

Dr. Suman Sarkar

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RESEARCH INTERESTS

- Palaeoecology and taxonomy of fossil coralline red algae and larger benthic foraminifera
- Palaeoenvironmental reconstructions based on analysis of carbonate microfacies
- Climate change impacts of greenhouse events during the Palaeogene on foraminifera and algae

EDUCATION

2014. Ph.D. Botany, Andhra University, Visakhapatnam, India

Thesis Title: Biofacies analysis of Palaeogene and Neogene carbonate sediments of India with special reference to calcareous algae

2008. M.Sc. Botany, University of Lucknow, India.

Percentage: 70.4

2006. B.Sc. University of Lucknow, India

Subjects: Botany, Geology and Chemistry

Percentage: 71.8

WORK EXPERIENCE

September 2021-present. Scientist-B (Birbal Sahni Institute of Palaeosciences, Lucknow, India)

March 2019-June 2021. Royal Society-SERB Newton International Fellow (School of Earth Sciences, University of Bristol, UK)

Project Title: Climate change impacts on coralline algae in response to the Paleocene-Eocene Thermal Maximum

September 2015-March 2019. SERB Principal Investigator (Birbal Sahni Institute of Palaeosciences, Lucknow, India)

Project Title: Facies dynamics of Palaeocene-Eocene carbonates from Meghalaya, N-E India: palaeoenvironmental implications

August 2011–July 2014. CSIR (NET) Senior Research Fellow (Birbal Sahni Institute of Palaeosciences, Lucknow, India)

Project Title: Biofacies analysis of Palaeogene and Neogene carbonate sediments of India with special reference to calcareous algae

July 2009–July 2011. CSIR (NET) Junior Research Fellow (Birbal Sahni Institute of Palaeosciences, Lucknow, India)

Project Title: Biofacies analysis of Palaeogene and Neogene carbonate sediments of India with special reference to calcareous algae

AWARDS AND RECOGNITIONS

Total citations of papers published till date = 201 (source: Google Scholar)

Total cumulative Impact factor of papers published in the indexed journals = 52.29

2021. Awarded the Ramanujan Fellowship by the Science and Engineering Research Board, India

2019. Awarded the Royal Society-SERB Newton International Fellowship for carrying out postdoctoral research work at the School of Earth Sciences, University of Bristol, UK for a period of 2 years (later received an extension of 3 months).

2017. Awarded sponsorship (International Travel Support) from Science and Engineering Research Board, India to attend the Flugel Course at the University of Erlangen, Germany.

2016. Dr. B.S. Venkatachala Gold Medal for best research work done by a young scientist (Birbal Sahni Institute of Palaeosciences, Lucknow).

2013. Best Poster Presentation Award at the National Conference on Recent Developments in Plant and Earth Sciences (Birbal Sahni Institute of Palaeobotany, Lucknow).

2013. Best Poster Presentation Award at the XXIV Indian Colloquium on Micropaleontology and Stratigraphy (Wadia Institute of Himalayan Geology, Dehradun).

2011. Best Poster Presentation Award at the National Conference on Stratigraphy, Palaeontology and Palaeoenvironment (University of Rajasthan, Jaipur).

2010. Awarded Student Sponsorship for attending the 3rd World Petroleum Council Youth Forum (Oil and Natural Gas Commission, India).

2008. CSIR-NET (JRF) in Life Science.

LIST OF PUBLICATIONS

Publications in Peer-Reviewed Journals/Edited Books:

1. Hadi M, **Sarkar S**, Vahidinia M and Bayet-Goll A (2021) Microfacies analysis of Eocene Ziarat Formation (eastern Alborz Zone, NE Iran) and paleoenvironmental implications. *All Earth* **33**, 66-87 (Impact Factor – 3.235).
2. **Sarkar S** (2020) Ecostratigraphic implications of a Late Palaeocene shallow-marine benthic community from the Jaintia Hills, Meghalaya, NE India. *Journal of Earth System Science* **129**, 10 (Impact Factor – 1.371).
3. Hadi M, Ozgen-Erdem N, Sinanoglu D, **Sarkar S** and Zareh A (2020) Distribution of *Alveolina* assemblages in the Ypresian (Ilerdian-Cuisian) successions from Iran and Turkey (central and western Tethys): biostratigraphic implications for regional correlation. *Micropaleontology* **66**, 51-74 (Impact Factor – 1.605).
4. **Sarkar S** (2020) Reply to the comment on ‘Does specialization imply rare fossil records of some benthic foraminifera: Late Palaeocene examples from the eastern Neo-Tethys (Meghalaya, NE India)’. *Palaeogeography Palaeoclimatology Palaeoecology* **539**, 109529 (Impact Factor – 3.318)
5. Hadi M, Parandavar M, Mosaddegh H, **Sarkar S** (2019) Nummulitids of the shallow-marine middle Eocene limestones from the central Iran region: taxonomic and biostratigraphic implications. *Micropaleontology* **65**, 285-300 (Impact Factor – 1.605).
6. **Sarkar S** (2019) *Alveolina*-dominated assemblages in the early Eocene carbonates of Jaintia Hills, NE India: Biostratigraphic and palaeoenvironmental implications. *Comptes Rendus Palevol* **18**, 949-966 (Impact Factor- 1.542).
7. Singh YR, Singh KA and **Sarkar S** (2019) Palaeoecological significance of a palynofloral assemblage from Surma Group (Late Miocene) of Tamenglong area, Manipur, northeast India. *Journal of Earth System Science* **128**, 39 (Impact Factor – 1.371).
8. **Sarkar S** (2019). Does specialization imply rare fossil records of some benthic foraminifera: Late Palaeocene examples from the eastern Neo-Tethys (Meghalaya, NE India). *Palaeogeography Palaeoclimatology Palaeoecology* **514**, 124-134 (Impact Factor – 3.318).
9. **Sarkar S** and Narasimha Rao GM (2018). Coralline red algae from late Palaeocene-earliest Eocene carbonates of Meghalaya, N-E India: palaeocommunity and trophic-level implications. *Carbonates and Evaporites* **33**, 767-781 (Impact Factor – 1.300).
10. **Sarkar S** (2018). The enigmatic Palaeocene-Eocene coralline *Distichoplax*: Approaching the structural complexities, ecological affinities and extinction hypotheses. *Marine Micropalaeontology* **139**, 72-83 (Impact Factor – 2.415).

11. **Sarkar S** (2017). Microfacies analysis of larger benthic foraminifera-dominated Middle Eocene carbonates: a palaeoenvironmental case study from Meghalaya, N-E India (eastern Tethys). *Arabian Journal of Geosciences* **10**, 121 (Impact Factor – 1.827).
12. **Sarkar S** (2017). Ecology of coralline red algae and their fossil evidences from India. *Thalassas* **33**, 15-28 (Impact Factor – 0.620).
13. **Sarkar S** (2016). Early Eocene calcareous algae and benthic foraminifera from Meghalaya, N-E India: A new record of microfacies and palaeoenvironment. *Journal of the Geological Society of India* **88**, 281-294 (Impact Factor – 1.459).
14. **Sarkar S** (2016). Upper Pliocene heterozoan assemblage from the Guitar Formation of Car Nicobar Island, India: palaeoecological implications and taphonomic signatures. *Palaeobiodiversity and Palaeoenvironments* **96**, 221-237 (Impact Factor – 1.406).
15. **Sarkar S**, Ghosh AK and Narasimha Rao GM (2016). Coralline algae and benthic foraminifera from the Long Formation (late middle Miocene) of the Little Andaman Island, India: biofacies analysis, systematics and palaeoenvironmental implications. *Journal of the Geological Society of India* **87**, 69-84 (Impact Factor – 1.459).
16. **Sarkar S** (2016). Coral bleaching and migration: steps for integrated management. In: Govil JN, Gurjar BR and Kumar A (Eds), Biodiversity and Conservation. Environmental Science and Engineering Series, Studium Press LLC, USA **2**, 267-281 (Chapter in Book).
17. **Sarkar S** and Sarkar S (2016). Diversity of corals and benthic algae across the shallow water reefs of Andaman Islands: managing the valuable ecosystems. *Environment, Development and Sustainability* **18**, 1801-1814 (Impact Factor – 3.219).
18. **Sarkar S** (2015). Thanetian-Ilerdian coralline algae and benthic foraminifera from northeast India: microfacies analysis and new insights into the Tethyan perspective. *Lethaia* **48**, 13-28. (Impact Factor – 2.247).
19. **Sarkar S** and Ghosh AK (2015). Evaluation of coralline algal diversity from the Late Middle Miocene sediments of Little Andaman Island (Hut Bay). *Carbonates and Evaporites* **30**, 13-24 (Impact Factor – 1.300).
20. **Sarkar S** (2015). Calcareous algal-rich carbonate sediments from Assam Shelf, N-E India: An overview of palaeoenvironmental implications. In: Mukherjee S (Ed), Petroleum Geosciences: Indian Contexts, pp. 175-189 (*Springer Geology*, Chapter in Book).
21. Sarma A, Ghosh AK and **Sarkar S** (2014). First record of coralline red algae from the Kopili Formation (late Eocene) of Meghalaya, N-E India. *National Academy Science Letters* **37**, 503-507 (Impact Factor – 0.788).
22. Sarkar S, Saxena R and **Sarkar S** (2014). Palynology of the Eocene sediments of the West Garo Hills, Meghalaya, NE India: biostratigraphic and palaeoenvironmental implications. *Journal of the Palaeontological Society of India* **59**, 199-212 (Impact Factor – 0.705).

