

Curriculum Vitae

SAKTHI SARAVANAN CHINNASAMY

Assistant Professor,
Dept. of Earth & Atmospheric Sciences
NIT Rourkela, Odisha 769008, India.

EDUCATION

Doctor of Philosophy in Geology (April 2010)

Indian Institute of Technology, Kharagpur, West Bengal 721 302 India
Area of Specialization: Ore Geology

Master of Technology in Applied Geology (June 2005)

Indian Institute of Technology, Kharagpur, West Bengal 721 302 India
CGPA: 8.22 (10 point scale)
Area of Specialization: Metamorphic Petrology

Master of Science in Applied Geology (May 2003)

Pondicherry University, Kalapet, Puducherry 605 304 India
CGPA: 8.09 (10 point scale)
Area of Specialization: Metamorphic Petrology

Bachelor of Science in Geology (May 2001)

National College, Bharathidasan University, Tiruchirappalli, Tamil Nadu 620 001 India
Percentage: 72.95

CURRENT PROJECTS

- REE and hi-tech metals mineralogy, geochemistry and geochronology in the Bergslagen Ore Province, central Sweden.
- Genesis of 'Kiruna-type' magnetite-apatite iron ores in central Sweden: magmatic or hydrothermal?

COMPLETED PROJECTS

- Metamorphic conditions and crustal forming processes of Mary Kathleen Fold Belt, Australia: Constrains from fluid inclusion studies and mineral phase equilibria.
- Shear zone-hosted gold mineralization in the Pongola Supergroup, Kaapvaal Craton, South Africa.
- UNESCO-IGCP project No. 540: Composition of hydrothermal fluids of orogenic gold deposits from state-of-the-art fluid inclusion microanalysis, and applications to mineral exploration. Principle Investigator: Dr. Paolo S. Garofalo, *University of Bologna, Italy.*

POSITIONS HELD

Postdoctoral Fellow

Uppsala University, Sweden.
January 2014 to till date

Claude Leon Postdoctoral Fellow

University of KwaZulu-Natal, Durban, South Africa
March 2013 to December 2013

Postdoctoral Fellow

University of KwaZulu-Natal, Durban, South Africa
December 2010 to January 2013

Ministry of Earth Sciences (MoES) Postdoctoral Fellow

Indian Institute of Science (IISc), Bangalore, India
May 2010 to November 2010

Senior Research Fellow

(Department Science and Technology, Government of India)
Indian Institute of Technology Kharagpur
November 2009 to April 2010

RESEARCH INTEREST

- Genetic modeling of orogenic gold deposits by integrated studies of structure, metamorphism, geochemistry, ore mineralogy and fluid inclusions.
- Genesis of Kiruna-type magnetite-apatite ores: Fingerprints from oxygen and iron isotopes and trace element geochemistry.
- REE Mineralization in Bergslagen region, Central Sweden.
- Metamorphic evolution of deformed terrains using phase petrology and fluid inclusions.
- Understanding of the link between Craton scale metallogeny and tectono-thermal events.
- Investigation of the ore fluid localization and enrichment of metals.

TEACHING EXPERIENCE

Full-time Lecturer

Metamorphic Petrology (2013): Second year undergraduate course taught in the Geology Discipline, UKZN covering basic and advance components of metamorphic petrology.

Geology of Ore Deposits (2012-2013): Third year undergraduate course taught in the Geology Discipline, UKZN dealing with ore deposits formed in various geological environments and understanding the ore genetic processes through wide variety of analytical tools.

Part-time Lecturer

Economic Geology (2014): A course taught in the level of postgraduate students in the Department of Earth Sciences, Uppsala University.

Fluid Inclusions Studies in Ore Genesis (2011-2012): A part of the Geology Honors course in the Geology Discipline, UKZN dealing with the basic and advance components of the fluid inclusion studies applied in ore genesis.

Fluids in Metamorphism (2010): A course taught in the level of postgraduate research students at IISc, Bangalore. This course deals with the basic principles and experimental methods for the fluid inclusion studies and interpretation of data to decipher the metamorphic evolution of the rock.

LABORATORY & EQUIPMENTS HANDLING EXPERIENCE

Knowledge of operation and maintenance (with developmental skills) of the following instruments

- Linkam THMS 600 fluid inclusion heating-freezing stage.
- Fluid-Inc. modified USGS gas-flow fluid inclusion heating-freezing stage.
- Renishaw RM1000B LRM Laser Raman Microspectrometer.
- JEOL JSM-6490 Scanning Electron Microscope, fitted with Oxford Instrument's EDS.
- CAMACA SX-100 Electron Probe Micro Analyzer.
- Rigaku MiniFlex II Desktop X-ray Diffractometer.
- Thermo Finnigan Delta^{PLUS} XP continuous flow Mass Spectrometer attached with Flash HT 1112 Elemental Analyzer for stable isotope analysis (Mainly S-isotopes).
- Perkin Elmer NexIon 350 ICPMS system attached with NWR UV-213 LA system.
- Agilent 8800QQQ quadrupole-ICPMS system attached with LA system.

SCIENTIFIC AFFILIATION

Member: Society of Economic Geologists (SEG), U.S.A. Since June, 2008

PROFESSIONAL ACTIVITIES

Acted as Reviewer in Central European Journal of Geosciences

AWARDS AND HONOURS

- *Postdoctoral Fellowship*, Uppsala University (January 2014 to December 2015).
- *Claude Leon Postdoctoral Fellowship*, one of the prestigious fellowships in South Africa awarded to international scientists. (March 2013 to February 2015; Discontinued in December 2013 to take PDF at Uppsala University)
- *Postdoctoral Fellowship*, University of Johannesburg (Declined to accept)
- *Senior Lecturer position* at University of Limpopo, South Africa (Decline to accept).
- *UGC-Assistant Professor* position from UGC (Declined to accept)
- *Postdoctoral Fellowship* at University of KwaZulu-Natal from December 2010 to January 2013.
- *Ministry of Earth Sciences (MoES) Postdoctoral Fellowship* at IISc, Bangalore from May 2010 to November 2010.

