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EDUCATION

- Post-doc.** School of Sustainable Engineering and the Built Environment, Arizona State University, Tempe, AZ, Feb. 2015 – Sept. 2017. PI: Paul Westerhoff
- Ph.D.** Environmental Engineering, Clemson University, Clemson, SC, Aug. 2014.
Dissertation: Predictive model development for adsorption of organic contaminants by carbon nanotubes.
Advisor: Tanju Karanfil
- M.S.** Environmental Engineering, Middle East Technical University, Ankara, Turkey, 2009.
Thesis: Municipal sludge minimization: Evaluation of ultrasonic and acidic pretreatment methods and their subsequent effects on anaerobic digestion.
Advisor: Dilek Sanin
- B.S.** Environmental Engineering, Middle East Technical University, Ankara, Turkey, 2006.
Capstone Project: Trabzon municipality slaughterhouse wastewater treatment plant design.

APPOINTMENTS

- Asst. Prof.** Environmental Engineering, University of Massachusetts Lowell, Lowell, MA, Sept. 2017 – present
- Grad. Asst.** Environmental Engineering, Clemson University, Clemson, SC, Aug. 2009. - Aug. 2014.
- Grad. Asst.** Environmental Engineering, Middle East Technical University, Ankara, Turkey, Dec. 2006. - Aug. 2009.

FUNDED PROPOSALS

1. J. Reuther, **O. Apul (co-PI)**. Self-Healable, Regenerable Polymer Adsorbents for Low-Energy, Reusable Water Filters. Massachusetts Office of Technology Commercialization and Ventures (**2019**) – (\$15,000).
2. P. Dahlen, **O.G. Apul (co-PI)**. Repeated Use of Carbon Additives during Microwave Remediation for Targeted Heating of Petroleum Hydrocarbons. Industry Sponsor (**2019**) (\$16,000).
3. **O. Apul (PI)**. Girl Scouts of Eastern Massachusetts are Learning Nanotechnology Crayon Drawing Contest. Association of Environmental Engineering and Science Professors (AEESP) Outreach Grant (**2019**) (\$2,000).
4. **O. Apul (PI)**. Nitrogen Gas Adsorption for Detecting the Specific Surface Area of Novel Biopolymers. Industry Sponsor (**2019**) (\$7,000).
5. J. Reuther, **O. Apul (co-PI)**. Self-Healable, Regenerable Nanoporous Membranes for Low-Energy, Reusable Water Filters. University of Massachusetts Internal Seed Grant (**2019**) (\$10,000).

6. **O. Apul (PI)**, J. Reuther. Modular Polymer-Immobilized Nano-Enabled Device for Lead Capture from Drinking Water Distribution Systems. Massachusetts Office of Technology Commercialization and Ventures (2019) – (\$15,000).
7. **O.G. Apul (PI)**, H. Mack. Nano-Enabled Combustion of Natural Gas in Constant Volume Isothermal Chambers. Industry Sponsor (2019) – (\$150,000)
8. **O.G. Apul (PI)**, X. Zhang. Increasing Biogas Production from Wastewater Residual Sludge by a Novel, Single-Step Nano-Enabled Thermal Pretreatment Method. Massachusetts Clean Energy Center Catalyst Program (2018) – (\$65,000).
9. **O.G. Apul (PI)**, D. Schmidt. Nitrogen Adsorption for Detecting the Specific Surface Area of Hybrid Metal Oxides. Industry Sponsor (2018) – (\$2,000).
10. **O.G. Apul (PI)**, The Value of Lead-Free Water for Lowell General Public. University of Massachusetts Lowell Community Engaged Research Program (2017) – (\$1,500).
11. P. Dahlen, **O.G. Apul (co-PI)**, P. Westerhoff. Additive-Augmented Microwave Remediation of Soils Containing Heavy-Hydrocarbons. Industry Sponsor (2018) (\$100,000).
12. E. Agar, **O.G. Apul (co-PI)**, S. Pagsuyoin. High-Resolution Capacitive Deionization for Selective PFAS Removal, University of Massachusetts Internal Seed Grant (2018) (\$10,000).
13. **O.G. Apul**, P. Dahlen, P. Westerhoff. Additive Augmented, Ex-Situ Microwave Treatment for Remediation of Soils Containing Heavy Hydrocarbons. Industry sponsor (2017) – (\$50,000).
14. **O.G. Apul**, P. Westerhoff, T. Reid. Experimental Investigation of 2-Methylisoborneol (MIB) and Geosmin Removal by Powdered Activated Carbon for Spartanburg Regional Joint Water System – Spartanburg, SC. Industry sponsor (2016) – (\$22,000).
15. P. Dahlen, **O.G. Apul**, Guo, Y. Microwave-Enabled Thermal Remediation of Organic Chemical Contaminated Soils using Dielectric Nanomaterials as Additives. School of Sustainable Engineering and the Built Environment at Arizona State University (2016) – (\$5,000).
16. P. Westerhoff, **O.G. Apul**, S. Sinha. Removal of Perfluorinated Compounds (PFC) by Carbonaceous Nano-Adsorbents Coupled with Pre-Filtration Membranes. Industry sponsor (2016) – (\$15,000).
17. **O.G. Apul** (Coordinator & Founder), Biomimicry Initiative for Graduate Students at ASU. Biomimicry Center at Arizona State University (2016) – funded.
18. P. Westerhoff, **O.G. Apul** "Evaluation of oxidant/surfactant/solvent cocktails for washing soils containing heavy hydrocarbons" Oil Company (2016) – (\$70,000).
19. **O.G. Apul**, N. Fischer, P. Westerhoff (PI). In-Situ Remediation of Spent Granular Activated Carbon using Iron Oxide Nanoparticles and Hydrogen Peroxide, Industry sponsor (2016) - (\$10,000).

