

LOK R. POKHREL, M.Sc., M.S., Ph.D.

Assistant Professor of Toxicology
Program Director, Public Health Foundations and Certificate Graduate Program
Core Faculty, DrPH Environmental and Occupational Health Program
Department of Public Health, The Brody School of Medicine
East Carolina University, Greenville, NC

Maazi Biotec LLC (d.b.a.)
CEO and Founding Member

Mailing Address:

600 Moye Blvd, Brody 7W-37

Greenville, NC 27834

Phone: 252-744-3775 (O)

E-mail: POKHRELL18@ecu.edu; lokraj123@gmail.com

Faculty Profile: <https://public-health.ecu.edu/pokhrell18/>

ResearchGate Profile: <https://www.researchgate.net/profile/Lok-Pokhrel>

EDUCATION

Post-doc (2013-14)	United States Environmental Protection Agency, Corvallis, OR/ National Research Council of the National Academies Toxicology & Risk Assessment
Ph.D. (2009-13)	East Tennessee State University, Johnson City, TN, USA Environmental Health (Toxicology & Risk Assessment)
M.S. (2007-09)	East Tennessee State University, Johnson City, TN, USA Biology (Quantitative Biology)
M.Sc. (1999-2001)	Postgraduate Campus, Tribhuvan University Zoology
B.Sc. (1996-99)	Mechi Multiple College, Tribhuvan University Major: Zoology; Minor: Chemistry; Valedictorian

POSITIONS AND EMPLOYMENT

Position	Rank	Appointments
Program Director	Program Director for PHFP Certificate	2021 - Present
Tenure-Track	Assistant Professor of Toxicology	2018 - present
Non-Tenure Track	Assistant Professor of Env. Health	2014 - 2018
Postdoctoral Fellow	Postdoctoral Fellow	2013 - 2014
Graduate Research Assistant	Graduate Research Assistant	2009 - 2013
Graduate Teaching Assistant	Graduate Teaching Assistant	2007 - 2009
Biology Lab. Technician	Biology Lab. Technician	Summer 2008
Zoology Lecturer	Lecturer	2003 - 2007
Assistant Head of House/Hostel	Assistant Head	2004 - 2007

Coordinator, Journalism Club	Coordinator	2004 - 2007
Vice Principal	Vice Principal	2001 - 2003
Science Instructor	High School Science Instructor	1994 - 2003

LEADERSHIPS, HONORS & AWARDS

1. **Mentor**, Summer Biomedical Research Program (SBRP), BSOM, Summer **2024**.
2. **Capture 180 Research Challenge Finalist** (student, first co-author), ECU, April 1st, **2024**.
3. **Represented ECU at the First Flight Venture Center's March Madness Open House** Where Innovation Takes Center Court, *First Flight Venture Center*, RTP, NC, March 22nd, **2024**.
4. **Judge**, Research & Creative Activity (RCAW), ECU, **2019, 2020, 2021, 2022, 2023, 2024**.
5. **Mentor**, NC GSK Research Summer Immersion Program, Summer **2023**, Summer **2024**
6. **Trendsetter Award Nominee**, Chancellor's Research and Scholarship Award Ceremony 2023; Murphy Center, March 5, **2023**.
7. **NSF-funded I-Corps Spring 2023 Cohort**, East Carolina University, Spring **2023** (\$5000).
8. **Lead Guest Editor**, *Toxics* (MDPI), Special Issue: Deciphering Toxicology of Nanomaterials and Sustainable Nano-Based Products; **2023 – Present**.
9. **Lead Guest Editor**, *Journal of Xenobiotics* (MDPI), Special Issue: Sustainable Nanotechnology and Nano-based Product Development; **2023 – Present**.
10. Academic Editor, *Plants* (MDPI), **2021 – Present**.
11. **2022 Health Sciences Author Award**, presented by Laupus Library 2022 Health Sciences Authors Recognition Award Ceremony, Towne Bank Tower, East Carolina University.
12. **Most Valuable Professor (MVP)**, East Carolina University Volleyball Program, Nov. 6th, **2022**, Minges Coliseum, East Carolina University.
13. **NC Bioneer Venture Challenge Finalist**, March **2022**, selected as one of three finalists from eastern North Carolina.
14. **Educators Hall of Fame Inductee**, ECU College of Education, November **2021**.
15. **2021 Health Sciences Author Award**, presented by Laupus Library 2021 Health Sciences Authors Recognition Award Virtual Ceremony, East Carolina University.
16. **Council Member** (elected) for National Environmental Health, Science and Protection Accreditation Council (EHAC), **2021-2024, 2024-2027**.
17. **Editorial Board Member**, *Plants* (MDPI), **2020 - Present**
18. Nominated **Council Member** for National Environmental Health, Science and Protection Accreditation Council (EHAC), **2020** and **2021**
19. **Panel Member/Reviewer** appointed for ASPPH Objective Review for the *CDC Public Health Fellowship Program*, **Feb. 2018-Present**
20. **2020 Innovations Pitch Competition Finalist**, American Society of Tropical Medicine & Hygiene (ASTMH), October 2020.
21. **NSF Early Career Investigator Award**, presented by Sustainable Nanotechnology Organization (SNO), November 12th, 2020.

22. **2020 Health Sciences Author Award**, presented by Laupus Library 2020 Health Sciences Authors Recognition Award Virtual Ceremony, East Carolina University.
23. **Honored Instructor Award** 2019, Campus Living and the Residence Hall Association (RHA) East Carolina University, April 15th, 2019
24. **Innovation Award** 2019, Inaugural Innovation & Entrepreneurship @ RCAW-ECU. April 5th, 2019.
25. **Judge**, 2018 Philadelphia ACS Younger Chemists Committee (YCC) Poster Session, Temple University, Philadelphia, PA, April 10, 2018
26. **Outstanding Reviewer Award**, 2017 by Elsevier's Science of the Total Environment
27. **Chair** (Appointed), Awards and Merit Committee, Dept. of Epidemiology & Biostatistics., College of Public Health, Temple University, Oct. 2017 – June 2018
28. **Outstanding Research**, selected for Sci-Mix Presentation by the *ACS Colloidal Chemistry* at the 254th ACS National Meeting, Washington, DC, Aug. 20-24, 2017.
29. **NEHA/CDC Best Student Research Competition Award** 2012, AEHAP, San Diego, CA (\$1500)
30. **Adventus Americas Best Platform Presentation Award** 2011, Amherst, MA (\$1000)
31. **Graduate Research Council Grant Award**, East Tennessee State University, 2009 (\$500)
32. **First Place Award**, Appalachian Student Research Forum, TN, 2008 (\$150)

CURRENT PROJECTS

1. **Risk assessment of inhaled electronic cigarette aerosol among teens and adults with a focus on metals and flavorants.**
Role: Faculty Mentor for DrPH graduate Ashlee Davis.
2. **Risk assessment of PFAS congeners in drinking water in the US.**
Role: Faculty Mentor for DrPH student Brenda Sharpe.
3. **Risk assessment of metals in drinking water in West Virginia.**
Role: Faculty Mentor for DrPH student Linda Sharpe.
4. **Designing and developing safer and sustainable pesticides and therapeutics using novel nanomaterials.**
Role: Faculty PI and CEO

SCHOLARLY PUBLICATIONS

Peer-Reviewed Publications

(*Graduate student author; #Undergraduate student author) (52 Total)

1. Davis A*, **Pokhrel LR**, Kearney GD, Balanay JG, O'Brien K. Risk Assessment of Copper and Nickel Exposures from Electronic Cigarette Use Among Adults, Adolescents and Children. *In revision*.
2. Kearney GD, Imai S, Jones K, **Pokhrel LR**. Climate Change Perspectives and the Rural Paradox: Insights from Eastern North Carolina. *In revision*.
3. Curtis SA, White A, **Pokhrel LR**, Balanay JAG. Occupational Noise Exposure of Ushers during National Hockey League Games in an Indoor Arena. *Journal of Safety Research* 2025 (submitted)

