

## CURRICULUM VITAE

### MANISH KUMAR

Assistant Professor | Discipline of Earth Sciences | Room No. 336A, Block 5 |  
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Fellow Royal Society of Chemistry, London, UK |  
Japan Society for the Promotion of Science (JSPS) alumni |  
Water Advanced Research and Innovation (WARI) Fellow @UNL, USA |  
Managing Guest Editor, Journal of Hazardous Material [Elsevier] |  
Managing Guest Editor, Journal of Environmental Management [Elsevier] |  
Editorial Board Member, Nature Partner Journal (NPJ) Clean Water |  
Editorial Board, Current Pollution Report [Springer] |  
Associate Editor, Hydrological Research Letter |  
Associate Editor, Groundwater for Sustainable Development |  
Google Scholar: <https://scholar.google.com/citations?user=5jl0wc4AAAAJ&hl=en>  
Research Gate: [https://www.researchgate.net/profile/Manish\\_Kumar138](https://www.researchgate.net/profile/Manish_Kumar138)  
ORCID Profile: <https://orcid.org/0000-0002-3351-7298>  
Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=55456390100>

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### Synopsis

A PhD in Environmental Engineering from the University of Tokyo, Japan and Fellow of the Royal Society of Chemistry (FRSC) who supervised six awarded Ph.D thesis and >25 master dissertations. Contributed ~100 Science Citation Indexed journal articles, ~40 book chapters and edited/co-edited 6 books published by reputed publishers like Springer, CRC and others. Twenty years' experience in research and teaching with H-index =28, i10-index=52 with total citation (~2900)-Google Scholar. ResearchGate profile better than 95% of its members of all streams and age groups (as of July, 2020). A member of Global collaboration of 51 institutes on Wastewater-Based Epidemiology of COVID-19. An executive committee member of International Water Association (IWA) -India Chapter and represents South-Asia in IWA specialist group for METRAL and related substances. Organised 4 international /2 national symposium/conferences, 3 Science Camps and several sessions at GSA/EGU/IAHs congresses. Appointed as judge for IWA young scientist award 2020. Recipient of accolades like Dean's Teaching Appreciation at IITGN, Best Research Award (2013) at 4<sup>th</sup> IWA Asia Pacific Water Young Professional Conference, Global Change Research (GCR) Grant from Asia Pacific Network (2018-2020), UKIERI Grant, Kurita Research Award, DST young scientist grant (2012-15), JSPS Research Fellowship (2010-12), Centre of Excellence (CoE) Young Researcher Fund (2007) and Linnaeus-Palme Grant from SIDA, Sweden (2005). Associate editor for Elsevier Journal of Groundwater for Sustainable Development and Japan Society for Hydrology and Water Resource's journal Hydrological Research Letter. Lead managing editor for special issues in international journals including Journal of Hazardous Material (IF: 9.04) and Journal of Environmental Management (IF: 5.65). Editorial board member for Nature Partner Journals (NPJ) Clean Water (IF=4.80 and Current Pollution Report (IF: 3.1).

## EDUCATION HISTORY

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### **Ph.D.** - The University of Tokyo, Environmental Engineering, 2009

**Thesis:** Comparative assessment of potential mobility of heavy metals in soakaway sediment of infiltration facilities and soil using sequential extraction and isotopic dilution techniques Development

**Advisor(s):** Hiroaki Furumai (Advisor), and Futoshi Kurisu (Co-advisor)

### **M.Phil** - Jawaharlal Nehru University, Environmental Science, 2004

**Thesis:** An integrated hydrogeochemical and isotopic study on the groundwater of National Capital Territory (NCT), Delhi, India

**Committee members:** AL. Ramanathan (Advisor); S. K. Singh (Delhi Technological University, India)

### **M.Sc.** - Jawaharlal Nehru University, Environmental Science, 2002

**Thesis:** Hydrogeochemistry of the Achain Kovil River, Kerala, India

**Advisor:** AL. Ramanathan

## WORK HISTORY [RESEARCH EXP:18 YEARS; POST-PHD EXPERIENCE:11 YEARS]

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- **Indian Institute of Technology (IIT) Gandhinagar**, Gujarat, India, Faculty at Discipline of Earth Sciences, July, 2017 to till date. <http://www.iitgn.ac.in/academics/es>
- **University of Nebraska Lincoln (UNL)**, NE, USA, Visiting Faculty under Water Advanced Research and Innovation (WARI) fellowship, May, 2016 to March, 2017. [www.unl.edu/nanowater/group-members](http://www.unl.edu/nanowater/group-members)
- **Tezpur University, Assam**, India, Assistant Professor at Department of Environmental Science, Nov. 2010 to July 2017.
- **The University of Tokyo**, Japan, Japanese Society for the Promotion of Science (JSPS) Post-Doctoral Fellow, April 2010 to January 2011
- **Kunsan National University**, S. Korea, Post-Doctoral Fellow, Oct. 2009 ~ Feb, 2010
- **University of Tokyo**, Japan, MEXT Research Scholar, April 2006- Oct. 2006
- **Uppsala University**, Sweden, Research Student, Aug. 2005-March. 2006
- **Jawaharlal Nehru University**, India, CSIR Junior Research Fellow, Dec. 2003-July 2005

## RESEARCH HISTORY

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### ONGOING GRANTS/CONTRACTS

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- **DST, MoST, GoI-National Mission on Strategic Knowledge for Climate Change (NMSKCC)**. (Co-PI), 2 crores INR (5PIs)
- **MOES/NCESS-Submarine Groundwater Discharge (SGD) along the Gujarat Coast**. (PI), 29 Lakh INR –(PI)
- **GSBTM- GoG**, Development of Environmentally and Economically Sustainable Composite Solution for Municipal Solid Waste Management, (PI), 18 Lakh INR –(PI)
- **WIN Foundation, USA**, Pilot scale in-situ application for arsenic and fluoride removal from the groundwater: A safe drinking water production perspective. (PI) Fund: 59.60 Lakh INR –(PI)
- **DST-UKIERI**, Vulnerability Assessment and Sustainable Solution for Water Quality Management in the Urban Environment. (PI) Fund: 41.95 Lakh INR–(PI)
- **WIN Foundation, USA**, Micro-components quantification of end uses of water consumption in low-income settings (PI) 38.50 Lakh INR–(PI)

