

**AMEET J. PINTO, PhD**  
**ASSOCIATE PROFESSOR AND CARLTON S. WILDER JR CHAIR**  
**SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING**

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**I. Earned Degrees**

- 2009            Doctor of Philosophy in Civil Engineering,  
Virginia Polytechnic Institute and State University, Blacksburg, VA.  
Adviser: Prof. Nancy G. Love.
- 2005            Master of Science in Environmental Engineering  
University of Alaska Fairbanks, Fairbanks, AK.  
Advisers: Prof. David L. Barnes, Prof. Daniel M. White
- 2003            Bachelor of Chemical Engineering, First Class,  
Institute of Chemical Technology, University of Mumbai, Mumbai, India.

**II. Employment History**

- 2021-current    Associate Professor and Carlton S. Wilder Professor, School of Civil and  
Environmental Engineering, Georgia Institute of Technology, Atlanta, GA.
- 2016 –2021     Assistant Professor, Department of Civil and Environmental Engineering,  
Northeastern University, Boston, MA.
- 2015 – 2016     Senior Lecturer, Infrastructure and Environment Research Division, School of  
Engineering, University of Glasgow, Glasgow, UK.
- 2012 – 2015     Lecturer, Infrastructure and Environment Research Division, School of  
Engineering, University of Glasgow, Glasgow, UK.
- 2009 – 2012     Postdoctoral Research Fellow, Department of Civil and Environmental  
Engineering, University of Michigan. Advisers: Prof. Lutgarde Raskin, Prof.  
Chuanwu Xi

**III. Honors and Awards****A. International or National Awards**

- 2022            Selected to the “Forum on Microbial Threats”, National Academies of Science,  
Engineering, and Medicine.
- 2019            Paul L Busch Award for Innovation in Applied Water Quality Research, The  
Water Research Foundation.
- 2019            CEE Outstanding Young Alumni Award, Virginia Tech
- 2018            International Society of Microbial Ecology and International Water Association’s  
joint BioCluster Award (Rising Star category)
- 2018            National Science Foundation Early Faculty CAREER Award
- 2015            Engineering and Physical Science Research Council Bright IDEAS Award, UK
- 2014            Engineering and Physical Science Research Council Sponsorship Award, UK

#### IV. Research, Scholarship, and Creative Activities

Asterisk (\*) indicates outputs from Georgia Institute of Technology (GT).

**Boldface names** indicates advisees (graduate students, post-docs, visiting researchers) at GT and previous institutions.

**Boldface names** followed by a hash symbol (#) indicates GT advisees (graduate students, post-docs, visiting researchers).

Candidate name underlined.

##### A. Published Books, Book Chapters, and Edited Volumes

###### A1. Books

No data.

###### A2. Refereed Book Chapters

No data.

###### A3. Edited Volumes

No data.

##### B. Refereed Publications and Submitted Articles

###### B1. Published and Accepted Journal Articles

1. \* **Vilardi, K, Cotto, I<sup>#</sup>**, Bachman, M., Parson, M., Klaus, S., Wilson, C., Bott, C.B., Pinto, A.J. (2023) Co-occurrence, and cooperation between comammox and anammox bacteria in full-scale attached growth municipal wastewater treatment system. *Environmental Science & Technology*. 57(12): 5013-5023. DOI: 10.1021/acs.est.2c09223
2. \* **Gabrielli, M. <sup>#</sup>, Dai, Z. <sup>#</sup>**, Delafont, V., Timmers, P., van der Wielen, P., Antonelli, M., and Pinto, A.J. (2023). Identifying eukaryotes in drinking water metagenomes and factors influencing their biogeography. *Environmental Science & Technology*. 57, 3645-3660. DOI: 10.1021/acs.est.2c09010
3. \* **Vosloo, S., Huo, L. <sup>#</sup>, Chauhan, U., Cotto, I. <sup>#</sup>, Gincley, B. <sup>#</sup>, Vilardi, K.**, Yoon, B., Pieper, K.J., Stubbins, A., and Pinto, A.J. (2023) Systematic recovery of building plumbing-associated microbial communities after extended periods of altered water demand during the COVID-19 pandemic. *Environmental Science & Technology* 57(8): 3248-3259. DOI: 10.1021/acs.est.2c07333
4. \* Cha, G., Graham, K., Zhu, K., Rao, G., Lindner, B., Kocaman, K., Woo, S., D'amico, I., Bingham, L., Fischer, J., Flores, C., Spencer, J.W., Yathiraj, P., Chung, H., Biliya, S., Djeddar, N., Burton, L.J., Mascuch, S., Bryskin, A., Pinto, A.J., Hatt, J., Konstantinidis, K. (2023). Parallel deployment of passive and automated samplers in a university campus for surveillance and variant profiling of SARS-CoV-2 in sewage reveals the usefulness of the former. *Science of the Total Environment*. 866, 161101. DOI: 10.1016/j.scitotenv.2022.161101
5. \* **Cotto, I. <sup>#</sup>, Vilardi, K.J. , Huo, L. <sup>#</sup>**, Fogarty, E.C., Khunjar, W., Wilson, C., De Clippeleir, H., Gilmore, K., Bailey, E., Lucker, S., Pinto, A.J. (2023). Low diversity and microdiversity of comammox bacteria in wastewater systems suggests wastewater-specific adaptation within the Ca. Nitrospira nitrosa cluster. *Water Research*. 229(1): 119497. DOI: 10.1016/j.watres.2022.119497.

6. \* Hegarty, B.E., **Dai, Z.**, Raskin, Pinto, A.J., Wigginton, K., and Duhaime, D. (2022) A snapshot of the global drinking water virome: diversity and metabolic potential vary with residual disinfectant use. *Water Research*. (218): 118484. DOI: 10.1016/j.watres.2022.118484
7. \* **Vilardi, K., Cotto, I.<sup>#</sup>, Sevillano-Rivera, M., Dai, Z., Anderson, C.L.** and Pinto, A.J. (2022) Comammox Nitrospira bacteria outnumber canonical nitrifiers irrespective of electron donor mode and availability in biofiltration systems. *FEMS Microbiology Ecology*. 98(4): fiac032. DOI: 10.1093/femsec/diac032 [Selected as Editors Pick in 2022]
8. \* Birnbaum, D.P., **Vilardi, K.J., Anderson, C.L., Pinto, A.J.** and Joshi, N. (2021) A simple, affinity-based method for concentration viruses from wastewater using engineered curli fibers. *ACS EST: Water*. DOI: 10.1021/acsestwater.1c00208.
9. \* **Sevillano, M.C., Vosloo, S., Cotto, I.<sup>#</sup>, Dai, Z.,** Jiang, T., Santana, J.M.S, Pagilla, I.Y., Rosario-Pabon, Z., Vega, C.V., Cordero, J.F., Alshawabkeh, A.N., Gu, Z.A., Pinto, A.J. (2021). Spatial-temporal targeted and non-targeted surveys to assess microbiological composition of drinking water in Puerto Rico following Hurricane Maria. *Water Research X*. 13(1): 100123. DOI: 10/1016.j.wroa.2021.100123.
10. \* **Srinivasan, V. N.,** Li, G., Wang, D., Tooker, N. B., Dai, Z., Onnis-Hayden, A., Pinto, A.J., Gu, A. Z. (2021). Oligotyping and Genome-Resolved Metagenomics Reveal Distinct Candidatus Accumulibacter Communities in Full-Scale Side-Stream versus Conventional Enhanced Biological Phosphorus Removal (EBPR) Configurations. *Water Research*. 206(1) 117725. DOI: 10.1016/j.watres.2021.117725.
11. \* **Vosloo, S., Huo. L., Anderson, C.L., Dai, Z., Sevillano, M., Pinto, A.J.** (2021) Evaluating de novo assembly and binning strategies for time-series drinking water metagenomes. *Microbiology Spectrum*. 9 (3) e01434-21. DOI: 10.11128/Spectrum.01434-21
12. McDaniel, E.A, Wahl, S.A, Ishii, S., Pinto, A.J., Ziels, R., Nielsen, P.H., McMahon, K.D., Williams, R.B.H. (2021) Prospects for multi-omics in the microbial ecology of water engineering. *Water Research*. 205, 117608 DOI: 10.1016/j.watres.2021.117608
13. **Potgieter, S.,** Dai, Z., Havenga, M., Vosloo, S., Sigudu, M., Pinto, A.J., Venter, S. (2021) Reproducible microbial community dynamics of two drinking water systems with similar source waters. *ACS EST Water*. 1(7): 1617-1627. DOI: 10.1021/acsestwater.1c00093
14. Sloan, W.T., Nnaji, C.F., Lunn, M., Curtis, T.P., Colloms, S.D., Couto, J.M., Pinto, A.J., Connelly, S., Rosser, S.J. (2021). Drift dynamics in microbial communities and effective community size. *Environmental Microbiology*. 23(5): 2473-2483. DOI: 10.1111/1462-2920.15453
15. Martin, R.M., Moniruzzaman, M., Stark, G.F., Gann, E.R., Derminio, D.S., Wei, B., Hellwefer, F.L., Pinto, A.J., Boyer, G., Wilhelm, S.W. (2020). Episodic decrease in temperature increases mcy gene transcription and cellular microcystin in continuous cultures of *Microcystis aeruginosa* PCC 7806. *Frontiers in Microbiology*. 11:3081. DOI: 10.3389/fmicb.2020.601864.
16. **Sevillano, M.C., Dai, Z., Calus, S.T., Bautista de los Santos, Q.M.,** Eren, A.M., Ijaz, U.I., van der Wielen, P., and Pinto, A.J. (2020). Differential prevalence and host association of antimicrobial resistance traits in disinfected and non-disinfected drinking water systems. *Science of the Total Environment*. 749:141451. DOI: 10.1016/j.scitotenv.2020.141451.
17. Lin Y, **Sevillano-Rivera M.C.,** Jiang T, Li G, Cotto, I, **Vosloo, S,** Carpenter C.M.G, Larese-Casanova P, Giese R.W., Helbling D.E., Padilla, I.Y., Rosario-Pabón Z, Vélez Vega C, Cordero JF, Alshawabkeh, A.N., Pinto A, Gu AZ. (2020) Impact of Hurricane Maria on Drinking Water Quality in Puerto Rico. *Environmental Science & Technology*. 54(15):9495-509. DOI: 10.1021/acs.est.0c01655.