4. Potter E*, Kearney GD, **Pokhrel LR**, Imai S; Xu H, Lasher T. Protecting Surface Water at the Source Saves Money at the Tap. *Journal of Water and Health* **2024** (submitted)
5. Bista S, Syangtan G, Darlami K, Chand AK, Bista S, Siddiqui MA, **Pokhrel LR**, Dawadi P, Joshi DR. Robotic versus manual disinfection of global priority pathogens at the COVID-19 dedicated hospitals. *American Journal of Infection Control* January 21, **2025**. DOI: [10.1016/j.ajic.2025.01.013](https://doi.org/10.1016/j.ajic.2025.01.013)
6. Heidarian F*, Fallah S, **Pokhrel LR**, Rostamnejadi A. Magnetite Nanoparticles (Fe₃O₄NP) Promote Drought Tolerance and Improve Plant Health, Grain Quality and Yield in Kidney Bean (*Phaseolus vulgaris* L.). *Science of the Total Environment* **2025**, 964(10), 178544. <https://doi.org/10.1016/j.scitotenv.2025.178544>
7. Majumdar N*, Pokharel BR, Dickerson A, Rajput S, **Pokhrel LR**, Cook PP, Akula SM. Micro-RNAs as Novel Biomarkers for HIV Antiretroviral Therapy Induced Obesity. *Functional & Integrative Genomics* (Springer Nature) (Manuscript ID # f66a5996-f305-47a4-9568-0ba9cb1bef4d)
8. Shirvani-Naghani S*, Fallah S, **Pokhrel LR**, Rostamnejadi A. Drought stress mitigation and improved yield in *Glycine max* through foliar application of zinc oxide nanoparticles. *Scientific Reports* **2024**, 14, 27898 (2024). <https://doi.org/10.1038/s41598-024-78504-1>.
9. Bauer AN*, Williams F, **Pokhrel LR**, Garcia S, Eells J, Cook PP, Akula SM. Evaluating molecular mechanism of viral inhibition of aerosolized Smart Nano-enabled Antiviral Therapeutic (SNAT) on SARS-CoV-2 infected hamsters. *Toxics* **2024**, 12(7), 495. <https://doi.org/10.3390/toxics12070495>
10. Ubah CS*, **Pokhrel LR**, Williams JE*, Akula SM, Richards SL, Kearney GD, Williams A. Antibacterial efficacy, mode of action, and safety of a novel nano-antibiotic against antibiotic-resistant *Escherichia coli* strains. *Science of the Total Environment* **2024**, 925, 171675. doi: 10.1016/j.scitotenv.2024.171675.
11. Yusefi-Tanha E*, Fallah S, **Pokhrel LR**, Rostamnejadi A. Role of particle size-dependent copper bioaccumulation-mediated oxidative stress on *Glycine max* (L.) yield parameters with soil-amended copper oxide nanoparticle treatment. *Environmental Science and Pollution Research* (Springer Nature) **2024**, 20 March. doi: 10.1007/s11356-024-33070-x.
12. Warner S*, **Pokhrel LR**, Akula SM, Ubah CS*, Richards SL, Jensen H[#], Kearney GD. A scoping review on the effects of Varroa mite (*Varroa destructor*) on global honey bee decline. *Science of the Total Environment* **2024**, 906:167492. <https://doi.org/10.1016/j.scitotenv.2023.167492>.
13. Ubah CS*, Kearney GD, **Pokhrel LR**. Asthma may not be a potential risk factor for severe COVID-19 illness. A scoping review. *Environmental Health Insights* **2023**, 18, 1-8. <https://doi.org/10.1177/11786302231221925>
14. Bauer AN*, Majumdar N, Williams F, Rajput S, **Pokhrel LR**, Cook PP, Akula SM. MicroRNAs: Small but key players in viral infections and the immune responses to viral pathogens. *Biology* **2023**, 12(10), 1334; <https://doi.org/10.3390/biology12101334>
15. Nekoukhou M*, Fallah S, **Pokhrel LR**, Abbasi-Surki A, Rostamnejadi A. Foliar co-application of zinc oxide and copper oxide nanoparticles promotes biomass, phytochemicals and essential oil production in dragonhead (*Dracocephalum moldavica*). *Science of the Total Environment* **2023**, 167519. <https://doi.org/10.1016/j.scitotenv.2023.167519>.

16. Khadka C, Shyaula M, Syangtan G, Bista S, Tuladhar R, Singh A, Joshi DR, **Pokhrel LR**, Dawadi P. Extended spectrum β -lactamases producing Enterobacteriaceae (ESBL-PE) prevalence in Nepal: A systematic review and meta-analysis. *Science of the Total Environment* **2023**, 901:166164. <https://doi.org/10.1016/j.scitotenv.2023.166164>
17. Yusefi-Tanha E*, Fallah S, **Pokhrel LR**, Rostamnejadi A. Addressing global food insecurity: Soil-applied zinc oxide nanoparticles promote yield attributes and seed nutrient quality in *Glycine max* L. *Science of the Total Environment* **2023**, 876:162762. doi: [10.1016/j.scitotenv.2023.162762](https://doi.org/10.1016/j.scitotenv.2023.162762).
18. Nekoukhou M*, Fallah S, **Pokhrel LR**, Abbasi-Surki A, Rostamnejadi A. Foliar enrichment of copper oxide nanoparticles promotes biomass, photosynthetic pigments, and commercially valuable secondary metabolites and essential oils in dragonhead (*Dracocephalum moldavica* L.) under semi-arid conditions. *Science of the Total Environment* **2023**, 863:160920. <https://doi.org/10.1016/j.scitotenv.2022.160920>
19. Dawadi P*, Odari R, Poudel RC, **Pokhrel LR**, Bhatt LR. Isolation of *Lactococcus garvieae* NEP21 from raw cow (*Bos indicus*) milk in Nepal. *Science of the Total Environment* **2022**, 861, 160641. <https://doi.org/10.1016/j.scitotenv.2022.160641>
20. Akula SM, Williams JF, **Pokhrel LR**, Bauer AN*, Rajput S, Cook PP. Cellular miR-6741-5p as a prognostic biomarker predicting length of hospital stay among COVID-19 patients. *Viruses* **2022**, 14(12):2681. <https://doi.org/10.3390/v14122681>
21. Nekoukhou M*, Fallah S, Abbasi-Surki A, **Pokhrel LR**, Rostamnejadi A. Improved efficacy of foliar application of zinc oxide nanoparticles on zinc biofortification, primary productivity and secondary metabolite production in dragonhead. *Journal of Cleaner Production* **2022**, 379, 134803. <https://doi.org/10.1016/j.jclepro.2022.134803>
22. Dawadi P*, Khadka C, Shyaula M, Syangtan G, Joshi TP, Pepper SH, Kanel SR, **Pokhrel LR**. Prevalence of Metallo- β -lactamases as a correlate of multidrug resistance among clinical *Pseudomonas aeruginosa* isolates in Nepal. *Science of the Total Environment* **2022**, 850:157975. <https://doi.org/10.1016/j.scitotenv.2022.157975>
23. Dawadi P*, Syangtan G, Lama B, Kanel SR, Joshi DR, **Pokhrel LR**, et al. Understanding COVID-19 situation in Nepal and implications for SARS-CoV-2 transmission and management. *Environmental Health Insights* **2022**. <https://doi.org/10.1177/11786302221104348>
24. **Pokhrel LR**, Williams F, Cook PP, O'Rourke D, Murray G, Akula SM. Preclinical safety and efficacy of novel SNAT against SARS-CoV-2 in a hamster model. *Drug Delivery and Translational Research* December 12:3007-3016, **2022**. <https://doi.org/10.1007/s13346-022-01166-x>. (Selected as Best Paper, 2022)
25. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Responses of soybean (*Glycine max* [L.] Merr.) to zinc oxide nanoparticles: understanding changes in root system architecture, zinc tissue partitioning and soil characteristics. *Science of the Total Environment* August, 835:155348, **2022**. <https://www.sciencedirect.com/science/article/abs/pii/S004896972202441X#!>
26. **Pokhrel LR**, Jacobs Z#, Dikin D, Akula SM. Five nanometer size highly positive silver nanoparticles are bactericidal targeting cell wall and adherent fimbriae expression. *Scientific Reports* 12, 6729, **2022** (Nature). DOI: 10.1038/s41598-022-10778-9 (<https://www.nature.com/articles/s41598-022-10778-9>).

27. Morris CL*, **Pokhrel LR**, Williams A, Iverson I. Understanding factors influencing indicator bacteria sampling outcomes in new private water wells in North Carolina, USA. *Groundwater for Sustainable Development* **2022**, 17:100759. DOI: <https://doi.org/10.1016/j.gsd.2022.100759> (This work was highlighted in the April 2022 Issue of the UNC Water Institute's *North Carolina Water News* newsletter).
28. **Pokhrel LR**, Jacobs Z[#], Dikin D, Akula SM. Near-atomic size highly positive silver nanoparticles are bactericidal targeting cell wall and adherent fimbriae expression. Preprint, *Research Square*, 09/01/2021. <https://doi.org/10.21203/rs.3.rs-848672/v1>
29. **Pokhrel LR**, Grady KD*. Risk Assessment of occupational exposure to Isoflurane anesthesia in the hospital and veterinary settings. *Science of the Total Environment* **2021**, 783:146894. <https://doi.org/10.1016/j.scitotenv.2021.146894>
30. White AV*, Wambui DW*, **Pokhrel LR**. Risk Assessment of Inhaled Diacetyl from Electronic Cigarette Use Among Teens and Adults. *Science of the Total Environment*, 30 January **2021**, 772:145486. doi:[10.1016/j.scitotenv.2021.145486](https://doi.org/10.1016/j.scitotenv.2021.145486)
31. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Root system architecture, copper uptake and tissue distribution in soybean (*Glycine max* (L.) Merr.) grown in copper oxide nanoparticle (CuONP) amended soil and implications for human nutrition. *Plants* **2020**, 9(10):1326. DOI: <https://doi.org/10.3390/plants9101326>
32. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Zinc Oxide Nanoparticles (ZnONPs) as a Novel Nanofertilizer: Influence on Seed Yield and Antioxidant Defense System in Soil Grown Soybean (*Glycine max* cv. Kowsar). *Science of the Total Environment* **2020**, 738:140240. DOI: <https://doi.org/10.1016/j.scitotenv.2020.140240>
33. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Zinc Oxide Nanoparticles (ZnONPs) as Nanofertilizer: Influence on Seed Yield and Antioxidant Defense System in Soil Grown Soybean (*Glycine max* cv. Kowsar). *bioRxiv* 2020.04.13.039644; doi: <https://doi.org/10.1101/2020.04.13.039644>
34. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Particle size and concentration dependent inhibition of copper oxide nanoparticles on seed yield and antioxidant defense system in soil grown soybean (*Glycine max* cv. Kowsar). *Science of the Total Environment* **2020**, 715:136994. DOI: <https://doi.org/10.1016/j.scitotenv.2020.136994>.
35. Rosen MB*, **Pokhrel LR**, Weir MH. A discussion about public health, lead and *Legionella pneumophila* in drinking water supplies in the United States. *Science of the Total Environment* **2017**, 590-591:843-852.
36. **Pokhrel LR**, Ettore N[#], Jacobs JL[#], Zarr A[#], Weir MH, Scheuerman PR; Kanel SR, Dubey B. Novel carbon nanotube (CNT)-based ultrasensitive sensors for trace mercury (II) detection in water. A review. *Science of the Total Environment* **2017**, 574:1379-1388.
37. **Pokhrel LR**, Bacon C*, Barbour L*. Nanotechnology-enabled agriculture is the future? *EC Nutrition* **2017**, 9.4:162-167. [Invited Editorial]
38. Ghasemi Siani N*, Fallah S, **Pokhrel LR**, Rostamnejadi A. Natural amelioration of Zinc oxide nanoparticles toxicity in fenugreek (*Trigonella foenum-gracum*) by arbuscular mycorrhizal (*Glomus intraradices*) secretion of glomalin. *Plant Physiology and Biochemistry* **2017**, 112:227-238.