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**COMPLETED GRANTS/CONTRACTS**


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- **Asia Pacific Network (APN) 2016-2018** for Global Change Research, Development of New Water Supply Strategies in Two Major cities of India and Sri Lanka in the context of climate change, rapid urbanization and population growth: A Vulnerability Assessment Approach (PI), Fund: 50 lakhs INR (\$75,000)
- **IJCSP (India-Japan Cooperative Science Program), 2016-2018** Development of new water supply strategies for Brahmaputra watersheds of India under climate change regime (PI) Fund: Travel grant for two years
- **BRNS-DAE Uranium Project, BARC, India, 2015-2018** Spatial distribution of uranium and associated water quality parameters in groundwater / drinking water of six districts (Golaghat, Karbi Anglong, Udalguri, Darrang, Dhemaji, Dibrugarh and Tinsukia) of Assam (PI), Fund: 29.6 lakhs INR (\$45000) (This project is now at TU with Co-PI)
- **Kurita Water and Environment Foundation (KWEF) Research Grant Award (2014-2015)** Phase distribution of metals in a Tropical River of India during Monsoon (JPY 325000)
- **University Grant Commission (UGC- Major Research Project), 2012-2015** Tracing Source and Distribution of Heavy Metals in the Sediment and Water of the Brahmaputra River through Coupling of Speciation and Isotopic Fingerprinting (PI), Fund: 10.5 lakhs INR
- **Science and Engineering Research Board (SERB) – Dept of Science and Technology (DST), India funded Fast Track Research Projects for Young Scientists (2012-2015)**, Hydrogeochemical investigation of arsenic contaminated alluvial aquifers of India through multilayer sampling and evaluation of remediation technique (PI), Fund: 23 lakhs INR
- **SERB-DST, Fast Track Projects for Young Scientists (DST)**, Understanding of arsenic phase distribution and co-contamination perspective with fluoride in the Brahmaputra flood plains (Mentor), Fund: 31 lakhs INR

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**PATENT**


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**Patent Application No : 202021018416** dated 29.04.2020 Title: MAGNETIC HYBRID NANOCOMPOSITES AND A PROCESS FOR PREPARATION THEREOF

**PUBLICATIONS (JOURNALS: 106, BOOK: 6, BOOK CHAPTERS: ~40, CONFERENCE PROCEEDINGS: 60)**

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**INTERNATIONAL JOURNALS (INTERNATIONAL: 100 + NATIONAL: 4 + EDITORIAL:3)**


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(Published/Accepted) Underlined are student authors and \* Corresponding author

Top 25 publications:

1. **Manish Kumar\***, Patel, A.K., Shah, A.V., Raval, J., Rajpara, N., Joshi, M., Joshi, C.G. (2020). The first proof of the capability of wastewater surveillance for COVID-19 in India through the detection of the genetic material of SARS-CoV-2. *Science of the Total Environment* <https://doi.org/10.1016/j.scitotenv.2020.141326>
2. **Manish Kumar\***, Kuroda, K., Dhangar, K., Mazumder, P., Sonne, C., Rinklebe, J. (2020). Potential emergence of antiviral-resistant pandemic viruses via environmental drug exposure of animal reservoirs. *Environmental Science & Technology* <https://doi.org/10.1021/acs.est.0c03105>
3. **Manish Kumar\***, Sulfikar, Tushara, C., Sewwandi, K.A.H.S., Patel, A.K., Mazumder, P., Joshi, M., and Honda, R. (2020). "Prevalence of Antibiotic-Resistant in the Tropical Rivers of Sri Lanka and India", *Environmental Research* <https://doi.org/10.1016/j.envres.2020.109765>
4. **Manish Kumar\***, Furumai, H., Kasuga, I., & Kurisu, F. (2020). Metal partitioning and leaching vulnerability in soil, soakaway sediments, and road dust in the urban area of Japan. *Chemosphere*, 126605. <https://doi.org/10.1016/j.chemosphere.2020.126605>