OTHER MAJOR PROPOSALS

20. **O.G. Apul (PI)**, P. Kurup, R. Nagarajan, M. Yan, D. Bello, B. Xing, D. Reckhow, J. Tobiasson, J. Schiffman, B. Lau. Nanotechnology-Enabled Fabrics for Environmental Applications. UMass President's Science and Technology Award (2018) – (\$150,000 – Selected 1st among all UMass system in 2018 but program suspended, waiting for re-submission).
21. **O.G. Apul (PI)**, Dielectric Heating of Edge-Tailored Graphenes towards Regenerable Adsorbents for Water Treatment. NSF CAREER. (2019) - (\$505,000 – Placed in the "Competitive Batch" but not selected for funding, waiting for re-submission).
22. Saleh, N., **O.G. Apul (co-PI)**, P. Kurup., J. Zornberg, D. Hanigan. Innovation for detection and containment of PFAS at the landfill geoliner-leachate interface (2019) – (\$900,000 – Passed the "Technically Review" but not selected for funding at administrative step, waiting for re-submission).

23. **O.G. Apul (PI)**, N. Saleh, S. Richardson. Transformation and Removal Mechanisms of Common Cannabinoids and their Reaction Byproducts in Engineered Aquatic Systems. NSF – CBET Environmental Engineering (2019) – (\$420,000 – At Submission Stage)
24. **O.G. Apul (PI)**. Thermal Regeneration Technologies for Granular Activated Carbons Laden with Per- and Polyfluoroalkyl Substances. Water Resources Research Center (2019) – (\$50,000 – Under Review).
25. **O.G. Apul (PI)**, Wu, H., Venkatesen, A., Pietari, J. Thermolysis Pathways of Per- and Polyfluoroalkyl Substances Adsorbed onto Granular Activated Carbons. DOD SERDP non-federal (2019) – (\$950,000 – Under Preparation).

PUBLICATIONS

List of Publications (underlined authors indicate students advised by Dr. Apul).

University of Massachusetts Lowell

34. Khalid, A., Rowles, L.S., Ateia, M., Xiao, M., Moses, I., Bello, D., Karanfil, T., Saleh, N., **Apul, O.G.* (accepted)**. Mesoporous activated carbon shows superior adsorption affinity for 11-nor-9-carboxy- Δ^9 -tetrahydrocannabinol in water. *Clean Water (Nature Partner Journal)* (***corresponding author**)
33. Bozkurt, Y., **Apul, O.G.* 2020**. Critical Review for Microwave Pretreatment of Waste Activated Sludge Prior to Anaerobic Digestion. *Current Opinion in Environmental Science and Health*. 14: 1-9. (***corresponding author**)
32. Saleh, N., Khalid, A., Tian, Y., Ayres, C., Sabaraya, I., Pietari, J., Hanigan, I., Chowdhury, I., **Apul, O.G.* 2019**. Degradation and removal of poly- and per-fluoroalkyl substances from aqueous systems by nano-enabled water treatment technologies. *Environmental Science: Water Research and Technology*. 5: 198-208. (***corresponding author**)
31. Saleh, N., **Apul, O.G.***, Karanfil, T. **2019**. The genesis of a critical environmental concern: Cannabinoids in our water systems. *Environmental Science and Technology*. 53: 1746-1747 (Scientific Opinion). (***corresponding author**)
30. Lu, D., Liu, X., **Apul, O.G.**, Zhang, L., Ryan, D., Zhang, X. **2019**. Optimization of biomethane production from anaerobic Co-digestion of microalgae and septic tank sludge. *Biomass and Bioenergy*. 127: 105266.
29. Atkinson, .A., **Apul, O.G.**, Schneider, O., Garcia-Segura, S., Westerhoff, P. **2019**. Nanobubble technologies offer opportunities to improve water treatment. *Accounts of Chemical Research*. 52: 1196-1205.
28. Ersan, G., Kaya, Y., Ersan, M., **Apul, O.G.**, Karanfil, T. **2019**. Adsorption kinetics and aggregation for three classes of carbonaceous adsorbents in the presence of natural organic matter. *Chemosphere*. 229: 515-524.
27. Ersan, G., **Apul, O.G.**, Karanfil, T. **2019**. Predictive models for adsorption of organic compounds by graphene nanosheets. *Science of the Total Environment*. 5: 198-208.
26. Kidd, J., Barrios, A., **Apul, O.G.**, Westerhoff, P. Perreault, F. **2018**. Removal of bromide from surface water: A comparison between silver-impregnated graphene oxide and silver-impregnated powdered activated carbon. *Environmental Engineering Science*, 35: 988-995.
25. Gan, W., Venkatesan, A., **Apul, O.G.**, Perreault, F., Yang, X., Westerhoff, P. **2018**. Bromide removal from drinking waters by silver amended coagulation. *Journal of American Water Works Association*, 110: 13-24.
24. Ersan G., **Apul, O.G.**, Perreault, F., Karanfil, T. **2017**. Adsorption of organic compounds by graphene nanosheets and comparison with carbon nanotubes: A review. *Water Research*, 126: 385-398.
23. Linard, E., **Apul, O.G.**, Karanfil, T., van der Hurk, P., Klaine, S. **2017**. Bioavailability of carbon nanomaterial-adsorbed polycyclic aromatic hydrocarbons to *P. promelas*: influences of adsorbate molecular size and configuration. *Environmental Science and Technology*, 51: 9288-9296.
22. Ateia, M., **Apul, O.G.**, Shimizu, Y., Muflihah, A., Yoshimura, C., Karanfil, T. **2017**. Elucidating adsorptive fractions of natural organic matter on carbon nanotubes. *Environmental Science and Technology*, 51:7101-7110.