39. Andersen CP, King G, Plocher M, Storm M, Pokhrel LR, Johnson MG, Rygiewicz PT. Germination and early plant development of 10 plant species exposed to TiO₂ and CeO₂ nanoparticles. *Environmental Toxicology and Chemistry* **2016**, 35(9):2223-9; DOI: 10.1002/etc.3374.
40. Pokhrel LR, Karsai I. Long-term sub-lethal effects of low concentration commercial herbicide (glyphosate/pelargonic acid) formulation in *Bryophyllum pinnatum*. *Science of the Total Environment* **2015**, 538:279-287.
41. Pokhrel LR, Andersen CP, Rygiewicz PT, Johnson MG. Preferential interaction of sodium over potassium with carboxylate-functionalized silver nanoparticles. *Science of the Total Environment* **2014**, 490:11-18.
42. Silva TU^{\$}, Pokhrel LR^{\$}, Dubey B, Tolaymat TM, Maier KJ, Liu X. Particle size, surface charge and concentration dependent ecotoxicity of three organo-coated silver nanoparticles: General linear model-predicted and observed toxicity. *Science of the Total Environment* **2014**, 468-469:968-976. [^{\$}equal contribution]
43. Pokhrel LR, Dubey B, Scheuerman PR. Natural water chemistry (dissolved organic carbon, pH, and hardness) modulates colloidal stability, dissolution kinetics and antimicrobial activity of silver nanoparticles. *Environmental Science: Nano* **2014**, 1:45-54.
44. Pokhrel LR, Dubey B. Global scenarios of metal mining, environmental repercussions, public policies, and sustainability: A review. *Critical Reviews in Environmental Science and Technology* **2013**, 43(21):2352-2388.
45. Pokhrel LR, Dubey B, Scheuerman PR. Impacts of select organic ligands on the colloidal stability, dissolution dynamics and toxicity of silver nanoparticles. *Environmental Science & Technology* **2013**, 47 (22):12877-12885.
46. Pokhrel LR, Dubey B. Evaluation of developmental responses of two crop plants exposed to silver and zinc oxide nanoparticles. *Science of the Total Environment* **2013**, 452-453:321-332.
47. Pokhrel LR, Karsai I, Laughlin TF, Hamed MK. Dorsal body pigmentation and sexual dimorphism in the marbled salamander (*Ambystoma opacum*). *Ethology Ecology and Evolution* **2013**, 25(3):214-226.
48. Pokhrel LR, Dubey B, Scheuerman PR. Evaluation of experimental design options in environmental nano-science research. *Expert Opinion on Environmental Biology* **2013**, 2(2):1-6.
49. Pokhrel LR, Dubey B, Silva T, El Badawy AM, Tolaymat TM, Scheuerman PR. Rapid screening of aquatic toxicity of several metal-based nanoparticles using the MetPLATE™ bioassay. *Science of the Total Environment* **2012**, 426:414-422.
50. Pokhrel LR, Dubey B. Potential impact of low-concentration silver nanoparticles on predator-prey interactions between predatory dragonfly nymphs and *Daphnia magna* as a prey. *Environmental Science & Technology* **2012**, 46(14):7755-7762.
51. Pokhrel LR, Dubey B. Untangling species sensitivity paradox in environmental research. *Expert Opinion on Environmental Biology* **2012**, 1(2):1-2. [Invited Editorial]

52. Pokhrel LR, Dubey B, Scheuerman PR. Pharmaceuticals in the aquatic environment: A critical appraisal of uncertainty and knowledge gaps in human health risk assessment. *Nesaj Patra* 2011, 8(1):4-13.

Book Chapters: Total 4

1. Kanel SR, Nadagouda MN, Nakarmi A, Malakar A, Ray C, Pokhrel LR. Assessment of Health, Safety and Economics of Surface Modified Nanomaterials for Catalytic Applications: A Review. Chapter 12. Edited by Gawande M, Hussain C, Yamauchi Y. *Elsevier* 2022, eISBN 9780128236024. <https://www.elsevier.com/books/surface-modified-nanomaterials-for-applications-in-catalysis/gawande/978-0-12-823386-3>
2. Pokhrel LR, Ubah CS*, Fallah S. Comprehensive Phytotoxicity Assessment Protocol for Engineered Nanomaterials. In: Pan X., Zhang B. (eds) *Environmental Toxicology and Toxicogenomics*. Methods in Molecular Biology 2021, 2326. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-1514-0_18
3. Pokhrel LR, Dean RL*, Jacobs ZL#, Burrows WB*. Nanotechnology-enabled point-of-use (POU) filters for drinking water disinfection. In: *Characterization Tools for Nanotechnology for Environment, Health and Safety*. Springer-Verlag Book Series Vol. 10, 2019; Editor: Challa SSR Kumar, Harvard University. Edition: Book Series Vol 10, Chapter: 7; Publisher: Springer-Verlag. DOI: https://doi.org/10.1007/978-3-662-59600-5_7
4. Pokhrel LR, Dubey B. Early developmental responses of plants exposed to metals and oxides nanomaterials. In: *Nanotechnology and Plant Sciences*. Springer-Verlag Publications 2015, 153-164.

Other Research Publications (Thesis, Dissertation, Protocols): Total 3

1. Pokhrel LR, Andersen CP. SOP for Purification of Engineered Nanoparticles Using the Tangential Flow Filtration (TFF) System. National Health and Environmental Effects Research Laboratory, Western Ecology Division, USEPA, OR. January 2015, Pages 1-12. DCN: EEB/CA/2015-01-r0.
2. Pokhrel LR. Evaluation of colloidal stability and ecotoxicity of metal-based nanoparticles in the aquatic and terrestrial systems. *Ph.D. Dissertation* 2013. *Electronic Theses and Dissertations*. Paper 1132.
3. Pokhrel LR. Mapping the Dorsal Skin Pigmentation Patterns of Two Sympatric Populations of Ambystomatid Salamanders, *Ambystoma opacum* and *A. maculatum*, from Northeast Tennessee. *Master's Thesis* 2009. *Electronic Theses and Dissertations*. Paper 1501751.

Professional Presentations (Poster/ Platform Presentations: *Graduate Student Author, #Undergraduate Student Author): Total 99

1. Pokhrel LR. BeeGlee – MiteFree. NC Biotechnology Center Flash Grant Impact Showcase, Durham, NC, Feb 25th, 2025. (Invited Poster Presentation)

