

DR. SARAH QAZI

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I am teaching hydrogeology and environmental geology to postgraduate students of Applied Geology. have 8+ years of experience in the areas of physical and contaminant hydrogeology in semi-arid, temperate-cold regions, Hardrock and alluvium geological settings, hydrogeophysics, hydrogeology, groundwater simulations, modeling, and hydrogeochemistry.

AWARDS and HONORS:

1. *Young Scientist Award* in Groundwater studies-2018 (INC-International association of hydrogeologists)
2. *INSPIRE FACULTY Award*, Govt. of India
3. *CSIR-Research Associateship*, CSIR, India
4. *Sandwich fellow, Ph.D. fellowship* (Govt. of France). 2009
5. *Fellow, Geological Society of India*

Areas of Strength Include

Hydrogeology	Hydrogeochemistry	Mentoring Ph.D. and PG
Climate change and water resources	Field-based Experiments	Students
	Research and Publications	Workshop and Seminars

TECHNICAL SKILLS

- **Hydrogeological Modelling:** Expertise in modelling groundwater flow and contamination spread.
- **Geospatial Analysis:** Proficiency in GIS tools for mapping and analysing hydrological data.
- **Climate Impact Analysis:** Understanding of how climate change affects water resources.
- **Project Management:** Experience in leading and coordinating research or field projects.
- **Sustainable Water Management:** Knowledge of strategies for managing water resources sustainably.

ACADEMIC BACKGROUND

- **PDF (CSIR-Research Associate)-** CSIR-National Geographical Research Institute, Hyderabad, India-2016
- **Ph.D. (Geology)-**
 - Lab- *CSIR-National Geophysical Research Institute, India and Universite Pierre et Marie Curie, Paris, France*
 - Specialization: Hydrogeology
 - Topic: - Evaluation of groundwater renewability under polluting environment and determining its indicators for planning and management.

Graduation	Sub	YEAR	University
Ph.D.	Geology	2013	CSIR-NGRI-Lab Univ- Osmania University
M.Sc.	Applied Geology	2007	University of Kashmir
B.Sc.	English, Geography, Geology, Zoology	2005	University of Kashmir

CURRENT EXTERNALLY FUNDED PROJECTS

1. **As Principal Investigator – Awarded-** Role of extreme weather patterns in shaping Vadose zone hydrology, DST-Core Research Grant (65 lakhs)
2. **As Co-Principal Investigator: Ongoing –** “Center of Excellency for glacial studies in Western Himalayas.” (4.5 crores, DST)
3. **As Principal Investigator: INSPIRE Project - Completed** “Role and Importance of Baseflow process in the coupled hydrodynamics of Surface and Groundwater. (100 lakhs, 95 salary and 35 Lakhs research grant , DST)

MAJOR RESEARCH WORK

- **Led** the project “The role and importance of baseflow in western Himalayan watersheds, the impacts of climate change on baseflow, and its contribution to surface water resources are being examined using geophysical, stable isotopes, and hydrochemistry data.
- **Developed** conceptual model of the baseflow process in glaciated and non-glaciated mountainous watersheds.
- **Investigated** numerical, contaminant, and transport modeling of Hard rock aquifers and assessed the impact of climate change on groundwater sustainability.
- **Investigated** the *implications of watershed development policies in Southern India and also provided better-designed WSD policies for the management of groundwater.*
- **Developed** Groundwater modelling of a crystalline aquifer and analysed the potential of natural percolation tanks as managed aquifer recharge sites.
- **Designed** an Optimal monitoring network for the arsenic-contaminated zones in the lower and middle Ganges.
- **Devised** a statistical methodology and formula to quantify the contaminated water and its volumetric assessment in a long-time span. The effect of Contaminants on the renewability of groundwater was also assessed.