18. **Potgieter, S.C., Dai, Z.,** Venter, S.N., Sigudu, M., and **Pinto, A.J.** (2020) Microbial nitrogen metabolism in chloraminated drinking water reservoirs. *mSphere*. 5:e002724-20. DOI: 10.1128/mSphere.00274-20.
19. **Dai, Z., Sevillano, M.C., Calus, S.T., Bautista de los Santos, Q.M.,** Eren, A.M., Ijaz, U.I., van der Wielen, P., and **Pinto, A.J.** (2020). Disinfection systematically impacts the drinking water microbiome. *Microbiome*. 8: 42. DOI: 10.1186/s40148-020-00813-0
20. **Cotto, I., Dai, Z., Huo, L., Anderson, C.L., Vilardi, K.J.,** Ijaz, U.Z., Khunjar, W, Wilson, C., De Clippeleir, H., Gilmore, K., Bailey, E., **Pinto, A.J.** (2020) Long solids retention times and attached growth phase favor prevalence of comammox bacteria in nitrogen removal systems. *Water Research*. 169:115268. DOI: 10.1016/j.watres.2019.11528
21. Chen, L., **Pinto, A.J.,** Alshawabkeh, A.N. (2019) Activated carbon as a cathode for water disinfection through the Electron Fenton process. *Catalysts*. 9(7): 601. DOI: 10.3390/catal907601.
22. Kirtis, M.J., Emelko, M., and **Pinto, A.J.** (2019) Applying biotechnology for drinking water biofiltration: advancing science and practice. *Current Opinion in Biotechnology*. 57:197-204. DOI: 10.1016/j.copbio.2019.05.009
23. Hull N., Ling F., **Pinto A.J.,** Albertsen, M., Jang H.G., Hong, P.Y., Konstantinidis, K.T., LeChevallier, M., Colwell, R.R., and Liu, W.T. (2019) Drinking water microbiome project: Is it time? *Trends in Microbiology*. 27(8): P670-677. DOI: 10.1016/j.tim.2019.03.011
24. Bradley, I., **Sevillano-Rivera, M., Pinto, A.J.,** and Guest, J.S. (2019) Impact of solids residence time on community structure and nutrient dynamics of mixed phototrophic wastewater treatment systems. *Water Research*. 150 (1): 271-282. DOI: 10.1016/j.watres.2018.11.065
25. Fedders, A.C., DeBellis, J.L., Bradley, I.M., **Sevillano-Rivera, M.C., Pinto, A.J.,** and Guest, J.S. (2018) Comparable nutrient uptake across diel cycles by three phototrophic communities. *Environmental Science & Technology*. 53(1): 390-400. DOI: 10.1021/acs.est.8b05874.
26. **Calus, S.T.,** Ijaz, U.I, and **Pinto, A.J.** (2018) NanoAmpli-Seq: A workflow for amplicon sequencing from mixed microbial communities on the nanopore sequencing platform. *Gigascience*. 7(12): giy140 DOI: 10.1093/gigascience/giy160
27. **Potgieter, S., Pinto, A.J.,** Sigudu, M., du Preez, H., Ncube, E, Venter, S. (2018) Long-term spatial and temporal microbial community dynamics in a large-scale drinking water distribution system with multiple disinfectant regimes. *Water Research*. 139: 406-419. DOI: 10.1016/j.watres.2018.03.077
28. Liu, G., Zhang, U., van der Mark, E., Knezev, A., **Pinto, A.J.,** van den Bogert, B., Liu, W.T., van der Meer, W., and Medema, G. (2018) Assessing the origin of bacteria in tap water and distribution system in an unchlorinated drinking water system by SourceTracker using microbial community fingerprints. *Water Research*. 138: 86-96. DOI: 10.1016/j.watres.2018.03.043
29. De Vriese, J., **Pinto, A.J.,** Sloan, W.T., and Ijaz, U.I. (2018) The active microbial community more accurately reflects the anaerobic digestion process: 16S rRNA (gene) sequencing as a predictive tool. *Microbiome*. 6: 63. DOI: 10.1186/s40168-018-0449-9
30. Chao, L., Olivares, C., **Pinto, A.J.,** Lauderdale, C., Brown, J., Selbes, M., and Karanfil, T. (2017) The control of disinfection by-products and their precursors in biologically active filtration processes. *Water Research*. 124: 63-653. DOI: 10.1016/j.watres.2017.07.080
31. Chia-Chen, W., Ghosh, S., Martin, K., **Pinto, A.J.,** Denef, V.J., Olson, T.M., and Love, N.G. (2017) The microbial colonization of activated carbon block point-of-use (PoU) filters with and without chlorinated phenol disinfection byproducts. *Environmental Science: Water Research and Technology*. 3: 830-843. DOI: 10.1039/C7EW00134G

32. Sismaet, H.J., Pinto, A.J., and Goluch, E.D. (2017) Electrochemical sensors for identifying pyocyanin production in clinical *Pseudomonas aeruginosa* isolates. *Biosensors and Bioelectronics*. 97: 65-69. DOI: 10.1016/j.bios.2017.05.042
33. Marcus, D.N., Pinto, A.J., Anantharaman, K, Ruberg, S., Kramer, E., Raskin, L., and Dick, G. (2017) Diverse manganese (II)-oxidizing bacteria are prevalent in drinking water. *Environmental Microbiology Reports*. 9: 120-128. DOI: 10.1111/1758-2229.12508
34. **Bradley, I.**, Pinto, A.J., and Guest, J.S. (2016) Design and evaluation of Illumina MiSeq compatible primers for the 18S rRNA gene for improved characterization of mixed microalgal communities. *Applied and Environmental Microbiology*. 82(19): 5878-5891. DOI: 10.1128/AEM.01630-16
35. **Bautista, Q.M., Schroeder, J., Sevillano, M.C.R, Sungthong, R.,** Ijaz, U., Sloan, W.T., and Pinto, A.J. (2016) Drinking water microbial communities across disinfection strategies – a meta-analysis. (accepted). *Environmental Science: Water Research and Technology*. 2: 631-644. DOI: 10.1039/C6EW00030D
36. Clancy, T.M., Smith, A., Reddy, R., Pinto, A.J., Hayes, K., and Raskin, L. (2016) Anaerobic microbial community response to methanogenic inhibitors 2-bromoethanesulfonate and propionic acid. *Microbiology Open*. 5: 537-550. DOI: 10.1002/mbo3.349
37. Pinto A.J., Sharp, J.O., Yoder, M.J., and Almstrand, R. (2016): Draft genome of two novel *Acidimicrobiaceae* from an acid mine drainage biofilm metagenome. *Genome Announcements*. 4: e01563-15. DOI: 10.1128/genomeA.01563-15.
38. Almstrand, R., Pinto, A.J., Figueroa, L.A., and Sharp, J.O. (2016): Draft genome of a novel *Desulfobacteraceae* member from a sulfate-reducing bioreactor metagenome. *Genome Announcements*. 4: e01540-15. DOI: 10.1128/genomeA.01540-15.
39. **Bautista, Q.M., Blakemore, O., Schroeder, J.,** Moses, J., Haffey, M., Sloan, W., and Pinto, A.J. (2016): The impact of sampling, PCR, and sequencing replication on discerning changes in drinking water bacterial community over diurnal time-scales. *Water Research*. 90: 216-224. DOI: 10.1016/j.watres.2015.12.010.
40. Pinto, A.J., Marcus, D.N., Ijaz, U.Z., Bautista, Q.M., Dick, G.J. and Raskin, L. (2015): Metagenomic evidence for the presence of comammox *Nitrospira*-like bacteria in a drinking water system *mSphere J*. 1: e00054-15. DOI: 10.1128/mSphere.00051-15. [Featured in *Science Magazine*, DOI: 10.1126/science.aad9839]
41. **Schroeder, J.,** Lunn, M., Pinto, A.J., Raskin, L., and Sloan, W.T. (2015): Probabilistic models to describe the dynamics of migrating microbial communities. *PLoS One*, 10: e0117221. DOI: 10.1371/journal.pone.0117221.
42. Pinto, A.J., Schroeder, J., Lunn, M., Sloan, W.T., and Raskin, L. (2014): Spatial-temporal survey and occupancy-abundance modeling to predict bacteria community dynamics in the drinking water microbiome. *mBio J*. 5: e01135-14. DOI: 10.1128/mBio.01135-14.
43. Chiao, T.C., Clancy, T., Pinto, A.J., Xi, C., and Raskin, L. (2014): Differential resistance of drinking water bacterial populations to monochloramine disinfection, *Environmental Science & Technology*. 48: 4038-4047. DOI: 10.1021/es4055725.
44. Pinto, A.J. and Raskin, L. (2012): PCR biases distort bacterial and archaeal community structure in pyrosequencing datasets *PLoS One*. 7: e43093. DOI: 10.1371/journal.pone.0043093. [Recommended article by F1000 Prime. DOI: 10.3410/f.718417056.393498737]
45. Pinto, A.J., Xi, C., and Raskin, L. (2012): Bacterial community structure in the drinking water microbiome is governed by filtration processes. *Environmental Science & Technology*. 46: 8851-8859. DOI: [10.1021/es302042t](https://doi.org/10.1021/es302042t). (Note: Press release issued by American Chemical Society and featured in The Scientist and The New Scientist magazines).

46. Pinto, A.J., and Love, N.G. (2012): Bioreactor function under perturbation scenarios is affected by interactions between bacteria and protozoa. *Environmental Science & Technology*. 45: 7558-7566. DOI: 10.1021/es301220f.
47. Pinto, A.J., Guest, J., Love, N., Shaw, A., Fairey, A., Iler, P., Earle, J., Shellenbarger, D., Barker, D (2007): Testing corrective action strategies to mitigate the impact of toxic shock events in activated sludge systems *Water Practice*, 1: 1-11. DOI: 10.2175/193317707X256973.

## **B2. Conference Presentations with Proceedings (Refereed)**

No data

## **B3. Other Refereed Material**

No data

## **B4. Submitted Journal Articles (with Date of Submission)**

1. \* Yujia, Q., Wu, L., Zhang, Q., Wen, C., Van Nostrand, H.D., Ning, D., Raskin, L., Pinto, A.J., Zhou, J. Effects of error, chimera, bias, and GC content on the accuracy of amplicon sequencing. (Date of submission: 03/7/2023)
2. \* Dowdell, K., Greenwald, H., Joshi, S., Grimard-Conea, M., Pitell, S., Song, Y., Ley, C., Kennedy, L.C., **Vosloo, S., Huo, L.** #, Haig, S-J., Hamilton, K., Nelson, K., Pinto, A.J., Prevost, M., Proctor, C., Raskin, L., Whelton, A.J., Garner, E., Pieper, K.J., and Rhoads, W.J. (2022). *Legionella pneumophila* occurrence in reduced-occupancy buildings in 11 cities during the COVID-19 pandemic. medRxiv preprint: DOI: 10.1101/2022.06.28.22277022 (Date of submission: 04/20/2023).

## **C. Other Publications and Creative Products**

### **C1. Non-refereed Conference or Workshop Presentations with Proceedings**

1. **Cotto, I.**, Khunjar, W., Wilson, C., DeClippelier, H., Gilmore, K., and Pinto.A.J. (2019). Identifying the process niche of complete ammonia oxidizing bacteria. WEFTEC 2019. Chicago, IL.
2. **Vilardi, K., Cotto, I.**, and Pinto, A.J. (2019). Population dynamics among nitrifying bacteria. WQTC 2019. Dallas, Texas.
3. **Srinivasan, V.**, Li, G., Tooker, N., Wang, W., Onnis-Hayden, A., Pinto, A.J., and Gu, A. (2019). A sequencing toolkit for wastewater process design and optimization: Amplicon Sequencing and Metagenomics. WEFTEC 2019. Chicago, IL.
4. Johnston, K., **Vilardi, K.**, Pinto, A.J., and Onnis-Hayden (2019) Tidal flow constructed wetland for water reuse: Performance evaluation and microbial populations. WEFTEC 2019. Chicago, IL.
5. Pinto, A.J., Marcus, D.M., Ijaz, U., Dick, G., and Raskin, L. (2015): Genomic insights into the Survival and Proliferation of Bacteria in Drinking Water Systems. International Water Association: *Biofilms in Drinking Water Systems*. Arosa, Switzerland, 2015
6. Pinto, A.J., Marcus, D., Dick, G., and Raskin, L. Metagenomic insights into bacteria that dominate drinking water bacterial communities. Water Quality and Technology Conference. New Orleans, Louisiana, USA, 2014.
7. **Bautista, Q.M., Blakemore, O., Schroeder, J.**, Sloan, W.T., and Pinto A.J. (2014) Uncertainties associated with characterisation of bulk water bacterial communities in drinking water systems. Water quality and Technology Conference. New Orleans, Louisiana, USA 2014.

