

## ***CURRICULUM VITAE***

**NAME** : **DR. SANDEEP SINGH**  
**PRESENT ADDRESS** : DEPARTMENT OF EARTH SCIENCES  
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**DATE OF BIRTH:** 31<sup>ST</sup> JULY 1966

### **ACADEMIC VITAE**

HIGH SCHOOL (1980) –	UP BOARD
INTERMEDIATE SCIENCES (1982) –	UP BOARD
BACHELOR OF SCIENCES (1984) –	LUCKNOW UNIVERSITY
MASTERS OF TECHNOLOGY (1987) –	APPLIED GEOLOGY – UNIVERSITY OF ROORKEE
PH.D. (1994) –	HIMALAYAN TECTONICS – UNIVERSITY OF ROORKEE

### **EMPLOYMENT EXPERIENCE:**

Research Scientist “B” –	March 8, 1989 to April 14, 1996 –	University of Roorkee
Assistant Professor –	April 15, 1996 to January 26, 2006 –	University of Roorkee, Indian Institute of Technology Roorkee
Associate Professor –	January 27, 2006 to November 9, 2009–	Indian Institute of Technology Roorkee
Professor -	November 9, 2009 onward	– Indian Institute of Technology Roorkee

### **AWARDS/PRIZES:**

Doctoral Fellowship to Sweden, 1990-1991  
1994 Khosala Annual Research Award (Silver Medal)  
BOYSCAST Fellow, 2000-2001  
INSA-DFG Exchange Fellowship to Germany 2002-2003  
Star Performer - IITRoorkee year 2003-2004  
Star Performer - IITRoorkee year 2004-2005  
First Prof. H.H. Read Gold Medal, 2005  
Star Performer – IITRoorkee year 2005-2006

### **COURSES AND RESEARCH INTERESTS:**

Crystallography and Mineralogy (ES-514)  
Igneous Petrology (ES-521)  
Igneous Petrology (ES-305)  
Isotope Geology (ES-703)

Himalayan Tectonics, Geochronology, Isotope Geology, Exhumation processes, Sr-isotopes

in water system

#### **ACTIVITIES INVOLVED AT INSTITUTE**

- **Member**, Interaction committee for developing **Vision Document IITRoorkee 2030**
- **Member**, IITRoorkee Senate (Highest Academic Body of the Institute) 2007 onward
- **Member – School Management Committee**, *Adarsh Bal Niketan, IITRoorkee Campus, Roorkee* (2006-2009)
- **Member**, Core-group, Intellectual Property Right (IPR) Cell, IIT Roorkee.
- **Dy. Faculty Advisor**, THOMSO-2007, Annual Youth Festival, IITRoorkee
- **Professor-In-Charge**, Institute Transportation Cell (May 2004 – Dec 2010)
- **Dy. Chief Sports Advisor** (Jan 2011 – Mrch 2013)
- **Dy. Chief Advisor**, Students Club, IITRoorkee (2007-2008)
- **Staff Advisor Hockey**, IITRoorkee Sports Association (2001-2009)
- **Staff Advisor Football**, IITRoorkee Sports Association (2009 - 2010)
- **Professor-In-Charge**, Security (Jan 2011 onward)
- **Officer-In-Charge**, Departmental Placement Cell, IITRoorkee
- **Executive member**, Institute Placement Committee, IITRoorkee

#### **MEMBERSHIP/FELLOWSHIP OF PROFESSIONAL SOCIETIES:**

- **Life Member (LM-569) Indian Society for Mass Spectrometry (ISMAS)**
- **Member IASTG**, (International Association of Structural/ Tectonic Geologists) Membership no. **IA 975**.
- **Life Member Geological Society of India**, Bangalore
- **Life Member, Mineralogical Society of India**, Mysore (LM 194)
- **Life Member, Himalayan Geology**, WIHG, Dehradun
- **Life Member, Association of petroleum Geologists**, Dehradun
- **Life Member Paleontological Society of India**, Lucknow
- **Life Member, Indian Geophysical Union**, Hyderabad
- **Member AGID**, (Association of GeoScientist for International Development).

#### **OTHER ACTIVITIES/RESPONSIBILITIES:**

- **Member, National Working Group**, IGCP-589: Development of Asian Tethyn Realm (2012-2016)
- **Member Advisory Committee (SAP-CAS 2012-16) in Geology** of Punjab University, Chandigarh
- **Member, Expert Committee of AICTE** (All India council of Technical Education) New Delhi
- **Series Editor**, Text Book Series of 14 books for undergraduate students in Earth Sciences, Published from Geological Society of India,
- **Core Group member**, MeLT (Mobile e-learning Terminals) project using VSAT data coonectivity for the students living in remote areas.