23. **Sarkar S** and Ghosh AK (2013). Coral bleaching a nemesis for the Andaman Reefs: Building an Improved Conservation Paradigm. *Ocean and Coastal Management* **71**, 153-162 (Impact Factor – 3.284).
24. Ghosh AK and **Sarkar S** (2013). Palaeoecological implications of coralline red algae and halimeda green algae from the Prang Formation of South Shillong Plateau (Meghalaya, N-E India). *Journal of the Geological Society of India* **81**, 531-542 (Impact Factor – 1.459).
25. Ghosh AK and **Sarkar S** (2013). Facies analysis and palaeoenvironmental interpretation of Piacenzian carbonate deposits from the Guitar Formation of Car Nicobar Island, India. *Geoscience Frontiers* **4**, 755-764 (Impact Factor – 6.853).
26. Ghosh AK and **Sarkar S** (2013). Diversification of the family Sporolithaceae: A case of successful survival in the perspective of Cretaceous-Tertiary Mass Extinctions in India. *National Academy Science Letters* **36**, 215-224 (Impact Factor – 0.788).
27. Ghosh AK, Sarma A and **Sarkar S** (2013). Diversity of Middle Eocene Coralline Red Algae from the Prang Limestone (Shella Formation) of Jaintia Hills, Meghalaya, NE Himalaya, India with special emphasis on palaeoenvironment. *Chinese Science Bulletin* **58**, 118-125.
28. Ghosh AK and **Sarkar S** (2013). Fossil calcareous algae from the hydrocarbon-potential sedimentary basins of India. In: Verma, PK (Ed), Collected Topics in Earth System Science. M.P. Council of Science and Technology **2**, 92-98 (Chapter in Book).
29. **Sarkar S** and Ghosh AK (2012). Potential of Coralline Algae in Palaeoclimate Reconstruction: Need for Suitable Exploitation in India. *National Academy Science Letters* **35**, 531-533 (Impact Factor – 0.788).
30. **Sarkar S**, Ghosh AK and Kumar M (2011). Recognition of algal rich facies from the Umlatdoh Limestone of Shella Formation, Jaintia Group, Meghalaya. *Palaeobotanist* **60**, 315-321.
31. **Sarkar S** and Ghosh AK (2010). Biodiversity Dynamics in Relation to the Mass Extinction Events on Planet Earth. In: Kumar A and Das G (Eds), Biodiversity, Biotechnology and Traditional Knowledge: Understanding Intellectual Property Rights. Narosa Publishing House, New Delhi, 37-56 (Chapter in Book).
32. Ghosh AK and **Sarkar S** (2010). Contemporary taxonomic perspectives of fossil Coralline Red Algae: their possible origin and evolution. *Palaeobotanist* **59**, 107-119.

Other Publications:

33. Ghosh AK and **Sarkar S** (2013). Eutrophication: A Formidable Foe. *Everyman's Science* **48**, 358-363.
34. **Sarkar S** (2013). Youth Violence: Risks, Causes, Management Strategies and Directions for Future Inquiry. In: Castillo, E (Ed), Youth: Practices, Perspectives and Challenges

(Children's Issues, Laws and Programs). *Nova Science Publishers*, New York, 89-110 (Chapter in Book).

35. **Sarkar S** (2013). Report on PAGES 4th Open Science Meeting at Goa. *Journal of the Geological Society of India* **81**, 726 (Impact Factor – 1.459).

36. **Sarkar S** (2011). Report on 3rd World Petroleum Council and Petrotech Youth Forum. *Journal of the Geological Society of India* **77**, 201 (Impact Factor – 1.459).

37. **Sarkar S** and Ghosh AK (2010). Algae: A Boon to Mankind. *BSIP Newsletter* **13**, 15-16.

Abstracts:

1. Melbourne L, Titelboim D, **Sarkar S** and Schmidt D (2020). To break or not to break: the impacts of climate change on skeletal function of marine calcifiers. (GSA Annual Meeting 2020).