8. Pinto, A.J., Chiao, T.C., Xi, C., and Raskin L. (2011). Influence of Microbial Migration and Infiltration on Bulk Water Microbiota in a Drinking Water Treatment and Distribution System. Water Quality Technology Conference and Exposition. Phoenix, Arizona, 2011.
9. Clancy, T., Jenkins, A., Chiao, T., Snyder, K., Upadhyaya, G., Pinto, A. J., Brown, J., Xi. C., Hayes, K., and Raskin, L. (2011). Evaluating Backwashing and Disinfection to Ensure Optimal Chemical and Microbiological Effluent Quality from a Fixed-Bed Bioreactor Designed for Simultaneous Removal of Nitrate, Sulfate, and Arsenate from Groundwater. Water Quality Technology Conference and Exposition. Phoenix, Arizona, 2011.
10. Chiao, T., Pinto, A.J., Xi, C., and Raskin, L. (2010). A Culture Independent Alternative to Determine Inactivation Kinetics of Mixed Microbial Communities in Drinking Water Systems. Water Quality Technology Conference and Exposition, Savannah, Georgia, 2010.
11. Pinto, A.J., Hardin, S.C., Love, N.G., Fairey, A., Earle, J., Washington, P., Iler, P., Doane-Weideman, T., and Lagrange, R. (2009) Remedial Intervention Strategies for Wastewater Treatment Plant Exposed to Heavy Metal Stress: Laboratory and Pilot Scale Evaluations. Proceedings of the 82<sup>nd</sup> Water Environment Federation Technical Exposition and Conference, Orlando, Florida, 2009.
12. Thomas, W.A., Bott, C.B., Regmi, P., Schafran, G., Pinto, A.J., Love, N.G., McQuarrie, J., Rutherford, B., Baulmer, R., Waltrip, D. (2009): Evaluation of Nitrification Kinetics for a 2.0 MGD IFAS demonstration project. Proceedings of the 82<sup>nd</sup> Water Environment Federation Technical Exposition and Conference, Orlando, Florida, 2009
13. Pinto, A.J., Love, N.G., Fairey, A., Earle, J., Washington, P., Iler, P., Doane-Weideman, T., and Lagrange, R. (2009) Integration of Online Sensors with Corrective Action Strategies to Detect, Monitor, and Mitigate Toxic Shock Events at Nutrient Removal Wastewater Treatment Plants. Water Environment Federation: Nutrient Removal Conference. Washington, DC, 2009.
14. Pinto, A.J., Hardin, S., and Love, N.G. (2008): Structural and Functional Responses of the Ammonia Oxidizing Community in Activated Sludge Exposed to Cadmium Stress. Proceedings of the 81st Water Environment Federation Technical Exposition and Conference, Chicago, Illinois, 2008.
15. Hardin, S.C., Pinto, A.J., and Love, N.G. (2008) Impact of Contaminant Specific Corrective Action Strategies on Wastewater Treatment Plant Performance and Recovery Proceedings of the 81st Water Environment Federation Technical Exposition and Conference, Chicago, Illinois, 2008.
16. Guest, J.S., Pinto, A. J., Love, N.G., and Shaw, A. (2007) Corrective Action Strategies During Toxic Shock Events at Enhanced Biological Phosphorus Removal Wastewater Treatment Plants. Proceedings of the Water Environment Federation Technical Exposition and Conference, San Diego, California, , 2007.
17. Pinto, A.J., Hardin, S.C., Guest, J.S. N.G. Love, and Shaw. A (2007) Elucidating the Importance of Contaminant Specific Corrective Action Strategies for Wastewater Treatment Plants During Toxic Shocks. Proceedings of the Water Environment Federation Technical Exposition and Conference, San Diego, California, 2007.
18. Pinto, A. J., Barnes, D. L., and White, D. M. (2005) Estimating Seasonal and Diurnal Variations in Influent Characteristics for Optimization of Aeration Operations: A Case Study for Applicability of Respirometric Techniques at Fairbanks, Alaska. Proceeding of the World Water Congress American Society of Civil Engineers, Anchorage, Alaska, 2005

## C2. Patents

### C3.a. Provisional Patents, Applications, and Invention Disclosures

1. \* **Gincley, B. #**, **Khan, F. #**, and Pinto, A.J. (2022) Autonomous Real-Time Microbial Scope. Invention Disclosure 9138.



**D. Presentations****D1. Keynote Addresses and Plenary Lectures**

1. \* Pinto, A.J. (2023). To chlorinate or not? The drinking water microbiomes perspective. Gordon Research Conference: Water Disinfection, Byproducts, and Health. South Hadley, MA. (scheduled in August 2023)
2. \* Pinto, A.J. (2023). Insights on the structural and functional biogeography of the drinking water microbiome. American Society of Microbiology Microbe. Houston, Texas. (scheduled in June 2023)
3. \* Pinto, A.J. (2023). Low-cost autonomous monitoring for early detection of harmful algal blooms. American Water Works Association: Annual Conference and Exposition 2023. Toronto, Canada. (scheduled in June 2023)
4. \* Pinto, A.J. (2022). Understanding the biogeography of the drinking water microbiome and factors that influence it. Gordon Research Conference: Microbiology of the Built Environment. Waterville Valley, New Hampshire.
5. \* Pinto, A.J. (2022). How do we get to real-time monitoring of the drinking water microbiome and why? Society of Chemical Engineering Japan Annual Conference. (virtual talk)
6. \* Pinto, A.J. (2021) Genome resolved insights into bacterial metabolism in drinking water systems. US EPA ORISE Seminar series. (virtual talk).
7. \* Pinto, A.J. (2021) The metabolic landscape of the drinking water microbiome. Japan Society on Water Environment Symposium. (virtual talk)
8. Pinto, A.J. (2019). Disinfection exhibits systematic selective pressures on the drinking water microbiome. IEEC & BWR 2019. Busan, South Korea.
9. Pinto, A.J. (2019). Enabling low cost real-time monitoring of microbial communities in the water industry. WEFTEC 2019, Chicago, IL. Paul L Busch Award Lecture.
10. Pinto, A.J. (2019). Identifying the process niche of comammox bacteria. International Conference on Nitrification 6, Xiamen, China.
11. Pinto, A.J. (2018). The who, where, and (somewhat) why of the drinking water microbiome. 6<sup>th</sup> Arab-American Frontiers Symposium. Kuwait City, Kuwait.
12. Pinto, A.J. (2018). Bridging Microbial Ecology and Engineering Practice in Drinking Water Microbiology. WEFTEC 2018. New Orleans, Louisiana.
13. Pinto, A.J. (2018). Towards real-time monitoring and management of the drinking water microbiology. International Water Association World Water Congress 2018. Tokyo, Japan.
14. Pinto, A.J. (2018). Observing, understanding, and managing the drinking water microbiome. Water Institute of South Africa 2018. Cape Town, South Africa.
15. Pinto, A.J. (2018). Drinking Water Microbial Ecology. American Society of Microbiology Microbe 2018. Atlanta, Georgia.
16. Pinto, A.J. (2015): Managing and Exploiting the Drinking Water Microbiome. Wetsus Annual Congress. Leeuwarden, Netherlands, 2015.
17. Pinto, A.J. (2015): Managing the Drinking Water Microbiome. International Water Association: Biofilms in Drinking Water Systems. Arosa, Switzerland, 2015.

**D2. Invited Conference and Workshop Presentations**

1. \* Pinto, A.J. (2023). The role of comammox bacteria in complex microbial communities. FEMS Microbiology Ecology Webinar on Biogeochemical Cycles. (virtual talk).
2. \* Pinto, A. J. (2022). WRF 5154 Autonomous in situ monitoring of harmful algal blooms. Water Research Foundation TechLink Webinar Series (virtual talk).
3. \* Pinto, A.J. (2022). Low-cost optical sensing for harmful algal blooms monitoring. Great Lakes Water Authority Symposium. (virtual talk)

4. \* Pinto, A.J. (2022). Microbes in Hot Water. NSF Hot Water Systems Workshop. Tampa, Florida. (virtual talk).
5. Pinto, A.J. (2021). Genome resolved insights into bacterial metabolism in drinking water systems. Applied Bioinformatics and Public Health Microbiology, Birmingham, UK. (virtual talk)
6. Pinto, A. J. (2021). Rapid characterization of microbial communities. 2021 Michigan Water Environment Association Lab Practices Seminar. Detroit, MI. (virtual talk)
7. Pinto, A. J. (2020). Real-time microbial monitoring in drinking water systems. Vaishwik Bharatiya Vaigyanik Summit – Organized by the Government of India. (virtual talk).
8. Pinto, A.J. (2019). Whats in your water? MIT Bacterial Bonanza, Cambridge, MA.
9. Pinto, A. J. (2018). Genome-resolved metagenomics to assess the long-term impact of disinfection on the drinking water microbiome. 255<sup>th</sup> American Chemical Society National Meeting & Expo 2018. New Orleans, Louisiana.
10. Pinto, A. J. (2018) Should we disinfect drinking water? 258<sup>th</sup> American Chemical Society National Meeting & Expo 2018. Boston, MA.
11. Pinto, A. J. (2017): Microbiological advances in the drinking water sector. 10<sup>th</sup> Annual Conference of the UK Network on Potable Water Treatment and Supply. Cranfield University, UK.
12. Pinto, A. J. (2016): Managing microbes at the tap. MicroSeminar. YouTube, 2016 ([https://www.youtube.com/watch?v=qc\\_kEpMV9fU&feature=youtu.be](https://www.youtube.com/watch?v=qc_kEpMV9fU&feature=youtu.be))
13. Pinto, A. J. (2016): Predicting microbial incidents in drinking water systems. Chartered Institute of Water and Environmental Management. London, United Kingdom, 2016.
14. Pinto, A. J. (2016): Trends and emerging technologies in DNA sequencing. BTO Trends. KWR Watercycle Research Institute, Nieuwegein, Netherlands, 2016.
15. Pinto, A. J. (2016): Microbial survival in drinking water systems. Society of Industrial Microbiology and Biotechnology. New Orleans, Louisiana, 2016.
16. Pinto, A.J. (2015): Monitoring and exploiting biology in drinking water systems. Cranfield University. Milton Keynes, United Kingdom, 2015.
17. Pinto, A.J. (2015): Measuring, managing, and exploiting microorganisms in drinking water systems. World Water Congress XV, International Water Resources Association. Edinburgh, UK, 2015.
18. Pinto, A.J. (2015): Managing and Exploiting the Drinking Water Microbiome. Rand Water Company and University of Pretoria. Johannesburg, South Africa, 2015.
19. Pinto, A.J and Raskin, L. (2014): Microbial dynamics in drinking water systems. International Society of Microbial Ecology – 15. Seoul, South Korea, 2014.