5. **Manish Kumar\*** B. Ram, H. Sewwandi, Sulfikar, R. Honda and T. Chaminda (2020) "Treatment enhances the Prevalence of Antibiotic Resistance Bacteria and Antibiotic Resistance Genes (ARG) in the wastewater of Sri Lanka and India." **Environmental Research**, <https://doi.org/10.1016/j.envres.2020.109179>
6. Raval, N., and **Manish Kumar\*** (2020) Geogenic Arsenic Removal through Core-shell based Functionalized Nanoparticles: Groundwater in-situ treatment perspective in the Post-COVID Anthropocene. **Journal of Hazardous Material** <https://doi.org/10.1016/j.jhazmat.2020.123466>
7. Singh, A., Patel, A.K., Deka, J.P and **Manish Kumar\*** (2020) Natural recharge transcends anthropogenic forcing that influences Arsenic vulnerability of the Quaternary Alluviums of the Mid-Gangetic Plain. **NPJ Clean Water**, <https://doi.org/10.1038/s41545-020-0075-5>
8. K. Taki, S. Choudhary, S. Gupta and **Manish Kumar\***. (2020) Enhancement of geotechnical properties of municipal sewage sludge for sustainable utilization as engineering construction material, **Journal of Cleaner Production**. 251, 119723. <https://doi.org/10.1016/j.jclepro.2019.119723>.
9. Deka, B.J., Guo, J., Jeong, S., Manish Kumar, An. A.K.\* (2020). Control of Membrane Fouling by Dissolved Algal Organic Matter using Pre-Oxidation with Coagulation as Seawater Pre-treatment. **Environmental Science :Water Research and Technology**, 6(4), 935-944
10. **Manish Kumar\***, Gogoi, A., Mukherjee, S. (2019) Metal removal, partitioning and phase distributions in the wastewater and sludge: Performance evaluation of conventional, upflow anaerobic sludge blanket and downflow hanging sponge treatment systems, **Journal of Cleaner Production**. 119426. <https://doi.org/10.1016/j.jclepro.2019.119426>.
11. **Manish Kumar\***, D. Snow, Y. Li and P. Shea (2019). "Perchlorate behavior in the context of black carbon and metal cogeneration following fireworks emission at Oak Lake, Lincoln, Nebraska, USA." **Environmental Pollution**, 253, 930-938.
12. **Manish Kumar\***, B. Ram, R. Honda, C. Poopipattana, V.D. Canh, T. Chaminda, H. Furumai. (2019). "Concurrence of Antibiotic Resistant Bacteria (ARB), Viruses, Pharmaceuticals and Personal Care Products (PPCPs) in Ambient Waters of Guwahati, India: Urban Vulnerability and Resilience Perspective." **Science of the Total Environment**, 693, 133640 <https://doi.org/10.1016/j.scitotenv.2019.133640>
13. **Manish Kumar\***, R. Goswami, N. Awasthi and R. Das (2019). "Provenance and fate of trace and rare earth elements in the sediment-aquifers systems of Majuli River Island, India," **Chemosphere**, 237, 124477 <https://doi.org/10.1016/j.chemosphere.2019.124477>
14. A.K. Patel, N. Das and **Manish Kumar\*** (2019). "Multilayer arsenic mobilization and multi-metal co-enrichment in the alluvium (Brahmaputra) plains of India: A tale of redox domination along the depth". **Chemosphere**, 224, 140-150, (IF: 4.427)
15. J. Shim, **Manish Kumar\***, R. Goswami, P. Mazumder, B.T. Oh and P.J. Shea (2019). "Removal of p-cresol and tylosin from water using a novel composite of alginate, recycled MnO<sub>2</sub> and activated carbon." **Journal of hazardous materials** 364: 419-428. (IF: 6.434)
16. **Manish Kumar\***, N. Das, K. P. Sarma, R. Goswami, AL. Ramanathan, P. Bhattacharya (2016). "Coupling fractionation and batch desorption to understand arsenic and fluoride co-contamination in the aquifer system". **Chemosphere** 164:657-667
17. A. Gogoi<sup>#</sup>, T. Chaminda, A. KJ An., D. Snow, Y. Li and **Manish Kumar\*** (2016). "Influence of Ligands on Metal Speciation, Transport and Toxicity in a Tropical River during Wet (Monsoon) Period". **Chemosphere** 163: 322-333
18. **Manish Kumar\***, A. Das, N. Das, R. Goswami and U.K. Singh (2016). "Co-occurrence perspective of arsenic and fluoride in the groundwater of Diphu, Assam, North-eastern India", **Chemosphere**, 150, 227-238.
19. **Manish Kumar\***, M.S. Rao, J.P. Deka, AL. Ramanathan and Bhishm Kumar (2015). "Integrated hydrogeochemical, isotopic and geomorphological depiction of the groundwater salinization in the aquifer system of Delhi, India" **Journal of Asian Earth Sciences**, 111, 936-947.
20. **Manish Kumar\***, H. Furumai, F. Kurisu and I. Kasuga (2013) "Tracing source and distribution of heavy metals in road dust, soil and soakaway sediment through speciation and isotope fingerprinting" **Geoderma** (211-212, 8-17)
21. **Manish Kumar\***, H. Furumai, F. Kurisu and I. Kasuga (2013) "Potential Mobility of Heavy Metals through Coupled Application of Sequential Extraction and Isotopic exchange: Comparison of leaching tests applied to soil and soakaway sediment" **Chemosphere** (90:796-804)
22. **Manish Kumar**, B. Kumar, M.S. Rao\* and AL. Ramanathan (2011) "Identification of aquifer-recharge zones and sources in an urban development area (Delhi, India), by correlating isotopic tracers with hydrological features" **Hydrogeology Journal**, 19: 463-474

23. **Manish Kumar\***, P. Kumar, AL. Ramanathan, P. Bhattacharya, R. Thunvik, U.K. Singh, M. Tsujimura and O. Sracek (2010) "Arsenic enrichment in groundwater in the Middle Gangetic Plain of Ghazipur District in Uttar Pradesh, India" **Journal of Geochemical Exploration** (105: 83-94)
24. **Manish Kumar**, AL. Ramanathan\* and A.K. Keshri (2009) "Understanding the extent of interactions between groundwater and surface water through major ion chemistry and multivariate statistical techniques" **Hydrological Processes**, (23: 297-310)
25. **Manish Kumar\***, AL. Ramanathan, M.S. Rao and B. Kumar (2006) "Identification and evaluation of hydrogeochemical processes in the groundwater environment of Delhi, India" **Environmental Geology** (50:1025-1039)

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#### BOOK EDITED (N=6)

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1. **Manish Kumar**, Francisco Munoz-Arriola, Hiroaki Furumai and Tushara Chaminda (2020) "Resilience, Response and Risk in Water Systems". (ISBN 978-981-15-4667-9), Springer Nature, Singapore. <https://www.springer.com/gp/book/9789811546679>
2. **Manish Kumar**, Daniel D Snow; Ryo Honda and Santanu Mukherjee (2020) "Contaminants of Emerging Concern in Drinking and Wastewater Source: Current status, Challenges, and Reigning Technologies". (ISBN 978-981-15-4599-3), Springer Nature, Singapore. <https://www.springer.com/gp/book/9789811545986>
3. **Manish Kumar**, Daniel Snow and Ryo Honda (2019) "Emerging Issues in the Water Environment during Anthropocene: A South East Asian Perspective" published by Capital-Springer, (ISBN 978-93-81891-41-4) <https://www.springer.com/gp/book/9789813297708>
4. Kurisu, F., Ramanathan, AL., Kazmi, A., and **Kumar Manish**. (2015) "Trends in Environmental Science and Technology" Capital-Springer Publication, (ISBN 978-93-81891-28-5).
5. **Kumar Manish**. (2012) "Problems, Perspectives and Challenges of Agricultural Water Management" In-Tech international publication, ISBN 979-953-307-706-1
6. Chidambaram, S., Srinivasamoorthy, K., Ramanathan, AL., Anandhan, P., Manivannan, R., Parasad, M.B.K., **Kumar Manish**. (2010) "Groundwater Monitoring and Management through hydrogeochemical Modeling approach", IK international, 142p ISBN-13: 978-9380578163.

