical Engineering Progress, 2008, 104, (12), 37-40.

Patents

1. **Lewinski N**, Secondo L. U.S. Provisional Patent Application No. 62/490,751. "Portable in vitro exposure cassette (PIVEC)."

INVITED PRESENTATIONS

1. "Development of Natural Language Processing Tools for Nanomedicine." Colorado School of Mines, Quantitative Biosciences and Bioengineering Webinar, August 30, 2019.
2. "Development of Natural Language Processing Tools for Nanoparticle Design." NIH Nanotechnology Working Group Webinar, February 28, 2019.
3. "In Vitro and Informatics Approaches for Nanotoxicology." Rice University, Chemical and Biomolecular Engineering Department Seminar, October 11, 2018.
4. "In Vitro and Informatics Approaches for Nanotoxicology." University of Tulsa, Russell School of Chemical Engineering Seminar, September 26, 2018.

5. "Promoting a Safe and Sustainable Future: an Early-Career Faculty Perspective." Inaugural ACS-AIChE Workshop on Identifying the Gaps and Opportunities in Graduate Education to Improve Sustainability of the U.S. Chemical Industries, ACS Annual Meeting, March 18, 2018.
6. "Next Generation Inspiration: Leadership, pass it on." Virginia Bio's Women Building Bio: XX Factor Conference, September 26, 2017.
7. "In Vitro and Informatics Approaches for Nanomedicine Engineering." Virginia Polytechnic Institute and State University, Chemical Engineering Department Seminar, September 30, 2016.
8. "Repurposing Nanomedicines for Alternative Applications." Materials Science & Technology Conference, October 7, 2015.
9. "Context in Nanotechnology: What do "the 3Rs" mean to you?" 3rd Gordon Research Conference on Environmental Nanotechnology, June 23, 2015.
10. "Oxidative stress response in lung cells exposed to welding fume nanoparticles." VCU Engineering GSA Breakfast Club, March 18, 2015.
11. "Oxidative Stress Response to Nanoparticles in an Air-Liquid Interface in vitro Model System." VCU Chemical and Life Science Engineering Department Seminar, November 12, 2014.
12. "Responsible Design of Engineered Nanomaterials." AIChE@VCU student chapter meeting, September 18, 2014.
13. "In vitro Air-Liquid Interface Exposures to Engineered Nanoparticle Aerosols." University Hospital of Lausanne (CHUV), Pneumology Department Seminar, October 25, 2013.
14. "Potential Health Effects of Nanoparticles in the Environment." Swiss Center for Electronics and Microtechnology (CSEM), BioMEMS, December 20, 2012.
15. "Impacts of Incidental Exposure to Nanoparticles." Nanotech Italy 2012, November 23, 2012.
16. "Nanoparticles in the Environment and Potential Health Effects." Centre for Research & Technology Hellas, CPERI, March 12, 2012.
17. "Acute dietary exposure of Danio rerio to amphiphilic polymer coated CdSe/ZnS quantum dots." 1st Annual QNano Integrating Conference, February 28, 2012.
18. "Cytotoxicity of Nanoparticles." Advances in Optics for Biotechnology, Medicine and Surgery, June 12, 2007.

CONFERENCE ABSTRACTS & PRESENTATIONS

1. Eshai SI, Secondo LE, Wojcieszak S, Hays M, **Lewinski NA**, Avrutin V, Topsakal E. "Subcutaneous Biocompatible Continuous Glucose Monitoring Sensor." 2019 International Radio Science Meeting (URSI 2019), January 9-12, 2019.
2. Hays M, Secondo LE, Green R, **Lewinski NA**, Topsakal E. "Cellular interaction with biocompatible titanium nitrite implantable antenna." 2019 International Radio Science Meeting (URSI 2019), January 9-12, 2019.
3. Nusrat N, Hays M, Secondo LE, **Lewinski NA**, Topsakal E. "Microwave dielectric characterization of rat plasma over various glucose concentrations." 2019 International Radio Science Meeting (URSI 2019), January 9-12, 2019
4. *Imondo MJ*, Moustafa M, Cheng Z, **Lewinski N**. "A Comparison of Batch and Flow Methods for PLGA Drug Encapsulation." Poster presentation. VCU College of Engineering Undergraduate Research Symposium, November 20, 2018.

