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COLLEGE EDUCATION AND OTHER TRAINING

- May 2023** Visiting Professor (3.5 months), EAWAG, Switzerland (Drs. Eberhard Morgenroth & David Johnson).
- July 2014** Visiting Professor (6 months), EAWAG, Switzerland (Dr. Eberhard Morgenroth).
- January 2014** Visiting Professor (6 months), Nijmegen University, The Netherlands (Dr. Mike Jetten)
- 2005** Post Doc, Environmental Engineering
The University of Wisconsin, Madison (With Dr. Daniel Noguera)
- 2003** **Ph.D. in Environmental Engineering**
The University of South Carolina, Columbia (With Dr. Joe Flora)
- 1996** **Master of Science in Civil Engineering**
Jadavpur University, Kolkata, India.
- 1994** **Bachelor of Science in Civil Engineering**
Jadavpur University, Kolkata, India

PROFESSIONAL EXPERIENCE

- a) July 2017- present - Professor and Graduate Director, Civil & Environmental Engineering, U of Utah, Salt Lake
- b) July 2011- present - Associate Professor and Graduate Director, Civil & Environmental Engineering, U of Utah, Salt Lake
- c) January 2006- June 2011 -Assistant Professor, Civil & Environmental Engineering, U of Utah, Salt Lake
- d) August 03-December 05- Post Doc- Environmental Engineering, UW, Madison

HONORS AND AWARDS

- 2020 Outstanding reviewer – Environmental Science: Water Research & Technology; A Royal Society of Chemistry Journal.
- 2019 AEESP Outstanding service award
- 2018 Outstanding researcher, Civil & Environmental Engineering, University of Utah
- 2017 Outstanding mentor; Civil & Environmental Engineering, University of Utah
- 2016 Outstanding researcher, Civil & Environmental Engineering, University of Utah
- 2015 Outstanding mentor; Civil & Environmental Engineering, University of Utah
- 2014 Outstanding mentor; Civil & Environmental Engineering, University of Utah
- 2013 Best Environmental Engineering Education Paper, American Society for Engineering Education Conference, Atlanta.
- 2013 Appreciation letter from the office of the president for K12 educational outreach.
- 2011 NSF CAREER Award (Environmental Engineering)
- 2009 Outstanding researcher, Civil & Environmental Engineering, University of Utah
- 2009 Best student advisor, Civil & Environmental Engineering, University of Utah
- 2008 Best teaching award for tenure track faculty, Civil & Environmental Engineering, U of Utah.
- 2008 Best Poster, WEFTEC, Chicago.
- 2003 Outstanding Graduate student, College of Engineering, U of South Carolina.

ONGOING FUNDED RESEARCH PROJECTS (More than \$5.5 million completed since 2015 (not included below) as P.I. from NSF, USEPA, DOE, DOD, Utah DWQ, private industries, and municipalities) Small grants <50K are not listed here. Research expenditures >\$550/year average

1. **NSF: (P.I.): \$526,300:** GOALI: Understanding granulation using microbial resource management for the broader application of granular technology (12/2026)
2. **NSF: (P.I.): \$2,999,766:** RoL:EN: Understanding the rule of life facilitating the proliferation of toxic cyanobacterial benthic mats in flowing freshwaters (12/2027).
3. **USDA: (CO-PI): \$850,000 (Goel portion: \$249,125):** Exploration of the microbiome of native plants for plant growth-promoting microbes to mitigate effects of abiotic stresses in grain, vegetable, and forage crops **(12/26)**
4. **NSF: (P.I.): \$249,689:** PFI-TT: Reactive biofilm surfaces for efficient nitrogen management in liquid waste streams (7/2026)
5. **NSF: (P.I.): \$342,261:** Prokaryotes-phage interactions in engineered bioreactors (08/2023)
6. **NSF: (P.I.): \$123,998:** Citizen science-based water quality monitoring in Utah Lake (08/23)
7. **NSF: (P.I.): \$361,028:** Elucidating the synergistic role of anammox bacteria with flanking community members under different environmental stresses. (08/24)
8. **NSF: (CO-PI): \$799,957 (Goel portion \$240,000).** Sits NSF-UKRI: In-situ soil sensing network for future sustainable agriculture. (12/2023).
9. **NSF: (P.I.): \$123,706. RAPID:** Determination of health risks and status from SARS-CoV2 in the urban water cycle. (4/ 2023).
10. **SERDP-DOD: (Co-PI): \$656,355 (Goel Portion: \$310,000):** Cost Effective Treatment Trains for Wastewater Containing Legacy Munitions and Insensitive High Explosives (8/22).
11. **USAID: (P.I.): \$178,000:** Capacity Building at Alexandria University, Egypt: (08/24)
12. **NSF: (P.I.): \$50,000:** I-CORPS: Assessing the commercial potential of reactive biofilm surfaces-based waste treatment technology (11/2023)
13. **USEPA: (Co-PI): (\$1.2M):** Surrogate Pathogens in municipal wastewater effluent (8/24).
14. **CVWRF: (P.I.): (\$278,345):** Perfluorinated compounds along the treatment train **(12/2024).**
15. **TSSD: (PI): (\$68,500).** VFA generation to support nutrient management at TSSD (12/2024).

EDITORSHIP

- Associate editor: Environmental Engineering Science Journal (An AEESP journal): August 22-current
- Associate editor: Journal of Hazardous Materials Letters; August 22-current
- Associate editor: Chemosphere: November 2023-current
- Review Editor: Frontiers in Microbiology: September 2022- current.
- Guest Associate Editor: Frontiers of Microbiology: Environmental Microbiomes (September 2022-September 2023)
- Guest Associate Editor: Frontiers of Microbiology: Phage Biology (November 2022-November 2023)
- Guest Associate Editor: Frontiers of Microbiology: Catalytic Reactions in Chemistry (March 2022-August 2023)
- Associate Editor, Environments (2016-current)
- Editorial Board Member, Pollution Reports (2016-current)
- Editorial Board Member, Water Environment Research, Environmental Science: Water Research & Technology; A Royal Society of Chemistry Journal, Pollution Reports
- Associate Editor (2013-2017), Water Research

SERVICE

Department and College

- Chair: Department chair search committee (Fall 2023)
- Chair: University of Utah College of Engineering RPT Committee: Summer 2022-current.
- Member- College Ethical Misconduct Committee (2020-current; Chair: 2017-2020)
- Member- College curriculum committee (2016- till date)

- Chair- Department Retention, promotion, and tenure (2018-2020)
- Chair- College Ethical Misconduct Committee (2017-2020)
- Graduate Director (2012-present)
- Member: U of U College of Engineering Excellence in Teaching Committee- May 2011- 2017

University of Utah

- NSF funding task force member (August 2022-present)
- University of Utah graduate council (2022-present)
- Executive committee member; Global sustainability (2015- present)
- Member- University of Utah Scholarship committee- August 2018- 2020
- Director- Intermountain Junior Science and Humanities Symposium for K12 Research-2009-2014.
- Member: University of **Utah Biosafety Committee** (2013-2016)

National and State Levels

- Chair: United States of America National Committee for IWA (2021-present)
- AEESP conference selection committee member (December 2022-present)
- AEESP EEPL committee member (December 2022-present)
- AEESP sustaining member committee member: Spring 2022-current
- AEESP Scholarship committee: Fall 2022-current
- Vice Chair: United States of America National Committee for IWA (2018-2021)
- Committee Member: Stockholm Junior Water Prize (2019-present)
- Committee member- AEESP student services committee-2011- present.
- Committee Member: WEFTEC Research Symposium (2016-present).
- Treasurer and secretary: United States of America National Committee for IWA (2015-2019)
- Chair: AEESP Distinguished Lecture Committee (2016-2019)
- Vice Chair: AEESP Distinguished Lecture Committee (2013-2016)
- Chair: WEFTEC Research Symposium (2013-2016)
- Vice Chair: WEFTEC Research Symposium (2010-2013)
- Chair: Utah Wastewater certification program (2010- 2013)
- Chair: WEAU Preconference workshop (2013-2016)
- Chair: Water Environmental Association of Utah's Technical Committee Council (2011-2014)

Professional Societies

- Member- AEESP
- Member- International Water Association (IWA)
- Member – American Society for Microbiology
- Member-Water Environment Federation
- Associate Member- American Society of Civil Engineers
- Member-American Society for Engineering Education

Other Synergistic Activities (services)

- Chaired Equity and diversity workshop: AEESP Conference In Boston: June 20-23, 2023
- Chaired Student and Postdoc Services Workshop: AEESP Conference In Boston: June 20-23, 2023
- Panel Member: NSF's PFI Program workshop: AEESP Conference In Boston: June 20-23, 2023
- Panelist- Air Force- January 2023
- Reviewer- Wisconsin Sea Grant- January 2023
- Panelist: , NSF's Global Center, NSF's CAREER, ERC, NRT, INFEWS, SBIR, PFI, NSF-BSF, Unsolicited (Env, Sus, Nano, Ecosystem) (**total>50 panels beyond 2017**)
- Panelist: USDA (Water, Nano, COVID-19, Soil Health, Antibiotic Resistance) (total eight panels)

- U.S. Air Force Graduate Fellowship Panelist (2022)
- Panelist: USEPA (Water, Harmful Algal Blooms) (total three panels)
- Panelist: NIST (October 2019)
- Tutor: Environmental Engineering, Professional Engineering Examination Utah, Twice per year since 2017.
- Chair: Multiple technical sessions related to Nutrients, COVID-19, Biosolids, and Stormwater management at WEFTEC (2010-2021)
- Reviewer: Environment Research and Education Foundation Proposals (2016, 2018, 2019)
- International Panels: Commission Nacional de Investigación Científica y Tecnológica-Chile- Panel-2018, Shota Rustaveli National Science Foundation of Georgia's Review Panel (2015, 2016, 2017 and 2018), France, Jordan, and Mexico.
- Panelist: University of Utah Graduate Research Fellowship, April 2021
- RPT package reviewer; University of Nevada (2019), University of California, University of New Zealand, India (2020), Oregon State University (2021), University of Alaska (2019), North Dakota State University (2018), BIT, Misra, India (2020), IIT, Mumbai, India (2017).
- International Ph.D. Dissertation Reviewer: Three from NIT Patna (2018, 2023), India., One from Periyar University, India (2019), One from IIT Mumbai (2019), and BIT Mesra, India, 2018.
- Reviewer for Water Research, Chemosphere, Frontiers in Microbiology, Chemical Engineering Journal, Nature Biotechnology, J. of Applied Microbiology, Microbial Ecology, ASCE-J. of Environmental Engineering, Environmental Science and Pollution Research, Nature Microbiome, Chemosphere, Bioresource Technology, Journal of Hazardous Waste Management, International Journal of Hydrogen Energy, Environmental Engineering Science, Water Environment Research, Water Science & Technology, Biochemical Engineering, Environmental Microbiology, Science of the Total Environment, Environmental Science & Technology, Desalination, Applied Microbiology, Ecological Engineering, Chemical Engineering Journal, Biodegradation, Applied Biochemistry and Biotechnology, Journal of Cleaner Production, Journal of General Virology, Microbial Ecology and Journal of Applied Electrochemistry. The total number of papers reviewed in 2017 (>40), 2018 (>35), 2019 (>45), 2020 (>45), and 2021 (>20 so far).
- Reviewer, Book publishers: Elsevier, Wiley, Taylor, and Francis
- Liaison Officer Between WEF and AEESP: 2011-2015
- Chair: Faculty Search, Civil & Environmental Engineering, U of Utah: 2007-2008
- Member: Faculty Search, Civil & Environmental Engineering, U of Utah, 2013, 2015, 2016

