

**DR. TANVI ARORA**  
**CSIR-NGRI, HYDERABAD, INDIA**

<http://scholar.google.co.in/citations?hl=en&user=tGng-JwAAAAJ>

**NGRI RESEARCH GROUP:**

Hydro-Geophysics, Ground Water

**FIELD OF SPECIALIZATION:**

- Hydro-Geophysics, Time Lapse Electrical Resistivity Tomography (TLERT), Self Potential methods, Magneto-telluric methods, Numerical Modelling. Geostatistics

- Education:

2008            Ph.D. Geophysics, Osmania University, India  
2001            M.Tech. Applied Geophysics, Kurukshetra University, India  
1998            B.Sc. Mathematics, Physics, and Chemistry, Rohailkhand University, India

**PROFESSIONAL EXPERIENCE:**

08/08-            **Scientist**, National Geophysical Research Institute, Hyderabad, India  
04/07-07/08      Project Assistant, National Geophysical Research Institute, Hyderabad, India  
04/04-04/07      CSIR Senior Research Fellow, National Geophysical Research Institute, Hyderabad, India  
10/05-10/06      ‘Sandwich’ Fellow for PhD, CNRS, Aix-en-Provence, France  
08/02-07/04      Project Fellow, National Geophysical Research Institute, Hyderabad, India.  
06/01-07/02      Teacher for Mathematics and Physics at St. Mary’s convent school, Bijnor

**SERVICE:**

**Reviewer**, Environmental Earth Science

**Reviewer**, Vadose zone Journal

**Member**, Indian Geophysical Union..

**AWARDS AND HONORS:**

- Elected as **Regional Representative (2011-2012)** for South-East and Far-East Asia, Young Earth Scientist (YES) Network ([www.networkyes.org](http://www.networkyes.org)), a program of International Year of Planet Earth (IYPE) under the patronage of UNESCO.
- Elected as the **Indian Representative (2010-2012)** for Young Earth Scientist (YES) Network, a program of International Year of Planet Earth (IYPE) under the patronage of UNESCO.
- Selected for a ‘Sandwich scholarship’ in Earthsciences for the year 2005 – 2006, by the **Ministry of External Affairs, Govt. of France** to pursue doctoral research work for one year at Centre Européen de Recherche et 'Enseignement des Géosciences de l'Environnement (CEREGE), Aix-en-provence, France. It is one of the prestigious scholarships and is being awarded to only 7 students in different streams. **I was adjudged as the only one candidate (out of 7 as a whole) and one from whole of Earth Science stream for a maximum duration (1 year) of the scholarship.**

- Chosen as ‘[Student Representative of India](#)’ to participate in International Quiz competition organized by Society of Exploration Geophysicist (SEG), at San Antonio, USA, 23-28 September, 2007.
- Received Gold medal for the ‘[Best Student Poster Presentation](#)’ at 7<sup>th</sup> International Conference and Exposition on Petroleum Geophysics organized by the Society of Petroleum Geophysicist (SPG) at Hyderabad in January 2008.
- PhD degree has been awarded in 2008 on “Geophysics and Geostatistics: An Integrated approach for characterizing and monitoring the unsaturated zone”
- Awarded with [Senior Research Fellowship from CSIR](#), India in 2004 till 2007 for pursuing PhD.

## PUBLICATIONS

### Book Chapters:

PSN Murthy, Tanvi Arora and Shakeel Ahmed, 2008, Applying Geostatistics: Basic Knowledge and Variographic analysis with Exercises, 150-171, Springer,

### Peer-reviewed Journal Publications:

#### International Journals

1. Tanvi Arora and Shakeel Ahmed, (2012). Variographic analysis of the electrical structure of south Indian unsaturated zone, Under Review in *Journal of Earth System Sciences*
2. Tanvi Arora and Shakeel Ahmed (2012). Contribution of geoelectric parameters to investigate the hydraulic characteristics of an aquifer in hard rock terrain, Under Review to *Hydrogeology Journal*

