



**MMK & SDM MAHILA MAHAVIDYALAYA**  
**KRISHNAMURTHY PURAM, MYSORE**

**Department of Physics**

**REPORT ON**

**One Day Workshop on**

**Role of Physics in Earth Science**

**2018**

**DATE:** 20.12.2018

**TIME:** 9:30 AM Onwards

**INUGAURATION:** Prof. Sainath Malligemadu, Principal

**PROGRAM COORDINATOR:** Smt. Bharathi, Head of Department, Dept. of Physics

**VENUE:** College Auditorium, MMK & SDM MMV, Mysuru

**TOTAL NO. OF PARTICIPANTS:** 107 participants

Registration Fees  
Rs. 200/- (Two Hundred)  
for a Teacher and Two Students

Spot Registration is also allowed  
between 9am and 10am

Keynote Address :

**Prof. P. Venkataramaiah,**  
Former Vice-Chancellor, Kuvempu University

Resource Persons :

- 1. Prof. L. Mahesh Bilwa,**  
Retired Professor,  
Department of studies in Earth Science,  
ManasaGangothri, University of Mysore, Mysuru.
- 2. Dr. Basavaraj Hatti,**  
Assistant Professor,  
Department of Applied Geology,  
Vijayanagara Sri Krishnadevaraya University, Ballari
- 3. Sri. Alec Lobo,**  
Exploration Geologist  
National and International Level

#### Chief Patron

**Padma Vibhushana Dr. D. Veerendra Heggade**  
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#### Organising Chair

**Prof. Sainath Malligemadu**  
Principal, MMK & SDM MMV, Mysore  
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#### Convener of the Workshop

**Smt. N. Bharathi**  
Associate Prof and Head, Department of Physics,  
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#### Co- Convener

**Ms. K.M. Chandini**  
Assistant Professor of Physics  
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#### Technical Session-in-charge

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&**

## Shri Dharmasthala Manjunatheshwara Mahila Maha Vidyalaya

Krishnamurthypuram, Mysuru

(Managed by S.D.M.E. Society (R) Ujire)

President: Padma Vibhushana Poojya Dr. D. Veerendra Heggade

Our Vision  
"Empowerment of Women to Build Enlightened Society"

One Day State level Workshop  
on

## "ROLE OF PHYSICS IN EARTH SCIENCE"



Thursday, 20<sup>th</sup> December 2018

Organized by  
Department of Physics  
&  
IQAC

[www.sdmmmkmysore.in](http://www.sdmmmkmysore.in)

# ONE DAY STATE LEVEL WORKSHOP ON ROLE OF PHYSICS IN EARTH SCIENCE

## REPORT

A one day State Level Workshop on “**Role of Physics in Earth Science**” was organized by the Department of **Physics** of MMK & SDM MahilaMaha Vidyalaya, Krishna Murthypuram, Mysore on **20<sup>th</sup> December 2018**. The work shop was inaugurated by Prof. P. Venkataramaiah, former Vice Chancellor, Kuvempu University. Speaking after inauguration, he said that Physics plays an important role in the understanding of all aspects of Earth Science. He gave examples of Seismic activities, Tectonic movements, Meteorological studies, study of Earth’s Ocean, Ground water exploration and also geophysical methods to study Earth’s Interior. Further he pointed out that Natural hazards like Earth quakes, Volcanoes, Sunami like sea rises can be predicted with the help of appropriate sensors that are developed in Physics.

Principal **Prof. Sainath Malligemadu** in his presidential address said that MMK & SDM College is making pioneer efforts to popularize basic Sciences among the colleges in Karnataka. This workshop is one such important initiative which brings out the synergy of Physics and Earth Science for the benefit of Society.