EDUCATIONAL ACTIVITIES

2023-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 6650 (Bioprocess Design)
2022-	*CVEEN 7660 (Water Reuse)
2021-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 7630 (Field and Lab Methods), and *CVEEN 6620 (Environmental Processes).
2020-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 6650 (Bioprocess Design)
2019-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 7630 (Field and Lab Methods), and *CVEEN 6650 (Bioprocess Design)
2018-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 6620 (Environmental Processes), and *CVEEN 7660 (Water Reuse)
2017-	CVEEN 3610 (Intro to Environmental Engineering), *CVEEN 7630 (Field and Lab methods), and CVEEN 6650 (Bioprocess Design).
2012-2017-	Municipal Treatment, Advance bioprocesses, Technical Writing, Treatment Design (CVEEN 5605/6605), CVEEN 3610, (Intro to Environmental Engineering). Bioprocess Design (CVEEN 6650), Surface Water Quality (CVEEN 6450).

Note * Represents newly developed courses by Dr. Goel.

TRAINING WORKSHOPS CONDUCTED

International Teaching & Workshops

- December 11-12, 2023: Chair & Organizer: NSF Workshop on Translational Research at Catholic University of America, Washington DC funded by NSF-TIP Directorate.
- December 12-17th, 2022- Alexandria University, Egypt, How to set up the lab-scale granular reactor.
- Fundamentals of wastewater treatment. December 4, 2021- Alexandria University, Egypt,
- Innovation in Wastewater Treatment in the 21st Century- December 11 to 17th, 2019- NIT Patna under the GYAN Program of the Government of India
- Innovations in wastewater treatment and design; Fall 2018- Mehran University of Engineering Technology, Pakistan.
- "*Microbes and Sustainability*"- a short course taught at Madurai Kamraj University, India, December 20-25, 2009. American Society sponsored the course *for Microbiology* under its prestigious "Indo-US Professorship to Asia," awarded to Dr. Goel.
- NSF sponsored Workshop (P.I.)- Water sustainability and infectious diseases at Indian Institute of Science, Bangalore, January 4-8, 2010.
- NSF sponsored workshop (Co-PI)- Water Sustainability- at Indian Institute of Technology, Madras, organized in collaboration with Department of Science and Technology, Ministry of India, January 7-11, 2012

Training Workshops Offered

- Microplastics in municipal wastewater treatment plants: Workshop in Moab for Utah Rural Water: December 8, 2022
- The nitrogen cycle in municipal wastewater treatment plants: Workshop in Moab for Utah Rural Water: December 8, 2022
- Deammonification: Training workshop under WEAU Engineering Symposium: September 8, 2022.
- Nutrients and innovations in activated sludge process: Government of India sponsored GIAN program: 5-day teaching workshop at National Institute of Patna, India: December 15 to 21st, 2018.
- Wastewater treatment and nutrient recovery- Training workshop at Guru Nanak University, Amritsar, India: December 2019.
- Innovations in wastewater treatment: October 29, 2015. Water Environment Association of Utah sponsored workshop.
- Great Salt Lake Wetlands- May 11-12th, 2015, University of Utah.
- Nutrient issues in Utah- a training workshop for wastewater practitioners, June 2007, University of Utah.
- Biological Nitrogen Removal- a training workshop at North Davis Sewer District, June 2009
- Chemical Phosphorus removal- presented at the training workshop conducted by Water Association of Utah, St George, UT, April 2009.
- Nitrogen mass balance and filamentous bulking- a training workshop at North Davis Sewer District- planned for August 2010

TRAINING WORKSHOPS ATTENDED

- ASCE ExCEED Teaching Workshop, 11-17 July 2009, Flagstaff, AZ.
- USEPA's 404 training workshop- May 2012, Denver, EPA.

STUDENTS AND POSTDOCTORAL SCHOLARS

Past Graduate Students

Doctoral Students (Average One PhD per year) (total 17)

Name

Current status

Dr. Tania Datta (2010)	Associate professor, Tennessee Tech University
Dr. Liang Li (2012)	Associate Professor, Shanghai Sci & Technology
Dr. LeeAnn Racz (2010)	Assistant Professor, Air Force Institute of Technology
Dr. J. Choi (2013)	Associate Professor, Korean Transportation University
Dr. Mitch Hogsett (2014)	Engineer, Forsgren Associates Inc. Salt Lake City
Dr. Sha Wu (2016)	Employed in China
Dr. Pei Huang (2016)	Employed in Salt Lake City
Dr. Amir Motlagh (2016)	Assistant Professor, California State University
Dr. Ananda Bhattacharjee (2017)	Assistant Professor (Summer 2024), Texas A&M, Kingsville
Dr. Sunayna Dasgupta (2018)	Research Scientist-University of Minnesota, Twin Cities
Dr. Aditi Podder (2020)	Engineer-Brown and Coldwell
Dr. Hanyan Li (2020)	University of Oklahoma, (Research Scientist)
Dr. Ruby Diaz (Spring 2023)	Corollo Engineering
Dr. Nathan Stein (Spring 2023)	Ovivo, Product Engineer
Dr. Bishav Bhattarai (Spring 2023)	Black and Veatch
Dr. Eddie Gilcrease (Fall 2023)	Engineer, Water Works,
Dr. Soklida Hong	Hazen and Sawyer, Dallas

Master's Funded Students (Average One master's with thesis per year) (total 19)

<u>Name</u>	<u>Current status</u>
Shaikha Abedin (2016)	Florida Water Quality
Liu Yanjie (2008)	Engineer, Micron, Boise
Yidan Guo (2009)	Employed in California
Udarka Karra (2011)	Finished Ph.D. at The UConn.
Brian Mansell (2013)	Engineer, Brown & Caldwell
Nikki Comber (2013)	URS Corporation
Ran Jing (2014)	Doctoral Student, U of Maryland, College park
Ksheeraja Yahalla (2014)	Employed in Chicago
Scott Teeter (2016)	Water Works, SLC
Vedansh Gupta (2018)	AquaAerobics, WI
Anwar Alsanea (2018)	Ph.D Student at Arizona State University
Ryan Williams (2017)	Weber Water Basin, Utah
Ahmed Karimi (2018)	Baker International, Salt Lake City
Simmi Chahal (2017)	WestTech, Salt Lake City.
Aiswarya Rani Pappu (2018)	Ph.D. Student, UC, Irvine
Mohamed Islam Imdad (2019)	Working in Florida
Brendon Mackey (2019)	Working in P.A.
Archana Dahal (2022)	JUB Engineering
Shadman Kaiser (2023)	WUS Engineering

Funded Post Doctoral Research Fellows

- Dr. Sachiyo Tanaka (Ph.D.: University of Iowa) (January 2014-2016)- Currently Assistant Professor at the University of Texas.
- Dr. Shireen Meher Kotay. (Ph.D.: Indian Institute of Kharagpur) (August 2009-August 2013)- Research Scientist at the University of Virginia.

FUNDED UNDERGRADUATES (BEYOND Fall 2017)

2017-2018: Christensen
2018-2019- Marielle Holstein
2018-2019- Adam Smith
2018-2020- Marcus
2019-current- Jia Misra

2021-current- Adi Mahajan

2021-current- Clark

August 2021-January 22- William Benites

January 2022-August 2023: Corey James Woods (NSF REU)

January 2023-current: Fatoumata Binta Barry

HIGH SCHOOL RESEARCH (Between 2017-2022)

Warren Ellsworth (2019-2021)

Priyanka Agarwal- Hillcrest High School (2020)

Shilpi (2018)

Raunak Agarwal (2019-current) (Applying for Colleges)

Arushi Rohraj (2018) (Finishing PreMed and starting M.D. at the U)

Divyam Goel (2016-2019) 9PremEd at the U

Tanisha Maheswaran (Finished bachelors at Harvard University and started MD at John Hopkins) (2015-2018)

Adi Mahajan (2020) (Senior at the U)

Sreenath (2018) (West high)

Any Tiwari (2021-current) (Freshman at the U in PreMed)

MAJOR MEDIA EXPOSURE

1. High Country News: November 9, 2023: Another gunky, toxic season for Utah Waters.
2. KSL News Radio- September 8, 2022, _ Professor receives \$3M grant to study harmful algal blooms.
3. COE News: September 7, 2022: What makes algal blooms grow?
4. Digested News: COVID Article- December 2020
5. DIGESTED NEWS- Innovations in Activated Sludge Process: March 2021
6. DIGESTED NEWS- Can we efficiently manage nutrients- June 2021
7. FOX-13: July 13, 2021- Harmful Algal Blooms
8. University of Utah News: July 15, 2021- Harmful Algal Blooms in Utah
9. University of Utah- Outstanding COVID Research Team-2021
10. Sustainable development- published in Digested News issued by Water Environment Association of Utah- June 2006
11. Is lake algae killing birds- published in Daily Utah Chronicle- September 7, 2007
12. Utah researchers look up ways to clean up the oil spill- KSL television news- May 3, 2010.
13. Kagan water- FOX13 News, November 2009.
14. Water quality and phosphorus- a research article published in the U of U College of Engineering's "Research Report"- 2009.
15. Utah's Water Quality- article published in the U of U College of Engineering News Page- June 2008

PUBLICATION HISTORY

a. Books/chapter

1. Motlagh, A.M. and Goel, R. (2014). Sustainability of activated sludge processes. Book Chapter in Water Reclamation and Sustainability: 391-414
2. Motlagh, A.M. and Goel, R. (2014). Biological Phosphorus Removal: Reference Module in Earth Systems and Environmental Sciences, from Comprehensive Water Quality and purification, Volume 3, 2014, Pages 150-162
3. Noguera, D. R., Yilmaz, L. S., Goel, R., and Harrington, G. W. (2009) "Identification of heterotrophic bacteria that colonize chlorinated drinking water distribution systems," AWWA,
4. Goel R, Flora J.R.V. and Chen P. (2004) "Flow Equalization and Neutralization," A book chapter in book Physicochemical Treatment Processes -- Handbook of Environmental Engineering, Vol.5A, edited by Wang L.K., Hung Y- T and Shammas N, Humana Press Inc, Totowa, NJ, volume 3: p21-44.