5. *Cofrancesco P*, Khan R, **Lewinski N**, Collinson M. “Fabrication of Capillary Nanoporous Gold-Platinum Electrodes for Chemical Sensing in Complex Solutions.” Poster presentation. VCU College of Engineering Undergraduate Research Symposium, November 20, 2018.
6. Dill K, **Lewinski N**. “Upcycling sources of precursor metals for nanoparticle synthesis.” Oral presentation. 7th Sustainable Nanotechnology Organization Conference, November 10, 2018.
7. Dill K, **Lewinski N**. “Electronic Waste to Nanoparticles: Influence of Precursor Purity on Nanoparticle Synthesis.” Poster presentation. AIChE Annual Meeting, October 31, 2018.
8. Secondo L, Wygal N, **Lewinski N**. “Design and Characterization of a New, Portable In Vitro Exposure Cassette with Real-Time Monitoring for Aerosol Measurements.” Oral presentation. AIChE Annual Meeting, October 30, 2018.
9. **Lewinski N**, Jensen CD. “Informatics for Green and Sustainable Nanomaterials.” Oral presentation. AIChE Annual Meeting, October 29, 2018.
10. Imondo MJ, Moustafa M, Cheng Z, **Lewinski N**. “A Comparison of Batch and Flow Methods for PLGA Drug Encapsulation.” Poster presentation. AIChE Annual Meeting, October 29, 2018.
11. Hughes C, Kumar N, Secondo L, Wijesinghe D, **Lewinski N**. “A Preliminary Analysis of Copper Nanoparticle Pulmonary Cytotoxicity.” Poster presentation. AIChE Annual Meeting, October 29, 2018.
12. Hughes C, Secondo L, Kumar N, Contaifer D, Wijesinghe D, McInnes B, **Lewinski N**. “Building nanoinformatics tools for nanotoxicity assessment.” Poster presentation. OpenTox 2018, July 11, 2018.
13. Secondo L, Wygal N, **Lewinski N**. “Design and demonstration of a new portable in vitro exposure cassette for aerosols.” Poster presentation, OpenTox 2018, July 11, 2018.
14. **Lewinski N**. “Enabling Real-Time Hazard Assessment at the Workplace.” Oral presentation. 14th Global Congress on Process Safety, April 25, 2018.
15. Adawi H, Cuddehe J, Hopson K, Mendoza L, Cartin C, **Lewinski N**. “Nanoparticles in University MakerSpaces: The Effect of Engineering Controls on Exposure Risk.” Poster presentation. VCU Spring Undergraduate Research Symposium, April 25, 2018.
16. Jaminet J, Kalish R, Saravanane P, **Lewinski N**. “Nanoinformatics: Predicting drug loading and size of nanoparticles based on physical properties.” Poster presentation. VCU Spring Undergraduate Research Symposium, April 25, 2018.
17. Romero-Fuentes C, Dill K, **Lewinski N**. “Influence of Nickel on Gold Nanoparticle Synthesis.” Poster presentation. VCU Spring Undergraduate Research Symposium, April 25, 2018.
18. Secondo L, Wygal N, **Lewinski N**. “Design and demonstration of a new portable in vitro exposure cassette for aerosols.” Poster presentation. VCU Graduate Research Symposium, April 24, 2018.
19. Fore J, Missal S, McInnes B, **Lewinski N**. “Annotating Gold Nanorod Synthesis Methods to Reveal Research Trends and Structure-Property Relationships.” Poster presentation. VCU School of Engineering Undergraduate Research Symposium, November 21, 2017.
20. Smith J, McInnes B, Charity M, **Lewinski N**. “Extracting Nanomedicine Characteristics and Properties from the Engineered Nano Database (END).” Poster presentation. VCU School of Engineering Undergraduate Research Symposium, November 21, 2017.
21. **Lewinski N**, Avrutin V, Izadi T, Ullah B, Ozgur U, Morkoc H, Topsakal E. “Biocompatibility of ZnO Thin Films for Sensor Applications.” Oral presentation. AIChE Annual Meeting, November 1, 2017.