2. Sharpe B[#], **Pokhrel LR**. Assessing the association between PFAS exposure, social determinants of health, and risk outcomes in adolescents and adults in the United States. RCAW, Greenville, NC, **2025**. (Virtual Presentation)
3. Garcia LC[#], **Pokhrel LR**. Evaluating Treatment Efficacy of a Novel Nano-Antibiotic against Drug-Resistant *Pseudomonas aeruginosa* Planktonic and Biofilm Forms in a COPD Model. AEHAP Student Research Competition, submitted 1/26/2025.
4. Garcia LC[#], **Pokhrel LR**. Evaluating Treatment Efficacy of a Novel Nano-Antibiotic against Drug-Resistant *Pseudomonas aeruginosa* Planktonic and Biofilm Forms in a COPD Model. RCAW, Greenville, NC, **2025**. (Poster)
5. Robinson MA[#], **Pokhrel LR**. Novel Nano-Stimulant Promotes Gut Probiotic Growth and Survival via pH Stabilization in Dairy Products. Annual Biomedical Research Conference for Minoritized Scientists, Pittsburgh, PA, Nov. 12-16th, **2024**. (Poster)
6. **Pokhrel LR**. Nanomedicine in 21st Century. Brody MS Biomedical Orientation, Greenville, NC, August 23rd, **2024**.
7. Garcia LC[#], **Pokhrel LR**. Evaluating Treatment Efficacy of a Novel Nano-Antibiotic against Drug-Resistant *Pseudomonas aeruginosa* Planktonic and Biofilm Forms in Chronic Obstructive Pulmonary Disease (COPD) Model. Brody Summer Biomedical Research Program (SBRP), Greenville, NC, June 26th, **2024**. (Poster)
8. Robinson MA[#], Garcia LC[#], **Pokhrel LR**. Novel Nano-Stimulant Promotes Gut Probiotic Growth and Survival via pH Stabilization in Dairy Products. NC GSK Summer Research Immersion Program, Greenville, NC, July 30th, **2024**. (Poster)
9. **Pokhrel LR**. Careers in Public Health and Introduction to ECU Department of Public Health. Health Sciences Career Presentation, Summer Biomedical Research Program (SBRP), Greenville, NC, June 12th, **2024**.
10. **Pokhrel LR**. BeeGlee – MiteFree. NSF I-Corps@ECU Conference, Greenville, NC, May 8th, **2024**. (Invited Poster Presentation)
11. **Pokhrel LR**. NoPest-Ag5: A nano-pesticide approach for *Varroa* control in honeybees. March Madness Open House Where Innovation Takes Center Court, *First Flight Venture Center*, RTP, NC, March 22nd, **2024**. (Invited Pitch Presentation)
12. Garcia LC[#], **Pokhrel LR**, Akula SM. Novel nano-antibiotic inhibits recurrent *Pseudomonas aeruginosa* infections in chronic muco-obstructive lung diseases (MOLDs). *Research and Creative Achievement Week (RCAW)*, Greenville, NC, April 2, **2024**. (Poster)
13. Garcia LC[#], **Pokhrel LR**. Novel nano-antibiotic inhibits recurrent *Pseudomonas aeruginosa* infections in chronic muco-obstructive lung diseases (MOLDs). *ECU Capture 180 Research Challenge*, Greenville, NC, April 1, **2024**. (Platform Presentation, **Finalist**)
14. **Pokhrel LR**. A novel NoPest-Ag5 for mosquito control. NC Mosquito Vector Control Association Annual Meeting, Carolina Beach, NC, Nov. 15th, **2023**. (Platform Presentation)
15. Jensen H[#], **Pokhrel LR**, Patel G[#], Akula SM. Nano-disinfectant for food packaging decontamination and extending postharvest fresh produce shelf life. NC GSK Summer Research Immersion Program, Greenville, NC, Aug. 8th, **2023**. (Poster)

16. Garcia S[#], Bauer A*, Williams F, **Pokhrel LR**, Akula SM. Novel nano-drug SNAT and its antiviral effects on hamsters. NC GSK Summer Research Immersion Program, Greenville, NC, Aug. 8th, **2023**. (Poster)
17. Kearney GD, Bynum M*, **Pokhrel LR**, Sousan S, Imai S. Enough is Enough: Workplace Satisfaction, Well-being, and Intent to Leave Job Among Environmental Public Health Workers in the U.S. NEHA 2023 Annual Educational Conference & Exhibition, New Orleans, July 31 - August 3, **2023**. (Poster)
18. Kearney GD, Bynum M*, Sousan S, **Pokhrel LR**, Imai S, Mannarino A. How Do You Stack Up? A Profile of the Environmental Health Workforce Capacity Across the U.S. (2021). NEHA 2023 Annual Educational Conference & Exhibition, New Orleans, July 31 - August 3, **2023**. (Poster)
19. **Pokhrel LR**. Entrepreneurships and Patenting. NC GSK Summer Research Immersion Program, Professional Development Seminar, Greenville, NC, July 7th, **2023**. (Seminar)
20. Ubah CS*, **Pokhrel LR**. Addressing hospital associated infections with novel nano-antimicrobial. 6th World nanotechnology Conference, Orlando, FL, April 24-26, **2023**. (Virtual Poster Presentation)
21. Ubah CS*, Kearney GD, **Pokhrel LR**. Risk of COVID-19 infections among patients with asthma: A scoping review. *International Scholar and Student Symposium*, ECU Blackbox Theater, April 4, **2023**. (Podium Presentation)
22. Ubah CS*, **Pokhrel LR**. Addressing nosocomial infections caused by antibiotic resistant bacteria using surface-functionalized nanoparticles. *ECU Research and Creative Achievement Week (RCAW)*, April 5, **2023**. (Poster)
23. Ubah CS*, Kearney GD, **Pokhrel LR**. Risk of COVID-19 infections among patients with asthma: A scoping review. *ECU Research and Creative Achievement Week (RCAW)*, April 5, **2023**. (Poster)
24. Knowles CA*, **Pokhrel LR**, Ubah CS. Decontamination of food packaging plastics using novel nano-antimicrobial and cool LED light. *ECU Research and Creative Achievement Week (RCAW)*, April 5, **2023**. (Poster)
25. Abioro E*, **Pokhrel LR**, Kearney GD. Multi-Source Exposure Assessment of Lead on Minority Populations and Homes in Pitt County, North Carolina. *ECU Research and Creative Achievement Week (RCAW)*, April 5, **2023**. (Poster)
26. Foley M, **Pokhrel LR**, Akula SM. Novel miRAG-5 as a therapeutic against respiratory syncytial virus (RSV). NSF I-CORPs@ECU, March 28, **2023**. (Platform Presentation, Virtual).
27. **Pokhrel LR**. A novel honeybee safe ecofriendly nanopesticide, NoPest-Ag5, for *Aedes aegypti* mosquito control. 11th Sustainable Nanotechnology Organization (SNO) Meeting, Austin, TX, Nov. 11-13, **2022**. (Poster)
28. Dawadi P*, Syangtan G, Lama B, Joshi DR, Pepper SH*, Kanel SR, **Pokhrel LR**, et al. Meta-analysis of clinical *Pseudomonas aeruginosa* isolates in Nepal: Prevalence and correlation with multidrug resistance. *Virtual ORBCRE Symposium*. Global Change and

Sustainability: Water Resources in Ohio River Basin Youngstown State University, Youngstown, OH. October 6-7, **2022**. (Invited Presentation)

29. Warner S*, **Pokhrel LR**, Richards SL. NoPest-Ag5: A non-toxic and non-ecopersistent nanotechnology-based pesticide. *Summer 2022 ECU Innovation Ambassadors Program*, July 27, **2022**. (Selected as one of two presentations out of 180 projects at ECU for Final Presentation)
30. **Pokhrel LR**. Novel NoPest-Ag5 for mosquito control. NC Bioneer Venture Challenge Competition. NC Biotechnology Center, ECU Main Students Center, May 23, **2022**.
31. Donnelly S*, **Pokhrel LR**. Making a “Go” Decision: Market Feasibility for a Novel, Low-Toxicity Household Pesticide. Poster. *Innovation and Entrepreneurship Showcase Event at RCAW*, April 8, **2022**. <https://gradschool.ecu.edu/wp-content/uploads/sites/118/2020/02/Innovation.png>
32. Sabu S*, **Pokhrel LR**. Understanding inhibitory efficacy of novel nanobubbles and nanoparticles against nosocomial infections. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 4, **2022**. <https://symposium.foragerone.com/rcaw2022/presentations/39131>
33. Ubah CS*, **Pokhrel LR**. Addressing hospital associated infections with novel nano-antimicrobial. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 4, **2022**. <https://symposium.foragerone.com/rcaw2022/presentations/39173>
34. Williams J*, **Pokhrel LR**. Toward mitigating nosocomial infections with surface functionalized nano-antibacterial agent. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 4, **2022**. <https://symposium.foragerone.com/rcaw2022/presentations/39111>
35. Knowles CA*, **Pokhrel LR**. Food packaging decontamination with novel nano-antimicrobial. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 4, **2022**. <https://symposium.foragerone.com/rcaw2022/presentations/38959>
36. **Pokhrel LR**, Knowles CA*, Williams J*. Addressing global public health through innovation. **Seminar**. *ECU Department of Public Health*, February 24, **2022**.
37. **Pokhrel LR**. Nano-Metal Organic Framework for Mosquito Control. 45th Annual Meeting of the Mid Atlantic Mosquito Control Association (MAMCA), February 23rd, **2022**. Platform Presentation (Virtual).
38. Williams J*, **Pokhrel LR**. Toward mitigating nosocomial infections with surface functionalized nano-antibacterial agent. *AEHAP 2022 Student Research Competition (SRC)*, February 18, **2022** (First place winner).
39. Yusefi-Tanha E*, Fallah S, Rostamnejadi A, **Pokhrel LR**. Effect of nano zinc oxide and zinc chloride on essential nutrients, protein, oil and zinc content in soybean (*Glycine max L.*) seed. *1st International and 5th National Seed Science and Technology Conference of Iran*, February 9-10, **2022** (Conference Paper).
40. Suarez CA*, **Pokhrel LR**, Humphrey CP, O’Driscoll M, Lee J. Surface functionalized electrically conductive membranes for aqueous 1,4-Dioxane removal. Poster. *AEHS*

Foundation 37th Annual International Conference on Soils, Sediments, Water, and Energy, October 18-21, 2021.