Peer-reviewed articles in scholarly journals (Average 5/year; in review and under preparation not listed)

1. Hong, S., Winkler, M.-K.H., Wang, Z, and Goel, R. (2023). Integration of EBPR with mainstream anammox process to treat real municipal wastewater” Process performance and microbiology. *Water Research*; 233: 119758.
2. Li, H., Bhattarai, B., Barber, M. and Goel, R. (2023). Stringent response of cyanobacteria and other bacterioplankton during different stages of a harmful cyanobacterial bloom. *ES&T*.
<https://doi.org/10.1021/acs.est.3c03114>
3. Stein, N., Goswami, A. and Goel, R. (2023). Anoxic granular activated sludge process for simultaneous removal of hazardous perchlorate and nitrate; 458: 131809.
4. Bhattarai, B., Bhattacharjee, A.S., Coutinho, F.H., and Goel, R. (2023). Investigating the viral ecology and contribution to the microbial ecology in full-scale mesophilic anaerobic digesters. In print in *Chemosphere*.
5. Diaz, R. and Goel R. (2023). Effect of different ratios of volatile fatty acids on the performance and bacterial population in a batch reactor performing biological nutrient removal. Accepted in *Bioresource Technology*. <https://doi.org/10.1016/j.biortech.2023.129675>
6. Goswami, A., Stein, N., Fawzy, M., Nasr, M. and Goel, R. (2023). Retention and recycling of granules in continuous flow-through system to accomplish denitrification and perchlorate reduction. *Bioresource Technology*: 385: 129367.
7. Diaz, R., Goswami, A., Clark, H.C., Michelson, R. and Goel, R. (2023). Volatile fatty acid production from primary and secondary sludges to support efficient nutrient management. *Chemosphere*. 336: 138984.
8. Li, B., Godfrey, B.J., RedCorn, R., Candry, P., Abrahamson, B., Goel, R., Zhiwu, W., Goel, R. and Winkler, M. (2023). Mainstream Nitrogen Removal from Low Temperature and Low Ammonium Strength Municipal Wastewater using Hydrogel-encapsulated Comammox and Anammox. *Water Research*; 883: 163696
9. Li, B., Godfrey, B.J., RedCorn, R., Wang, Z., Goel, R. Abrahamson, B. and Winkler, M.-K.H. (2023). Mainstream nitrogen removal from low temperature and low ammonium strength wastewater using hydrogel-encapsulated commamox and anammox; *Water Research*; 242: 120303.
10. Singh, R.K., Gilcrease, E.B., Goel, R., Free, M. and Sarswat, P.K. (2022). Biodegradation of petroleum-based plastic using *Bacillus* sp. The Minerals, Metals & Materials Society *TMS 2023 152nd Annual Meeting*. https://doi.org/10.1007/978-3-031-22524-6_60
11. Stein, N., Podder, A. and Goel, R. (2022). Biodegradation of Insensitive Munition (I.M.) Formulations: IMX-101 and IMX-104 Using Aerobic Granule Technology. Accepted in *Journal of Hazardous Materials*.
12. Yu, P. and Goel, R. (2023). Harness the Power of bacteriophages to combat the global antimicrobial resistance. Editorial: *Frontiers in Microbiology*.
13. Diaz, R., Mackey, B., Chadalavada, S., Kainthola, J., Heck, P. and Goel, R. (2022). Enhanced Bio-P removal: past, present, and future- A comprehensive review. *Chemosphere*;
<https://doi.org/10.1016/j.chemosphere.2022.136518>
14. Jiang, S., Bischel, H.N., Goel, R., Rosso, D., Sherchan, S., Whiteson, K.L., Yan, T., Solo-Gabriele, H.M. (2022). Integrating Virus Monitoring Strategies for Safe Non-potable Water Reuse. *Water*, 14(8): 1187.
15. Li, H., Miller, T, Lu, J. and Goel, R. (2022). Nitrogen fixation contribution to nitrogen cycling during cyanobacterial blooms in Utah Lake. *Chemosphere*; 302: 134784.
16. Sheng Ding, John Sanchez, Shad Roundy, Ramesh Goel, Cody Zesiger, Darrin J. Young. (2022). Land vehicle-based wireless power transfer through the soil for enabling batteryless underground soil moisture sensing application. *IEEE 2022 21st International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications*.
17. Stein, N., Podder, A., Weidhaas, J.L. and Goel, R. (2022). Simultaneous reduction of perchlorate and nitrate using fast-settling anoxic sludge. *Chemosphere*; 286(2): 131788.

18. Hong, S., DeCleipper, H and Goel, R. (2022). Response of mixed community anammox biomass against sulfide, nitrite, and recalcitrant carbon in terms of inhibition coefficients and functional gene expressions. *Chemosphere.*: 308: 136232.
19. Stein, N., Podder, A and Goel, @. (2022). Biodegradation of Insensitive Munition (I.M.) Formulations: IMX-101 and IMX-104 Using Aerobic Granule Technology. Under review in *Journal of Hazardous Materials*.
20. Podder, A., Reinhart, D....Goel, R. et al., (2021). Per and poly-fluoroalkyl substances (PFAS) as a contaminant of emerging concern in surface water: A transboundary review of their occurrences and toxicity effects. ***Journal of Hazardous Material***, 419: 126361
21. Sahulka, S.Q., Bhattarai, B., Bhattacharjee, A., Tanner, W., Mahar, R.B. and Goel, R. (2021). Differences in chlorine and peracetic acid disinfections kinetics of *Enterococcus faecalis* and *Escherichia fergusonii* and their susceptible strains based on gene expressions and genomics. ***Water Research***; **203**; **117480**;
22. Biswas, J.K., Mondal, M., Majumder, D., Bhatnagar, A., Sarkar, B., Vithanage, M., Tack, F.T.G., Pant, D. and Goel, R. (2021). Harnessing biofertilizer from human urine via chemogenic and biogenic routes: Synthesis, characterization and agronomic application. *Environmental Technology and Innovation*. Published in December 2021.
23. Bhattarai, B., Bhattacharjee, A.S., Coutinho, F.H. and Goel, R.K. (2021). Viruses and their interactions with bacteria and archaea of hypersaline Great Salt Lake. ***Frontiers in Microbiology***. <https://doi.org/10.3389/fmicb.2021.701414>.
24. <https://doi.org/10.1016/j.watres.2021.117480>
25. Bhattarai, B., Sahulka, S.Q., Podder, A., Hong, S., Li, H., Gilcrease, E., Beams, A., Steed, R. and Goel, R.K. (2021). Prevalence of SARs-CoV-2 genes in water reclamation facilities; From influent to anaerobic digester. ***Science of the Total Environment***. 796: 148905.
26. Monojit Mondal; Dhruvajyoti Majumdar; Amit Bhatnagar; Binoy Sarkar; Meththika Vithanage; Erik Meers; Filip M. G. Tack; Deepak Pant; Ramesh Goel, and Jayanta Biswas. (2021). Harnessing biofertilizer from human urine via chemogenic and biogenic routes: Synthesis, characterization and agronomic application: ***Environmental Technology & Innovation, accepted with minor revision***.
27. Kori, J.A., Tariq, H., Vistro, M.R., Mahar, R.B., Khan, I. A., Shakeel, M. and Goel, R. (2021). Molecular Evaluation of Biofilms Formed on Pipes of Different Materials Depicts Clostridium and Aeromonas spp Domination. ***International Journal of Biology and Biotechnology***; 18(3): 423-439.
28. Juhn-Yuan Su *, Ramesh Goel, Steven Burian, Sarah J. Hinners, Adam Kochanski, Courtenay Strong, Michael E. Barber. (2021) Water Quality Trading Framework with Uncertainty for River Systems due to Climate and Population Characteristics, *Waters*.
29. Juhn-Yuan Su, Ramesh Goel, Steven J. Burian, & Michael E. Barber. (2021). Assessing Climate Change Linkages related to Water Quality Trading Effectiveness for Incorporating Ancillary Benefits: ***Int. J. Environ. Impacts***, Vol. 4, No. 1 77–89; DOI: 10.2495/EI-V4-N1-77-89
30. Kainthola, J., Podder, J., Fehner, M. and Goel, R. (2020). An overview of fungal pretreatment processes for anaerobic digestion: Applications, bottlenecks, and future needs. ***Bioresource Technology***; 321: 124397
31. Li, H., Hollstein, M., Podder, A., Gupta, V., Barber, M. and Goel R. (2021). Cyanotoxin impact on microbial-mediated nitrogen transformations at the interface of the sediment-water column in surface water bodies. *Environmental Pollution*. 266: 115283.
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81. Racz, L. and Goel, R. (2010). Fate and removal of estrogens in municipal wastewater. *Journal of Environmental Monitoring*; (12): 58-70.
82. Racz, L. and Goel R. (2010). Organic Carbon Effect on nitrifying bacteria in a mixed community. In press in *Water Science & Technology*.
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84. Gu, A.Z., Sturm, B.M., Nerenberg, R., Park, C. and Goel, R. (2010). Molecular methods in biological systems. *Water Environment Research*:
85. Datta, T., Liu, Y. and Goel, R. (2009). A novel treatment approach to simultaneously achieve nutrient removal and sludge reduction in activated sludge process. *Chemosphere*: 76: 697-705.

