

A Brief Report On "Two Days Workshop For PG Students"

(Date: 15th and 16th Feb 2023)

Karnatak Science College, Dharwad is running Post Graduate Programmes in Botany, Chemistry, Mathematics and Physics Subject. These courses are conducted under "Self Finance" scheme of Karnatak University as Karnatak Science College is constituent college of KUD.

As per decision taken in Meeting of HOD's of PG Programmes, Two Days Workshop was organized for all PG Students of Physics, Chemistry, Mathematics and Botany subjects on 15th and 16th Feb 2023. This workshop was inaugurated by Dr. H.B.Walikar, Former Vice-Chancellor of Karnatak University Dharwad on 15th Feb 2023. He delivered key note address. In his address Dr. Walikar spoke on big bang theory and prime numbers. He emphasized on three **Es** which are ruling the world. He said First E representing Engineering & Technology is ruling the world. We are all beneficiaries of technology. According to Dr. Walikar, Second E - stands for economics. Healthy & strong economy is very important for a country. He took examples from global countries and explained how economy of few countries reached their lowest due to mismanagement. He said Third E is English language. Dr. Walikar stressed on importance of acquiring skills of communicating and writing in English if one wants to achieve anything. Dr. Walikar in his keynote address stressed on importance of involving in research. He advised all students to work hard and Excel in life.

Dr. Nilkamal Mahanta, Head of Department of Chemistry, IIT - Dharwad gave first invited talk. Since large number of First Year M.Sc students were participants, First talk was on the topic: "Higher Studies, Research Opportunities and Career Prospects in Science". He told students how one can get into IIT through various modes like JEE, GATE, Project Fellowship to pursue their education at IIT's and IISc and other research national institutes. He also introduced students about the various fellowships they can get to pursue education and their carrier in research. Speaker also told the students about the opportunities to get into different research institutes abroad, and how to grab the fellowship for that.

Dr. M. K. Rabinal, Professor, Department of Physics, Karnatak University, Dharwad gave the second invited talk on the second day i.e. 16th feb 2023. Professor's focus of the lecture was on Research methodology, about how should one do research and look at the existing problems around us and analyze it. He advised the students to take the guiding light from the all pioneer researchers in science and understand the importance of that work. He highlighted this can be achieved by reading research articles in journals and magazines. Dr Rabinal took the examples from nano-science and Raman spectroscopy and explained how scientists are using these techniques to solve day today problems of society. At the end of his lecture he strongly recommended students to be wellversed with the fundamentals of Physics, Chemistry and Mathematics. This helps students to make appropriate decision after the post graduation studies.

There was an invited talk by Dr. Suryapratap Singh from IIT Dharwad on Biological Sciences. Dr. Suryapratap Singh showed applications of light in medicine. He took the example of Raman scattering and explained how Raman scattering is used for medical investigation. He quoted few examples to prove that this methodology adopted in medicine there is a reduction in the quantity of blood sample required and get quick and accurate results.

Dr. Amlan K. Barua, Assistant Professor, Department of Mathematics, IIT Dharwad. He started his talk with simple prime numbers and their properties. To begin with he just made students to count the number of prime numbers within 10, then 100. Further he asked students to count number of prime numbers within 1000, 10000 and so on. Dr. Amlan with the help of graph of no of prime numbers within a given numbers showed how it appears like a staircase (staircase of prime numbers). He beautifully explained the journey of work done by different mathematicians on prime numbers and their properties. He continued his talk with the “probabilistic first guess” made by Carl Friedrich Gauss in finding the number of prime numbers within a given number. With this exercise and explanation he introduced the Riemann Hypothesis. Speaker explained students about Riemann Hypothesis, the Riemann Zeta function, Riemann Zeta function and prime distribution. He finally concluded his lecture by stating students that the Riemann Hypothesis is still an open problem yet to be solved.

Dr. Koushik Saha, Assistant Professor, Department of Physics, IIT Dharwad, delivered his lecture on the history of evolution of science and physics. He emphasized the importance of why one should learn and understand the history of growth of science and Physics. He went on explaining the discoveries and inventions made by people in different eras from the period of Aristotle how made the first attempt to explain motion to Greek mathematician Archimedes who gave very famous Archimedes principle. With this brief old era he went on speaking on the scientific revolutions that happened in physics in the period of Nicolaus Copernicus to Galileo Galilei who was the first to give the laws of motion and how he was punished for going against the conventional beliefs of churches and was kept in home arrest. And in spite he continued doing his work under home arrest where he made many more discoveries. He discussed many more scientists like: Cristiaan Huygen, Isaac Newton, their enormous contribution in the field of study on properties of light. How Newton developed calculus for his work. He explained the work done by people like Michael Faraday, James Cleark Maxwell, Madam Curie, Albert Einstein, his exciting theory of relativity and special theory of relativity. He finally spoke about the development of physics today and how the quantum theory and quantum computing is becoming the thrust area of research now.

