THE UNIVERSITY OF TEXAS
Cockrell School of Engineering
Standard Resume

FULL NAME: Navid B. Saleh **TITLE:** Associate Professor

FELLOWSHIP: Chevron Centennial Fellowship in Engineering #1

DEPARTMENT: Civil, Architectural and Environmental Engineering

EDUCATION:

Bangladesh University of Engineering and Technology	Civil Engineering	B.S.	2001
Carnegie Mellon University	Civil and Environmental Engineering	M.S.	2004
Carnegie Mellon University	Civil and Environmental Engineering	Ph.D.	2007

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

University of South Carolina	Assistant Professor	Jan 2009-Dec 2013
University of Texas at Austin	Assistant Professor	Jan 2014-Aug 2017
University of Texas at Austin	Associate Professor	Sept 2017-present

OTHER PROFESSIONAL EXPERIENCE:

Yale University	Postdoctoral Associate	Jun 2007-Dec 2008

HONORS AND AWARDS:

Amgen Lecturer, Oct 22, 2020, University of Rhode Island, College of Engineering, Kingston, RI.
Chevron Centennial Fellowship in Engineering #1, September 2020-present.

Research profile highlighted in SNO Newsletter, Summer, 2020.

Best paper awards 2019 for papers published in ES: Nano and ES: Water Res & Tech.

Recognized by Services for Students with Disabilities at UT, December18, 2019.

Top 10 reviewer of Environmental Science: Nano, February 28, 2018.

Top 10 reviewer of Environmental Science: Nano, September 15, 2016.

Emerging Investigator Award, 2015, awarded by the Royal Society of Chemistry and Sustainable Nanotechnology Organization; November 08, 2015, Portland, OR.

Honorable Mention for Poster Presentation, 1st Sustainable Nanotechnology Conference, Nov, 2012.

Explicitly highlighted in USC College of Engineering Brochure for Outstanding Research Performance, Oct, 2009.

Best Poster Award, Gordon Research Conference, Environmental Sciences: Water, 2008.

Outstanding Teaching Assistant Award, Carnegie Mellon University, Pittsburgh, PA, 2007.

Quantitative Environmental Analysis (QEA), LLC Graduate Scholarship 2006-2007.

ACS Environmental Chemistry Graduate Student Award, 2006.
ACS 'Environmental Interfaces' Travel Grant Award, 2006.
Sigma XI Grant in Aid of Research Award 2005-2006.
Air & Waste Management Association (A&WMA) Award, 2005-2006.

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

American Chemical Association
American Society for Engineering Education
Association of Environmental Engineering and Science Professors
Sustainable Nanotechnology Organization

UNIVERSITY COMMITTEE ASSIGNMENTS:

Member, Strategic Vision Implementation Committee, CAEE, UT Austin, Fall 2014-Spring 2017
Member, Distinguished Lecturer Committee, CAEE, UT Austin, Fall 2015-Fall 2018
Member, EWRE Seminar Organization Committee, Fall 2015-Fall 2016
Chair, EWRE Seminar Organization Committee, Fall 2016-Fall 2017
Member, Academic Support Committee, Cockrell School of Engineering, Fall 2018-present
Member, EWRE Faculty Search Committee, CAEE, UT Austin, Spring 2018-Fall 2018
Member, CAEE Computational and Data Skills Task Force, Fall 2017-Spring 2018
Member, CAEE Graduate Policies, Fellowships, and Recruitment Committee, Fall 2019-present
Member, CAEE Student Experience Committee, Fall 2019-present
Lead, Undergraduate Research Award Sub-Committee, Fall 2019-present
EWRE Graduate Advisor, Fall 2019 (1/2 time)-present
EWRE Graduate Advisor, Fall 2020 (full-time)-present
Member, CAEE Awards Committee, Fall 2020-present

OTHER UNIVERSITY SERVICES:

Reviewer for 2018 Creative Grants Competition conducted by the Office of the Vice President of Research (October, 2018)

Reviewer for 2019 Creative Grants Competition conducted by the Office of the Vice President of Research (October, 2019)

Reviewer for 2019 Undergraduate Research Fellowship (URF) Grants Competition (October, 2019)

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

Journal Editorship

Associate Editor, Journal of Hazardous Materials, an Elsevier Journal with one of the highest impact factors among all environmental science and engineering journals (IF of 9.038); June 2019-present.

Guest Editor, Emergent Materials, a newly launched Springer Journal on advanced materials; special issue titled: "Advanced materials and technologies for wastewater engineering, treatment, and reuse"; June 2020-present.

Guest Editor, Nanomaterials (IF of 4.034); special issue titled: "Sustainable and Safe Nano-enabled Treatment Applications"; May 2018-March 2020. Handled 12 papers in total.

Editorial Board

Editorial Advisory Board Member, Environmental Science & Technology, An American Chemical Society (ACS) Journal, which is widely accepted to be the leading environmental science and engineering journal (IF of 7.684); January 2021-December 2023.

Editorial Advisory Board Member, Environmental Science: Nano, A Royal Society of Chemistry Journal with the highest impact factor among all environmental science and engineering journals (IF of 7.704); March 2016-present.

Professional Society Leadership

President-elect, Sustainable Nanotechnology Organization; November, 2020-October, 2023
Sustainable Nanotechnology Organization Council Member; November, 2019-present

Service to Professional Society

Chair, Emerging Investigator Awards Committee, Sustainable Nanotechnology Organization; January 2020-present
Member, AEESP Awards Committee, Association of Environmental Engineering & Science Professors; January 2020-present

Journal Reviewer

Accounts of Chemical Research, American Chemical Society Applied Materials and Interfaces, American Chemical Society Nano, American Chemical Society Sustainable Chemistry and Engineering, Bioorganic and Medicinal Chemistry Letters, Carbon, Chemical Engineering Journal, Chemosphere, Civil Engineering Infrastructure Journal, Colloids and Surfaces A, Critical Reviews in Environmental Science and Technology, Environmental Earth Sciences, Environmental Pollution, Environmental Science: Nano, Environmental Science: Water Research and Technology, Environmental Science and Pollution Research, Environmental Science & Technology, Industrial and Engineering Chemistry Research, Journal of American Chemical Society, Journal of Colloid and Interface Sciences, Journal of Contaminant Hydrology, Journal of Environmental Toxicology and Chemistry, Journal of Materials Chemistry A, Journal of Nanomedicine, Journal of Physical Chemistry, MRS Advances, Nanotoxicology, Nature Nanotechnology, Reviews in Chemical Engineering, Particulate Science and Technology, Separation and Purification Technology, Scientific Reports (nature group), Water Research.

Research Proposal Reviewer

National Science Foundation, 2011, 2012, 2013, 2016, 2018, 2019
AAAS Proposal Competition, 2018, 2019
U.S. Environmental Protection Agency P3 competition, 2020,
U.S. Environmental Protection Agency National Priorities Panel, 2020

COMMUNITY ACTIVITIES:
Conference/Workshop Chair/Co-Chair

University of Texas:

Chair of "Transmission, Prediction, Treatment, and Public Health Experiences Learned During COVID-19 Pandemic" Workshop, 9th Annual Meeting of Sustainable Nanotechnology Organization (SNO), Denver, CO (*virtual meeting*), November 12-13, 2020.

Co-Chair of "Sustainable Water Treatment and Remediation" Session, 9th Annual Meeting of Sustainable Nanotechnology Organization (SNO), Denver, CO (*virtual meeting*), November 12-13, 2020.

Special Advisor to the Conference Organizing Committee, International Conference on Sustainable Energy-Water-Environment Nexus in Desert Climate, Doha, Qatar, December, 2019.

Co-Chair of "Nanotechnology for Water Treatment and Remediation" Session, 8th Annual Meeting of Sustainable Nanotechnology Organization (SNO), San Diego, CA, November 07-09, 2019.

Discussion leader of the "Colloidal State Machines" panel on the "2D Nanomaterials for Human Health and the Environment Workshop", 8th Annual Meeting of Sustainable Nanotechnology Organization (SNO), San Diego, CA, November 06, 2019.

Co-Chair of a WQTC session in American Water Works Association Conference, November 05, 2019, Dallas, TX titled, "Opportunities and Barriers to Implementing Nano-Enabled Water Treatment Processes".

Instructor of "Research Methodology" workshop, University of Asia Pacific, Dhaka, Bangladesh.
Co-Chair, 257th ACS National Meeting, Orlando, FL, March 31-April 04, 2019, "Emerging Issues on & Horizon Technologies for Water Disinfection".

Attendee (invited) of Workshop on Nanomaterials for Subsurface Remediation, Nankai University, Tianjin, China, May 21-22, 2018.

Co-Chair of a session in 255th ACS National Meeting, New Orleans, LA, August 18-22, 2017, "The Physics and Chemistry of Water Treatment: Symposium in Honor of Professor Desmond F. Lawler".

Chair of Nanoeducation Session, 6th Annual Meeting of Sustainable Nanotechnology Organization (SNO), Los Angeles, CA, November 05-07, 2017.

Organizer of a nanoeducation workshop titled: Inspiring students and faculty at the interface of nano and water treatment, February 25, 2017, Oaxaca, Mexico.

Co-organizer of a pedagogical workshop titled: A workshop on nano education: Integration of social and ethical implications via problem based learning, Fall 2016, University of Texas at Austin.

Co-Chair (Principal Organizer) of 252nd ACS National Meeting, Philadelphia, PA, August 21-25, 2016, "Nanotechnology for Sustainable Agriculture and Food Systems".

Co-Chair (Principal Organizer), 8th International Nanotoxicological Congress, Boston, MA, June 1-4, 2016, "Environmental Applications and Implications of Active Nanomaterials, Hierarchical Nanostructures, and Nanohybrids".

Co-Chair, 90th ACS Colloid and Surface Science Symposium, Harvard University, Cambridge, MA, June 5-8, 2016, "Colloidal and Interfacial Phenomena in Environmental Systems".

Co-Chair, 249th ACS National Meeting, Denver, CO, March 22-26, 2015, "Dispersion of nanoparticles and its implications for interfacial, biological, and environmental processes: Sorption and dispersion".

Chair, Fate and Transport of Nanomaterials Session, 3rd Annual Meeting of Sustainable Nanotechnology Organization (SNO), Boston, MA, November 02-04, 2014.

Attendee (invited), Research workshop on NanoEHS: Fundamental Science Needs**,** 3rd Annual Meeting of Sustainable Nanotechnology Organization (SNO), Boston, MA, November 01, 2014.

University of South Carolina:

Chair and Chief Organizer, NUE: Workshop on Problem-Based Learning for Nanotechnology, Columbia, SC, August 19-20, 2013.

Chair, Functional Nanomaterials for Trace Contaminant Detection, Removal, and Monitoring, 12th International Conference on the Biogeochemistry of Trace Elements, Athens, Georgia, June 16 – 20, 2013

Chair, Nanomaterials Interaction at Biological Interfaces, Division of Environmental Chemistry, American Chemical Society (ACS) Annual Meeting, San Diego, CA, March 25-29, 2012.

Chair, Role of Physicochemical Properties in Nanotoxicology**,** Environmental Effects of Nanoparticles and Nanomaterials, SETAC-Clemson University, Aug 22-26, 2010, Clemson, SC.

Graduate and Postdoctoral Training:

Chair, Colloidal and Interfacial Phenomena in Aquatic Systems (09019), Environmental Division**,** American Institute of Chemical Engineers (AIChE) Annual Meeting, Philadelphia, PA, November 16-21, 2008.

PUBLICATIONS:

A. Refereed Archival Journal Publications (in print or accepted: 83; h-index: 31, i-10 index: 58; Citation: >7700)

Underlining indicates supervised graduate student(s) or postdoc(s); [§]indicates visiting scholar(s); [†]indicates undergraduate advisee(s).

University of Texas:

UT-1. Bisesi Jr., J. H., Merten, J., Liu, K., Parks, A. N., Afrooz, A. R. M. N., Glenn, J. B., Klaine, S. J., Kane, A. S., Saleh, N. B., Ferguson, P. L., Sabo-Attwood, T. (January, 2014). Tracking and Quantificaiton of Single-Walled Carbon Nanotubes in Fish Using Near Infra-Red Fluorescence. *Environmental Science & Technology*. *48 (3)*, 1973-1983. DOI: 10.1021/es4046023.