41. White AV*, Wambui DW*, **Pokhrel LR**. Risk Assessment of Inhaled Diacetyl from Electronic Cigarette Use Among Teens and Adults. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 5-9, 2021.
<https://youtu.be/CcnuXEXrFm0>
42. Ubah CS*, **Pokhrel LR**. Nanobodies as potential antiviral agents against SARS-CoV-2/COVID-19. *ECU Research and Creative Achievement Week (RCAW)*, April 5-9, 2021.
<https://youtu.be/I5-4UJfnnTU>
43. Sabu S*, **Pokhrel LR**. Higher efficacy of nanoparticles when combined with common antibiotics against nosocomial infections. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 5-9, 2021. <https://youtu.be/BeM75uWaDcM>
44. Suarez CA*, **Pokhrel LR**, Humphrey CP, O'Driscoll M, Lee J. 1,4-Dioxane removal from drinking water using Nano-ECM. Poster. *ECU Research and Creative Achievement Week (RCAW)*, April 5-9, 2021. <https://www.youtube.com/watch?v=cpUw1KMynAg>
45. **Pokhrel LR**. Near-atomic size novel nanotechnology-based NoPest-Ag5 that effectively kills mosquitos is safer to honey bees, *Apis mellifera* L. ACS National Meeting Macromolecular Chemistry: The Second Century. *ACS Division of Agriculture and Food Chemistry*. Poster. April 21, 2021.
46. **Pokhrel LR**, Jacobs ZL*, Dikin D. Bactericidal effects of near-atomic size amino-functionalized silver nanoparticles via cell wall damage and adherent fimbriae inhibition. ACS National Meeting Macromolecular Chemistry: The Second Century. *ACS Division of Medicinal Chemistry*. Poster. April 21, 2021.
47. **Pokhrel LR**. Nanotechnology and Global Public Health. **Seminar**. *North Dakota State University*, Department of Civil and Environmental Engineering, April 19, 2021 (delivery via Zoom).
48. Morris CL*, **Pokhrel LR**, Williams A, Iverson I. Factors Influencing Indicator Bacteria Sampling Results in New Water Wells in North Carolina, USA. ACS National Meeting Macromolecular Chemistry: The Second Century. *ACS Current Status of Environmental Research on Water Contaminants*. Oral Presentation. April 5-16, 2021.
<https://acs.digitellinc.com/acs/live/player/32402>
49. Ubah CS*, **Pokhrel LR**. Nanobodies as potential antiviral agents against SARS-CoV-2/COVID-19. ACS National Meeting Macromolecular Chemistry: The Second Century. *ACS Division of Medicinal Chemistry*. Poster. April 21, 2021.
50. Suarez CA*, **Pokhrel LR**, Humphrey CP, O'Driscoll M, Lee J. Nano-modified electrically conducting membranes (Nano-ECM) for 1,4-Dioxane removal from drinking water. ACS National Meeting Macromolecular Chemistry: The Second Century. *ACS Current Status of Environmental Research on Water Contaminants*. Poster. April 5-16, 2021.
51. **Pokhrel LR**, Fallah S. NSF-E09-Arbuscular mycorrhizal fungus protects plant from nanophytotoxicity. *9th Nano Conference, Sustainable Nanotechnology Organization (SNO)*

and Nanotechnology, Occupational and Environmental Health (Nano-OEH), November 12th, 2020.

52. **Pokhrel LR.** Smart Rapid-Acting Antiviral Therapy (Smart-RAAT) against COVID-19. *ASTMH Pitch Competition*, October 23, 2020. (Finalist; \$1000)
53. Suarez CA*, **Pokhrel LR**, Burrows WB*. Nanotechnology-based Electrically Conductive Membrane (Nano-ECM) for Nitrate Removal from Drinking Water. *North Carolina Public Health Association (NC PHA)*. Poster. October 7th, 2020.
54. Suarez CA*, **Pokhrel LR.** Enhanced Nitrate Removal from Drinking Water Using Nanotechnology-enabled Electrically Conductive Membrane (Nano-ECM). *2020 National Environmental Health Association's Annual Education Conference, Student Research Competition*. New York, NY. Platform Presentation. Submitted. Feb. 27th, 2020. (**Cancelled** due to COVID-19)
55. Suarez CA*, **Pokhrel LR**, Burrows WB*. Nanotechnology-based Electrically Conductive Membrane (Nano-ECM) for Nitrate Removal from Drinking Water. *Natural Resources and Environmental Cluster*, East Carolina University. Poster. April 3rd, 2020. (**Cancelled** due to COVID-19)
56. Suarez CA*, **Pokhrel LR**, Burrows WB*. Use of Silver Nanoparticle-based Electrically Conductive Membrane (Nano-ECM) for the Removal of Nitrate from Drinking Water. *2020 CHHE Research and Innovation Day Poster session*, University of North Carolina Wilmington, March 23rd, 2020. (**Cancelled** due to COVID-19)
57. Suarez CA*, **Pokhrel LR**, Burrows WB*. Nanotechnology-based Electrically Conductive Membrane (Nano-ECM) for Nitrate Removal from Drinking Water. *Innovation & Entrepreneurship @ RCAW-ECU*. Poster. April 1st, 2020.
58. **Pokhrel LR.** Nano-Metal Organic Framework for Mosquito Control. **45th Annual Meeting of the Mid Atlantic Mosquito Control Association (MAMCA)**, Greenville, SC, February 20th, 2020.
59. White AV*, **Pokhrel LR.** Silver Nano-pesticide for Mosquito-borne Arboviral Disease Control. *North Carolina Mosquito Control and Vector Association (NCMVCA)*. Carolina Beach, NC, Oral presentation, December 10-12, 2019.
60. White AV*, **Pokhrel LR.** Functionalized Nanopesticide for Mosquito-borne Arboviral Disease Control. *Innovation & Entrepreneurship @ RCAW-ECU*. April 5th, 2019. Poster. **Innovation Award Winner.**
61. Dean RL*, **Pokhrel LR.** Toward Next Generation PVC Pipe Material for Water Infrastructure. *National Public Health Week*. East Carolina Heart Institute. Poster, April 4th, 2019.
62. Dean RL*, **Pokhrel LR.** Toward Next Generation PVC Pipe Material for Water Infrastructure. *Innovation & Entrepreneurship @ RCAW-ECU*. April 5th, 2019. Poster. **Innovation Award Winner.**
63. **Pokhrel LR.** A Critical Appraisal of the Risks and Benefits of Iron and PVC Pipes in Drinking Water Systems. Invited Speaker at 47th Annual Meeting of the PVC Pipe in North

America: Celebrating More Than Sixty Years of Success. San Diego, CA, March 11-13, **2019**.

- 64. Pokhrel LR.** Nanotechnology-enabled agriculture and public health. Nanoscale Science and Engineering for Agriculture and Food Systems: Gordon Research Conference, South Hadley, MA, US, June 3-8, **2018**.
- 65. Ubah CS***, **Pokhrel LR**, Dikin D. Differential effects of monovalent cations and anions on key nanoparticle physico-chemical attributes. Philadelphia ACS Younger Chemists Committee (YCC) Poster Session, Temple University, Philadelphia, PA, April 10, **2018**.
- 66. Pokhrel LR.** Engineering hybrid nanosystem (HNS) as a novel sustainable tool for Zika vector *Aedes aegypti* control. 254th ACS National Meeting, Washington DC, Aug. 20-24, **2017 (Selected for Sci-Mix as Outstanding Poster)**.
- 67. Ubah CS***, **Pokhrel LR**, Dikin D. Evaluation of Particle Characteristics (Size, Size Distribution, Surface Charge) of a Nanoformulation using the Dynamic Light Scattering (DLS) System. Philadelphia Symposium on Cross Disciplinary Analytical Approaches, Temple University College of Engineering, June 10, **2017**.
- 68. Ubah CS***, **Pokhrel LR**, Dikin D. Evaluation of Particle Characteristics (Size, Size Distribution, Surface Charge) of a Nanoformulation using the Dynamic Light Scattering (DLS) System. Temple University CPH Research Day, April 21, **2017**.
- 69. Pokhrel LR**, Dikin D. Developing ecofriendly–hybrid nanosystem (Eco–HNS) for controlling pandemic Zika vector *Aedes aegypti* L. Environmental Research in the Changing Climate, Temple University, Philadelphia, March 29, **2017**.
- 70. Jacobs ZL[#]**, **Pokhrel LR**. Low-cost Sustainable Nanotechnology-based Filter for Point-Of-Use Water Purification for Poor Economies. Temple University CPH Research Day, April 21, **2017**.
- 71. Rosen MB***, **Pokhrel LR**, Dubey B. Evaluation of Multiple Heavy Metals and Metalloids in Glass Beads Used in Retroreflective Road Markings. Philadelphia ACS Younger Chemists Committee (YCC) Poster Session, University of the Sciences, Philadelphia, PA, March 27, **2017**.
- 72. Rosen MB***, **Pokhrel LR**, Dubey B. Evaluation of Multiple Heavy Metals and Metalloids in Glass Beads Used in Retroreflective Road Markings. ACS 252 National Meeting, Philadelphia, PA, August 21-25, **2016**.
- 73. Rosen MB***, **Pokhrel LR**, Dubey B. Assessing Risk of Multiple Heavy Metals and Metalloids in Glass Beads Used in Retroreflective Road Markings. CPH Research Day, Temple University, Philadelphia, April 20, **2016**.
- 74. Zika in the US: What Environmental Health and Pest Management Professionals Need to Know.** EEK (Enhancing Environmental Health Knowledge) – Vectors and Public Health Pests Virtual Conference Sponsored by CDC’s National Center for Environmental Health and National Environmental Health Association (NEHA). April 13, **2016**.
- 75. Joining Forces in the Fight against Zika: The NIH Response.** Virtual Conference Sponsored by *ACS Infectious Diseases*. 11:00 AM, April 14, **2016**.