2. **Sarkar S** (2018). A relic for algal heterozoan assemblage of the eastern Neo-Tethys (Prang Limestone, Meghalaya): A possible analogue of future shallow-marine benthic ecosystems. Young Scientists Conference, 4th India International Science Festival, Lucknow, 5-6 October.

3. **Sarkar S** (2018). Palaeobathymetric implications of Thanetian-Ilerdian benthic foraminifera and calcareous algae from Meghalaya, N-E India (Eastern Tethys): An ecological approach. INQUA-PAGES Workshop for Early-Career Researchers, Impacts of sea-level rise from past to present (iSLR18), Utrecht, the Netherlands, 26-29 August).

4. **Sarkar S** (2016). Community dynamics and species richness of Mio-Pliocene coralline algae-benthic foraminifera from Little Andaman and Car Nicobar Islands, India. 3rd NECLIME Asian Meeting, Lucknow, 23-24 February, 53 p.

5. **Sarkar S** (2015). Taphonomy and paleocology of Paleocene-Eocene calcareous algae from Meghalaya, N-E India. National Conference on Paleogene of the Indian Subcontinent, Lucknow 23-24 April, 44 p.

6. **Sarkar S**, Ghosh AK and Rao GMN (2013). Palaeoecology of shallow-water calcareous algae and benthic foraminifera: insights from Middle Eocene example of Meghalaya, North-Eastern India. National Conference on Recent Developments in Plant and Earth Sciences, Lucknow, 28-29 November, 109 p.

7. **Sarkar S** and Ghosh AK (2013). Palaeoenvironmental interpretation of early Eocene shallow-water for-algal reef carbonates from South Jaintia Hills, Meghalaya, NE India based on microfacies analysis. XXIV Indian Colloquium on Micropaleontology and Stratigraphy, Dehradun, 18-20 November, 125 p.

8. **Sarkar S**, Ghosh AK and Narasimha Rao, GM (2013). Late Middle Miocene carbonates of Little Andaman Island (Hut Bay), India: Microfacies analysis and palaeoenvironmental reconstruction based on coralline algae, benthic foraminifera and corals. National Seminar on

Genomes, Environment & Human Welfare - Retrospect and Prospect, Visakhapatnam, 22-23 March, A64: 76 p.

9. **Sarkar S** and Ghosh AK (2013). Coralline algal and larger benthic foraminiferal facies in an Upper Palaeocene shallow water, reefal carbonate platform (Meghalaya, North-Eastern India): Exploring the palaeoenvironmental implications. PAGES 4th Open Science Meeting 2013, Goa, 13-16 February, 222 p.

10. Ghosh AK and **Sarkar S** (2012). Fossil calcareous algae from the orallhydrocarbon-potential sedimentary basins of India and their palaeoecological implications. 99th Indian Science Congress, Bhubaneswar, Section V. Earth System Sciences, Part II, 3-7 January, pp. 150-151.

11. Ghosh AK and **Sarkar S** (2011). Influence of end Cretaceous mass extinction on the diversity of coralline red algae from India. National Symposium on Plant Diversity and Resources: Evolution, Analyses, Stress and Challenges and Palaeophytodiversity: Its Aspects and Prospects, 20-22 December, pp. 87-88.

12. Ghosh AK and **Sarkar S** (2011). Palaeogene and Neogene calcareous algae from India. XXII Congresso Brasileiro De Paleontologia, Natal, pp.762-763.

13. Ghosh AK and **Sarkar S** (2011). Palaeodiversity of fossil algae and benthic foraminifera with special allusion to taphonomy and growth-form analysis of coralline algae from the Late Middle Miocene sediments of Long Formation, Little Andaman Island (Hut Bay), India. 10th International Symposium on Fossil Algae Cluj-Napoca, Romania, 12-18 September, 31 p.

14. Ghosh AK and **Sarkar S** (2011). Facies characterization and palaeoenvironmental significance of reef-forming coralline algae dominated sediments: A case study from the Guitar Formation (Middle Pliocene) of Car Nicobar Island, India. 10th International Symposium on Fossil Algae Cluj-Napoca, Romania, 12-18 September, pp. 29-30.

15. **Sarkar S**, Ghosh AK and Kumar M (2011). Recognition of algal rich facies from the Umlatdoh Limestone of Shella Formation belonging to the Jaintia Group, Meghalaya. National Conference on Stratigraphy, Palaeontology and Palaeoenvironment, 3-5 February, 89 p.