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#### SELECTED MEDIA COVERING MY RESEARCH/ACTIVITIES

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**Title:** Testing not enough, scientists examine sewage to gauge spread of coronavirus **Source:** Press Trust of India

**Link:** [http://www.ptinews.com/news/11436439\\_Testing-not-enough--scientists-examine-sewage-to-gauge-spread-of-coronavirus](http://www.ptinews.com/news/11436439_Testing-not-enough--scientists-examine-sewage-to-gauge-spread-of-coronavirus) **Date:** 01/05/2020

**Title:** Ahmedabad: 'Sewage water tests can signal Covid-19' **Source:** Times of India

**Link:** <https://timesofindia.indiatimes.com/city/ahmedabad/sewage-water-tests-can-signal-covid/articleshow/75227358.cms> **Date:** 19/04/2020

**Title:** Tracking sewage to surveil COVID-19 **Source:** Mongabay

**Link:** <https://india.mongabay.com/2020/04/tracking-sewage-to-surveil-covid-19/?fbclid=IwAR3iXHfOuUC5SFq95ChbNP2ZTrC-fvYbZBFanB20IDbtIMJ-k-ZIagw7EHU> **Date:** 15/04/2020

**Title:** How drug resistance spreads in urban environment **Source:** Down to Earth

**Link:** <https://www.downtoearth.org.in/news/water/how-drug-resistance-spreads-in-urban-environment-67474> **Date:** 28/10/2019

**Title:** How drug resistance spreads in Cities **Source:** The Wire

**Link:** <https://thewire.in/health/this-is-how-drug-resistance-spreads-in-cities> **Date:** 31/10/2019

**Title:** Assam groundwater contamination will worsen, Expert warn **Source:** india.ucanews

**Link:** <https://www.guwahatipius.com/daily-news/experts-warn-assam-s-groundwater-contamination-will-worsen> **Date:** 29/03/2019

**Title:** Discarded batteries to fight metals **Source:** Times of India

**Link:** <https://timesofindia.indiatimes.com/city/ahmedabad/discarded-batteries-to-fight-metals/articleshow/68879778.cms> **Date:** 15/04/2019

**Title:** Flow of clear thoughts sweeps away apathy

**Title:** Ideas Pour In At TOI-IIT-Gn-Asia Pacific Network Round Table **Source:** Times of India (Pg. no. 2) **Source:** Times of India

**Link:** <https://timesofindia.indiatimes.com/city/ahmedabad/finally-flow-of-clear-thoughts-to-sweep-apaty/articleshow/67110274.cms> **Date:** 16/12/2018

**Title:** Sabarmati heavy metals may soon hit your plate **Source:** Times of India (Pg. no. 4)

**Link:** <https://timesofindia.indiatimes.com/city/ahmedabad/sabarmati-heavy-metals-may-soon-hit-your-plate/articleshow/66944688.cms> **Date:** 05/12/2018

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 PH.D. ADVISOR/CO-ADVISOR
 

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**Awarded (n=6)**

Nilotpal Das (**Ph.D. Awarded in 2016**) Understanding arsenic phase distribution and co-contamination perspective with fluoride in the Brahmaputra flood plains, Assam, India. **UGC NET/ UGC-CSIR NET JRF**

Pallavi Das (**Ph.D. Awarded in 2016**) Assessment of heavy metal behavior in the context of sediment-water interaction and climate change: A study on the Brahmaputra River, Assam. **UGC NET-RG National Fellowship**

Aparna Das (**Ph.D. Awarded in 2016**) Coupled application of geochemistry, isotope and SWAT modeling to understanding nutrient dynamics in the Brahmaputra River system. **Rajiv Gandhi National Fellowship (RGNF) and CSIR UGC NET**

Jyoti Prakash Deka (**Ph.D. Awarded in 2016**) Imprints of long range transported pollution on Eastern Himalayan high altitude lakes through geochemical, isotopic and anthropogenic signature. **Project Affiliate**

Anindita Gogoi (**Ph.D. Awarded in 2017**) Metal transport and complexation in fresh and waste water systems using sequential extraction, biotic ligand and speciation models. **Project Affiliate**

Arbind Kumar Patel (**Ph.D. Awarded in 2019**) Hydro-geochemical controls on arsenic mobilization and associated health risk in the alluvial aquifers of The Ganga and The Brahmaputra floodplain, India. **DST-Project JRF**

**Ongoing (n=4)**

Kaling Taki (**Tesis submitted on 20<sup>th</sup> July, 2020**) Sustainable Utilization of Sewage Sludge .

Ashwin Singh (**Ph.D. in Civil Engineering ongoing, since 2018**) Predictive Modelling for Geogenic Contaminants.

Yash Duggad (**Ph.D. in Civil Engineering ongoing, since 2018**) Remote Sensing and high-altitude lake.

Chandrasekhar Bhagat (**Ph.D. in Civil Engineering ongoing, since 2018**) PPCPs and antibiotics in environment.

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 MASTER DISSERTATION SUPERVISED (N=23) AND ONGOING (2)
 

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 POST-DOCTORAL MENTORSHIP
 

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Dr. Ritusmita Goswami, Arsenic phase distribution and co-contamination perspective **SERB Young Scientist**

Dr. Santanu Mukherjee, Development of low-cost novel biomaterials **National Post-Doctoral Fellow (NPDF-SERB)**

Dr. Nirav P. Raval, Pilot scale in-situ application for arsenic and fluoride removal **Post-doctoral Fellow**

Dr. Arbind Kumar Patel Arsenic and fluoride co-contamination **Research Associate**

Dr. Pinky Taneja Micro-components quantification of end uses of water consumption **Post-doctoral Fellow**

 ACADEMIC SOCIETIES AND SERVICE TO THE PROFESSION
 

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 AFFILIATIONS
 

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- ❖ Fellow, the Royal Society of Chemistry (FRSC) since 2020
- ❖ Secretary and Member of International Society for Groundwater Sustainable Development (ISGSD)
- ❖ Member, Society of Environmental Toxicology and Chemistry (SETAC) – 2016-2017
- ❖ Lifetime Member, International Association of Hydrogeologists (IAHs)
- ❖ Member, International Water Association (IWA)
- ❖ Member, International Association of Hydrogeologists (IAHs)-Indian National Chapter 2018-till date
- ❖ Life time member, Indian Association of Hydrologist (IAH)
- ❖ Member, Indian Society of Applied Geochemists (ISAG), India



