



## BOOK REVIEW



### MICROPALAEONTOLOGY : PRINCIPLES AND APPLICATIONS

Authored by Pratul Kumar Saraswati and M. S. Srinivasan; published by Springer (2016).

In the last few decades, the 'Micropaleontology' discipline, which deals with various microfossil groups and their geological applications, has developed enormously because of vigorous exploration for hydrocarbons and increasing interests in understanding global ocean and climate change. There has been a long-felt need for a textbook on 'Micropaleontology', that can be helpful to students and researchers for learning basic skills to study microfossils and use them to resolving various scientific issues of societal relevance. A remarkable textbook titled "Micropaleontology: Principles and Applications" authored jointly by P. K. Saraswati (IIT, Mumbai) and M. S. Srinivasan (BHU) has been published recently by Springer (2016). This 224-page book is divided into three parts. In Part I, the authors introduce readers to various types of microfossils, their field collection and laboratory techniques, including surface ultrastructure and geochemical studies of shells; modern concepts of Systematics and the methodologies used in taxonomic, phylogenetic and palaeoecologic studies. The Part II of the book provides an overview of all important microfossil groups with their biology (wherever applicable), morphology, ecology and geological history. The Part III of the book emphasizes on applications of various microfossil groups in biostratigraphy, palaeoenvironmental and palaeoclimatic reconstructions. Overall, the book is nicely structured, well illustrated with quality diagrams; and text boxes are used for basic concepts and principles followed in micropaleontological studies. This book is eminently useful for the professionals, young researchers and students; and even for the interested amateur without a formal background of palaeontology.

**A. D. SINGH**

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## OBITUARY

### Professor Bimal Kumar Samanta



22-6-1937 to 13-8-2016

Professor Bimal Kumar Samanta (22-6-1937 to 13-8-2016) passed away at his Kolkata residence following a period of brief illness. He is survived by his wife. He spent his retired life in peace and seclusion. With his demise, the academic fraternity has lost a teacher – researcher of exceptional calibre. He will be deeply missed by his colleagues, friends, students and followers.

Prof. Samanta retired from Calcutta University in 2002, after serving the institution for 40 years. He was awarded PhD degrees from Calcutta University and also University College of Wales, Aberystwyth, U.K. His remarkable teaching ability fascinated generations of students. He was an active executive member of the Geological Mining and Metallurgical Society of India and a member of the editorial board of the Journal of the Palaeontological Society of India. In 1984, the XI Indian Colloquium on Micropalaeontology and Stratigraphy was held under his aegis at Calcutta University.

Prof. Samanta worked on the systematics and stratigraphic relevance of Tertiary foraminifera. He authored 50 articles in reputed national and international journals concerning invaluable micropalaeontological data from Garo Hills, Garampani, Puducherry, Surat-Broach, Kutch and Rakhi Nala (Pakistan). His scholarly works on *Alveolina* d'Orbigny, *Assilina* d'Orbigny, *Asterocyclina* Gümbel, *Biplanispira* Umbgrove, *Borelis* de Montfort, *Discocyclina* Gümbel, *Fabiania* Silvestri, *Linderina* Schlumberger, *Lockhartia* Davies, *Nummulites* Lamarck, *Pellatospira* Boussac, *Ranikothalia* Caudri and some attached and encrusting foraminifera are exemplary. His contributions on dimorphism, Palaeocene stratigraphy of the Indo-Pak region, Eocene/Oligocene larger foraminiferal events in the Indo-West Pacific region and planktonic foraminiferal zonations for intercontinental correlation deserve special mention. Six students were awarded PhD degree under his supervision.

May his soul rest in peace.

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## BRAINSTORMING SESSION ON GEOSCIENCE EDUCATION

21-22 October, 2016

Palaeontological Society of India

Venue: Birbal Sahni Institute of Palaeosciences, Lucknow

A two-day 'Brainstorming Session on Geoscience Education' was organized by the Palaeontological Society of India and Birbal Sahni Institute of Palaeosciences on 21st-22nd October, 2016 at B.S.I.P., Lucknow. The session was held under the auspices of Federation of Geoscience Association (FIGA). Mr. M. Raju, the Director General, Geological Survey of India, inaugurated the session. In his inaugural address, Mr. Raju stressed the need for introducing geoscience course at Pre-university level and orientation of geoscience education on digital platform. Besides, Mr. Raju, Prof. Somnath Dasgupta of Jamia Milia Islamia University, Prof. D.M. Banerjee, Emeritus Professor of Geology, Delhi University, Prof. Naveen Chaudhri, Head, Geology Department, Panjab University, Chandigarh took active part in the discussion. In addition, scientists from BSIP, retired officers of Geological Survey, teachers from Lucknow and other universities participated in the discussion and gave useful suggestions.

