

Publication of the Students during the year 2015-2016

Our students attended various conferences and seminars and published research articles in various journals and conference proceedings.

Journal Publications:

- ◆ P. Kurinjinathan, J. Lavanya, K. Rajalakshmi, "Highest occupied molecular orbital and lowest unoccupied molecular orbital study of 1-Phenyl-2-propanamine using Density Functional Theory method" Indian Journal of Science, Vol. 13, 2015, pp. 5-6
- ◆ J. Lavanya, P. Kurinjinathan, K. Rajalakshmi, "Theoretical Vibrational study of 4-imino-1,3-diazabicyclo[3.1.0]hexan-2-one: A Density Functional Theory study" Indian Journal of Science, Vol. 13 2015, pp. 20-23
- ◆ M. Sundarajan, D. Palani, Vijayakumar " FTIR analysis on atmospheric dust particles in Cheyyar town, Tamilnadu, India", International Journal of Technical Research and Applications (e-ISSN: 2320-8163), Special Issue 37, pp 75-77, 2016
- ◆ R.Raja, M.Mathiyalagan, V.Santhanam, P.Kurinjinathan, " The characterization of an organic single crystal: Glycine doped Congored dye", International Journal of Technical Research & Applications (IJTRA), Special Issue 38, Feb 2016 page : 32-34.
- ◆ R.Raja, S.Saravanan, V.Santhanam, P.Kurinjinathan, "Studies of the Crystal Growth and characterization of Kdp doped crystals", International Journal of Technical Research & Applications (IJTRA), Special Issue 38, Feb 2016 page : 5-8.

Full Articles Published in Conference Proceedings

- ◆ Raja R, Santhanam V, Vedhavalli D, "Crystal growth and Characterization studies of Ammonium Chloride Doped Magnesium Sulphate" 2nd National Conference On Materials For Modern World (NCMMW-2015), pp -111-114, 2015
- ◆ Raja R, Santhanam V, Kurinjinathan P, "Characterization studies of Ammonium Sulphate doped Crystals" 2nd National Conference On Materials For Modern World (NCMMW-2015), pp – 124-127, 2015
- ◆ Suganthi J, Divya N, Johnson Jayakumar S, "Preparation and characterization of CeO₂ and CdS nanoparticles and ceria based bilayer films by hydrothermal technique, National conference on materials for modern world(NCMMW-2015), PP 157,2015
- ◆ Ragavendran V, Divya S, "Vibrational Spectroscopic investigations and natural bond orbital analysis of 2MBA", 2nd National conference on Materials for Modern world, pp.100-105, 2015
- ◆ Rajalakshmi K, Varsha Singh, "Spectral, HOMO-LUMO and NBO analysis of 2-Methylthio Benzoic Acid", 2nd National Conference on Materials for Modern World, pp. 134-139, 2015
- ◆ Rajalakshmi K, Varsha Singh, "Spectral, HOMO-LUMO and NBO Analysis of 2-Methylthiobenzoic acid", 2nd National Conference on Materials for Modern World, pp. 134-139, 2015. ISBN : 978 – 81-89-843-74-8
- ◆ Sundarajan M, Sudhakar C, Indumathi G, "Mineralogical composition of Road side sediments from a national highway – FTIR Study", National Conference on Advances in Materials Science and Non Linear Science, B.S. Abdur Rahman University, Chennai, Proceedings (ISBN: 978-81-89 843-03-8), pp 22-25, 2016
- ◆ Sundarajan M, Palani D, "Spectroscopic Analysis on Air Suspended Dust Particles in Vandavasi Town, Tamilnadu, India –FTIR Study", 11th International Conference on Science Engineering & Technology, VIT, Vellore, Proceedings (ISBN 978-93-85 477 73-7), pp 207-209, 2016
- ◆ P.Kurinjinathan, R.Raja, D.Vedhavalli, "Comparative study of Boric Acid doped Single Crystals", National Conference on Advances in Materials Science and Non Linear Science, B.S. Abdur Rahman University, Chennai, Proceedings (ISBN: 978-81-89 843-03-8), pp25-27, 2016
- ◆ C.Sivarajini, R.Raja, D.Vedhavalli, "Growth and Characterization Studies of Zn²⁺ doped Magnesium Sulphate Crystal", National Conference on Advances in Materials Science and Non Linear Science, B.S. Abdur Rahman University, Chennai, Proceedings (ISBN: 978-81-89 843-03-8), pp117-119,2016
- ◆ S.Divya, V.Ragavendran, S.Muthunatesan, "Synthesis and vibrational spectroscopic characterization of [(E)-[(E)-3-phenylprop-2-enylidene]amino]urea", National Conference on Advances in Materials Science and Non Linear Science, pp.107-109, 2016.
- ◆ Rajalakshmi K, Varsha Singh, "Spectral and NBO Analysis of Butyrophenone using Density Functional Theory", National Conference on Advances in Materials and Nonlinear Science (AMSN-2016) pp. 14-18, 2016. ISBN : 978-81-898-430-38
- ◆ Rajalakshmi K, Lavanya, "Vibrational Assignments of Isobutyrophenone", National Conference on Advances in Materials and Nonlinear Science (AMSN-2016) pp. 19-21, 2016 ISBN : 978 – 81-89-843-74-8