UT-2. Aich, N., Kim, E., ElBatanouny, M., Plazas-Tuttle, J., Yang, J., Ziehl, P., Saleh, N. B. (May, 2014). Detection of Crack Formation and Stress Distribution on Carbon Fiber Reinforced Polymer Specimens Through Triboluminescent-Based Imaging. *Journal of Intelligent Material Systems and Structures*. 1-8. DOI: 10.1177/1045389X14535017.

UT-3. Saleh, N. B., Afrooz, A. R. M. N., Bisesi Jr., J. H., Aich, N., Plazas-Tuttle, J., Sabo-Attwood, T. (June, 2014). Emergent Properties and Toxicological Considerations for Nanohybrid Materials in Aquatic Systems. *Nanomaterials*. *4*, 372-407. DOI: 10.3390/nano4020372.

UT-4. Aich, N., Plazas-Tuttle, J., Lead, J. R., Saleh, N. B. (December, 2014). A Critical Review of Nanohybrids: Synthesis, Applications and Environmental Implications. *Environmental Chemistry*. *11*, 609-623. DOI: 10.1071/EN14127. (*Cover article*).

UT-5. Sanpui, P., Zheng, X., Loeb, J. C., Bisesi Jr., J. H., Khan, I. A., Afrooz, A. R. M. N., Liu, K., Badireddy, A. R., Wiesner, M. R., Ferguson, P. L., Saleh, N. B., Lednicky, J. A., Sabo-Attwood, T. (December, 2014). Single-Walled Carbon Nanotubes Increase Pandemic Influenza A H1N1 Virus Infectivity of Lung Epithelial Cells. *Particle and Fibre Toxicology*. *11 (66)*, 1-15. DOI: 10.1186/s12989-014-0066-0.

UT-6. Afrooz, A. R. M. N., Hussain, S. M., Saleh, N. B. (December, 2014). Aggregate Size and Structure Determination of Nanomaterials in Physiological Media: Importance of Dynamic Evolution. *Journal of Nanoparticle Research*. *16 (12)*, 2771. DOI: 10.1007/ s11051-014-2771-x.

UT-7. Saleh, N. B., Aich, N., Plazas-Tuttle, J., Lead, J. R., Lowry, G. V. (February, 2015). Research Strategy to Determine When Novel Nanohybrids Pose Unique Environmental Risks. *Environmental Science: Nano*. *2 (1)*, 11-18. DOI: 10.1039/C4EN00104D. (*Cover article*).

UT-8. Khan, I. A., Flora, J. R. V., Afrooz, A. R. M. N., Aich, N., Schierz, P. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. (May, 2015). Change in Chirality of Semiconducting Single-Walled Carbon Nanotubes Can Overcome Anionic Surfactant Stabilization: A Systematic Study of Aggregation Kinetics. *Environmental Chemistry*. *12 (6)*, 652-661. DOI: 10.1071/EN14176.

UT-9. Bisesi Jr., J. H., Ngo, T., Ponnavolu, S., Liu, K., Lavelle, C. M., Afrooz, A. R. M. N., Saleh, N. B., Ferguson, P. L., Denslow, N. D., Sabo-Attwood, T. (June, 2015). Examination of Single-Walled Carbon Nanotubes Uptake and Toxicity from Dietary Exposure: Tracking Movement and Impacts in the Gastrointestinal System. *Nanomaterials*. *5 (2)*, 1066-1086. DOI: 10.3390/nano5021066.

UT-10. Plazas-Tuttle, J., Rowles III, L. S., Chen, H., Bisesi Jr., J. H., Sabo-Attwood, T., Saleh, N. B. (June, 2015). Dynamism of Stimuli-Responsive Nanohybrids: Environmental Implications. *Nanomaterials*. *5 (2)*, 1102-1123. DOI: 10.3390/nano5021102.

UT-11. Saleh, N. B., Chambers, B., Aich, N., Plazas-Tuttle, J., Phung-Ngoc, H. N., Kirisits, M. J. (July, 2015). Mechanistic Lessons Learned from Studies of Planktonic Bacteria with Metallic Nanomaterials: Implications for Interactions Between Nanomaterials and Biofilm Bacteria. *frontiers in Microbiology. 6*, 1-8. DOI: 10.3389/fmicb.2015.00677.

UT-12. Grassian, V. H., Haes, A. J., Mudunkotuwa, I. A., Demokritou, P., Kane, A. B., Murphy, C. J., Hutchison, J. E., Isaacs, J. A., Jun, Y.-S., Karn, B., Khondaker, S. I., Larsen, S. C., Lau, B. L. T., Pettibone, J. M., Sadik, O. A., Saleh, N. B., Teague, C. (February, 2016). NanoEHS – Defining Fundamental Science Needs: No Easy Feat When the Simple Itself is Complex. *Environmental Science: Nano*. *3 (1)*, 15-27. DOI: 10.1039/C5EN00112A.

UT-13. Aich, N., Boateng, L. K., Sabaraya, I. V., Das, D., Flora, J. R. V., Saleh, N. B. (February, 2016). Aggregation Kinetics of Higher-Order Fullerene Clusters in Aquatic Systems. *Environmental Science & Technology*. *50 (7)*, 3562-3571. DOI: 10.1021/acs.est.5b05447.

UT-14. Afrooz, A. R. M. N., Das, D., Murphy, C. J., Vikesland, P. J., Saleh, N. B. (August, 2016). Co-transport of Gold Nanospheres with Single-Walled Carbon Nanotubes in Saturated Porous Media. *Water Research. 99*, 7-15. DOI: 10.1016/j.watres.2016.04.006.

UT-15. Saleh, N. B., Milliron, D. J., Aich, N., Katz, L. E., Liljestrand, H. M., Kirisits, M. J. (October, 2016). Importance of Doping, Dopant Distribution, and Defects on Electronic Band Structure Alteration of Metal Oxide Nanoparticles: Implications for Reactive Oxygen Species. *Science of the Total Environment. 568*, 926-932. DOI: 10.1016/j.scitotenv.2016.06.145.

UT-16. Das, D., Plazas-Tuttle, J., Sabaraya, I. V., Jain, S. S., Sabo-Attwood, T., Saleh, N. B. (October, 2016). An Elegant Method for Large Scale Synthesis of Metal Oxide-Carbon Nanotube Nanohybrids for Nano-environmental Application and Implication Studies. *Environmental Science: Nano*. *4*, 60-68. DOI: 10.1039/C6EN00294C.

UT-17. Bisesi, J., Robinson, S., Lavelle, C., Ngo, T., Castillo, B., Crosby, H., Liu, K., Das, D., Plazas-Tuttle, J., Saleh, N. B., Ferguson, P., Denslow, N., Sabo-Attwood, T. (December, 2016). Influence of the gastrointestinal environment on the bioavailability of ethinyl estradiol sorbed to single-walled carbon nanotubes. *Environmental Science & Technology*. *51,* 948-957. DOI: 10.1021/acs.est.6b04728.

UT-18. Abtahi, S. M. H., Burrows, N. D., Idesis, F. A., Murphy, C. J., Saleh, N. B., Vikesland, P. J. (January, 2017). Sulfate Mediated End-to-End Assembly of Gold Nanorods. *Langmuir*. *33*, 1486-1495. DOI: 10.1021/acs.langmuir.6b04114.

UT-19. Saleh, N. B., Das, D., Plazas-Tuttle, J., Yang, D., Bonis-O'Donnell, J. T. D., Landry, M. P. (March, 2017). Importance and challenges of environmental ligand binding and exchange: Introducing single molecule imaging as a model characterization technique. *NanoImpact*. *6*, 90-98. DOI: 10.1016/j.impact.2017.03.005.

UT-20. Humes, S. T., Hentschel, S., Lavelle, C. M., Smith, L. C., Lednicky, J. A., Saleh, N. B., Sabo-Attwood, T. (June, 2017). Overcoming qRT-PCR interference by select carbon nanotubes in assessments of gene expression. *BioTechniques. 63*, 81-84. DOI: 10.21.44/000114578.

UT-21. Plazas-Tuttle, J., Das, D., Sabaraya, I. V., Saleh, N. B. (November, 2017). Harnessing the power of microwaves for water disinfection with nanohybrids. *Environmental Science: Nano. 5*, 72-82 (*cover article*). DOI: 10.1039/C7EN00702G.

UT-22. Rowles III, L. S., Alcalde, R., Bogolasky, F., Kum, S., Diaz-Arriaga, F. A., Ayres, C., Mikelonis, A. M., Toledo-Flores, L. J., Alonso-Gutiérrez, M. G., Pérez-Flores, M. E., Lawler, D. F., Ward, P. M., Lopez-Cruz, J. Y., Saleh, N. B. (November, 2017). Perceived versus actual water quality: Community studies in rural Oaxaca, Mexico. *Science of the Total Environment. 622-623,* 626-634. DOI: 10.1016/j.scitotenv.2017.11.309.

UT-23. Chen, H., Zheng, X., Humes, S., Loeb, J., Robinson, S., Bisesi, J. H., Das, D., Saleh, N. B., Castleman, W., Lednicky, J., Sabo-Attwood, T. (December, 2017). Single-walled carbon nanotubes modulate pulmonary immune responses and increase pandemic influenza A virus titers in mice. *Virology. 14,* 242. DOI: 10.1186/s12985-017-0909-z.

UT-24. Sabaraya, I. V.; Filonzi, A.; Hajj, R.; Das, D.; Saleh, N. B.; Bhasin, A. (December, 2017). Ability of nanomaterials to effectively disperse in asphalt binders for use as a modifier. *Journal of Materials in Civil Engineering. 30*, 04018166-1-8. DOI: 10.1061/(ASCE)MT.1943-5533.00023.

UT-25. Das, D., Sabaraya, I. V., Sabo-Attwood, T., Saleh, N. B. (May, 2018). Insights into Metal Oxide and Zero-Valent Metal Nanocrystal Formation on Multiwalled Carbon Nanotube Surfaces During Sol-gel Process. *Nanomaterials. 8,* 403-1-10. DOI: 10.3390/nano8060403.

UT-26. Isaac, K. M., Sabaraya, I. V., Ghousifam, N., Das, D., Pekkanen, A., Long, T. E., Saleh, N. B., Rylander, M. N. (June, 2018). Functionalization of single-walled carbon nanohorns for simultaneous fluorescence imaging and cisplatin delivery. *Carbon. 138,* 309-318. DOI: 10.1016/j.carbon.2018.06.020.

UT-27. Das, D., Sabaraya, I. V., Zhu, T., Sabo-Attwood, T., Saleh, N. B. (June, 2018). Aggregation Behavior of Multiwalled Carbon Nanotube-Titanium Dioxide Nanohybrids: Probing the Part-Whole Question. *Environmental Science & Technology*. *52*, 8233-8241. DOI: 10.1021/acs.est.7b05826.

UT-28. Shi, L., Zhuo, S., Abulikemu, M., Mettela, G., Palaniselvam, T., Rasul, S., Tang, B., Yan, B., Saleh, N. B., Wang, P. (August, 2018). Annealing Temperature Effects on Photoelectrochemical Performance of Bismuth Vanadate Thin Film Photoelectrodes. *RSC Advances*. *8*, 29179. DOI: 10.1039/c8ra04886h.

UT-29. [§]Al-Masri, D. A., Saleh, N. B., McKay, G., Atieh, M. A., Ahzi, S. (November, 2018). Adsorption of phosphate on iron oxide doped halloysite nanotubes. *Scientific Reports. 9*, 3232. DOI: 10.1038/s41598-019-39035-2.

UT-30. Saleh, N. B., Khalid, A., Tian, Y., Ayres, C., Sabaraya, I. V., Pietari, J., Hanigan, D., Chowdhury, I., Apul, O. G. (December, 2018). Removal of poly- and per-fluoroalkyl substances from aqueous systems by nano-enabled water treatment technologies. *Environmental Science: Water Research & Technology. 5,* 198-208. DOI: 10.1039/c8ew00621k (*best frontier paper, 2019*).

UT-31. Abtahi, S. M. H., Trevisan, R., Giulio, R. D., Murphy, C. J., Saleh, N. B., Vikesland, P. J. (February, 2019). Implications of Aspect Ratio on the Uptake and Nanotoxicity of Gold Nanomaterials to Corbicula fluminea. *NanoImpact. 14,* 100153. DOI: 10.1016/j.impact.2019.100153.

