

Webinars and E-Classes by Institution of Geoscientists, Odisha – R.N. Sar (*E: rabi2157@gmail.com*), M. Mohanty*, Deputy Director General (Retd.), RSAS, GSI, Bengaluru (*E: manoranjanmoha@gmail.com*) and J. N. Das (*E: jndas7@gmail.com*)

As COVID Pandemic has paralyzed the physical meetings and interactions, web based meetings like Webinars and e-classes have become the new normal. Institution of Geoscientists, Odisha, Bhubaneswar (IGO), a registered society of former geoscientists of GSI, Odisha, converted this challenge into a golden opportunity to connect remotely placed persons. They embarked upon the idea of knowledge sharing mainly with the new generations of young professional and students under the theme “Learning through Experiences” and conducted series of webinars and e-classes. The response was overwhelming from across the spectrum of geosciences communities.

Webinar- 2020

First in the line was a series of Webinars on different domains of geosciences starting from 17th August till 30th November 2020 on every Monday at 7.00 PM. A total of seventeen lectures were delivered by various domain experts of earth science, belonging to professional organisations like GSI, AMD, OIL, UCIL, IMMT, Bhubaneswar and CGWB. The topics covered during the webinar were (i) Precambrian Geology of Odisha as a key to mineral exploration strategies by Shri Jayant Kumar Nanda, Former DDG, GSI (2) Iron ore metalogeny with special reference to Odisha by R.N.Sar, Former DDG, GSI (3) Present Exploration scenario and the search for prospective blocks by Dr. M. Mohanty, Former DDG, GSI (4) Exploration strategy of concealed and low level Iron Ore deposits in Bonai-Keonjhar Belt of Odisha : A case study of Sagasahi-Ghorabburhani block by Sh. S.K. Jena, Former DDG, GSI (5) Hydrogeochemistry of groundwater in fluorosis affected areas: A case history from Bolangir district, Western Odisha by Dr. S.B. Ray, Former DDG, GSI (6) Gemstones in India : A geological perspective by Sh. J.N.Das, Former DDG, GSI along with Prof. R.V. Karanth, Former Professor, M.S. University, Baroda, (7) The impact of Glacio-Eustasy on the shelf sediments during Last Glacial Cycle by Dr. B.N. Faruque, Former Director, GSI (8) Lateritisation and associated mineralisation by Sh. R. N. Patra, Former DDG, GSI (9) Challenges and opportunities in REE exploration and production – Indian context by Dr. Rajgopal Mohanty, Former Addl. Director, AMD and (10) Potential of natural gas - A game changer for Odisha by Sh. Sachidanada Rath, Former Director, Oil India and Former Member, PNGRB (11) Recovery of strategic placer heavy minerals from red sediments of badland topography of Odisha and its value addition by Dr. Bhima Rao, Former Chief Scientist, IMMT, Bhubaneswar (12) Groundwater situation and challenges in India with special reference to Odisha by Sh. G.C. Pati, Chairman, Central Ground Water Board (CGWB), (13) Resource/Reserve reporting as per JORC / NI 43-101 by Sunit Patel, Former Senior Geoscientist, GSI (14) Coastal erosion and river mouth process by Sh. G.P. Mohapatra, Former ADG, GSI (15) Uranium, Global availability and Indian scenario by Dr. A.K. Sarangi, Former Executive Director, UCIL, (16) Manganese metalogeny with special reference to Odisha by Dr. B.K. Mohapatra, Former Chief Scientist, IMMT, Bhubaneswar and (17) Indian expeditions to Antarctica and South Pole by Dr. Ashit Swain, Director, GSI.

All the presentations generated significant interest among the students and professionals alike which in turn helped in bringing

awareness in the society about the developments in earth sciences in the country in general and in Odisha in particular. Shri J.N. Das, Secretary and Dr. M. Mohanty, Jt. Secretary, IGO under the able guidance of Shri Sisir Chandra Rath, President, IGO and Former Director General, GSI managed the program successfully.

Based on the unexpected success of the webinar series and constant feedback from the young geoscientists and students of earth sciences IGO launched two e-class programs namely “Understanding Gemmology” and “Basic Course on Economic Geology for PG Students”. Brief reports of both the program is presented below.

Understanding Gemmology

This five day program from 17th to 21st November 2020 with 10 e-classes meant for Earth Science students was designed to create awareness on broad aspects of gemmology with special focus on understanding of gemstones and gem materials. The program evinced keen interest among the students and 110 students pre-registered for the course.