Arizona State University

21. **Apul, O.G.***, Hoogesteijn von Reitzenstein, N., Schoepf, J., Ladner, D. Hristovski, K., Westerhoff, P. **2017**. Superfine powdered activated carbon incorporated into electrospun polystyrene fibers preserve adsorption capacity. *Science of the Total Environment*, 592:458-464. (***corresponding author**).
20. Garcia, J., Markovski, J., Gifford, J.M.K., **Apul, O.G.**, Hristovski, K.D. **2017**. The effect of metal (hydro)oxide nano-enabling on intraparticle mass transport of organic contaminants in hybrid granular activated carbon. *Science of the Total Environment*, 586: 1219-1227.
19. **Apul, O.G.***, Delgado, A., Kidd, J., Alam, F., Dahlen P., Westerhoff, P. **2017**. Carbonaceous nano-additives augment microwave-enabled thermal remediation of soils containing petroleum hydrocarbons. *Environmental Science: Nano*, 3:997-1002. (***corresponding author**).
18. **Apul, O.G.***, Dahlen, P., Delgado, A., Sharif, F., Westerhoff, P. **2016**. Treatment of heavy, long-chain petroleum-hydrocarbon impacted soils using chemical oxidation, *Journal of Environmental Engineering-ASCE*, 040160065. (***corresponding author**)
17. Ersan, G., Kaya, Y., **Apul, O.G.**, Karanfil, T. **2016**. Adsorption of organic contaminants by graphene nanosheets, carbon nanotubes and granular activated carbons under different natural organic matter preloading conditions, *Science of the Total Environment*, 565: 811-817.
16. Ersan, G., **Apul, O.G.**, Karanfil, T. **2016**. Linear solvation energy development for adsorption of organic contaminants by carbon nanotubes, *Water Research*, 98: 28-38.

Clemson University

15. Chen, C., **Apul, O.G.**, Karanfil, T. **2017**. Removal of bromide from surface waters using silver impregnated activated carbon. *Water Research*, 113: 223-230
14. Partlan, E., Davis, K., Ren, Y., **Apul, O.G.**, Mefford, T.M., Karanfil, T., Ladner, D. **2016**. Effect of bead milling on chemical and physical characteristics of activated carbons pulverized to superfine sizes. *Water Research*, 89: 161-170.
13. Zhou, Y., **Apul, O.G.**, Karanfil, T. **2015**. Adsorption of halogenated aliphatic contaminants by graphene nanomaterials. *Water Research*, 79: 57-67.
12. **Apul, O.G.**, Zhou, Y., Karanfil, T. **2015**. Mechanisms and modeling of halogenated aliphatic contaminant adsorption by carbon nanotubes. *Journal of Hazardous Materials*, 295: 138-144.
11. Linard, E., Van den Hurk, P., Karanfil, T., **Apul, O.G.**, Klaine, S. **2015**. Influence of carbon nanotubes on the bioavailability of fluoranthene. *Environmental Toxicology and Chemistry*, 34: 658-666.
10. Bliznyuk, V., Duval, C., **Apul, O.G.**, Seliman, A., Husson, S., DeVol, T. **2015**. High porosity scintillating polymer resins for ionizing radiation sensor applications. *Polymer*, 56: 271-279.
9. **Apul, O.G.**, Karanfil, T. **2015**. Adsorption of synthetic organic contaminants by carbon nanotubes: A critical review. *Water Research*, 68: 34-55.
8. Wang, Q.L., **Apul, O.G.**, Xuan, P., Luo, F., Karanfil, T. **2013**. Development of 3D QSPR model for adsorption of aromatic compounds by carbon nanotubes: Comparison among multiple linear regression, artificial neural network and support vector machine. *Royal Society of Chemistry Advances*, 3: 23924-23934.
7. Ellerie, J.R., **Apul, O.G.**, Karanfil, T., Ladner, D.A. **2013**. Comparing graphene, carbon nanotube, and superfine powdered activated carbon as adsorptive coating materials for ultrafiltration membranes. *Journal of Hazardous Materials*, 261: 91-98.
6. **Apul, O.G.**, Wang, Q., Shao, T., Rieck J., Karanfil, T. **2013**. Predictive model development for adsorption of aromatic contaminants by multi-walled carbon nanotubes. *Environmental Science and Technology*, 47(5): 2295-2303.

5. **Apul, O.G.**, Wang, Q., Zhou, Y., Karanfil, T. **2013**. Adsorption of aromatic organic contaminants by graphene nanosheets: Comparison with carbon nanotubes and activated carbon. *Water Research*, 47(4): 1648-1654.
4. **Apul, O.G.**, Shao, T., Zhang, S., Karanfil, T. **2012**. The impact of carbon nanotube morphology on phenanthrene adsorption. *Environmental Toxicology and Chemistry*, 31(1): 73-78.

Middle East Technical University

3. **Apul, O.G.** and Sanin, F.D. **2010**. Ultrasonic pretreatment and subsequent anaerobic digestion under different operational conditions. *Bioresource Technology*, 101(23): 8984-8992.
2. **Apul, O.G.**, Atalar, I., Zorba, G.T. and Sanin, F.D. **2010**. The dewaterability of disintegrated sludge samples before and after anaerobic digestion. *Drying Technology*, 28(7): 901-909.
1. **Apul, O.G.**, Dogan, I. and Sanin, F.D. **2009**. Can capillary suction time be an indicator for sludge disintegration? *Journal of Residual Science and Technology*, 6(3): 99-104.

