Department of Physics
University of Calicut,Kerala 673635, India.

Series of Webinars

as part of Golden Jubilee celebration of the Department of Physics

7- 9 September 2020

with the theme

Physics and Technology in Modern Times

Hosted on google-meet:

Inauguration

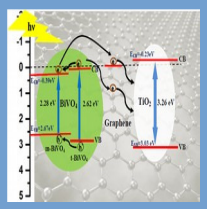
by

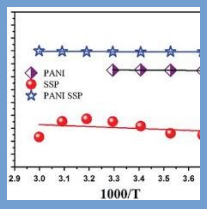
Prof. M Nasser
Hon. Pro-Vice-Chancellor
University of Calicut

on

7th September 2020
10.30 AM

Department of Physics is a premier pure and applied science department established in 1971 (09.07.1971) with Prof. J.C. Palathingal as the Head of the Department. Ever since its establishment, the Department has played a key role in strengthening postgraduate teaching and research in physics through active contact and collaboration with several research institutes and universities in India and abroad. The department focuses research in the fields of Nuclear Physics, Astrophysics, Radiation Physics, Theoretical Physics and Condensed Matter Physics. We will commence our Golden Jubilee celebrations with this webinars.





Department of Physics
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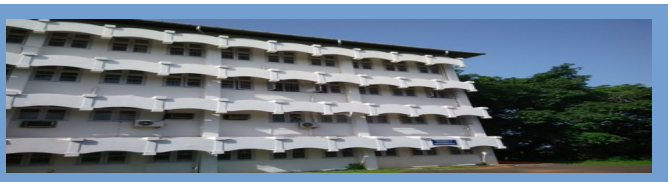


Speakers:

07.09.2020

11.00 - 12.00 Dr John V Kennedy (National Isotope Centre, New Zealand)
Nanostructured materials to convert waste heat to electrical energy

19.00 – 20.00 Dr Poulose Poulose (IIT Guwhati and Concordia University, Montreal, Canada)
Elementary Particle Dynamics, Shaping the Universe

08.09.2020

10.00 – 11.00 Dr. P Sugathan
(IUAC, New Delhi)
Role of accelerators in Modern Science and Applications

11.15 – 12.15 Dr E Krishnakumar
(Raman Research Institute, Bangalore)
Momentum imaging in atomic collision physics

14.00 – 15.00 Dr Gin Jose
(University of Leeds)
Photonic materials and devices engineering using ultrafast laser plasma

09.09.2020

10.00 – 11.00 Dr B P Vinayan
(Helmholtz Institute Ulm, Germany)
Design of new electrode materials for Li-ion batteries and beyond Li

11.15 – 12.15 Dr Nijil Mankuzhiyil
(BARC Mumbai)
Enormous Windows To The Extreme Universe

14.00 – 15.00 Dr Fairoja Cheenicode-Kabeer
(Uppasala University, Sweden)
Non equilibrium phonon dynamics in laser-excited Antimony

Contact: A M Vinodkumar, Prof. &Head
Email: phyhod@uoc.ac.in
Mobile: +91-9645078924

Department of Physics

Department of Physics, ever since its establishment in 1971, has been playing a key role in strengthening postgraduate teaching and research in physics. The department is a leading centre in the fields of Nuclear Physics, Condensed Matter Physics, Materials Science, Astrophysics, Radiation Physics, Theoretical Physics, Plasma Physics, Non-conventional Energy Sources and Nanoscience. Madhava Observatory established in the campus is a part of the research facilities of the department. Alumni of the department occupies several prestigious positions in national and international institutions. In recent times the department is associated with Nuclear Data Physics Centre of India in data generation, validation and compilation of Nuclear Data for Nuclear Data Section of IAEA, Vienna and with India-based Neutrino Observatory (INO) programme. The department could fetch large funds through departmental projects and faculty projects, under various schemes of UGC, DAE, DST, KSCSTE etc including the Fund for Infrastructure in Science and Technology (FIST) of Department of Science and Technology and Special Assistance Program (SAP) of UGC. Five cumulative JRF/SRF fellowships per year under BSR scheme promotes research in a significant manner. The SARD scheme of KSCSTE is another impetus for the department. During the last five years, department has published over 150 articles in international/national peer reviewed and indexed journals and 39 scholars have been awarded Ph.D degree and 38 students M.Phil degree.