22. Dill K, Moustafa M, Tang C, **Lewinski N**. "Process Optimization for the Synthesis of Gold and Copper Nanoparticles from a Mixed Precursor Solution." Oral presentation. AIChE Annual Meeting, October 30, 2017.
23. Secondo L, Baltzopoulou P, Asimakopoulou A, Deloglou D, Softas C, Petrakis S, Chasapidis L, Papaioannou E, Konstandopoulos A, **Lewinski N.** "Evaluation of Biological Effects Using a Nano-Ceria Based Diesel Fuel Additive with in Vitro air-Liquid Interface Cell Exposure Systems of Different Flow Patterns." Oral presentation. AIChE Annual Meeting, October 30, 2017.
24. Baltzopoulou P, Secondo L, Asimakopoulou A, Deloglou D, Softas C, Petrakis S, Chasapidis L, Papaioannou E, **Lewinski N**, Konstandopoulos A. "Cross Evaluating the Effects of a Cerium-Based Diesel Fuel Additive on Exhaust Toxicity with in vitro Air-Liquid Interface Cell Exposure Systems of Different Flow Patterns." Oral presentation. ETH Conference on Combustion Generated Nanoparticles, June 19-22, 2017.***Trojan Horse Awardee**
25. Dill K, Moustafa M, Tang C, **Lewinski N**. "Process Optimization for the Synthesis of Gold and Copper Nanoparticles from a Mixed Precursor Solution." Poster presentation. ACS Green Chemistry & Engineering Conference, June 13-15, 2017.
26. Roberts H, McInnes B, **Lewinski N**. "Examining the Syntheses of Gold-Copper Bimetallic Nanoparticles." Poster presentation. VCU School of Engineering DERI Graduation / Induction Ceremony, May 16, 2017.
27. Cuddehe J, Hopson K, Mendoza L, **Lewinski N**. "Respirable Particles in Desktop 3D Printer Workshops." Poster presentation. VCU Spring Undergraduate Research Symposium, April 19, 2017.
28. Subedi A, Cuddehe J, **Lewinski N**. "Comparable Sustainability Assessment of Ceria (CeO2) Nanoparticle Synthesis." Poster presentation. VCU School of Engineering Undergraduate Research Symposium, November 22, 2016.
29. Rashed R, McInnes B, **Lewinski N**. "Annotating Metal Oxide Nanoparticle Synthesis Methods for Natural Language Processing." Poster presentation. VCU School of Engineering Undergraduate Research Symposium, November 22, 2016.
30. Jensen CD, **Lewinski N**. "A Nanomaterial Synthesis Android App: Towards Cleaner Production of Engineered Nanomaterials." Oral presentation. AIChE Annual Meeting, November 14, 2016.
31. Nanjannavar P, Izadi T, Avrutin V, **Lewinski N**. "Biocompatibility and Biodegradation of Sensors Enabled By Zinc Oxide Thin Films." Poster presentation, AIChE Annual Meeting, November 14, 2016.
32. McInnes B, Murphy R, Jones G, Hodson M, Izadi T, Jimenez I, **Lewinski N**. "Nanomedicine Entity Extraction." Poster presentation. AMIA Annual Symposium, November 12-16, 2016.
33. **Lewinski N**, Hodson M, Izadi T, Jimenez I, Murphy R, Jones G, McInnes B. "END, an Annotated Nanomedicine Corpus." Poster presentation. 8th International Nanotoxicology Congress, June 1-4, 2016.
34. Secondo L, **Lewinski N.** "Methodological Considerations for In Vitro, Air-Liquid Interface (ALI) Exposures to Engineered Nanoparticle Aerosols." Poster presentation. 8th International Nanotoxicology Congress, June 1-4, 2016.
35. Jones G, **Lewinski N**, McInnes B. "Entity Extraction for Nanoinformatics." Poster presentation. VCU School of Engineering DERI Graduation / Induction Ceremony, May 11, 2016.

