

RESEARCH PAPER PUBLISHED BY PHYSICS FACULTY MEMBERS

JOURNAL

1) Dr. Tukaram Shet, Rajasekhar Bhimireddi and K. B. R. Varma, Enhanced piezoelectric properties of Sr(1.7) (Na_{0.5}Bi_{0.5})_{0.3}Bi₄Ti₅O₁₈ ceramics in the system Sr(2-x) (Na_{0.5}-Bi_{0.5})_xBi₄Ti₅O₁₈ (where 0 ≤ x ≤ 0.5), Journal of American Ceramic Society, 2019, pp. 1-10 (Impact factor - 2.956)

CONFERENCE PAPERS

2) Dr. A. Suvitha, Spectral Investigations (FT-IR, FT-Raman, NBO, NLO, Molecular geometry, HOMO-LUMO, MEP calculations of 1-[(2R, 4S, 5S)-4-azido-5-(hydroxyl methyl) oxolan-2-yl]-5-methylpyrimidine-2, 4-dione [1] by DFT method, International Symposium on MCGPD 2019, Chennai.

3) Dr. A. Suvitha, X-ray and NMR spectral investigation, DFT calculations, Molecular dynamics, physicochemical descriptors, ADME parameters, pharmacokinetic Bioactivity report on 1-[(2R, 4S, 5S)-4-azido-5-(hydroxyl methyl) oxolan-2-yl]-5-methylpyrimidine-2, 4-dione [1], International Symposium on MCGPD 2019, Chennai.

BEST PAPER AWARD RECEIVED BY PHYSICS FACULTY



WORKSHOP/ CONFERENCE ATTENDED BY PHYSICS FACULTY

Dr. Ramdas Balan attended one day workshop on Electrical Characterization of materials Organized by Department of Physics, BMSCE in association with Tektronic Inc., on 2nd January 2019.

STATE LEVEL TRAINING PROGRAMME ON PHYSICS EXPERIMENTS FOR ENGINEERS

Organized by
Department of Physics, CMR Institute of Technology

Material sciences and healthcare are the major areas of research- Dr. Ramdas Rapid development in the field of material sciences are giving birth to wonder materials with unique electric, thermal, mechanical, chemical properties. These materials have immense applications in the field of electrical engineering, medical sciences, computational engineering. Material science and healthcare areas of major research today, said Dr. Ramdas Balan, Associate Professor of Physics. He was speaking at the state level training programme on Physics experiments for Engineers at city based CMR Institute of Technology. He elaborated on XRD facility established at CMRIT and encouraged the researchers to utilize the facility for characterization. Interacting with the participants Dr. Shyamsundar Hedge, Professor of Physics described the method of characterization of crystals. He explained the XRD technique utilized in drug design, metamaterials research, superconductors, solar cells. During this one day training programme finest experiments on principles of physics involving low cost shock tube, vibration analysis, optics based technology, electromagnetics were demonstrated. Dr B N Anandaram, Professor of Physics from JNCE, Shimoga a participant, mentioned that this workshop has enabled him to try out experiments in class room. Prof Sudhakar of Cambridge Institute of technology found experiments on damping analysis interesting as this technique is relevant in magnetic vehicles. Mr Manjunath, Faculty, UBBDT mentioned that he is confident of trying out these experiments in the class room.



Alumni Talk

Mr Kapil Shastri
Design Engineer, Schneider electric

This talk was arranged to provide a platform for budding engineers to interact with alumni who is in a Mechanical Core company. Mr Kapil currently working as design engineer at Schneider electric described the challenges for an entry level engineer who has to acquire expertise in software essential for a design engineer. Coming from Mechanical background, he had to undergo training in several fields such as engineering design in order to qualify for the job. He encouraged the students to enhance their soft skills specifically communication skills which the industries look for. It is very much necessary that we focus on how we articulate our ideas, interact with the group etc.



Field Visit – Vinakaya Energy Tech

Field visit by group first year students working on energy storage project under the Guidance of Dr. Raveesha



Technical trip to HAL BANGALORE

On 29/03/2019

Team of Second semester Physics cycle students was lead by Dr. Tukaram Shet (Physics) and Prof. Kodandapani (Electrical) visit to HAL Foundry and Forge Unit. Mrs Archana from HAL explained methods of making metallic air craft parts from the scratch of wax models till final product. Testing of materials and microscopic analysis were also demonstrated.