OTHER PUBLICATIONS AND PRESENTATIONS

Submitted Manuscripts and Planned Submissions

1. **Apul, O.G.**, Khalid, A., Rowles, L.S., Karanfil, T., Richardson, S., Saleh, N. Transformation potential of 11-Nor-9-Carboxy- Δ^9 -tetrahydrocannabinol during its passage through engineered water treatment systems: A perspective. *Environment International* (submitted manuscript).
2. Partlan, E., Ren, Y., **Apul, O.G.**, Ladner, D., Karanfil, T. Adsorption kinetics of synthetic organic contaminants onto superfine powdered activated carbon. *Chemical Engineering Journal* (submitted manuscript).
3. Bozkurt, Y., Giles, R., Zhang, X., Liu, D., **Apul, O.G.***. Nano-enabled microwave pretreatment of waste activated sludge prior to anaerobic digestion. Submission planned to: *Environmental Science: Nano* (full draft available).
4. **Apul, O.G.**, Perreault, F., Ersan, G., Karanfil, T. Predictive model development for adsorption of organic compounds by carbon nanomaterials: an overview of the last decade from ground up. Submission planned to: *Nature Nanotechnology* (full draft available).
5. **Apul, O.G.**, Delgado, A., Hall, C., Arrowsmith, S., Alam, F., Miranda, E., Sra, K., Kamath, R., Dahlen, P., McMillen, S., Westerhoff, P., Krajmalnik-Brown, R. Biodegradation of petroleum hydrocarbons in crude oil-impacted soils is inhibited by addition of peroxide oxidants. Submission planned to *Journal of Environmental Engineering* (full draft available).
6. Ramírez-Sánchez, I. M., **Apul, O.G.**, Saleh, N. B. Oxidative Degradation of Estriol and Tetrahydrocannabinol with Copper-Zinc Alloy. *Chemosphere* (in-preparation)

Thesis and Dissertation

1. **Apul, O.G.** Predictive Model Development for Adsorption of Organic Contaminants by Carbon Nanotubes. Clemson University, August 2014, Ph.D. Dissertation, Clemson, SC.
2. **Apul, O.G.** Municipal Sludge Minimization: Evaluation of Ultrasonic and Acidic Pretreatment Methods and Their Subsequent Effects on Anaerobic Digestion. Middle East Technical University, February 2009, M.S. Thesis, Ankara, Turkey.

Invited Keynote Presentation

1. **Apul, O.G.** Adsorption of Organic Contaminant by Carbonaceous Adsorbents: Engineered and Natural Applications. December **2016**, Academy of co-Creative Education of Environment and Energy Science Forum, San Diego, CA.

Other Invited Presentations

2. **Apul, O.G.** Graphitic Carbon for Water Treatment: 100 years and Still Innovative, Scheduled for December **2019**, University of Alaska Anchorage, Professional Development Series, Anchorage, AK.

3. **Apul, O.G.** Predictive Model Development for Adsorption of Synthetic Organic Contaminants by Carbon Nanomaterials, April **2019**, McGill University, Environmental Engineering Seminar, Montreal, QB, Canada.
4. **Apul, O.G.** Carbon Nanomaterials for Innovations in Drinking Water Treatment, February **2019**, Stony Brook University, NYS Center for Clean Water Technology Seminar, Stony Brook, NY.
5. **Apul, O.G.** Carbon-based Nanomaterials for Innovations in Drinking Water Treatment, March **2018**, University of Florida, Environmental Engineering Seminar, Gainesville, FL.
6. **Apul, O.G.**, Pruitt, E., Dahlen, P., Westerhoff, P. Nanoparticle-Augmented Microwave Remediation of Soils, January **2018**, Chevron HHSRG Year-End Meeting, Houston, TX.
7. **Apul, O.G.**, Zeng, C., Delgado, A., Westerhoff, P., Dahlen, P. Krajalnik-Brown, R., Surfactant and Oxidant Enhanced Bioremediation, January **2018**, Chevron HHSRG Year-End Meeting, Houston, TX.
8. **Apul, O.G.**, Adsorption of synthetic organic compounds by carbon nanomaterials. Plastics Engineering Presentation at University of Massachusetts Lowell. December **2017**. Lowell, MA.
9. **Apul, O.G.** Adsorption of Organic Compounds by Carbon Nanomaterials: Exploring Intermolecular Interactions to Advance in Water Treatment Technologies. November **2017**, University of Massachusetts Amherst Environmental Engineering Seminar, Amherst, MA.
10. **Apul, O.G.**, Reid, T., Westerhoff, P. Experimental Investigation of 2-Methylisoborneol (MIB) and Geosmin Removal by Powdered Activated Carbon for Spartanburg Regional Joint Water System, September **2016**, ASU Regional Water Quality Workshop, Tempe, AZ.
11. **Apul, O.G.**, Predictive model development for adsorption of organic contaminants by carbon nanotubes. Environmental Engineering Seminar at Arizona State University, February **2015**, Tempe, AZ.
12. **Apul, O.G.** Turkey's Water Perspective, American Water Works Association Annual Conference, June **2012**, Dallas, TX.
13. **Apul, O.G.** Evaluation of Acidic and Ultrasonic Sludge Pretreatment Methods .Environmental Engineering Seminar at Middle East Technical University, April **2008**, Ankara, Turkey.

Oral and Poster Presentations (Presenting advisees are underlined)

14. Bozkurt, Y., U, Lu, D., Zhang, X., Giles, R., **Apul, O.G.** Nano-enabled Pretreatment of Waste Activated Sludge prior to Anaerobic Digestion. Sustainable Nanotechnology Organization Conference, November **2019**, San Diego, CA (Oral Presentation).
15. Ashani, H., **Apul, O.G.** Removal of Perfluorinated Chemicals from an Arizona Groundwater Well by Various Adsorbents. American Water Works Association California-Nevada Section Annual Fall Conference, October **2019**, San Diego, CA (Oral Presentation).
16. LaFaille, R., Pruitt, E., Lewis, J., Bernier, R., Dahlen, P., **Apul, O.G.** Repeatable Use of Susceptors in Microwave Remediation of Petroleum Contaminated Soils. New England Graduate Student Water Symposium, September **2019**, Amherst, MA (Poster Presentation).
17. Rowles, S., **Apul, O.G.**, Karanfil, T., Saleh, N. Transformation and Removal Efficacy of Common Cannabinoids in Engineered Aquatic Systems. American Chemical Society National Meeting, Cannabis Chemistry Subdivision, August **2019**, San Diego, CA (Oral Presentation).
18. Bozkurt, Y., LaFaille, R., Zhang, X., Yu, T., Giles, R., **Apul, O.G.** Nano-Enabled Pretreatment of Waste Activated Sludge Prior to Anaerobic Digestion. Gordon Research Conference: Environmental Nanotechnology, June **2019**, Newry, ME (Poster Presentation).
19. LaFaille, R., Zhang, X., Giles, R., **Apul, O.G.** Nano-Enabled Microwave Pretreatment of Waste Activated Sludge. New England Graduate Student Water Symposium, September **2018**, Amherst, MA (Poster Presentation).

