

DR. BULUSU SREENIVAS
CSIR-NGRI, HYDERABAD, INDIA
<http://scholar.google.co.in/citations?user=kn4YE7wAAAAJ&hl=en>

NGRI RESEARCH GROUP:

LAM-MC-ICP-MS Laboratory (Isotope Geochemistry)

FIELD OF SPECIALIZATION:

- Isotope Geochemistry, Stable Isotopes, Non-traditional metal isotopes, Precambrian redox evolution, Precambrian crustal evolution, Mass Spectrometry.

EDUCATION:

1999 Ph.D. Geology, Osmania University (NGRI), India
1990 M.Sc. Geology, Acharya Nagarjuna University, India
1987 B.Sc. Geology, Andhra University, India

PROFESSIONAL EXPERIENCE:

01/09- present **Senior Scientist**, National Geophysical Research Institute, Hyderabad, India
01/05-01/09 **Scientist**, National Geophysical Research Institute, Hyderabad, India
01/02-01/05 **Junior Scientist**, National Geophysical Research Institute, Hyderabad, India
10/99-01/02 **Research Associate**, National Geophysical Research Institute, Hyderabad, India
04/95-10/99 **Senior Research Fellow**, National Geophysical Research Institute, Hyderabad, India.
04/92-04/95 **Junior Research Fellow**, National Geophysical Research Institute, Hyderabad, India.

VISITING POSITIONS:

09/03-08/05 **JSPS Post-doctoral Fellow**, Department of Earth and Planetary Sciences, The University of Tokyo, Tokyo, Japan (On deputation)
12/09-12/09 **Visiting Scientist**, Tongji University, Shanghai, P.R. China

TEACHING EXPERIENCE:

Course etc Stable Isotope Geochemistry, 3 batches of M.Sc Tech students of University of Hyderabad
Introduction to Geochemistry, ACSIR 2012

SERVICE:

Annual Member, Geo chemical Society, US, since 2002.

Life Member, Indian Society for Mass Spectrometry, India, since 1999

Life Member, Indian Science Congress, India, since 1997

Life Member, Indian JSPS Alumni since 2006.

Life Member, MOSAI, since 2009.

Current NGRI Committees:

None

Past NGRI Committees:

Convener, Space committee, 2009-2010.

AWARDS AND HONORS:

Recipient of **Young Scientist Award by Indian Science Congress Association**, 1997.

Elected as **Associate Fellow, Andhra Pradesh Akademi of Sciences**, Hyderabad, 2010.

Recipient of Travel Fellowships of Geochemical Society for participating in Goldschmidt Conferences, 2002, 2003, 2008, 2009.

Award of **Raman Research Fellowship (CSIR)** for the year 2012-13.

SCIENTISTS WITH WHOM I HAVE COLLABORATED (OUTSIDE NGRI):

Current

Professor Takashi Murakami, The University of Tokyo, Tokyo, Japan

Dr. Andrey Bekker, Assistant Professor, University of Manitoba, Canada

NGRI Collaborators (present and past):

Dr. R. Srinivasan, Scientist (Retd.) NGRI, Ph.D. Advisor

Dr. B. Kumar, Scientist (Retd.), NGRI, Post-doctoral Advisor

PATENT

None

PUBLICATIONS

Peer-reviewed Journal Publications:

International Journals

1. **Sreenivas, B.**, Nagender Nath, B., Vijaya Gopal, B., Bhaskar Rao, Y.J., Vineesh, T.C. and Babu, E.V.S.S.K. Iron isotope compositions of manganese nodules from the Central Indian Basin, submitted to *Geochim. Cosmochim. Acta*
2. Surya Prakash, L. Ray. D., Paropkari, A.L., Mudholkar, A.V., Satyanarayanan, M., **Sreenivas, B.**, Chandrasekharam, D., Kota, D., Kamesh Raju K. A., Kaisaray, S., Balaram, V. and Gurav, T. Distribution of REEs and yttrium among major geochemical phases of marine Fe-Mn-oxides: Comparative study between hydrogenous and hydrothermal deposits. *Chemical Geology (In press)*.

2011

3. Murakami, T., **Sreenivas, B.**, Das Sharma, S. Sugimori, H. (2011) Quantification of atmospheric oxygen levels during the Paleoproterozoic using paleosol compositions and Fe oxidation kinetics. *Geochim. Cosmochim. Acta* **75**(14), 3982-4004.
doi:10.1016/j.gca.2011.04.023.