Following are the recommendations on the session:

1. **Geoscience Education at Pre-University Level**  
Participants unanimously resolved that geoscience education should be part of Pre-University education. Elements of geoscience should be introduced at this level. If possible, the subject may be independent. Or initially should be a substantial part of Geography/Environmental curriculum. This recommendation should be pursued with the State Education Boards, CBSE and ICSE Boards.
2. **Geoscience Education on Digital Platform**  
Government has invested a huge amount resources for digitization of information for teaching such as NKN, (Nodal Agency IIT Khargapur), MOOCS, IIT Bombay, E-Pathshala, Virtual Classrooms, E-learning. Besides, several other agencies like SEPM lectures are available for consultation. Popularization of these resources is required so that information is percolated at Pre-University and University level. Geoscience courses on digital platform are also available on the websites of many foreign university and global energy companies which can be downloaded and used in teaching.
3. **Structure of Degrees (Integrated Five Years vs Three years)**  
Aspects of degrees imparted by various universities were discussed. Plans of integrated five-year degree course were favoured with the provision of exit after three years. First year students must be adequately exposed to other basic sciences.
4. **Courses to be operated by corporate houses.**  
Participants were not in favour of degree courses to be run by the corporate houses.
5. **Preparation of syllabus and course books by Indian authors**  
Primary syllabus, as available at UGC site (CBCS), prepared under the aegis of UGC should be discussed at national level in order to make suitable modifications. Nearly 80% of the syllabus should be common nationally, while allowing universities to modify the syllabus up to 20% to incorporate topics of regional interests. It is recommended to constitute a Task Force for this purpose with wider participation to revise, modify and upgrade the syllabus at periodic intervals. Geoscience syllabus has to be dynamic in order to adjust to the changing macro-economic environment.  
It has been noted that active and experienced faculty members are unwilling to be involved in the preparation of course books. The main reason behind this apathy is primarily due to lack of incentives. There is need for textbooks on various aspects of geoscience courses by Indian teachers with Indian examples. Attempts should be made towards the preparation of these books in E-textbook Format which is most economical. These e-textbooks could in turn be easily made available on digital platform of different academic agencies.
6. **Field component at UG and PG**  
Field is an integral part of geoscience education. For preparing the next generation of well acquainted geoscientists, fieldwork should be mandatory with specific duration. Purpose of the field should be well defined. Area may be selected on the basis of geographical accessibility depending upon the location of the university. Selection of area must be instructive. Universities and colleges should be encouraged to prepare suitable field guidebooks of the areas in their vicinity. Selection of the field area is of utmost importance and it should be carefully done with the help of field guide book. First year students of UG should be taken to field to apprise them of the nuances of the earth sciences. A proper balance between recent and traditional methods of field geology is to be maintained. Funding is the main constraint in implementing the fieldwork. UGC should step in to support this activity and provide necessary funds. The quantum of funds should be periodically revised. There is a need to prepare video films on the area to be visited. Students must be shown these films before embarking on the field, so that they are made aware of the field exposures.



Sri M Raju, DG, GSI Inaugurating the brainstorming session on Geoscience Education.

### 7. Establishment of Natural History Museums and Conservation and Preservation of Geo-heritage sites; preservation of stratotypes and marking GSSPs in Indian basins.

India, as a country, is lacking in good Natural History

Museums (NHM). Similarly, geoparks are also required to be maintained in different regions and localities. Establishment of NHMs is a necessary part of geoscience education. Displays of the museums are to be integrated with education. Conservation and preservation of different stratotypes, GSSPs and geological sites are important, so that the precious sites can be preserved for future generations.

On behalf of the Society, Prof. M. P. Singh, Prof. D. M. Banerjee and Dr. V. P. Mishra attended First Triennial Congress of FIGA held at Dhanbad from 8<sup>th</sup> to 10<sup>th</sup> Nov. 2016. Dr. V. P. Mishra presented a paper highlighting the Lucknow recommendations. These were well received and appreciated by delegates. The final outcome will be forwarded to all stakeholders and the concerned Government agencies for further necessary follow up action.

**M.P. SINGH**

Secretary

Palaeontological Society of India

## INTERNATIONAL FOSSIL DAY

The Palaeontological Society of India in collaboration with Regional Science City, Lucknow, organized a function to celebrate International Fossil Day on 16th October 2016. About 200 school children participated in the interactive session. Students were told about significance of fossils and how to save fossil localities. The function was presided over by Prof. Sunil Bajpai, Director, Birbal Sahni Institute of Palaeosciences. Dr. V.P.Mishra and Dr Mukund Sharma delivered short lectures about importance of fossils.



Seated on the dais (from left) are Prof. M. P. Singh, Prof. S. Bajpai, Dr. V. P. Mishra and Dr. M. Sharma.



The school children are observing the fossils.

**M.P. SINGH**

Secretary, Palaeontological Society of India

## PROF. S. N. SINGH MEMORIAL LECTURE

Prof. S. N. Singh Memorial Lecture was organized by the Palaeontological Society of India on October 21, 2016 at 4.0 PM at Birbal Sahni Institute of Palaeosciences. The lecture was delivered by Prof. Somnath Das Gupta, FNA on “Tectonothermal Evolution of the Peninsular India during the Proterozoic in the context of Columbia, Rodinia and Gondwana.



**Prof. Somnath Das Gupta, FNA delivering  
18<sup>th</sup> Prof. S. N. Singh Memorial Lecture**

## PROF. S. K. SINGH MEMORIAL GOLD MEDAL

During the function on 21st October, 2016 before the lecture of Prof. Somnath Das Gupta, Dr. Debahuti Mukherjee, Senior Geologist, Geological Survey of India, Kolkata, was



**Dr. Debahuti Mukherjee,**  
Recipient of Prof. S. K. Singh Memorial Gold Medal

awarded the Prof. S. K. Singh Memorial Gold Medal for her paper entitled “Diversity dynamics of the Jurassic brachiopod fauna of the Kachchh and Jaisalmer basins, India” (published in the Journal of the Palaeontological Society of India, vol. 60 (2)). Her paper was considered the best contribution in the journal for the year 2015.

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