20. Egitto, J., Latayan, J., Pagsuyoin, S., Apul, O.G., Agar, E. Selective Bromide Removal from Surface Waters using Capacitive Deionization. New England Graduate Student Water Symposium, September **2018**, Amherst, MA (Poster Presentation).
21. Barrios, A., Kidd, J., **Apul, O.G.**, Westerhoff, P., Perreault, F. Comparison of Graphene Oxide Impregnated with Ionic or Nano Silver for Bromide Removal from Surface Waters. American Chemical Society 256th National Meeting and Exhibition, August **2018**, Boston, MA (Oral Presentation).
22. Atkinson, A., **Apul, O.G.**, Schneider, O., Garcia-Segura, S., Westerhoff P. Implementation of Nanobubble Based Technologies in Water Treatment. 256th American Chemical National Meeting and Exhibition. August **2018**, Boston, MA (Oral Presentation)
23. Khalid, A., Pagsuyoin, S., Bello, D., Karanfil, T., Apul, O.G. Adsorption of Δ^9 -tetrahydrocannabinol by Carbon-Based Nano Adsorbents. 256th American Chemical Society National Meeting and Exhibition. August **2018**, Boston, MA (Oral Presentation)
24. Ashani, H., Khalid, A., Apul, O.G., Sinha, S., Westerhoff, P. Removal of Perfluorinated Chemicals (PFCs) from Arizona Groundwater by Carbonaceous Nanomaterials. Arizona Water 91st Annual Conference. May **2018**. Phoenix, AZ (Oral Presentation).
25. Khalid, A., Tian, Y., Ayres, C., Sabaraya, I.V., Pietari, J., Chowdhury, I., Saleh, N.B., Apul, O.G. Removal of Poly- and Per-fluoroalkyl Substances (PFAS) from Natural Waters. Cabot Corporation, Student Material Research Symposium. May **2018**. Billerica, MA (Poster Presentation).
26. Dooley, K., Belanger, N., Gannon, O., Giles, R., Barrington, L., Apul, O.G. Sanitation Solutions for Housing Units of an Orphanage in Les Cayes, Haiti. University of Massachusetts Lowell, Student Symposium. May **2018**. Lowell, MA (Poster Presentation).
27. Khalid, A., Rowles, L.S., Apul, O.G., Saleh, N. 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 **2017**. Lowell, MA (Poster Presentation/Best Poster Acc. to Crowd Voting).
28. Pruitt, E, **Apul, O.G.**, Dahlen, P., Westerhoff, P., Kamath, R., Kong, K. Nano-augmented microwave irradiation of soils containing heavy and long-chain petroleum-hydrocarbons. Pan American Congress of Nanotechnology Fundamentals and Applications to Shape the Future. November **2017**. Guaruja, SP, Brazil (Poster Presentation).
29. **Apul, O.G.**, Innovations in Drinking Water Treatment Technologies: Nanoscale Solutions to Macroscale Problems. 2017-2018 Faculty Symposium at University of Massachusetts Lowell. November **2017**. Lowell, MA (90-Second Flash Oral Presentation).
30. **Apul, O.G.**, Innovations in Drinking Water Treatment Technologies. Industry Advisory Board Meeting, September **2017**. Lowell, MA (Short Introductory Oral Presentation).
31. **Apul, O.G.**, Delgado, A., Miranda, E., Krajmalnik-Brown, R., Westerhoff, P., Sihota, N, Kamath, R., Sra, K., McMillen, S. Enhancing the biodegradation of heavy-hydrocarbons in soil. Chevron Mid-Year Meeting, August **2017**, Project Meeting, Houston, TX (Oral Presentation).
32. Pruitt, E., **Apul, O.G.**, Dahlen, P., Westerhoff, P., Kamath, R., Kong, K. Additive augmented, ex-situ microwave treatment for remediation of soils containing heavy hydrocarbons. Chevron Mid-Year Meeting, August **2017**, Project Meeting, Houston, TX (Oral Presentation).
33. Kidd, J., Barrios, A., **Apul, O.G.**, Perreault, F., Westerhoff, P. Silver impregnated graphene oxide removes bromide from surface waters. Gordon Research Conference (GRC) on Environmental Nanotechnology. June **2017**. Stowe, VT (Poster Presentation & Oral Presentation in Gordon Research Seminar Series).
34. Barrios, A.C., Kidd, J., **Apul, O.G.**, Westerhoff, P., and Perreault, F. Silver impregnated graphene oxide for bromide removal from surface water: ionic silver versus nano-silver. Gordon Research Conference (GRC) on Environmental Nanotechnology. June **2017**. Stowe, VT (Poster Presentation).
35. Linard, E., **Apul, O.G.**, Karanfil, T., van den Hurk, P., Klaine, S. Application of a bioavailability index to assess fish exposure to carbon nanomaterial-adsorbed PAHs. Gordon Research Conference (GRC) on Environmental Nanotechnology. June **2017**. Stowe, VT (Poster Presentation).