Earlier **Prof. N. Bharathi** HOD of Physics and Convener of the Workshop welcomed the delegates and outlined the theme of the workshop. Smt. **G.R. Sumithra**, HOD of Electronics and also IQAC Coordinator introduced **Prof.P.Venkataramaiah** to the gathering. The programme was presided by the Principal Prof. Sainath Malligemadu. **Dr. L. Mahesh Bilwa**, former Professor, Department of Earth Science, ManasaGangothri, University of Mysore, Mysuru was the Guest of honour and Resource Person. The other Resource Persons were **Dr. Basavaraj Hatti**, Assistant Professor, Department of Applied Geology, Vijayanagara Sri Krishnadevaraya University, Ballari and **Sri. Alec Lobo**, Exploration Geologist, National and Intyernational Level. Vote of Thanks was proposed by Miss. K.M. Chandini, Assistant Professor in the Department of Physics and the programme was compeered by Miss. N.S. Namitha. Assistant professor, Department of Physics.

There were Three Technical Sessions.

First Technical session was by **Prof. L. Mahesh Bilwa, former Professor, Department of Earth Science, ManasaGangothri, University of Mysore, Mysuru** on the topic **Geosciences and its scope for Modern World**. He said that Earth Science is organized study of its dynamics, composition, and related systems. The subject is broadly concerned with the origin and operation of earth features and events, and the integrated sequence of events since the first record of them in the rocks. He explained how basic fabric of life on Earth evolves around environmental unity and how everything is connected no matter wherever we are on Earth. The air, the water, the land, people, fauna, flora, Earth's solar neighborhood and all activities affect each and every other thing. From severe droughts around the world from the western US to China, and water abundance in the eastern US, Canada, and Russia, to human activities, climate change, species depletion, weather extremes, crop growth and health, everything connects.

He spoke on how we are depending on minerals and rocks directly or indirectly in all walks of life and in modern age with examples. . He described Role of Geophysics in Earth's dynamic activities like earth quake studies (Seismology) and the specific role geoscientists can play in disaster risk reduction and how their work should fit in with the roles played by other experts for any given community.

**Second Technical talk was by Dr. Basavaraj Hatti, Assistant Professor, the Department of Applied Geology Vijayanagara Sri Krishnadevaraya University, Ballari** on the topic **Geophysical Methods of Oil and gas Exploration and Career opportunity in Geophysics**.

He said that as a geophysicist, one can study the physical aspects of the earth using a range of methods, including gravity, magnetic, electrical and seismic and it'll play a vital role in the oil and gas industries by creating a picture of what lies below the earth's surface. One can do this by collecting data on seismic waves, which move through and around the earth.

He said that by controlling the quality of the seismic data collected and interpreting it in order to create maps of the build-up of hydrocarbons.

One can also examine the physical properties of rocks, as well as gathering and evaluating well data in order to build reservoir models. He spoke on the broad and general study of the elastic, the gravimetric, or the magnetic properties of the Earth and the detailed application of this science to rocks of shallow depth and in small areas for the purposes of ascertaining data on their character and structural attitude that gives rise to the present well-known science of "applied geophysics." He said that discovery of enormous new quantities of oil, gas, and sulphur has been by far and wide the principal benefaction of geophysics in the world. He explained how geophysical techniques used for Petroleum exploration utilize equipment to measure such things as electrical currents, gravitational and magnetic anomalies, heat flow, geochemical relationships and density variations from deep within the earth.

He gave guide lines regarding courses offered in geophysics by IITS and other reputed institutions in India and abroad.

**Third Technical talk was by Mr. Alec Lobo, Exploration Geologist on the topic Geo-physical exploration of ground water and minerals.** He said that Groundwater is an invisible natural resource. It is available in different proportions, in various rock types and at various depths, on the surface layer of the earth. In the historical past, when there is no visible flow of water along the rivers, people used to dig small pits, in the river alluvium, wait and collect the groundwater coming through seepage and used it for their drinking purposes and for meeting the domestic needs. Similarly, to the people of mountainous regions, natural springs provided the sources of water supply. Springs are the outcome of seepage from any groundwater system, in hilly terrains or in limestone regions. More than 60 percent of the global population thrives by using only the groundwater resources. He told that the groundwater which was existing at shallow depths in the open wells, has gone deep due to over-exploitation and Exploring these water sources is a challenging task to geo-scientists.

The programme was attended by 87 students and 20 faculty members.

Feed back from the delegates were received by providing them with feedback forms.



**PRINCIPAL**  
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