



DEPARTMENT OF PHYSICS
YADAVA COLLEGE (Autonomous), MADURAI – 14
DEPARTMENT PROFILE

| YEAR | COURSES | HISTORY |
|------|-----------------------------------|--|
| 1972 | Commencement of PUC classes | Department of Physics was established in the year 1972 with the inception of PUC classes in the Yadava College campus with Thiru. E. Papavinasam as Head of the Department with Thiru. G. Balasubramaniam and Thiru. Rajendran as Lecturers |
| 1976 | Commencement of Ancillary classes | Department becomes Ancillary department offering papers to the Mathematics and Chemistry students in the year |
| 1986 | Establishment of UG Physics | B.Sc., Physics was established in the year 1986 under the headship of Thiru. G. Balasubramanian with Thiru. R. Karuppaian, Thiru. M. Sekar, Thiru. N. Sankar and Thiru. M. Narayanan as Lecturers. Department actively pursued its mission to impart knowledge in the young minds and encouraged them to pursue higher studies. |
| 2005 | Establishment of PG Physics | To promote higher education and to enlighten the scientific temper among the students, Department started Post-Graduation in Physics in the year 2005 with Thiru. R. Karuppaian as Head of the Department with Thiru. M. Sekar, Thiru. N. Sankar and Thiru. Narayanan as Lecturers. In addition to them six more staff members were recruited. |
| 2011 | Establishment of Research Lab | Department of physics was established in the year 2015 with a research lab for the nanomaterials synthesis and thin film preparation methods such as spin coating, dip coating and spray pyrolysis units. |



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FACULTY LIST -2020-2021

| S.NO | FACULTY NAME | DESIGNATION |
|-------------|---------------------|---------------------------------------|
| 1 | Mr. M. SEKAR | Associate Professor & Head |
| 2 | Dr. M. NARAYANAN | Associate Professor & Principal (i/c) |
| 3 | Mr. G. VELMURUGAN | Assistant Professor |
| 4 | Dr. P. NALINI | Assistant Professor |
| 5 | Mrs. U.C. NITHIYA | Lecturer |
| 6 | Mrs. G. GAYATHRI | Lecturer |
| 7 | Mrs. S. KANIMOZHI | Lecturer |
| 8 | Mrs. V. VALARMATHI | Lecturer |
| 9 | Dr. M. MARIKKANNAN | Assistant Professor |
| 10 | Mrs. T. KALAISELVI | Lecturer |
| 11 | Mrs. G. VINOETHINI | Lecturer |



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RESULT ANALYSIS 2012-2020

UNDER GRADUATE

| S. No | Year | Class | Appeared | Passed | Percentage |
|--------------|-------------|--------------------|-----------------|---------------|-------------------|
| 1 | APRIL-2012 | III B.Sc., Physics | 41 | 34 | 82.93 |
| 2 | APRIL-2013 | III B.Sc., Physics | 38 | 29 | 76.32 |
| 3 | APRIL-2014 | III B.Sc., Physics | 38 | 32 | 84.21 |
| 4 | APRIL-2015 | III B.Sc., Physics | 27 | 20 | 74.07 |
| 5 | APRIL-2016 | III B.Sc., Physics | 44 | 40 | 90.91 |
| 6 | APRIL-2017 | III B.Sc., Physics | 45 | 39 | 86.67 |
| 7 | APRIL-2018 | III B.Sc., Physics | 45 | 41 | 91.11 |
| 8 | APRIL-2019 | III B.Sc., Physics | 39 | 37 | 94.87 |
| 9 | APRIL-2020 | III B.Sc., Physics | 45 | 45 | 100.00 |
| 10 | APRIL-2021 | III B.Sc., Physics | 45 | 45 | 100.00 |
| 11 | APRIL-2022 | III B.Sc., Physics | 44 | 43 | 97.73 |



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RESULT ANALYSIS 2012-2020

POST GRADUATE

| S. No | Year | Class | Appeared | Passed | Percentage |
|--------------|-------------|-------------------|-----------------|---------------|-------------------|
| 1 | APRIL-2012 | II M.Sc., Physics | 25 | 20 | 80.00 |
| 2 | APRIL-2013 | II M.Sc., Physics | 22 | 15 | 68.18 |
| 3 | APRIL-2014 | II M.Sc., Physics | 22 | 13 | 59.09 |
| 4 | APRIL-2015 | II M.Sc., Physics | 11 | 10 | 90.91 |
| 5 | APRIL-2016 | II M.Sc., Physics | 9 | 8 | 88.89 |
| 6 | APRIL-2017 | II M.Sc., Physics | 16 | 15 | 93.75 |
| 7 | APRIL-2018 | II M.Sc., Physics | 12 | 12 | 100.00 |
| 8 | APRIL-2019 | II M.Sc., Physics | 30 | 25 | 83.33 |
| 9 | APRIL-2020 | II M.Sc., Physics | 23 | 23 | 100.00 |
| 10 | APRIL-2021 | II M.Sc., Physics | 18 | 18 | 100.00 |
| 11 | APRIL-2022 | II M.Sc., Physics | 8 | 8 | 100.00 |