36. Delgado, A.G., **Apul, O.G.**, Chen, T., Yavuz, B.M., Rittmann, B.E., Westerhoff, P., Krajmalnik-Brown, R. Lifting the weight off crude oils: Potentials and limitations of combined chemical oxidation and biodegradation. Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference, June **2017**, Ann Arbor, MI (Poster Presentation).
37. Barrios, A.C., Kidd, J., **Apul, O.G.**, Westerhoff, P., and Perreault, F. Silver impregnated graphene oxide for bromide removal from surface water: ionic silver versus nano-silver. May **2017**. Phoenix, AZ, Arizona Water 90th Annual Conference. Phoenix, AZ (Oral Presentation).
38. Barrios, A.C., Kidd, J., **Apul, O.G.**, Westerhoff, P., and Perreault, F. Silver impregnated graphene oxide for bromide removal from surface water: ionic silver versus nano-silver. May **2017**. Houston, TX, NEWT 2nd Annual Site Visit. Houston, TX (Poster Presentation).
39. **Apul, O.G.**, Nano-Environment Interconnections: Applications and Implications of Nano in Natural and Built Environments. October **2016**, Translating Graduate Nano-Experience to an Academic Career: Integrating Social Aspects in Engineering Education through Active Learning Workshop. Austin TX (Flash Oral Presentation).
40. **Apul, O.G.**, von Reitzenstein, N.H., Ladner, D., Hristovski, K., Westerhoff, P. Development of Novel Non-Woven Fabrics by co-Spinning of Superfine Powdered Activated Carbon and Polystyrene. American Chemical Society (ACS) National Meeting and Exhibition, August **2016**, Philadelphia, PA (Oral Presentation).
41. **Apul, O.G.**, Alam, F., Mouti, A., Arrowsmith, S., Dahlen, P., Delgado, P., Westerhoff, P., Krajmalnik-Brown, R., Kamath, R. and McMillen, S. Enhancing the Biodegradation of Heavy Hydrocarbons in Soil. Chevron Mid-Year Meeting, August **2016**, Project Meeting at Rice University, Houston, TX.
42. von Reitzenstein, N.H., **Apul, O.G.**, Hristovski, K., Westerhoff, P. Engineering Polymer-Supported Nanomaterial Networks for Water Treatment via Electrospinning. AZ Water 89th Annual Conference, May **2016**, Tempe, AZ (Oral Presentation).
43. **Apul, O.G.**, Westerhoff, P. and Sihota, N. Heavy Hydrocarbon Soil Remediation Group: Summary of Results for Surf-Ox Team. Chevron End-of-Year Meeting, November **2015**, Project Meeting at Arizona State University, Tempe, AZ.
44. **Apul, O.G.**, Westerhoff, P., Sihota, N. and Zuo, Y. Evaluation of oxidant/surfactant/solvent cocktails for washing soils containing heavy hydrocarbons. Excavation and off-site management. Chevron Mid-Year Technology Deployment Meeting, May **2015**, Miami, FL.
45. Fischer, N., **Apul, O.G.**, Hristovski, Westerhoff, P. and Nowack, K. In situ regeneration of granular activated carbon saturated with natural organic matter and micropollutants. American Water Works Association (AWWA) Water Quality Technology Conference (WQTC), November **2015**, Salt Lake City, UT (Poster Presentation).
46. Kidd, J.M., **Apul, O.G.**, Hanigan, D., Hristovski, K. Reed, R., Herckes, P. and Westerhoff, P. Comparison of the material properties of eight unique nanoparticles using nano-metrological functional assays. Fourth Annual Conference, Sustainable Nanotechnology Organization, November **2015**, Portland, OR (Poster Presentation).
47. Partlan, E., Davis, K., Ren, Y., **Apul, O.G.**, Mefford, O.T., Karanfil, T. and Ladner, D.A. Effects of Bead Milling on Activated Carbon Characteristics: Trends in Superfine PAC. American Water Works Association (AWWA) Water Quality Technology Conference (WQTC), November **2015**, Salt Lake City, UT (Oral Presentation).
48. Delgado, A.G., Kamath, R., **Apul, O.G.**, Chen, T., Rittmann, B., Westerhoff, B. and Krajmalnik-Brown, R. Chemical oxidants application for remediation of petroleum hydrocarbons. LAPI-ITB Workshop, August **2015**, Bandung, West Java, Indonesia (Oral Presentation).
49. Delgado, A.G., Kamath, R., **Apul, O.G.**, Westerhoff, B. and Krajmalnik-Brown, R. Surfactant-enhanced remediation of petroleum hydrocarbons. LAPI-ITB Workshop, August **2015**, Bandung, West Java, Indonesia (Oral Presentation).
50. Westerhoff, P., **Apul, O.G.** and Sihota, N. Evaluation of oxidant/surfactant/solvent cocktails for washing soils containing heavy hydrocarbons. Chevron Annual Meeting, January **2015**, San Ramon, CA (Oral Presentation).