## ACTIVITIES IN ACADEMIC SOCIETIES INCLUDING COMMITTEES, REFEREE SERVICE

### COMMITTEES

- Member of **Technical Advisory Group (TAG)** for Grand Challenges India (GCI) program of Dept. of Biotechnology, Ministry of Science and Technology (MoST)-Gol, Bill and Melinda Gates Foundation (BMGF) and Wellcome Trust.
- Organized “**River-Sutra Brainstorming Session**” in association with Times of India (ToI) group.
- **Co-organized Study Camp with Kanazawa University**, Japan between 27th to 31st August, 2018. Also served as resource person for the same.
- **Convener**, Local Organizing Committee for Twentieth National Symposium on Environment (NSE-20) organized between 13-15<sup>th</sup> December, 2018 by BARC and IITGN.
- **Co-Chair**, Technical session, (T3.5) at **45<sup>th</sup> IAH Congress**, Daejeon, Korea 9<sup>th</sup> – 14<sup>th</sup> September 2018.
- **Co-Chair**, Technical session: (T3.2), at **45<sup>th</sup> IAH Congress**, Daejeon, Korea 9<sup>th</sup> – 14<sup>th</sup> September 2018.
- **Convener of NH8.1/HS5.13/SSS13.60 sessions at European Geosciences Union (EGU) 2018**, Austria.
- **Convener of T3: Global/Regional Environmental Changes and their Consequences at the 45<sup>th</sup> International Association of Hydrogeologist (IAH) Congress at Daejeon, South Korea in 2018.**
- **Convener** for session on Geogenic Contaminants, for **Geological Society of America**, USA – 2018.
- Served as **Technical Director** for the International Seminar on “Land and Water Issues in South East Asia” during 18-20<sup>th</sup> Jan, 2018 at NERIWALM, Tezpur, Assam.
- **Organizing committee member** for the symposium on “Advances in Civil and Environmental Engineering Practices for Sustainable Development” (ACEPS-2018), Sri Lanka on 15<sup>th</sup> March, 2018.
- **Convener**, of International Symposium on Sustainable Urban Environment (**ISSUE 2017**), **Asia Pacific Network (APN)-Global Change Research (GCR)** organized by Tezpur University, Assam, India, 23<sup>rd</sup> - 24<sup>th</sup> June 2017. <http://www.tezu.ernet.in/denvsc/ISSUE/index.html>
- **Coordinator of MHRD-GIAN International Workshop on “Hydrology: An Interdisciplinary Science of Water”** held at Tezpur University from 4<sup>th</sup>-14<sup>th</sup> January, 2016. <http://www.tezu.ernet.in/event/GIAN-Hydrology-EVS-TU-workshop-with-registration-form.pdf>
- **Technical Committee Member** of “Innovative Trends in Civil Engineering for Sustainability in 2016.
- **Organizing committee member of National seminar** on “Past and Present Geochemical Processes - Impacts on Climate Change”, Jawaharlal Nehru University (JNU), New Delhi.
- **Coordinator** for Department of Science and Technology (DST)-Innovation in Science Pursuit for Inspired Research (INSPIRE) **Science Camp** (23<sup>rd</sup> -27<sup>th</sup> December, 2013) at Tezpur University Campus. [http://www.tezu.ernet.in/notices/dsts\\_inspire\\_sept\\_2013.htm](http://www.tezu.ernet.in/notices/dsts_inspire_sept_2013.htm)
- **International/Local organizing committee member** of “1<sup>st</sup> International Forum on Asian Water Environment (IFAWET) at Delhi, India” (18-20<sup>th</sup> December, 2013). [http://www.recwet.t.u-tokyo.ac.jp/asian\\_water2013/Organizers&Contact.html](http://www.recwet.t.u-tokyo.ac.jp/asian_water2013/Organizers&Contact.html)
- **Coordinator for DST-INSPIRE Science Camp** (11<sup>th</sup> -16<sup>th</sup> June, 2012) at Tezpur University Campus.
- Organizing secretary of “**The 8<sup>th</sup> International Symposium on Southeast Asian Water Environment (SEAWE), Phuket, Thailand**” (24-26<sup>th</sup> October, 2010).
- **Committee member** for the selection of **Best Poster Award** at IWA-YWP conference, Singapore.
- **Committee member** selection of **Young Water Professional Award** as well as **Best Poster Award** at 8<sup>th</sup> SEAWE, Thailand
- **Chair**, Session: Isotope hydrology, 1<sup>st</sup> IFAWET on 18<sup>th</sup> – 20<sup>th</sup> December, 2013.
- **Co-Chair**, at Sixth International Groundwater Conference (IGWC-2015), Chennai, India.
- **Co-Chair**, at National seminar on “Past and Present Geochemical Processes - Impacts on Climate Change, Jawaharlal Nehru University (JNU), New Delhi 22<sup>nd</sup> -23<sup>rd</sup> December, 2015.
- **Co-Chair**, Session B5: River Water Pollution at 10<sup>th</sup> International Symposium on Southeast Asian Water Environmental, 2012, Hanoi, Vietnam (8-10<sup>th</sup> November 2012)
- **Co-Chair**, Session A3: Water Environment at 9<sup>th</sup> SEAWE in December 1-3, 2011, Bangkok, Thailand
- **Co-Chair**, Session: Water Environment in the Tropics at 8<sup>th</sup> **SEAWE, Phuket, Thailand**” in 2010 [http://www.recwet.t.u-tokyo.ac.jp/asian\\_water2010/Organizers%20&%20Contact.html](http://www.recwet.t.u-tokyo.ac.jp/asian_water2010/Organizers%20&%20Contact.html)
- **Panelist**, Tokyo International Exchange Centre organized at Odaiba, Tokyo (Sept 23<sup>rd</sup>, 2008).