36. Hodson M, Secondo L, **Lewinski N**. "In vitro Biological Response to Diesel Exhaust Particles in Lung Cells." Poster presentation. VCU Spring Undergraduate Research Symposium, April 20, 2016.
37. Izadi T, Nanjannavar P, Avrutin V, **Lewinski N**. "Biodegradation and biocompatibility of ZnO thin film enabled sensors." Poster presentation. VCU Spring Undergraduate Research Symposium, April 20, 2016.
38. Jimenez I, McInnes B, **Lewinski N**. "Literature Annotation Using GATE Software on FDA Approved Nanomedicines." Poster presentation. VCU Spring Undergraduate Research Symposium, April 20, 2016.
39. Murphy R, **Lewinski N**, McInnes B. "Nanomedicine Entity Extraction System." Poster presentation. VCU Spring Undergraduate Research Symposium, April 20, 2016.
40. Wang J, Jimenez I, Secondo L, **Lewinski N**. "Detection Acellular Oxidative Reactivity of Engineered Nanoparticles with DCFH-DA." Poster presentation. VCU Spring Undergraduate Research Symposium, April 20, 2016.
41. Secondo L, Hodson M, **Lewinski N**. "Biological Responses of In Vitro, Air Liquid Interface Exposures to Diesel Exhaust Aerosols." Poster presentation. VCU Graduate Research Symposium, April 19, 2016.
42. Ha B, Fisher A, Fong S, **Lewinski N**. "Promoting Bacterial Transformation: a comparison of surface-functionalized nanoparticles." Poster presentation. VCU's School of Engineering Annual Undergraduate Research Symposium, November 20, 2015.
43. **Lewinski N**. "In vitro exposure systems for assessing the performance and safety of nano-particulate aerosols." Oral presentation. AIChE Annual Meeting, November 8-13, 2015.
44. Secondo L, **Lewinski N**. "Toxicological comparison of in vitro exposure techniques of commercial nano products to lung cells." Poster presentation. Quantifying Exposure to Engineered Nanomaterials from Manufactured Products Workshop, July 7-8, 2015. ***Poster Session Award Winner**
45. Riediker M, Ding Y, Graczyk H, Zhao J, **Lewinski N**, Suarez G. "Experimental Approaches to Understand Real-world Nanomaterials." Poster presentation. 10th International Scientific Conference of the International Occupational Hygiene Association, April 25-30, 2015.
46. Izadi T, Hodson M, McInnes B, **Lewinski N**. "Creation of an Annotated Library on FDA Approved Nanomedicines." Poster presentation. VCU Spring Undergraduate Research Symposium, April 22, 2015.
47. Newbold M, **Lewinski N**. "How will you be protected? Engineering Controls vs. Personal Protective Equipment." Poster presentation. VCU Spring Undergraduate Research Symposium, April 22, 2015.
48. Wang J, Shrestha S, Moustafa M, **Lewinski N**. "Construction of a 3-D in vitro lung model for drug delivery and toxicology studies." Poster presentation. VCU Spring Undergraduate Research Symposium, April 22, 2015.
49. **Lewinski N**, Graczyk H, Sauvain JJ, Asimakopoulou A, Papaioannou E, Konstandopoulos A, Aubert J, Riediker M. "Comparison of human in vitro and in vivo biological responses to combustion derived nanoparticles after simultaneous exposure." Poster presentation. ICCA-LRI & JRC Workshop, What Is Safe? Integrating Multi-Disciplinary Approaches for Decision Making about the Human Health and Environmental Impacts of Chemicals, June 17-18, 2014.
50. Graczyk H, **Lewinski N**, Suarez G, Sauvain JJ, Bowen P, Danuser B, Riediker M. "Inhaled nanoparticle tracking and oxidative stress biomarkers in apprentice workers." Oral

presentation. 3rd Workplace and Indoor Aerosols Conference AEROSOLS 2014, May 13-16, 2014.