GLOBAL EXPOSURE

- **France** 5-13, Dec. 2022 “UNESCO, Global Groundwater summit.
- **IRAN** Dec 10-12, 2018, Asian GWADI meeting the 8th Meeting of the Asian G-WADI Network. G-WADI is the UNESCO Program for Water Management in Arid and Semi-Arid countries. Invited to talk about groundwater sustainability and management.
- **BELGRADE, SERBIA** June 9-11, 2016, Invited lecture on “Groundwater sustainability scenario in hard rocks- as a case study from India”, IWA specialist groundwater conference,
- **IRAN** June 13-17, 2015, Asian GWADI meeting. The 6th Meeting of the Asian G-WADI Network-WADI is the UNESCO Program for Water Management in Arid and Semi-Arid countries. Invited to talk about groundwater sustainability and management.
- **Australia** Nov. 03-16, 2013, ACIAR funded project: Discussions on the project work carried out in Indian study areas and the work elements relevant to watershed development in India. A visit to similar studies carried out in Australia and fieldwork.
- **China** Sept. 16-21, 2013, Asian GWADI Workshop: Participated and interacted in the International Workshop on Remote Sensing and Eco-hydrology in arid regions at CAREERI and CAS in Beijing, participated in the brainstorming discussions regarding the planning and management of water resources in water-stressed regions of Asia and Latin America
- **France** May-Dec. 2009 Sandwich Ph.D. fellow Carried out part of the doctoral research at Université, Pierre et Marie Curie, Jussie, Paris

RESEARCH FACILITIES DEVELOPED AT THE UNIVERSITY OF KASHMIR:

1. VES geophysical instrumentation
2. Automatic water level loggers
3. Flowmeter
4. Water quality sensors
5. Mini Piezometers
6. Discrete water samplers and Bladder pumps
7. Laser-based water level recorders
8. Outdoor Lab Facilities

GLOBALLY/NATIONALLY INVITED LECTURES.

1. Sarah S (2022)” Threat to groundwater renewability due to prolonged contamination and impact of Climate Change” UNESCO Groundwater Summit in Paris to be held on December 6-7, 2022.
2. Sarah, S (2016) “Groundwater sustainability scenario in hard rocks- as a case study from India”, IWA specialist groundwater conference, 9-11 June, Belgrade, Serbia.

3. Sarah, S (2016). “Hardrock compartmentation – a key factor to determine and plan groundwater sustainability in crystalline aquifers. 12-15th May 2016. Center of Earth Science, Indian Institute of Science –Bangalore.

4. Sarah, S 2015. “Groundwater security issues of over-exploited and contaminated crystalline aquifer- Groundwater balance and virtual groundwater loss as an indicator” 13-17 June 2015. Sponsored by UNESCO, RCUWM- Tehran, Iran,

MEMBERSHIP OF THE SCIENTIFIC SOCIETIES:

1. Member of the International Association of hydrogeologists (IAH).
2. YES Membership (Young Earth Scientist)
3. Member of the International Association of Hydrological Sciences (IAHS).
4. YES Membership (Young Earth Scientist)
5. Geological Society of India (GSI)
6. Indian Geomatics Society
7. Indian meteorological Society

EMPLOYMENT HISTORY

Organization	Designation	Duration
Department of Earth Science, University of Kashmir, India	Regular Faculty (Assistant Professor EQV)	April 2022 – present
Department of Earth Science, University of Kashmir, India	INSPIRE Faculty (Assistant Professor EQV)	April 2016 – 4th April 2022
CSIR-National Geophysical Research Institute	CSIR-RA	Oct-2014- Apr. 5 th , 2016
CSIR-National Geophysical Research Institute	Project Scientist	May-2013 to Oct 2015

DUTIES @ University of Kashmir:

- Teaching Hydrogeology, Environmental Geology to post-graduate students.
- Direct Hydrogeology related research programs for post-graduate students and Ph.D. scholars.
- As a member of the board of studies of the Geoinformatics program, design a hydro informatics-related curriculum for the post-graduate course of Geoinformatics.
- Act as a Principal investigator and Co-principal Investigator of various projects in the field of Hydrogeology.

PROFESSIONAL CERTIFICATIONS

- “Remote sensing and GIS Technology and applications for university teachers and Govt. officials” 13 June to 1ST July 2020, IIRS- Indian Space Research Organization, Hyderabad, India
- Applied groundwater flow and contaminant modeling “Schlumberger water services” 27-28th January 2014, Hyderabad, India.
- International training workshop on “Surface geophysics for groundwater “, 2-12 December 2014, Hyderabad, India by USGS and CSIR-NGRI
- Indo-US bilateral workshop on “Assessment of Regional Hydrology using spaceborne gravity observations”, 14th-16^h Nov 2016, CSIR-NGRI, Hyderabad.