76. Jacobs ZL[#], **Pokhrel LR**. Low-cost Sustainable Nanotechnology-based Filter for Point-Of-Use Water Purification for Poor Economies. Temple Undergraduate Research Forum and Creative Works Symposium (TURF-CreWS), April 14, **2016**.
77. Jacobs ZL[#], **Pokhrel LR**. Low-cost Sustainable Nanotechnology-based Filter for Point-Of-Use Water Purification for Poor Economies. Philadelphia ACS Younger Chemists Committee (YCC) Poster Session, University of the Sciences, Philadelphia, PA, Feb 22, **2016**.
78. Jacobs ZL[#], **Pokhrel LR**. Towards low-cost sustainable nanotechnology-based filter for point-of-use water purification. Temple University CPH Research Day, April 28, **2015**. (**Dean's Undergraduate Research Award**)
79. **Pokhrel LR**, Dubey B. General linear model-predicted and observed toxicity of three organo-coated silver nanoparticles: Impacts of particle size, surface charge and dose. Platform presentation at World Environmental & Water Resources Congress, Portland, OR, 1-6, June **2014**.
80. Andersen CP, Rygiewicz PT, Johnson MG, **Pokhrel LR**, Reichman J. Chemical Safety for Sustainability (CSS) Connectome Research Planning Meeting for EPA Chemical Safety for Sustainability Research program. Research Triangle Park, NC, May 5-6, **2014**.
81. Andersen CP, Rygiewicz PT, Johnson MG, Reichman J, Tumburu L, **Pokhrel LR**, Ho K, Burgess R, Parks A, Wang H, Li S. Ecotoxicology of selected nanomaterials in freshwater, marine, and terrestrial systems. *CSS 2014 Nanotechnology, Scientist-to-scientist Meeting*, Research Triangle Park, NC, February 24-25, **2014**.
82. Andersen CP, King G, Plocher M, Storm M, Rygiewicz PT, **Pokhrel LR**. Germination and early plant development of 10 plant species exposed to TiO₂ and CeO₂ nanoparticles. Poster presented at SETAC North America 34th Annual Meeting, Nashville, TN, 17-21 Nov **2013**.
83. **Pokhrel LR**, Silva TU, Dubey B. Modulation of silver nanoparticle toxicity by particle characteristics (size and charge) and suspension chemistry. *Elsevier Environmental Health 2013, Science and Policy to Protect Future Generations*, Boston, Massachusetts, USA, 3-6 March **2013**.
84. Dubey B, **Pokhrel LR**. Opportunities for nanoparticle research. Invited presentation at University Consortium for Field-Focused Groundwater Contamination Research Program, Annual Progress Meeting: The Arboretum, University of Guelph, ON, Canada, June 12-14, **2012**.
85. **Pokhrel LR**, Dubey B, Scheuerman PR. Developmental phytotoxicity of silver and zinc oxide nanoparticles to the crop plants. *NEHA Conference*, San Diego, CA, June 28-30, **2012**. (**NEHA/CDC/AEHAP Student Competition Research Award Winner**).
86. **Pokhrel LR**. How small is different: Nanomaterials in the environment. *East Tennessee State University, Department of Environmental Health, Seminar series*, October 30, **2012**.
87. **Pokhrel LR**, Scheuerman PR, Dubey B. Ecological risk assessment of zinc oxide nanoparticles. *Proceedings of the 2nd International Conference on Environmental Pollution and Remediation*, Montreal, Canada, August 28-30, **2012**.

88. Pokhrel LR, Dubey B. Metal mining industry: Global production statistics, potential environmental effects, mitigation techniques, and sustainability. *13th Intl Symposium on Environmental Issues and Waste Management in Energy and Mineral Production SWEMP 2012*, New Delhi, India, November 28-30, **2012**.
89. Pokhrel LR, Dubey B, Scheuerman PR. Potential developmental toxicity of silver and zinc oxide nanoparticles to the terrestrial plants. *28th Int'l Conference on Soil, Sediment, Water, and Energy*, Amherst, MA, October 15-18, **2012**.
90. Pokhrel LR, Scheuerman PR, Tolaymat TM, Dubey B. Potential impacts of metal nanoparticles on the growth and development of crop plants. *Appalachian Student Research Forum*, Johnson City, TN, April 5, **2012**.
91. Pokhrel LR, Dubey B. Silver and zinc oxide nanoparticles cause developmental anomalies in the terrestrial plants. *Tennessee Environmental Conference*, Kingsport, TN, March 13-14, **2012**.
92. Pokhrel LR, Dubey B, Singhal N. Assessing the environmental risks from road marking glass beads. *Tennessee Environmental Conference*, Kingsport, TN, March 13-14, **2012**.
93. Pokhrel LR, Silva T, El Badawy AM, Tolaymat TM, Dubey B. Evaluation of aquatic toxicity of nanoscale silver, zinc oxide, titanium dioxide and cadmium selenide quantum dots, and their ionic particulates to the MetPLATE™ bioassay. *27th Int'l Conference on Soil, Sediment, Water, and Energy*, Amherst, MA, October 17-20, **2011 (Adventus Americas Best Platform Presentation Award Winner)**.
94. Pokhrel LR, Silva TU, El Badawy AM, Tolaymat TM, Dubey B. Evaluation of aquatic toxicity of nanoscale silver, zinc oxide, titanium dioxide and cadmium selenide quantum dots, and their ionic particulates to the MetPLATE™ bioassay. *Gordon Research Conference*, New Hampshire, NH, May 29-June 3, **2011**.
95. Pokhrel LR, Silva TU, El Badawy AM, Tolaymat TM, Dubey B. Evaluation of aquatic toxicity of nanoscale silver, zinc oxide, titanium dioxide and cadmium selenide quantum dots, and their ionic particulates to the MetPLATE™ bioassay. *Appalachian Student Research Forum*, Johnson City, TN, March 24, **2011**.
96. Pokhrel LR, Dubey B. Nanoecotoxicity and human health: Where do we stand? *Appalachian Student Research Forum*, Johnson City, TN, March 24, **2011**.
97. Pokhrel LR, Dubey B. Nanoecotoxicity and human health: Where do we stand? *Tennessee Environmental Conference*, Kingsport, TN, March 15-16, **2011**.
98. Pokhrel LR, Dubey B. Investigation of the environmental fate, transport, and transformation of silver nanoparticles in the waste disposal systems. *Appalachian Student Research Forum*, Johnson City, TN, April 8, **2010**.
99. Pokhrel LR, Karsai I. Mapping the dorsal skin pattern of spotted salamanders, *Ambystoma maculatum*. *Appalachian Student Research Forum*, Johnson City, TN, April 2-3, **2008 (First Place Award Winner)**.

DrPH and PhD Students Mentored/Advised
2018-Present

1. Linda Sharpe (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Fall 2023-Present**): *Health Risk Assessment of Arsenic and Manganese Contamination in West Virginia's Community Water Systems*
2. Brenda Sharpe (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Fall 2023-Present**): *Risk assessment of PFAS exposure and social determinants among children and adults in the United States using the NHANES data*
3. Lentz Dorcely (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Fall 2023-Present**): *Evaluating Differences in Virginia's Regional Vulnerability to Climate Change Effects on Water-borne Diseases*
4. Jan Jaminal (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Spring 2024-Present**): *Food Establishment Complaint and Mapping System*
5. Crystal Dailey (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Spring 2024-Present**): *Exploring the Impact of Extreme Heat among Vulnerable Populations in North Carolina*
6. Ashlee Davis (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Fall 2021-Spring 2024**): *Understanding Risk of Electronic Cigarettes*
7. Elizabeth Abioro (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Spring 2022-Fall 2023**): *Understanding Lead in Homes in Pitt County, NC*
8. Chukwudi S. Ubah (East Carolina University; DrPH Dissertation Chair, Environmental and Occupational Health, **Fall 2020- Fall 2023**): *Nano-antimicrobial Agents against Hospital Acquired Infections*
9. Avian White (East Carolina University; Environmental and Occupational Health, **Fall 2019-Spring 2021**): *Risk Assessment of Inhaled Diacetyl from Electronic Cigarette Use among Teens and Adults*
10. David Wambui (East Carolina University; Environmental and Occupational Health, **Fall 2020-Spring 2021**): *Risk Assessment of Heavy Metals in Electronic Cigarette Use among Teens and Adults*
11. Avian White (East Carolina University; DrPH Dissertation Advisor, Environmental and Occupational Health, **Fall 2018-Spring 2019**): *Surface Modified Nanomaterials for Mosquito Control*
12. Niska Majumdar (East Carolina University; PhD Dissertation Committee Member, Biomedical Science, **Spring 2024-Present**): *Using miRNA to Determine How Antiretroviral Drugs in Treating HIV Compare in Terms of Causing Obesity as an Adverse Effect*
13. Fatemeh Heidarian (Shahrekord University; PhD Dissertation Committee Member, Agronomy, **Fall 2023-Present**): *Understanding Phytotoxicity of Metal and Oxide Nanomaterials*
14. Shahin Shirvani-Naghani (Shahrekord University; PhD Dissertation Committee Member, Agronomy, **Spring 2023-Present**): *Understanding Phytotoxicity of Metal and Oxide Nanomaterials*