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DEPARTMENT OF PHYSICS

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

(University u/s 3 of UGC Act 1956) (Accredited with "B" by NAAC)

Enathur, Kanchipuram-631 561. Tamilnadu, India.

Spectra

Annual Newsletter of Department of Physics

Volume 1

About the department

Department of Physics serves with the dynamic mission to achieve excellence in both academic and research perspectives. Physics acts as the core of Science, as most of the inventions are brought forth by it. The department has awarded 12 Ph.Ds and more than 150 M.Phil degrees. The teachers and scholars of the department have published around 125 research articles so far. The research activities of the department include synthesis of nano particles and characterization, study of molecular structure and composition through spectroscopic analysis, molecular interaction studies through ultrasonic investigation, synthesis and characterization of thin films by physical vapour deposition, crystal growth techniques, mineralogical and heavy metal analyses, etc. Thin film coating unit (PVD), Gaussian 09 software, Brookfield Viscometer, Sieve Shaker and Ultrasonic interferometer for solids and liquids are available for research. The department of Physics extends its instrumentation facilities to other departments and institutions.

Patrons

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Sri Jayendra Saraswathi Swamigal

&

His Holiness

Sri Vijayendra Saraswathi Swamigal

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USP of the Department

- ❖ UG, PG and research degrees
- ❖ Qualified and research oriented faculty
- ❖ Well stacked department Library
- ❖ Funding from Government of India
- ❖ Well equipped laboratory
- ❖ Advanced instrumentation techniques
- ❖ Publication in high impact journals
- ❖ Research consultancy services
- ❖ Seminars and workshops by experts

Courses Offered :

B.Sc., M.Sc., M.Phil., Ph.D.,

Research Areas :

Applied Spectroscopy, Computational Spectroscopy, Crystal growth, Nano Technology, Thin Films, Ultrasonics.

Various Programs Conducted by the Department



National Science Day (NSD-2015)

The department organized National Science Day on 27th Feb' 2015 along with Mathematics and Chemistry departments. Dr.T.K.SUNDARAMOORTHY, Mission Director, ISRO, delivered National Science Day address and motivated the students to do innovative works in science and asked to have a preference to serve the society. Prizes were given to the winners of various competitions conducted towards science day.



Workshop on Instrumentation Techniques in Physics

Final year B.Sc., Physics students from Vidyasagar College for women, Chengalpet

participated in the "Workshop on Instrumentation techniques" on 11th March 2015. Various instrumentation techniques in the area of Spectroscopy, Ultrasonics and Crystal growth were explained and demonstrated to the students by the department faculty members.

National Workshop on Basics of MATLAB 2015



The department of Physics organized "National Workshop on Basics of MATLAB" on 19-09-2015. MATLAB simulations of some physical concepts were explained to the participants.



Colloquium

- ❖ Mr.Durgesh kumar Nayak (I M.Sc. Physics), delivered a talk on "Wind Mill Applications" on 13-08-2015.
- ❖ Ms. N. Divya, research scholar (M.Phil) delivered a talk on "Generation of Solar Cells" on 29-03-2015.



Welcome ceremony

Our department conducted freshers' day on 22nd July 2015 at Physics laboratory to welcome 1st year B.Sc., students of the department, newly joined students gave self-introduction and various interesting games and cultural programmes were conducted by senior students. Prizes were distributed to the winners.