51. Graczyk H, **Lewinski N**, Sauvain JJ, Danuser B, Riediker M. "A novel human exposure system for nanoparticle tracking and oxidative stress assessment." Poster presentation. NanoTox 2014, 7th International Nanotoxicology Congress, April 23-26, 2014.
52. Graczyk H, **Lewinski N**, Sauvain JJ, Suarez G, Danuser B, Bowen P, Riediker M. "Nanoparticle tracking and oxidative stress biomarkers in non-smoking volunteers." Poster presentation. 3rd Annual Swiss National Science Foundation NRP64 Meeting, March 7-8, 2014.
53. Suarez G, Santschi C, **Lewinski N**, Martin O, Riediker M. "Biosensing tools based on enhanced absorbance to assess the impact of nanomaterials on health." Poster presentation. 6th International Symposium on Nanotechnology, Occupational and Environmental Health, October 28-31, 2013.
54. Graczyk H, **Lewinski N**, Sauvain JJ, Danuser B, Riediker M. "A novel human exposure system for nanoparticle tracking and oxidative stress assessment." Poster presentation. 6th International Symposium on Nanotechnology, Occupational and Environmental Health, October 28-31, 2013.
55. Liu N, **Lewinski N**, Papaioannou E, Asimakopoulou A, Konstandopoulos A, Riediker M. "In vitro inhalation toxicity of aerosolized ferumoxytol." Poster presentation. BMES Annual Meeting, September 23-28, 2013.
56. Graczyk H, **Lewinski N**, Sauvain JJ, Coullerez G, Bowen P, Riediker M. "Nanoparticle tracking and oxidative stress biomarkers in healthy non-smoking volunteers." Poster presentation. 2nd Annual Swiss National Science Foundation NRP64 Meeting, March 20-21, 2013.
57. Graczyk H, **Lewinski N**, Sauvain JJ, Riediker M, Danuser B. "A human exposure system for nanoparticle tracking and oxidative stress biomarker assessment: Developing a novel methodology for future occupational applications." Poster presentation. QualityNano Annual Meeting, February 27-March 2, 2013.
58. Zhao J, **Lewinski N**, Riediker M. "Nanoparticle reactivity protocol validation and dynamic system design to coat low-volatile organic compounds on nanomaterials" Oral presentation. NanoTOES M27 Meeting, January 17-19, 2013.
59. Asimakopoulou A, Daskalos E, **Lewinski N**, Riediker M, Papaioannou E, Konstandopoulos A. "Development of a Dose-Controlled Multiculture Cell Exposure Chamber for Efficient Delivery of Airborne and Engineered Nanoparticles." Oral presentation. International Conference on Safe Production and Use of Nanomaterials – NanoSafe 2012, November 13-15, 2012.
60. **Lewinski N**. "Biodistribution of CdSe/ZnS Quantum Dots in Aquatic Organisms" Poster presentation. Gordon Research Conference on Environmental Nanotechnology, May 29-June 3, 2011.
61. **Lewinski N**. "Biodistribution of CdSe/ZnS Quantum Dots in Aquatic Organisms" Poster presentation. HHMI Translational Medicine Symposium, April 14-15, 2010.
62. Day ES, Zhang, L, **Lewinski NA**, Thompson PA, Drezek RA, Blaney SM, West JL. "Photothermal Therapy of Glioma in a Mouse Model with Near-Infrared Excited Nanoshells." Oral presentation. ASME 2010 1st Global Congress on NanoEngineering for Medicine and Biology, February 7-10, 2010.

63. Colvin V, **Lewinski N**. "Eco-responsible Nanotechnology: Opportunities and Challenges" For Dr. Vicki Colvin, Oral Presentation. 1st Annual Symposium of the American Society for Nanomedicine, September 24, 2009.
64. **Lewinski N**, Kamath R, Ouyang C, Zhu H, Jo H, Pham D, Vulpe C, Colvin V, Drezek R. "Biodistribution of Quantum Dots in Daphnia magna." Poster presentation. National Science Foundation/CBEN Symposia, July 29, 2009.
65. **Lewinski N**, Kamath R, Ouyang C, Zhu H, Jo H, Pham D, Vulpe C, Colvin V, Drezek R. "Uptake and Gut Clearance of Quantum Dots in Daphnia magna." Poster presentation, International Conference on the Environmental Implications and Applications of Nanotechnology, June 9-11, 2009. <u>*Second Place Award Winner in Poster Competition</u>
66. **Lewinski N**, Zhu H, Ouyang C, Colvin V, Drezek R. "Fluorescence Localization of Quantum Dots in Daphnia magna." Poster presentation. NSTI Nanotechnology Conference and Expo, May 3-7, 2009.
67. **Lewinski N**, Mattick R. "Nanotechnology for Waste Minimization and Pollution Prevention." Poster presentation. International Environmental Nanotechnology Conference, October 7-9, 2008.
68. Colvin V, **Lewinski N**. "Correlating Biological Interactions of Nanoparticles with Structure – The Role of Analysis." For Dr. Vicki Colvin, Oral presentation. 4th Annual Symposium of the American Academy of Nanomedicine, September 6, 2008.
69. Colvin V, **Lewinski N**. "Nanotechnology at the wet/dry interface." For Dr. Vicki Colvin, Oral presentation. ACS National Meeting, August 18, 2008.
70. **Lewinski N**, Drezek R. "Detection of intracellular cadmium released from surface coated quantum dots." Oral Presentation. Materials Research Society, March 26, 2008.
71. **Lewinski N**, Drezek R. "Cytotoxicity of Nanoparticles." Poster presentation. Royal Commission on Environmental Pollution/CBEN Conference, January 24, 2008.
72. **Lewinski N**, Drezek R. "Cytotoxicity of Nanoparticles." Poster presentation. Advances in Optics for Biotechnology, Medicine and Surgery, June 12, 2007.