- **Member**, TIFAC programme (Department of Science and Technology, New Delhi) of making vision document 2035 (as an expert for the Geothermal Energy Resources)
- **Member – Expert Panel**, *Development Research Committee* of Research Council for culture and Society of **Academy of Finland**.
- **Secretary, Commission on Granite**, *International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)*, An Association of the **International Union of Geodesy and Geophysics**, 2001-till date.
- **Member of Editorial Board**, *Journal of Virtual Explorer*, Electronic Journal published from Monash University Australia, ISSN numbers: 1441-8126 (for the printed journal), 1441-8142 (for the online journal) and 1441 8134 (for the CD-ROM's journal).
- **Member of Editorial Board**, *International Journal of Advancement in Earth and Environmental Sciences ( IJAEEs)*, an international, multidisciplinary, peer reviewed, open access journal published quarterly under the aegis of IROSSS (International Research Organization of Sciences and Social Sciences)
- **Guest Editor**, *19<sup>th</sup> Himalayan-Karakoram Workshop volume* to be published in **Journal of Asian Earth Sciences** (Elsevier Publication), **vol. 29(2-3), Feb 2007**
- **Regional Editor**, *Himalayan Notes*, published from Department of Geology, Box 871404, Arizona State University, Tempe, AZ 85287-1404, USA (closed now).
- **Involved** in running and maintaining of National Facility on Geochronology/Isotope Geology at Indian Institute of Technology
- **Member – School Management Committee**, *Adarsh Bal Niketan, IITRoorkee Campus, Roorkee* (2006 - 2009)
- **Involved** in Himalayan Geotranssect Programme (HIMPROBE)
- **Organized** a workshop on Himalayan Tectonics (the HIMPROBE Result) in October 2003
- **Co-P.I.** for the core team Establishing a National Facility for  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  Geothermochronology at the Indian Institute of Technology (IIT) Bombay
- **Co-chaired** a session on Eastern Himalaya –II in 17<sup>th</sup> International Workshop on Electromagnetic Induction in the Earth (EM India 2004) at NGRI, Hyderabad, India, October 2004.
- **Co-Chaired** a session on Central Transects in National Workshop on Indian Geotranssect (WinGeo-2004) at WIHG, Dehradun, India, November 2004.
- **Convenor**, National Conference on Geochemical and Isotopic Evolution of Continental Crust, IITRoorkee, November 2005.
- **Organizing Secretary**, 23<sup>rd</sup> International Himalayan-Karakoram-Tibet Workshop, Leh, India, 8-18 August 2008.
- **Organizing Secretary**, 3<sup>rd</sup> Uttarakhand State Science and Technology Congress, Roorkee, India, 10-11 November 2008
- **Group Leader**, Ladakh-Karakoram Expedition 2007 sponsored by the Department of Science and Technology, New Delhi
- **Group Leader**, 23<sup>rd</sup> Himalayan-Karakoram-Tibet post-workshop field excursion to Tso-Morari and Pangon-Tso area, 11-18 August, 2008
- **Guest Faculty**, Advanced Training programme on Magmatic and Allied Processes” Department of Geology, Kumaoun University, Nainital (28 Sep – 11 Oct. 2007)

- **Programme Coordinator**, Computer training programme for operation of Janadhar e-community Information and Service Centres (JeCISC) in Uttarakhand, Center for Continuing Education, March 3-7, 2008

#### **STUDENT SUPERVISED FOR PH.D.**

1. **Rajeev Kumar** (2005), *Tectonics, Geochemistry and Geochronology of the Ladakh Batholith, Trans-Himalaya.*
2. **Th. Nikunj Bihari Singha** (2007), *Migmatites of Higher Himalayan Crystallines: their role in Collision Tectonics*
3. **James Pabem** (2010), *Timing of Geodynamics processes in Arunachal Himalayan using Rb-Sr and Fission Track ages.*
4. **M. Rogibala** (on going), *Petrogenesis of Migmatites of Sikkim Himalaya: possible source for Tourmaline Leucogranite*
5. **Ramesh Lasiram** (on going) *Tectonometamorphism of Migmatites and Collision Tectonics of Arunachal Himalaya*
6. **Shalini Maurya** (on going) *Exhumation of Karakoram Metamorphic Belt: Constraints from mineral ages*
7. **Rupali** (on going) *Geochemistry and Isotope Geochemical behaviour of Migmatites along Yamuna Valley*
8. **Priynka Singh** (on going) *Elemental mobility of trace element and Sr isotope of Ganga Alluvial Plain.*
9. **Rimpi Dhiman** (on going) *Exhumation History of the collision zone of Himalaya*