Opportunities :

- ❖ Scientific Positions (IGCAR, IISc. IITs, BHEL, BARC, BSNL.....)
- ❖ Teaching Positions (Universities, Colleges & Schools)
- ❖ Research Positions (Universities & Colleges)
- ❖ Various Jobs in Public / Private sectors (IT / Banking)



Guest Lecture on Applications of Physics in daily life

The department of Physics organized a guest lecture on "Applications of Physics in daily life" on 23rd October 2015 for all UG and PG Students in the department. Dr.K.Venkatramanan, Professor and Head Department of Physics welcomed the gathering. Prof. Dr.S.Gunasekaran, Dean (R&D) St. Peter's University and Prof. Dr.S.Jayakumar, Associate Professor of Physics, Ramakrishna Mission Vivekananda College, Mylapore, Chennai delivered lectures.



International seminar on modern synthetic Chemistry - Approaches and achievements

The department of Physics and Chemistry organized an "International seminar on modern synthetic chemistry - approaches and achievements" on 18-02-2016. The chief guest **Nobel Laureate Prof. Ei-ichi Negishi** (Chemistry - 2010) gave an elaborate speech on his discovery (Negishi Coupling) to the gathering and visited Physics department and interacted with faculty members and students.



Fourth National workshop on Instrumentation Techniques in Physics (PINTECH'15)

The department of Physics organized "Fourth National Workshop on Instrumentation Techniques in Physics" (PINTECH' 15) on 16-11-2015. 120 participants from various colleges, Universities and other research organizations participated in the workshop. Prof. Dr.K.Venkatramanan, Convenor - PINTECH' 15 & Head, Department of Physics welcomed the gathering. Prof. V.Ragavendran, Organizing secretary - PINTECH' 15

and Asst. Prof of Physics narrated the objectives of the workshop. Prof. Dr. V.S.Vishnu Potty, Hon'ble Vice-Chancellor of our University presided over the function. The Chief Guests of the function Dr. T.Gnanasekaran, Raja Ramanah Fellow, Chief Scientist and Associate director (Retd.) Indira Gandhi Centre for Atomic Research, Kalpakkam and Dr. Sheela Berckmans, Chief Scientist and Head, Electrolysis and Electrocatalysis division, CSIR - Central Electrochemical Research Institute, Karaikudi, addressed the gathering and inaugurated the workshop. Prof. Dr. A.Jayalakshmi, Dean, Faculty of Science and Prof. K.C.Srinivas, Director, Sri Jayendra Saraswathi Centre for Advanced Research, SCSVMV felicitated the gathering.



Special Achievements

- ❖ The Physics Department of SCSVMV received the "The Best Department Award" 2015 during the Teachers' Day Celebration 2015.
- ❖ Mr. R.Raja Asst Prof. of Physics received "Best Teacher award" for the year 2014-2015
- ❖ Mr. V.Ragavendran, Asst. Prof. of Physics received "Best Paper award" in the second National Conference on Nano Photonics conducted by dept of Physics, Bharathidasan University, Trichy held during March - 2016.
- ❖ Mr. P.K.Kurinjinathan (2013-2015 Batch of M.Sc., Physics) joined as JRF at Crystal Growth Centre, Anna University under the guidance of Prof. Dr.S.Narayanakulura, Director Crystal Growth Center, Anna University, Chennai.

Research Publications during the year 2015

23 Research papers were published in reputed journals and more than 15 papers were published in the conference proceedings during the year 2015

Book Publications

- ❖ Ventatramanan K, Raja R & Sundararajan M, 'Experimental Physics', Scitech Publication, ISBN : 978818316758.
- ❖ Sivakumar K, Raja R, Usharani Pispipathy, Malathi R and Mathini A, 'A primer for Engineering Students with examples', Scitech Publication ISBN : 978 818371427.
- ❖ Ventatramanan K, Raja R & Sundararajan M, 'Applied Physics for Engineers', Scitech Publication, ISBN : 9788183714310

Book Chapter

- ❖ Sundararajan M, and Arulesan V, 'Heavy Metal Analysis of Mamandur Lake Sediments, Tamilnadu, India', Application of nanostructured materials for energy and environmental technology, Bloomsbury publications, special Issue (ISBN : 97893085 436 91 8) PP 245 -248, 2015



NSS Activities

The NSS volunteers from the Physics department cleaned the University campus under Swachh Bharat Mission on 02-10-2015.