

Mathematics of Planet Earth (MPE) 2013

by Gonit Sora - Thursday, August 22, 2013

<https://gonitsora.com/mathematics-planet-earth-mpe-2013/>

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Mathematics, the queen of all sciences has reached a place now where it has become ubiquitous with all of modern day technology. But there are places where math is used so discreetly that it is not known to the rest of the world. Take for example the search engine Google, which has become a part of our daily online ritual. Google uses enormous amount of math in its algorithm and it is because of this undeniable advantage of math that Google is able to give you a needle from a haystack at your command. This is just one example where math has become indispensable for the planet Earth. Motivated with the all encompassing nature of the mathematical sciences, its uses and its ability to give clear and succinct answers to many global problems, there has been a initiative called the Mathematics of Planet Earth 2013 (MPE 2013).

The official MPE website says:

“Our planet is the setting for dynamic processes of all sorts, including the geophysical processes in the mantle, the continents, and the oceans, the atmospheric processes that determine our weather and climates, the biological processes involving living species and their interactions, and the human processes of finance, agriculture, water, transportation, and energy. The challenges facing our planet and our civilization are multidisciplinary and multifaceted, and the mathematical sciences play a central role in the scientific effort to understand and to deal with these challenges.”

The mission of the MPE project is to:

- * Encourage research in identifying and solving fundamental questions about planet earth
- * Encourage educators at all levels to communicate the issues related to planet earth
- * Inform the public about the essential role of the mathematical sciences in facing the challenges to our planet”

MPE has spanned from an idea that originated in 2010 to become a full blown global phenomena with more than 100 partnering organisations in different places of this planet to distil and work upon the missions of this global project. It has also come under the patronage of the UNESCO and has had tremendous success till now in achieving its goals. In India the two partnering organisations are the International Centre for Theoretical Sciences (ICTS), Bangalore and GonitSora.com (magazine partner). Various details about the programme in India can be had from ICTS website and from

<http://gonitsora.com/mpe2013/>

In addition to running scientific activities throughout the year and beyond MPE 2013 also holds workshops and general lectures wherein students and the general public are made aware of where is math used in the day to day things and activities that we do. MPE 2013 also has various themes in which it is working towards creating an enhanced learning and information base.

The theme “Mathematics of Planet Earth” is interpreted as broadly as possible. In addition to climate change and sustainability, it includes geophysics, ecology and epidemiology, biodiversity, as well as the global organization of the planet by humans. The different topics have been classified into four themes.

The four themes of MPE2013:

- * **A PLANET TO DISCOVER:** oceans; meteorology and climate; mantle processes, natural resources, solar systems
- * **A PLANET SUPPORTING LIFE:** ecology, biodiversity, evolution
- * **A PLANET ORGANIZED BY HUMANS:** political, economic, social and financial systems; organization of transport and communications networks; management of resources; energy
- * **A PLANET AT RISK:** climate change, sustainable development, epidemics; invasive species, natural disasters

It is hoped that this initiative will unleash a new volley of fresh work towards using mathematical sciences to tackle the problems that we face in Planet Earth and would be able to solve most of them. The programme till now has been quite successful, and it is hoped to continue past 2013 with the advent of so many different societies, institutes and others collaborating on it in a global platform.

For more information about its activities the readers can visit the MPE website <http://www.mpe2013.org>

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