86. Liu, Y., Li, L and Goel, R. (2009). Kinetic study of electrolytic ammonia removal using Ti/IrO₂ as anode under different experimental conditions. *Journal of Hazardous Materials*; 167: 959-965.
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88. Goel R. and Noguera. (2006) Evaluation of Sludge Yield and Phosphorus Removal in a Cannibal Solids Reduction Process. *ASCE- Journal of Environmental Engineering*; 132: 1331-1337.
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91. Goel R, Flora J.R.V and Ferry J. (2003) Mechanisms of Naphthalene Removal during Electrolytic Aeration of Anoxic Groundwater- *Water Research* ;37(4):891-901.
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93. Goel R and Flora J.R.V. (2005) Sequential nitrification and denitrification in a divided cell- *Environmental Engineering Science*; 22(4):440-449.
94. Goel, R., Cooper, A.T. and Flora, J.R.V. (2003) Sodium azide interference in chemical and biological testing. *Journal of Environmental Engineering and Science*; 2(5): 407.

PEER REVIEWED CONFERENCE PAPERS/PRESENTATIONS

Year 2023

1. **Hong, S., Wang, J., Winkler, M, and Goel, R. (2023).** Successful Implementation of Biofilm Anammox in IFAS A2O Process for Simultaneous N and P Removal in Main Stream Treatment Train. WEFTEC 2023: Chicago.
2. **Bhattarai, B.** and Goel, R. (2023). Freshwater Cyanophages contribute to the ecology of harmful Cyanobacterial blooms. IWA-MEWE- Brisbane, Australia (Sep 10-14).
3. **Hong, S.** and Goel, R. (2023). Integration of EBPR with mainstream anammox process to treat real municipal wastewater: process performance and microbiology. IWA-MEWE- Brisbane, Australia (Sep 10-14).
4. **Goel, R.** and Kaiser, S. (2023). Benthic cyanobacteria in Zions National Park: insight using omics; USGS-USEPA workshop; October 17, 2023.

Year 2022

1. Hong, S., De Clippeleir, H., & Goel, R., (2022). "Determining inhibition coefficients and studying gene expressions for sulfide, nitrite, and recalcitrant carbon toxicity for better design of anammox processes". Poster presentation at the Association of Environmental Engineering & Science Professors (AEESP) Conference 2022, Jun. 28-30, 2022, St. Louis, Missouri.
2. Hong, S., Winkler, M., Wang, Z., & Goel, R., (2022). "Integrating Partial Denitrification (P.D.), Enhanced Biological Phosphorus Removal (EBPR) and Anammox in a Single Stage Process Bioreactor". Speaker at the Innovations in Process Engineering Conference 2022, Jun. 20-23, 2022, Miami, Florida.
3. Hong, S., De Clippeleir, H., & Goel, R., (2022). "Determining Inhibition Coefficients and Studying Gene Expressions for Sulfide, Nitrite, and Recalcitrant Carbon Toxicity for Better Design of Anammox Process." Speaker at the Innovations in Process Engineering Conference 2022, Jun. 20-23, 2022, Miami, Florida.
4. John Sanchez, Juan Arteaga, Cody Zeisiger, Darrin Young, Ramesh Goel, Paul Mitcheson, Eric Yeatman, Shad Roundy. (2022). Integration of a High Frequency Inductive Power Transfer System to Energize Agricultural Sensors Through Soil. IEEE Wireless Power Week (WPW)

5. **Stein, N.**, Podder, A., Goel, R. (2022). *Anoxic Granular Activated Sludge Process Bioreactor for the Simultaneous Reduction of Perchlorate and Nitrate*. Oral presentation at Water Environment Federation's Innovations in Process Engineering (WIPE) Conference in Miami, Florida.
6. **Stein, N.** and Goel, R. (2022). *Biodegradation of Insensitive Munition Explosive Formulations: IMX-101 and IMX-104 Using Aerobic Granular Sludge*. Oral presentation at the 17th International Water Association's Leading-Edge Conference on Water and Wastewater Technologies (IWA-LET) in Reno, Nevada
7. Goel R., Fawzy M., Nasr M., Goswami A., "Agricultural sustainability and water reuse in Egypt: innovative wastewater treatment and soil health." U.S. - Egypt Science and Technology (S&T) Joint Fund Symposium. Jan 10-11, 2022.
8. Goswami A., Podder A., Heck P., Goel R., "Fate and transport of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in Central Valley Water Reclamation Facility." 2022 WEAU Annual Conference. April 15, 2022.

Year 2021

1. Nitrogen management in engineered bioreactors- the emergence of anaerobic ammonia oxidation. **International Conference on Biotechnology for Sustainable Agriculture, Environment and Health (BASEH-2021)**, Birla Institute of Scientific Research, Jaipur, Rajasthan, India, April 4-8, 2021.
2. Sahulka, S. Q., Weidhaas, J., Goel, R.*. (2021). *Accumulation of Antibiotic Resistance Genes in a Drinking Water Distribution System in Hyderabad, Pakistan*. Poster presentation at the 2021 International Water Association World Water Congress & Exhibition, Copenhagen, Denmark.
3. W. Luo, A. Jackson, J. Sorensen, A. Dahal, R. Goel, S. Roundy, C. Zesiger, and D. J. Young, "Wireless Power Transfer Through Soil Over a Range of Moisture Level for *In-Situ* Soil Health Monitoring," to appear in *IEEE Sensors Conference*, October, 2021.
4. Gilcrease, E.B. and Goel, R. (2021) "Engineered nano-materials effects on bacteriophage replication" American Chemical Society, Spring Conference 2021. Virtual
5. Sanchez, J., Dahal, A., Zesiger, C., Goel R., Young, D., & Roundy, S. Design and Characterization of a Low-Power Moisture Sensor from Commercially Available Electronics. In 2021 IEEE Sensors, Oct. 31-Nov. 4, 2021.
6. Li, H., Miller, T., Goel, R., "N-fixation contributes to N loadings of Utah Lake." Virtual 2021 WEAU Annual conference.
7. Li, H., Goel, R., "Inorganic nutrient-limitation drives the freshwater lake towards the ecological tipping point." 2021 Aquatic Sciences Meeting.
8. Bhattacharjee, A.S., Bhattarai, B., Goel, R., "Partial Nitritation/Anammox (PN/A) Reactor Crippled by Low Temperature". Poster at IWA MEWE 2021 Conference.
9. Bhattarai, B., Goel, R., "Virus- host interactions in anaerobic digester." Presentation at AWRA. 2021 Annual Water Resources Conference.
10. Bhattacharjee, A.S., Bhattarai, B., Wu, S., Hong, S., Goel, R., "Distributed Metabolism of Partial Nitritation/Anammox (PN/A) Reactor Crippled by Low Temperature." Presentation at AWRA, 2021 Annual Water Resources Conference, AWRA.
11. Bhattacharjee, A.S., Bhattarai, B., Goel, R., "Low temperature crippled the distributed metabolism of partial nitritation/anammox (PN/A) reactor." Oral- Virtual Presentation at ACS Fall 2021.
12. Bhattarai, B., Bhattacharjee A.S., Coutinho, F.H., Goel, R., "Virus-Host Interaction along the salinity gradient in the Great Salt Lake (GSL)", Poster Presentation at 2021 World Microbe Forum, Online Worldwide.
13. Bhattarai, B., Bhattacharjee A.S., Coutinho, F.H., Goel, R., "Impact of Virus- host interaction in carbon cycling along the salinity gradient in the Great Salt Lake (GSL)", Poster Presentation at 2021 Aquatic Science Meeting, Virtual.

14. Hong, S., De Clippeleir, H., & Goel, R., "Understanding inhibition of anammox activity by nitrite, sulfide and recalcitrant carbons at a functional gene level". Speaker at the ACS Spring 2021 National Meeting & Exposition, Apr. 5-30, 2021, Virtual Conference.
15. Hong, S., & Goel, R., "Anaerobic ammonia oxidation – a wonderful innovative tool to manage nitrogen cycle in wastewater treatment plants". Speaker at the Water Environment Association of Utah (WEAU) Annual Conference, Apr. 13-15, 2021, Virtual Conference.

Year 2020

1. **Gilcrease, E. and Goel, R. (2020).** Understanding and application of genetically induced bacteriophage/nanoparticle interactions in the environment. American Society for Microbiology; March 22-26, Philadelphia, PA
2. **JUHN-YUAN SU; Burian S., Goel, R.K. and Barber M. (2020).** Assessing Climate Change Linkages related to Water Quality Trading Effectiveness for Incorporating Ancillary Benefits (INVITED). Water Pollution Conference, May 13-15, 2020 Valencia, Spain.
3. Gilcrease, E.B. (2020, October 31) *Understanding natural and genetically induced bacteriophage/nanoparticle interactions for ecological impact and therapeutic applications* American Chemical Society, Fall Conference. Virtual.
4. Li, H. , Goel,R. ,Miller, T. (2020). *N-fixation contributes to N loadings of Utah Lake. Salt Lake Watershed Symposium*. Salt Lake City, UT.
5. Hong, S., Bhattaria, B., & Goel, R., (2020, October 5-9). *The effect of change in temperature and exposure of sulfide and heavy metals in anammox process*. Speaker at the Annual Water Environment Federation Technical Exposition and Conference, WEFTEC Connect, Virtual Conference.
6. Hong, S., De Clippeleir, H., & Goel, R., (2020, August 17-20). *Understanding inhibition of anammox activity by nitrite, sulfide and recalcitrant carbons at a functional gene level*. Speaker at the ACS Fall 2020 National Meeting & Exposition 2020, San Francisco, California.
7. Hong, S., & Goel, R., (2020, March 22-26). *Understanding Inhibition of Anammox activity by Nitrite, Sulfide and Recalcitrant Carbons at a functional gene level*. Speaker at the ACS Spring 2020 National Meeting & Exposition, Philadelphia, Pennsylvania.
8. Hong, S., & Goel, R., (2020, April 14-17). *Anaerobic ammonia oxidation - a wonderful innovative tool to manage nitrogen cycle in wastewater treatment plants*. Speaker at the Water Environment Association of Utah (WEAU) conference, St. George, Utah.
9. Podder, A., Reinhart, D., Goel, R. (2020) *Single-Stage Partial Nitrification/ Anammox in Treatment of Landfill Leachate*. Speaker at Global Waste Management Symposium 2020 in Indian Wells, California
10. Sahulka, S. Q., Weidhaas, J., Goel, R.* (2020). *Accumulation of Antibiotic Resistance Genes in a Drinking Water Distribution System in Hyderabad, Pakistan*. Poster presentation at the 2020 Global Change and Sustainability Center Annual Conference, Salt Lake City, Utah, USA.
11. Sahulka, S. Q., Weidhaas, J., Goel, R*. *Accumulation of Antibiotic Resistance Genes in a Drinking Water Distribution System in Hyderabad, Pakistan*. Poster presentation at the 2020 American Society of Microbiology Next-Generation Sequencing Conference, Washington, D.C., USA.
12. Stein, N., Podder, A., Weidhaas, J.L., Goel, R., "Biological Degradation of Munitions Wastewater Containing Mixture of Legacy Munitions and Insensitive High Explosives Using Aerobic and Anaerobic Granular Sludge Reactors", Poster Presentation at the Global Change and Sustainability Center (GCSC) 2020 Research Symposium in Salt lake City, Utah
13. Stein, N., Podder, A., Weidhaas, J. L., Goel, R., "Biological Degradation of Munitions Wastewater Containing Mixture of Legacy Munitions and Insensitive High Explosives Using Aerobic and Anaerobic Granular Sludge Reactors", Presentation at the SERDP and ESTCP 2020 virtual Symposium