UT-32. Smith, L., Moreno, S., Saleh, N. B., Das, D., Orandle, M., Robinson. S., Porter, D., Sabo-Attwood, T. (March, 2019). Multi-walled carbon nanotubes inhibit estrogen receptor expression in vivo and in vitro through transforming growth factor beta1. *NanoImpact. 14,* 100152. DOI: 10.1016/j.impact.2019.100152.

UT-33. Merryman, A. E., Sabaraya, I. V., Rowles III, L. S., [†]Toteja, A., [†]Carrillo, S. I., Sabo-Attwood, T., Saleh, N. B. (March, 2019). Interaction between functionalized multiwalled carbon nanotubes and MS2 bacteriophages in water. *Science of the Total Environment*. *670*, 1140-1145. DOI: 10.1016/j.scitotenv.2019.03.311.

UT-34. Zhang, T., Lowry, G. V., Capiro, N. L., Chen, J., Chen, W., Chen, Y., Dionysiou, D. D., Elliott, D. W., Ghoshal, S., Hofmann, T., Hsu-Kim, H., Hughes, J., Jiang, C., Jiang, G., Jing, C., Kavanaugh, M., Li, Q. Liu, S., Ma, J., Pan, B., Phenrat, T., Qu, X., Quan, X., Saleh, N. B., Vikesland, P. J., Wang, Q., Westerhoff, P., Wong, M. S., Xia, T., Xing, B., Yan, B., Zhang, L., Zhou, D., Alvarez, P. J. J. (April, 2019). In situ remediation of subsurface contamination: Opportunities and challenges for nanotechnology and advanced materials. *Environmental Science: Nano*. *6*, 1283-1302. DOI: 10.1039/C9EN00143C (*best perspective, 2019*).

UT-35. Nicholas, J., Chen, H., Liu, K., Sabaraya, I., Bolser, D., Saleh, N. B., Bisesi, J., Castleman, W., Ferguson, P. L., Sabo-Attwood, T. (May, 2019). Utilization of Near Infrared Fluorescence Imaging to

Track and Quantify the Pulmonary Retention of Single-Walled Carbon Nanotubes in Mice. *NanoImpact*. *14*, 100167. DOI: 10.1016/j.impact.2019.100167.

UT-36. Wang, D., Saleh, N. B., Sun, W., Park, C. M., Shen, C., Aich, N., Peijnenburg, Willie J. G. M., Zhang, W., Jin, Y., Su, C. (June, 2019). Next-Generation Multifunctional Carbon-Metal Nanohybrids for Energy and Environmental Applications. *Environmental Science & Technology*. *53*, 7265-7287. DOI: 10.1021/acs/est.9b01453.

UT-37. Chen, H., Humes, S. T., Robinson, S. E., Loeb, J. C., Sabaraya, I. V., Saleh, N. B., Khattri, R., Merritt, M. E., Martyniuk, C., Lednicky, J. A., Sabo-Attwood, T. (July, 2019). Single-walled Carbon Nanotubes Repress Viral-Induced Defense Pathways through Oxidative Stress. *Nanotoxicology* (*in press*). 1-21. DOI: 10.1080/17435390.2019.1645903.

UT-38. Rowles III, L. S., †Hossain, A., Aggarwal, S., Kirisits, M. J., Saleh, N. B. (September, 2019). Water Quality and Associated Microbial Ecology in Selected Alaskan Native Communities: Challenges in Off-the-Grid Water Supplies. *Science of the Total Environment*. *711*, 134450. DOI: 10.1016/j.scitotenv.2019.134450.

UT-39. Khalid, A., Ateia, M., Xiao, M., Rowles III, L. S., Ramírez-Sánchez, I. M., Bello, D., Karanfil, T., Saleh, N. B., Apul, O. (November, 2019). Mesoporous Activated Carbon Shows Superior Adsorption Affinity for 11-Nor-9-Carboxy-Δ^9-Tetrahydrocannabinol in Water. *Clean Water* (*nature group*). *3*, 2. DOI: 10.1038/s41545-019-0049-7.

UT-40. Apul, O. G., Khalid, A., Rowles III, L. S., Karanfil, T. Richardson, S. D., Saleh, N. B. (February, 2020). Transformation potential of cannabinoids during their passage through engineered water treatment systems: A perspective. *Environment International*. *137*, 105586. DOI: 10.1016/j.envint.2020.105586.

UT-41. Naik, R. A., Rowles III, L. S., †Hossain, A. I., Yen, M., Aldossary, R. M., Apul, O. G., Conkle, J., Saleh, N. B. (May, 2020). Microplastic Particle versus Fiber Generation During Photo-Transformation in Simulated Seawater. *Science of the Total Environment*. *736*, 139690. DOI: 10.1016/j.scitotenv.2020.139690.

UT-42. Rowles III, L. S., †Hossain, A., Ramírez, I., Durst, N. J., Ward, P. M., Kirisits, M. J., Araiza, I., Lawler, D. F., Saleh, N. B. (June, 2020). Seasonal contamination of well-water in flood-prone *colonias* and other unincorporated U.S. Communities. *Science of the Total Environment*. *740,* 140111. DOI: 10.1016/j.scitotenv.2020.140111.

UT-43. Kovach, K., Sabaraya, I. V., Patel, P., Kirisits, M. J., Saleh, N. B., Gordon, V. D. (July, 2020). Suspended multiwalled, acid-functionalized carbon nanotubes promote aggregation of the opportunistic pathogen *Pseudomonas aeruginosa*. *Plos One*. *15*, 7. DOI: 10.1371/journal.pone.0236599.

UT-44. Chen, H., Humes, S. T., Rose, M. J., Robinson, S. E., Loeb, J. C., Sabaraya, I. V., Smith, L. C., Saleh, N. B., Castleman, W. L., Lednicky, J. A., Sabo-Attwood, T. (July, 2020). Hydroxyl functionalized multi-walled carbon nanotubes modulate immune responses without increasing 2009 pandemic influenza A/H1N1 virus titers in infected mice. *Toxicol Appl Pharmacol 404*, 115167. DOI: 10.1016/j.taap.2020.115167.

UT-45. Ramírez-Sánchez, I. M., Apul, O. G., Saleh, N. B. (October, 2020). Photocatalytic activity of micron-scale brass on emerging pollutant degradation in water: Mechanism elucidation and removal efficacy assessment. *RSC Advances 10*, 39931-39942. DOI: 10.1039/d0ra06153k.

UT-46. Sabaraya, I. V., Shin, H., Li, X., Hoq, R., Incorvia, J.-A. C., Kirisits, M. J., Saleh, N. B. (November, 2020). Role of electrostatics in the heterogeneous interaction of two-dimensional engineered MoS_2 nanosheets and natural clay colloids: Influence of pH and Natural Organic Matter. *Environmental Science & Technology*. DOI: 10.1021/acs.est.0c03580. (*cover article*).

UT-47. Rowles III, L. S., Whittaker, T., Ward, P. M., Araiza, I., Kirisits, M. J., Lawler, D. F., Saleh, N. B. (December, 2020). A structural equation model to discern relationships among water, sanitation, and health in *colonias*-type unincorporated communities. *Environmental Science & Technology*. DOI: 10.1021/acs.est.0c05355.

UT-48. Sabo-Attwood, T., Apul, O. G., Bisesi Jr., J. H., Kane, A. S., Saleh, N. B. (December, 2020). Nano-scale Applications in Aquaculture: Opportunities for improved production and disease control. *Journal of Fish Diseases.* (*accepted*).

University of Texas (submitted, 3):

UT-49. Sonmez, B., Zhang, Y., Reuther, J., Saleh, N. B., Venkateseen, A., Apul, O. G. (2021). Thermal regeneration of spent granular activated carbon presents an opportunity to break the forever PFAS cycle. Environmental Science & Technology. (in review).

UT-50. Wang, D., Saleh, N. B., Byro, A., Zepp, R., Sahle-Demessis, E., Luxton, T., Sahle-Demessis, E., Luxton, T. P., Ho, K. T., Burgess, R. M., Flury, M., White, J. C., Su, C. (2021). Intelligent Nanopesticides to Achieve Sustainable Agriculture and Global Food Security: Opportunities and Challenges. Nature Nanotechnology. (in review).

UT-51. Ayres, C., Lawler, D. F., Kirisits, M. J., Saleh, N. B. (2021). Synergy between microwave radiation and silver ions or nanoparticle for inactivating Legionella pneumophila. Environmental Science & Technology Letters. (in review).

University of Texas (to be submitted, 6):

UT-52. Rowles III, L. S., Lawler, D. F., Saleh, N. B. (2021). Navajo pottery technique enhances nano-silver-enabled ceramic water filters. Nature. (in preparation).

UT-53. Saleh, N. B., Brown, J., Elliott, Rowles III, L. S., Bzdyra, B., Hossain, A., Lantagne, D. S., Apul, O. G., Kirisits, M., Guest, J. S., Kim, J. (2021). Engineering Appropriate Water Treatment and Sanitation Technologies for Low-income Communities: Challenges and Opportunities. Environmental Science & Technology Engineering (in preparation).

UT-54. Chambers, B. A., Sabaraya, I. V., Palmer, E., Saleh, N. B., Kirisits, M. J. (2021). The effect of a four-year pre-college STEM outreach program. International Journal of STEM Education. (in preparation).

UT-55. Grundy, J. S., Saleh, N. B., Katz, L. E. (2021). A novel method for estimating critical coagulation concentration: The case of tin-doped indium oxide nanocrystals. Environmental Science: Nano (in preparation).

UT-56. Zheng, X., Bisesi Jr., J. H., Chen, H., Afrooz, A. R. M. N., Ferguson, P. L., Lednicky, J., Saleh, N. B., Sabo-Attwood, T. (2021). Modulation of toll-like receptor activity by single-walled carbon nanotubes with distinct electronic structures. Journal of Nanobiotechnology. (in preparation).

UT-57. Denton, M. E., Sabaraya, I. V., Saleh, N. B., Kirisits, M. J. (2021). The effect of a "caring" intervention on engineering identity: Insights from a one-day outreach event with elementary and middle school girls. International Journal of Engineering Education. (in preparation).

University of South Carolina:

SC-1. Brady-Estevez, A. S., Schnoor, M. H., Vecitis, C. D., Saleh, N. B., Elimelech, M. (2010). Multiwalled Carbon Nanotube Filter: Improving Viral Removal at Low Pressure. *Langmuir. 26 (18)*, 14975-14982. DOI: 10.1021/la102783v.

SC-2. Saleh, N. B., Pfefferle, L. D., Elimelech, M. (2010). Influence of Biomacromolecules and Humic Acid on the Aggregation Kinetics of Single-Walled Carbon Nanotubes. *Environmental Science & Technology. 44 (7)*, 2412-2418. DOI: 10.1021/es903059t.

SC-3. Surdo, E. M., Khan, I. A., Choudhury, A. A., Saleh, N. B., Arnold, W. A. (2011). Barrier Properties of poly(vinyl alcohol) Membranes Containing Carbon Nanotubes or Activated Carbon. *Journal of Hazardous Materials*. *188 (1-3)*, 334-340. DOI: 10.1016/j.jhazmat.2011.01.130.

SC-4. Joseph, L., Zaib, Q., Khan, I. A., Berge, N. D., Park, Y.-G., Saleh, N. B., Yoon, Y. (2011). Removal of Bisphenol A and 17a-Ethinyl Estradiol from Landfill Leachate Using Single-Walled Carbon Nanotubes. *Water Research. 45 (13)*, 4056-4068. DOI: 10.1016/j.watres.2011.05.015.

SC-5. Philbrook, N. A., Walker, V. K., Afrooz, A. R. M. N., Saleh, N. B., Winn, L. M. (2011). Investigating the Effects of Functionalized Carbon Nanotubes on Reproduction and Development in Drosophila Melanogaster and CD-1 Mice. *Reproductive Toxicology*. *32 (4)*, 442-448. DOI: 10.1016/j.reprotox.2011.09.002.

SC-6. Philbrook, N. A., Winn, L. M., Afrooz, A. R. M. N., Saleh, N. B., Walker, V. K. (2011). The Effect of TiO_2 and Ag Nanoparticles on Reproduction and Development of Drosophila Melanogaster and CD-1 mice. *Toxicology and Applied Pharmacology*. *257 (3)*, 429-436. DOI: 10.1016/j.taap.2011.09.027.

SC-7. Aich, N., Flora, J. R. V., Saleh, N. B. (2012). Preparation and Characterization of Stable Aqueous Higher Order Fullerene. *Nanotechnology*. *23 (5)*, 055705, 1-9. DOI: 10.1088/0957-4484/23/5/055705.