PUBLICATIONS IN PEER REVIEWED JOURNALS:

1. **Sarah, S*.,** Shah, Waseem., Lauren, D. Somers., Shakeel Ahmed and Deshpande, R.D (2024) “What controls the complexity of baseflow generation in high altitude aquifers with complex geology” *Journal of Hydrology, Elsevier*. **Accepted IF 6.7**
2. **Sarah, S*.,** Shah, Waseem., Farooq A Dar., Arora, Tanvi, and Selles, Adrien (2024) Hydrodynamics and source characterization of high-altitude river using chemical and isotope signatures. **IF 9.8 (STOTEN, Revision)**
3. Salman Ahmed, Naseem Akhtar, Abdur Rahman, N.C. Mondal, Shadab Khurshid, **Sarah, S.**, Mohammad Muqtada Ali Khan, Vishal Kamboj (2022). Evaluating groundwater pollution with emphasizing heavy metal hotspots in an urbanized alluvium watershed of Yamuna River, northern India, *Environmental Nanotechnology, Monitoring & Management*, Volume 18, 2022, 100744, ISSN 2215-1532, **ELSEVIER**.
4. Dabas Jagriti., **Sarah, S*.,** Mondal, N.C and Shakeel Ahmed (2022). “Geostatistical spatial projection of geophysical parameters for practical aquifer mapping”. *Nature- Scientific Reports*, 12:464. **IF 5.1**
5. Mohammed Arshad, **Sarah, S.**, A. Chatterjee, V. Ajay Kumar, and S. Ahmed (2021). Integrated approach to delineate sites for implementation of managed aquifer recharge (MAR) structures in fluoridated crystalline aquifer of south India”. *Journal of Earth System Sciences, Springer IF 1.9*. 67 (2022). **ISSN: 0973-774X**
6. **Sarah, S*.,** Shah, Waseem, and Ahmed Shakeel (2021). “Modeling and comparing streamflow simulations in two different montane watersheds of western Himalayas”. *Groundwater for sustainable development GSD, Elsevier* 15 (2021) 100689.
7. **Sarah, S*.,** Shakeel Ahmed, Sophie Violette, Ghislain de Marsily, (2021)” Groundwater sustainability challenges revealed by quantification of contaminated groundwater volume and aquifer depletion in hard rock aquifer systems” *Journal of Hydrology, Elsevier*. Volume 597,2021, 126286, ISSN 0022-1694, <https://doi.org/10.1016/j.jhydrol.2021.126286>. **IF 6.7**
8. Amir Hamza Moin Ansari., Rashid Umar., Naseem us Saba., **Sarah, S** (2021). “Assessment of current and future groundwater stress through varied scenario projections in an urban and rural environment in parts of Meerut district, Uttar Pradesh in Ganges sub-basin” *Journal of the*

Geological Society of India” (97): 927-934. **IF 1.4. SPRINGER NATURE, ISSN: 00167622, 09746889**

