

Department Activities

Inaugural Function

Physics Association “Reverberation” was inaugurated by Dr.N.Muthukumarasamy, Associate Professor and Head, Department of Physics, Coimbatore Institute of Technology, Coimbatore and delivered a Guest Lecture on “Advanced Nanomaterials” held on 23.08.2017.

Workshop Organized

- Science Academies Lecture Workshop on Emerging Trends in Physics organized by Department of Physics, NGM College, Pollachi sponsored by Indian Academy of Sciences, Indian National Science Academy and The National Academy of Sciences was held on 3rd and 4th March 2017.
- Tamilnadu State Council for Science and Technology, Govt. of Tamilnadu and Department of Physics, NGM College has organized an Inservice training Programme for secondary grade science teachers from 28.08.2017 to 01.09.2017.

Honors/Achievements

- The Doctoral degree has been awarded to Dr.K.Kandaswamy and Dr.K.P.Abhilash by Bharathiar University, Coimbatore.
- Mr.K.Somasundaram, Doctoral scholar has presented a research article and received best poster presentation award in the International Conference on Advanced Materials Science and Technology ICAMST-2017 held at Bannari Amman Institute of Technology, Sathyamangalam.

- Mr.P.Sivaraj, Doctoral scholar who has been presented a research article in the International Conference on Electrochemical Science and Technology (ICONEST-2017) during 10th -14th Aug-2017 held at Indian Institute of Science (IISc), Bangalore.
- We have been conducted the IAPT-National Graduate Physics Examination every year since 2005. II and III B.Sc Students (2016-17) have been placed among Top 10% in part-A examination enrolled in this centre.
- I-MSc. student has participated in the National Seminar on Global Space Technology organized by KSR College of Arts and Science for Women on 10-10-2017 and Students of II-BSc. Physics attended National Seminar on Space Science and Technology held on 14-10-2017 at SRKV, Coimbatore.

Research Activities

NGM College, Department of Physics well established sophisticated laboratory with synthesis and fabrication of thin films, Nanomaterials and Characterization techniques involves electrochemical impedance analysis. The faculty members and research scholars in the department of Physics exploring research in the various fields such as Thin film technology, Solar cell applications, Solid state ionics (Lithium ion batteries), Nanomaterials for Energy storage and Luminescence (w-LED, EL) applications, and theoretical studies as Quantum Computation, DFT and Molecular dynamics. They have been published several research articles in peer reviewed international reputed journals. The staff members of our department received several major and minor research projects funded by UGC, CSIR, BRNS-(DAE).

List of Major/Minor Research Projects

S.No.	Principal Investigator	Title of the Project	Funding Agency	Amount Sanctioned (Rs)	Period
1	Dr.K.Kandaswamy	Studies on the optical properties of novel chalcogenide thin films	UGC	45,000/-	2005-2007
2	Dr.T.E.Manjulavalli	Preparation and characterization of nanostructured CdS/ZnS thin film for solar cell applications	UGC	30,000/-	2010-2012
3	Dr.M.Karthika	Theoretical studies on molecular structure and intermolecular interactions of xanthine derivatives: Caffeine, Theophylline and Theobromine	UGC	1,05,000/-	2011-2013
4	Dr.R.Kanakaraju	Molecular dynamics and quantum chemical studies on incremental salvation of some peptides	UGC	6,61,800/-	2011-2014
5	Dr.K.Kandasamy	Optical and electrical characterization of Bi _{2-x} (Sb ₂ S ₃) _x nanofilms	UGC	1,50,000/-	2012-2014
6	Dr.P.Christopher Selvin	In search of a thin film nanoelectrolyte for lithium ion batteries (LIBs)	UGC	12,69,000/-	2012-2015
7	Dr.P.Christopher Selvin	Rare earth doped, perovskite based nanophosphors for white LED applications	BRNS (DAE)	23,73,048/-	2013-2017

Recent Publications in 2017-2018

- *Blue electroluminescence from ZnGa₂O₄:Eu powder samples*, K.Somasundarama, K.G.Girija, P.Christopher Selvin, V.Sudarsan, R.M.Kadam, R.K.Vatsa, Journal of Luminescence,185145–150(2017). **Impact Factor: 2.686**
- *Investigations on the influence of Sm³⁺ ion on the nano TiO₂ matrix as the anode material for lithium ion batteries*, K P Abhilash, P Christopher Selvin, B Nalini, Rajan Jose, R Vijayaraghavan, BVR Chowdari, S Adams, MV Reddy, Journal of Alloys and Compounds, 710, 205-215 (2017). **Impact Factor: 3.133**

- *Photo conversion efficiency of CZTS solar cells fabricated using ZnO as a buffer layer*, A G Kannan, T E Manjulavalli, M. Thambidurai, International Journal of ChemTech Research, (2017). **Impact Factor: 1.07**
- *Room temperature biosynthesis of greatly stable fluorescent ZnO quantum dots for the selective detection of Cr³⁺ ions*, S Kaviya, S Kabila, KV Jayasree, Materials Research Bulletin, (2017) **Impact Factor: 2.445.**

Exercise of a Profession

Summer Research Programme

Under graduate and Post graduate students are encouraged to explore summer research projects in reputed institutions such as Indian Academy of Sciences, Tata Institute of Fundamental Research (TIFR), Inter-University Centre for Astronomy and Astrophysics, Indra Gandhi Centre for Atomic Research (IGCAR) and Bhabha Atomic Research Centre (BARC).

Weekly Seminar Programme

The students of physics are motivated to deliver seminars on pre-assigned popular topics of his/her interest using LCD power point presentation, once in a week, in the presence of all the faculties and the students. This practice has been followed for the past three decades, which gives the opportunity to build up coverage and to develop communication skills. Further, it trains the students to face any kind of interview. The manuscripts of the delivered talks are documented.

Department Library

Dr.K.A. Gundu Rao, Former HOD of Physics has donated back volumes of leading journals; American Journal of Physics, Physical Review Abstracts and Physical Review Letters, worth Rs.15 lakhs from university of Michigan, Dearborn, USA.

Industrial visit/Educational tour

Industrial visits are arranged periodically once in a year, which gives an opportunity to get acquainted with the emerging trends on advanced physics.