


REPORT ON THE EARTH SCIENCE WEEK 2021 WEBINARS

Title of the event	EARTH SCIENCE WEEK 2021
Date and time	10 th -16 th October 2021, 6-7pm
Mode	Online
Department/School/Directorate	Maharashtra Vruksha Samvardhini in association with Fergusson College, Pune, Nowrosjee Wadia College, Pune and School of Earth Ocean and Atmospheric Sciences, Goa University
Participants	100
Resource Person/s	Dr. Jere Lipps Dr. Pravin Henriques Dr. Nicole Sequeira Mr. Vikram Vakil Dr. Bhavanisingh G. Dessai Dr. Amit Dharwadkar
The objectives / description of the activity	The series of webinars presented by various subject experts aimed at educating and inspiring students and faculty in different branches of earth science. Details are provided in the fliers below.
Benefit/Key outcome of the event in term of learning/skills/knowledge	Each Webinar dealt with some intriguing aspect of earth science, ranging from unexplained geological phenomena, to dinosaurs, plate tectonics, uncommon gems, black gold, marine minerals and Antarctica. The students were explained about the different topics and exposed to the latest research in the selected subjects.


 20.9.21
 Dr. C. U. Rivonker
 Senior Professor and Dean,
 School of Earth, Ocean
 & Atmospheric Sciences,
 Goa University,
 Goa - 403 206.



Maharashtra Vruksha Samvardhini in association with Fergusson College (Autonomous), Pune, Nowrosjee Wadia College, Pune and SEOAS, Goa University requests your participation in the Earth Science Week 2021

Programme

10th Oct	10 to 10.10 AM (IST)	Introduction
10th Oct	10.10 AM to 10.20 AM (IST)	Inaugural speech by Dr. Shailesh Nayak , Director, National Institute of Advanced Studies, Bengaluru.
10th Oct	10.20 to 11.20 PM (IST)	Prof. Jere Lipps, USA
11th Oct	6 to 7 PM (IST)	Geological Mysteries Dr. Pravin Henriques , Mumbai Uncommon and Unusual gems and minerals.
12th Oct	6 to 7 PM (IST)	Dr. Nicole Sequeira , Goa Drifting towards Plate Tectonics.
13th Oct	6 to 7 PM (IST)	Mr Vikram Vakil , Australia Dinosaurs : the magnificent and the bizarre.
14th Oct	6 to 7 PM (IST)	Dr.Sridhar Iyer , Goa Marine minerals with reference to placer deposits of Maharashtra.
15th Oct	6 to 7 PM (IST)	Dr Bhavanisingh Desai , Gandhinagar Story of Black Gold
16th Oct	6 to 6.50 PM (IST)	Dr.Amit Dharwadkar , Faridabad Antarctica –The Icy Frontier
16th Oct	6.50 to 7 PM (IST)	Concluding remarks by Prof. H. B.Menon , Vice Chancellor, Goa University.
16th Oct	7 to 7.10 PM (IST)	Vote of Thanks



Please email missiondevrai@gmail.com for zoom meeting Id and password or
You can watch it live or thereafter on our YouTube channel
www.youtube.com/missiondevrai

Dr Ajit Vartak
9860701960

Mr. Sunil Bhide
9420481751

EARTH SCIENCE WEEK 2021

Inaugural Day, Sunday, 10th October – 10:00 am – 12:00 pm.

Inaugural Address by
Dr. Shailesh Nayak, Director NIAS, Bengaluru.

1st Day talk on
“Geological Mysteries”

By:
Prof. Jere H. Lipps
USA.



Geological mysteries are of three kinds: **Mistakes in understanding, intentional misunderstandings, or confusion about complex geologic problems.** Some examples include **The Nazca Lines of Peru, Geological Mystery Spots, Bloody Lakes and Rivers, Sailing Stones of Death Valley, Giant Stone Road Under The Pacific Ocean, Water World, the stones of Egyptian pyramids, Stonehenge, and the Moai of Easter Island.**

This presentation discusses the Bloody Lakes, Sailing Stones, The Stones of the Egyptian Pyramids, and Martian Cities. Rational geological knowledge provides the answers to all of these mysteries. Nothing about them is mysterious.

As **Charles Darwin** wrote,

“False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for everyone takes a salutary pleasure in proving their falseness; and when this is done, one path towards error is closed and the road to truth is often at the same time opened.”

Zoom meeting link is given below.

EARTH SCIENCE WEEK 2021

Monday, 11th October – 6 pm to 7 pm (IST)

2nd Day talk on

UNCOMMON AND UNUSUAL GEMS AND MINERALS

By:

Dr. Pravin Henriques
St. Xavier's College,
Mumbai



Most people in India are familiar with navratnas, which are a set of nine stones. Other odd and uncommon gemstones, some pricey and others for collectors, are available in addition to these. This presentation aims to highlight several gemstones that are both common and uncommon. Many people are familiar with alexandrite, a color-changing variant of chrysoberyl, but there are other gemstones that exhibit similar qualities. Similarly, there are other interesting gems showing asterism that are uncommon and available in India that will be highlighted in the talk along with the unusual ones.

Zoom meeting ID: 854 8823 8484 Passcode: 956740 OR
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EARTH SCIENCE WEEK 2021

Tuesday, 12th October – 6pm to 7 pm (IST)

3rd Day talk on

DRIFTING TOWARDS PLATE TECTONICS

By :
Dr. Nicole Sequeira
SEOAS Goa University,
Goa



Earth science stood at a precipice in the early 20th century. The old hypotheses that had been put forth to explain the formation of continents, oceans and mountains on earth were slowly failing with the advent of new technologies and accumulating data. A bold hypothesis, 'Continental Drift', was proposed in 1912 by a German meteorologist, Alfred Wegener, to explain the dynamics of the earth's crust but he was met with strong opposition from traditional geologists.