TEACHING

Virginia Commonwealth University

<u>Courses</u>

- CLSE 202: Chemical Engineering Fundamentals II (Spring 2018, Spring 2019)
- CLSE 305: Thermodynamics of Phase Equilibria and Chemical Reactions (Fall 2014, 2015, 2016, 2017)
- ENGR 497: VIP Nanoinformatics (Fall 2016-present)
- ENGR 591: Nanotechnology Environmental, Health and Safety Impacts (Spring 2016, 2017)
- ENGR 591: Nanotoxicology (Fall 2019)
- CLSE 690: Research Seminar (Fall 2016, 2017, 2018, 2019)

<u>Guest Lecturer</u>

- CLSE 115: Introduction to Programming, April 2018 (taught by Tyler McQuade, Ph.D.)
- CLSE 101: Introduction to Engineering, September 2016 (taught by Stephen Fong, Ph.D.)
- ENGR 591: Industrial Hygiene, September 2016 (taught by R. Leonard Vance, Ph.D., J.D., P.E., C.I.H.)

<u>Team Advisor</u>

- CLSE 403: Senior Design (Spring 2015, 2016, 2017, 2018, 2019)
- INNO 460: Product Innovation (Fall 2015)

Student Supervision

Graduate students

- Lynn Secondo, Ph.D. graduate research (2016 Fulbright scholar, 2018 VCU Dissertation Assistantship Award), Spring 2015-Spring 2019
- Kathryn Dill, M.S. graduate research, Fall 2016-Spring 2018

Undergraduate students

- Josephine Soto (ENGR 497: VIP Nanoinformatics), Fall 2019
- Yasmeen Bullock, Summer 2019
- Ahmad Abdeen (Volunteer), Spring 2019
- Ushna Arora (ENGR 497: VIP Nanoinformatics), Fall 2018
- Baizeed Khan (ENGR 497: VIP Nanoinformatics), Fall 2018
- Neeha Gambhirrao (ENGR 497: VIP Nanoinformatics), Fall 2018
- Michael Imondo, Summer 2018-Spring 2019
- Jordan Taylor, Summer 2018
- Carly Hughes (VCU SOP Summer Undergraduate Research Intern), Summer 2018
- Hayat Adawi (CLSE 450: Independent Study), Spring 2018
- Robert Kalish, Spring 2018
- Perraychudhan Saravanane, Spring 2018
- Vanessa Vaughan (ENGR 497: VIP Nanoinformatics), Fall 2017
- Cristian Romero-Fuentes (ENGR 497: VIP Nanoinformatics), 2017
- Jennifer Fore (ENGR 497: VIP Nanoinformatics), Fall 2017-Fall 2018
- Sinclair Missal (ENGR 497: VIP Nanoinformatics), Fall 2017
- Jacob Jaminet, Summer 2017
- Carmel Tebyanian (CLSE 450: Independent study), Summer 2017
- Maniza Azizi (BIOL 451: Biology of Cancer II), Spring 2017
- Abdelmagid Nasreldeen, Spring 2017
- Rashed Rashed (ENGR 497: VIP Nanoinformatics), 2016
- John Cuddehe, Summer 2016-Spring 2017
- Arjun Subedi, Summer 2016
- Ivan Jimenez (CLSE 450: Independent study), Spring 2016-Spring 2017
- Pooja Nanjannavar (ENGR 492: Independent study), Spring 2016
- Fred Williams, Summer 2015
- Peter Rinaldi, Spring 2015
- Marley Hodson, Spring 2015-Spring 2016
- Snehi Shrestha (ENGR 492: Independent study), Spring 2015
- Brigitte Ha (2015 DURI scholar), Fall 2014-Fall 2015
- Jasmine Wang, Fall 2014-Spring 2016
- Tanin Izadi, Fall 2014-Spring 2017
- Morgan Newbold, Fall 2014-Spring 2015, Spring 2017

High school students

- Adeline Cullen (2019 DERI scholar), 2019-2020
- Isabella Dula (Maggie Walker Mentorship Program), 2017-2018