9. Chatterjee, A., **Sarah, S.**, Sreedevi, P.D., Selles, Adrien and Ahmed, S (2017) “Demarcation of fluoride vulnerability zones in a granitic aquifer, semi-arid region, Telangana, India, “*Arabian Journal of Geosciences*” **SPRINGER** ISSN: 1866-7511 (Print) 1866-7538 (Online), <https://doi.org/10.1007/s12517-017-3334-0>. **IF 1.827**
10. Sonkamble, S., Wajihuddin, M., Jampani, M., **Sarah, S.**, Somvanshi, V.K. Ahmed., Amerasinghe, S.P., and Boisson., A (2017) “Natural treatment system models for wastewater management: a study from Hyderabad, India, “*Water science and technology*” **IWA Publishing, London, UK, wst2017565**; DOI: **10.2166/wst.2017.565. IF 2.430**. 77 (2): 479–492. ISSN 2731223
11. Starkl, M., Brunner, N., Amerasinghe, P., Mahesh, j., Kumar, D., Aslekar, S., Sonkamble, S., Ahmed, S and **Sarah, S.** (2015). “Stakeholder Views, Financing and Policy Implications for Reuse of Wastewater for Irrigation: A Case from Hyderabad, India “*Water Journal*”, 7 (300-328)., DOI: 10.3390/w7010300. **MDPI. IF-3.530**. ISSN 2073-4441
12. **Sarah, S.**, Ahmed, S., Boisson, A., Violette S and Marsily G. de (2014). “Projected groundwater balance as a state indicator for addressing sustainability and management challenges of over-exploited crystalline aquifers”. “*Journal of Hydrology*”. Vol 519:1409-1422. DOI: 10.1016/j.jhydrol.2014.09.01, **ELSEVIER. IF- 6.7**. ISSN 0022-1694
13. Boisson, A., Baisset, M., Alazard, M., Perrin, J., Villesseche, D, Kloppmann, W., Chandra, S., Dewandel, B., Picot-Colbeaux, G., **Sarah, S.**, Ahmed, S., Maréchal, JC (2014). Comparison of surface and groundwater balance approaches in the evaluation of managed aquifer recharge structures: Case of a percolation tank in a crystalline aquifer in India. *Journal of Hydrology*. Vol 519: 1620-1633, DOI: 10.1016/j.jhydrol.2014.09.022. **ELSEVIER IF- 6.7**. ISSN 0022-1694
14. Sreedevi, P D., **Sarah S.**, Gandolfi J M and Ahmed S (2013) Relevance of hydrogeological parameters in artificial recharge sites selection and assessment in a granitic aquifer “ *Int. J Hydrology Science and Technology*.vol 3 pp 270-288, **INDERSCIENCE. ISSN 2042-7816**
15. **Sarah, S.** Jeelani, Gh. and Ahmed, S. (2011) “Assessing variability of water quality in a groundwater-fed perennial lake of Kashmir Himalayas using linear Geostatistics”, *Journal of Earth System Science*, Vol 120(3):399-411. **SPRINGER, IF-1.912**

IN PROCEEDINGS:

16. **Sarah, S.**, S. Adil Mizan and Shakeel Ahmed³ Integrated Decision Support Tools for the demand management making groundwater sustainable The 8th Meeting of the Asian G-WADI Network. December 10th – 12th, 2018, Mashhad Iran.
17. Sreedevi P. D., **Sarah, S** and Ahmed, S (2008). Public participation in measuring rainfall provides adequate variability assessment for estimation. Conference proceedings: *Global climate change and water resources* ' World Aqua congress. 26-29 Nov, 2008, New Delhi. India.

18. **Sarah, S** and Ahmed S (2009). Eliminating biasness at various stages of aquifer modeling. Conference proceedings: *Enhancing water use efficiency*. III world Aqua congress, 2-4 Dec. 2009, New Delhi. India

PUBLICATIONS IN EDITED BOOKS:

19. Sarah Sarah*, Shah Waseem and Shakeel Ahmed (2024). “Unveiling Baseflow Dynamics in Mountainous Catchments: Insights from Stable Isotopes and SWAT Modeling in the Upper Indus Basins”. In S Talukdar, S Fahad, S Pal, M W Naikoo, S Ahmed (Eds) “Water Resource Management in Climate Change Scenario” Springer-Nature. (Accepted)
20. **Sarah, S.**, * Ira Khan., Rikza Imtiyaz., Atiqur Rahman and Shakeel Ahmed (2024). In Khare, N (Eds). “Groundwater potential in India: Challenges and threats of Climate change scenario.” *Climate Changes – Challenges, Science, Policies and Geopolitics: Indian perspectives and Recent insights*. **Wiley** (Accepted)
21. Sreedevi P. D., **Sarah, S** and Ahmed, S and Pavelic, P. (2019) In Reddy, VR, Syme, G.J. and Chiranjeevi, T (Eds.). “Geohydrology context” *Integrated Approaches to sustainable Watershed Management in Xeric Environments*. Pages 27-38 ISBN: 978-0-12-815275-1 **ELSEVIER**
22. **Sarah, S.** and Ahmed, S. (2015) Beyond solving PDE for groundwater management: Reducing parameters uncertainties/biasedness through Geostatistics, a chapter In Thangarajan, M. and Singh V.P. (eds.) *Groundwater: Assessment, Modeling, and Management*, Accepted, CRC Press (**A unit of Taylor & Francis Group, UK**).
23. Ahmed, S., Aroral, T., **Sarah, S.**, Dar, F.A., Warsi, T., Gaur, T.K., and Raghuvender, P. (2015) “Viewing Sub-Surface for an Effective Managed Aquifer Recharge from a Geophysical Acumen” Chapter 19 In Thomas Wintgens, Anders Nätörp, ElangoLakshmanan and Shyam R. Asolekar (Eds.) *Natural Water Treatment Systems for Safe and Sustainable Water Supply in the Indian Context: SaphPani*, **IWA Publishing Co, UK**. PP: 302-315. ISBN: 9781843393443
24. Boisson, A., Alazard, M., Picot-Colbeaux, G., Pettenati, M., **Sarah S**, Perrin, J., Dewandel, B. Ahmed, S., Maréchal, J.C. and Kloppmann, W. (2015) Percolation basins for augmenting Hardrock aquifers - an example from the Maheshwaram watershed, Chapter 7 In Thomas Wintgens, Anders Nätörp, Elango Lakshmanan and Shyam R. Asolekar (Eds.) *Natural Water Treatment Systems for Safe and Sustainable Water Supply in the Indian Context: SaphPani*, **IWA Publishing Co, UK**. PP- 113-125 In-Press ISBN: 9781843393443
25. Amerasinghe, P., Sonkamble, S., Jampani, Mahesh., Md. Wajihuddin., Elango, L., Starkl, Markus., **Sarah, S.**, Md. Fahimuddin and Ahmed, S.(2015). Developing integrated management plans for natural treatment systems in urbanized areas –case studies from Hyderabad and Chennai” Chapter 15 In Thomas Wintgens, Anders Nätörp, Elango Lakshmanan and Shyam R. Asolekar (Eds.) *Natural Water Treatment Systems for Safe and Sustainable Water Supply in the Indian Context: SaphPani*, **IWA Publishing Co, UK**. PP-251-264, ISBN: 9781843393443
26. Kloppmann,W., Sandhu,C., Groeschke,M., Pandian, R. S., Picot-Colbeau,G., Fahimuddin,M., Ahmed,S., Alazard,M., Amerasinghe,P., Punit Bhola, Boisson,A., Elango,L., Feistel,U., Fischer,S., Ghosh, N.C.,Grischek,T., Grützmacher,G., Hamann,E., Nair, I.S., Jampani,M.,Mondal, N.C., Monninkhoff, B., Pettenati,M., Rao,

S., **Sarah,S.**, Schneider,M., Sklorz,S., Thiéry, D., and Zabel, A (2015). Modeling of natural water treatment systems in India: learning from the SaphhPani case studies. Chapter14 .In Thomas Wintgens, Anders Nättorp, Elango Lakshmanan and Shyam R. Asolekar (Eds.). *Natural Water Treatment Systems for Safe and Sustainable Water Supply in the Indian Context: SaphPani*, **IWA Publishing Co, UK**. PP-227-249, ISBN: 9781843393443

27. Sreedevi, P.D., **Sarah, S.**, Alam, F., Ahmed, S., Chandra, S. and Pavelic, P. (2014) Investigating Geophysical and Hydro-geological Variabilities and their Impact on Water Resources in the Context of Meso-Watersheds, Chapter 3 In Reddy, VR and Syme, G.J. (Eds.) *Integrated Assessment of Scale Impacts of Watershed Interventions: Assessing Hydro-geological and Bio-physical Influences on Livelihoods*, Pages 58-84. ISBN: 978-0-12-800067-0 **ELSEVIER**

28. Ahmed, S., **Sarah, S.**, Nabi, A. and Owais, S. (2010) Performing unbiased groundwater modeling: application of the theory of regionalized variables, Chapter 5, In H. Wheater, S. Mathias and Xin Li (eds.) “*Groundwater Modelling for Arid and Semi-arid areas*”, **Cambridge University Press**, pages:63-74. ISBN 978-0-521-11129-4

LIST OF PUBLICATIONS CURRENTLY UNDER REVIEW:

- 1.** **Sarah Sarah*** and Ahmed Shakeel (2023). Conceptual model of Hardrock high mountain aquifers. **Hydrogeology Journal, Springer, IF 3.2**
- 2.** Fauzia Fauzia., Abdur Rahman., **Sarah Sarah.**, Shakeel Ahmed., V. M. Tiwari (2023) “Evaluation of Spatial variability conditioned with temporal variability in infiltration rates in fast-changing land-use conditions of the semi-arid watershed. (Under review) **Groundwater for Sustainable development, Elsevier.**
- 3.** **Sarah Sarah*** and Ahmed Shakeel (2023). “Climate change impacts on Global groundwater processes and future challenges”. *Earth Science Reviews*, **Elsevier. IF (12)**. (Under review)