Two days workshop organized by the Karnatak Science College Dharwad to the PG students of Physics, Chemistry, Mathematics and Botany departments was successful. It was

apparent from the interaction of the young students with speakers from IIT Dharwad and KUD. Principal of the college Dr. S. C, Chougala was present through out the workshop and felicitated all invited speakers and guests. H.O.D of all PG departments, Dr. S. D. Dummawad, Dr. K. Koteresh, Prof Ambika R., Prof M. R. Ranganath were also present. Dr. Blaise Lobo, Chairman Science Association, Dr. Geeta Chavan, Dr. O. Kotresh, Dr. K. S. Katagi, Prof. Lalita Naik, Prof. Kalpana Dalawai. All the teaching assistants of PG Physics, PG Mathematics, PG Chemistry and PG Botany managed the whole function very well including formal and technical sessions.



Inauguration of two day workshop for PG students



Prof. H. B. Walikar delivering lecture



Felicitation to Prof. H. B. Walikar



Dr. Nilkamal Mahanta delivering his talk



Introduction of Dr. Nilkamal Mahanta by Prof. M. R. Ranganath



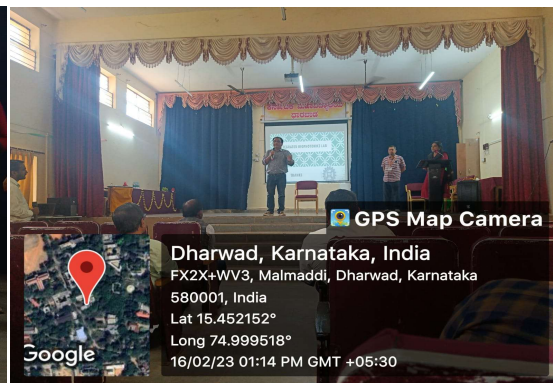
Dr. M. K. Rabinal delivering his talk



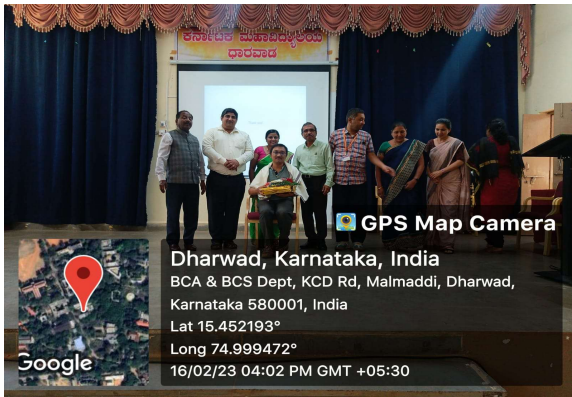
Felicitation to Dr. M. K. Rabinal



Felicitation to Dr. Suryapratap Singh



Dr. Suryapratap Singh delivering his talk



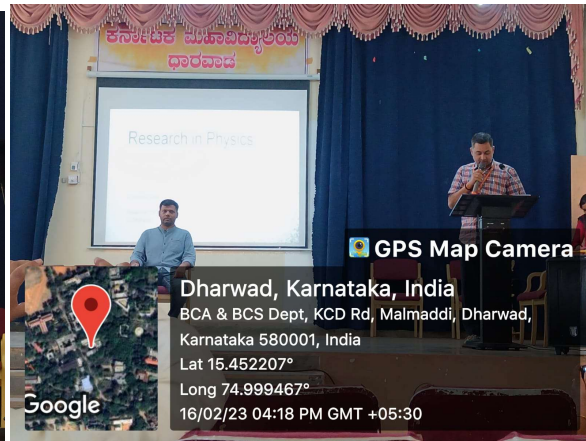
Felicitation to Dr. Amlan K. Barua



Dr. Amlan K. Barua delivering his talk



Dr. Koushik Saha delivering his talk



Introduction of the speaker by Prof. M. R. Ranganath