### D3. Conference and Workshop Presentations

1. \* **Gincley, B. #**, **Khan, F. #**, Fuentes-Cabrera, M., and Pinto, A.J. (2023) Exploring the potential for online algal phenotyping using low-cost single cell imaging combined with deep learning. Algal Biomass, Biofuels, and Bioproducts. Waikoloa Beach, HI. (accepted)
2. \* **Sudarshan, A.S. #**, **Dai, Z. #**, **Gabrielli, M. #**, and Pinto, A. J. (2023) Shedding light on the drinking water microbiome and their lifestyles. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
3. \* **Khan, F. #**, **Gincley, B. #**, Busch, A., Tolofari, D., Norton, J., Varga, E., McKay, R., Fuentes-Cabrera, M., Slawacki, T., Verhamme, E., and Pinto, A. J. (2023) Monitoring phytoplankton in the Great Lakes using a low-cost autonomous microscope: challenges and opportunity. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
4. \* **Vilardi, K.**, **Johnston, J.**, **Cotto, I. #**, **Huo, L. #**, Khan, S., Tuttle, E., Stubbins, A., Pieper, K., and Pinto, A. J. (2023) Spatial distribution and activity-based sorting of aerobic nitrifying

- bacteria as a function of nitrogen source, loading, and gradient concentration. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
5. \* **Bian, K.** #, Gonzalez, R., Busch, A., Norton, J., Tolofari, D., Khunjar, W., and **Pinto, A. J.** Development and evaluation of sample collection and DNA extraction workflow for in-field long-read Nanopore sequencing. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
  6. \* Molitor, H., Kim, G., Alam, M., Hodaiesfahani, M., **Gincley, B.** #, Hartnett, E., **Pinto, A. J.**, Bradley, I., and Guest, J. (2023) Intensive Tertiary Nutrient Removal and Recovery from Municipal Wastewater by Microalgae: Characterization of the EcoRecover Process. (accepted) Association of Environmental Engineering and Science Professors Conference. Boston, MA.
  7. \* Dowdell, K., Potgieter, S., Lee, S., Song, A., Gabrielli, M., Vedrin, M., LiPuma, J., Cambronne, E., **Pinto, A. J.**, Delafont, V., Raskin, L., and Kiristis, MJ (2023) Free-Living Amoebae Diversity in Drinking Water and Investigating the Role of Preferential Grazing. Association of Environmental Engineering and Science Professors Conference. Boston, MA (accepted)
  8. \* **Huo, L.** #, **Vilardi, K.**, **Gabrielli, M.** #, **Vosloo, S.**, Yoon, B., Tuttle, E., Stubbins, A., and **Pinto, A. J.** (2023) Influence of variable nitrogen availability conditions on biofilter communities and their seeding potential. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
  9. \* Alam, M., Hodaiesfahani, M., **Gincley, B.** #, Molitor, H., Kim, G., Hartnett, E., Guest, J., **Pinto, A. J.**, and Bradley, I. (2023) Community Structure and Function During Periods of High-Performance and Upset at a Full-Scale Algal Wastewater Resource Recovery Facility. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
  10. \* **Gincley, B.** #, **Khan, F.** #, Alam, M., Hodaiesfahani, M. Gincley, B., Molitor, H., Kim, G., Hartnett, E., Guest, J., Bradley, I., and **Pinto, A. J.** (2023) Low-cost, microscopy-based tool for quantitative monitoring of microalgal communities at a wastewater nutrient recovery facility. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
  11. \* **Johnston, J.** #, **Vilardi, K.** #, **Cotto, I.** #, **Sudarshan, A.S.** #, Bachman, M., Klaus, S., Parson, M., Wilson, C., Bott, C.B., **Pinto, A. J.** (2023). Transcriptomic responses of complex nitrifying communities to changes in dissolved oxygen in a full-scale attached growth wastewater treatment system. Association of Environmental Engineering and Science Professors Conference. Boston, MA. (accepted)
  12. \* **Gabrielli, M.** #, **Dai, Z.**, Delafont, V., Antonelli, M., and **Pinto, A. J.** (2022). Eukaryotic communities in drinking water distribution systems around the globe: composition and influencing factors. International Society of Microbial Ecology 18. Geneva, Switzerland.
  13. \* **Vilardi, K.**, **Cotto, I.** #, Bachmann, M., Parson, M., Klaus, S., Gonzalez, R., Wilson, C., Bott, C., and **Pinto, A. J.** (2022) Dissolved oxygen dependent nitrification activity in a full-scale comammox-anammox hybrid system. Society of Industrial Microbiology and Biotechnology 2022. San Francisco, CA.
  14. \* **Gincley, B.** #, **Khan, F.** #, Busch, A., Norton, A., and **Pinto, A. J.** (2022) Accessible quantitation of surface water phytoplankton with ARTIMiS. 12<sup>th</sup> International Conference on Toxic Cyanobacteria. Toledo, OH.
  15. \* **Gincley, B.** #, Hartnett, E., Kelly, P., Guest, J.S., Molitor, H., Bradley, I., v (2022). Monitoring microalgal community structure dynamics at a wastewater nutrient recovery facility in real-time with ARTIMiS. 16<sup>th</sup> Annual Algae Biomass Summit 2022.
  16. \* **Vosloo, S.**, **Huo, L.** #, **Chauhan, U.**, **Cotto, I.**, **Gincley, B.**, **Vilardi, K.**, Yoon, B., Pieper, K.J., Stubbins, A., and **Pinto, A. J.** (2022) Systematic recovery of building plumbing-associated microbial communities after extended periods of altered water demand during the

- COVID-19 pandemic. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
17. \* **Gincley, B. #**, **Khan, F. #**, and **Pinto, A. J.** (2022) Characterizing microalgal community structure with ARTIMiS. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  18. \* **Hegarty, B.**, **Dowdell, K.**, **Potgieter, S.**, **Bastien, E.**, **Dai, Z.**, **Pinto, A. J.**, **Raskin, L.**, **Duhaime, M.**, **Wigginton, K.** (2022). Implications and applications of viral infection networks in drinking water. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  19. \* **Molitor, H.**, **Kim, G.**, **Avila, N.**, **Gincley, B. #**, **Alam, M.M.**, **Hodaei, M.**, **Pinto, A. J.**, **Bradley, I.**, and **Guest, J.S.** (2022). Intensive mixed community microalgal cultivation for nutrient recovery from municipal wastewater. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  20. \* **Alam, M.M.**, **Hodaei, M.**, **Molitor, H.**, **Kim, G.**, **Gincley, B. #**, **Avila, N.**, **Pinto, A. J.**, **Guest, J.S.**, and **Bradley, I.** Temporal variation in community structure and functions of a mixed microalgal community from a full-scale municipal wastewater treatment plant. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  21. \* **Huo, L. #**, **Vilardi, K.**, **Vosloo, S.**, **Yoon, B.**, **Tuttle, E.**, **Stubbins, A.**, and **Pinto, A. J.** (2022). Influence of variable nitrogen availability conditions on biofilter biofilm communities and their seeding potential. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  22. \* **Gabrielli, M. #**, **Vosloo, S.**, **Antonelli, M.**, **Pinto, A. J.** (2022). Establishing a metagenomic workflow for eukaryotic analysis in drinking water system. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  23. \* **Cotto, I. #**, **Vilardi, K.J.**, **Huo, L.**, **Anderson, C.L.**, **Fogarty, M.**, **Eren, A.M.**, **Khunjar, W.**, **Wilson, C.**, **De Clippeleir, H.**, **Gilmore, K.**, **Bailey, E.**, **Lücker, S.**, **Pinto, A. J.** (2022) Low population and strain level diversity of comammox bacteria in biological nutrient removal process suggests wastewater specific adaptation. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  24. \* **Vilardi, K.**, **Cotto, I. #**, **Bachmann, M.**, **Parson, M.**, **Klaus, S.**, **Gonzalez, R.**, **Wilson, C.**, **Bott, C.**, and **Pinto, A. J.** (2022) Dissolved oxygen dependent nitrification activity in a full-scale comammox-anammox hybrid system. Association of Environmental Engineering and Science Professors 2022. St Louis, MO.
  25. \* **Gincley, B. #**, **Pinto, A. J.** (2021). Low-cost automated imaging-based monitoring of algal community structure in industry and the environment. 15<sup>th</sup> Annual Algae Biomass Summit 2021.
  26. \* **Dai, Z.**, **Sevillano, M.**, **Anderson, C.**, **Vosloo, S.**, **Pinto, A. J.** (2021) Genomic resource for the drinking water microbiome: a curated collection of genomes and metagenome assembled genomes from the drinking water microbiome. 9<sup>th</sup> Microbial Ecology and Water Engineering Conference 2021.
  27. \* **Vilardi, K.**, **Cotto, I.**, **Sevillano-Rivera, M.**, **Dai, Z.**, **Anderson, C.L.** and **Pinto, A. J.** (2021) Comammox Nitrospira bacteria outnumber canonical nitrifiers irrespective of electron donor mode and availability. 9<sup>th</sup> Microbial Ecology and Water Engineering Conference 2021.
  28. \* **Vosloo, S.**, **Huo, L.**, **Anderson, C.L.**, **Dai, Z.**, **Sevillano, M.**, **Pinto, A. J.** (2021) Evaluating de novo assembly and binning strategies for time-series drinking water metagenomes. 9<sup>th</sup> Microbial Ecology and Water Engineering Conference 2021.
  29. \* **Gincley, B. #**, **Pinto, A. J.** (2021). Autonomous in situ monitoring of complex microalgal communities. 9<sup>th</sup> Microbial Ecology and Water Engineering Conference 2021.
  30. \* **Cotto, I.**, **Vilardi, K.J.**, **Huo, L.**, **Anderson, C.L.**, **Fogarty, M.**, **Eren, A.M.**, **Khunjar, W.**, **Wilson, C.**, **De Clippeleir, H.**, **Gilmore, K.**, **Bailey, E.**, **Lücker, S.**, **Pinto, A. J.** (2021) Low population and strain level diversity of comammox bacteria in biological nutrient removal