#### **STUDENT SUPERVISED FOR POST-GRADUATE DISSERTATION**

1. **Sanjeev Bhoi** (M.Tech. 2000), *Landslide Hazard Zonation along a part of the Beas River Valley using Remote Sensing and GIS* (With Dr. A.K. Awasthi and Dr. Champati Ray, IARS, Dehradun)
2. **Arnindam Chakraborty** (M.Tech. 2000), (With Dr. A.K. Awasthi and Dr. Sudhir Kumar, NIH, Roorkee)
3. **Biswajayee A. Patra** (M.Tech. 2002), *Rb-Sr mineral ages of Trans-Himalayan granites, Ladakh Himalaya* (With Dr. A.K. Jain and Dr. Anil R. Vijan, KDMIPE, Dehradun)
4. **Rajnish Ranjan** (M.Tech. 2002), *Geochemistry and Geochronology of the Pan-African*

*Magmatism, NW Himalaya and its Tectonic Implication*(With Dr. A.K. Jain and Dr. Anil R. Vijan, KDMIPE, Dehradun)

5. **Iswar Chand Das** (M. Sc. 2003), *Rb-Sr Dating of Jispa Granite, NW Himalaya*
6. **Ajay Kumar Arya** (M.Tech. 2004), *Sr isotopic studies along Bhagirathi Valley*
7. **Manish Bisht** (M.Tech. 2004), *Rb-Sr ages along Bhagirathi Valley*
8. **Babita Choudary** (M.Sc., 2004) “Rb-Sr” mineral ages along the Beas Valley area (India) to constrain the fold controlled exhumation and cooling rate”
9. **Satya Prakash Mohanty** (M. Sc. 2004), *Rb-Sr mineral ages along Beas Valley*
10. **Dibya Prakash Dahl** (M.Tech., 2006), *Sm-Nd terrain characterization of Subathu Group sediments*
11. **Swagata Dey** (M.Sc., 2006), *Source rock characterization of lower Cenozoic Formations, Sub-Himalaya, using Sr and Nd isotopes.* (with Dr. A.K. Jain)
12. **Vipin Paliwal** (M.Tech. 2007), *Sr isotopic studies of Gomti River*
13. **Kaushal Singh Barfal** (M.Tech. 2007), *Structures and tectonics of the Higher Himalayan Crsytallines – Gori and Dhauliganga Valleys.* (with Dr. A.K. Jain)
14. **Rahul R.** (M.Tech. 2007), *Rb-Sr mineral ages from Higher Himalayan Crsytallines, Goriganga valley, Kumaoun Himalaya.* (with Dr. A.K. Jain)
15. **Jaganath Mukherjee** (M.Sc., 2007), *Rb-Sr dating of Biotite granite from Leo-Pargil Dome.*
16. **Richong Koirang** (M.Tech., 2008), *Sr-Nd isotopic studies along Subansiri Valley, Arunanchal Pradesh.* (with Dr. A.K. Jain)
17. **GeetuMol K.G.** (M.Sc., 2008), *Sr isotopic studies of sediments from Gomti River Basin*
18. **Avinash Gupta** (M. Sc., 2008), *Geochemistry of granitoids from Karakoram Shear Zone*
19. **Smriti Jain** (M.Sc., 2008), *Tso Morari Crystallines: Geochemical constraints on protolith of eclogites and gneisses*
20. **Sarvesh Vikram Bisen** (M. Tech. 2009), *Geochemical behavior of Shyok Volcanics, Karakoram Mountains, Northern Ladakh Himalaya*
21. **Chandrashekhar** (M.Tech. 2009), *Sr-Nd isotopic study of Shyok Volcanics, Karakoram Mountains, Northern Ladakh Himalaya*