Organising committee:

Patron:
Hon. Vice Chancellor, University of Calicut

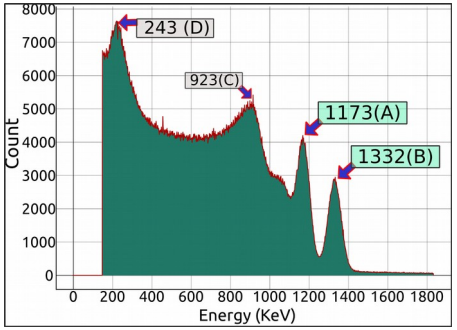
Chairman:
Prof. Dr A M Vinodkumar
Head, Department of Physics

Convener:
Prof. Dr. P. P Pradyumnan

Members:
Prof. Antony Joseph
Prof. M. M. Musthafa
Dr. C. D. Ravikumar
Dr. T. H. Mohamed Shahin
Dr. Libu K. Alexander

Application format

1. Name:
2. Date of Birth:
3. Designation:
4. Official address:
5. Mobile Number:
6. Accommodation: Yes/No.



Workshop on

NUCLEAR RADIATION EXPERIMENTS

3rd & 4th January 2020

Organized by
Department of Physics
University of Calicut

Venue: Aryabhatta Hall, Central Science Block

Dear Sir/Madam,

The twenty first century physics has witnessed di-
verse developments and experimental verifications, especially in the last few decades. Nuclear Physics division in the department is a strong group in the country, with significant contributions towards both theory and experiments. We the Department of Physics with immense pleasure inform you that we are organising a '**Two days Workshop on Nuclear Radiation Experiments', during 3rd and 4th January 2020.**

We invite the faculty members of your institution/college to participate in the workshop. Applications giving your name, affiliation, email ID, phone number, should be emailed to ppp@uoc.ac.in before 20-12-2019. Number of participants is restricted to 20 due to the equipment requirements. For any query, contact chairman or convener of the seminar.

There is no registration fee. Those who require accommodation should mention it along with the application and accommodation can be arranged at Univ. GH at nominal rate. Kindly check the train ticket availability, permission from your institute etc. before applying.

Since the number of seats are limited due to the equipment required for hands-on training, selected persons dropping out later results in somebody else losing the opportunity. The participants in need of accommodation should contact the convener before 27-12-2019.

About the Workshop

Nuclear and radiation physics is an important subject from a pure research perspective because it provides insights about the ultimate constituents of matter and their interactions. It also has immense practical importance due to the applications like power generation and cancer therapy. Currently, teaching this subject is mostly restricted to theory due to the difficulties in getting radio-active sources and lack of equipment for detection and analysis. However, there are ways to overcome these difficulties and perform experiments to study the decay of radio active elements by capturing and analysing the emission products like alpha and gamma radiation.

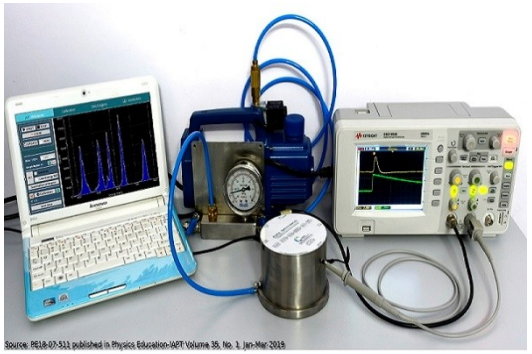
The two days workshop will cover a set of nuclear radiation experiments that are useful for teaching this subject. Techniques for preparing alpha sources from non-enriched Thorium Nitrate will be covered. Experiments like generating the energy spectrum of alpha and gamma radiation, energy loss of alpha particles in materials etc. will be performed. The focus will be on hands-on training.

Objectives

- Preparation of 212Bi source, having a half life of 60 minutes
- Gamma spectrum of sources like 60Co, 137Cs
- Exploring phenomena like back scattering
- Energy loss of alphas in thin foils
- Gamma ray attenuation in materials
- Gamma gamma coincidence measurements

Invited Faculties includes:

1. **Dr. B P Ajith Kumar** , Scientist, Inter-University Accelerator Centre, New Delhi
2. **Prof. K M Varier,** Rtd. Professor in Physics, University of Calicut



Important dates

Registration deadline : 20.12.2019

Intimation of acceptance : 25.12.2019

University of Calicut

Established in 1968, with '*Nirmaya Karmana Sree' as its motto*, the University of Calicut has been catering to the needs of thousands of students hailing mainly from the northern districts of Kerala with 34 post graduate departments and 480 colleges. As a reward for these achievements it has recently been reaccredited with 'A' grade by NAAC. In these achievements the Department of Physics had also played a prominent role.