2010

4. Das Sharma, S., Ramesh, D.S. Li, X. Yuan, X., **Sreenivas, B.** and Kind, R. (2010) Response of mantle transition zone thickness to plume buoyancy flux *Geophysical Journal International* **180**(1), 49-58. doi: 10.1111/j.1365-246X.2009.04403.x

2005

5. **Sreenivas, B.** and Murakami, T. (2005) Emerging views on the atmospheric oxygen evolution during the Precambrian. *Journal of Mineralogical and Petrological Sciences* **100**, 184-201.

2003

6. Kumar, B., Das Sharma, S., **Sreenivas, B.** and Rao, M.N. (2003) Reply to the comment on "Carbon, oxygen and strontium isotope geochemistry of Proterozoic carbonate rocks of the Vindhyan Basin, central India". *Precambrian Research* **121**, 289-291.

2002

7. Kumar, B., Das Sharma, S., **Sreenivas, B.**, Dayal, A.M., Rao, M.N., Dubey, N. and Chawla, B.R. (2002) Carbon, oxygen and strontium isotope geochemistry of Proterozoic carbonate rocks of the Vindhyan basin, Central India. *Precambrian Research* **113**, 42-63.

2001

8. **Sreenivas, B.** and Das Sharma, S. (2001) The Sr, C and O isotopic evolution of Neoproterozoic seawater – comment. *Chemical Geology* **181**(1-4), 195-197.
9. **Sreenivas, B.**, Das Sharma, S., Kumar, B., Patil, D.J., Roy, A.B. and Srinivasan, R. (2001) Positive $\delta^{13}\text{C}$ excursions in carbonate and organic fractions from the Paleoproterozoic Aravalli Supergroup, Northwestern India. *Precambrian Research* **106**(3-4), 277-290.

1999

10. Sambasivarao, V.V., **Sreenivas, B.**, Balaram, V., Govil, P.K. and Srinivasan, R. (1999) Nature of Archean upper crust as revealed from the geochemistry of Proterozoic shales of the Kaladgi basin, Karnataka, southern India. *Precambrian Research* **98**(1-2), 53-65.

Indian Journals**2006**

11. Sarangi, S., Gopalan, K., Roy, A.B., **Sreenivas, B.** and Das Sharma, S., (2006) Pb-Pb age of carbonates of Jhamarkotra Formation constraining the age of Aravalli Supergroup, Rajasthan. *Journal Geological Society of India* **67**, 442-446.

2005

12. **Sreenivas, B.** and Das Sharma, S. (2005) An update on stable isotope research in understanding the Precambrian atmospheric oxygenation. *Indian Journal of Geochemistry* **20**, 103-120.

2004

13. Das Sharma, S., Kumar, B., **Sreenivas, B.** and Chawla, B.R. (2004) Carbon cycle of the Proterozoic: Implication for hydrocarbon resource potential. *Journal of Applied Geochemistry* **6**, 74-83.

2003

14. Bhaskar Rao, Y.J., Das Sharma, S. and **Sreenivas, B.** (2003) The isotopic revolution in geochemistry: Goldschmidt 2002. *Journal Geological Society of India* **61**, 116-117.
15. Sreenivas, B. (2003) Contamination of trace and rare earth element compositions during sample powder preparation using various grinding tools. **In. National Training Course on ICP-MS and Associated Analytical Techniques for Geochemical, Mineral Exploration and Environmental Studies**, held at NGRI 21 to 25 July 2003. pp. 101-112.

2001

16. **Sreenivas, B.**, Roy, A. B. and Srinivasan, R. (2001) Geochemistry of sericite deposits at the base of the Paleoproterozoic Aravalli Supergroup: Evidence for metamorphosed and metasomatised Precambrian paleosol. *Proceedings Indian Academy of Science (Earth and Planetary Sciences)* **110** (1), 39-61.

2000

17. Kumar, B., Das Sharma, S., **Sreenivas, B.**, Rao, M.N. and Chawla, B.R. (2000) Isotope event stratigraphy of the Proterozoic carbonates of Vindhyan basin, India: Relation to organic carbon productivity/burial and hydrocarbon resource prospects. *Petroleum Geochemistry & Exploration in the Afro-Asian Region*, 5th Intl. Conf. & Exbn. November 25-27, New Delhi, pp. 561-565.