16. Ghosh AK and **Sarkar S** (2009). Diversity, Growth-form and Taphonomic analysis of corallineacean red algae and halimedacean green algae from South Shillong Plateau (Meghalaya, NE India). XXII Indian Colloquium on micropalaeontology and stratigraphy, 16-18 December, pp. 7-8.

17. Ghosh AK and **Sarkar S** (2009). Diversification of the family Sporolithaceae: A Witness and a Survivor to Cretaceous-Tertiary Mass Extinctions in India. XXII Indian Colloquium on micropalaeontology and Stratigraphy, 16-18 December, pp. 5-6.

CONFERENCES/SYMPOSIA ATTENDED

National:

2018. Young Scientists Conference, 4th India International Science Festival, Lucknow (5-6 October).

2015. National Conference on Paleogene of the Indian Subcontinent held at the Birbal Sahni Institute of Palaeosciences, Lucknow (23-24 April).

2013. National Conference on Recent Developments in Plant and Earth Sciences held at the Birbal Sahni Institute of Palaeosciences, Lucknow (28-29 November).

2013. XXIV Indian Colloquium on Micropaleontology and Stratigraphy held at the Wadia Institute of Himalayan Geology, Dehradun (18-20 November).

2012. 99th Indian Science Congress held at KIIT University, Bhubaneswar (3-7 January).

2011. National Conference on Stratigraphy, Palaeontology and Palaeoenvironment held at the University of Rajasthan, Jaipur (3-5 February).

2009. XXII Indian Colloquium on Micropaleontology and Stratigraphy held at National PG College, Tiruchhirapalli, Tamil Nadu (16-18 December).

International:

2018. INQUA-PAGES Workshop for Early-Career Researchers, impacts of sea-level rise from past to present (iSLR18) held at Utrecht, the Netherlands (26-29 August).

2016. 3rd NECLIME Asian Meeting held at the Birbal Sahni Institute of Palaeosciences, Lucknow (23-24 February).

2013. PAGES 4th Open Science Meeting at Cicade de Goa organized by NCAOR, Goa (13-16 February).

2010. Petrotech 3rd World Petroleum Council Meeting and Youth Forum held at New Delhi (31 Oct-3 November).

TRAININGS/WORKSHOPS

2021. Royal Society Writing about your Research Course (16 March).

2021. Policy writing workshop (Organized by the Cabot Communicators, University of Bristol and Cambridge University Science and Policy Exchange (4 March).

2021. Royal Society Workshop on Public Engagement for independent researchers (25-26 February).

2021. Cabot Communicators: press and media training (3 February).

2020. Cabot Communicators Writers Retreat Workshop (4 June).

2019. Royal Society Leadership Effectiveness Course at the Kavli Royal Society International Center, Milton Keynes, UK (14-16 August).

2019. Royal Society New International Fellows' Induction Day workshop at the Royal Society, London (13 May).

2017. The Flugel Course (International Course on Carbonate Microfacies) at the Erlangen University, Erlangen, Germany (6-10 March).

2015. Refresher Course on Paleontology and Biostratigraphy at the Regional Training Institute, Geological Survey of India, Lucknow (11-16 May).

2013. Mentoring Session for final year Ph.D. students by INSA Young Scientist Awardees, Birbal Sahni Institute of Palaeosciences, Lucknow (28 December).

2011. Training Programme on Late Cenozoic dinoflagellate cysts by Prof. Martin J. Head, Department of Earth Sciences, Brock University, St Catharines, Canada at the Birbal Sahni Institute of Palaeosciences, Lucknow (14-19 February).

2009. Training Programme on Sedimentology and Sequence Stratigraphy at the Birbal Sahni Institute of Palaeosciences, Lucknow (26-31 October).

STUDENT SUPERVISION

Supervised M.Sc. student Ms. Robyn Elizabeth Lennox for the dissertation entitled 'Impact of long-term environmental changes on the structural integrity of coralline algae during the Palaeogene' (Term 2020-21; Co-supervised with Dr. Leanne Melbourne, School of Earth Sciences, University of Bristol).

OTHER INFORMATION

Invited Reviewer for professional national/international journals – Ocean and Coastal Management, Carbonates and Evaporites, Marine Micropaleontology, Geological Journal, Palaeoworld, Journal of the Geological Society of India, Arabian Journal of Geosciences, Journal of African Earth Sciences, Journal of Micropaleontology, International Journal of Earth Sciences, Global and Planetary Change, Journal of Asian Earth Sciences: X.

Member of Professional Societies - Palaeobotanical Society of India (Lucknow), Palaeontological Society of India (Lucknow) and Gondwana Geological Society (Nagpur).