SC-8. Schaeublin, N. M., Braydich-Stolle, L. K., Maurer, E. I., Park, K., MacCuspie, R. I., Afrooz, A. R. M. N., Vaia, R. A., Saleh, N. B., Hussain, S. M. (2012). Does Shape Matter? Bioeffects of Gold Nanomaterials in a Human Skin Cell Model. *Langmuir*. *28 (6)*, 3248-3258. DOI: 10.1021/la204081m.

SC-9. Zaib, Q., Khan, I. A., Saleh, N. B., Flora, J. R. V., Park, Y.-G., Yoon, Y. (2012). Removal of Bisphenol A and 17-beta-Estradiol by Single-Walled Carbon Nanotubes in Aqueous Solution: Adsorption and Molecular Modeling. *Water, Air, and Soil Pollution*. *223 (6)*, 3281-3293. DOI: 10.1007/s11270-012-1109-5.

SC-10. Zaib, Q., Khan, I. A., Yoon, Y., Flora, J. R. V., Park, Y.-G., Saleh, N. B. (2012). Ultrasonication Study for Suspending Single-Walled Carbon Nanotubes in Water. *Journal of Nanoscience and Nanotechnology*. *12 (5)*, 3909-3917. DOI: 10.1166/jnn.2012.6212.

SC-11. Mukhopadhyay, A., Grabinski, C., Afrooz, A. R. M. N., Saleh, N. B., Hussain, S. M. (2012). Effect of Gold Nanosphere Surface Chemistry on Protein Adsorption and Cell Uptake in vitro. *Applied Biochemistry and Biotechnology*. *167 (2)*, 327-337. DOI: 10.1007/s12010-012-9666-z.

SC-12. Aich, N., Zohhadi, N., Khan, I. A., Matta, F., Ziehl, P., Saleh, N. B., (2012). Applied TEM Approach for Micro/Nanostructural Characterization of Carbon Nanotube Reinforced Cementitious Composites. *Journal of Research Updates in Polymer Science*. *1 (1)*, 14-23. ISSN: 1929-5995.

SC-13. Zhang, W., Zhao, S., Rao, W., Snyder, J., Choi, J. K., Wang, J., Khan, I. A., Saleh, N. B., Mohler, P. J., Yu, J., Hund, T. J., Tang, C., and He, X. (2013). A Novel Core-Shell Microcapsule for Encapsulation and 3D Culture of Embryonic Stem Cells. *Journal of Materials Chemistry B*. *1*, 1002-1009. DOI: 10.1039/C2TB00058J.

SC-14. Afrooz, A. R. M. N., Sivalapalan, S. T., Murphy, C. J., Hussain, S. M., Schlager, J. J., Saleh, N. B. (2013). Spheres vs. Rods: The Shape of Gold Nanoparticles Influences Aggregation and Deposition Behavior. *Chemosphere*. *91 (1)*, 93-98. DOI: 10.1016/j.chemosphere.2012.11.031.

SC-15. Afrooz, A. R. M. N., Khan, I. A., Hussain, S. M., Saleh, N. B. (2013). Mechanistic Heteroaggregation of Gold Nanoparticles in a Wide Range of Solution Chemistry. *Environmental Science & Technology*. *47 (4)*, 1853-1860. DOI: 10.1021/es3032709.

SC-16. Khan, I. A., Afrooz, A. R. M. N., Flora, J. R. V., Schierz, P. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. (2013). Chirality Affects Aggregation Kinetics of Single-Walled Carbon Nanotubes. *Environmental Science & Technology*. *47 (4)*, 1844-1852. DOI: 10.1021/es3030337.

SC-17. Aich, N., Appalla, A., Saleh, N. B., Ziehl, P. (2013). Triboluminescence for Distributed Damage Assessment in Cement-Based Materials. *Journal of Intelligent Material Systems and Structures. 24 (14)*, 1714-1721. DOI: 10.1177/1045389X13484100.

SC-18. Schrand, A. M., Lin, J. B., Garrett, C. M., Brownheim, S. V., Hussain, S. M., Cubadda, F., Afrooz, A. R. M. N., Saleh, N. B. (2013). Nanoparticle Dynamics in the Presence and Absence of a Cellular Uptake Altering Chemical. *Il Nuovo Cimento C*, *36* (2), 117-129. DOI: 10.1393/ncc/i2013-11516-4.

SC-19. Khan, I. A., Berge, N. D., Sabo-Attwood, T., Ferguson, P. L., Saleh, N. B. (2013). Single-Walled Carbon Nanotube Transport in Representative Municipal Solid Waste Landfill Conditions. *Environmental Science & Technology*. *47 (15)*, 8425-8433. DOI: 10.1021/es401748f.

SC-20. Khan, I. A., Aich, N., Afrooz, A. R. M. N., Flora, J. R. V., Schierz, P. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. (2013). Fractal Structures of Single-Walled Carbon Nanotubes in Biologically Relevant Conditions: Role of Chirality vs. Media Conditions. *Chemosphere*. *93 (9)*, 1997-2003. DOI: 10.1016/j.chemosphere.2013.07.019.

SC-21. Aich, N., Boateng, L. K., Flora, J. R. V., Saleh, N. B. (2013). Preparation of Non-Aggregating Aqueous Fullerenes in Highly Saline Solutions with A Biocompatible Non-Ionic Polymer. *Nanotechnology*. *24 (39)*, 395602, 1-10. DOI: 10.1088/0957-4484/24/39/395602.

SC-22. Saleh, N. B., Caicedo, J. M., Johnson, A., Afrooz, A. R. M. N., Khan, I. A. (2014). Nano in a Global Context: Modular Course Design with Integrated Ethics Improves Core Knowledge in Nanotechnology. *Journal of Nano Education. 6 (2)*, 124-131. DOI: 10.1166/jne.2014.1057.

SC-23. Chambers, B. A., Afrooz, A. R. M. N., Bae, S., Aich, N., Katz, L., Saleh, N. B., Kirisits, M. J. (2014). Effects of Chloride and Ionic Strength on Physical Morphology, Dissolution, and Bacterial Toxicity of Silver Nanoparticles. *Environmental Science & Technology*. *48 (1)*, 761-769. DOI: 10.1021/es403969x.

Graduate and Postdoctoral Training:

GP-1. Saleh, N., Phenrat, T., Sirk, K., Dufour, B., Ok, J., Sarbu, T., Matyjaszewski, K., Tilton, R. D., Lowry, G. V. (2005). Adsorbed Triblock Copolymers Deliver Reactive Iron Nanoparticles to the Oil/Water Interface. *Nano Letters. 5 (12)*, 2489-2494. DOI: 10.1021/nl0518268.

GP-2. Saleh, N., Sarbu, T., Sirk, K., Lowry, G. V., Matyjaszewski, K., Tilton, R. D. (2005). Oil-in-Water Emulsions Stabilized by Highly Charged Polyelectrolyte-Grafted Silica Nanoparticles. *Langmuir***.** *21 (22)*, 9873-9878. DOI: 10.1021/la050654r.

GP-3. Long, T. C., Saleh, N., Tilton, R. D., Lowry, G. V., Veronesi, B. (2006). Titanium Dioxide (P25) Produces Reactive Oxygen Species in Immortalized Brain Microglia (BV2): Implications for Nanoparticle Neurotoxicity. *Environmental Science & Technology. 40 (14)*, 4346-4352. DOI: 10.1021/es060589n.

GP-4. Long, T. C., Tajuba, J., Sama, P., Saleh, N., Swartz, C., Parker, J., Hester, S., Lowry, G. V., Veronesi, B. (2007). Nanosize Titanium Dioxide Stimulates Reactive Oxygen Species in Brain Microglia and Damages Neurons in vitro. *Environmental Health Perspectives. 115 (11)*, 1631-1637. DOI: 10.1289/ehp.10216.

GP-5. Phenrat, T., Saleh, N., Sirk, K., Tilton, R. D., Lowry, G. V. (2007). Aggregation and Sedimentation of Aqueous Nanoscale Zerovalent Iron Dispersions. *Environmental Science & Technology. 41 (1)*, 284-290. DOI: 10.1021/es061349a.

GP-6. Saleh, N., Sirk, K., Liu, Y., Phenrat, T., Dufour, B., Matyjaszewski, K., Tilton, R. D., Lowry, G. V. (2007). Surface Modifications Enhance Nanoiron Transport and NAPL Targeting in Saturated Porous Media. *Environmental Engineering Science. 24 (1)*, 45-57. DOI: 10.1089/ees.2007.24.45.

GP-7. Jaisi, D. P., Saleh, N. B., Blake, R. E., Elimelech, M. (2008). Transport of Single-Walled Carbon Nanotubes in Porous Media: Filtration Mechanisms and Reversibility. *Environmental Science & Technology. 42 (22)*, 8317-8323. DOI: 10.1021/es801641v.

GP-8. Phenrat, T., Saleh, N., Sirk, K., Kim, H.-J., Tilton, R. D., Lowry, G. V. (2008). Stabilization of Aqueous Nanoscale Zerovalent Iron Dispersions by Anionic Polyelectrolytes: Adsorbed Anionic Polyelectrolyte Layer Properties and Their Effect on Aggregation and Sedimentation. *Journal of Nanoparticle Research.10 (5)*, 795-814. DOI: 10.1007/s11051-007-9315-6.

GP-9. Saleh, N., Kim, H.-J., Phenrat, T., Matyjaszewski, K., Tilton, R. D., Lowry, G. V. (2008). Ionic Strength and Composition Affect the Mobility of Surface-Modified Fe-0 Nanoparticles in Water-Saturated Sand Columns. *Environmental Science & Technology. 42 (9)*, 3349-3355. DOI: 10.1021/es071936b.

GP-10. Saleh, N. B., Pfefferle, L. D., Elimelech, M. (2008). Aggregation Kinetics of Multiwalled Carbon Nanotubes in Aquatic Systems: Measurements and Environmental Implications. *Environmental Science & Technology. 42 (21)*, 7963-7969. DOI: 10.1021/es801251c.

GP-11. Veronesi, B., Tajuba, J., Saleh, N., Ward, W., Hester, S., Carter, J., Lowry, G. V. (2008). Functionally Charged Polystyrene Particles Activate Immortalized Mouse Microglia (BV2): Cellular and Genomic Response. *Nanotoxicology. 2 (3)*, 130-143. DOI: 10.1080/17435390802296347.

GP-12. Sirk, K. M., Saleh, N. B., Phenrat, T., Kim, H.-J., Dufour, B., Ok, J., Golas, P. L., Matyjaszewski, K., Lowry, G. V., Tilton, R. D. (2009). Effect of Adsorbed Polyelectrolytes on Nanoscale Zero Valent Iron Particle Attachment to Soil Surface Models. *Environmental Science & Technology. 43 (10)*, 3803-3808. DOI: 10.1021/es803589t.

B. Books, Chapters of Books; Editor of Books

Book (1):

UT-1. Saleh, N. B., Vicki Grassian (2019). Introduction to the Environmental Implications of Nanomaterials. John Wiley and Sons Inc. (book proposal accepted).

Book Chapters Authored (in print or accepted, 8):

Underlining indicates supervised student(s); italicized items are accepted chapters

University of Texas:

UTB-1. Saleh, N. B., Lead, J. R., Aich, N., Das, D., Khan, I. A. (2014). Roles of Geo- and Bio-Macromolecules on Environmental Interactions of Nanomaterials. *Bio-inspired Nanotechnology-From Surface Analysis to Applications*. 257-290.

UTB-2. Aich, N., Plazas-Tuttle, J., Saleh, N. B. (2015). Fullerenes, Higher Fullerenes, and their Hybrids: Synthesis, Characterization, and Environmental Considerations. *Carbon Nanomaterials for Advanced Energy Systems: Advances in Materials Synthesis and Device Applications*. 3-46.

UTB-3. Zohhadi, N., Aich, N., Matta, F., Saleh, N. B., Ziehl, P. (2015). Graphene Nanoreinforcement for Cement Composites. *Nanotechnology in Construction*. 265-270.

UTB-4. Aich, N., Sabo-Attwood, T., Masud, A., Bisesi Jr., J. H., Saleh, N. B. (2017). Dimensional variations in nanohybrids: Property alterations, applications, and considerations for toxicological implications. *Anisotropic and Shape-Selective Nanomaterials – Structure-Property Relationships*. 271-291.