14. Stein, N., Podder, A., Weidhaas, J.L., Goel, R., "Biological degradation of legacy munitions and insensitive high explosives using aerobic and anaerobic granular sludge reactors", The American Chemical Society (ACS) Spring 2021 Virtual Conference

Year 2018-19

1. Podder, A., Reinhart, D., Goel, R., "Implementation of Circular Economy in solid waste management", Poster Presentation at 2018 Environment & Sustainability Research Symposium, University of Utah, Salt Lake City, Utah
2. Podder, A., Goel, R., "Aerobic Granular Sludge technology in treatment of Landfill Leachate", Speaker at Water Environment Association of Utah (WEAU) conference 2018, St. George, Utah
3. Podder, A., Reinhart, D., Goel, R., "Where do landfills fit in the changing paradigm of Circular Economy – Resource Recovery & Social Aspects", presented at 6th International Conference on Sustainable Solid Waste Management 2018, Naxos island, Greece
4. Podder, A., Reinhart, D., Goel, R., "Implementation of Circular Economy in Treatment of Landfill Leachate", presented at 8th International Network of Environmental Forensics (INEF) 2018, organized by Royal Society of Chemistry, University of Utah, Salt Lake City, Utah
5. Dasgupta, S., Podder, A., Goel, R., "Aerobic Granular Sludge Transformation: Reactor Operation Switched from Synthetic to Real Wastewater", Speaker at ecoSTP 2018, 4th IWA specialized International Conference, Western University, London, Ontario, Canada
6. Podder, A., Reinhart, D., Gupta, V., Goel, R., "Implementation of Circular Economy in Landfill Leachate Treatment", Poster Presentation at 9th Annual Canadian Waste to Resource Conference 2018, Toronto, Ontario, Canada
7. Podder, A., Reinhart, D., Goel, R., "Nitrogen Management in Treatment of Complicated Urban Waste-streams", Poster Presentation at 2019 Environment & Sustainability Research Symposium University of Utah, Salt Lake City, Utah
8. Podder, A., Reinhart, D., Goel, R., "Nitrogen Management in Treatment of Complicated Urban Waste-streams", Speaker at Water Environment Association of Utah (WEAU) conference 2019, St. George, Utah
9. Podder, A., Reinhart, D., Goel, R., "Single Stage Partial Nitrification/ Anammox in Treatment of Complicated Urban Waste-streams", Speaker at Nutrient Removal and Recovery Symposium 2019, organized by Water Environment Federation (WEF), Minneapolis, Minnesota
10. Podder, A., Reinhart, D., Goel, R., "Single-Stage Partial Nitrification/ Anammox in Treatment of Landfill Leachate", Speaker at Global Waste Management Symposium 2020 in Indian Wells, California.
11. R. Goel and H. Li (2019). Molecular Insight into a Fresh Water Lake Harmful Algal Blooms. AEESP Conference. May 14-16, 2019, Tempe, AZ.
12. H. Li and R. Goel (2019). Molecular method applied for the identification of microcystin-producing species in Utah Lake. 2019 WEAU annual conference, April 9-12, St. George, UT.
13. H. Li, C. Hansen, N. Von Stackelberg, R. Goel, S. Burian, and M. Barber. (2018). Assessing and Modeling Climate Change Impacts on Cyanobacteria in Utah Lake 2018 UCOWR/NIWR Annual Water Resources Conference, June 26-28, Pittsburgh, PA.
14. Hanyan Li, Anwar Alsanea, Ramesh Goel, Michael Barber. (2018). Harmful Algal Blooms in Utah Lake: A Molecular Insight, Salt Lake Watershed Symposium (2018), Salt Lake City, UT.
15. Marielle Hollstein, Hanyan Li, Vedansh Gupta, Ramesh Goel. (2018). What Happens to Cyanotoxins Once They Are Out? 2018 SLC Watershed Symposium, Nov14-15.
16. Hanyan Li, Anwar Alsanea, Ramesh Goel, Michael Barber. (2018). Cyanobacteria in Utah Lake - Toxin and Non-Toxin Producing: Molecular Level Study. 2018 WEAU meeting, St. George, UT.
17. Md Imdadul Islam., Simmi Chahal, Ramesh Goel. Energy and Resource Positive Wastewater Treatment Plants (WWTPs). WEAU Annual Conference 26th-29th April 2016. St. George, Utah, USA.

18. Dr. Rasool Mahar, Md Imdadul Islam, Amir Mohaghegh Motlagh, Ananda Shankar Bhattacharjee, Ramesh Goel. Evaluation of Various Disinfection Processes For Isolated Multidrug Resistant Bacteria In Wastewater Treatment Plant. 252nd ACS National Meeting, August 21-25, 2016, Philadelphia, Pennsylvania, USA.
19. Md Imdadul Islam, Ramesh Goel. Application of Bacteriophages Diversity in Engineered and Natural Ecosystem. Asia Pacific Conference on Sustainable Energy & Environmental Technologies (APCSEET), March 6-10, 2017 conference, Bihar, India.
20. Sunayna Dasgupta, Md Imdadul Islam and Ramesh Goel. Application of Metagenomics for Microbial Characterization in Different Environments. Association of Environmental Engineering and Science Professors (AEESP), June 20-22, 2017, University of Michigan, USA.
21. Brendan Mackey, Dr. Phil Heck, Dr. Ramesh Goel*. "Enhanced Biological Phosphorus Removal (EBPR) Study for Central Valley Water Reclamation Facility" presented at WEAU Mid Year conference November 13 2018. Salt Lake City, Utah, USA
22. Brendan Mackey, Dr. Phil Heck, Dr. Ramesh Goel*. "Enhanced Biological Phosphorus Removal (EBPR) Study for Central Valley Water Reclamation Facility." Presented at Salt Lake County Annual Watershed Conference 14th November 2018. Salt Lake City, Utah, USA
23. Mackey, B., Dasgupta, S., Heck, P., Podder, A., Goel, R., "Onsite VFA production to support simultaneous EBPR and denitrification- Role of novel PAOs", Speaker at Nutrient Removal and Recovery Symposium 2019, organized by Water Environment Federation (WEF) in Minneapolis, Minnesota
24. Sahulka, Sierra Q., Tanner, Windy, Goel, Ramesh*. "Chlorine and Peracetic Acid Disinfection Kinetics and Gene Expression of Antibiotic-Resistant Waterborne Pathogens." 2018 Global Change and Sustainability Center Annual Conference, Salt Lake City, Utah, USA.
25. Sahulka, Sierra Q., Tanner, Windy, Goel, Ramesh*. "Chlorine and Peracetic Acid Disinfection Kinetics and Gene Expression of Antibiotic-Resistant Waterborne Pathogens." 2019 Annual AWRA Conference, Salt Lake City, Utah, USA.
26. Bhattarai, B., M.I. Islam, Goel, R., "Bacterial protein production as a sustainable mean to recover ammonia nitrogen from liquid waste streams", Speaker at 2019 Annual Water Environment Association of Utah (WEAU) conference, St. George, Utah
27. Bhattarai, B., Hong, S., Goel, R., "Anaerobic Ammonium Oxidation for Sustainable Nitrogen Removal", Speaker at 2019 Mid-Year Water Environment Association of Utah (WEAU) conference, Salt Lake City, Utah
28. Bhattarai, B., Goel, R., "Enhanced Biological Phosphorus Removal Using Side Stream Fermentation", Speaker at 2019 Salt Lake County Watershed Symposium, Salt Lake City, Utah
29. Eddie B. Gilcrease "Environmental Engineering and WASH: Advanced Microbial Tools for Research at the Interface between Environmental Process Engineering and Microbiology" Workshop and Lectures given during 2nd International Conference on Sustainable Development in Civil Engineering 2019, Jamshoro, Pakistan
30. Stein, N., Podder, A Weidhaas, J., Goel, R., "Biodegradation of Munitions Wastewater containing Mixture of Legacy Munitions and Insensitive Explosives using Aerobic and Anaerobic Granular Sludge Reactors", Poster Presentation at Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) 2019 in Washington, District of Columbia

Year 2017

1. **Podder. A.**, Goel. R., Anaerobic process for mainstream carbon and nitrogen removal for energy efficient wastewater treatment. WEAU Annual Conference. April 19th – April 20th 2017. St George, Utah.
2. **Podder. A.**, Martheswaran. T, Goel. R., Simultaneous Recovery of Nutrients and Treatment of Landfill Leachate using Innovative Technologies. EREF Summit at WasteExpo. May 8 2017. New Orleans, Louisiana.