## 2010

1. Tanvi Arora and Shakeel Ahmed, (2010). Characterization of Recharge through complex vadose zone of a granitic aquifer by time-lapse electrical resistivity tomography. *Journal of Applied Geophysics*, 73, 35-44.
2. Tanvi Arora and Shakeel Ahmed, (2010). Electrical Structure of an Unsaturated Zone - A Case Study related to hard rock aquifer. *Current Science*, 99(2), 216-220

## 2009

1. Ajay Manglik, Tanvi Arora, S.Thiagarajan and Ayan Mallick, (2009). Intraplate stresses due to crustal heterogeneities along the Nagaur-Jhalawar transect, northwestern India. *Current Science*, 96 (6), 838-843.

## 2007

1. Tanvi Arora, Niklas Linde, Andre Revil, and J. Castermant, (2007). Non-intrusive characterization of the redox potential of landfill leachate plumes from self-potential data.

*Journal of Contaminant Hydrology*, 92, 274-292, doi:10.1016/j.jconhyd.2007.01.018. **Most Cited Article published since 2007, extracted from SciVerse Scopus.**

2. Linde Niklas, Damie Jougnot, Andre Revil, S. K. Mattha'i, Tanvi Arora, D. Renard, and Claude Doussan (2007), Streaming current generation in two-phase flow conditions, *Geophysical Research Letters*, 34, L03306, doi:10.1029/2006GL028878

## 2006

1. Sushobhan Dutta, N.S.Krishnamurthy, Tanvi Arora, V.A.Rao, Shakeel Ahmed (2006). Localization of water bearing fractured zones in a hard rock area using integrated geophysical techniques in Andhra Pradesh, India. *Hydrogeology Journal*, volume 14 (5), 760-766

### Expanded Abstracts:

## 2011

1. Tanvi Arora, Statistical analysis to relate resistivity and moisture in Vadose zone, Indian Geophysical Union, 48<sup>th</sup> convention, Vishakhapatnam, India
2. Tanvi Arora, P. Raghavender, Nicolas Guihéneuf, Alexandre Boisson and Shakeel Ahmed, Effects of pumping on vadose zone response of a granitic aquifer through resistivity measurements, 5<sup>th</sup> World Aqua Congress, November 16-18, New Delhi.

## 2010

1. Tanvi Arora, S. Thiagarajan, A. Manglik, Sedimentary thickness in the foreland basin south of the Sikkim Himalaya, IAGA WG 1.2 on Electromagnetic Induction in the Earth 20th Workshop, Giza, Egypt, September 18-24.

## 2008

1. A.Manglik, Tanvi Arora, S.Thiagarajan and Ayan Mallick, Intraplate stresses due to crustal heterogeneities along the Nagaur-Jhalawar transect, Northwestern India, Significant Milestones in the Growth of 25-26th June 08, Geophysics in India during the 50 years period: 1958-2008” National Geophysical Research Institute, Hyderabad

## 2006

1. N.Linde, B.Suski, A.Revil, T.Arora and C.Doussan. Self potential modeling of infiltration experiments in unsaturated sand. Presented at 18th International workshop on Electromagnetic Induction in the Earth EI Vendrell – 2006 Spain.

## 2005

1. Tanvi Arora, N.S.Krishnamurthy and Shakeel Ahmed. TLERT to decipher the unsaturated zone. Published and presented in the International conference on Hydrological perspectives for

sustainable development, 23-25 february, 2005 held at IIT, Roorkee, Allied Publishers Pvt. Ltd., vol. II, 846-852.