UTB-5. Saleh, N. B., Afrooz, A. R. M. N., Aich, N., Plazas-Tuttle, J. (2017). Aggregation Kinetics and Fractal Dimension of Nanomaterials in Environmental Systems. *Engineered Nanoparticles and the* Environment: Biophysicochemical Processes and Biotoxicity. 139-159.

UTB-6. Chen, H., Humes, S. T., Lednicky, J. A., Saleh, N. B., Sabo-Attwood, T. (2020). Nanomaterials effects on viral infection. *Interaction of Nanomaterials with the Immune System.* 167-195.

UTB-7. Sabo-Attwood, T., Ngan, C., Lavelle, C., Plazas-Tuttle, J., Saleh, N. B. (2017). Carbon nanotubes: Sublethal effects and unique mechanisms of toxicity in aquatic species. (In Press).

UTB-8. Saleh, N. B., Afrooz, A. R. M. N., Plazas-Tuttle, J., Khan, I. A., Hussain, S. M. (2017). Aggregation Rate and Aggregate Structure Determination of Nanomaterials under Biological Exposure Conditions. Advances in Characterization Techniques for Nanotoxicology. (In press).

C. Non-Peer Reviewed Publications (op-eds and viewpoints)

University of Texas:

UT-1. Saleh, N. B. (July 14, 2018). Safe drinking water for millions of Americans is threatened by majority rule, *The Hill*, Washington, DC (op-ed).

UT-2. Saleh, N. B., Apul, O. G., Karanfil, T. (January, 2019). The Genesis of a New Environmental Concern: Cannabinoids in our Water Systems. *Environ Sci Technol. 53,* 1746-1747. (viewpoint) DOI: 10.1021/acs.est.8b06999.

UT-3. Saleh, N. B. (April 20, 2019). Lost in marijuana debate: Its impact on water quality, *The Hill*, Washington, DC (op-ed).

D. Reports

UT-4. Filonzi, A., Sabaraya, I. V., Hajj, R., Das, D., Saleh, N. B., Bhasin, A, Mahmud, E. (December, 2016). Evaluating the use of nanomaterials to enhance properties of asphalt binders and mixtures. TX Department of Transportation, Final Report, Project#6854.

E. Refereed Conference Proceedings

*Poster presentations are noted. Underlining indicates supervised student(s) and *indicates presenter.*

University of Texas:

UT-1. *Das, D., Aich, N., Irin, F., Boateng, L., Flora, J., Green, M.J., Saleh, N.B., "Surface Coating Dependent Aggregation Kinetics of Graphene Suspensions", 247th ACS National Meeting, March 16-20, 2014, Dallas, TX (*poster*).

UT-2. *Aich, N., Rigdon, W.A., Das, D., Plazas-Tuttle, J., Huang, X., Saleh, N.B., "Hybridization with titania change aggregation kinetics of carbon nanotubes", 247th ACS National Meeting, March 16-20, 2014, Dallas, TX (*poster*).

UT-3. Saleh, N.B., *Aich, N., Chambers, B.A., Afrooz, A. R. M. N., Kirisits, M.J., "Influence of Tin Doping on Environmental Interactions of Nano Indium Oxides in Aqueous Systems", 247th ACS National Meeting, March 16-20, 2014, Dallas, TX (*poster*).

UT-4. *Saleh, N. B., Rowles III, L. S., Aich, N., "Synthesis and characterization of carbonaceous nanomaterial-multimetallic hybrids for simultaneous removal of radioactive and organic contaminants: A case study on Navajo Nation", 247th ACS National Meeting, March 16-20, 2014, Dallas, TX.

UT-5. *Abtahi, S. M. H., Jones, J., Vikesland, P. J., Murphy, C. J., Saleh, N. B., "Colloidal stability of elongated shaped gold nanoparticles in aquatic environment", 248th ACS National Meeting, Aug 10-14, 2014, San Francisco, CA.

UT-6. *Saleh, N. B., Sabo-Attwood, Huang, X., "Emergent properties of nanohybrids and their potential environmental implications", 248th ACS National Meeting, Aug 10-14, 2014, San Francisco, CA.

UT-7. *Saleh, N. B., Sabo-Attwood, T., Huang, X., "Metallic Nanoparticles when Hybridized to Multiwalled Carbon Nanotubes Alter Aggregation Kinetics in Aqueous Environment", 3rd Sustainable Nanotechnology Organization Conference, November 02-04, 2014 Boston, MA.

UT-8. *Saleh, N. B., Lawler, D. F., Youn, S., Mikelonis, A., "State of fate and transport research: System and material complexities", 89th ACS Colloid and Surface Science Symposium, June 14-16, 2015, Pittsburgh, PA (*Keynote Lecture*).

UT-9. *Saleh, N. B., Rowles III, S. L., Lawler, D. F., "Pottery inspired nano-enabled ceramic filters for point-of-use water treatment", International WaTER Conference, University of Oklahoma, September 21-23, 2015, Norman, OK.

UT-10. *Das, D., Afrooz, A. R. M. N., Lednicky, J., Sabo-Attwood, T., Saleh, N. B., "Nano-bio interaction: Influence of carbon nanotubes on virus like particle (VLP) transport through saturated porous media", 250th ACS National Meeting, August 16-20, 2015, Boston, MA.

UT-11. Das, D., Sabaraya, I. V., Aich, N., *Saleh, N. B., "Aggregation kinetics of carbon nanotube and metal or metal oxide nanohybrids in aquatic environment", 250th ACS National Meeting, August 16-20, 2015, Boston, MA.

UT-12. Afrooz, A. R. M. N., *Das, D., Murphy, C. J., Vikesland, P. J., Saleh, N. B., "Co-transport of gold nanospheres with single-walled carbon nanotubes in saturated porous media", 250th ACS National Meeting, August 16-20, 2015, Boston, MA.

UT-13. *Saleh, N. B., Das, D., Aich, N., "Aggregation and transport of metal-carbonaceous nanotube nanohybrids in environmentally relevant conditions", 4th Sustainable Nanotechnology Organization Conference, November 08-10, 2015, Portland, OR.

UT-14. *Saleh, N. B., Kirisits, M. J., Gorman, M. "Integrating nanoscale principles with social and ethical aspects of nanotechnology", 4th Sustainable Nanotechnology Organization Conference, November 08-10, 2015, Portland, OR.

UT-15. Saleh, N. B. "Aggregation and transport of metal-carbonaceous nanotube nanohybrids under environmentally relevant conditions", Emerging Contaminants Summit, March 1-2, 2016, Westminster, CO.

UT-16. *Saleh, N. B., Rowles III, S. L., Lawler, D. F., "Pottery inspired nano-enabled ceramic filters for point-of-use water treatment", Texas Water 2016, April 22, 2016, Fort Worth, TX.

UT-17. *Saleh, N. B., Plazas-Tuttle, J., "Novel Nanoscale Hetero-structures Enabling Microwave Radiation to Disinfect Aquaculture-Relevant Water", IWA Nano and Water Specialist Conference, May 16-18, 2016, Rice University, Houston, TX.

UT-18. *Saleh, N. B. Das, D., Sabaraya, I. V., "Role of Metal-oxides on Titania-Multiwalled Carbon Nanotube Heterostructure Aggregation and Transport in Aqueous Environment", 90th ACS Colloid and Surface Science Symposium, June 05-08, 2016, Cambridge, MA.

UT-19. *Sabaraya, I. V., Das, D., Saleh, N. B., "Photo-transformation of titanium dioxide- and zinc oxide-multiwalled carbon nanotube heterostructures in aqueous environment", 252nd ACS National Meeting, August 21-25, 2016, Philadelphia, PA.

UT-20. *Plazas-Tuttle, J., Das, D., Saleh, N. B., "Power of Novel Metal Oxide-Carbon Nanotube Heterostructures: Enabling Microwave to Disinfect Water for Aquaculture", 252nd ACS National Meeting, August 21-25, 2016, Philadelphia, PA.

UT-21. Saleh, N. B., *Plazas-Tuttle, J., Das, D., Sabaraya, I. V., "Harnessing the Power of Microwave for Disinfection with Nanohybrids", 5th Sustainable Nanotechnology Organization Conference, November 10-12, 2016, Orlando, FL.

UT-22. Saleh, N. B., *Sabaraya, I. V., Das, D., "Chemical Identity of the Metal Oxides on Carbon-Metal Heterostructures Control Photo-transformation of These Nanohybrids", 5th Sustainable Nanotechnology Organization Conference, November 10-12, 2016, Orlando, FL.

UT-23. Kirisits, M. J., Saleh, N. B., Gorman, M., *Sabaraya, I. V., "Studying Life-cycle of a Nanomaterial Through a Laboratory Course". 5th Sustainable Nanotechnology Organization Conference, November 10-12, 2016, Orlando, FL.

UT-24. *Saleh, N. B., Plazas-Tuttle, J., Das, D., Sabaraya, I. V. "Novel nanohybrids enables microwave radiation to disinfect water". 253rd American Chemical Society National Meeting, April 2-6, 2017, San Francisco, CA.

UT-25. *Grundy, J. S., Ngan, C. K., Saleh, N. B., Katz, L. E., Kirisits, M. J., Saez, C. A. C., Milliron, D. J., "Potential of indium tin oxide nanoparticles to produce reactive oxygen species in environmental systems as a result of Sn level and location". 253rd American Chemical Society National Meeting, April 2-6, 2017, San Francisco, CA.

UT-26. *Ngan, C. K., Saleh, N. B., Kirisits, M. J., Katz, L. E., Milliron, D., "Unlocking the Role of Dopant Concentration of Interfacial Stability of Indium Tin Oxide Nanoparticles in Aquatic Environments", Texas Water 2017, April 11, 2017, Austin, TX.

UT-27. *Saleh, N. B., Plazas-Tuttle, J., Faust, K., Sabo-Attwood, T., Katz, L. E., "Harnessing the Power of Microwave with Novel Metal Oxide-Carbon Nanotube Heterostructures at the Food-Energy-Water (FEW) Nexus". International Symposium on Emerging Contaminants and Environmental Nanotechnology (ISECEN), May 23-27, 2017, Tianjin, China (*Keynote lecture*).

UT-28. *Saleh, N. B., Das, D., Sabo-Attwood, T., "Aggregation Behavior of Multiwalled Carbon Nanotube-Titanium Dioxide Nanohybrids: Role of Titanium Dioxide Loading". 6th Sustainable Nanotechnology Organization Conference, November 05-07, 2017, Los Angeles, CA.

UT-29. *Saleh, N. B., Merryman, A., Sabaraya, I. V., Sabo-Attwood, T., "Preferential interaction between functionalized multiwalled carbon nanotubes and bacteriophage MS2 in water". 6th Sustainable Nanotechnology Organization Conference, November 05-07, 2017, Los Angeles, CA.

UT-30. *Saleh, N. B., Kirisits, M. J., Gorman, M., "An Active Learning Based Theory and Laboratory Course for Nano Education". 6th Sustainable Nanotechnology Organization Conference, November 05-07, 2017, Los Angeles, CA.

UT-31. *Almasri, D., Hussien, M. A., Ahzi, S., Saleh, N. B., "Adsorption of phosphate on iron oxide modified halloysite nanotubes". 6th Sustainable Nanotechnology Organization Conference, November 05-07, 2017, Los Angeles, CA.

UT-32. *Rowles III, L. S., Lawler, D. F., Saleh, N. B., "Sustained Ionic Release from Nano-Silver: Integrating Navajo Pottery Techniques into Ceramic Water Filters". 6th Sustainable Nanotechnology Organization Conference, November 05-07, 2017, Los Angeles, CA.

UT-33. *Kirisits, M. J., Saleh, N. B., Gorman, M., "An Undergraduate Laboratory Course to Study Nanomaterials from Synthesis through Environmental Impacts". 1st Pan American Congress of Nanotechnology: Fundamentals and Applications to Shape the Future, November 27-30, 2017, Guarujá, SP, Brazil.

UT-34. *Khalid, A., Rowles III, L. S., Apul, O. G., Saleh, N. B., "Readily Deployable Electrospun Polymer/Nanocomposite Cartridge for Lead Removal from Drinking Water Distribution Pipelines", University of Massachusetts, Lowell, Francis College of Engineering Prototyping Competition, December 04, 2017, Lowell, MA.

UT-35. Filonzi, A., *Hajj, R., Sabaraya, I. V., Das, D., Saleh, N. B., Bhasin, A., "Investigating the Ability of Nanomaterials to Effectively Disperse in Asphalt Binders for Use as a Modifier". Transportation Research Board Annual Research Meeting, January 07-11, 2018, Washington, DC.