- process suggests wastewater specific adaptation. 9<sup>th</sup> Microbial Ecology and Water Engineering Conference 2021.
31. **Cotto, I., Vilardi, K.J., Huo, L., Anderson, C.L.,** Fogarty, M., Eren, A.M., Khunjar, W., Wilson, C., De Clippeleir, H, Gilmore, K, Bailey, E., Lückner, S., Pinto, A. J. (2021) Low population and strain level diversity of comammox bacteria in biological nutrient removal process suggests wastewater specific adaptation. 2021 International Conference on Nitrification and Related Processes.
  32. **Vilardi, K., Cotto, I., Sevillano-Rivera, M., Dai, Z., Anderson, C.L. and Pinto, A. J.** (2021) Comammox Nitrospira bacteria outnumber canonical nitrifiers irrespective of electron donor mode and availability. 2021 International Conference on Nitrification and Related Processes.
  33. **Cotto, I, Dai, Z, Huo, L, Anderson, C.L, Vilardi, K.J.,** Ijaz, U.Z., Khunjar, W, Wilson, C., De Clippeleir, H., Gilmore, K., Bailey, E., Pinto, A. J. (2020) Long solids retention times and biofilms influence prevalence of complex ammonia oxidizing bacteria in wastewater treatment plants. IWA Biofilms Virtual Conference.
  34. **Vilardi, K., Cotto, I., and Pinto, A. J.** (2020) Dominance of comammox Nitrospira abundance over canonical nitrifiers irrespective of electron donor mode and availability. IWA Biofilms Virtual Conference.
  35. **Cotto, I, Dai, Z, Huo, L, Anderson, C.L, Vilardi, K.J.,** Ijaz, U.Z., Khunjar, W, Wilson, C., De Clippeleir, H., Gilmore, K., Bailey, E., Pinto, A.J. ( (2019) Determining the prevalence of comammox bacteria in nitrogen removal systems. Microbial Ecology and Water Engineering 2019, Hiroshima, Japan.
  36. **Sevillano-Rivera, M.C., Dai, Z., Calus, S.T., Bautista de los Santos, Q.M. and Pinto, A.J.** (2019) Enrichment of nontuberculous mycobacteria with intrinsic antimicrobial resistance in systems with disinfectant residuals. Microbial Ecology and Water Engineering 2019, Hiroshima, Japan.
  37. **Cotto, I.,** Khunjar, W., Wilson, C., DeClippelier, H., Gilmore, K., and Pinto.A.J. (2019). Identifying the process niche of complete ammonia oxidizing bacteria. WEFTEC 2019. Chicago, IL.
  38. **Dai, Z., Sevillano-Rivera, M.C., Calus, S.T., Bautista de los Santos, Q.M.,** Ijaz, U. I., and Pinto, A.J. (2018) Investigating the impact of disinfectant residual on the drinking water microbiome . Microbial Ecology and Water Engineering 2019, Hiroshima, Japan.
  39. **Sevillano-Rivera, M.C., Dai, Z., Calus, S.T., Bautista de los Santos, Q.M. and Pinto, A.J.** (2018) Are there differentially abundant antibiotic resistance genes associated with chlorinated drinking water system as compared to non-disinfected systems. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)
  40. **Vosloo, S., Pinto, A.J.,** Venter, F., Crous, M., du Preez, H., Sigudu, H. (2018) Spatial and temporal variability of bacterial and archaeal communities in rapid sand filters. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)
  41. **Dai, Z., Sevillano-Rivera, M.C., Calus, S.T., Bautista de los Santos, Q.M.,** Ijaz, U. I., and Pinto, A.J. (2018) Elucidating the long-term impact of disinfected strategies on the drinking water microbiome. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)
  42. **Vilardi, K., Cotto, I., and Pinto, A.J.** (2018) Enrichment and isolation of complete ammonia oxidizing bacteria from full-scale wastewater treatment plant. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)
  43. **Cotto, I., Vilardi, K.J.,** Khunjar, W.O., Wilson, C., De Clippelier, H., and Pinto, A.J. (2018) Detection and quantification of comammox bacteria in nitrogen removal systems from wastewater treatment plants. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)

44. **Calus, S.T.,** Ijaz, U.I., and **Pinto, A.J.** (2018) NanoAmpli-Seq: a de novo protocol for amplicon sequencing from mixed microbial communities. International Society of Microbial Ecology -17, Leipzig, Germany. (poster)
45. **Dai, Z., Sevillano-Rivera, M.C., Bautista de los Santos, Q.M.,** Ijaz, U.I., and **Pinto, A.J.** (2018) Elucidating the long-term impact of disinfection strategies on the drinking water microbiome. IWA-Leading Edge Technology Conference 2018. Nanjing, China.
46. **Sevillano-Rivera, M.C., Dai, Z., Calus, S.T., Bautista de los Santos, Q.M.** and **Pinto, A.J.** (2018) Are there differentially abundant antibiotic resistance genes associated with chlorinated drinking water system as compared to non-disinfected systems. ASM Microbe 2018, Atlanta Georgia. (poster)
47. **Vosloo, S., Pinto, A.J.,** Venter, F., Crous, M., du Preez, H., Sigudu, H. (2018) Spatial and temporal variability of bacterial and archaeal communities in rapid sand filters. ASM Microbe 2018, Atlanta Georgia. (poster)
48. **Dai, Z., Sevillano-Rivera, M.C., Calus, S.T., Bautista de los Santos, Q.M.,** Ijaz, U. I., and **Pinto, A.J.** (2018) Elucidating the long-term impact of disinfected strategies on the drinking water microbiome. ASM Microbe 2018, Atlanta Georgia. (poster)
49. **Vilardi, K., Cotto, I.,** and **Pinto, A.J.** (2018) Enrichment and isolation of complete ammonia oxidizing bacteria from full-scale wastewater treatment plant. ASM Microbe 2018, Atlanta Georgia. (poster)
50. **Cotto, I., Vilardi, K.J.,** Khunjar, W.O., Wilson, C., De Clippelier, H., and **Pinto, A.J.** (2018) Detection and quantification of comammox bacteria in nitrogen removal systems from wastewater treatment plants. ASM Microbe 2018, Atlanta Georgia. (poster)
51. **Calus, S.T.,** Ijaz, U.I., and **Pinto, A.J.** NanoAmpli-Seq: a de novo protocol for amplicon sequencing from mixed microbial communities. ASM Microbe 2018, Atlanta Georgia. (poster)
52. Barteleme, R., **Pinto, A.J.,** Delmont, T., Eren, A.M., and Newton, R. (2017) The comammox tradeoff: Loss of metabolic diversity for thermodynamic advantage. International Conference on Nitrification – 5, Vienna, Austria.
53. **Bautista de los Santos, Q.M., Dai, Z., Calus, S., Sevillano-Rivera, M.C.,** Ijaz, U.Z., Sloan, W.T., and **Pinto, A.J.** (2017) A collective analyses of microbial communities in full-scale drinking water distribution system. Association of Environmental Engineering and Science Professors 2017, Ann Arbor, Michigan.
54. **Sevillano-Rivera, M., Calus, S., Dai, Z., Bautista de los Santos, Q.M.** and **Pinto, A.J.** (2017) Incidence of antimicrobial resistance genes in municipal drinking water samples from the United Kingdom. Association of Environmental Engineering and Science Professors 2017, Ann Arbor, Michigan. Winner of best student presentation award at AEESP 2017.
55. Bradley, I.M., Gardner-Dale, D.A., **Pinto, A.J.,** and Guest, J.S. (2017) Development of selective pressures to drive algal community structure, nitrogen, and phosphorus recovery, and feedstock production in wastewater treatment. Association of Environmental Engineering and Science Professors 2017, Ann Arbor, Michigan.
56. DeBellis, J.L., Fedders, A.C., Bradley, I.M., **Pinto, A. J.** and Guest, J.S., (2017) Leveraging nutrient limitation in mixed microalgal cultures to create a selective environment favoring carbon accumulators. Association of Environmental Engineering and Science Professors 2017, Ann Arbor, Michigan. (poster).
57. **Dai, Z., Sevillano-Rivera, M.C., Calus, S., Bautista de los Santos, Q.M.,** Ijaz, U.I., and **Pinto, A.J.** (2017). UNC Water Microbiology 2017, Chapel Hill, North Carolina.
58. Sisamaet, H.J., **Pinto, A. J.,** and Goluch, E.D. (2017) Electrochemical measurement of pyocyanin production by clinical *Pseudomonas aeruginosa* isolates. PittCon 2017. Chicago, Illinois.
59. **Bautista, Q.M., Calus, S.T., Dai, Z., Sevillano-Rivera, M., Sungthong, R.,** Ijaz, U., Sloan, W.T., and **Pinto, A.J.** (2016) Understanding drinking water systems through molecular

- microbial ecology. Federation of Infection Societies and Healthcare Infection Society 10<sup>th</sup> International conference. Edinburgh, UK, 2016.
60. **Sunghong, R., Sevillano-Rivera, M.C. and Pinto, A.J.** (2016) Cell phone fluorometer as a novel quantitative tool kit for monitoring biofilm removal efficiency. Antimicrobial Resistance in Microbial Biofilms and Options for Treatment. Ghent, Belgium, 2016. (poster).
  61. **Sevillano-Rivera, M.C., Knapp, C.W., Calus, S.T. and Pinto, A.J.** (2016) Does water stress increase the incidence of antibiotic resistance genes in drinking water supplies. Microbial Ecology and Water Engineering. Copenhagen, Denmark, 2016.
  62. **Dai, Z., Sevillano-Rivera, M.C., Bautista, Q.M., Ijaz, U.I. and Pinto, A.J.** (2016) Elucidating the long-term impact of disinfection strategies on the drinking water microbiome. Microbial Ecology and Water Engineering. Copenhagen, Denmark, 2016. (poster).
  63. **Calus, S.T., Ijaz, U.Z., and Pinto, A.J.** (2016) Evaluation of multiple DNA aligners for the analysis of full-length 16S rRNA gene sequences from mixed microbial communities using the MinION nanopore-based sequencing technology. Microbial Ecology and Water Engineering. Copenhagen, Denmark, 2016.
  64. Bradley, I.M., **Pinto, A.J.** and Guest, J.S. (2016) Improved characterization of mixed phototrophic communities using 18S rRNA amplicon sequencing. Microbial Ecology and Water Engineering. Copenhagen, Denmark, 2016.
  65. **Bautista, Q.M., Dai, Z., Calus, S., Sevillano-Rivera, M.C., Ijaz, U.I., Sloan, W.T., and Pinto, A.J.** (2016) Impact of source water on the structure and metagenomic profile of drinking water communities. Microbial Ecology and Water Engineering. Copenhagen, Denmark, 2016.
  66. Fedders, A.C., DeBellis, J.L., Bradley, I.M., **Pinto, A.J.**, and Guest, J.S. (2016). Leveraging nutrient limitation in mixed microalgal cultures to create a selective environment favoring carbon accumulators. International Society of Microbial Ecology -16. Montreal, Canada, 2016. (poster).
  67. **Calus, S.T., Ijaz, U.Z., and Pinto, A.J.** (2016). Nanopore technology for full length 16S rRNA sequencing of mixed microbial communities. American Society of Microbiology: Microbe 2016. Boston, Massachusetts, 2016. (poster)
  68. **Sevillano-Rivera, M., Knapp, C.W., Calus, S.T., and Pinto, A.J.** (2016). Does water stress increase the incidence of antibiotic resistance genes in drinking water supplies. American Society of Microbiology: Microbe 2016. Boston, Massachusetts, 2016. (poster)
  69. **Ugarcina Pervovic, S. Bautista, Q.M., Sevillano, M., Russell, J., and Pinto, A.J.** (2015) Estimating the impact of flow regime and sample volume on changes in bacterial community diversity in a low biomass aquatic environment. Biofilms - 7. Lisboa, Portugal, 2016.
  70. **Ugarcina Pervovic, S. Bautista, Q.M., Sevillano, M., Russell, J., and Pinto, A.J.** (2015) Determining the effect of sample volume and flow rates on investigations of bacterial community diversity in low biomass aquatic environments. FEMS Microbiology Congress. Maastricht, Netherlands, 2015. (poster)
  71. **Bautista, Q.M., Blakemore, O., Schroeder, J., Sloan, W.T., and Pinto A.J.** (2015) Diurnal variation of bacterial communities in drinking water systems over small spatial scales. FEMS Microbiology Congress. Maastricht, Netherlands, 2015. (poster).
  72. **Calus, S.T., Sevillano-Rivera, M., Ijaz, U. and Pinto, A.J.** (2015). MinION-enabled and customer led drinking water quality monitoring for pathogen detection. London Calling – Oxford Nanopore Technology. London, UK, 2015 (poster).
  73. **Pinto, A.J., Schroeder, J., Lunn, M., Sloan, W.T., and Raskin, L.** (2014) Predicting bacterial community dynamics in drinking water systems. International Society of Microbial Ecology - 15, Seoul, South Korea, 2014. (poster)
  74. **Schroeder, J., Lunn, M., Pinto, A.J., Raskin, L., and Sloan, W.T.** (2014). Microbial migrating in conduits. International Society of Microbial Ecology -15, Seoul, South Korea, 2014.