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 REFEREE ACTIVITIES
 

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**Editorial Board of Nature Partner Journal (NPJ) Clean Water** by Springer Nature (IF:4.8)

**Editorial Board of Current Pollution Report** by Springer Nature (IF:3.3)

**Managing Guest Editor of Journal of Hazardous Material (IF:9.06)** Elsevier on **Geo-Pat Contamination in Anthropocene**

**Managing Guest Editor of Journal of Environmental Management (IF:5.56)** Elsevier on **Tackling Water Security**

**Associate Editor of Hydrological Research Letters (HRL)**, an international journal of Japan Society of Hydrology and Water Resources (2016 to till date).

**Associate Editor (2016 to till date), Groundwater for Sustainable Development** (Elsevier International Journal)

**Guest Lead Editor** for the special Journal Issue on “Contaminant Transport and Fate in Freshwater” for **Groundwater for Sustainable Development**

**Guest Lead Editor** for the special Issue on “Emerging water quality problems in developing countries” for **Scientific World Journal**.

**Review Editor** for the Journal **Frontiers in Environmental Science**

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 REVIEWER SERVICE TO THE FOLLOWING JOURNALS
 

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- Environmental Science and Technology
- Science of Total Environment
- Environment International
- Environmental Pollution
- Chemosphere
- Journal of Hydrology
- Environmental Research Letter
- Water Research
- J Hazardous Material
- Environmental Geochemistry and Health
- Hydrogeology Journal
- Journal of Environmental Management

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 KEYNOTE/INVITED TALKS/ PRESENTATIONS
 

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Speaker at Several Webinars on **Wastewater based COVID\_19 monitoring** including for i) University of Surrey, UK; ii) Gujarat Pollution Control Board; iii) Water-Aid, India; iv) Sulabh India; v) Jharkhand Central University; vi) IGNTU and others.

Delivered **National Technology Day Lecture for NEERI**, India. 11<sup>th</sup> May 2020.

Invited as **Keynote Speaker at 2<sup>nd</sup> symposium on Next Generation Sequencing, Probiotics and Other Technologies for Water Quality Management in Aquaculture (NGS-WQM 2019)** Bangkok, Thailand on 19<sup>th</sup> December 2019

Delivered **Keynote** at IIT Roorkee for 8<sup>th</sup> International Groundwater Conference on Sustainable Management of Soil-Water Resources held from 21<sup>st</sup> - 24<sup>th</sup> October 2019.

Delivered **Invited Talk** at **National Disaster Management Institute (NDMI), Ulsan, South Korea**, 26<sup>th</sup> – 27<sup>th</sup> October 2019.

**Invited Speaker** at Indo-US Bilateral Workshop on “Water-Food-Energy-Climate nexus: A perspective towards a sustainable future” (WFEC nexus-2018) at BHU, Varanasi, India on 16-21 November, 2018.

Delivered a **Keynote** at **Advances in Civil and Environmental Engineering Practices for Sustainable Development” (ACEPS-2018)** in Sri Lanka on 15<sup>th</sup> March, 2018.

Delivered **special RECWET guest lecture** at the University of Tokyo, Japan on 23<sup>rd</sup> January, 2018.

**Invited talk** delivered at the International Seminar during 18-20<sup>th</sup> Jan, 2018 at NERIWALM, Tezpur, Assam.

**Invited talk** on “Metals in the environment: Fate and Transport”, **Department of Environmental Science, Tezpur University**. 4<sup>th</sup> October, 2017.



- Invited talk in Department of Chemical and Biochemical Engineering, Indian Institute of Technology Patna, Bihar. 5<sup>th</sup> December, 2016.
- Invited talk for Weber Microbial Biogeochemistry & Geomicrobiology Lab, Manter Hall, University of Nebraska Lincoln, 20<sup>th</sup> October, 2016.
- Invited talk on “The interface of water quality and quantity: Challenges and Future Scenarios”, Dept. of Soil, Environmental and Atmospheric Sciences, University of Missouri, Columbia, MO, 7<sup>th</sup> July, 2016.
- Invited talk** on “Metal fate and transport in the environment: Challenges and Opportunities”, at **Water Resources Research Center, University of Missouri, Columbia, MO**, 7<sup>th</sup> July, 2016.
- Invited talk in National seminar on “Past and Present Geochemical Processes - Impacts on Climate Change, 22<sup>nd</sup>-23<sup>rd</sup> December, 2015, Jawaharlal Nehru University (JNU), New Delhi.
- Invited talk** in colloquium on **Isotopic fingerprinting of Water in India (IWIN)** at Physical Research Laboratory (PRL), 2015.
- Invited Delegate in the Workshop on “UASB-DHS Integrated System-A sustainable sewage treatment technology” organized by JICA and JST at New Delhi, India, October, 2014
- Invited Environment Day Talk at Centre for Environment, IIT Guwahati Project Team and UNICEF.
- Invited talk** in the regional seminar on **Rainwater Harvesting** organized on 16<sup>th</sup> -17<sup>th</sup> December, 2014 at North Eastern Regional Institute of Water and Land Management (NERIWALM), Tezpur, Assam.
- Invited talk** at the Department of Chemical Sciences, Tezpur University on 13<sup>th</sup> October, 2014.
- Invited Talk** at National Meet for organizers of INSPIRE Internship Camps-2014, 29<sup>th</sup>–30<sup>th</sup> May, 2014, KIIT University, Bhubaneswar, Odisha
- Invited Talk** in The 1st International Forum on Asian Water Environment Technology (IFAWET) on 18<sup>th</sup> – 20<sup>th</sup> December, 2013. (**Invited Talk**)
- Invited Talk** at Water and Sanitation Support Organization (WSSO), Public Health Engineering Department, Govt. of Assam with support from IIT Guwahati and UNICEF.
- Sponsored Presentation at 10<sup>th</sup> International Symposium on Southeast Asian Water Environmental, 2012, Hanoi, Vietnam, 8<sup>th</sup> -10<sup>th</sup> November 2012.
- Invited talk** at School of Environmental Sciences, Jawaharlal Nehru University (JNU), 3<sup>rd</sup> & 4<sup>th</sup> October, 2012.
- Sponsored Presentation in The 9<sup>th</sup> International Symposium on Southeast Asian Water Environment (9<sup>th</sup> SEAWE) 1<sup>st</sup> -3<sup>rd</sup> December, 2011

