

## STAFF PROFILE

- 1) Name : Dr. R. Amutha  
2) Designation : Assistant Professor  
3) Department : Physics  
4) Qualification : M.Sc., Ph.D  
5) Experience : Teaching : 14 Research :  
6) Area of Specialization (s) : Thin Film Technology  
7) E-mail : amutha.phd@gmail.com

### 8) Academic Qualifications :

Degree	Area of Specialization	Institution/ University/ Agency Name	Year
Ph.D	(Thin Film Technology)	Kongunadu Arts and Science College, Coimbatore-29.	2007
M.Sc	Physics	Kongunadu Arts and Science College, Coimbatore-29.	2001
B.Sc	Physics	Maharaja Arts and Science College for Women, Perundurai.	1999

### 9) Grants Received

Event Title	Agency	Amount	Date
Seed Money Project	Nirmala College for Women, Coimbatore -18.	Rs. 10,000	02.12.2020

### 10) Research Publications

#### International

1. R.Amutha, A.Subbarayan and R.Sathayamoorthy, "Influence of substrate temperature on structure and optical properties of ZnTe thin films", Crystal Research and Technology, (2006) 41(12), 1174-1179.

2. R.Amutha, A.Subbarayan and R.Sathayamoorthy, “Structural properties of evaporated ZnTe thin films”, Acta Ciencia Indica, (2006) 32(1-4), 445-450.
3. R.Amutha, A.Subbarayan, R.Sathyamoorthy, K.Natarajan, P.J.Sebastian and S.Velumani, “Conduction mechanism in thermally evaporated ZnTe thin films”, Journal of New Materials for Electrochemical System, (2007) 10 (1), 27-32.
4. R.Amutha, “Effect of copper on composition, structural and optical properties of copper doped ZnTe thin films”, Advanced Materials Letters, 4(3) (2013) 225-229.

## **11) Other Publications**

### **Papers in the International Symposium/Conferences**

1. Optical studies on copper layered ZnTe thin films, R.Amutha, T.R. Suresh Kumar, accepted for Second International Conference on Perspectives in Vibrational Spectroscopy), February 24-28, Mascot Hotel, Trivandrum, Kerala.
2. FTIR Studies on Diseased Renal and Normal Blood Samples, R.Amutha, T.R. Suresh Kumar, accepted for Second International Conference on Perspectives in Vibrational Spectroscopy, February 24-28, Mascot Hotel, Trivandrum, Kerala.
3. Influence of copper on structure and transport properties of ZnTe thin films, R.Amutha, T.R. Suresh Kumar, accepted for Second International Conference on Perspectives in Vibrational Spectroscopy, February 24-28, Mascot Hotel, Trivandrum, Kerala.
4. Formation and characterization of copper layered ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathayamoorthy, Third International Conference on Ionic Devices, December 7-9, 2006, Anna University, Chennai, India.
5. Influence of substrate temperature on structure and optical properties of ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, International conference on perspectives in Vibrational Spectroscopy, Feb. 25-28, 2006, Meerut College, Meerut.
6. Structural properties of evaporated ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, International conference on perspectives in Vibrational Spectroscopy, Feb. 25-28, 2006, Meerut College, Meerut.

7. Structural and optical characterization of ZnTe thin films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, International symposium on functional materials (ISFM 2005), Dec.6-8, 2005, Kuala Lumpur, Malaysia.
8. Structural and DC conduction studies on ZnTe thin films, R.Amutha, A.Subbarayan, R.Sathyamoorthy, K.Natarajan, P.J.Sebastian and S.Velumani, XIV International Materials Research Congress, August 21 – 25, 2005, Cancun, Mexico.
9. Conduction mechanism in thermally evaporated ZnTe thin films, R.Amutha, A.Subbarayan, R.Sathayamoorthy, K.Natarajan, P.J.Sebastian and S.Velumani, International symposium on solar-hydrogen-fuel cells-8 (International materials research congress 2004) 22-26, Cancun, Mexico.
10. Temperature dependence of structure and optical studies on vacuum evaporated ZnTe thin films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, International symposium on Solar Cells & Solar Energy Materials, Cancun, Mexico, 22-26 August 2004.
11. Structural, Optical and Conduction Studies of ZnTe thin Films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, Symposium VII Materials characterization Techniques and Nanotechnology, Mexico, August 26-30, 2003.