1999

18. **Sreenivas, B.**, Srinivasan, R. and Roy, A.B. (1999) Geochemical Changes Across the Archaean-Proterozoic Boundary – A Study from the Udaipur area of Aravalli Mountain Belt, Rajasthan, India. In P. Kataria (Ed.) Proceedings of the Seminar on Geology of Rajasthan – Status and Perspective, Geology Department, M.L. Sukhadia University, Udaipur, pp. 57-86.

1997

19. **Sreenivas, B.**, and Govil, P. K. (1997) A method for the analysis of aluminium and potassium-rich silicate rock by X-ray florescent spectrometry using synthetic calibration standards. *Journal of the Indian Chemical Society* **84**, 742-744.

1994

20. **Sreenivas, B.**, Balaram, V. and Srinivasan, R. (1994) Trace and rare-earth element contamination during routine preparation of sample powders for geochemical studies: Effects of grinding tools. *Indian Journal of Geology* **66** (4), 296-304.
21. **Sreenivas, B.** and Srinivasan, R. (1994) Identification of paleosols in the Precambrian metapelitic assemblages of Peninsular India - A major element geochemical approach. *Current Science* **67** (2), 89-94.

Expanded Abstracts:**2010**

- Sreenivas, B.**, and Murakami T. (2010) Paleoproterozoic atmospheric oxygenation: Thoughts on Causal Processes. GEOCANADA 2010, May 10-14, Calgary, Alberta, Canada.

2009

- Sreenivas B.**, Vijaya Goapl B., Bhaskar Rao Y.J., (2009) MC-ICPMS Iron isotope analysis at the NGRI. 11th ISMAS-TRICON, S.K. Aggarwal, P.G. Jaison, A. Sarkar, P. Kumar (Eds.) pp. 522-524.
- Bhaskar Rao Y.J., Vijaya Goapl B., Babu E.V.S.S.K, Sukumaran, N.P., **Sreenivas B.**, Vijaya Kumar, T., Krishna, K.V.S.S. and Tomson, J.K. (2009) NGRI LAM-MC-ICPMS National Facility: Reproducibility of Sr, Nd and Hf isotopic measurements. 11th ISMAS-TRICON, S.K. Aggarwal, P.G. Jaison, A. Sarkar, P. Kumar (Eds.) pp. 52-57.

2001

- Kumar, B., Das Sharma, S., **Sreenivas, B.**, Patil, D.J. and Dayal, A.M. (2001) Breakup of Rodinia and assembly of Gondwana, Neoproterozoic-Early Cambrian carbonate sedimentation: Environmental and tectonic inferences from isotopic geochemistry. Abstract accepted in the Intl. Symp. on the Assembly and Breakup of Rodinia and Gondwana, and growth of Asia, Osaka, Japan, Oct. 26-30.

1999

- Sreenivas, B.** and Das Sharma, S. (1999) The Role of Carbon Cycle in the Evolution of Atmosphere, Hydrosphere and Biosphere during the Paleoproterozoic. 8th Symposium on Mass Spectrometry, December 7-9, ICT, Hyderabad, pp. 630-632.

1996

- Padmakumari, V.M., **Sreenivas, B.**, Roy, A.B. Srinivasan, R. and Gopalan, K. (1996) ~ 1400 Ma Alkali Metasomatic Event in the Sericite Deposits and Basal Aravalli Volcanic Rocks of Udaipur Region, Rajasthan. Proceedings of the VII National Symposium on Mass Spectrometry, November 26-28, DRDE, Gwalior, pp. 429-431.
- Sreenivas, B.**, Kumar, B., Roy, A.B. and Srinivasan, R. (1996) Carbon and Oxygen Isotopic Composition of the Carbonate Rocks of the Proterozoic Aravalli Supergroup, Udaipur Region, Rajasthan, India: Evidence for Heavy $\delta^{13}\text{C}$ Excursion. Proceedings of the VII National Symposium on Mass Spectrometry, November 26-28, DRDE, Gwalior, pp. 425-428.