- Henry Roberts (2016 DERI scholar), 2016-2017
- Yashodhara Varma, 2016-2017
- Gabrielle Jones (2015 DERI scholar), 2015- 2016

Thesis committee member

- Ryan Green, Ph.D. Electrical and Computer Engineering, 2018-present
- Oscar Bastidas, Ph.D. Chemical and Life Science Engineering, 2017
- Yang Liu, M.S. Chemical and Life Science Engineering, 2017
- Rebecca R. Lehman, Ph.D. Biostatistics, 2017
- Makaye Tabibi, M.S. Chemistry, 2015

SERVICE

Professional memberships

- American Chemical Society (ACS), senior member
- American Society of Engineering Education (ASEE), member
- American Institute of Chemical Engineers (AIChE), senior member
    - Sustainable Engineering Forum – Education Committee, Chair (2016-2018)
    - Tidewater AIChE Local Section – Chair (2018-present), Board of Directors (2015-2017), VCU Faculty Liaison (2014-2017)
    - AIChE@VCU Student Chapter – Faculty Advisor (2016-present)
- Biomedical Engineering Society (BMES), member
- Institute of Electrical and Electronics Engineers (IEEE), member
- Society of Toxicology (SOT), member
- Society of Women Engineers (SWE), life member
- Tau Beta Pi, life member, Virginia Epsilon Chapter Advisory Board member

Conference organization

- 2019 AIChE Annual Meeting
    - Chair, Nanomaterial Applications for Human Health and the Environment
    - Co-chair, Big Data and Analytics for Sustainability
    - Co-chair, Experiences in Teaching Process Safety II
    - Co-chair, Free Forum on Engineering Education: Junior and Senior Years II
- 2018 AIChE Annual Meeting
    - Chair, Nanomaterial Applications for Human Health and the Environment
    - Co-chair, Big Data and Sustainability
    - Co-chair, Poster Session: Sustainability and Sustainable Biorefineries
- 2017 AIChE Annual Meeting
    - Chair, Nanomaterial Applications for Human Health and the Environment
    - Chair, Big Data and Sustainability
    - Chair, Poster Session: Sustainability and Sustainable Biorefineries
- 21st ACS Green Chemistry and Engineering Conference 2017
    - Symposium co-organizer, Making Greener Nanomaterials
- 2016 AIChE Annual Meeting
    - Chair, Nanomaterial Applications for Human Health and the Environment
    - Co-Chair, Big Data and Sustainability
    - Co-Chair, Poster Session: Sustainability and Sustainable Biorefineries
- 2015 AIChE Annual Meeting

    - Co-Chair, Nanomaterial Applications for Human Health and the Environment
    - Co-Chair, Poster Session: Sustainability and Sustainable Biorefineries

Journal editorial board

- Section Editor, Drug and Chemical Toxicology (March 2018 – present)

Journal reviewer

- ACS Nano, ACS Sustainable Chemistry & Engineering, Atmosphere, Atmospheric Pollution, BMC Biophysics, Diversity, Drug and Chemical Toxicology, Environmental Pollution, Environmental Science & Technology, Journal of Emission Control Science and Technology, Journal of Nanobiotechnology, Journal of Visual Experiments, Langmuir, NANO, NanoImpact, Nanomedicine, Nanotechnology, Nanotoxicology, Particle & Fibre Toxicology, Process Safety Progress, Science of the Total Environment, Small

Committees, Virginia Commonwealth University

- VCU ADVANCE-IT Steering Committee, College of Engineering representative (2018-present)
- VCU Libraries Advisory Committee, College of Engineering representative (2016-2017, 2018-present)
- VCU College of Engineering Community Engagement and Outreach Committee (2018-2019)
- VCU College of Engineering EARE Committee (2016-2019)
- VCU CLSE Henry A. McGee Lecture (2015-present)
- VCU CLSE Seminar Series (2015-present)
- VCU CLSE Faculty Search Committee (2014-2015, 2016-2017, 2017-2018)

Outreach

- National Nanotechnology Day @ the Science Museum of Virginia, October 5, 2019, October 7, 2018, October 8, 2017, October 9, 2016
- Early Engineering Teachers Professional Development workshop, August 13, 2019
- Discovery Camp, Adventures in Engineering, August 8, 2018
- GRAAUW STEAM On Conference, June 21, 2017
- Full STEAM Ahead Conference, June 25, 2016
- Girl Scout Career Day April 25, 2015