15. Marjan Nekokhoo (Shahrekord University; PhD Dissertation Committee Member, Agronomy, **Spring 2020-Fall 2023**): *Understanding Phytotoxicity of Metal and Oxide Nanomaterials in Medicinal Plants*
16. Elham Yusefi Tanha (Shahrekord University; PhD Dissertation Committee Member, Agronomy, **Spring 2018-Spring 2022**): *Understanding Phytotoxicity of Metal and Oxide Nanomaterials*
17. Joseph Kusi (East Tennessee State University; PhD Dissertation Committee Member, Environmental Health, **Fall 2016- Spring 2020**): *Ecological Toxicity of Silver Based Nanoparticles*

MPH Students

At ECU (2018-Present)

1. Quaid Lawler (East Carolina University; MPH Supervisor, Public Health, **Spring 2025-Present**): *Novel nanomedicine to address periodontal bacteria *Fusobacterium nucleatum**
2. Caroline Knowles (East Carolina University; MPH Supervisor/Advisor, Public Health, **Fall 2021-Spring 2023**): *Addressing Foodborne Illnesses through Food Packaging Decontamination using Novel Antimicrobial*
3. Summer Warner (East Carolina University; MPH Supervisor, Public Health, **Fall 2022**): *Protecting honey bees from varroa mites using NoPet-Ag5*
4. Stephiya Sabu (East Carolina University; MPH Supervisor/Advisor, Public Health, **Fall 2020-Summer 2022**): *Understanding Synergistic Effects of Silver Nanoparticles and Antibiotics against Hospital Acquired Infections*
5. Derrick Almond (East Carolina University; MPH Supervisor, Public Health, **Fall 2020**): *Understanding the Stability and Toxicity of Silver Nanoparticles*
6. Elijah Brooks (East Carolina University; MPH Supervisor/Advisor, Public Health, **Spring 2020-Fall 2020**): *Combined Effects of Silver Nanoparticles and Antibiotics against Antibiotic Resistance Bacteria*
7. Makenzie Staples (East Carolina University; MPH Supervisor, Epidemiology, **Summer 2019**): *Surface Functionalized Silver Nanoparticles for Mosquito Control*
8. Rebecca Dean (East Carolina University; MPH Supervisor/Advisor, Public Health, **Fall 2018-Spring 2019**): *Developing Nano-modified Next-Generation PVC Pipes for Safe Drinking Water*
9. William Burrows (East Carolina University; MPH Supervisor/Advisor, Public Health, **Spring 2019-Fall 2019**): *Removal of Nitrates from Drinking Water using Electrically Conducting Membranes*

MSEH Students

At ECU (2018-Present)

1. Samantha Curtis (East Carolina University; MSEH Committee Member, Environmental Health, **Fall 2022-Spring 2024**): *Assessing Noise Risk Among Attendees and Employees at National Hockey Games*
2. Jobert Exsatel (East Carolina University; MSEH Committee Member, Environmental Health, **Fall 2021-Present**): *Assessing Heat Stress Risk*
3. Jordan Williams (East Carolina University; MSEH Supervisor/Advisor, Environmental Health, **Fall 2020-Summer 2022**): *Surface Modified Nanomaterials as Antimicrobial Agents against Nosocomial Infections*
4. Corey Morris (East Carolina University; MSEH Advisor, Environmental Health, **Fall 2019-Fall 2021**): *Bacterial Sampling Outcomes in Private Drinking Wells in North Carolina*
5. Collins Suarez (East Carolina University; MSEH Thesis Advisor, Environmental Health, **Fall 2019-Summer 2021**): *Electrically Conducting Membranes for 1,4-Dioxane Removal from Drinking Water*
6. Randolph Leon (East Carolina University; MSEH Advisor, Environmental Health, **Fall 2019-Spring 2020**): *Understanding Water Infrastructures and Risks at US Army Installations*
7. Samantha Pepper Haskett (East Carolina University; MSEH Advisor, Environmental Health, **Spring 2020- Fall 2020**): *Understanding Antibiotic Resistance In Bacterial and Human Health Implications*
8. Seneca Toms (East Carolina University; MSEH Advisor, Environmental Health, **Fall 2019- Fall 2020**): *Understanding Legionella in Drinking Water*
9. Jordan Mazzara (East Carolina University; MSEH Supervisor, Environmental Health, **Fall 2019**): *Surface Functionalized Silver Nanoparticles for Mosquito Control*

MS Students

At ECU (2022-Present)

1. Anais Bauer (East Carolina University; MS Microbiology and Immunology Thesis Committee Member, **Fall 2022-Fall 2023**): *Understanding SNAT Effects in SARS-CoV-2-Infected Hamster Lungs*
2. Shannon Donnelly (East Carolina University; MS Student; I-Corps Project Supervisor, **Spring 2022**): *NoPest-Ag5 for Roach Control*

Undergraduate Students

At ECU (2023-Present)

3. Lauren Garcia (ECU, Advisor, EH/Honors Student, **Spring 2024-Summer 2024**): *Understanding efficacy of nano-antimicrobial against recurrent Pseudomonas infections in chronic muco-obstructive airway diseases such as COPD and Cystic Fibrosis.*
4. Miah Robinson (Fayetteville State University, BS Supervisor, **Summer 2024**): *Nanostimulant to enhance growth and survival of probiotic bacteria Bifidobacterium in yogurt.*

5. Gauri Patel (ECU, Advisor, Honors Student, **Summer 2023**): *Understanding efficacy of nano-antimicrobial against Pseudomonas infections.*
6. Heidi Jensen (Chowan University; NC GSK Summer Research Immersion Program, **Summer 2023**): *Nano-disinfectant for Food Packaging Decontamination and Extending Postharvest Fresh Produce Shelf Life.*
7. Selena Garcia (North Carolina Central University, NC GSK Summer Research Immersion Program, **Summer 2023**, co-mentored with Dr. Akula): *Novel Nano-drug SNAT and its Antiviral Effects on Hamsters.*

Prior to ECU (2013-2018)

Graduate Students (MPH + PhD)

1. Narges Ghasemi Siani (Shahrekord University; PhD Dissertation Committee Member, Agronomy, **Jan. 2016-Jan. 2017**): *Understanding Phytotoxicity of Metal and Oxide Nanomaterials*
2. Chukwudi S. Ubah (Temple University; Mentor, MPH in Environmental Health, **Spring 2017-Spring 2018**): *Understanding Environmental Chemistry of Nanomaterials*
3. Divya Singh (IIT New Delhi; PhD Dissertation External Reviewer, Nanotoxicology, **June 2016-Sept. 2016**): *Understanding Environmental Chemistry and Toxicity of Nanomaterials*
4. Kisha Grady (Temple University; MPH Advisor, Environmental Health, **Spring 2018-Summer 2018**): *Risk Assessment of Waste Anesthesia Isoflurane in Hospital and Veterinary Settings*
5. Anubhav Jain (Temple University; MPH Supervisor, Epidemiology, **Fall 2017-Summer 2018**): *Understanding Nanotoxicity*
6. Shane McLaughlin (Temple University; MPH Supervisor, Environmental Health, **Spring 2018**): *Understanding Nanotoxicity*
7. Katherine Johnston (Temple University; MPH Supervisor, Social and Behavioral Science, **Spring 2018**): *Impacts of Hydraulic Fracking on Human Health and the Environment*
8. Michael Rosen (Temple University; MPH Advisor, Environmental Health, **Spring 2016-Spring 2017**): *Risk Assessment of Heavy Metals in Retroreflective Glass Beads Used in Road Markings*
9. Caitlyn Bacon (Temple University; MPH Supervisor, Social and Behavioral Science, **Spring 2017-Summer 2017**): *Nanotechnology-enabled agriculture is the future?*
10. Liliana Barbour (Temple University; MPH Supervisor, Social and Behavioral Science, **Spring 2017-Summer 2017**): *Nanotechnology-enabled agriculture is the future?*

SERVICE ACTIVITIES (Fall 2018 - Present)