51. Partlan E., Ren, Y., **Apul, O.G.**, Karanfil, T., and Ladner, D.A. Variations of superfine activated carbon produced by bead milling for trace organic contaminant adsorption, American Water Works Association (AWWA) Water Quality Technology Conference (WQTC), November **2014**, New Orleans, LA (Poster presentation).
52. **Apul, O.G.**, Zhou, Y. and Karanfil, T. Adsorption of halogenated aliphatic contaminants by graphene nanosheets. American Chemical Society (ACS) National Meeting and Exhibition, August **2014**, San Francisco, CA (Oral Presentation).
53. **Apul, O.G.** and Karanfil, T. Adsorption of synthetic organic contaminants by carbonaceous nanomaterials. Association of Environmental Engineering and Science Professors (AEESP) 50th Anniversary Conference, July **2013**, Golden, CO (Poster Presentation).
54. **Apul, O.G.** and Karanfil, T. Evaluation of carbonaceous nanoadsorbents for adsorption of synthetic organic contaminants. Gordon Research Conference: Environmental Nanotechnology, June **2013**, Stowe, VT (Poster Presentation).
55. **Apul, O.G.** and Karanfil, T. Evaluation of alternative carbon adsorbents for water treatment: A comparison of activated carbon, carbon nanotubes and graphene nanosheets. 23rd Annual South Carolina Environmental Conference, March **2013**, Myrtle Beach, SC (Poster Presentation).
56. **Apul, O.G.** and Karanfil, T. Quantitative structure-adsorbability relationships for the adsorption of organic chemicals by carbon nanotubes. NSF Nanoscale Science and Engineering Grantees Conference, December **2012**. Arlington, VA (Poster Presentation).
57. **Apul, O.G.** and Karanfil, T. Predictive model development for adsorption of synthetic organic contaminants by carbon nanotubes. American Water Works Association Annual Conference, June **2012**, Dallas, TX (Oral Presentation).
58. **Apul, O.G.**, Rieck, J.R. and Karanfil, T. QSAR & LSER model development for adsorption of organic contaminants by carbon nanotubes. 243rd Annual American Chemical Society Meeting & Expo, March **2012**, San Diego, CA (Poster Presentation).
59. Wang, Q., **Apul, O.G.**, Xuan, P., Luo, F., Rieck, J.R. and Karanfil, T. Statistical analysis in 3D QSPR model development for organic compounds adsorption onto CNTs. 243rd Annual American Chemical Society Meeting & Expo, March **2012**, San Diego, CA (Poster Presentation).
60. **Apul, O.G.**, Rieck, J.R. and Karanfil T. A predictive model development for adsorption of organic contaminants by carbon nanotubes. Symposium/Workshop: Carbons for Energy Applications, March **2012**, Stone Mountain, GA (Poster Presentation).
61. **Apul, O.G.**, Rieck, J.R. and Karanfil T. Treating drinking water with carbon nanotubes: comparison of two modeling approaches. 22nd Annual South Carolina Environmental Conference, March **2012**, Myrtle Beach, SC (Poster Presentation).
62. **Apul, O.G.**, Rieck, J.R. and Karanfil T. Adsorption of organic contaminants by carbon nanotubes. 21st Annual South Carolina Environmental Conference, March **2011**, Myrtle Beach, SC (Poster Presentation).
63. Zorba G.T., Atalar I., **Apul O.G.** and Sanin F. D. Enhancement of sludge reduction and methane production rates using different pretreatment methods applied prior to small scale laboratory anaerobic digesters. WEF Conference Residuals and Biosolids. May **2010**, Savannah, GA (Poster Presentation).
64. **Apul O.G.** and Sanin F.D. Examination of sludge minimization potential and associated costs by ultrasonic pretreatment. 8th National Environmental Engineering Congress. November **2009**, Antalya, Turkey (Oral Presentation).
65. **Apul O. G.**, Dogan I. and Sanin F. D. Can capillary suction time be an indicator for sludge disintegration? IWA Specialist Conference Sustainable Management of Water and Wastewater Sludges. August **2009**, Harbin, China (Oral Presentation).
66. **Apul, O.G.** and Sanin, F.D. Minimization of sludge by ultrasonic pretreatment. 6th Symposium of Environmental Pollution Priorities in Turkey. May **2009**, Gebze, Turkey (Oral Presentation).
67. Koksoy G.T., Dogan I., **Apul O.G.** and Sanin F. D. Effect of digester F/M ratio on gas production of ultrasonically treated sludge. International Water Association (IWA) World Water Congress and Exhibition. September **2008**, Vienna, Austria (Oral Presentation).

68. **Apul O.G.**, Doğan I., Köksoy G.T. and Sanin F.D. Effects of chemical and thermo-chemical pretreatment methods of sludge on anaerobic digestion. 7th National Environmental Engineering Congress. October **2007**, Izmir, Turkey (Oral Presentation).

TEACHING AND MENTORSHIP EXPERIENCE

University of Massachusetts Lowell, Lowell, MA

- Advisor, Ph.D. student (Mr. Yigit Bulut, Ms. Busra Sonmez).
- Advisor, M.S. student (Mr. Ritchie Lafaille, Mr. Arsalan Khalid)
- Advisor, Undergraduate researchers (Ms. Jana Latayan, Mr. Miles Cramer, Mr. Joseph Egitto, Ms. Sara Vargas).
- Advisor, High School Student (Mr. Matt Tengtrakool)
- Committee member, (Ms. Akarapan Rojjanapinun, Mr. Dingnan Liu, Ms. Mahnaz Seyednourani).
- Primary Lecturer of Graduate Level Course, CIVE 5660 – Environmental Applications and Implications of Nanomaterials, Spring 2018.
- Primary Lecturer of Undergraduate Level Course, CIVE 4850 – Senior Year Capstone Design for Environmental Engineers, Spring 2018.
- Primary Lecturer of Undergraduate Level Course, CIVE 3010 – Fluid Mechanics, Fall 2018, Spring 2019.
- Primary Lecturer of Graduate Level Course, CIVE 5610 – Physicochemical Processes in Water Treatment, Fall 2019.
- Coordinator, CIVE 5050 – Graduate Research Seminar Series.

Arizona State University, Tempe, AZ

- Mentor, graduate researchers (Mr. Justin Kidd, Ms. Natalia H. von Reitzenstein, Ms. Ana Barios, Ms. Wenhui Gan, and Ms. Natalia Fischer, Mr. Heudea Lee, Ms. Emmy Pruitt) and undergraduate researchers (Mr. Saul Duran, Ms. Fabiha Alam).
- Guest Lecturer, Physical-Chemical Treatment of Water and Wastewater, Fall 2015.
- Coordinator, Sponsored Lecture Series, Biomimicry Initiative for Graduate Students at Biomimicry Center at Arizona State University.

Clemson University, Clemson, SC

- Guest Lecturer, Water and Wastewater Treatment Systems, Spring 2014.
- Teaching Assistant & Lecturer, Environmental Organic Chemistry, Spring 2014.
- Teaching Assistant & Lecturer, Chemistry of Aqueous Systems, Spring 2014.
- Guest Lecturer, Physicochemical Operations in Water and Wastewater Treatment Systems, Spring 2013.
- Mentor, graduate students, Mr. Yang Zhou, Mr. Chen Chen, Ms. Gamze Ersan, Ms. Yiran Ren, Ms. Erica Linard.