ABSTRACTS:**2011**

1. **Sreenivas B.**, Ray D. Paropkari A.L., Mazumdar A., Vijaya Gopal B., Surya Prakash L., Balu G., Bhaskar Rao Y.J. (2011) Fe and S isotope compositions of hydrothermal sulfides from the Northern Lau Basin, *Mineralogical Magazine* (Goldschmidt Abstracts) p. 1926.
2. Vijaya Gopal B., **Sreenivas B.**, Bhaskar Rao Y.J. (2011) Estimation of mass discrimination in MC-ICP-MS Nd isotope analysis using generalized power law. *Mineralogical Magazine* (Goldschmidt Abstracts) p. 2087.
3. Patil D.J., **Sreenivas B.** Srikarni C., Ramamurthy P.B., Babu E.V.S.S.K., Vijaya Gopal B., Dayal A.M. (2011) C, O, Sr isotope compositions of sediments of the Mesozoic Kutch basin, NW India. *Mineralogical Magazine* (Goldschmidt Abstracts) p. 1606.
4. **Sreenivas B.**, Bhaskar Rao Y.J., (2011) Decoupled nature of redox evolution of atmosphere and oceans during the Precambrian: Evidences from India. Proceedings of International Symposium on Precambrian Accretionary Orogens and Field Workshop in Dharwar Craton, South India (Feb. 2-11, 2011).

2010

5. **Sreenivas B.**, Nath B.N., Vineesh T.C., Bhaskar Rao Y.J., Vijaya Gopal B., Babu E.V.S.S.K. (2010) Fe isotope compositions of manganese nodules from the Central Indian Basin. *Geochimica et Cosmochimica Acta.*, 74 (12) Supplement 1 A985.
6. Murakami T., **Sreenivas B.** (2010) Weathering under low O₂ conditions: Interpretation of Paleoproterozoic Paleosols. *Geochimica et Cosmochimica Acta* 74 (12) Supplement 1 A739.

7. Subbarao D.V., **Sreenivas B.** (2010) Geochemistry of Late Archean Bababudan metasediments, Dharwar Craton, India: Implications on redox conditions. *Geochimica et. Cosmochimica Acta* 74 (12) Supplement 1 A1002.
8. Babu E.V.S.S.K., Mudholkar A., **Sreenivas B.**, Bhaskar Rao Y.J. (2010) Occurrence of primitive melt inclusions in the olivine crystallites in Carlsberg Ridge basaltic glasses. *Geochimica et. Cosmochimica Acta* 74 (12) Supplement 1 A38.
9. Murakami T., **Sreenivas, B.** (2010) Application of Fe oxidation kinetics to Precambrian paleosols for the estimation of atmospheric oxygen levels. *Acta Mineralogica-Petrographica* 6, 417. IMA Budapest.
10. **Sreenivas, B.**, Murakami T. (2010) Paleoproterozoic atmospheric oxygenation: Thoughts on Causal Processes. GEOCANADA 2010, May 10-14, Calgary, Alberta, Canada.
11. Bhaskar Rao Y.J., **Sreenivas B.**, Patil, D.J., Dayal A.M., Umamaheshwar, K. (2010) Geological setting of the basal section of the Cuddapah Supergroup in the context of Global Great Oxidation Event: Preliminary geochemical and isotopic results. Proc. National Seminar on Geodynamics and Mineral Resources of Proterozoic basins of India (GAMP 2010), 4-6 March, 2010, Yogi Vemana University, Kadapa, India. p.11.

2009

12. **Sreenivas B.**, Vijaya Goapl B., Bhaskar Rao Y.J., (2009) MC-ICPMS Iron isotope analysis at the NGRI. 11th ISMAS-TRICON, S.K. Aggarwal, P.G. Jaison, A. Sarkar, P. Kumar (Eds.) pp. 522-524.
13. Bhaskar Rao Y.J., Vijaya Goapl B., Babu E.V.S.S.K, Sukumaran, N.P., **Sreenivas B.**, Vijaya Kumar, T. Krishna, K.V.S.S. and Tomson, J.K. (2009) NGRI LAM-MC-ICPMS National Facility: Reproducibility of Sr, Nd and Hf isotopic measurements. 11th ISMAS-TRICON, S.K. Aggarwal, P.G. Jaison, A. Sarkar, P. Kumar (Eds.) pp. 52-57.
14. Bhaskar Rao Y.J., **Sreenivas B.**, Patil D.J., Dayal A.M., Umamaheshwar K. (2009) C, O and Sr isotope systematics of U-mineralization in the Vempalle Formation, Cuddapah Supergroup: A perspective for evolving atmospheric oxygenation during the Paleoproterozoic. Proc. National Symposium on “Advances in Atomic Mineral Science in India during the 50-year period: 1959-2009”, 26 to 28 August 2009, AMD, Hyderabad, India.
15. **Sreenivas B.**, Murakami, T. Bhaskar Rao, Y.J., Vijaya Gopal, B. (2009) Fe isotope compositions of 1.85 Ga Flin Flon paleosol, Canada, *Geochim. Cosmochim. Acta*, 73(1) A 1260. (**Goldschmidt Conference 2009 held at Davos, Switzerland**).