22. **Ruchi Basak** (M. Tech., 2009), *Sr isotopic study of Ramnagar cliff within Ganga Alluvial Plain*
23. **Sadab Raja** (M.Tech., 2009), *Sr-Nd isotopic study of Subathu and Dagsahi Group sediments*
24. **Alekha Naik** (M. Sc., 2010), *Seasonal variation of Sr isotopic study of Ganga River at Rishikesh and Gazipur*
25. **Pravin Kumar** (M.Sc., 2010), *Seasonal variation of Sr Isotope study of Gomati River water and ground water at Chandawak, District Jaunpur*
26. **Anay Subhas Shendey** (M.Sc., 2011), *Petrography and isotope geochemistry of Lonar Impact Crater, Maharashtra.*
27. **Anurag Srivastava** (M. Sc., 2011), *Sr- analysis of groundwater along Gomti River, Ganga Alluvial Plain (GAP)*
28. **Ammu Mol, P. C.** (M. Sc., 2011), *Sr isotopic analysis of gomti and Ganga Rivers from Ganga Alluvial Plain.*
29. **Yogpurna Rout** (M.Sc., 2012), *Sr Isotopic analysis of Rain water of Lucknow.*
30. **Binamra Pushpalak** ( M. Tech., 2012) *Rb-Sr Mineral ages of Higher Himalayan Crystallines, Bhagirathi Valley, Garhwal Himalaya.*
31. **Rajesh Pandey** (M. Tech., 2012) *Geochemical and geochronological analysis in Lesser and Higher Himalayan rocks, Eastern and Central Bhutan*
32. **Thothadi Babji** (ID M. Tech., 2013) *Sr-Nd isotopic signatures of Paleocene-Eocene boundary from ODP site 1138A, Kerguelen Plateau, Southern Ocean*
33. **Rohit Gupta** (ID M. Tech., 2013) *Sr-Nd isotopic signatures of Early Paleocene from ODP site 1138A, Kerguelen Plateau, Southern Ocean*
34. **Puneet Seth** (ID M.Tech. ongoing) *Defining the Main Central Thrust (MCT) at Helang – structural mapping along the Alaknanda Valley*
35. **Mrinal Shreshtha** (ID M.Tech. ongoing) *The South Tibetan Detachment System: Its Shear Sense Indicators and their significance near Malari, Dhauli Ganga Valley section, Uttarakhand*
36. **Lawrence Kanyan** (ID M.Tech. ongoing) *Small-scale ductile structures of the Higher Himalayan Crystallines (HHC) along the Vaikrita Thrust, Dhauli Ganga Valley, Uttarakhand*

**37. Avinash Kumar** (ID M.Tech. ongoing) *Petrogenesis of dalhousie granite*

**38. Smruti Sourav Rout** (ID M.Tech. ongoing) *Estimation of Degree of Chemical and Thermal Diffusion in melts and minerals considering x-dependent diffusivities*

**39. Rajnish Kumar** (ID M.Tech. ongoing) *Effect of Industrial Effluents on Soil: A case study of Bhadohi region, Uttar Pradesh*

**40. Siddharth Konkepudi** (ID M.Tech. ongoing) *Effect of Industrial Effluents on Groundwater: A case study of Bhadohi region, Uttar Pradesh*

#### **EXPEDITIONS**

- Zaskar valley -1987, 1988, 1989
- Scandinavian Caledonides - 1990
- Tso-Morari, Karakoram and Pangong -1998, 1999, 2001, 2004, 2007, 2008, 2009
- Ladakh-Karakoram – 2007, 2008, 2009

#### **FIELD WORK**

Himachal Himalaya, Kashmir Himalaya, Garhwal-Kumaon Himalaya, Arunachal Himalaya, Scandinavian Caledonides (Norway-Sweden border - Fjälnas), Kalgoorlie Gold field (Western Australia) Laverton Volcano-Sedimentary terrain (Western Australia).

#### **COUNTRY VISITED :**

Sweden, Norway, Denmark, Nepal, United State of America, Australia, Germany, Japan, France

#### **EDUCATIONAL VISITS ABROAD:**

Visited (July 1990 to Jan 1991) at Swedish Museum of Natural History, Stockholm, Sweden, for U-Pb dating of zircon and Rb-Sr dating on whole rock powder of Himalayan Granite. The objective was to work out the pre-Himalayan signatures of magmatic activities.

Visited (May 2000 to April 2001 as BOYSCAST Fellow) at Centre for Global Metallogeny, Department of Geology and Geophysics, The University of Western Australia, Perth, WA, Australia, to work out the "Timing and Geochemistry of the Cenozoic Leucogranites in the NW-Himalaya: implication on the Geodynamics of the Indian Lithosphere". The objective was to work out the melting characteristics of the Himalayan continental crust, fluid interaction during deformation, timing and modelling of the Himalayan leucogranite emplacement related to Collision Tectonics.