#### **Papers in the National Symposium / Conferences**

1. Influence of thickness, substrate temperature and copper on optical studies of ZnTe thin films, T.R. Suresh Kumar, and R. Amutha, National Conference on the Emerging Trends in the Photovoltaic Energy Generation and Utilizon, March 27-29, 2008, Indian Institute of Technology, Kanpur.
2. Optical properties of thermally evaporated copper layered ZnTe thin films, R.Amutha, T.R. Suresh Kumar, National conference on advanced materials, devices and technologies, February 22-28, 2008, Department of Physics, Sri Venkateswara University, Tirupati.
3. Formation and characterization of thermally evaporated ZnTe/CdSe heterojunction diode, R.Amutha, A.Subbarayan and R.Sathyamoorthy, National Seminar on Optoelectronic Phenomena, 10-12 August 2007, St.Aloysius College, Edathua, Alappuzha.
4. Electrical resistivity of thermally evaporated copper layered ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, National Conference on Smart Materials and Recent

Technologies, Feb. 22-23, 2007, Department of Physics, Sri Venkateswara University, Tirupati.

5. Structural and optical characterization of silver layered ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, National Conference on Smart Materials and Recent Technologies, Feb. 22-23, 2007, Department of Physics, Sri Venkateswara University, Tirupati.
6. Structural and optical characterization of Pure and Copper doped ZnTe thin films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, National Conference on Subtle World of Physics (SWOP 2006), 9<sup>th</sup> Feb. 2006, Department of Physics, Vivekanandha College of Arts and Sciences for Women, Tiruchengode.
7. Conduction Mechanism in Thermally Evaporated ZnTe Thin Films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, National Conference on Emerging Materials and Technologies, Department of Physics, Sri Venkateswara University, Tirupati. 3-4, Aug. 2004.
8. Thickness Dependence of Structural and Optical Studies on Thermally Evaporated ZnTe thin Films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K. Natarajan, Materials for the Future, Bangalore March 22&23rd, 2004.
9. Temperature dependence of Structural and A.C. conduction studies of vacuum evaporated ZnTe thin films S. Saravanakumar, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K. Natarajan, National Seminar on Emerging Trends in Molecular Physics, Annamalai University, Chidambaram, March 8&9th, 2004.
10. Characterization of vacuum deposited ZnTe thin films by XRD, SEM and D.C. Conduction R.Amutha, A.Subbarayan, R.Sathyamoorthy and K. Natarajan, National Seminar on Emerging Trends in Molecular Physics, Annamalai University, Chidambaram, March 8&9th, 2004.
11. Dielectric Studies of Vacuum Deposited ZnTe Thin Films, R.Amutha, A.Subbarayan and R.Sathyamoorthy, Eleventh National convention of Electrochemists, Bishop Heber college, Tiruchirappalli, Dec. 26&27th, 2003.
12. Structural and DC conduction studies of dip coated hydrazinium benzoate thin films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, National conference on Recent advances in materials science, Tiruchirappalli, 11-12, Dec. 2002.

13. Structural and optical studies of solution grown hydrazinium benzoate thin films, R.Amutha, A.Subbarayan, R.Sathyamoorthy and K.Natarajan, National seminar on Recent Trends in Optoelectronic materials and devices, Tirupati, 21-22 Nov.2002.

## **12) Book Publications**

Title of the Book : Engineering Physics - II

ISBN No : 978-81-907757-1-7

Author : R. Amutha

Publisher : Pranav Publication

## **13) Presentations in Conference**

### **International**

- 1) International conference on molecular spectroscopy of advanced materials and biomolecules, 7-9, August,2012, Bishop Moore college Mavelikara, Kerala.
- 2) Second International conference on perspectives in vibrational spectroscopy, February 24-28, 2008, organized by Department of Physics, Mar Ivanios College, University of Kerala and Kerala State Council for Science, Technology and Environment, Trivandrum, Kerala.
- 3) Third International conference on Ionic Devices, Dec. 7-9, 2006, organized by Society of Ionic Devices and Dept. of Physics and Anna University, Chennai.
- 4) International conference on perspectives in vibrational spectroscopy, Feb. 25-28, 2006, held in the Department of Physics, Meerut College, Meerut.

### **National**

- 5) National conference on recent advances in vibrational spectroscopy, January 29-30, 2007, organized by Department of Physics, Periyar University, Salem.
- 6) National conference on Subtle World of Physics, 9<sup>th</sup> Feb. 2006 organized by Department of Physics, Vivekanandha College of Arts and Sciences for Women, Tiruchengode.
- 7) National conference on emerging materials and technologies, 3<sup>rd</sup> & 4<sup>th</sup>, August 2004 at Department of Physics, Sri Venkateswara University, Tirupati.
- 8) Materials for the Future, March 22&23, 2004, organized by Materials Research Centre, Indian Institute of Science, Bangalore.