## 6. OUTREACH/EXTENSION EXPERIENCE

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- Convener**, Local Organizing Committee for **Twentieth National Symposium on Environment (NSE-20)** by IITGN in collaboration with the Health, Safety & Environment Group, Bhabha Atomic Research Centre, Mumbai.
- Co-Chair**, Technical session, (T3.5) Disasters and groundwater, at **45<sup>th</sup> IAH Congress**, Korea 9<sup>th</sup> – 14<sup>th</sup> September 2018.
- Co-Chair**, Technical session: (T3.2) Environmental drivers changing hydrologic system and consequences with Nam-Chil Woo, at **45<sup>th</sup> IAH Congress**, Daejeon, Korea 9<sup>th</sup> – 14<sup>th</sup> September 2018.
- Convener of NH8.1/HS5.13/SSS13.60 sessions** on Arsenic and other contaminants in soil and groundwater: interventions for source control and regulatory compliance (co-organized) in European Geosciences Union (EGU) General Assembly 2018, Vienna Austria, 13<sup>th</sup> April, 2018.
- Convener of T3: Global/Regional Environmental Changes and Their Consequences** at the **45<sup>th</sup> International Association of Hydrogeologist (IAH) Congress** being organized at Daejeon, South Korea during September 9-14<sup>th</sup>, 2018
- Served as **Technical Director** for the International Seminar on “Land and Water Issues in South East Asia” during 18-20<sup>th</sup> Jan, 2018 at NERIWALM, Tezpur, Assam.

**Organizing committee member** for the symposium on “Advances in Civil and Environmental Engineering Practices for Sustainable Development” (ACEPS-2018) in Sri Lanka on 15<sup>th</sup> March, 2018.

**Convener**, at International Symposium on Sustainable Urban Environment (**ISSUE 2017**), **Asia Pacific Network (APN)**-Global Change Research (GCR) organized by Tezpur University Assam, India, 23<sup>rd</sup> - 24<sup>th</sup> June 2017. <http://www.tezu.ernet.in/denvsc/ISSUE/index.html>

**Resource Person** for Ministry of Human Resource Development (MHRD) Govt. of India sponsored International Workshop on “**Hydrology: An Interdisciplinary Science of Water**” under **Global Initiative of Academic Networks (GIAN)** held at Tezpur University from 4<sup>th</sup>-14<sup>th</sup> January, 2016.

**Resource Person** for “Training of Master Trainers on Teaching and Learning of Environment with Special Reference to the Project Books Developed by NCERT and adapted by SCERT” North East Regional Institute of Education, National Council of Educational Research and Training (NCERT), Shillong, Meghalaya 03<sup>rd</sup> - 06<sup>th</sup> November, 2015. (**Resource Person for the entire workshop**)

**Invited Delegate** in the Workshop on “UASB-DHS Integrated System-A sustainable sewage treatment technology” organized by JICA and JST at New Delhi, India, October, 2014

**Resource Person** for “Training of laboratory assistants and teacher-in-charges of school laboratories of Sikkim government secondary schools on the use of school laboratories” North East Regional Institute of Education (NERIE), National Council of Educational Research and Training (NCERT), Shillong, Meghalaya from 10<sup>th</sup> to 14<sup>th</sup> February, 2014.

**Resource Person, DST-INSPIRE Science Camp** (23<sup>rd</sup> -27<sup>th</sup> December, 2013), Tezpur University Campus.

**Resource Person** “DST-INSPIRE Science Camp (11<sup>th</sup> -16<sup>th</sup> December, 2012), Tezpur University Campus.

## DISCIPLINE AND INSTITUTE COMMITTEES

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- **Invited Senate Member, IIT Gandhinagar (2018- till date)**
- **Coordinator for Earth Science Lecture Series: Faculty advisor** for M.Tech and PhD.
- **Developing the webpage** for the discipline, which is functional now.
- PhD Admission **Panel Coordinator** in Phase –I and II 2017-2018 (Sem II).
- Member MTech/PGDIIT **Admission Committee**.
- **Coordinated PRL (Geoscience)-IITGN (Earth Science)** roundtable discussion for possibility of joint academic program.
- Planned and pursuing the process for **Earth Science Laboratory establishment**.
- **Doctoral Committee Member** of PhD student at the discipline.
- Progress evaluation **committee member** of two Post-doctoral fellows at the discipline.
- **Coordinated the recruitment** of two Post-doctoral fellows for the discipline.
- **Coordinator** of Centre for Sustainable Development
- **Member of the Faculty Search Committee (Earth Science Representative)** 2018-19
- **Member of Green Campus Committee. (2018-onwards)**
- **Panel member** of CDS mock viva and Grievance cell.
- **Doctoral Committee Member** of two PhD students outside of the discipline.
- Member of **library committee** (2017-2018).
- Member of **grade verification committee**.
- Supported School Children Outreach Program and Gujarat Maritime Training Program as well as **Design for Billion Program as resource person**.
- **Member** of Purchase Committee for more than 15 instruments.
- **External member** in PhD admission of Mathematics and Civil Engineering.
- **Member** of counselling committee for B.Tech students.

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 PROFESSIONAL DEVELOPMENT
 

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- University of Nebraska Lincoln (UNL)**, NE, USA, Visiting Faculty under WARI fellowship, May, 2016 to March, 2017.
- Indian society for technical education (ISTE)** Short term training programme (STTP) on Environmental Studies, Indian Institute of Technology, Bombay, 2<sup>nd</sup> to 12<sup>th</sup> June, 2015
- UGC sponsored orientation course**, Jawaharlal Nehru University (JNU), New Delhi, India, 10<sup>th</sup> November to 5<sup>th</sup> December, 2014
- Indo-German Partnering Post Kolleg Workshop** on 3D GIS and Hydrogeological Flow Modelling, Jawaharlal Nehru University (JNU), New Delhi, India, 10<sup>th</sup> to 12<sup>th</sup> February, 2013
- Agricultural Runoff and Eutrophication**, Khon Kaen University, Thailand, August, 2008
- Training course of Info Works**: Simulation of combined sewer over (CSO) flow in an urban setup, University of Tokyo, Japan, May, 2008
- Hydrological Modeling and Subsurface Hydrology**, Uppsala University, Sweden, August, 2005 to February, 2006
- Short term training course on Mathematical Models in Hydrogeochemistry**: Assessment of Ground Water Quality and Management, Jawaharlal Nehru University (JNU), New Delhi, India, 19<sup>th</sup> September to 5<sup>th</sup> October 2005
- Mathematical Modeling of Ground Water Flow and Mass transport through theory and hands on training**, Jawaharlal Nehru University (JNU), New Delhi, India, November, 2004
- Groundwater Dynamics in hard rock Aquifer**, IFCGR/NGRI, Hyderabad, India, June, 2004
- Hand on Training Workshop** on “Remote sensing and its application”, Centre for Environment Planning and Technology, Ahmadabad, India, 17<sup>th</sup> to 21<sup>st</sup> October 2002
- National Workshop on Water Quality** (including drinking water), Jawaharlal Nehru University (JNU), New Delhi, India, 1<sup>st</sup> & 2<sup>nd</sup> February, 2002