Visited (Dec 2002 to March 2003 as Visiting INSA-DFG Fellow) at Center for Isotope Geology, Department of Earth and Environment Science, Ludwig-Maximilian University Munich, Germany, to work out "the age of Karakoram batholith by U-Pb zircon dating technique and Nd signature of the volcanic arc sequence of Shyok Suture Zone of Himalayan region". The objective was to learn how to establish clean room for National Facility on Isotope Geology/Geochronology at Indian Institute of Technology Roorkee, Roorkee, India.

Visited (March 2005 to April 2005) at Swedish Museum of Natural History, Stockholm, Sweden, for U-Pb dating of zircon and Sm-Nd dating of rocks on whole rock powder of Himalayan Andesite and South Indian Granulites.

Visited (April 2005) at Thermo Electron Corporation, Bremen, Germany for operation training of Triton T1. The objective was to get acquainted for trouble shooting of the Mass Spectrometer.

#### **INTERNATIONAL COLLABORATION:**

1. **Prof. Mark E. Barley**, Centre for Global Metalogeny, School of Earth and Geographical Science, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia
2. **Prof. Ernst Hegner**, Professor of Geochemistry and Geochronology, Head Isotope Laboratory, Department of earth Sciences, Geochemistry Section, Ludwig-Maximilians-Universität, München, Germany
3. **Dr. Mary L. Leech**, Geological & Environmental Sciences, Stanford University, Stanford, CA 94305-2115, USA
4. **Prof. Moon-sup Cho**, School of Earth and Environmental Sciences, College of Natural Sciences, NS80, Seoul National University, Seoul, 151-747 Korea

#### **TOPICS OF INVITED LECTURES:**

- Environmental Geology
- Elements of Word Processing
- Geological Investigations for Small Hydro Projects
- Geological Investigations and site evaluation for Small Hydro Projects
- Recent views on structural interpretation of Himalayan region
- Episodic influx of magma during Himalayan orogeny: evidence from SHRIMP U-Pb zircon ages
- Himalayan Collision Tectonics: Geochronological Scenario
- Himalayan Granitoids
- Himalayan Granitoids: its significance in Himalayan Tectonics
- *Bhukamp ke karan aur unse hone wali kshati se bachaw* as Chief Guest keynote address
- Geochronology and Isotope in Igneous Petrogenesis
- Isotope Geology and different Radiogenic Isotopic Systems (Rb-Sr, Sm-Nd & U-Pb)
- Isotopes in Geochronology and genesis of Igneous rocks.
- Geothermal Energy Resources of Uttarakhand

#### **TRAINING:**

Isotope geochemistry & geochronology on **Finnegan Mat 261 mass-spectrometer** for U-Pb dating of zircon and Rb-Sr techniques. This includes sample collection and preparation, chemical separation, data acquisition on mass spectrometer and interpretation at Swedish Museum of Natural History, Stockholm, Sweden (for 6 Months).

Metamorphic petrology and mineral chemistry using **Electron Probe Micro Analyser**



(EPMA) at USIC, University of Roorkee, Roorkee, India

Excellence in Diagramatics and Cartography in Earth Sciences at Department of Geology, Pune University, India

On hand experiences and the Courses on **Scanning Electron Microscopy** (the course covered basic SEM, digital imaging and minimum sample requirements. Users were trained on instruments appropriate to their needs to basic operational standards. Afternoon practical sessions support the Theory), **Environmental Scanning Electron Microscopy** (the course covered special characteristics of the ESEM with emphasis on control of temperature and pressure of the sample chamber environment. The benefits of ESEM on a range of moist and uncoated specimens of a physical and biological nature. Along with this a new charge contrast imaging (CCI) was also covered), **Electron Microbeam Analysis** (an introductory course on electron microbeam analysis of bulk samples and it covered general theory and principles of operation of energy dispersive X-ray detector, X-ray data correction procedures and sample preparation. Basic wavelength dispersive X-ray analysis was also covered) and **Digital Image Manipulation and Storage** (the course contained review of the nature of digital image; explaining the relevant terminology, the currently available facilities for printing and transferring of images and the various media for image storage. The course also covered introduction to the image manipulation softwares like Adobe photoshop 5.0, NIH Image 1.62, Macromedia Freehand 7.0 and Powerpoint 5.0) at The Western Australian Centre for Microscopy and Microanalysis, The University of Western Australia.