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PAPER PUBLICATIONS 2012-2020

| S. No | Name of the Faculty | Title of the Paper | ISSN/ISBN No | Name of the Journal | Year of Publication |
|-------|---------------------|--|---|---|---------------------|
| 1 | Dr. M. Narayanan | Pressure and Temperature Induced Non-Linear Optical Properties in a Narrow Band Gap Quantum Dot | ISSN: 2164-7615 (print); EISSN: 2164-7623 (online) | Quantum Matter | 2012 |
| | | Electric field induced exciton binding energy and its non-linear optical properties in a narrow InSb/InGa _x Sb _{1-x} quantum dot | https://doi.org/10.1016/j.spmi.2012.01.012 | Super lattices and Microstructure | 2012 |
| 2 | Dr. N. Sankar | Charge Transport in 1-D Nanostructured CdS Dye Sensitized Solar Cell | ISSN (print): 0219581 ISSN (online): 1793-5350 | Journal of Nanoscience | 2013 |
| 3 | Dr. P. Nalini | Spin polaronic shift of an acceptor bound polaron in GaMnAs/GaAs quantum well | ISSN No: 00001984 00002005 00001983 | AIP conference proceedings | 2019 |
| 4 | Dr. M. Marikkannan | Micromorphology analysis of sputtered ITO fabricated with variable ambient combinations | ISSN: 0167-577X | Materials Letters | 2018 |
| | | Properties of Al doped ZnO and In doped ZnO bilayer transparent conducting oxides for solar cell applications | ISSN: 0167-577X | Materials Letters | 2018 |
| | | Effect of Zinc and Indium doping in Chalcogenide (CdS/Te) nanocomposites towards dye sensitized Solar Cell Applications | volume 168, 2022 Doi:/10.1016/j.pcs.2022.110802 | Journal of Physics and Chemistry of Solids, | 2022 |
| | | Excellent Photocatalytic activity of Ag ₂ O loaded | Volume 796, 2022 | Chemical Physics Letters, | 2022 |

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|--|---|--|--|--|
| | ZnO/NiO nanocomposites in sun-light and their biological applications | Doi: 10.1016/j.cple tt.2022.13956 6 | | |
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DETAILS OF FACULTY DOING/COMPLETED Ph.D.,

| S.No. | Name | Title of Thesis | University | Awarded/Doing |
|-------|-------------------|--|---|---------------|
| 1 | Dr. N. Sankar | Growth, characterization and Experimental studies on ZnSe and CdS including defects | Madurai Kamaraj University | Awarded |
| 2 | Dr. M. Narayanan | Spectral Properties of some Narrow gap semiconductor nanostructures for Mid-Infrared Applications | Madurai Kamaraj University | Awarded |
| 3 | Mr. G. Velmurugan | Chemically modified Ru-Ni composites performances for Super capacitor | Norul Islam Centre for Higher Education | -doing- |
| 4 | Mrs. P. Nalini | Energy levels of a Hydrogenic Donor impurity in a Diluted Magnetic Semiconductor Quantum dot | Dravidan University | Awarded |
| 5 | Mrs. U.C. Nithiya | Study of effect of substrate temperature on structural, optical and electrical properties of copper telluride thin films | Madurai Kamaraj University | -doing- |
| 6 | M. Marikkannan | Role of ambient gases on the properties of indium tin oxide thin films for solar cell applications | Madurai Kamaraj University | Awarded |