3. **Karimi, A.**, Goel, R. Microbial Source Tracking; A Unique Approach to microbial pollution in water bodies. 2017 WEAU Annual Conference.
4. **Dasgupta S.**, Goel R. and Heck P (2017). Studying Nutrient Management using a Pilot Scale A2O process at Central Valley Water Reclamation Facility. WEAU Mid-Year, USA, November 2017.
5. **Dasgupta S.** and Goel R. (2017). Fundamentals of Nutrient Removal in Wastewater Treatment. WEAU, USA, April 2017.
6. **Dasgupta S.** and Goel R. (2017). Innovation in Wastewater Treatment with Reduced Footprint. 11th Asia Pacific Conference, Bihar, India March 2017.
7. **Dasgupta S.**, Bhattacharjee A.S. and Goel R. (2017) Evaluation of Process Kinetics and Toxicity on Granular Activated Sludge. Nutrient Symposium, USA, June 2017.
8. **Dasgupta S.**, Bhattacharjee A.S. and Goel R. (2017). A Comparative Study on Kinetics, Process Performance and Microbial Ecology for Aerobic Granular and Conventional Activated Sludge reactors. WEFTEC, September 2017.
9. **Hanyan Li** and Ramesh Goel (2017, February). Cyanobacteria and cyanotoxins in Utah Lake (poster). Urban Riparian Symposium, Houston, TX.
10. **Hanyan Li** and Ramesh Goel (2017, April). Cyanobacteria and cyanotoxins in Utah Lake. WEAU Annual Conference. St. George, UT.
11. Ramesh Goel, **Hanyan Li**, Anwar Alsanea, Michael Barber (2017, November). Identifying harmful algal blooms at Utah Lake via advanced molecular tools. Salt Lake Watershed Symposium, Salt Lake City, UT.
12. **Gupta, V.**, Dasgupta, S., Goel, R. (2017). Managing Dissolved Methane Gas in Anaerobic Effluents. WEFTEC, October 2017, Chicago.
13. **Anwar Alsanea**, Hanyan Li, and Ramesh Goel. (February, 2017). Utah Lake Eutrophication: Algae blooms and the role of Sediment-Water Column Interactions. Urban Riparian Symposium. Houston, TX
14. **Anwar Alsanea** and Ramesh Goel. (April, 2017). Can algae growth be a feasible option to reduce excess nutrients in wastewater effluents? Water Environment Association of Utah annual conference. St. George, UT
15. Hanyan Li, **Anwar Alsanea**, and Ramesh Goel. (November, 2017). Deciphering Cyano-blooms Using Molecular Approaches in Utah Lake. Salt Lake Watershed Symposium. Salt Lake City, UT

Year 2016

1. Bhattacharjee A.S., Wu S., Dulith B.E., Goel R. Temperature effects on distributed metabolisms of partial nitrification/anammox (PN/A) reactor. ASM 116th General Meeting. 16th – 20th June 2016. Boston, Massachusetts.
2. Bhattacharjee A. S., Wu S, Dulith B. E, Goel R. Developing robust parameters through nitro-genomics approach for partial nitrification/anammox system under low temperature. Water Microbiology Conference. 18th – 22nd May 2016. Chapel Hill, North Carolina.
3. Wu S., Bhattacharjee A.S., Dulith B.E., Goel R. Developing robust parameters through nitro-genomics approach for partial nitrification/anammox system under low temperature. WEFTEC 2016. 24th – 29th September – 1st October. New Orleans, Louisiana.
4. Wu S., Islam M.I., Bhattacharjee A.S., Goel R. Effect of temperature variations and sulfide toxicity on the bacterial activity and key functional genes in a partial nitrification-anammox reactor. IWA Nutrient removal and recovery. 10th – 13th July 2016. Denver, Colorado.
5. Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Delineating the ecology of phage-prokaryotes in hypersaline environment through "omics" approach. Water Microbiology Conference. May 2016. Chapel Hill, NC.
6. Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Bacteriophage dynamics and their role in bacterial communities in hypersaline environment of Great Salt Lake. American Society for Microbiology (ASM). June 2016. Boston, Massachusetts.

7. M. Barber, M. Hasan, J. Petrie, & R. Goel, "Impacts of woody biomass biofuel production on sustainable river basin management." 2016 UCOWR/NIWR Annual Conference, Oral Presentation, Pensacola Beach, FL, June 2016.
8. Mahar, R.B., Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Evaluation of various disinfection processes for isolated multidrug resistant bacteria in wastewater treatment plant. American Chemical Society (ACS). August 2016. Philadelphia, Pennsylvania.
9. Dasgupta S. and Goel R. A comparative study of toxicity assessment of erythromycin and lead on aerobic granules and conventional activated sludge process. The 13th IWA Leading Edge Conference on Water and Wastewater Technologies. 13th – 16th June 2016. Jerez de la Frontera, Spain.
10. Dasgupta S., Bhattacharjee A.S. and Goel R. Metagenomics approach for comparative study of microbial community structure in granular and conventional activated sludge. UNC Water Microbiology Conference 2016. 17th – 19th May 2016. University of North Carolina at Chapel Hill, North Carolina.
11. Dasgupta S. and Goel R. Aerobic granules and activated sludge biomass exposed to lead and erythromycin: a comparative study of toxicity assessment and removal efficiency. WEFTEC 2016. 24th – 29th September 2016. New Orleans, Louisiana.
12. Pappu A.R. and Goel R. Innovative engineering techniques to manage nutrients in storm-water using urban green infrastructure. 22nd National Nonpoint Source (NPS) Monitoring Workshop. 23rd – 25th August 2016. Salt Lake City, Utah.
13. Karimi, A., Goel R. Microbial source tracking: a practical approach to nonpoint microbial pollution in water bodies. 22nd National Nonpoint Source (NPS) Monitoring Workshop. 23rd – 25th July 2016. Salt Lake City, Utah.
14. Christensen, H., Huang, P., Mukherji, S.T., Goel R. Feasibility studies on lab-scale ammonia oxidizing archaea/anammox system for nitrogen removal. WEFTEC 2016. 24th – 29th September – 1st October 2016. New Orleans, Louisiana.
15. Goel, R., Huang, P., Islam, M.I. Fate of estrogens in source separated urine during integrated chemical P recovery and treatment using partial nitrification-anammox process. IWA Nutrient removal and recovery. 10th – 13th July 2016. Denver, Colorado.
16. Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Metagenomic analysis to understand the interaction network of bacteriophages and their bacterial hosts in hypersaline environment of Great Salt Lake. ISME 16. 21st – 26th August 2016. Montreal, Canada.
17. Motlagh, A.M., Goel, R. The role of lytic phage and prophage induction in bacterial population, diversity, and nutrient cycling in hypersaline ecosystem. ISME 16. 21st – 26th August 2016. Montreal, Canada.
18. Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Metagenomic approach to understand the role of bacteriophages in bacterial population, diversity, and their nutrient cycling. MEWE and Biofilms IWA specialist conference. 4th-7th September 2016. Copenhagen, Denmark.
19. Lawson, C. E., Hamilton, J. J., Wu, S., Bhattacharjee, A.S., McMahon, K. D., Goel, R., Noguera, D. R. Distributed metabolic networks define microbial community assembly in anammox bioreactors. ISME 16. 21st – 26th August 2016. Montreal, Canada.
20. Bhattacharjee, A.S., Wu S., Dulith, B. E., Goel, R. Effects of temperature on metabolic networks of partial nitrification/anammox (PN/A) reactor. ISME 16. 21st – 26th August 2016. Montreal, Canada.
21. Dasgupta, S., Bhattacharjee, A. S. and Goel, R. Comparative analysis of micro-ecosystem in a biofilm based aerobic granules and conventional flocs. MEWE and Biofilms IWA specialist conference. 4th -7th September 2016. Copenhagen, Denmark.

Year 2015

1. Bhattacharjee, A. S., & Goel, R. Gaseous electron donors for denitrification- the potential of novel anoxic methane oxidizers. IWA Nutrient removal and recovery 2015. 17th – 21st May 2015. Gdansk, Poland.

2. Bhattacharjee A. S., Mukherji, S. T., & Goel, R. (2015). "Ecological Perspective on New Connectivity between Nitrogen and Carbon Cycle". Urban Riparian Symposium 11th- 13th February 2015. Austin, Texas.
3. Weissbrodt DG, Wells GF, Goel RK, Lauren M, Bürgmann H, Johnson DR, Men Y, Fischer S, Minder A, Aluri S, Harhangi HR, Kipf M, Joss A, Christensson M, Nielsen JL, Morgenroth E (2015). A process engineering vista in the ecogenomics of aerobic-anaerobic ammonium oxidation in: Oleszkiewicz *et al.* (eds.), IWA Nutrient Removal and Recovery Conference 2015: Moving innovation into practice, Gdansk, Poland.
4. Bhattacharjee, A. S., Wu, S., & Goel, R. Metagenomics reveals different microbial community structures in suspended and attached growth anammox reactors. WEFTEC 2015. 26th – 30th September 2015. Chicago, Illinois.
5. Pei Huang, Sachiyo Mukherji, Ramesh Goel. (2014) "Fate of estrogens and illicit drugs during urine separation and treatment". IWA Sustainable Wastewater treatment and Resource Recovery conference, Oct 2014, Kathmandu, Nepal.
6. Lawson, C. E., Wu, S., Bhattacharjee, A. S., McMahon, K. D., Goel R., & Noguera, D. R. Ecogenomics reveals distributed metabolic networks in suspended and attached growth anammox bioreactors. WEFTEC 2015. 26th – 30th September 2015. Chicago, Illinois.
7. Bhattacharjee A. S., Mukherji, S. T., & Goel, R. Ecological perspective on new connectivity between nitrogen and carbon cycle. Urban Riparian Symposium. 11th – 13th February 2015. Austin, Texas.
8. Bhattacharjee, A. S., & Goel, R. (2015). "Methane as electron donor for denitrification for energy saving and smaller carbon footprint". AEESP 2015. 13th-16th June 2015. Yale University. New heaven. Connecticut.
9. Bhattacharjee, A. S., Motlagh, A. M., & Goel, R. Metagenomics to Unlock the Innovative Nitrogen Transformation in Aquatic Ecosystem: Denitrification coupled with methane oxidation. Water Microbiology Conference. 18th – 22nd May 2015. Chapel Hill, North Carolina.
10. Motlagh, A. M., Bhattacharjee, A. S., & Goel, R. Identification of host-phage interaction network in Great Salt Lake reveals the role of bacteriophages in bacterial diversity and population. Water Microbiology Conference. 18th – 22nd May 2015. Chapel Hill, North Carolina.
11. Lawson, C., Wu, S., Bhattacharjee, A. S., McMohan K. D. Goel, R., & Noguera D. R. Distributed metabolism in suspended and attached growth anammox bioreactors revealed through metagenomic sequencing. Water Microbiology Conference. 18th – 22nd May 2015. Chapel Hill, North Carolina.
12. Motlagh, A. M., Bhattacharjee, A. S., & Goel, R. Metagenomic analysis of ssDNA and dsDNA bacteriophage diversity and their role in functional gene transfer in Great Salt Lake. ASM 115th General Meeting. 30th May – 2nd June 2015. New Orleans, Louisiana.
13. Bhattacharjee, A. S., & Goel, R. Methane as electron donor for denitrification for energy saving and smaller carbon footprint. AEESP 2015. 13th – 16th June 2015. Yale University. New Haven, Connecticut.
14. Bhattacharjee, A. S., & Goel, R. The use of dissolved methane gas for denitrification - process kinetics and microbiology. ACS General Meeting 2015. 16th – 20th August 2015. Boston, Massachusetts.
15. Huang, P., Mukherji, S., Goel, R. Coupling chemical and biological processes for nutrient recovery and removal for better source separated urine management. Oral presentation at the ACS National Meeting and Exposition. August 2015. Boston, Massachusetts.
16. Pei Huang, Sachiyo Mukherji, Ramesh Goel. (2015). "Can we minimize biosolids production in activated sludge systems by process manipulations – process sustainability and nutrients removal?" WEF Residuals and Biosolids Conference, June 2015, Washington DC, U.S.
17. Bhattacharjee, A. S., Huang, P., Goel, R. Use of dissolved methane gas for denitrification-process kinetics and microbiology. Oral presentation at the ACS National Meeting and Exposition. August 2015. Boston, Massachusetts.
18. Wu, S., Weissbrodt, D. G., Morgenroth, E., & Goel, R. Resiliency of anammox against external stress factors - effect of temperature and wastewater constituents. WEFTEC 2015. September 26th – 30th 2015. Chicago, Illinois.