On hand experience and course on **SHRIMP II** (**S**ensitive **H**igh mass **R**esolution **I**on **M**icro**P**robe II) at The Western Australian Isotope Science Research Center based at Curtin University. The course was aimed at the working knowledge of: how ion microprobe function; what ion microprobes are used for; how not to damage the SHRIMP II; some common problem and fixes; how to collect good data and how to identify bad data; the fundamentals of problem diagnosis and safety.

Isotope geochemistry & geochronology on **Finnegan Mat 261 massspectrometer** for U-Pb dating of zircon and Rb-Sr techniques. This includes testing Pb blanks in the lab along with column preparation for U-Pb technique, data acquisition on mass spectrometer and interpretation at Center for Isotope Geology, Department of Earth and Environment Science, Ludwig-Maximilian University Munich, Germany (for 3 Months).

Isotope geochemistry & geochronology on **Triton T1 massspectrometer** for U-Pb dating of zircon and Sm-Nd techniques. This includes testing Pb blanks in the lab along with column preparation for U-Pb technique, data acquisition on mass spectrometer and interpretation at Swedish Museum of Natural History, Stockholm, Sweden and Thermo Electron Corporation, Bremen, Germany (for 1 Months).

Isotope geochemistry & geochronology on **Triton T1 massspectrometer**, India  
Geochemistry on ICP-MS (Perkin Elmer), India

**RESEARCH PROJECT AWARDED:**

**As Principal Investigator:**

1. **Collision Tectonics : emplacement of Late Cenozoic Tos Granite, Parvati Valley, NW-Himalaya, Himachal Pradesh"** (April 1996 – May 1998) – Rs. 3.6 lacs – DST, New Delhi
2. **"Workshop on Himalayan Tectonics (The HIMPROBE Results)"** (2003-2004) – Rs. 2.64 lacs – DST, New Delhi
3. **"Contact Programme for Isotope Geology and Geochronology: Rb-Sr systematics" completed** (2004-2005) – Rs. 2.4 lacs – DST, New Delhi
4. **"Himalayan Collision Tectonics: Migmatites and Leucogranite generation".** (2002-2006) - Rs. 21.6768 lacs – DST, New Delhi
5. **"Migmatite Petrogenesis and Leucogranite Generation during Himalayan Collision"** (2003-2006) – 10.0 lacs – MHRD, New Delhi
6. **"Geological Expedition to Ladakh and Karakoram"** (2007) – 11.0 lacs – DST, New Delhi
7. **"Text- Book Series for the graduate students in Earth Sciences"** (2010-2013) – 88.0 lacs – Ministry of Earth Sciences, New Delhi
8. **"Establishing a National Facility of  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  Geo-thermochronology at the Indian Institute of Technology, Mumbai"** (2008-2013) – Rs. 39 lacs – DST, New Delhi

**As Co-Investigator:**

9. **"Geodynamics and Exhumation of the South Indian Granulite Terranes : Role of Intra-Continental Shear Zones across Kanyakumari-Kuppan Transect"** (1997-2000). *Completed* – Rs. 13.68 lacs – DST, New Delhi.
10. **"Tectonics, P-T constraints and timing of India-Asia Collision along the NW-Himalayan Geotransect"** (1997-2001). *Completed* – Rs. 22.54 lacs – DST, New Delhi
11. **Geochronological and Strontium Isotopic studies of the Granitic and Gneissic rocks of Manali, Chhotadara and Jaspa Area, Himachal Pradesh"** (2004-2005) – Rs. 12.24 lacs – DST, New Delhi.
12. **"National facility on Geochronology/Isotope Geology at University of Roorkee".** (2000-2006) – Rs. 453.49 lacs – DST, New Delhi.
13. **"Major Intracontinental Shear Zones of South India and their role in Gondwana Assembly: Geochronological and Geochemical constraints"** (2003-2006) - Rs. 11.75 lacs – DST, New Delhi.
14. **"Integrated tectonic, petrological, geochronological and geophysical Investigations, Arunachal Himalaya".** (2006-2009) – Rs. 15.31 lacs – DST, New Delhi.
15. **"National facility on Geochronology/Isotope Geology at IITRoorkee".** (2007) – Rs. 20 lacs – IIT Roorkee.
16. **"National facility on Geochronology/Isotope Geology at IITRoorkee".** (2008) – Rs. 20 lacs – IIT Roorkee.
17. **"National facility on Geochronology/Isotope Geology at IITRoorkee".** (2009) – Rs. 15 lacs – IIT Roorkee.
18. **"Establishing a National Facility of  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  Geo-thermochronology at the Indian Institute of Technology, Mumbai"** (2008-2013) – Rs. 39 lacs – DST, New Delhi