It would take 40 more years, World War II, paleomagnetic and gravity mapping of the entire ocean floor along with some of the most brilliant minds to solve the puzzle of matching coastlines across continents. The Theory of Plate Tectonics that sprung from this effort is possibly the greatest discovery in the field of Earth Science. This presentation highlights the backstory, the people and the paradigm shift it took to finally understand the working of the earth, through the Theory of Plate Tectonics.

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Earth Science Week 2021

Wednesday 13th October- 6.00PM- 7.00PM (IST)

4th Day talk on
“ **Dinosaurs: the magnificent and the bizarre**”

By:
Mr. Vikram Vakil
Australia



In the last few decades, perhaps no other branch of geology (or science in general, except astronomy), has seen an explosion of advancements as much as dinosaur palaeontology. What is it about dinosaurs that merits this level of attention from children to adults to media to scientists, alike? What were dinosaurs, in reality? Were they the typical beasts that we've always known them to be or were they an epitome of charisma, elegance and grace? Were they evolution's biggest failure or the biggest success story ever told? Did they all die out or are some of them with us today? Let's explore the world of dinosaurs, together. From their origins through their subsequent diversification to their eventual extinction (perhaps?), let us embark on a mission to uncover some of the most bizarre facts about these beautiful animals and how we have re-written prehistory several times especially when we thought we knew all that we had to know about them. Let us see dinosaurs for what they were (and are) and not for who we wish them to be.

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EARTH SCIENCE WEEK 2021

Thursday, 14th October 2021, 6pm- 7pm (IST)

5th Day talk on

“MARINE MINERALS WITH REFERENCE TO PLACER DEPOSITS OF MAHARASHTRA”

By:

Dr. Shridhar Iyar
Ex HOD, GOD, NIO



We are well aware of land deposits of various ores and minerals that are mined on a large-scale for commercial purposes and industrial uses. In the beach sands there are also minerals such as ilmenite, rutile, magnetite, monazite, garnets, zircon, sillimanite among others that contain significant amounts of iron, titanium, rare earth elements and many others. These have applications in paints, surgical implants, mobile phones, abrasives, high-temperature furnaces, gemstones and so forth.

The minerals that are derived from weathering and erosion of hinterland rocks are transported by wind, water, ice and tides and deposited along the coast and in the nearshore and offshore regions. Once the minerals are in the marine environment then the waves and currents further sort, transport and redistribute the minerals. In the event there is a substantial concentration of the minerals in an area, then there is a possibility for the formation of placer deposits.

The present talk would provide an overview of placer minerals in terms of their types, uses, formations, concentrations and other factors. The field and laboratory techniques that are used for placer mineral explorations would be discussed. Examples of placer minerals from the Indian coasts would be presented with emphasis on the placer minerals along the Maharashtra coast. Now that the Indian Government has placed emphasis on Blue Economy, the investigations of 'Blue Minerals' from the coast of Maharashtra needs to be further boosted.

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EARTH SCIENCE WEEK 2021

Friday, 15th October 2021, 6pm-7pm (IST)

6th Day talk on



"Story of Black Gold"

By:

Dr. Bhavanisingh G Desai

Associate Professor

School of Petroleum Technology

Pandit Deendayal Petroleum University,

Gandhinagar.



Crude Oil is an important commodity controlling not only the world's economy but for global peace also. History documents the use of crude Oil dating back centuries ago. A well-documented account suggests that at least four thousand years ago, natural asphalt was used to construct the walls of Babylon. However, modern history begins in the 19th century with the refining of paraffin from crude Oil and later successful exploration in 1859, near Titusville, Pennsylvania, USA. Within seven years, India also drilled its first oil well at Digboi in Assam, although it was reported as early as 1825. Despite this, its glorious past is also marred by geopolitical upheavals. Oil discoveries and subsequent economic development along the Caspian Sea, Black Sea, and the Middle East led to further geopolitical turmoil. Thus, Crude Oil is an economic booster and can also be a crucial factor for peace.



Earth Science Week 2021

Saturday 16th October- 6.00PM- 6.50PM (IST)

7th Day talk on "ANTARCTICA – THE ICY FRONTIER"

By:
Dr. Amit Dharwadkar
GSI, Faridabad



The remote and icy continent of Antarctica is one of the last frontiers on Earth. The secrets of this mysterious continent are largely hidden beneath a thick blanket of snow and ice. The continent lies at the heart of major continental cycles involving Rodinia and Gondwanaland. The thick polar ice cap also preserves meticulous records of past climate change.

After its debut in the Antarctic scene in 1981, India has steadfastly adhered to its commitments to unravel the wealth of the scientific data waiting to be unearthed. So far, India has established three permanent stations including "Dakshin Gangotri", "Maitri" and "Bharati" in the far flung areas of central Dronning Maud Land, East Antarctica.

Geological Survey of India has been at the forefront in this national endeavour since beginning. The unrelenting scientific pursuit of its geoscientists has augmented our understanding in the fields of Glaciology, Geology, Geodynamics, Paleoclimate and Limnology. This presentation captures the important milestones and other aspects of this epic journey.

Followed by Concluding remarks

by

Prof. H. B. Menon

Vice Chancellor, Goa University

6.50PM – 7.00 PM (IST)

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