INTERNATIONAL/ NATIONAL CONFERENCES ATTENDED:

- *3-Day International Conference on Sustainable Development Goals with special focus on Climate Action” 8-10th August.”* Baseflow complexities and controls in high-altitude aquifers with complex geology” . Islamic University of Science & Technology, Kashmir, J&K.
- International Association of Hydrogeologists, Paris- Online conference “Groundwater, the key to the Sustainable Development Goals” May 18-20, 2022. “What controls the complexity of baseflow generation and contribution to streams in watersheds with complex geology”

- Asian GWADI. The 8th Meeting of the Asian G-WADI Network. IRAN Dec 10-12, 2018.

G-WADI is the UNESCO Programme for Water Management in Arid and Semi-Arid countries.

Invited talk on groundwater sustainability and management

- 13th JK Science Congress, 2nd-4th April, 2018. Paper presented “Application of SWAT model for Streamflow”

- **Sarah, S.**, S. Adil Mizan, and Shakeel Ahmed “Integrated Decision Support Tools for the demand management making groundwater sustainable” The 8th Meeting of the Asian G-WADI Network. December 10th – 12th, 2018, Mashhad Iran.

- **Sarah, S** “Groundwater security issues of over-exploited and contaminated crystalline aquifer- Groundwater balance and virtual groundwater loss as an indicator, June 13-16, 2015. The 6th Meeting of the Asian G-WADI Network. RCUWM, Islamic Republic of Iran.

- **Sarah, S** and Shakeel Ahmed. “Assessment of the Virtual loss of groundwater- a key to managing aquifers in the fractured environment”, Hard-Rock Aquifers: the up-to-date concepts and the practical applications. **June 2015**” 20th International Association of Hydrogeologists, French Chapter Technical days.Paris France.

- Sreedevi P.D., Sarah, **S** and Shakeel Ahmed. “How healthy are our aquifers”, National Conference on spatial technologies for disaster management, 23-24 January 2015. INCOIS, AP, Hyderabad

- Nagaiah. E., Mondal, N.C., **Sarah, S.** and Ahmed S “ Zeolites as Natural Groundwater Filters in Deccan Volcanic Province (DVP), India”. 25th – 28th January 2015, 2nd Euro-Asia Zeolite Conference, Nice, France

- **Sarah, S,** and Shakeel Ahmed “Drawing the lines before the disaster knocks- Extensive groundwater withdrawal and negative groundwater balance”, National Conference on spatial technologies for disaster management, 23-24 January 2015. INCOIS, AP, Hyderabad,

- **Sarah, S,** and Shakeel Ahmed Surface-Ground Water interaction; a key issue in Coastal Zone Management”, India-EU workshop on Coastal zone management and its impact on society. 6th -9th October 2014, Kerala, India

- **Sarah, S,** and Shakeel Ahmed “Hard rock aquifers in semiarid regions of Krishna Basin” International Workshop on “Remote sensing and Eco hydrology in Arid regions `` (G-WADI) Sep 16-20, 2013 in Beijing, China.
- **Sarah, S** and Shakeel Ahmed “Diagnosing the aquifer health and qualitative renewability of the system at various time scales in a granitic environment” 5th International groundwater conference, 18-21 Dec. 2012, Aurangabad India.
- **Sarah, S,** Deepa N. Kapardar, FakhreAlam, PD Sreedevi, NC Mondal, A. Boisson and S. Ahmed (2012) Enhanced spatiotemporal variability of monsoon under climate change is favorable to surface water and consequently to the rivers, but adverse for the groundwater, presented at the 3rd annual symposium “Response of Asian Rivers to Climate Change – Past, Present, and Future Scenario” at the CSIR-NGRI during, 14–16 November 2012.
- **Sarah, S,** Sreedevi P.D., Shakeel Ahmed “*Efficacy of the artificial recharge through defunct dug wells- Extreme events versus uniform rainfall*” EU-India STI cooperation days, Hyderabad, India 8-9 November 2012
- **Sarah, S,** and Shakeel Ahmed “Is unbiased Aquifer modeling achievable? Indo- Tunisian Joint workshop for Water Science and Technology 1st to 5th Feb 2012, Hyderabad, India.
- **Sarah, S,** and Shakeel Ahmed “Diagnosing the aquifer health and ascertaining the renewability of the system at various time scales in the granitic environment” 48th Annual convention IGU. Dec 20-22 2011, Vishakapatnam.
- **Sarah, S,** Shakeel Ahmed, and Jerome Perrin “*Risks in groundwater resource assessment of a granitic aquifer and its minimization by changing cropping pattern*”.Earth is on the edge. 28th June -7thjuly 2011. IUGG 2011 General assembly, Melbourne, Australia. Accepted for Oral Presentation.
- **Sarah, S,** and Shakeel Ahmed “*Removing biasness at each step of Aquifer modeling make it more applicable for prediction and management*”.Earth on the edge. 28th June -7thjuly 2011. IUGG 2011 General assembly, Melbourne, Australia.
- **Sarah, S.,** Sreedevi P.D and Shakeel Ahmed “*Quantifying the Artificial Recharge through defunct dug-wells (large diameter) and evaluating the impact of uniform rainfall as well as extreme*