**Publications:**  
Research Papers

**Published**  
40

**Accepted**  
0

**Communicated**  
2 (in review)

in Refereed Journals	
Papers in Conferences	110
/Symposia	
Book Review	1
Books	6
14 books on Earth Sciences for Graduate to be Published by Geol. Soc. India as Series Editor	

**TOTAL Citation – 813**

### **LIST OF PUBLICATIONS**

#### **A. Published In Refereed Journals:**

##### **2013:**

1. Munendra Singh, Sudhir Kumar, Bhishm Kumar, **Sandeep Singh** and Indra Bir Singh (2013) Investigation on the hydrodynamics of Ganga Alluvial Plain using environmental isotopes: a case study of Gomti River Basin, northern India. Hydrogeology Journal, DOI 10.1007/s10040-013-0958-3 7 (**Impact Factor: 1.675**)

##### **2012:**

2. Anand Joshi, Pushpa Kumari, **Sandeep Singh**, and M. L. Sharma (2012) Near-field and far-field simulation of accelerograms of Sikkim earthquake of September 18, 2011 using modified semi-empirical approach. Natural Hazard, 64, 1029-1054. DOI 10.1007/s11069-012-0281-7 (**Impact Factor: 1.639**)

##### **2011:**

3. **Sandeep Singh**, I.B. Singh, Munnendra Singh, A.K. Choudhary and A.K.Jain (2011) Source of Increasing  $^{87}\text{Sr}/^{86}\text{Sr}$  Ratio in Marine Water: Himalaya or Ganga Alluvial Plain? In: Singh, D.S. and Chabra N.L. – Eds) Geological Processes and Climate Change; Macmillan Publisher India Ltd., 195-204.
4. A.K. Choudhary, A.K. Jain, **Sandeep Singh**, RM. Manickavasagam and K. Chandra (2011) Crustal Accretion and Metamorphism of Mesoarchean Granulites in Palghat-Cauvery Shear Zone, Southern India. Journal of Geological Society of India, v. 77, 227-238. (**Impact Factor: 0.567**)

##### **2010:**

5. Priyom Roy, Arvind K. Jain and **Sandeep Singh** (2010) Microstructures of mylonites along the Karakoram Shear Zone, Tangste Valley, Pangong Mountains, Karakoram, Journal of Geological Society of India, v. 75, 679-694. (**Impact Factor: 0.567**)

6. **Sandeep Singh**, Munendra Singh, A.K.Choudhary, Anju Saxena, I.B. Singh, A.K. Jain (2010) Sr isotopic signature of the Ganga Alluvial Plain and its implication to Sr flux of the Ganga River System. *International Journal of Earth Sciences (Geol. Rundsch.)*, 99, 1991-1997. DOI: 10.1007/s00531-009-0479-4 (**Impact Factor: 2.261**)
7. Munendra Singh, Amit Kumar Singh, Swati, **Sandeep Singh** and A.K. Choudhary (2010) Arsenic mobility in fluvial environment of the Ganga Plain, northern India. *Environmental Earth Sciences*, 59, 1703-1715 DOI: 10.1007/s12665-009-0152-z (**Impact Factor: 0.601**)

#### **2009:**

8. **Sandeep Singh**, A. K. Jain and Mark E. Barley (2009) SHRIMP U-Pb ~1860 Ma anorogenic magmatic signatures from NW Himalaya: implications for Paleoproterozoic assembly. In: Reddy, S.M., Mazumdar, R., Evans, D.A.D. & Collins, A.S. (eds.) *Paleoproterozoic Supercontinents and Global Evolution*. The Geological Society London, Special Publication, 323, 283-300. DOI: 10.1144/SP323.14 (**Impact Factor: 2.976**)
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6. Series Editor A. K. Jain and **Sandeep Singh** (2013) Text Book Series in Geological Sciences for Graduate Studies Crystallography and Mineralogy: Concept and Methods – Ram S. Sharma and Anurag Sharma. Geological Society of Inadia, 347 pp.
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## C. Other Publications:

1. **Sandeep Singh** (2004) Himalayan Tectonics (The HIMPROBE Results). Journal of Geological Society of India, v. 63, pp. 350-353.
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#### **D. Book Review:**

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#### **REVIEW REPORTS:**

2. A.K. Jain and **Sandeep Singh** (1997) Status Report on the Paleosismicity in India. IUGS
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#### **CONSULTANCY REPORTS:**