UT-36. *Gordon, V., Kovach, K., Sabaraya, I. V., Patel, P., Saleh, N. B., Kirisits, M. J., "Free-floating Carbon Nanotubes Can Promote "Nucleation" of Pathogenic Bacterial Aggregates". American Physical Society Meeting, March 05-09, 2018.

UT-37. *Saleh, N. B. "Unanswered Questions at the Nano-Scale: Materials Properties and Environmental Implications". 4th International Conference on Environmental Pollution and Health, May 19-22, 2018, Tianjin, China (*Keynote lecture*).

UT-38. Sabaraya, I. V., Saleh, N. B., Kirisits, M. J., Incorvia, J. A. C., *Rowles III, L. S., *Ayres, C. "The role of pH on Heteroaggregation of 2-D MoS_2 and Kaolinite". 7th Sustainable Nanotechnology Organization Conference, November 08-10, 2018, Washington, DC.

UT-39. *Ayres, C., Kirisits, M. J., Saleh, N. B. "Disinfection Potency of Silver Nanoparticles can be Enhanced by Harnessing Microwave Radiation". 7th Sustainable Nanotechnology Organization Conference, November 08-10, 2018, Washington, DC.

UT-40. Saleh, N. B., *Rowles III, L. S., Kirisits, M. J. "Project Based Learning for Outreach Events can Engage Community into Citizen Science". 7th Sustainable Nanotechnology Organization Conference, November 08-10, 2018, Washington, DC.

UT-41. Saleh, N. B., *Rowles III, L. S., Lawler, D. "Controlling the ionic release and surface passivation of silver nanoparticles with a natural polymer: Integrating ancient Navajo techniques into ceramic water filters". 257th American Chemical Society National Meeting, March 31-April 04, 2019, Orlando, FL.

UT-42. Saleh, N. B., *Rowles III, L. S., Lawler, D. "Structural equation modeling to identify social drivers for water use in low-income communities in Southern Texas". 257th American Chemical Society National Meeting, March 31-April 04, 2019, Orlando, FL.

UT-43. *Rowles III, L. S., Kirisits, M. J., Saleh, N. B. "Baseline Study Evaluating Water Quality and Microbial Ecology in Seven Alaskan Native Communities". 258th American Chemical Society National Meeting, August 25-29, 2019, San Diego, CA.

UT-44. Saleh, N. B., *Ayres, C., Kirisits, M. J. "Inactivation of *Legionella pneumophila* harbored by amoebae using a nano-enabled alternative technology". 258th American Chemical Society National Meeting, August 25-29, 2019, San Diego, CA.

UT-45. Saleh, N. B., Karanfil, T., Apul, O., *Rowles III, L. S. "Transformation and Removal Efficacy of Common Cannabinoids in Engineered Aquatic Systems". 258th American Chemical Society National Meeting, August 25-29, 2019, San Diego, CA.

UT-46. *Rowles III, L. S., Hossain, A. H., Lawler, D. F., Kirisits, M. J., Araiza, I., Saleh, N. B. "Compromised Water Quality in Colonias of Nueces County, TX: A Vicious Cycle". UNC Water & Health Conference, October 07-11, 2019, Chapel Hill, NC.

UT-47. *Ayres, C., Saleh, N. B., Kirisits, M. J., Lawler, D. F. "*Legionella pneumophila* inactivation potency of silver nanoparticles and ionic silver and copper enhanced with microwave radiation". 8th Sustainable Nanotechnology Organization Conference, November 07-09, 2019, San Diego, CA.

UT-48. *Sabaraya, I. V., Saleh, N. B., Kirisits, M. J., Incorvia, J.-A. "Interaction of MoS_2 nanosheets with naturally occurring clay colloids: Influence of pH and natural organic matter". 8th Sustainable Nanotechnology Organization Conference, November 07-09, 2019, San Diego, CA.

UT-49. *Rowles III, L. S., Ahmad, A. A., Islam, S. Z., Lawler, D. F., Saleh, N. B., "Sustained Ionic Release from Silver Nanoparticles in Varying Water Chemistry: Integrating Navajo Pottery Techniques to Improve Functionality of Ceramic Water Filter". 8th Sustainable Nanotechnology Organization Conference, November 07-09, 2019, San Diego, CA.

UT-50. *Saleh, N. B., Kirisits, M. J., Ayres, C. "Inactivation of *Legionella Pneumophila*-Harbored by Amoebae Using a Nano-Enabled Alternative Technology". 2019 ASA, CSSA, and SSSA Annual Meeting, November 12, 2019, San Antonio, TX.

UT-51. *Saleh, N. B., Kirisits, M. J., Ayres, C. "Nano-enabled water treatment: Safe and effective route of application". International Conference on Sustainable Energy-Water-Environment Nexus in Desert Climate, December 02-05, 2019, Doha, Qatar. (*Keynote Speaker*).

UT-52. *Wang, D., Saleh, N. B., Su, C. "Opportunities of Next-Generation Multifunctional Carbon-Metal Nanohybrids for Newly-Emerging Contaminant Removal from Water". 2019 American Geophysical Union Meeting, December 9-13, 2019, San Francisco, CA.

UT-53. §,*Almasri, D., Kochkodan, V., Saleh, N. B. "Ceramic membrane prepared from nanoclay for phosphate removal from wastewater". International Congress on Membranes & Membrane Processes 2020 (ICOM 2020), July 12-17, 2020, London, U.K.

UT-54. *Saleh, N. B., Ayres, C., Lawler, D. F., Kirisits, M. J. "Synergy between microwave radiation and silver for inactivation of *Legionella pneumophila*". 1st Virtual Canadian Symposium on Water Quality Research, July 23-24, 2020, Burlington, ON, (*Virtual meeting*).

UT-55. *Sabaraya, I. V., Shin, H., Hoq, R., Incorvia, J.-A. C., Kirisits, M. J., Saleh, N. B. "Heteroaggregation of MoS_2 nanosheets with naturally occurring clay colloids in aqueous environments: probing the influence of dimensionality and electrostatics". 1st Virtual Canadian Symposium on Water Quality Research, July 23-24, 2020 Burlington, ON, (*Virtual meeting*).

UT-56. *Rowles III, L. S., Lawler, D. F., Saleh, N. B. "integrating Navajo pottery techniques to improve functionality of silver nanoparticle-enabled ceramic water filters for sustained microbial inactivation".

260th American Chemical Society National Meeting, August 17-20, 2020, San Francisco, CA (*Virtual meeting*).

UT-57. *Sabaraya, I. V., Shin, H., Hoq, R., Incorvia, J.-A. C., Kirisits, M. J., Saleh, N. B. "Dimensionality versus Electrostatics in the Heterogeneous interaction of MoS_2 nanosheets and natural clay colloids: Influence of pH and natural organic matter". 260th American Chemical Society National Meeting, August 17-20, 2020, San Francisco, CA (*Virtual meeting*).

UT-58. *Rowles III, L. S., Lawler, D., Saleh, N. B. "Sustaining Silver Nanoparticles Release and Microbial Inactivation from Ceramic Water Filters with a Navajo Pottery Technique". 9th Sustainable Nanotechnology Organization Conference, November 12-13, 2020, Denver, CO (*virtual meeting*).

UT-59. *Bai, W., Saleh, N. B., Kumar, M. "Reactive membranes to prevent fouling by generating *in situ* microbubbles". 9th Sustainable Nanotechnology Organization Conference, November 12-13, 2020, Denver, CO (*virtual meeting*).

UT-60. *Wang, D., Su, C., Saleh, N. B. "Next generation intelligent nanopesticides: Challenges and opportunities toward achieving sustainable agriculture". American Geophysical Union Fall Meeting, December 1-17, 2020, San Francisco, CA (*Virtual meeting*).

UT-61. *Sonmez, B., Zhang, Y., Saleh, N. B., Venkateseen, A., Apul, O. G. "Regeneration of spent granular activated carbon presents opportunities to break the forever PFAS cycle". SERDP and ESTCP Symposium, December 1-3, 2020, Washington DC.

University of South Carolina:

SC-1. *Saleh, N. B., Pfefferle, L. D., Elimelech, M. "Aggregation Kinetics of Carbon Nanotubes in the Presence of Biomacromolecules" American Chemical Society 237th National Meeting, March 22-26, 2009, Salt Lake City, UT.

SC-2. *Saleh, N. B., Pfefferle, L. D., Elimelech, M. "Influence of Natural Organic Matter on Deposition Rate of Single-walled Carbon Nanotubes" American Chemical Society 237th National Meeting, March 22-26, 2009, Salt lake City, UT.

SC-3. *Saleh, N. B. "Aggregation and Deposition Behavior of Carbon Nanotubes in Aquatic Environments" Clemson Carbon Conference, July 11-16, 2010, Clemson, SC.

SC-4. *Afrooz, A. R. M. N., Zaib, Q., Decho, A. W., Saleh, N. B. "Role of Nanoparticle Geometry on Nano-bio Interaction: A Quest to Separate Physics from Chemistry", ACS National Meeting, Aug 22-26, 2010, Boston, MA.

SC-5. *Aich, N., Saleh, N. B. "Aggregation Kinetics of Fullerene-Single-walled Carbon Nanotube Hybrids", ACS National Meeting, Aug 22-26, 2010, Boston, MA.

SC-6. *Khan, I. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. "Systematic Change in Chirality Affects Aggregation Kinetics of Single-Walled Carbon Nanotubes", ACS National Meeting, Aug 22-26, 2010, Boston, MA.

SC-7. *Saleh, N. B., Afrooz, A. R. M. N., Aich, N., Khan, I. A., "Filtration of anisotropic and hybrid nanomaterials", 240th ACS National Meeting, August, 22-26, 2010, Boston, MA.

SC-8. *Aich, N., Saleh, N. B. "Aggregation kinetics of higher order fullerenes in aquatic environment", ACS National Meeting, Mar 27-31, 2011, Anaheim, CA.

SC-9. *Aich, N., Saleh, N. B. "Aggregation kinetics of endohedral metallofullerene-single-walled carbon nanohorn and nanotube peapods", ACS National Meeting, Mar 27-31, 2011, Anaheim, CA.

SC-10. *Afrooz, A. R. M. N., Saleh, N. B. " Aggregation kinetics of gold nanorods in aquatic systems: Role of aspect ratio ", ACS National Meeting, Mar 27-31, 2011, Anaheim, CA.

SC-11. *Khan, I. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. " Fractal structures of single-walled carbon nanotubes in environmental and biologically relevant aqueous conditions: Role of chirality", ACS National Meeting, Mar 27-31, 2011, Anaheim, CA.

SC-12. *Khan, I. A., Ferguson, P. L., Sabo-Attwood, T., Saleh, N. B. "Chirality affects aggregation kinetics of single-walled carbon nanotubes", ACS National Meeting, Mar 27-31, 2011, Anaheim, CA.

SC-13. *Joseph, L., Zaib, Q., Khan, I. A., Berge, N., Park, Y.-G., Saleh, N. B., Yoon, Y. "Removal of Bisphenol A and 17a-Ethinyl Estradiol from Landfill Leachate Using Carbon Nanotubes", American Water Works Association ACE, June 12-16, 2011, Washington, DC.

SC-14. *Saleh, N. B., Caicedo, J., Johnson, A. "Nano in a Global Context", Biennial Conference on Chemical Education, July 29-Aug 02, 2012, The Pennsylvania State University, University Park, PA.

SC-15. *Sabo-Attwood, T. Bisesi, J. H., Saleh, N. B., Afrooz, A. R. M. N., Parks, A. N., Ferguson, P. L., Merten, J. "Dynamics of SWNT distribution and aggregate structure during aquatic exposures", 1st Sustainable Nanotechnology Organization Conference, Nov 04-06, 2012, Arlington, VA (*poster*).

SC-16. *Saleh, N. B., Afrooz, A. R. M. N., Khan, I. A., Hussain, S. M. "Mechanistic Hetero-Aggregation of Gold Nanoparticles for a Wide Range of Solution Chemistries", 1st Sustainable Nanotechnology Organization Conference, Nov 04-06, 2012, Arlington, VA (*poster*).

SC-17. *Aich, N., Flora, J. R. V., Boatang, L., Saleh, N. B. "Size tuned aqueous nC60s and nC70s stabilized with biocompatible surface coatings", 245th ACS National Meeting, April 7-11, 2013, New Orleans, LA.

