Yogesh Arora

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EDUCATION:

Colorado School of Mines, Golden — Dec, 2018
PhD in Geophysics (Minor in Computational and Applied Mathematics) — GPA : 3.465 (4)

Indian School of Mines (Now Indian Institute of Technology), Dhanbad, India — May, 2013
Joint B.S. and M.S. in Applied Geophysics — GPA : 8.26 (10)

DOCTORAL PROJECTS AND EXPERIENCE:

- Research Assistant (PhD Candidate) at Center for Wave Phenomenon (CWP), Dept of Geophysics, Colorado School of Mines. Thesis project focuses on anisotropic imaging and migration velocity analysis using seismic diffractions.
- Efficient implementation of 2D and 3D Kirchhoff migration using MPI and OpenMP for generating seismic images and gathers (or CIGs) in scattering and dip-angles from prestack data.
- Performed waveform inversion (or FWI) using first- and second-order adjoint-state methods and comparing the relative performance of *l*-BFGS and truncated Newton methods.
- Collaborated on wave-equation based tomography and velocity analysis using extended RTM images.
- Implemented Optical Flow methods for constructing angle gathers using RTM.
- Implemented Finite Discrete Ridgelet transform to preserve an image in sparse sense.
- Research presentation at SEG and EAGE sponsored events.

MASTER/UNDERGRADUATE PROJECTS AND EXPERIENCE:

- Master dissertation titled Anisotropic modeling of fractures (Gas hydrate in-fill) . Partial work was done at Gas Hydrate Research Group at National Institute of Oceanography(NIO), Goa, India between 2012-13.
- Summer research internship between May-July, 2011 at National Geophysical Research Institute, Hyderabad, India.
- Participant of the scientific expedition for geophysical data acquisition during 2009-10 on Ocean Research Vessel SAGARKANYA sponsored by National Center for Antarctic and Ocean Research (NCAOR), Goa, India

FIELD WORK AND RELATED EXPERIENCE:

- Participated in 3D seismic data acquisition survey by Oil and Natural Gas Corporation (ONGC), India, in January 2011 for two weeks.
- Participated in Geophysical field camp 2011 of Indian School of Mines at Jadugoda, India.
- Participated in Geological field camp 2010 of Indian School of Mines at Dhanbad Jharia, India.

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LEADERSHIP ROLES AND TEAMWORK:

- Class Representative of 5-year Integrated students for the year 2011-13.
- Lead the four member team to the finals of the South East Asia Ocean Plug-in design competition for Petrel in 2011
- Team leader of 13 student in Geophysical field camp 2011. Team acquired and processed various geophysical data.

MAIN PUBLICATIONS (CONFERENCES & JOURNALS) :

- **Arora, Y**., and I. Tsvankin, 2017, Analysis of diffractions in dip-angle gathers for transversely isotropic media: 87th Annual International Meeting, SEG, Expanded Abstracts.
- **Arora, Y.**, and I. Tsvankin, 2016, Separation of diffracted waves in transversely isotropic media: Studia Geophysica et Geodaetica, 60, 487–499
- **Arora, Y**., and I. Tsvankin, 2015, Separation of diffracted waves in transversely isotropic media: 85th Annual International Meeting, SEG, Expanded Abstracts.
- Gupta D.K., J.P. Gupta, **Y. Arora**, U. Shankar. Recursive Ant Colony Optimization: A new Technique for Estimation of Function Parameters from Geophysical Field Data. Near Surface Geophysics.
- **Arora Y**., D.K. Gupta, J.P. Gupta, U.K. Singh, 2012. Inversion of 1D VES Data Using New a Technique Called Recursive Ant Colony Optimization (RACO). Saint Petersburg-2012, EAGE, Extended Abstract.
- More available at Google Scholar.

COMPUTATIONAL SKILLS:

PROGRAMING: C, C++, C#, Python, Fortran, Java, MPI, OpenMP.
SOFTWARE: Matlab, Madagascar, Seismic Unix, Mines Java Toolkit (JTK).
DEVELOPED: Plug-ins for Petrel, Matlab based GUI softwares, Madagascar and Seismic Unix codes.

AWARDS AND ACHIEVEMENTS :

- Awarded student travel grant in EAGE Saint Petersburg 2012.
- Won the first prize in quiz competition of SEG Indian School of Mines student chapter event in 2012.
- Awarded SPG India scholarship for 9th Biennial International Conference 2012 of SPG India.
- Finalist of South East Asia Ocean Plug-in design competition for Petrel in 2011.
- Govt. of India INSPIRE scholarship for the period of 2008-13.
- Received scholarship from National Center for Antarctic and Ocean Research (NCAOR), Goa, India to work on Ocean Research Vessel (ORV) SAGARKANYA in Dec 2009-Jan2010.

ACTIVITIES/INTERESTS: Running, Hiking, Cooking

VOLUNTEER WORK: Taught underprivileged kids through KARTAVAYA project in Dhanbad, India for the period of 2008-13.