1. Sinvhal, V.N. Singh, A. K. Jain, **Sandeep Singh**, and A. Sinvhal (1996): Geophysical Investigations at Karcham Dam Site. Jaiprakash Industries Limited Hydro Power Division. 88 pp.
2. A.K. Jain and **Sandeep Singh** (1999) Water analysis for WAPCOS New Delhi
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7. **Sandeep Singh** and A.K. Awasthi (2005) Gaula River training at Haldwani, district Nainital, Uttranchal, Uttranchal Forest Division, Tarai east forest Division, Haldwani, Nainital, Uttranchal.
8. A.K. Jain, **Sandeep Singh**, A.K.Awasthi, V.N.Singh (2006) Preliminary investigations for Ash Pond area Yamnanagar Thermal Power Plant, Reliance Energy Ltd., Noida
9. **Sandeep Singh** and A.K. Awasthi (2006) Gaula River training at Haldwani, district Nainital, Uttranchal, Uttranchal Forest Division, Tarai east forest Division, Haldwani,

Nainital, Uttranchal.

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15. **Sandeep Singh** (2007) River training works “monitoring and proposal for the Sharda River for collection season 2007-2008, district Nainital, Uttranchal. Uttranchal Forest Division, Haldwani Forest Division, Haldwani, Nainital, Uttranchal.
16. **Sandeep Singh** (2008) River training works “monitoring and proposal for the Gaula River for collection season 2007-2008, district Nainital, Uttranchal. Uttranchal Forest Division, Tarai east forest Division, Haldwani, Nainital, Uttranchal.
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20. **Sandeep Singh** (2009) River Training works in the Gaula River: Its effect through Time, district Nainital, Uttarakhand. Uttarakhand Forest Division, Haldwani Forest Division, Haldwani, Nainital, Uttarakhand.
21. **Sandeep Singh** and Arun K. Saraf (2010) Mapping and demarcation of minerals bearing areas, forest land and other land use on settlement maps and environmental studies in soapstone belt of Kapkot tehsil, District Bageswar
22. **Sandeep Singh** (2010) River training works monitoring and proposal for the Nandhaur River for the collection season 2009-2010, district Nainital, Uttarakhand
23. Arun K. Saraf and **Sandeep Singh** (2012) Geological Field Investigations of THDC Phunatsangchu-III Hydropower Projects (Bhutan)
24. A.K. Jain, **Sandeep Singh** and A.K. Saraf (2012) Regional Geological and Remote Sensing studies of HRT/Feeder Tunnel with Ground Check for Kuri GongRi HE Project,

Bhutan

25. A.K. Jain, **Sandeep Singh** and A.K. Saraf (2012) Regional Geological and Remote Sensing studies of HRT/Feeder Tunnel with Ground Check for ChamkharChu HE Project, Bhutan
26. Arun K. Saraf, **Sandeep Singh** and Joshodhir Das (2013) Feasibility study for the Proposed Road Tunnel across Sela Pass, Arunachal Pradesh

#### **ADMINISTRATIVE RESPONSIBILITIES:**

##### **PAST:**

- Assistant Warden (Residential), Jawahar Bhawan, UOR, Roorkee between August 1992 to January 1995.
- Member of Dean's organization as Warden, Azad Bhawan, Warden Cautley Bhawan (June 1995 – April 2000)
- Staff Advisor Hockey
- Staff Advisor Programme Management in Cultural Society
- Member Selection committee for selection of players for Inter-IIT Staff meet 2004 at IIT Madras, Chennai
- Additional Security Advisor, Thomso (Student Festival) 2005
- Member of Dean's Organization as Warden, Ravindra Bhawan (2004-2006)
- Deputy Chief Club Advisor, Student Club, IITRoorkee, Roorkee
- Officer Incharge Transportation w.e.f. 1.4.2004
- Staff Advisor Hockey
- Member – School Management Committee, *Adarsh Bal Niketan, IITRoorkee Campus, Roorkee* (2006 - 2010)
- Dy. Faculty Advisor, THOMSO-2007, Annual Youth Festival, IITRoorkee
- Professor-In-Charge, Institute Transportation Cell (May 2004 – Dec 2010)
- Dy. Chief Sports Advisor (Jan 2011 – March 2013)
- Dy. Chief Advisor, Students Club, IITRoorkee (2007-2008)
- Staff Advisor Hockey, IITRoorkee Sports Association (2001-2009)
- Staff Advisor Football, IITRoorkee Sports Association (2009 - 2010)