DEPARTMENT OF PHYSICS

Details of the Seminar/Conference/ Workshop conducted by the Department from 2012 to 2020

| S.NO | NAME & ADDRESS | DATE | PROGRAMME | TOPIC |
|------|---|---------------------------------------|-------------------------------------|---|
| 1 | Mr. S. Ashok kumar & Mr. L. Ganesh Research Scholars The American College Madurai | 29 th April 2022 | National Science Day | Telescope Making and Sunspot Observation |
| 2 | Dr. R. Vengatesan, Head, RESD, HSEC, SQRC IGCAR, Kalpakkam, Tamilnadu | 26 th Feburary 2021 | National Science Day | One day Awareness Programme on Nuclear Energy, Radiation, Safety and its Applications |
| 3 | Dr.J. Daniel Chellappa Eminent Nuclear Scientist Chennai | 18 th March 2021 | Einestein Day Celebration | Emerging Technologies for self employment |
| 4 | Dr. N. JEYAKUMARAN Dean Research Associate Professor of Physics VHNSN College Virudhunagar. | 27 th February 2020 | National Science day | Green Energy Materials |
| 5 | Dr. S. STEPHEN RAJKUMAR INBANATHAN Associate professor in Physics, The American College, Madurai. | 2 th February 2019 | Special Lecture | India based Neutrino observatory |
| 6 | Dr. A. SHANMUGARAJU Assistant professor in Physics, Arul Anandar College, Karumathur. | 28 th February, 2019 | National Science day celebration | Visible and Invisible Universe |
| 7 | Dr. T. K. THIURMALAISWAMY Associate Professor of Physics Hajee Karutha Rowther Howdia College Uthamapalayam, Theni. | 15 th October 2019 | Youth Renaissance Day | History of Dr.APJ Abdul kalam |
| 8 | Dr. M. ABDUL KADIR Principal (Retried) MSS Wakf Board College Madurai. | 19 th December 2019 | On Annular Solar Eclipse | Solar Eclipse |

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| 9 | Dr. R.V. KRISHNA KUMAR Associate professor Department of physics Thiagarajar College, Madurai. | 31 th January 2018 | Special Lecture | Awareness on observing super blood blue moon |
| 10 | Dr. M.M. SAMI Professor and Head Department of chemistry Thiyagarajar college of Engineering, Madurai | 28 th February 2018 | Special Lecture on science day | Science and Technology for sustainable future |
| 11 | Dr. R.V. KRISHNAKUMAR Associate professor in Physics, Thiyagarajar College, Madurai. | 15 th October 2018 | Special Lecture on Birthday celebration of Dr. A.P.J Abdul Kalam | Ready, Steady, Go |
| 12 | V. VAIRAMUTHU Assistant consultant in TCS USA | 30 th JAN 2017 | Special Lecture | Opportunities in IT field for Physics |
| 13 | Dr. MUTHUSENTHILPANDIAN Research assistant SSN institution Chennai. | 6 th February 2017 | Special Lecture | Growth of non- linear optical and ferroelectric single crystals for solar cell applications |
| 14 | Dr. P. KUMARAVEL Scientist Indian Institute of Astrophysics, Kodaikanal | 27 th FEB 2017 | Special Lecture | Instrumentation for Solar observation |
| 15 | Mr. THANGAMANI Hardware and software consultant Parvathi electronics Madurai. | 13 th & 14 th MAR 2017 | Hands on experiments | Mobile applications |
| 16 | Dr. M.K. KUMARESAVANJI | 27 th FEB, 2016 | Special Lecture for national Science day program | Magnetic refrigeration using nanostructured materials |
| 17 | R.Sathish Kannan & Naresh Hari Kumar, Consultants, Madurai | 14 th MAR 2016 | Special Lecture | On Carrier Guidance |
| 18 | Prof. G. Balasubramanian, Former HOD of Physics, Yadava College, Madurai | 30 th MAR 2016 | Special Lecture | Einstein's Day |
| 19 | P. Sujana, Assistant Professor of physics, American College, Madurai. | 31 st MAR 2016 | Special Lecture | Electronic and Optical properties of II – VI Semiconductors |
| 20 | Dr. R. Ilangovan Professor, National Centre for Nano sciences | 27 th FEB- 2015 | Special Lecture | Basics of Nano Science |

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| | and Nanotechnology, Madras university, Chennai. | | | |
| 21 | Mr.B.Thangamani Madurai | 06 th MAR - 2015 | Special Lecture | Micro controllers |
| 22 | Er. Abinay Gupta, Robotics Trainer, Mumbai. | 17 th &18 th AUG 2015 | workshop | On Robotics |
| 23 | Jagadesh Kopula Kesaavan, Scholar, University of Rome,Italy | 28 th AUG, 2015 | Special Lecture | Necessity of alternate Energy Storage technologies |
| 24 | Mr. K. S. Ramaiah, Director, Profession India Magazine, Chennai | 04 th SEP- 2014 | Special Lecture | Opportunities in central and state Governments |
| 25 | Dr. B. Sathyanarayanan, Scientific Officer (G) Tata Institute of Fundamental Research, Mumbai. | 16 th SEP- 2014 | Special Lecture | Physics Detector and Instrumentation of INO Project |