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 7. AWARDS AND HONORS
 

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- **Fellow, The Royal Society of Chemistry** admitted on May, 2020.
- **Letter of Appreciation for Teaching (2019-2020)** from Dean (Academic), IIT Gandhinagar.
- **Awarded Faculty Research Award** by Careers 360 for being the top 10 knowledge producers in India for the academic year 2017-2018 in Environmental Science Discipline.
- **Associate Editorships** of three international journals including of Elsevier.
- **Editorial Board Membership, Nature Partner Journals (NPJ) Clean Water**
- **Managing Guest Editor (MGE) for Journal for Hazardous Material and J of Environmental Management.**
- **Invited Member of Global collaboration on Wastewater-Based Epidemiology of COVID-19.**
- Elected as **South Asian Convener, International Water Association (IWA) Specialist Group**, Metals and Related Substances in Drinking Water (METRELS) Since February 2018.
- Elected as the member of **National Level Executive Committee** for India, International Water Association (IWA).
- **Waterquest Award for Research Excellence 2019** by Waterquest Hydroresources Management India Pvt Ltd for outstanding contribution in Water & Wastewater Segment in India.
- **Best Poster Award (2018)** at National Symposium on Environment (NSE), IITGN, Gandhinagar, India, December, 13 to 15<sup>th</sup>, 2018.
- **Best Research Paper Award (2018)** at 6<sup>th</sup> International Symposium on “Advances in Civil and Environmental Engineering Practices for Sustainable Development” (ACEPS-2018).
- **Water Advanced Research and Innovation (WARI) Fellowship (2016)** supported by the Department of Science and Technology, Govt. of India, the University of Nebraska-Lincoln (UNL), the Daugherty Water for Food Institute (DWFI) and the Indo-US Science and Technology Forum (IUSSTF).

- **Research Grant Award (2014)** by Kurita Water and Environment Foundation (KWEF), Tokyo, Japan
- **Best Poster Award (2013)** as co-author at "1<sup>st</sup> International Forum on Asian Water Environment Technology (IFAWET)" held in Jawaharlal Nehru University, New Delhi.
- **Best Poster Award (2013)** as co-author at the workshop on "Water Quality: Status and Strategies" Organized on 12<sup>th</sup> & 13<sup>th</sup> December, 2013 by Water and Sanitation Support Organization (WSSO), Public Health Engineering Department, Govt. of Assam, IIT Guwahati and UNICEF.
- **Best Research Award (2012)** with travel support at the 4<sup>th</sup> IWA Asia-Pacific Young Water Professionals (APWYP-2012) conference, Tokyo.
- **Japan Society for the Promotion of Science (JSPS) Post-doctoral fellowship (2010-2012)** The University of Tokyo, Japan.
- **Post-doctoral fellowship (2009)** under Brain-Korea (BK-21) project, Kunsan National University, South Korea.
- **Young Researcher Fund (2007)** from JSPS Centers of Excellence (COE), Tokyo, Japan.
- **Monbukagakusho Scholarship (2006)** in Environmental Sciences through HRD ministry of India.
- **Linnaeus-Palme stipend (2005)** as an exchange student from SIDA, Sweden.

## ACCOMPLISHMENTS

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- **h-index =28, i10-index=52** with total **citation (>2900)** as per Google Scholar (as on 30<sup>th</sup> July, 2020).
- **Research Gate Score (38.83)** is above **95 %** of the RG members worldwide (as on 30 July 2020).
- **Reviewer of** Research Proposal from Govt of India flagship **STARS** (Scheme for Translational and Advancement Research in Sciences).
- Accomplished **Four special issues** for international journals as the **Lead Guest editor**.
- Six PhD awarded and 23 M.Sc., 3 M. Tech and 1 M.A thesis completed under my supervision.
- **Member, Volunteer Committee, International Geological Congress (IGC) 2020**
- **Reviewer** for Major Research Proposal submitted to the Ministry of Earth Sciences (MoES).
- Our publication "Occurrence and fate of emerging contaminants in water environment: A review" is on the top in the **most downloaded paper's list for the journal**.
- **Kumar et al., 2009** entitled "Nutrient chemistry and salinity mapping of the Delhi aquifer, India: source identification perspective" **appeared on the cover** of Environmental Geology: 56 (6).
- **Certificate of Outstanding Contribution in Reviewing** awarded in recognition to the contribution to journal Water Research, Chemosphere, Science of the Total Environment and several others.
- Kumar et al., 2006 secured first position in the list of most viewed/downloaded paper of the Environmental Geology.
- **Second position** in the All India Entrance Examination-2002 for M.Phil / Ph.D. in Environmental Sciences (Area-II) of Jawaharlal Nehru University, New Delhi.
- **National Eligibility Test (NET)** for Lectureship in **Environmental Sciences (December 2003)** conducted by University Grant Commission (UGC), India.
- **National Junior Research Fellowship / National Eligibility Test (JRF/NET)** for Lectureship in **Life Sciences (December 2003)**, conducted by Council for Scientific and Industrial Research (CSIR), India.
- Won the **first prize** in Remote sensing training program, held at Ahmadabad, in 2002.

DATE: 08<sup>TH</sup> AUGUST, 2020

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