DEPARTMENT OF PHYSICS SCIENCE CLUB ACTIVITY/ARTICLE PRESENTATION

The Article presentation was chaired by Dr. Raveesha, HOD – Physics on 25th Feb 2019. 2nd Sem Student Sagar was first taken some interesting topics in Bio medical Engineering for the discussion. Sridhar presented the topic for Genetic circuits, Sreesha discussed about Renewable Energy and Soumal briefly explained about silico wafers. The course content was discussed and inputs were taken from the Physics faculty attendees.



SCIENCE CLUB ACTIVITY

Visit to Visvesvaraya Industrial and Technological Museum, Bangalore (VITM)

Date: 21-04-2019

2nd semester students from section N and O
No. of participants: 12

Staff coordinator: Prof. Kodandapani, Electrical Engineering Department



I.I.Sc. Visit on Open day

Bunch of 2nd semester students visited IISc, Bangalore on Open day i.,e 23rd March 2019. They visited various labs, interacted with research scholars and gained knowledge cutting edge research activities carried at IISc, Bangalore.



Flip Class

Name of the Faculty : Dr. TukaramShet
Sem/Section : II - L
Subject : Engg. Physics
Topic : Applications of Laser
Date/Time : 21-03-2019
Supporting Materials : Notes and Online sources



Evaluation Result of Students

Before Flip Class : 10/100 (Knowledge)
After Flip Class : 85/100

Mode of Evaluation

Before Flip Class : Through oral
After Flip Class : 1) Through class presentation by students
2) Through Class test for 20 m (MCQ and numericals)



Name of the Faculty : Dr. A. Suvitha
Sem/Section : II - M
Subject : Engg. Physics
Topic : Applications of Laser
Date/Time : 26-03-2019
Supporting Materials : Notes and Online sources

Evaluation Result of Students

Before Flip Class : 10/100 (Knowledge)
After Flip Class : 85/100

Mode of Evaluation

1) Before Flip Class : Through oral
2) After Flip Class : Through Class test for 20 m (MCQ)



Mini Project 2019

Innovative Projects on Helmet - Bluetooth speaker, Surveillance Car (Rover camera), IOT Home automation and smart city projects caught the attention of budding engineers at Science and Technology Exhibition 2019 at CMR Institute of Technology on 4th May 2019. Variety of robots such as mobile controlled, Bluetooth controlled, voice controlled, IR sensor controlled robots caught the attention of all the students. Music editing software, water cleaning boat, Chemistry related Computational method to study of crystal structures, Mechanical devices like Mini Lathe were also exhibited. Budding engineers displayed over 100 innovative projects providing solutions to real life problems in the field of Robotics, Rural technology, Water Purification, Electricity generation, communication, programming and many such vital areas necessary for society.

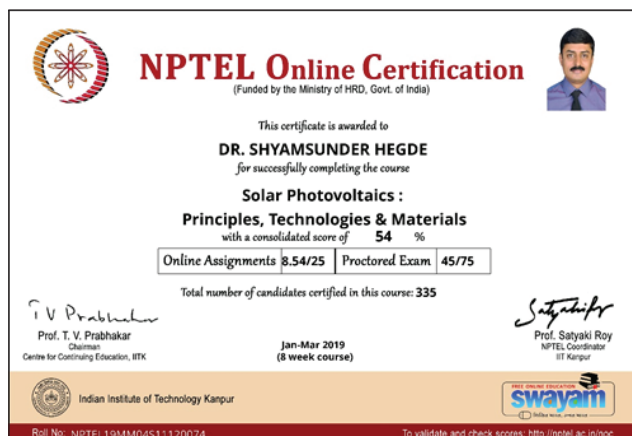


Many Students displayed their mini project on that day, the DRC members Dr.A.Suvitha, Dr.Tukaram shet, Dr.Rajesh, Dr.Shamsundar Hegde and Dr.Ramdas balan have evaluated on same day and the results announced for the best project based on several criteria. This exhibition became a unique platform for college students, teachers to interact with innovators on their inventions. Earlier, Dr Sanjay Jain, Principal and Dr B Narasimha murthy inaugurated the event.