The course was co-coordinated by Dr R.V. Karanth, Former Professor, M.S University, Baroda and author of the books ‘Gem and Gem Industry’ and ‘Enchanting Gemstones’ published by Geol. Soc. India and Shri JN Das, Former DDG, GSI. Dr R.V. Karanth covered the subjects like “Introduction to gemstones, Minerals and crystals, Gem minerals in natural form, Classification of gemstones, Diamond, Corundum, Beryl, Stones of lesser importance, Opaque stones, Man-made / Lab grown gems, Imitations, Gem cutting and Jewellery” while Shri J. N. Das covered the subjects like “Properties of gems, Gem testing instruments, Other important gemstones, Unusual stones, Organic gems, Gems for carving, Gemstone enhancement and Gemstone occurrences of India”. As an icing on the cake, an interesting last lecture on ‘Mining of Gemstones’ was delivered by Dr D.J. Baral, Director Technical Services, Fura Gems from the Emerald Mines, Columbia.

This short course has created an indelible impact on all the participants.

Basic Course on Economic Geology for PG Students

A Post Graduate level free capsule on Economic Geology for the University students was organised during the fortnight from 23rd November to 5th December 2020 with 4 classes of one hour each every day. A large number of students from across the length and breadth of the country had registered and participated. The course module was prepared by the Course-Coordinator Shri R.N. Sar, former DDG, GSI after consultation of “Economic Geology” syllabus of various Universities.

Twenty nine highly experienced faculty drawn from the members of IGO, retired and serving geoscientists of GSI, eminent scientists of Institute of Mineral and Metal Technology (IMMT), Bhubaneswar, Atomic Mineral Directorate (AMD), reputed universities and industries delivered interactive and demo based lectures on virtual classroom mode. Topics ranging from theoretical aspects of metallogeny in the Indian Shield, the Himalayas and marine resources vis-à-vis crustal evolution, evolution of atmosphere-hydrosphere to palaeoclimate and continental free board were covered. Detailed lectures were

delivered on deposit types, metallogeny of iron, manganese, chromium, copper, lead, zinc, gold, platinum, uranium, gemstones including diamond, graphite, aluminium, industrial minerals and fossil fuels like coal, petroleum and gas citing major world deposits in general and Indian deposits in particular including newly discovered ones.

All aspects of exploration for both metals, non-metals and fossil fuel using modern geological, geophysical, airborne and remote sensing and geochemical data, its integration in GIS platform, drilling, sampling and sample processing techniques as practised from G4 to G2 level exploration programmes were taught in a sequential manner. Resource/reserve evaluation of different types of deposits both by empirical and digital methods were also taught. Application of geostatistics, ore deposits modelling using Surpac and other softwares as well as ore characterisation were also demonstrated. Each lecture was followed by an elaborate interactive session, wherein efforts are made to clear the doubt of the participants.

The participants were immensely benefitted by teachings of following experienced and competent faculty members like J.K.Nanda,

Dr.S.B.Ray, Dr.P.R.Golani, R.N.Sar, R.N.Patra, B.K.Jena, K.Sashidharan, J.N.Das, D.K.Choudhury, Dr.J.V.Rama Rao and Dr. M. Mohanty, all Former DDGs, G.P.Mahapatra, Former ADG, Dr. B.M. Faruque, G.C.Das, R. Madhusudanan and N.Rajendran, all Former Directors, GSI, Dr. B.K. Mohapatra and Dr. B. C. Acharya, Former Chief Scientists, IMMT, M.K.Patel, DDG, GSI, Dr. J.P.Mohakul, Dr. Sudip Bandopadhyay and Israil Khan, Directors, GSI, Dr. Dinesh Pandit, Faculty, BHU, Dr. R.G. Mohanty, Former Addl. Director, AMD, Sankar Nayak, VP, Sun Petrochemicals, B. Bhol, Former GM, TATA Refractories, Sunit Patel, Chief Geologist & GM Riakela Iron Ore Mines, Khiti Ranjan Ray, Mining and Geology Consultant, and A.Srinivasu, EE(NFJAG), GSI.

The feedback of the participants speaks volumes on the highly informative and lucid presentations during the E-classes by the faculties. The valedictory function was conducted on 5th December, 2020 chaired by Shri S.C. Rath, President, IGO. Most of the guest faculty members highly appreciated the maiden initiative taken by IGO for imparting free education to the students. The participants were given e-certificates on the successful completion of the course.

DOI: 10.1007/s12594-021-1653-y

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If you wish to participate in the lecture, please register at: <https://bit.ly/UNESCOlectures>.

For details, please check the Society website: www.geosocindia.org