SC-18. *Afrooz, A. R. M. N., Khan, I. A., Hussain, S. M., Saleh, N. B. "Mechanistic heteroaggregation of gold nanoparticles in presence of nonionic polymer modified single-walled carbon nanotubes", 245th ACS National Meeting, April 7-11, 2013, New Orleans, LA.

SC-19. *Saleh, N. B., Hussain, S. M., Afrooz, A. R. M. N. "Dynamic aggregation and fractal structure determination of gold nanoparticles in biological media conditions", 245th ACS National Meeting, New Orleans, LA, April 7-11, 2013.

Graduate and Postdoctoral Training:

GP-1. *Saleh, N. B., Sirk, K., Sarbu, T., Lowry, G. V., Tilton, R.D., Matyjaszewski, K., Redden, G., "Targeted Delivery of Nanoiron to the NAPL-water Interface", 79th ACS Colloid And Surface Science Symposium, Potsdam, NY. July 12-15, 2005.

GP-2. *Saleh, N. B., Sirk, K., Sarbu, T., Tilton, R.D., Matyjaszewski, K., Lowry, G. V., "Transport and DNAPL Targeting of Polyelectrolyte- and Surfactant-modified Nanoiron", 230th ACS Meeting and Exposition. Washington, DC. August 28-September 1, 2005.

GP-3. *Saleh, N. B., Kim, H. J., Phenrat, T., Sirk, K., Dufour, B., Matyjaszewski, K., Tilton, R. D., Lowry, G. V. "Long-range transport of polymer-modified nanoiron in saturated porous sand and real aquifer media", 80th ACS Colloid And Surface Science Symposium, Boulder, CO. June 18-21, 2006.

GP-4. *Saleh, N. B., Sirk, K., Liu, Y., Phenrat, T., Dufour, B., Matyjaszewski, K., Tilton, R. D., Lowry, G. V., "Surface modifications enhance colloidal iron transport and deliver them to the NAPL/water interface", 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.

GP-5. *Saleh, N. B., Phenrat, T., Tilton, R. D., Lowry, G. V. "Porewater velocity and collector grain size affects the mobility of surface-modified nanoiron in water-saturated porous media." Division of Colloid and Surface Chemistry for the 233nd ACS National Meeting, Chicago, IL March 25-29, 2007.

GP-6. *Saleh, N. B., Pfefferle, L., Elimelech, M. "Aggregation Kinetics of Multi-walled Carbon Nanotubes in Aquatic Systems." The 235th ACS National Meeting, New Orleans, LA, April 6-10, 2008.

GP-7. *Jaisi, P. D., Saleh, N. B., Blake, R. E., Elimelech, M. "Filtration Mechanisms of Single-walled Carbon Nanotubes in Porous Media" AIChE Annual Meeting, Philadelphia, PA, November 16-21, 2008.

GP-8. *Saleh, N. B., Pfefferle, L., Elimelech, M. "Aggregation Kinetics of Multi-walled Carbon Nanotubes in Aquatic Systems" AIChE Annual Meeting, Philadelphia, PA, November 16-21, 2008.

GP-9. Saleh, N. B., Pfefferle, L., Elimelech, M. "Aggregation Kinetics of Carbon Nanotubes in the Presence of Biomacromolecules" AIChE Annual Meeting, Philadelphia, PA, November 16-21, 2008.

F. ORAL PRESENTATIONS:

Invited Seminars or Conference Presentations:

University of Texas:

UT-1. "Nanomaterial Implications: Controlled and Complex Systems", Civil and Environmental Engineering, Temple University, August 01, 2014, Philadelphia, PA.

UT-2. "Environmental Behavior of Nanomaterials: Implications of Material and Environmental Complexities", Civil and Environmental Engineering, Rice University, September 19, 2014, Houston, TX.

UT-3. "Environmental Behavior of Nanomaterials: Implications of Material and Environmental Complexities", Civil and Environmental Engineering, Cornell University, October 02, 2014, Ithaca, NY.

UT-4. "Environmental Behavior of Nanomaterials: Implications of Material and Environmental Complexities", Civil and Environmental Engineering, University of Illinois-Urbana Champaign, October 16, 2014, Urbana, IL.

UT-5. "Environmental Behavior of Nanomaterials: Implications of Material and Environmental Complexities", College of Public Health and Health Professions, University of Florida, March 13, 2015, Gainesville, FL.

UT-6. "Sustainable use of Nanomaterials for Environmental Applications", Civil and Environmental Engineering, Manhattan College, July 24, 2015, New York, NY.

UT-7. "Nanomaterials for Environmental Applications: Sustainable Use", Civil and Environmental Engineering, University of New Orleans, July 01, 2016, New Orleans, LA.

UT-8. "Pottery inspired nano-enabled ceramic filters for point-of-use water treatment", Navajo Technical University, September 29, 2016, Crownpoint, NM.

UT-9. "Pottery inspired nano-enabled ceramic filters for point-of-use water treatment", Interdisciplinary Research Center for Regional Integral Development Unit Oaxaca, Instituto Politécnico Nacional, October 24, 2016, Oaxaca, Mexico.

UT-10. "Harnessing the Power of Microwave: A Nano-Enabled Breakthrough Technology for Inactivating Waterborne Bacteria", Civil and Environmental Engineering, Stanford University, April 03, 2017, Stanford, CA.

UT-11. "Harnessing the Power of Microwave: A Nano-Enabled Breakthrough Technology for Inactivating Waterborne Bacteria", Civil and Environmental Engineering, University of South Carolina, April 21, 2017, Columbia, SC.

UT-12. "Harnessing the Power of Microwave: A Nano-Enabled Breakthrough Technology for Inactivating Waterborne Bacteria", Arnold School of Public Health, University of South Carolina, April 21, 2017, Columbia, SC.

UT-13. "Harnessing the Power of Microwave with Novel Metal Oxide-Carbon Nanotube Heterostructures at the Food-Energy-Water (FEW) Nexus", School of Civil and Environmental Engineering, Georgia Institute of Technology, October 04, 2017, Atlanta, GA.

UT-14. "A Few Unanswered Questions at the Nano-scale: Role of Materials and System Complexity", Department of Geosciences, University of Vienna, October 08, 2018.

UT-15. "Nanotechnology and Sustainable Water Treatment", Chemistry Alumni Association of BUET (CAAB), Dhaka, Bangladesh, September 01, 2020.

UT-16. "Nano-enabled water treatment: Socially embedded and safe routes of application", Amgen Invited Seminar, Department of Chemical Engineering, University of Rhode Island, Kingston, RI, October 22, 2020.

UT-17. "Nano-enabled and sustainable water treatment: A socially-embedded approach", Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, NJ, January 25, 2021.

UT-18. "A convergent approach for nano-enabled water treatment", Department of Chemical Sciences, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, April 04, 2021.

University of South Carolina:

SC-1. "Application and Implication of Nanomaterials", University of South Carolina, Mechanical Engineering, Columbia, SC, April 2009.

SC-2. "Application and Implication of Nanomaterials", Allen University, Columbia, SC, September, 2009.

SC-3. "Fundamental Aggregation and Surface Interactions of Carbon Nanotubes in Aquatic Systems", Institute of Environmental Toxicology, Clemson University, Columbia, SC, February 2010.

SC-4. "Fundamental Aggregation and Surface Interactions of Carbon Nanotubes in Aquatic Systems", University of South Carolina, Mechanical Engineering, Columbia, SC, March 2010.

SC-5. "Aggregation and Surface Interactions of Carbon Nanotubes in Aquatic Systems", Virginia Tech, Mechanical Engineering, April 2010, Blacksburg, VA.

SC-6. "Aggregation and Surface Interaction of Carbonaceous and Metallic Nanomaterials: Environmental and Biologically Relevant Conditions", Wright Patterson Airforce Base, February 10, 2011, Dayton, OH.

SC-7. **"**Aggregation and Interfacial interaction of Nanomaterials: Environmental and Biologically Relevant Conditions", Savannah River National Laboratory (SRNL), February 17, 2012, Aiken, SC.

SC-8. "Carbonaceous Nanomaterials: Application for Environmental Remediation", University of Arab Emirates University, April 2012, Al-Ain, United Arab Emirates.

SC-9. "Aggregation Behavior of Nanomaterials in Singular and Binary Systems", Environmental Engineering and Earth Sciences, Clemson University, November 02, 2012, Anderson, SC.

SC-10. "Aggregation Behavior of Nanomaterials in Environmental and Biological Conditions", Material Science and Engineering and Civil Engineering, University of Texas-Arlington, November 09, 2012, Arlington, TX.

SC-11. "Aggregation Kinetics and Structure of Nanomaterials in Singular and Binary Systems", Pathology and Psychology Research Branch, National Institute for Occupational Safety and Health (NIOSH), December 04, 2012, Morgantown, PA.

SC-12. "Accurate aggregate size and structure determination in physiological conditions-Ignored fact in nanotoxicology?", 52nd Annual Meeting of Society of Toxicology, March 10-14, 2013, San Antonio, TX (*roundtable lecture*).

SC-13. "Aggregation and deposition of nanomaterials in controlled and complex natural systems", Arnold School of Public Health, University of South Carolina, September 04, 2013, Columbia, SC.

SC-14. "Fate and Transport of Carbonaceous Nanomaterials: Progress and Data Gaps", 2013 NSF-EPA-USDA Nanoscale Science and Engineering Grantees Conference, Dec 04-06, 2013, Washington, DC.

Graduate and Postdoctoral Training:

GP-1. "Developing Metallic Nanoparticles for In Situ Remediation of Subsurface DNAPL", Chatham University, October 2004, Pittsburgh, PA.

G. PATENTS:

University of Texas:
Underlining indicates supervised student(s)

UT-1. Saleh, N. B. and Plazas-Tuttle, J. (February, 2018). Microwave Absorbing Carbon-Metal Oxides and Modes of Using, Including Water Disinfection. Publication number: US 20180037474 A1.

University of South Carolina:
Underlining indicates supervised student(s)

SC-1. Saleh, N. B., Matta, F., Ziehl, P., Aich, N., Zohhadi, N., Khan, I. A. (2014). Polymeric Additive for Strength, Deformability, and Toughness Enhancement of Cemetitious Materials and Composites. Publication number: US 8907050 B2.

H. GRANTS AND CONTRACTS:

Amounts indicated parenthetically (for joint proposals) are Saleh shares. Amount written in italics is the total amount of the funded grant totaling funds for all partners.

University of Texas:

Co-Investigators	Title	Agency	Grand Total	Grant Period
N. B. Saleh (PI)	Collaborative Research: Fate, Transport, and Organismal Uptake of Rod-Shaped Nanomaterials	National Science Foundation	$119,016	01/01/14-09/30/16
N. B. Saleh (PI)	Contribution of Toll-Like Receptors in the Pulmonary Response to Nanoparticles and Pathogens	National Institute of Health	$173,016	05/01/14-04/30/17
N. B. Saleh (PI) M. J. Kirisits H. Hart B. Korgel	NUE: Sustainable Nanotechnology Education for Undergraduate Engineering Students	National Science Foundation	$199,997 ($120,000)	10/01/14-09/30/17
D. Lawler (PI) L. Katz M. J. Kirisits K. Kinney N. B. Saleh G. Speitel	Water Innovation Network for Sustainable Small Systems (WINSSS)	Environmental Protection Agency	$1,456,225 ($100,000)	09/01/14-08/31/17
N. B. Saleh (PI) Amit Bhasin	Effectively Dispersed Carbon Nanotube Enhanced Asphalt: Novel Foamed Delivery and Traditional Mixing Techniques	Texas Department of Transportation	$265,438 ($110,000)	01/01/15-12/31/16
N. B. Saleh (PI) M. J. Kirisits D. Milliron L. Katz	UNS: Role of dopant concentration and distribution in the environmental behavior of indium tin oxide nanoparticles	National Science Foundation	$299,917 ($100,000)	06/01/15-05/30/17