2008

16. **Sreenivas B.**, Hirata T. and Murakami T. (2008) Fe isotope compositions of 2.45 Ga Cooper Lake paleosol. *Geochimica et. Cosmochimica Acta.*, 72 (12 Supplement 1) A890. (**Goldschmidt Conference 2008 held at Vancouver, Canada**).
17. **Sreenivas B.**, Bhaskar Rao Y.J. (2008) Cu, Fe and Zn isotope systematics: Implications on genesis of Ore deposits. Abstract Volume of National Workshop on Emerging Geological Concepts on Exploration and Exploitation of Resources, pp.64-66. Presented at the Symposium organized by Osmania Geology Alumni Association and Geology Department, Osmania University from 27-28 June, 2008.
18. **Sreenivas B.** (2008) The Precambrian Redox evolution of atmosphere-hydrosphere system: An Indian Perspective. Proceedings of National Symposium on Geodynamics and Evolution of Indian Shield – Through Time and Space, pp. 65-67. Presented at the Golden Jubilee of the Geological Society of India 2008 organized by Centre for Earth Science Studies, Thiruvananthapuram, 18-19 September, 2008.

2007

19. Sreenivas, B. and Das Sharma, S. (2007) Methane oxidation, BIF carbonates and glaciations during the earliest Paleoproterozoic. *Geochimica et. Cosmochimica Acta.*, 71 (15 Supplement 1) A132. (**Goldschmidt Conference 2007 held at Cologne, Germany**)

20. Murakami, T., Sreenivas, B., Das Sharma, S. and Sugimori, H. (2007) Gradual rise of atmospheric oxygen between 2.5 and 2.0 Ga revealed by iron oxidation kinetics *Geochimica et. Cosmochimica Acta.*, **71 (15 Supplement 1)** A697. (Goldschmidt Conference 2007 held at Cologne, Germany)

2006

21. Murakami, T., Sreenivas, B. and Das Sharma, S. (2006) Relation of redox sensitive elements in Precambrian paleosols to atmospheric oxygen evolution. *19th General Meeting International Mineralogical Association*, Kobe, Japan, July 23-28.
22. Sreenivas, B., Das Sharma, S. and Chugaev, A.V. (2006) Isotopic and REE constraints on the origin of stromatolitic phosphorites from the Paleoproterozoic Aravalli Supergroup, NW India. *Geochimica et. Cosmochimica Acta.*, **70 (18 Supplement 1)** A608.

2005

23. Sreenivas, B., and Padmakumari, V.M. (2005) Effects of K-metasomatism on the REE compositions of Precambrian Aravalli paleosols, Northwestern India. *Geochimica et. Cosmochimica Acta.*, **69 (10 Supplement 1)**, A790. (Goldschmidt Conference 2005 held at Idaho, USA).

2004

24. Sreenivas, B., Das Sharma, S. and Murakami, T. (2004) Paleosol evidence on Precambrian oxygen evolution. Japan Earth and Planetary Science Joint Meeting, Abst # b001-005.
25. Sreenivas, B., Das Sharma, S. and Murakami, T. (2004) Fe, Mn mobility in Precambrian paleosols: Implications on atmospheric oxygen evolution. *Geochimica et. Cosmochimica Acta.*, **68 (11 Supplement 1)**, A786. (Goldschmidt Conference 2004 held at Copenhagen, Denmark)
26. Murakami, T., Sato, M., Utsunomiya, S., Kasama, T. and Sreenivas, B. (2004) Behavior of light REE in Precambrian paleosols: Implication for atmospheric oxygen evolution. *Geochimica et. Cosmochimica Acta.*, **68 (11 Supplement 1)**, A784.