## 2004

1. Tanvi Arora and Shakeel Ahmed. Contribution of geoelectric parameters to investigate the hydraulic characteristics of an aquifer in hard rock terrain – A case study. Presented at 32nd IGC-Florence, 2004
2. Surendra Atal, Tanvi Arora, Faisal Kamal Zaidi, Sreedevi PD and Ahmed Shakeel. Distribution and variation of fluoride in groundwater in Maheshwaram watershed : Geogenic or anthropogenic? Presented in International conference on soil and groundwater contamination , December 8-11, 2004 p 115.
3. Tanvi Arora, N.S.Krishnamurthy and Shakeel Ahmed. Correlation of Hydro Geophysical Parameters of an Aquifer of a Watershed in Hard Rock Terrain. Published and Presented at 29th Annual convention of AEG, Guwahati, 2004.
4. N.S.Krishnamurthy, Tanvi Arora, Sushobhan Dutta, V.Ananda Rao and Shakeel Ahmed. Use of Very Low Frequency Method for characterizing the Lineaments. Presented in 5th conference & Exposition on Petroleum Geophysics, Hyderabad-2004, India pp 980-982.
5. Shushobhan Dutta, Tanvi Arora, N.S.Krishnamurthy, V.Ananda Rao and Shakeel Ahmed. A Quasi-3D representation in Resistivity Imaging Technique. Presented in 5th conference & expositon on Petroleum Geophysics, Hyderabad-2004, India pp 54-56.
6. Dutta, S., Krishnamurthy, N.S., Tanvi Arora., Rao, V. A., and Ahmed, S., Application Of 2D Resistivity Imaging As A Potential Geophysical Tool For Groundwater Investigation, Published and Presented at 29th Annual convention of AEG, Guwahati, 2004.
7. Surendra Atal, K.Subrahmanyam, Shakeel Ahmed, F.K.Zaidi, Tanvi Arora and P.D.Sreedevi. Behavior of fluoride in a granitic terrain, Maheshwaram Watershed, A.P. Presented at the 41st Annual convention of the Indian Geophysical Union, 29-31 December, 2004 p 62.

## 2003

1. Arora Tanvi and Ahmed S., 2003. Inferring High And Low Transmissive Zones As Well As Discontinuities In An Aquifer Using Spatial Correlation Of Water Levels. Accepted for presentation in the International symposium on ‘Quality assurance in hydrological research’, IUGG Assembly Japan, July 2003.
2. Tanvi Arora. Submerged Carbonate Platforms And Their Hydrocarbon Potential A Case Study In Kutch Deep Offshore, West Coast, India Through 2d Seismic Data. Abstract accepted for poster presentation in the IUGG Assembly, Japan, July 2003.
3. Tanvi Arora, Sreedevi P.D., Zaidi F.K., Ahmed S and Subramanyam K., Hydrogeological effects on the fluoride contents of groundwater in a granitic aquifer. In Singh VP and Yadava RN (eds), proceedings of ‘Water and Environmental’, vol.1, pp: 278-283, Allied Pub. Co. Pvt. Ltd., 2003.

## 2002

1. Ahmed S, Arora Tanvi, de Condappa D, Dewandel B, Krishnamurthy NS, Kumar D, Kumar S, Marechal JC, Saxena VK, Sreedevi PD and Subramanyam K. Indo-French Centre for

Groundwater research. Proceedings of the Diamond Jubilee workshop-1 on “The water crisis- Hope and action for humanity’s future’, In Subrahmanyam K(eds). Hyderabad 2002.

Summary of Student Activities:

***CURRENT STUDENTS***

NIL

***PAST STUDENTS***

**Dissertation Students**

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<b>1</b>	<b>Mr.Anil Kumar , Kurukshetra University, Haryana</b>	February 01 - April 30
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**EXTERNAL PROJECTS AS PL (PRESENT AND PAST)**

<b>Funding Agency</b>	<b>Project/Investigators</b>	<b>Amount (INR)</b>	<b>Period</b>
Department of Science and Technology [ <b>DST FAST TRACK YOUNG SCIENTIST PROJECT</b> ]	Electrical resistivity structure of the lithosphere along Radhanpur-Ajmer profile along North-western India	16.67 Lakhs	October 1, 2010-September 1, 2013