Middle East Technical University, Ankara, Turkey

- Teaching Assistant & Lecturer, Environmental Engineering Capstone Design-I, Fall 2008 & 2009.
- Teaching Assistant & Lecturer, Environmental Engineering Capstone Design-II, Spring 2008 & 2009.
- Teaching Assistant & Lecturer, Water Supply Engineering (with lab), Spring 2007.

PATENT APPLICATIONS

1. J. Reuther, **O.G. Apul**, **2019**. (Patent Disclosure Filed). elf-Healable, Regenerable Polymer Adsorbents for Low-Energy, Reusable Water Filters
2. **O.G. Apul**, P. Westerhoff, P. Dahlen, **2018**. (Provisionally filed US patent application). Nano-augmented Microwave Pretreatment of Sewage Sludge Prior to Anaerobic Digestion in Wastewater Treatment Plants
3. F. Perrault, P. Westerhoff, **O.G. Apul**, S. Sinha, **2017**. (Provisionally filed US patent application). Silver-Impregnated Two-Dimensional Structures for Bromide Removal.
4. P. Westerhoff, S. Sinha, **O.G. Apul**, F. Perreault, **2017** (Provisionally filed US patent application, no:62/515,660). Halide Removal from Water using Silver Salts and Coagulants.
5. P. Westerhoff, P. Dahlen, **O.G. Apul**, **2016**. (Fully filed US patent application, no:62/400,735). Microwave-Enabled Thermal Remediation of Organic Chemical Contaminated Soils using Dielectric Nanomaterials as Additives.

AWARDS AND HONORS

1. American Society of Civil Engineers (ASCE) Student Chapter, Outstanding Teacher Award, **2019**
2. New England Graduate Student Water Symposium, Poster Presentation Competition 3rd Place, **2019** (Advisee Mr. Ritchie LaFaille)
3. Gordon Research Conference Environmental Nanotechnology, Travel Award Recipient, **2019**
4. University of Massachusetts Lowell, Recognition of Most Published Faculty Members in College of Engineering, **2018**
5. University of Massachusetts Lowell, Recognition by Chancellor for Highest Number of Peer-Reviewed Publications and Creative Works, **2017**
6. University of Massachusetts Lowell, Difference Maker Idea Challenge Winner, **2018** (Advisee Mr. Arsalan Khalid)
7. University of Massachusetts Lowell, Francis College of Engineering Prototype Competition Best Project Award Recipient, **2017** (Advisee Mr. Arsalan Khalid)
8. 1st Pan American Congress of Nanotechnology, International Travel Award Recipient, **2017**
9. Elsevier, Highly Cited Paper Recognition by Water Research, **2015**
10. Clemson University Student Government, Professional Enrichment Grant Recipient, **2014**
11. The Water Environment Association of South Carolina, L.G. Rich Fellowship Recipient, **2013**
12. The 23rd Annual South Carolina Environmental Conference, Student Poster Award, 3rd place, **2013**
13. The Carbon for Energy Applications Symposium/Workshop, Elsevier Student Poster Award, **2012**
14. Clemson University Student Government, Professional Enrichment Grant Recipient, **2012**
15. Middle East Technical University, Senior Year Honor Roll, **2006**.
16. Middle East Technical University Senior Year Design Project, Best Project Award, 2nd place, **2006**

SERVICE & PROFESSIONAL INVOLVEMENT

Coordinator – PFAS Task Force at UMass Lowell (2019)

Panelist at National Science Foundation CBET - Biological and Environmental Interactions of Nanoscale Materials (2019).

Participant at National Science Foundation Science Board Listening Session (2019)

Committee Member for Provost's Office in College of Engineering University Level Faculty Website Development (2019 – present)

Faculty Senator representing Civil and Environmental Engineering at Faculty Senate (2018-present).

Committee Member of the University of Massachusetts Lowell Institutional Biosafety Committee (2018-present)

Guest Editor for Nanomaterials Journal for the 2019 special issue "Sustainable and Safe Nano-Enabled Water Treatment Applications".

Host for 2018 Summer Sustainability Camp for female high school students to provide hands-on research experience.

Reviewer for Scientific Journals for more than 60 articles in last three years mainly in journals: Environmental Science and Technology, Chemical Engineering Journal, Water Research, Environmental Toxicology and Chemistry, Science of the Total Environment, Water Science and Technology, Environmental Engineering Science, Environmental Science: Nano, SAR and QSAR in Environmental Research, Process Safety and Environmental Protection, Resource Efficient Technologies, Journal of Renewable Materials, Nanotoxicology, Nanomaterials.

Professional Memberships: Holding memberships of American Chemical Society (Environmental Chemistry Division), Association of Environmental Engineering and Science Professors (AEESP), Sustainable Nanotechnology Organization (SNO).

Founder: Biomimicry Initiative for Graduate Students (sponsored by Biomimicry Center of ASU).

Volunteer: Presented "Nanotechnology Enabled Water Treatment Technologies" to K-12 students at Night of the Open Door, ASU in 2016; Participated in Fall 2017 Open Houses (Oct. 1 and Oct 29) at University of Massachusetts Lowell in Civil and Environmental Engineering

Attendee: New England Graduate Student Water Symposium at UMass Amherst (September 2019), Water Summit at MIT (November 2017); New England Water Symposium at UMass Amherst (September 2017); Symposium on Water Innovations in Massachusetts at Worcester Polytechnic Institute (September 2017); Association for Environmental Health and Sciences Foundation East Coast Conference at UMass Amherst (October, 2017); Energy Innovation Forum at UMass Lowell (October, 2017); Problem-Based Learning Nano Education Workshop at University of Texas-Austin (August 2016), Problem-Based Learning Nano Education Workshop at University of South Carolina (August 2013).