19. Motlagh, A.M., Bhattacharjee, A.S., Goel, R. Host-phage interaction network in Great Salt Lake and the role of bacteriophages in bacterial diversity and population. AEESP 2015. 13th-16th June 2015. Yale University. New Haven, Connecticut.
20. Dasgupta S., Wu S., Goel R. Coupling Autotrophic Denitrification and ANAMMOX for Efficient Removal of Inorganic Nitrogen (2015). WEFTEC 2015. September 26th – 30th 2015. Chicago, Illinois.
21. Goel. R., Abedin. S., Barber. M., Understanding Nitrogen Dynamics and Organic matter sources in the Jordan River, Society of Environmental Toxicology and Chemistry North America 36th Annual Meeting. November 1-5th 2015. Salt Lake City, Utah.
22. Abedin. S., Goel. R., Barber. M., Understanding Nitrogen Dynamics in the Jordan River and Wetlands associated with Great Salt Lake. WEAU Annual Conference. April 29th – May 1st 2015. St George, Utah.
23. Abedin. S., Goel. R., Barber. M., Understanding nitrogen dynamics and organic matter sources in the Jordan River. Urban Riparian Symposium-Restoration, Collaboration, Innovation. February 11th – 13th, 2015. Austin, Texas.
24. Abedin. S., Goel. R., Barber. M., Understanding nutrient dynamics in the Jordan River. Salt Lake Symposium. November 18th – 19th, 2015. Salt Lake City, Utah.

Year 2014

1. Pei Huang, Sachiyo Mukherji, Ramesh Goel. (2014) "Phosphorus recovery followed by deammonification of urine for nutrient management". WEFTEC Sept 2014, New Orleans, LA, U.S.
2. Bhattacharjee, A. S., Wu, S., & Goel R. (2014). "An insight into the complex microbial communities of Attached Growth and Suspended Growth Anammox Reactors for real centrate treatment process". ASM 114th General Meeting –17th -20th May 2014. Boston, Massachusetts.
3. Weissbrodt DG, Wells GF, Lauren, M., Goel R., Burgmann, H., Johnson, DR., Nielsen, JL and Morgenroth E. (2014). Systems biology of side stream and main stream aerobic-anaerobic ammonia oxidation processes in: Kim et al. (eds). 15th International Symposium on Microbial Ecology-ISME15, Seoul, Korea.
4. Bhattacharjee, A., Wu, S., Goel, R. An insight into the complex microbial communities of Attached Growth and Suspended Growth Anammox Reactors for real centrate treatment process, American Society for Microbiology, May 2014.
5. Motlagh, A., Bhattacharjee, A., Goel, R. Potential of bacteriophages in defining the diversification of microbial communities in natural ecosystems: Wetlands, American Society for Microbiology, May 2014.
6. Bhattacharjee A. S., Huang, P., Mukherji, S. T., & Goel R. (2014). "New connectivity between carbon and nitrogen cycles- nitrite/nitrate coupled methane oxidation". WEFTEC 2014. 27th September 1st October. New Orleans, Louisiana.
7. Motlagh, A., Goel, R. (2014). Statistical and comparative analysis of biological phosphorus removal process configurations and technologies in wastewater treatment plants across the U.S., EWRI, June 2014.
8. Wu, S., Bhattacharjee, A., Goel, R. Evaluation of hybrid deammonification reactor for filtrate treatment in lab-scale: Start-up and performance, WEFTEC, September 2014.
9. Bhattacharjee, A., Huang, P., Mukherjee, S., Goel, R. New connectivity between carbon and nitrogen cycles- nitrite/nitrate coupled methane oxidation, WEFTEC New Orleans, September 2014.
10. Tanner, W., VanDerslice, J., Toor, D., Benson, S., Porucznik, C., Goel, R., Atkinson, R. Carbapenem-resistant bacteria in drinking water: Method Development and Field Testing in New Delhi, India, AWWA, International Symposium on Waterborne Pathogens, April 2014.
11. Huang P. and Goel, R. (2014). The fate of illicit drugs and estrogens during urine treatment and resource recovery. IWA speciality international conference on nutrient recovery in Nepal. October 26-30, 2014.

12. Motlagh, A.M. and Goel, R. (2014) "Statistical and comparative analysis of biological phosphorus removal process configurations and technologies in wastewater treatment plants". Environmental & Water Resource Institute (EWRI), June 2014, Portland, OR.
13. Huang, P and Goel, R. (2014). Phosphorus Recovery Followed by Deammonification of Urine for Nutrient Management. WEFTEC in New Orleans.
14. Wu, S, Bhattacharjee, A and Goel, R. (2014) Evaluation of single stage hybrid deammonification reactor for filtrate treatment: start-up and performance. WEFTEC in New Orleans.

Year 2013

1. Motlagh, A.M., Kotay, S.M., Goel, R. (2013) "Bacteriophage-induction due to stresses can cause EBPR-upsets: an engineering and microbial-ecology perspective" 5th International Microbial Ecology and Water Engineering (MEWE) , July 2013, Ann Arbor, MI.
2. Pei Huang, Shireen Kotay, Ramesh Goel. (2013). "Evidence of Novel PAOs participating in EBPR in Sludge-Minimizing Bioreactors". IWA's Microbial Ecology and Water Engineering Conference, July 2013. Ann Arbor, Michigan, U.S.
3. Bhattacharjee, A. S, Goel R. (2013) "Bacteriophages in Engineered Bioreactor and Natural System: Phage-Bacteria Interactions". XXIII Biennial conference on Phage/Virus Assembly. 8-13 September. Lake Arrowhead, California.
4. Bhattacharjee A. S., Kotay S. M., & Goel R. (2013). "Complete-Genome-Sequencing of Multidrug-Resistant-Bacteria reveals insights into emergence of resistance genes". Microbial Ecology and Water Engineering 5th International Conference –7th -10th July, Ann Arbor, Michigan.
5. Mitch Hogsett, Pei Huang, Ramesh Goel. (2013) "Water Sustainability through Surface Water Quality Sediment-Water interactions in an urbanized stream". AEESP Colorado School of Mines, July 2013, Golden, Colorado, U.S.
6. Pei Huang, Shireen Kotay, Ramesh Goel. (2013) "Sustainability in solids reduction and nutrients removal within activated sludge operation". AEESP Colorado School of Mines, July 2013., Golden, Colorado, U.S.
7. Wu, S. and Goel, R. (2013) Comparison of attached growth and suspended growth anammox reactors for real filtrate/centrate treatment- process start-up and performance. WEFTEC. September 26th-30th 2013. Chicago, Illinois.

Year 2012 and prior

1. Bhattacharya, A.S. Kotay, S.M. and Goel, R. (2012). Interactions of bacteriophages with biofilms: Phage-host dynamics in mixed community biofilms, presented at 244th ACS National Meeting held in Philadelphia, Pennsylvania, August 19-23, 2012.
2. Bhattacharya, A.S. Kotay, S.M. and Goel, R. (2012). Potential of biofilm disintegration by phage infection lysate: EPS Depolymerase. Presented at ASM conference in San Francisco.
3. Hogsett, M. and Goel, R. (2012). Sediment-Water Column Dissolved Oxygen Interactions in an Urbanized Stream, WEFTEC, 2012 in New Orleans.
4. Goel, R. Huang, P and Kotay, S.M. (2012). Sludge Minimization Coupled with Biological Nitrogen and Phosphorus Removal - A Step towards Sustainable AS Process Operation. WEFTEC, 2012 in New Orleans.
5. Bhattacharjee, A. S., Kotay, S. M., & Goel, R. "Potential of Biofilm Disintegration by Phage Infection Lysate: EPS Depolymerase". ASM 112th General Meeting - June 16 - 19, 2012, San Francisco, California.
6. Kotay SM, Bhattacharjee, A. S., Goel R. "Interaction of Bacteriophages with Biofilms: Phage-host Dynamics In Mixed Community Biofilms". 244th American Chemical Society. General Meet, 2012, Philadelphia, Pennsylvania.
7. Goel, R. (2012). Nutrient Removal- an overview on current practices with a detailed insight on EBPR and anaerobic ammonia oxidation, presented at Water Environment Association of Utah annual conference in St. George, April, 2012.