- UPSC-Geologist Examination 2009
- Best Abstract Award from my PhD thesis at IIT Kharagpur, March 2010.
- Senior Research Fellowship (SRF) in DST sponsored project at IIT Kharagpur from August 2009 to April 2010.
- Invited participant at ‘Indo-Euro Scientist Meet’ held on February 2007 at New Delhi (an interactive meet of research scholars with European and Indian science icons) sponsored by DST.
- PhD Research Fellowship, IIT Kharagpur from July, 2005 to July 2009.
- MHRD-GATE Scholarship from June 2003 to June 2005 (AIR 28)

List of Publications

Peer-Reviewed Journals

- **Sakthi S Chinnasamy**, Uken R, Reinhardt J, Selby D, Johnson S (2015) Pressure temperature and timing of mineralization of sediment-hosted orogenic gold deposit at Klipwal, Kaapvaal Craton, South Africa. *Mineralium Deposita*. (In Press)
- **Sakthi S Chinnasamy**, Mishra B (2013) Greenstone metamorphism, hydrothermal alteration and gold mineralization in the genetic context of the granodiorite-hosted gold deposit at Jonnagiri, eastern Dharwar craton, India. *Economic Geology*, 108:1015–1036.
- Hazarika P, Mishra B, **Sakthi S Chinnasamy**, Bernhardt HJ (2013) Multi-stage growths and invisible gold distribution in pyrite from the Kundarkocha sediment-hosted gold deposit, eastern India *Ore Geology Reviews*, 55:134–145.
- **Sakthi S Chinnasamy**, Mishra B (2009) Uniformity in sulfur isotope composition in the orogenic gold deposits from the Dharwar craton, *Mineralium Deposita*, 44: 597–605.
- **Sakthi S Chinnasamy**, Mishra B, Jairam MS (2009) P-T conditions of mineralization in the Jonnagiri granitoid-hosted gold deposit, eastern Dharwar craton, southern India: Constraints from fluid inclusions and chlorite thermometry. *Ore Geology Reviews*, 36: 333–349.
- Mishra B, **Sakthi S Chinnasamy**, Bhattacharya A, Goon S, Mahato S, Bernhardt HJ (2007) Implications of super dense carbonic and hypersaline fluid inclusions in granites from the Ranchi area, Chottanagpur Gneissic Complex, eastern India. *Gondwana Research* 11: 504–515.

Papers in Preparation

- **Sakthi S Chinnasamy**, Mishra B. Genetic implications of disordered graphite in the Granodiorite-hosted Gold Deposit at Jonnagiri, Eastern Dharwar Craton, India. *Ore Geology Reviews*.

- Bhattacharya A, **Sakthi S Chinnasamy**, Mishra B. Magma dyking linked magmatic differentiation: evidence from the Closepet granitoid pluton, South India. *Geological Magazine*.
- **Sakthi S Chinnasamy**, Uken R, Reinhardt J. Arsenian pyrite and invisible gold relation: Evidence from the sediment-hosted orogenic gold deposit at Klipwal, Kaapvaal Craton, South Africa. *Economic Geology*.
- **Sakthi S Chinnasamy**, Mishra B. Tectonic evolution and gold mineralization in the Jonnagiri greenstone belt: Constrains from greenstone and granitoid geochemistry. *Precambrian Research*.

Conference-Extended Abstracts & Posters

- **Sakthi S Chinnasamy**, Uken R, Reinhardt J (2011) Orogenic-type gold mineralization at Klipwal gold mine, southeastern Kaapvaal Craton, South Africa. Proceedings of the 50th Conference of Metallurgists, **World Gold Symposium**, Montreal (Canada), October 2011, 829–833.
- **Sakthi S Chinnasamy** (2008) Fluid inclusion characteristics and sulfur isotope signature of granitoid hosted lode gold deposit at Jonnagiri, eastern Dharwar craton, India. **International Field Workshop on Gold Metallogeny** in India, Hyderabad, India, December 2008, 97–100.
- **Sakthi S Chinnasamy** (2008) Ore fluid characteristics of the granitoid hosted lode gold deposit at Jonnagiri, eastern Dharwar Craton, India. **Asian Current Research on Fluid Inclusion (ACROFI-II)**, Kharagpur, India, November 2008, 155–158.
- Pal DC, **Sakthi S Chinnasamy**, Mishra B (2008) Involvement of high temperature oxidized brine in pre-shearing hydrothermal alteration: Evidence from fluid inclusions in tourmaline in feldspathic schist, Pathargora area, Singhbhum shear zone, eastern India. **Asian Current Research on Fluid Inclusion (ACROFI-II)**, Kharagpur, India, November 2008, 131–136.
- Mishra B, **Sakthi S Chinnasamy**, Kartikeya S (2008) Thermobarometry, trace element zoning and invisible gold in pyrite from the Kundarkocha gold prospect, 33rd **International Geological Congress**, August 2008, Oslo, Norway.
- Participated and presented a poster entitled “Super dense magmatic fluid in granites from the Chottanagpur Gneissic Complex, India: evidence for lower crustal H₂O-CO₂-NaCl fluid heterogeneity”, **Sakthi S Chinnasamy**, at the **Fifth International Seminars on Petrology (ISPET)** held in Pontignano, Siena, Italy on the topic “Fluids in Metamorphic Rocks” November, 2005.