75. Pinto, A. J., Schroeder, J., Lunn, M., Sloan, W. T., and Raskin, L. (2013) Bacterial community dynamics in drinking water systems. *Microbial Ecology in Water Engineering*, Ann Arbor, Michigan, USA 2013.
76. Clancy, T., Chiao, T.C, Pinto, A.J., and Raskin, L. (2013) Assessing the role of backwashing and disinfection on microbial water quality and community dynamics in biofilters. AWWA ACE. Denver, Colorado, 2013.
77. Clancy, T., Chiao, T.C, Pinto, A.J., and Raskin, L. (2013) Differential Disinfection Resistance Of Bacterial Populations In Effluent From Biologically Active Carbon (BAC) Filter. *Biological Treatment Symposium*. Denver, Colorado, 2013.
78. Pinto, A. J., Schroeder, J., Lunn, M., Sloan, W. T., and Raskin, L. (2012). Evaluating process-related and seasonal changes in bacterial community in drinking water treatment and distribution systems. *International Symposium on Microbial Ecology -14*, Copenhagen, Denmark, 2012.
79. Schroeder, J., Pinto, A. J., Lunn, M., Raskin, L., and Sloan, W. T. (2012). Theoretical models for bacterial communities in drinking water as they travel and evolve through drinking water distribution systems. *International Symposium on Microbial Ecology -14*, Copenhagen, Denmark, 2012.
80. Clancy, T., Chiao, T.H, Pinto, A. J., Xi, C., and Raskin, L. (2012) Tracking the survival of bacteria exposed to monochloramine disinfection in drinking water treated by a biologically active filter. *International Symposium on Microbial Ecology -14*, Copenhagen, Denmark, 2012. (poster).
81. Pinto, A.J., Chiao, T.C., Xi, C., and Raskin, L. (2011) Seeding Mechanisms for Bacterial and Archaeal Populations in the Drinking Water Distribution System: a Year-Long Microbial and Chemical Inventory. *Leading Edge Technology Conference 2011*. Amsterdam, Netherlands. 2011
82. Pinto, A.J., Chiao, T.C., Xi, C., and Raskin L. (2011) Bacterial Infiltration and Survival in Drinking Water Distribution Systems. *Association of Environmental Engineering and Science Professors*. Tampa, Florida, 2011.
83. Pinto, A.J., Chiao, T., Xi, C., and Raskin, L. (2010) The influence of The Influence of Treatment Processes on the Microbial Continuum in a Drinking Water Treatment System. *International Symposium on Microbial Ecology-13*, Seattle, WA, 2010. (poster).
84. Bott, C.B., Jones, R., Thomas, W.A., Pinto, A.J., and Love, N.G. Model-Based Investigation of Full Scale IFAS Performance Utilizing Plant Data and Batch Testing to Assess Kinetics, Mass Transfer Effects and Population Dynamics. *WEF/IWA Biofilm Reactor Technology Conference*, Portland, OR, 2010.
85. Pinto, A.J. and Love N.G. (2010). Impact of Chemical Perturbation on Trophic Interactions and its Implications for Ecosystem Function in an Engineered Environment. *International Symposium on Microbial Ecology-13*, Seattle, WA, 2010. (poster)
86. Pinto, A.J. and Love N.G. (2009). Post-Stress Recovery of a Complex Ammonia Oxidizing Bacterial Community Following Heavy Metal Cadmium stress. *International Conference on Nitrification 1*. Louisville, KY, 2009.
87. Pinto, A.J. and Love N.G. (2009) Structural and Functional Response of the Ammonia Oxidizing Bacterial Community to Acute Cadmium Stress in Laboratory and Pilot Scale Activated Sludge Systems. *Association of Environmental Engineering and Science Professors*. Iowa City, IA, 2009. (poster).
88. Pinto, A.J., Hardin, S.C, and Love N.G. (2009) Cadmium-Induced Short-term Structural and Functional Changes in Ammonia Oxidizing Community in Conventional Laboratory and Pilot Scale Activated Sludge Systems. *ASPD 5: Specialized Conference on Microbial Population Dynamics in Biological Wastewater Treatment*. Aalborg, Denmark, 2009.
89. Pinto, A.J., Guest, J.S., Roots, R., Love, N.G., and Skerlos, S. (2009) A Project-Based Active Learning Framework to Introduce Freshman Engineering Students to Sustainable Waste



Management and Waste-to-Energy Technologies. Association of Environmental Engineering and Science Professors. Iowa City, IA, 2009.

90. Pinto, A.J., Guest, J.S., Love, N.G., Shaw, A., Fairey, A.W., Iler, P.L., Shellenbarger, D., and Barker, D. (2007). Process Control at Nutrient Removal Wastewater Treatment Plants During Toxic Shock Events. International Water Association Specialty Conference Series: Nutrient Removal. Baltimore, MD, 2007.

#### **D4. Invited Seminar Presentations**

1. Pinto, A.J. (2023). Complete ammonia oxidizers and their role in nitrogen removal from wastewater treatment systems. Louisiana State University (virtual talk).
2. Pinto, A.J. (2023). Implications of structural and functional diversity of nitrifiers in wastewater treatment systems. University of Tennessee, Knoxville.
3. Pinto, A.J. (2023). Learning from the drinking water microbiome. Newcastle University, UK
4. Pinto, A.J. (2022). Monitoring microbes and managing their ecology in drinking water systems. George Washington University.
5. Pinto, A.J. (2022). Eukaryotes in drinking water systems – what we know and don't. Chinese Academy of Sciences. (virtual talk)
6. Pinto, A.J. (2022). What can the drinking water microbiome teach us? New Jersey Institute of Technology. (virtual talk)
7. Pinto, A.J. (2022). Monitoring microbes and managing their ecology in drinking water systems. Warren Lecture. University of Minnesota.
8. Pinto, A.J. (2022). Complete ammonia oxidizing bacteria in nutrient removal systems. University of British Columbia. (virtual talk)
9. Pinto, A.J. (2021). The metabolic landscape of the drinking water microbiome. Korea Advanced Institute of Science and Technology. (virtual talk).
10. Pinto, A.J. (2021) Managing microbes at the interface of infrastructure, environment, and public health. University of Arizona (virtual talk).
11. Pinto, A.J. (2021) Activity and diversity of complete ammonia oxidizing bacteria in nutrient removal systems. Tokyo University of Agriculture and Technology (virtual talk).
12. Pinto, A.J. (2021). Monitoring and managing the drinking water microbiome. University of British Columbia. (virtual talk)
13. Pinto, A.J. (2021). How do we get to real-time monitoring of the drinking water microbiome and why? University of California, Los Angeles. LA, California (virtual talk).
14. Pinto, A.J. (2020). Ecological niche of comammox bacteria in engineered systems. Cornell University. Ithaca, NY (virtual talk).
15. Pinto, A.J. (2020). Ecological and physiological drivers of microbial community assembly in drinking water systems. University of Wisconsin, Madison. Madison, WI. (virtual talk).
16. Pinto, A.J. (2020). Managing the microbial world at the tap. North Carolina State University. Charlotte, NC. (virtual talk).
17. Pinto, A.J. (2020). Prevalence and diversity of comammox bacteria in nitrogen removal systems. EAWAG, Dübendorf, Switzerland. (virtual talk).
18. Pinto, A.J. (2020). Managing the drinking water microbiome – challenges and opportunities. University of North Carolina-Charlotte. Charlotte, NC. (virtual talk).
19. Pinto, A.J. (2020). Boston Tap: 'Omics enabled resolution of time series dynamics of Boston's drinking water microbiome. MIT, Cambridge, MA.
20. Pinto, A.J. (2020). From genes to genomes - leveraging integrated 'omics to monitor and manage microbial communities. University of Southern California. Los Angeles, CA.
21. Pinto, A.J. (2019). Prevalence and diversity of comammox bacteria in nitrogen removal systems. University of Washington, Seattle, WA

22. Pinto, A.J. (2019). How do we manage the drinking water microbiome? Northeastern University, Nahant, MA.
23. Pinto, A.J. (2019). How do we manage the drinking water microbiome? Stanford University, Palo Alto, CA
24. Pinto, A.J. (2019). Managing the drinking water microbiome - challenges and opportunities. University of Buffalo, Buffa, NY.
25. Pinto, A.J. (2019). Nitrogen biotransformation – from the expected to unexpected. University of Illinois Urbana Champaign, Champaign, IL.
26. Pinto, A.J. (2018). Who's in your water. Clemson University, Clemson, SC.
27. Pinto, A.J. (2018). From Observation to Manipulation: Leveraging ecological theory and computational biology to manage the drinking water microbiome. University of Massachusetts, Amherst.
28. Pinto, A.J. (2017): The who, the where, and why of the drinking water microbiome. University of Glasgow, Glasgow, UK.
29. Pinto, A.J. (2017): The who, the where, and why of the drinking water microbiome. Newcastle University, Newcastle-upon-Type, UK.
30. Pinto, A.J. (2017): Microbially mediated nitrogen transformations in engineered water systems. University of Illinois Urbana Champaign. Champaign, IL, USA.
31. Pinto, A.J. (2016): Engineering the drinking water microbiome. Tufts University, 2016.
32. Pinto, A.J. (2016): Directions for drinking water microbial ecology. DC Water, 2016
33. Pinto, A.J. (2016): Engineering the drinking water microbiome. Lund University, Sweden, 2016.
34. Pinto, A.J. (2014): Microbial detection and prediction – The road ahead for drinking water quality management. University of Ghent. Ghent, Belgium 2014.
35. Pinto, A.J. (2014): Developing a predictive framework for microbial management in drinking water systems. Marine Biological Laboratories. Plymouth, United Kingdom. 2014.
36. Pinto, A.J. (2014): Bacterial community dynamics in drinking water systems: Moving from observations to prediction. Pidpa Water Company, Antwerp, Belgium, 2014.
37. Pinto, A.J. (2014): Bacterial community dynamics in drinking water systems: Moving from observations to prediction. University of Birmingham, Birmingham, UK, 2014.
38. Pinto, A.J. (2014): Microbes in urban water infrastructure: Implications of structure and function. University of Oxford, Oxford, UK, 2014.
39. Pinto, A.J. (2014): Developing a predictive framework for microbial management in drinking water systems. University of Michigan. Ann Arbor, Michigan, 2014.
40. Pinto, A.J. (2013): Microbial dynamics in drinking water systems. Newcastle University, Newcastle, United Kingdom, 2013.
41. Pinto, A.J. (2012): Drinking water microbial ecology. KWR Water Cycle Research Institute, Nieuwegein, Netherlands, 2012.