The Prize Winners

| Section | Name/USN of the student | | Title of the project | Marks Obtained out of 50 |
|---------|---------------------------------|------------|----------------------------------|--------------------------|
| J | Chandramouli | 1CR18EE024 | Helmet - Bluetooth speaker | 49 |
| | Dhruv Kiran | 1CR18ME023 | | |
| | Rahul S | 1CR18ME058 | | |
| L | Manoj M | 1CR18EC113 | Surveillance Car (Rover camera) | 47 |
| | Manohar M | 1CR18EE050 | | |
| | Nishika Gupta | 1CR18EC136 | | |
| I | Aditya | 1CR18EE004 | IOT Home automation | 46 |
| | Akash Aman | 1CR18EC010 | | |
| K | Omkar Nag | 1CR18EC079 | Mini Tesla coil | 40 |
| | Jatin C | 1CR18EC075 | | |
| | Jay | 1CR18EC076 | | |
| M | Prattipati Leela Krishna | 1CR18EC153 | Solar Energy generator | 42 |
| | Rohit | 1CR18ME061 | | |
| | Rohith | 1CR18ME063 | | |
| N | Sanjana | 1CR18EC179 | Remote controlled door lock | 41 |
| | Satadeepa | 1CR18EC183 | | |
| | Sahana M S | 1CR18EC066 | | |
| O | Harshini | 1CR18EC218 | Radar | 43 |
| | Vinesh M | 1CR18EC231 | | |

Course Certificate



NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
DR. SHYAMSUNDER HEGDE
for successfully completing the course

Solar Photovoltaics :
Principles, Technologies & Materials
with a consolidated score of **54** %

| | | | |
|--------------------|---------|----------------|-------|
| Online Assignments | 8.54/25 | Proctored Exam | 45/75 |
|--------------------|---------|----------------|-------|

Total number of candidates certified in this course: 335

Prof. T. V. Prabhakar
Chairman
Centre for Continuing Education, IITK

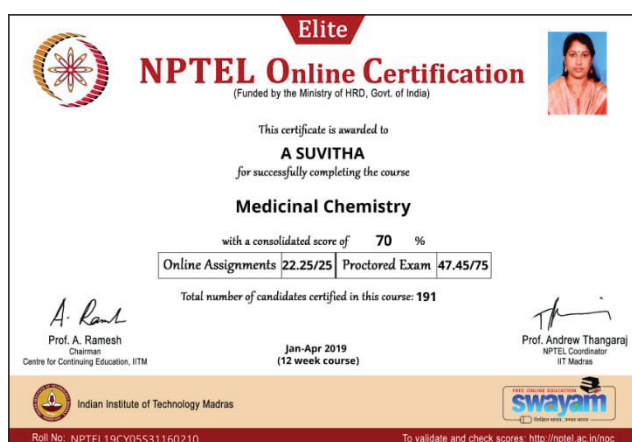
Jan-Mar 2019
(8 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

swayam

Roll No: NPTEL19MM04S11120074 To validate and check scores: <http://npTEL.ac.in/noc>



Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
A SUVITHA
for successfully completing the course

Medicinal Chemistry
with a consolidated score of **70** %

| | | | |
|--------------------|----------|----------------|----------|
| Online Assignments | 22.25/25 | Proctored Exam | 47.45/75 |
|--------------------|----------|----------------|----------|

Total number of candidates certified in this course: 191

Prof. A. Ramesh
Chairman
Centre for Continuing Education, IITM

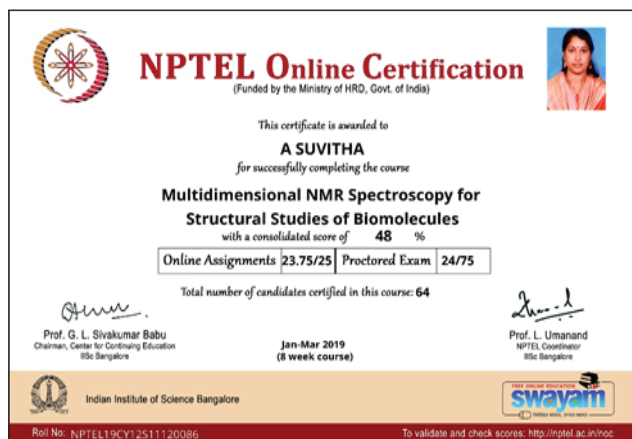
Jan-Apr 2019
(12 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL19CY05S31160210 To validate and check scores: <http://npTEL.ac.in/noc>



NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
A SUVITHA
for successfully completing the course

Multidimensional NMR Spectroscopy for
Structural Studies of Biomolecules
with a consolidated score of **48** %

| | | | |
|--------------------|----------|----------------|-------|
| Online Assignments | 23.75/25 | Proctored Exam | 24/75 |
|--------------------|----------|----------------|-------|

Total number of candidates certified in this course: 64

Prof. G. L. Sivakumar Babu
Chairman, Center for Continuing Education
IISc Bangalore

Jan-Mar 2019
(8 week course)

Prof. L. Umanand
NPTEL Coordinator
IISc Bangalore

Indian Institute of Science Bangalore

swayam

Roll No: NPTEL19CY12S11120086 To validate and check scores: <http://npTEL.ac.in/noc>