8. Mitch Hogsett, Brian Mansell, Ramesh Goel. (2011). The Robustness of ANAMMOX Communities Treating Full-Scale Sidestream Municipal Anaerobic Digester Filtrate. WEFTEC, 2011 in Los Angeles.
9. Jeongdong Choi, Shireen Meher Kotay, Ramesh Goel. (2011). Feasibility study on Biocontrol of Membrane Biofouling using Lytic Bacteriophages, WEFTEC, 2011 in Los Angeles.
10. Goel, R. (2011). Nutrient Recovery from belt press black liquid- step forward towards efficient management of nutrients, presented at WEAU mid-year conference.
11. Hogsett, M. and Goel, R. (2011). Is organic matter present in sediments a big player
 - a. for TMDL decision making. Presented at WEAU mid-year conference.
12. Kotay, S.M., Choi, J. and Goel, R. (2010). Phage Biocontrol to Mitigate Filamentous Bulking- Application of Novel Bacteriophages Infecting Filamentous Bacteria *S. natans* and *H. hydroxsis*. *American Society of Microbiology*; 110th General Meeting; May 2010 in San Diego, CA
13. Kotay, S.M., Choi, J. and Goel, R. (2010). Phage therapy for sludge bulking using a novel bacteriophage infecting filamentous bacterium, *Sphaerotilus natans*. *83rd Annual Conference of the Water Environment Federation, New Orleans, October, 2010.*
14. Racz L. and Goel R. (2010). Fate of selected estrogens in two laboratory scale sequencing batch reactors fed with different organic carbon sources. *83rd Annual Conference of the Water Environment Federation, New Orleans, October, 2010.*
15. Tahir, S., Haries, J. and **Goel, R.** (2009). Setting up TMDL for Jordan River-Role of Sediment Oxygen Demand and Nutrient Flux. WEF TMDT Conference, Minnesota September, 2009.
16. Kotay, S.M., Datta, T and **Goel, R.** (2009) Microbial Ecology of Viruses in an EBPR Activated Sludge Process Performing Phosphorus Release under Aerated-Anaerobic Condition. *American Society of Microbiology*; 109th General Meeting; May 17-21 in Philadelphia, PA.
17. Choi, J., Kotay, S. M., Datta, T. and **Goel, R.** (2009). Dynamics of viruses infecting bacterial population doing biological nutrient removal in activated sludge processes. *82nd Annual Conference of the Water Environment Federation, Orlando, FL, October, 2009.*
18. Racz, L. and Goel, R. (2009). A systematic approach to evaluate the biodegradation kinetics of estrogens by nitrifying activated sludge. *82nd Annual Conference of the Water Environment Federation, Orlando, FL, October, 2009.*
19. Racz, L. and Goel, R. (2009). Effect of Carbon Source on Ammonia Oxidizing Bacteria Community. International conference on Nitrification in Louisville Kentucky, July 2009.
20. Yilmaz, L. S., **Goel, R.**, Harrington, G. W., and Noguera, D. R. (2008) "Identification of Heterotrophic Bacteria that Colonize Pilot- and Full-Scale Chloraminated Distribution Systems", *WQTC 2008*, Cincinnati, OH
21. Datta T. and **Goel R. (2007)** Evidence of Non - *Cand. A. phosphatis* population participating in Enhanced Biological Phosphorus Removal in Carrousel Activated Sludge Process. Submitted to WEFTEC 2007 at San Diego, CA.
22. Srinivasan, S., Harrington, G., Xagorarakis, I. and **Goel, R.** (2007) Factors Affecting Biofilm Density in Drinking Water Distribution Systems. In *Water Quality & Technology Conference*, Charlotte, NC.
23. **Goel R.**, Sanhueza, P. and Noguera D (2005). Evidence of Dechloromonas sp. Participating in Enhanced Biological Phosphorus Removal under Aerated-anoxic conditions. *78th Annual Conference of the Water Environment Federation, Washington, D.C.*
24. **Goel R.** and Noguera D. (2005) Enhanced Biological Phosphorus removal in Cannibal^(TM) activated sludge processes. *78th Annual Conference of the Water Environment Federation, Washington, D.C.*

Other Local Conference Papers

1. Dasgupta S. and Goel R. Innovation in conventional wastewater treatment process with reduced footprint. Water Environment Association of Utah (WEAU) 2016. 26th – 29th April 2016. St. George, Utah
2. Islam, M.I., Wu, S., Goel, R. Energy and resource positive wastewater treatment plants (WWTPs). WEAU Annual Conference & Exposition. 26th – 28th April 2016. Dixie Center, St. George, Utah.

3. Bhattacharjee A.S., Goel, R. Anoxic methane oxidation coupled to denitrification (n-DAMO): a sustainable approach to wastewater treatment. WEAU Annual Conference. 26th – 29th April 2016. St. George, Utah.
4. Bhattacharjee, A. S., Mukherji, S. T., Goel, R. Alternative pathways of denitrification: to achieve better total nitrogen removal. WEAU Annual Conference. April 30 2015. St. George, Utah.
5. Wu, S., Goel, R. Challenges in applying deammonification reactor in wastewater treatment plant. WEAU Annual Conference. April 30th – May 2nd 2015. St. George, Utah.
6. Goel. R., Chahal. S. Wastewater is No more wastewater. 2015 WEAU Mid-Year Conference. November 12 2015. Salt Lake City, Utah.
7. Wu, S., Hogsett, M., Heck, P., Goel, R. Developing operation strategies for pilot scale one-stage deammonification reactors in Utah North Davis Sewer District (NDS), Water Environments Association of Utah-St George, May 2014.
8. Huang, P., Mukherjee, S., Goel, R. The fate of estrogens and illicit drug during the urine treatment and management, Water Environments Association of Utah-St George, May 2014.
9. Bhattacharjee, A., Mukherjee, S., Goel, R. Site specific total ammonia-nitrogen criteria proposed by US-EPA: New development and implications, Water Environments Association of Utah, November 2014.
10. Mukherjee, S., Goel, R. What are our options to manage nutrients in existing WWTPs? WEAU, November 2014.
11. Teeters, D., Goel, R. Nutrients in Great Salt Lake Wetlands: Fluxes and the Role of Microbes, Salt Lake County Watershed Symposium, November 2014.
12. Li, L. and Goel, R. (2009). Chemical and biological treatment of produced water for sustainable operation of oil shales and similar operations. Water.Energy Sustainability symposium at GWPC annual conference. Salt Lake City, September, 2009.
13. Guo, Y. and Goel R. (2009). Quantification of Cyanotoxin and Identification of Cyanobacteria in Farmington Bay of Great Salt Lake. Water Environment Association of Utah Annual Conference in St George, March 2009.
14. Kotay, S.M., Datta, T., Choi, J. and Goel, R. (2009). Viruses in activated sludge processes: their role and influence on microbial community and process performance. AEESP conference at the University of Iowa, July 2009.
15. Goel R. and Datta T. (2007) Why are we scared of phosphorus removal-examples of three full scale plants in Utah- presented at Water Environment Association of Utah conference in Salt Lake City in November.
16. R. Goel, S. Burian, A. Hong, B. Murphy, G. Nash, W. Han, B. McPherson. (2007). New approaches to treat produced water and perform water availability impact assessment for oil shale development. Presented at AIChE annual meeting in Salt Lake City in November.
17. Goel, R. (2007). Water Quality Issues in Utah-an overview. Presented at Water Environment Association of Utah (WEAU) conference in Salt Lake City in November.
18. Goel, R. (2007). Water quality issues in Utah-Where do I fit. Invited talk at Utah Water Quality Board- June 4, 2007.
19. Liu, Y., Datta, T and Goel, R. (2007). Sludge minimization coupled with biological nitrogen and phosphorus removal- a step towards sustainable wastewater treatment. Presented at AEESP conference at Virginia Tech in July.
20. Datta, T. and Goel, R. (2007). PAOs other than *Candidatus Accumulibacter Phosphatis* participating in Enhanced Biological Phosphorus Removal. Poster Presentation at AEESP conference at Virginia Tech in July.
21. Goel, R. (2006). Cannibal activated sludge process- can we remove nutrients and personal care products. Presented at Water Environment Association of Utah (WEAU) conference in Salt Lake City in November.
22. Goel, R. (2006) Application of molecular tools in environmental engineering. Presented at Water Environment Association of Utah (WEAU) conference in St. George in March.

Other Presentations

- Goel, R. (2006). "Application of Molecular tools in environmental engineering" Invited Presentation at CH2M Hill.
- Goel, R. (2006) Title "Is it environmental engineering or electrical engineering?" Presentation at Graduate Seminar Series- Civil & Environmental Engineering, University of Utah.
- Goel, R. (2006). Introduction to Environmental Engineering- CVEEN 1000 Seminar- October 31, 2006, 2007, 2008, 2009, 2010, 2011 & 2012.
- Goel, R. (2006). Introduction to Environmental Engineering- CVEEN 4910- September 2006.
- Goel, R. (2007). Environmental Engineering at a Glance; In LEAP Class- March 15, 2007
- Goel, R. and Datta, T. (2008). Microbial Source Tracking and other water quality issues in Utah-Salt Lake City Watershed Symposium, October 28, 2008.
- Goel, R. (2008). Environmental Engineering at a Glance. Invited presentation at Salt Lake Community College. November 2008.
- Goel, R. Several presentations made in elementary, middle and high schools.

Invited Talks

- November 3, 2022- Utah One Health Symposium: HABs in Utah Waters
- 2020 Presentation- Alumni –June 30, 2020- Why Utah Lake Turns Green- an ecogenomics framework
- Bacteriophages and nanomaterial interactions: October 30, 2020- Northwestern University.
- Graduate Research-beginning to end- October 26, 2020- CVEEN 6555-Invited by Dr. Christine Pomeroy.
- Simplicity and Environmental Sustainability: Indian Institute of Technology, Delhi; February 2020.
- Why Utah Lake is Green- an ecogenomics perspective- June 30, 2020 U of U Alumni Association.
- Guru Nanak University, Amritsar, India December 17, 2019
- Goel, R. (2016). Intriguing world of phages in engineered and natural ecosystems, September 30, 2016, **Rice University**.
- Goel, R. (2016). Nitrogen cycle in natural and engineered ecosystems, April 8, 2016, **University of Minnesota**, Twin Cities
- Goel, R. (2016). Effect of temperature effects on anammox revealed by metagenomics, June 27, 2016. CSIR, Bhubenswar, India
- Goel, R. (2016). Environmental Engineering at a glance- past, present and future, July 13, 2016, National Institute of Technology, Patna, India
- Goel, R. (2015). Nitrogen transformations in engineered bioreactors. August, 2015, IIT, Madras.
- Goel, R. (2013). Bacteriophages in engineered systems. September, 2013. Biodesign Institute. **Arizona State University**.
- Goel, R. (2013). Bacteriophages in engineered and natural systems. November, 2013. **University of Pittsburg**.
- Goel, R. (2011). Role of molecular tools in environmental engineering. Invited Talk- IIT Gandhi Nagar- May 25, 2011
- Goel, R. (2011). Nutrient removal from wastewater. Invited Talk- University of Delhi- May 17, 2011
- Goel, R. (2009). Chemical precipitation of phosphorus. Invited talk at the Water Environment Association of Utah Annual Conference in St George, March 2009.
- Goel, R. (2008). Water Quality issues in Utah-an overview- Invited talk, Center of Environmental Biotechnology, University of Tennessee, Knoxville. May 23, 2008.
- Goel, R. (2008). Research at the interface of environmental engineering and environmental microbiology. Invited talk at Madurai Kamraj University, India. December, 15th, 2008.
- Goel, R. (2007). Water quality issues in Utah- presentation made at Utah Water Quality Board in June 2007.
- Goel, R. (2007). Environmental Engineering at a glance- Presentation made to LLEAP student at the University of Utah- March 2007.