## **E. Grants and Contracts**

### **E1. As Principal Investigator**

1. Title: National Priorities: Integrated Water Microbiome and Disinfection Byproducts Monitoring and Management to Advance Drinking Water Quality.  
 Agency: US EPA (Received notification of intent to fund on 04/06/2023)  
 Amount: \$2,653,750  
 Role: PI  
 Collaborators: Co-PIs at Georgia Tech: C-H. Huang, K. Graham  
 UNC-Chapel Hill: J. Brown  
 Northeastern University: K. Pieper, A. Stubbins, J. Agar  
 The Water Tower: M. Meeker, K. VandanHeuvel.

- Period of Contract: 06/1/2023-5/30/2026  
Candidates share: 25% (\$662, 500)
2. Title: Autonomous in situ monitoring of harmful algal blooms  
Agency: The Water Research Foundation  
Amount: \$308,143.  
Role: PI  
Collaborators: Andrea Busch (Co-PI Great Lakes Water Authority), John Norton (Co-PI Great Lakes Water Authority), Miguel Fuentes-Cabrera (Oak Ridge National Laboratory), R. Michael McKay (University of Windsor), Ed Verhamme (LimnoTech), Tad Slawewski (LimnoTech)  
Period of Contract: 01/15/2022-01/15/2024  
Candidates share: 100%
  3. Title: Rapid detection and quantitation of active microorganisms  
Agency: The Water Research Foundation  
Amount: \$531,141.  
Role: PI  
Collaborators: Andrea Busch (Co-PI Great Lakes Water Authority), Wendell Khunjar (Co-PI Hazen and Sawyer), Raul Gonzalez (Co-PI Hampton Roads Sanitation District)  
Period of Contract: 01/01/2022-7/31/2024  
Candidates share: 100%
  4. Title: RAPID: Extreme water use patterns and their impacts on the microbial and chemical ecology of drinking water  
Agency: National Science Foundation  
Amount: \$199,268.  
Role: PI  
Collaborators: Kelsey Pieper (Co-PI), Aron Stubbins (Co-PI)  
Period of Contract: 06/01/2020-05/31/2022  
Candidates share: 50% (\$100K)
  5. Title: SARS-CoV-2 monitoring in City of Somerville Sewer Shed  
Agency: City of Somerville and Stantec  
Amount: \$75,000  
Role: PI  
Period of Contract: 09/01/2020-05/31/2021  
Candidates share: 100%
  6. Title: Enabling low-cost real-time microbial monitoring in the water industry.  
Agency: Water Research Foundation  
Amount: \$100,000  
Role: PI  
Period of Contract: 01/01/2020-12/31/2023  
Candidates share: 100%
  7. Title: Nanopore sequencing for real-time monitoring  
Sponsor: University of Michigan  
Amount: \$164,376.  
Role: PI

- Period of Contract: 05/01/2019-04/30/2021  
Candidates share: 100%
8. Title: GOALI: Developing an Eco-Genomic Framework for Biofilter Operation  
Agency: National Science Foundation  
Amount: \$340,216.  
Role: PI  
Collaborators: Jess Brown (CO-PI Carollo Engineers), Tanju Karanfil (Co-PI Clemson University)  
Period of Contract: May 1, 2019 – April 30, 2023  
Candidates share: 80% (\$270,000)
9. Title: ECOHAB 2017: Towards a predictive understanding of our ecosystems: Microcystis blooms and toxin production.  
Agency: National Oceanographic and Atmospheric Administration  
Amount: \$608,068.  
Role: PI  
Collaborators: Ferdi Hellweger (Co-PI TU-Berlin), Steven Willhelm (Co-PI Univ of Tennessee, Knoxville)  
Period of Contract: August 1, 2018 – July 31, 2023.  
Candidates share: 8% (\$50,000)
10. Title: CAREER: Developing a Spatial-Temporal Predictive Framework for the Drinking Water Microbiome  
Agency: National Science Foundation  
Amount: \$519,791  
Role: PI  
Period of Contract: May 1, 2018 – June, 30, 2024.  
Candidates share: 100%
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11. Title: Deciphering the role of comammox bacteria in nitrogen removal systems  
Agency: National Science Foundation  
Amount: \$374,196  
Role: PI  
Period of Contract: 09/01/2017-08/30/2021  
Candidates share: 100%
12. Title: Healthy drinking water  
Agency: Engineering and Physical Sciences Research Council, UK.  
Amount: £312,490 (\$445,591).  
Role: PI  
Period of Contract: 4/1/2015-3/31/2017  
Candidates share: 100%
13. Title: Sponsorship Award. Cell-by-Cell: On demand assembly and control of microbial communities for the water industry.  
Agency: Engineering and Physical Sciences Research Council, UK.  
Amount: £25,000 (\$35648).  
Role: PI

- Co-PI: James Windmill (Co-PI University of Strathclyde), Yeaw Chu Lee (Co-PI Heriot Watt University)  
Period of Contract: 5/1/2014-8/31/2015  
Candidates share: 50%
14. Title: Research Networks: Mitigating Microbial Contamination Risks in Drinking Water Systems  
Agency: British Council  
Amount: £3,640 (\$5189)  
Role: PI  
Period of Contract: 5/1/2014-5/31/2015  
Candidates share: 100%
15. Title: EPSRC First Grant: Developing an Event Prediction and Correction Framework for Microbial Management of Drinking Water Systems  
Agency: Engineering and Physical Sciences Research Council, UK.  
Amount: £115,899 (\$165,243).  
Role: PI  
Period of Contract: 7/1/2013-6/30/2015  
Candidates share: 100%
16. Title: Start Grant: A Phage-based Paper Device for Rapid Detection of Pathogen Contamination in Drinking Water.  
Agency: The Royal Society  
Amount: £25,000 (\$35,643).  
Role: PI  
Period of Contract: 4/1/2013-3/30/2014  
Candidates share: 100%

## **E2. As Co-Principal Investigator**

1. Title: Process optimization and real-time control for synergistic microalgae cultivation and wastewater treatment  
Agency: Department of Energy  
Amount: \$2,000,000.  
Role: Co-PI  
Co-PI: Jeremy Guest (PI), Ian Bradley (Co-PI)  
Period of Contract: 01/01/2021-12/31/2024  
Candidates share: 25% (Candidates share: \$502,000).
2. Title: Sustainable and resilient water solutions for small communities in Scotland  
Agency: Engineering and Physical Sciences Research Council, UK.  
Amount: £50,000 (\$71,287).  
Role: Co-PI  
Collaborators: William T Sloan (PI)  
Period of Contract: 10/1/2013-9/30/2014  
Candidates share: 50% (\$35,643)

**E3. As Senior Personnel or Contributor**

No data.

**E4. Pending Proposals**

1. Title: EFRI EliS: Microbiome Engineering for Beneficial Drinking Water Biofilms.  
Agency: National Science Foundation.  
Amount: \$2,000,000  
Role: PI  
Collaborators: Co-PIs at Georgia Tech: Will Ratcliff, Margaret Kosal; Co-PIs at University of Michigan: Lutgarde Raskin, Nina Lin.  
Period of Contract: 09/1/2023-8/30/2027
  
2. Title: Wastewater treatment decarbonization by promoting autotrophic nitrogen removal.  
Agency: Department of Energy  
Amount: \$4,000,000  
Role: Co-PI  
Collaborators: PI: Christopher Impellitteri (The Water Tower Institute); Co-PIs at Gwinnett County: Srinivas Jalla, Co-PI's at Georgia Tech: Yongsheng Chen, Ameet Pinto, Shane Snyder, Xing Xie, Ching-Hua-Huang, Joe Bozeman, Jennifer Kaiser, Thomas Igou; Co-PI at NREL: Zhe Huang, Co-PI at University of Alabama: Daqian Jiang.  
Period of Contract: 01/01/2024-12/31/2028  
Candidates share: 15% (\$600,000).
  
3. Title: Electron transport chain inhibition for targeted elimination of zooplankton grazers on open raceway ponds.  
Agency: Department of Energy.  
Amount: \$2,000,000.  
Role: Co-PI  
Collaborators: PI : Yongsheng Chen (Georgia Tech): Co-PIs at Georgia Tech: Thomas Igou, Ameet Pinto. Co-PIs at Sandia National Laboratory: Todd Lane, Thomas Reichardt, Jerilyn Timlin.  
Period of Contract: 01/01/2024-12/31/2028  
Candidate share: 10% (\$200,000)
  
4. Title: Preventing culture crash trajectories through pre-emergent pest detection and process control in mixed microalgae cultivation.  
Agency: Department of Energy.  
Amount: \$2,000,000.  
Role: Co-PI  
Collaborators: PI : Ian Bradley (University at Buffalo SUNY), Co-PI at Georgia Tech: Ameet Pinto, Co-PI at University of Illinois: Jeremy Guest  
Period of Contract: 01/01/2024-12/31/2028  
Candidate share: 32% (\$625,000)

**F. Other Scholarly and Creative Accomplishments**

- 2023 \* **Benjamin Gincley** #, **Farhan Khan** #, and **Ananya Kumar** # selected as National Champions in the Department of Energy's Algae Prize Competition (\$10K prize and Trophy)
- 2022 \* **Benjamin Gincley** # and **Farhan Khan** # were winners of CEE Entrepreneurial Competition – Higginbotham Prize. (\$5K prize)
- 2022 \* **Benjamin Gincley** # and **Farhan Khan** # are finalists for the Department of Energy's Algae Prize Competition (\$5K prize)
- 2022 \* Recent graduate, **Dr. Irmarie Cotto**, won the NSF ASEE Postdoctoral Fellowship Award.

**G. Societal and Policy Impacts**

No data.

**H. Other Professional Activities**

No data.

**V. Education****A. Courses Taught**

Semester, Year	Course Number	Course Title	Number of Students
Spring 2023	CE 6331	Biological Processes	8
Spring 2023	CE 4310	Water Quality Engineering	20
Spring 2022	CE 6331	Biological Processes	31

**B. Individual Student Guidance****B1. Ph.D. Students****B1.a. Graduated Ph.D. Students**

	Name	Thesis Title	Graduation date	Current
1	Katherine Vilardi	Interactions of comammox bacteria with aerobic and anaerobic nitrifying bacteria in engineered ecosystems	Northeastern University, 05/2023	-
2	Irmarie Cotto	Strain ecology and process implications of comammox bacteria	Northeastern University., 08/2022	Post-doc, Georgia Tech
3	Solize Vosloo	Genome centric and flow cytometric characterization of the drinking water microbiome	Northeastern University 04/2022	Consultant, Oosthuizen Consulting.
4	Maria Sevillano-Rivera	Exploring microbial populations in drinking water systems: application of metagenomics towards characterization of functional potential	Northeastern University. 08/2021	Data Fellow, Virga Labs.