University

1. Member, Faculty Senate, Honorary Degrees, Awards, and Distinctions Committee, 2024-2026

2. Faculty at Large Rep., ECU Safety and Security Committee (formerly, Environmental Safety Committee), 2020-2023, 2024-2027
3. Faculty Mentor, NC GlaxoSmithKline Foundation STEMM Undergraduate Research Summer Immersion Program, Summer 2023, Summer 2024
4. Faculty Mentor, Brody Summer Biomedical Research Program (SBRP), Summer 2024
5. Judge, Research and Creative Activity Week (RCAW), Graduate and Postdoctoral Posters, 2019 - Present
6. Member, ECU Libraries Committee, 2020-2022
7. Affiliate Member, Natural Resources and Environment (NRE) Research Cluster, 2018-Present
8. Affiliate Member, NC Agromedicine Institute, 2019-Present

Department/ College/ School

1. Created New Core Course, MPH 6064 Public Health Principles, Fall 2023-Summer 2024
2. Program Director, PHFP Certificate Graduate Program, Fall 2021 – Present
3. Chair, PHFP Certificate Admission Committee, Fall 2021 – Present
4. Co-chair, DrPH EOH Steering Committee, Spring 2022 – Fall 2022
5. Member, MPH Admission Committee, Fall 2021 – Spring 2023
6. Member, MPH Curriculum/ ReVision Committee, Fall 2021 – Present
7. Member, DrPH EOH Curriculum Committee, Sept. 2018 – Present
8. Member, DrPH EOH Admission Committee, Sept. 2018 – Present
9. Member, DrPH EOH Comprehensive Exam, Spring 2020 – Present
10. Member, MSEH Comprehensive Exam (EHST 5010 Toxicology), Sept. 2018 – Spring 2022
11. Member, MSEH Admission Committee, Dept. of Health Education and Promotion, Sept. 2018 – May 2021
12. Member, HEP Diversity Committee, 2020 – 2021
13. Participated in HEP Advancement Council Meeting, January 31st, 2021
14. Member, School of Rural Public Health (SRPH) Research Committee, Nov. 2018 – Dec. 2020
15. Member, SRPH Code Committee, HEP Environmental Health Program, Jan. 2019 – Dec. 2020

National

1. Council Member (Elected), National Environmental Health Council, Science and Protection Accreditation Council (EHAC), 2021 – 2024, 2024 – 2027
 - Self-Study Reviewer (3 Universities, 2022, 2023, 2024)
 - Site Visit Team, Member (1 University, April 2024)
 - EHAC Strategic Planning-Accreditation Committee
 - EHAC Bylaws and Policy Committee, Member
 - EHAC Graduate Policy Committee, Member
 - EHAC Undergraduate Requirements Revision Committee, Member

2. Review Panel Member (Invited) for Graduate Women in Science (GWIS) National Fellowship Program (www.gwis.org), April 2020 – Present
3. Review Panel Member (Invited) for US EPA SBIR Phase I Program for Safer Chemicals, Nov. 2019 – Present
4. Review Panel Member (Invited) for ASPPH/ CDC Public Health Fellowship Program, Feb. 2018 – Present
5. Review Panel Member (Invited) for USDA/NIFA, August 2024 – Present
6. External Expert Reviewer for USEPA Cincinnati and USEPA Corvallis, 2016 – Present

International

1. National Science Center of Poland, Expert Reviewer (2020-Present)
2. Research Grants Council (RGC) of Hong Kong, Expert Reviewer (2021-Present)
3. Advisory Board Member, Activist Summit, Nepal, 2020-2021
4. Editorial Board Member, Plants (2020-Present)
5. Editorial Board Member, EC Nutrition (2017-2021)
 6. Lead Guest Editor, Toxics (2023-Present)
 7. Lead Guest Editor, Journal of Xenobiotic (2023-Present)
 8. Expert Reviewer (Invited) for 28 Peer Reviewed Journals (see list below)

Peer Reviewer (Ad Hoc) for International Journals

	Journal	Role	Year
1.	PLoS One	Reviewer	2021 - Present
2.	ACS Sustainable Chemistry and Engineering (ACS)	Reviewer	2022 - Present
3.	Process Safety and Env. Protection (Elsevier)	Reviewer	2023 - present
4.	Ground Water and Sustainable Dev. (Elsevier)	Reviewer	2020 - present
5.	Plants (MDPI)	Reviewer	2020 - present
6.	SpringerPlus (Springer)	Reviewer	2020 - present
7.	Chemosphere (Elsevier)	Reviewer	2019 - present
8.	Plant Biology (Wiley)	Reviewer	2019 - present
9.	BMJ Open (BMJ)	Reviewer	2018 - present
10.	Scientific Reports (Nature)	Reviewer	2018 - present
11.	Environmental Science & Technology (ACS)	Reviewer	2017 - present
12.	Environmental Monitor. and Assess. (Springer)	Reviewer	2017 - present
13.	Environmental Pollution (Elsevier)	Reviewer	2017 - present
14.	International J. of Phytoremed. (Taylor & Francis)	Reviewer	2016 - present
15.	Environmental Research (Elsevier)	Reviewer	2016 - present
16.	Journal of Nanoparticle Research (Springer)	Reviewer	2016 - present
17.	Plant Physiology and Biochemistry (Elsevier)	Reviewer	2016 - present
18.	EC Nutrition (ECronicon)	Reviewer	2016 - present
19.	NanoImpact (Elsevier)	Reviewer	2014 - present
20.	RSC Advances (RSC)	Reviewer	2013 - present
21.	Analyst (RSC)	Reviewer	2013 - present

22. CrystEngComm (RSC)	Reviewer	2013 - present
23. New Journal of Chemistry (RSC)	Reviewer	2013 - present
24. Archives of Agron. Soil Science (Taylor & Francis)	Reviewer	2013 - present
25. Sensors (MDPI)	Reviewer	2013 - present
26. Journal of Chemistry (Hindawi)	Reviewer	2013 - present
27. African J. Biochem. Res. (Academic Journals)	Reviewer	2013 - present
28. Science of The Total Environment (Elsevier)	Reviewer	2011 - present

PROFESSIONAL MEMBERSHIPS

- 2020-Present Member, Sustainable Nanotechnology Organization (SNO)
- 2020-Present Member, South Carolina Mosquito Control Association
- 2020-Present Member, Mid-Atlantic Mosquito Control Association
- 2019-Present Member, North Carolina Agromedicine Institute (NCAI)
- 2019-Present Member, National Center for Faculty Development & Diversity (NCFDD)
- 2018-Present Member, Association of Inhalation Toxicologists (AIT)
- 2015-Present Member, Council on Undergraduate Research (CUR)
- 2013-Present Member, American Chemical Society (ACS)
- 2010-Present Member, Tennessee Environmental Health Association (TEHA)
- 2010-2012 Member, Association for Environmental Health and Sciences Foundation (AEHS)

OTHER SIGNIFICANT HIGHLIGHTS

- Dr. Pokhrel was interviewed by **various news outlets** on his research on Smart Nano-enabled Antiviral Agent (SNAT) against SARS-CoV-2. June 2022. Available at:
https://www.witn.com/2022/06/21/ecu-researchers-study-breakthrough-covid-19-treatment/?fbclid=IwAR2gA28dTq8_ICR_Iw8ObEG7XuXkCis9Fkh7vTKqH49mgVbcMSa_aYrhWw4
https://news.ecu.edu/2022/06/16/fighting-covid-19/?fbclid=IwAR1W-x1ke5r_s8VxOZzDGpm16KvkyM1UQkMD_-16LvWsUvnnvEeaMRbtrXw
<https://vimeo.com/720659454> (Password: ECU)
https://www.reflector.com/news/local/ecu-researchers-explore-new-tech-for-treating-covid-virus/article_7e0a9153-60f8-5285-bb1a-263453c8d9ac.html
<https://spectrumlocalnews.com/nc/charlotte/news/2022/06/21/covid-nanotechnology>
- Dr. Pokhrel was interviewed by **WNCT 9** on the human health risk of diacetyl in electronic cigarettes. Feb. 26, 2021. Available at:
<https://www.wnct.com/on-your-side/health-watch/ecu-researchers-discuss-negative-health-risks-associated-with-e-cigarettes/>
- Dr. Pokhrel was featured in **The Daily Reflector** for his research in electronic cigarettes, Sunday-Monday, Feb. 28-March 1, 2021. Available at:

https://www.reflector.com/news/local/ecu-notes-honors-college-builds-ecu-community-school-partnership/article_df65ad02-8a4d-5791-8a23-4fcddab6f68f.html

4. Dr. Pokhrel was featured in **The East Carolinian** for his research in electronic cigarettes, Feb. 25, 2021. Available at:
http://www.piratemedial.com/theeastcarolinian/article_f580b4e2-77ce-11eb-b952-7bfdb1f3b808.html
5. Dr. Pokhrel was featured in **ECU News**, Feb. 17, 2021 on E-cigarette flavoring risks. Available at: <https://news.ecu.edu/2021/02/17/e-cigarette-flavoring-risks/>
6. Dr. Pokhrel was interviewed by *Science* magazine on *Legionella* study. Feb 5th, 2018. Available at:
http://www.sciencemag.org/Legionella_chlorine-residual
7. Dr. Pokhrel was quoted in *The Scientist* on *Legionella* study. Feb 7th, 2018. Available at:
<https://www.the-scientist.com/Legionnaires-Outbreak-Chlorine-Residual>