N. B. Saleh (PI) M. J. Kirisits	Development of nanomaterial use, transport, and disposal guidelines for laboratories at UT Austin and other THWRC Consortium Universities	Texas Hazardous Waste Research Center	$6,000 ($3,000)	09/01/15-07/15/17
N. B. Saleh (PI)	Collaborative Research: EAGER: Interaction of Carbon-Metal Nanohybrids at Environmental Interfaces	National Science Foundation	$80,135	05/20/16-04/30/18
N. B. Saleh (PI) D. Lawler	A Nano-Silver and Zeolite Solution: Ceramic Water Filters for Disinfection and Hardness Removal	Environmental Protection Agency	$14,999 ($10,000)	08/15/16-08/14/17
N. B. Saleh (PI)	Develop modified montmorillonite for the selective removal of heavy metals and organic contaminants from water	CRDF Global	$15,000	09/28/17-12/31/17
M. J. Kirisits (PI) N. B. Saleh (Co-PI)	Using Problem-Based Learning to Build Water Quality Stewardship with Girl Scouts in the Gulf of Mexico Watershed	Environmental Protection Agency, Gulf of Mexico Program	$150,000 (75,000)	05/01/18-04/31/20
N. B. Saleh (PI)	Harnessing the Power of Microwave to Inactivate Pathogens	UT VPR Creative Research Grant	$10,000	09/01/17-08/31/18
N. B. Saleh (PI) M.J. Kirisits, D. Lawler, and L. Katz	Assessing the efficacy of a novel nano-enabled microbial inactivation technique for drinking water in the Texas *Colonias*	Texas Hazardous Waste Research Center	$16,325 ($10,000)	04/01/18-06/30/19
N. B. Saleh (PI) M.J. Kirisits and D. Lawler	Inactivation of *Legionella pneumophila* harbored by amoebae using a nano-enabled alternative technology: Application and outreach to the *colonias* in Texas	National Science Foundation	$327,903 ($200,000)	07/15/2018-07/14/2021
M. J. Kirisits (PI) N.B. Saleh (Co-PI)	Sub-Lethal Exposures to Metal and Metal-Oxide Nanoparticles Lead to Antibiotic Resistance in Engineered Environments: A Mechanistic Study	National Science Foundation	$330,000 ($150,000)	08/01/2019-07/31/2022
N. B. Saleh (PI) D. Lawler	Engineering Nano-Enabled Water Treatment Solutions for Communities in Oaxaca, MX and *Colonias* in Texas	ConTEX	$50,000	09/15/2019-08/31/2020
N. B. Saleh (PI) M. J. Kirisits and D. Lawler	REU Supplement: Inactivation of *Legionella pneumophila* harbored by amoebae using a nano-enabled alternative technology: Application and outreach to the *colonias* in Texas	National Science Foundation	$6,000 ($3,000)	07/05/2019-07/04/2020
N. B. Saleh (PI)	RAPID: Collaborative Research: Transforming passive protective face masks toward active capture and inactivation of coronavirus with nano-assisted surfactant modification	National Science Foundation	$92,402 (*Total: $196,659*)	05/01/2020-04/30/2021

N. B. Saleh (PI) M. J. Kirisits	NNA Track 1: Collaborative Research: A Purpose-Driven Merger of Western Science and Indigenous Knowledge of Water Quality in Alaskan Communities	National Science Foundation	$2,084,290 (*Total: $3,000,000*) ($1,042,145)	09/01/2020-08/31/2024
N. B. Saleh (PI) M. Kumar	Plasma-enhanced nano-catalytic polyamide membrane systems that minimize fouling and concentration polarization	Qatar National Research Fund	$209,996 ($109,996)	06/01/2021-05/30/2024
		Grand total	$5,906,659	
		Saleh share	**$2,572,710**	

University of South Carolina:

Co-Investigators	Title	Agency	Grand Total	Grant Period
N. B. Saleh (PI) T. Sabo-Attwood P. L. Ferguson	Influence of diameter and chirality of single-walled carbon nanotubes on their fate and effects in the aquatic environment	National Science Foundation	$436,013 ($160,108)	10/01/09-09/30/13
N. B. Saleh (PI) J. Caicedo A. Johnson	NUE: Nano in a Global Context for Engineering Students	National Science Foundation	$200,000 ($180,000)	10/01/10-09/30/14
Y. Yoon (PI) N. B. Saleh J. R. V. Flora	Applications of Carbon Nanotubes in UF and MF Membranes: Pretreatment in Seawater Desalination	Gold Star Engineering and Construction Co., South Korea	$220,000 ($73,000)	05/01/10-04/30/13
N. B. Saleh (PI)	Mechanistic Understanding of Nanomaterial Toxicity: Aggregation and Surface Interaction in Biologically Relevant Conditions	US Air Force Research Lab	$60,000	10/15/11-04/30/13
J. Goodall (PI) N. B. Saleh M. Meadows	A GIS-based Mitigation Forecasting Tool and Study on Advanced Mitigation Processes used by DOTs	SC Department of Transportation	$413,837 ($200,000)	01/01/13-12/31/15
		Grand total	$1,329,850	
		Saleh share	**$673,108**	

*Total **career** external research funding raised $7,133,509; candidate's share is $3,248,818.*

I. PH.D. SUPERVISION COMPLETED (5.5):

University of Texas (4.5):

[‡]*NSF Graduate Research Fellowship Recipient*

PhD Graduate	Year	Dept./Institution	Current Affiliation
Afrooz, A. R. M. Nabiul	2015	Civil, Architectural and Environmental Engineering, University of Texas at Austin	Water Resources Control Engineer, California State Water Resources Control Board
Aich, Nirupam	2015	Civil, Architectural and Environmental Engineering, University of Texas at Austin	Assistant Professor, Dept. of Structural and Environmental Engineering, State University of New York (SUNY), Buffalo, NY

Das, Dipesh	2017	Civil, Architectural and Environmental Engineering, University of Texas at Austin	Device Yield Engineer, Intel Co., Hillsboro, OR
Plazas-Tuttle, J.	2017	Civil, Architectural and Environmental Engineering, University of Texas at Austin	Assistant Professor, Dept. of Civil and Environmental Engineering, Universidad de los Andes, Bogota, Columbia
‡Lewis Stetson Rowles III (*Primary advisor; co-advised with D. Lawler*)	2020	Civil, Architectural and Environmental Engineering, University of Texas at Austin	Postdoctoral Scholar, Civil and Environmental Engineering, University of Illinois, Urbana-Champaign

University of South Carolina (1):

PhD Graduate	Year	Dept./Institution	Current Affiliation
Khan, Iftheker A.	2012	Civil and Environmental Engineering, University of South Carolina	Assistant Professor, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

J. M.S. SUPERVISION COMPLETED (10.5):

University of Texas (8):
‡*NSF Graduate Research Fellowship Recipient*
§*EREF Fellowship Recipient*

M.S. Graduate	Year	Dept./Institution
§Sabaraya, Indu V.	2016	Civil, Architectural and Environmental Engineering, University of Texas at Austin
‡Rowles III, Stetson (*Primary advisor; co-adviser Lawler, D.*)	2016	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Hornstra, Allison V.	2017	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Merryman, Anna E.	2017	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Ngan, Christine K. (*Primary advisor; co-adviser Kirisits, M. J.*)	2017	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Ayres, Craig	2018	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Naik, Rahul	2019	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Nguyen, David	2019	Civil, Architectural and Environmental Engineering, University of Texas at Austin
Parr, Alexander	2019	Civil, Architectural and Environmental Engineering, University of Texas at Austin

University of South Carolina (2.5):

M.S. Graduate	Year	Dept./Institution
Zaib, Qammer (*Secondary advisor; Adviser Yoon, Y.*)	2011	Civil and Environmental Engineering, University of South Carolina
Aich, Nirupam	2012	Civil and Environmental Engineering, University of South Carolina
Afrooz, A. R. M. Nabiul	2012	Civil and Environmental Engineering, University of South Carolina

K. UNDERGRADUATE THESIS ADVISEES COMPLETED (2):

Mason, Erica; graduated with B.S. in Chemical Engineering in May 2018; Thesis title: "Synthesis and Photocatalytic Performance of TiO_2-CNTs and Magnetized Fe_3O_4-TiO_2-CNT Multifunctional Hybrids: A Pickering Emulsion Platform for Organic Degradation"

Jain, Sneha; completed thesis for B.S. in Chemical Engineering in May 2018; Thesis title: "A Study Toward Device Development for Nano-Enabled Microwave Water Treatment"

L. POST DOCTORAL FELLOWSHIP COMPLETED (1):

University of Texas:

Rmirez-Sanchez, Irwing Moses; September 2018 to August 2020 (ConTex Postdoctoral Fellow)

M. PH.D. IN PROGRESS (1.5):

University of Texas:
[‡]*NSF Graduate Research Fellowship Recipient*
[§]*EREF Fellowship Recipient*

A. Students admitted to candidacy:

[§]Sabaraya, Indu V. (*primary adviser; co-adviser Kirisits, M. J.*); expected to graduate in May, 2021
Ayres, Craig (*primary adviser; co-adviser Kirisits, M. J.*); expected to graduate in December, 2022
Bai, Weiliang (*primary adviser; co-adviser Kumar, M.*); expected to graduate in May, 2024

N. M.S. IN PROGRESS (5):

University of Texas:
[‡]*NSF Graduate Research Fellowship Recipient*
Jiao, Yue; expected to graduate in May, 2021
Gupta, Nikita; expected to graduate in May, 2021
Asmita Dahal; expected to graduate in May, 2021
[‡]Palmer, Emma (*secondary adviser; Adviser Kirisits, M. J.*); expected to graduate in May, 2021
[‡]Hossain, Areeb; NSF Graduate Fellow; expected to graduate, May 2022
Bzdyra, Bradley (*primary adviser; co-adviser Kirisits, M. J.*); expected to graduate in May, 2022

O. UNDERGRADUATE ADVISEES (21):

University of Texas (17):

Gregory Latimer*, Erica Mason**, Kelsey Turpin, Sneha Jain, Rachel Piner, Sarah Hordern, Manjula Andukuri*, Aleesha Toteja, Sofia I Carrillo, Isac Ramirez, Areeb Hossain*,‡, Jenny Hui, Megan Yen, Abby Sackett, Erika Ruiz-Pappa, Cynthia Reyes, and Aaron Wheat.

‡*Awarded NSF Graduate Research Fellowship under my mentorship*
**Awarded Undergraduate Research Grant at University of Texas at Austin, May 2014.*
***Won poster awards in the Cockrell School of Engineering, May 2016.*

University of South Carolina (4):

Samuel Rollings, Tyler Clark, and Atif A. Choudhury, and Lewis Stetson Rowles III‡

‡*Awarded NSF Graduate Research Fellowship under my mentorship*

P. STUDENT AWARDS:
University of Texas:

Indu V. Sabaraya (Ph.D. student), 2018-2019 Environmental Research & Education Foundation (EREF) Scholarship

Nirupam Aich (Ph.D. student), American Chemical Society Environmental Chemistry Graduate Student Award 2014

Erica Mason (undergraduate student), 1st place in Women in Engineering poster competition and 3rd place at the annual Poster Exhibition on Engineering Research (PEER) contest at Cockrell School of Engineering

University of South Carolina:
A. R. M. Nabiul Afrooz (Ph.D. student), American Chemical Society Environmental Chemistry Graduate Student Award 2013

Iftheker A. Khan (Ph.D. student), American Chemical Society Environmental Chemistry Graduate Student Award 2011

Q. VITA:
Navid Saleh's research has three thrust areas that he calls as the 3Es; i.e., **E**valuate, **E**ngage, and **E**ngineer. Over the past decade Saleh Group has focused on safe development of nano-enabled treatment technologies. His laboratory has also engaged with low-income communities in the U.S. (Navajos in AZ and NM, Alaskan Natives, and the border communities along the U.S. Mexico border) and Mexico (indigenous Zapoteks and Mixteks), to inform his technological design to become socially embedded. *Evaluate*—mechanistic studies on fate of emerging contaminants like nanomaterials, illicit drugs, plastic waste, etc., *Engage*—community engaged research, and *Engineer*—community-embedded effective treatment solutions, will allow his research to contribute toward solving significant water issues for our less-fortunate communities. Saleh's research has produced 80 publications in refereed journals and 8 book chapters with more than 7500 citations and an h-index of 30. Dr. Saleh is one of the Associate Editors of Journal of Hazardous Materials, a top environmental science and engineering journals with an impact

factor of 9.038, and is the President-elect of Sustainable Nanotechnology Organization (effective November 2020). At the undergraduate level, Saleh teaches the “Introduction to Environmental Engineering” and two newly developed courses on nanotechnology: “Designing Sustainable Nanomaterials” and “Nanotechnology Laboratory”. At the graduate level, he teaches “Environmental Implications of Nanotechnology”.