5	Zihan Dai	Metagenomic insights into the drinking water microbiome	University of Glasgow 12/2019	Post-doc, Georgia Tech.
6	Szymon Calus	Evaluation of nanopore-based sequencing technology for gene marker-based analysis of complex microbial communities	University of Glasgow 12/2018	Genome Biomarker Specialist, Roche, Basel, CH
7	Q.M. Bautista de los Santos	Towards a predictive framework for microbial management in drinking water systems	University of Glasgow, 12/2017	Process Engineer, Carollo Engineers. Tampa, Florida

**B1.b. In Process Ph.D. Students**

	Name	Thesis Title	Start date	Degree enrolled in	Current
1	Linxuan Huo	Enhancing biofiltration using an Ecogenomic Framework	08/2021	Ph.D. Environmental Engineering	Written portion of qualifying exam completed. Oral portion is pending.
2	Farhan Khan	Low-cost monitoring of harmful algal blooms	08/2021	Ph.D. Environmental Engineering	Written portion of qualifying exam completed. Oral portion is pending.
3	Kaiqin Bian	Real-time characterization of active microbial populations in complex communities	08/2021	Ph.D. Environmental Engineering	Written portion of qualifying exam completed. Oral portion is pending.
4	Benjamin Gincley	Autonomous real-time monitoring of microalgal cultivation systems	01/2022	Ph.D. Environmental Engineering	-
5	Ashwin Sudarshan	Integrated 'omics characterization of the drinking water microbiome	08/2022	Ph.D. Environmental Engineering	-



**B2. M.S. Students (Indicate Thesis Option for Each Student)****B2.a. Graduated M.S. Students**

	<b>Name</b>	<b>Thesis Title</b>	<b>Graduation date</b>	<b>Current</b>
1	Benjamin Gincley	Autonomous real-time microbial scope	Northeastern University. 12/2021	PhD student, Georgia Tech
2	Jill Gosnell	Spatial dynamics of the Boston Drinking Water Microbiome	Northeastern University. 05/2020	Civil Engineer, Environmental Partners
3	Linxuan Huo	Hybrid assembly of bacterial genomics from metagenomic data	Northeastern University 08/2019	PhD student, Georgia Tech
4	Xuyang Li	Impact of intermittent disinfection on microbial communities	Northeastern University 08/2019	-

**B3. Undergraduate Students**

2023-	Peyton Warrick, Georgia Tech
2023-	Harrison Baro, Georgia Tech
2023-	Vishnupriya Radhakrishnan, Georgia Tech
2022-	Ananya Kumar, Georgia Tech
2019-2021	Rayne Skillin, Northeastern University
2019-2021	Tyler Gogal, Northeastern University
2019-2020	Nikola Kapor, Northeastern University
2018-2021	Sonia Barios, Northeastern University
2018-2021	Jasmine Branham, Northeastern University
2018-2020	Cole Mbiojana, Northeastern University
2018-2020	Nissa Pender, Northeastern University
2017-2018	Alyson Dubois, Northeastern University
2018-2019	Hannah Worden, Northeastern University
2018-2019	Gabriel Goodman, Northeastern University
2018-2019	Siraj Dhru, Northeastern University
2016-2018	Zach Flinkstrom, Northeastern University

**B4. Service on Thesis or Dissertation Committees****B4.a. Internal (suggest a table with Student Name, School, Advisor, Dates)**

	<b>Student name</b>	<b>School</b>	<b>Advisor</b>	<b>Date</b>
1	Junyue Wang	Civil and Environmental Engineering	Ching-Hua Huang	2022
2	Thomas Igou	Civil and Environmental Engineering	Yongsheng Chen	2022
3	Abhishek Kasturi	Civil and Environmental Engineering	Sotira Yiacoumi	2022

**B4.b. External (suggest a table with Student Name, School, Advisor, Dates)**

	<b>Student name</b>	<b>School</b>	<b>Advisor</b>	<b>Date</b>
1	Lindsey Furness	Newcastle University, UK	Tom Curtis	2023
2	Artwell Kanda	University of Pretoria, RSA	Esper Ncube	2022
3	Alice Wong	Northeastern University	Loretta Fernandez	2019
4	Pooya Paydary	Northeastern University	Phil Larese-Cassanova	2019
5	Chia-Chen Wu	University of Michigan	Nancy Love	2018
6	Jolene El-Chaktoura	Technical University of Delft	Hans Vrouwenwelder	2018
7	Nadine Kotlarz	University of Michigan	Lutgarde Raskin	2017
8	Ian Bradley	University of Illinois Urbana Champaign	Jeremy Guest	2017
9	Katharina Luhrig	Lund University	Peter Radstrom	2017
10	Emanuelle Prest	Technical University of Delft	Mark van Loosdrecht	2016
11	Sam van Nevel	Ghent University	Nico Boon	2015
12	Solize Vosloo	University of Pretoria	Fanus Venter	2015
13	Sarah MacRae	University of Pretoria	Fanus Venter	2015

**B5. Mentorship of Postdoctoral Fellows or Visiting Scholars****B5.a. Postdoctoral Fellows**

	<b>Name</b>	<b>School</b>	<b>Dates</b>	<b>Current</b>
1	Zihan Dai	Georgia Tech	03/2023-	Post-doc, Georgia Tech
2	Juliet Johnston	Georgia Tech	12/2022-	Post-doc, Georgia Tech
3	Christopher Anderson	Northeastern University	2018-2020	Research microbiologist, USDA
4	Varun Srinivasan	Northeastern University	2017-2019	Process Engineer, Brown and Caldwell

**B5.b. Visiting Scholars**

	<b>Name</b>	<b>School</b>	<b>Dates</b>	<b>Current</b>
1	Marco Gabrielli	Politecnico Milano	03-12/2022	PhD student Politecnico di Milano

**C. Educational Innovations and Other Contributions**

No data.

**VI. Service****A. Professional Contributions****A1. Editorial Board Memberships**

- 2019 - current Editor, Water Research  
 2017 – 2019 Associate Editor, Water Research.

**A2. Society Offices, Activities, and Membership**

- 2022- Member, Forum on Microbial Threats, National Academy of Science  
 Engineering and Medicine  
 2017 - 2019 Member, AEESP Student Services Committee.  
 2017 Delegate, International Water Association (IWA), Specialty Group Leaders  
 Forum, Buenos Aires, Argentina. Nov 13-17, 2017.  
 2017 - current Secretary (Vice Chair), International Water Association (IWA) Specialty Group:  
 Microbial Ecology and Water Engineering  
 2013- current Member, International Water Association (IWA) Specialty Group: Microbial  
 Ecology and Water Engineering.  
 2013 Delegate, International Water Association (IWA), Specialty Group Leaders  
 Meeting, Valencia, Spain. Nov 7-8, 2013.

**A3. Organization and Chairing of Technical Sessions, Workshops, and Conferences**

- 2023 Lead organizer, “Quantitatively integrating meta’omics approaches into  
 environmental engineering and science research” workshop. AEESP 2023  
 conference  
 2023 Organizing committee, International Conference on Nitrification and Related  
 Processes (ICON8), Princeton University, Princeton, NJ.  
 2022 Lead organizer, “Leveraging Microbiome Research in Environmental  
 Engineering and Science Research” workshop. AEESP 2022 conference.  
 2022 Co-organizer, IWA Microbial Ecology and Water Engineering Webinar Series.  
 2022 Organizing committee, International Conference on Nitrification and Related  
 Processes (ICON7), July, University of Utah (Virtual conference)  
 2021 Scientific committee, Microbial Ecology and Water Engineering 2021  
 Conference, October 18-20, Delft, Netherlands.  
 2021 Workshop co-organizer, "From Microbial Theory to Practice", IWA World  
 Water Congress, Copenhagen, Denmark.  
 2021 Workshop co-organizer, “Leveraging Microbiome Research Environmental  
 Engineering Research and Practice”, AEESP, July 13-15, St. Louis, Missouri.  
 2020 Workshop co-organizer, "The Ecology of Biofilms in Water Engineering", IWA  
 Biofilms Virtual Conference. (December 6, 2020)  
 2019 Scientific committee, Microbial Ecology and Water Engineering 2019  
 Conference, November 11-14, 2019, Hiroshima, Japan.  
 2019 Workshop co-organizer, “Meta’omics in Environmental Engineering Research  
 and Practice”, AEESP, May 14-16, Tempe, Arizona.  
 2019 Session co-organizer, International Conference on Nitrification and Related  
 Processes (ICON6), July 24-28, Xiamen, China.  
 2018 Workshop co-organizer, IWA World Water Congress and Exhibition,  
 September 16-21, 2018. Tokyo, Japan.  
 2018 Workshop co-organizer, Water Institute of South Africa, June 21-26, Cape  
 Town, South Africa.

- 2016 Scientific committee, Microbial Ecology and Water Engineering 2016 Conference, September 4-7, 2016.
- 2016 Session Co-convener, American Society of Microbiology – Microbe 2016. June 18, 2016.
- 2016 Lead organizer, Scottish Water - Drinking water microbiology workshop, Glasgow, United Kingdom, March 10, 2016.
- 2015 Session Chair, Wetsus Annual Congress, Leeuwarden, Netherlands, September 29, 2015
- 2015 Workshop co-organizer, Microbi-Home workshop. IWA Biofilm Specialty Conference, Arosa, Switzerland, Aug 23 - 2016.
- 2012 Session co-convener, International Society of Microbial - 12, Copenhagen Denmark, Aug 24, 2012

#### **A4. Technical Journal or Conference Referee Activities**

Applied and Environmental Microbiology

ACS: Water

ACS: Environmental Science and Technology

Biotechnology and Bioengineering

Building and Environment

Current Opinion in Biotechnology

Environmental Engineering Science

Environmental Microbiology

Environmental Microbiology Reports

Environmental Science: Water Research and Technology

Environmental Science and Pollution Research

Environmental Science and Technology

FEMS Microbiology Ecology

Frontiers in Water

GigaScience

Interface

ISME Journal

Microbial Biotechnology

Microbiology Open

Microbiome

mSystems

mBio

mSphere

PeerJ

PLoS One

Reviews in Environmental Science and Technology

Scientific Reports

Water Research

Water Science and Technology

#### **A5. Proposal Panels and Reviews**

Biotechnology and Biological Science Research Council, UK

British Council, UK

Dutch Research Council (NWO), Netherlands

Engineering and Physical Sciences Research Council, UK

Flemish Water Organization, Belgium

National Science Foundation, USA  
 Natural Environment Research Council, UK  
 Mitacs, Canada  
 Swiss National Science Foundation  
 The Royal Society, UK  
 Vellux Foundation, Denmark.  
 Vidi, Netherlands

## **B. Public and Community Service**

- 2022 Station Leader. “Make a Splash” event for Gwinnett County Schools. The Water Tower.
- 2017 Building Bridges workshop for high school students in collaboration with the Center for STEM Education, Northeastern University.
- 2016 Building Bridges workshop for high school students in collaboration with the Center for STEM Education, Northeastern University.

## **C. Institute Contributions**

### **C1. School Committee Service**

- 2022 Faculty Search Committee, Ex Officio member, Georgia Tech
- 2022-current Civil and Environmental Engineering Diversity, Equity, and Inclusion committee, Georgia Tech
- 2021 Faculty Search Committee for position of Professor of Practice in Environmental Engineering, Georgia Tech
- 2021-current Graduate admissions committee, Environmental Engineering Group, Georgia Tech
- 2021 LSTC Planning Committee, Northeastern University
- 2020 Faculty Search Committee: College of Science, Northeastern University
- 2018 – 2021 Program Coordinator for Environmental Engineering Graduate Program, Northeastern University
- 2018 Environmental Engineering Faculty Search Committee, Northeastern University
- 2017 – 2021 Graduate Studies Committee, Northeastern University
- 2017 – 2018 Graduate Recruitment Working Group, Northeastern University