2003

27. Sreenivas, B. and Das Sharma, S. (2003) On the possible role of gas hydrates during Neoproterozoic carbon cycle *Geochimica et. Cosmochimica Acta.*, **67 (18 Supplement 1)**, A444. (Goldschmidt Conference 2003 held at Kurasaki, Japan)
28. Das Sharma, S. and Sreenivas, B. (2003) Plumes and Earth's surficial processes during the Paleoproterozoic *Geochimica et. Cosmochimica Acta.*, **67 (18 Supplement 1)**, A74.

2002

29. Sreenivas, B. and Das Sharma, S. (2002) Deducing oxygen evolution history from the retention iron and manganese in Late Archean to Paleoproterozoic paleosols. *Geochimica et. Cosmochimica Acta.*, **66 (15A Supplement 1)**, 731A. (Goldschmidt Conference 2002 held at Davos, Switzerland)
30. Das Sharma, S. and Sreenivas, B. (2002) Causal relationship among magmatism, BIFs and glaciation during the earliest Paleoproterozoic, *Geochimica et. Cosmochimica Acta.*, **66 (15A Supplement)**, 168A.

1998

31. Sreenivas, B. and Srinivasan, R. (1998) Oxygen deficient to oxygenated environmental transition in the Paleoproterozoic Aravalli Supergroup, Rajasthan, NW India: Evidence from paleosols and carbonate rocks. Proceedings of *International Symposium on Paleoclimates and the Evolution of Paleogeographic Environments in the Earth's Geological History*, Petrozavodsk, Republic of Karelia, Russia, August 27 to September 2, p. 51.
32. Sreenivas, B., Das Sharma, S. and Patil, D.J. (1998) Origin and significance of the Paleoproterozoic positive ¹³C excursion event. Proceedings of *International Symposium on Paleoclimates and the Evolution of Paleogeographic Environments in the Earth's Geological History*, Petrozavodsk, Republic of Karelia, Russia, August 27 to September 2, pp. 50-51.
33. Sreenivas, B., Das Sharma, S., Zachariah, J.K., Kumar, B., Patil, D.J., Padmakumari, V.M. and Srinivasan, R. (1998) Evidence for the Lomagundi event in the Paleoproterozoic Aravalli Supergroup,

NW India. Proceedings of 9th Intl. Conf. on Geochronology, Cosmochronology and Isotope Geology, August 20-25, Beijing, China, p. 122.

1997

34. **Sreenivas, B.**, Kumar, B., Das Sharma, S., Zachariah, J.K., Roy, A.B. and Srinivasan, R. (1997) ¹³C Enrichment in Paleoproterozoic Carbonate rocks of the Aravalli Supergroup, Northwestern India: Evidence for Enhanced Organic Productivity. Proceedings of *International Conference on Isotopes in the Solar System*, November 11-14, Physical Research Laboratory, Ahmedabad, p.121.
35. **Sreenivas, B.** (1997) Sericite deposits at the base of the Aravalli Supergroup - A study of metamorphosed and metasomatised Precambrian paleosol. **Young Scientist Award Lecture, 84th Indian Science Congress**, Delhi, India, January 3-8, p. 34.

1995

36. Srinivasan, R. and Sreenivas, B. (1995) Sedimentation and tectonics of the Proterozoic Aravalli Supergroup, northwestern India. Proceedings of *Precambrian 95, International Conference on Tectonics and Metallogeny of Early/Mid Precambrian Orogenic Belts*, August 28– September 1, Montreal, Canada, p. 213.

SUMMARY OF STUDENT ACTIVITIES:*CURRENT STUDENTS**PAST STUDENTS***VISITING SCIENTISTS SPONSORED**

1	Prof. Taksahsi Murakami	March-12-17, 2006
2	Dr. Andrey Bekker	February 16-28, 2012

EXTERNAL PROJECTS AS PL/CO-PL (PRESENT AND PAST)

Funding Agency	Project/Investigators	Amount	Period
BRNS	Fe isotope compositions new exploration tool	₹2000000	March, 2012-onwards
	B. Sreenivas , T. Vijaya Kumar	₹800,000	2008-onwards
DST	Geochemistry of Bababudan metapelites		
	D.V. Subbarao, B. Sreenivas		
	Geochemistry of Chromites		
DST	P.V. Sunder Raju, B. Sreenivas	₹800,000	2008-onwards