events”, Earth on the edge. 28th June -7th July 2011. IUGG 2011 General assembly, Melbourne, Australia

- **Sarah, S** and Shakeel Ahmed “A new Geostatistical method that decides the Priority index of Measuring points in the, for Oral presentation. Earth on the edge. 28th June -7th July 2011. IUGG 2011 General assembly, Melbourne, Australia

- **Sarah, S**, and Shakeel Ahmed (2010) “Unbiased aquifer modeling is achievable using Geostatistics”, 7th AOGS, 5- 9 July 2010, Hyderabad, India

- **Sarah, S** and Shakeel Ahmed (2009) “Eliminating biasness at various stages of groundwater modeling using geostatistics”. World aqua congress 3rd. 2-4 Dec 2009, New Delhi, India.

- **Sarah, S**, Rafia Rashid, Gh. Jeelani (2008) “Water Quality of Manasbal Lake in Kashmir and establishing its Potability”, Presented in National symposium on “Water Resources in India: Concerns, Conservation and Management, November 1-3, 2008, Kashmir University, Srinagar, India.

- Sarah, S, Rafia Rashid, Gh. Jeelani (2008) “Categorization of water quality in Manasbal Lake in Kashmir and assessment of its suitability for various utilization”, presented in National Seminar "Environmental Management in Mining and Allied Industries (EMMA-2008)", November 7-8, 2008, Banaras Hindu University, Varanasi, India.

- Sreedevi, P.D., Sarah, S and Shakeel Ahmed (2008) “Community involvement in measuring the rainfall in a small watershed”, Presented during the 1st Arab conference on Astronomy and Geophysics (ACAG-1), October 20-22, 2008 Cairo, Egypt.

- Sreedevi, P.D., Sarah, S, Mehnaz Rashid., KissaFatimaand Shakeel Ahmed (2008),” Impact of Changing hydrological cycle on Fluoride concentration in groundwater in a granite aquifer in a semi-arid region”, Presented during the 1st Arab conference on Astronomy and Geophysics (ACAG-1), October 20-22, 2008 Cairo, Egypt

TRAINING PROGRAMMES ATTENDED

- Indo-US bilateral workshop on “Assessment of Regional Hydrology using space-borne gravity observations”, 14th-16h Nov 2016., CSIR-NGRI, Hyderabad
 - International workshop cum training course on “Advanced geophysical techniques for aquifer mapping”, May 28th -30th 2014. Hyderabad, India.
 - Applied groundwater flow and contaminant modeling “Schlumberger water services” 27-28th January 2014, Hyderabad, India.
 - Field training and workshop on “Impacts of mesoscale Watershed Development in Andhra Pradesh (India) and their implications for designing and implementing improved WSD policies and programs, 3-16th Nov 2013, Edith Cowan University, Perth Western Australia and Adelaide, Southern Australia
 - International Workshop on “Remote sensing and Ecohydrology in Arid regions `` (G-WADI) Sep 16-20, 2013 in Beijing, China.
 - International Workshop on Managed Aquifer Recharge: Methods, hydrogeological Requirements, Post and Pretreatment Systems. 15-16 December 2012, Funded by European Commission (FP7) Programme Anna University, Chennai.
-