- 9) National seminar on emerging trends in molecular Physics, March 8&9, 2004, organized by Department of Physics, Annamalai University, Annamalainagar.
- 10) Eleventh national convention of electrochemists, Dec. 26-27, 2003, organized by Central Electrochemical Research Institute Karaikudi and Bishop Heber College, Tiruchirapalli.
- 11) National conference on recent advances in materials science, Dec. 11-12, 2002, organized by PG & Research Department of Applied Physics, Nehru Memorial College, Puthanampatti.
- 12) National symposium on instrumentation, Dec. 2002, conducted by Department of Physics, Bharathiar University, Coimbatore.
- 13) National seminar on recent trends in optoelectronic materials and devices, Nov. 21-22, 2002, organized by Department of Physics, Sri Venkateswara University, Tirupati.

#### **14) Participation in Conference**

- 1) International Virtual Conference on “Wearable Technologies & Applications: Emerging Trends and Innovation” held on 26th and 27th June 2020, Organized By Center for Wearable Technology and Applications School of Electronics Engineering, VIT, Vellore.
- 2) International conference on molecular spectroscopy of advanced materials and biomolecules, 7-9, August, 2012, Bishop Moore college Mavelikara, Kerala.
- 3) Second International conference on perspectives in vibrational spectroscopy, February 24-28, 2008, organized by Department of Physics, Mar Ivanios College, University of Kerala and Kerala State Council for Science, Technology and Environment, Trivandrum, Kerala.
- 4) National conference on recent advances in vibrational spectroscopy, January 29-30, 2007, organized by Department of Physics, Periyar University, Salem.
- 5) Third International conference on Ionic Devices, Dec. 7-9, 2006, organized by Society of Ionic Devices and Dept. of Physics and Anna University, Chennai.
- 6) International conference on perspectives in vibrational spectroscopy, Feb. 25-28, 2006, held in the Department of Physics, Meerut College, Meerut.
- 7) National conference on Subtle World of Physics, 9<sup>th</sup> Feb. 2006 organized by Department of Physics, Vivekanandha College of Arts and Sciences for Women, Tiruchengode.
- 8) National conference on emerging materials and technologies, 3<sup>rd</sup> & 4<sup>th</sup>, August 2004 at Department of Physics, Sri Venkateswara University, Tirupati.

- 9) Materials for the Future, March 22&23, 2004, organized by Materials Research Centre, Indian Institute of Science, Bangalore.
- 10) National conference on recent advances in materials science, Dec. 11-12, 2002, organized by PG & Research Department of Applied Physics, Nehru Memorial College, Puthanampatti.
- 11) National conference on thin film techniques and applications, Feb. 1&2, 2002, Organized by department of Physics, PSG College of Arts & Science, Coimbatore.

#### **15) Participation in Seminar**

- 1) One day state level seminar on recent developments in advanced materials and its applications, August 12, 2011, organized by Department of physics, mahendra Engineering college, Namakkal.
- 2) National seminar on emerging trends in molecular Physics, March 8&9, 2004, organized by Department of Physics, Annamalai University, Annamalaiagar.
- 3) Eleventh national convention of electrochemists, Dec. 26-27, 2003, organized by Central Electrochemical Research Institute Karaikudi and Bishop Heber College, Tiruchirapalli.
- 4) National symposium on instrumentation, Dec. 2002, conducted by Department of Physics, Bharathiar University, Coimbatore.
- 5) National seminar on recent trends in optoelectronic materials and devices, Nov. 21-22, 2002, organized by Department of Physics, Sri Venkateswara University, Tirupati.
- 6) National conference on thin film techniques and applications, Feb. 1&2, 2002, Organized by department of Physics, PSG College of Arts & Science, Coimbatore.

#### **16) Participation in Workshop**

- 1) National Workshop on “Applications of Quantum Physical Sciences in Life Sciences” held on 25th August 2021, Immaculate College for Women, Cuddalore.
- 2) workshop on “Best Practices in Teaching, Learning and Evaluation” on 30th July 2021, rganized by the Internal Quality Assurance Cell (IQAC), Nirmala College for Women, Coimbatore – 18 under PARAMARSH scheme.
- 3) Virtual Workshop on “Development of Swayam MOOC’s” organized by Bharathiar University and Maicutic Consultant Pvt. Ltd from 27 -29.07.2020

- 4) Virtual Workshop on “Google Classroom” organized by Jayaraj Annapackiam CSI Polytechnic College, Margoschis Nagar held on 10.07.2020
- 5) Two days National Level Workshop on NANO MATERIALS NANO MAT-2012 on September 28-29, 2012, Organized by Department of Mechanical Engineering, Selvam College of Technology, Namakkal.
- 6) Workshop on “Physics with Homemade Equipment and Innovative Experiments” (PHOENIX) held on October 10<sup>th</sup>, 2007, jointly organized by Inter University Accelerator Centre, New Delhi and Department of Physics, Kongunadu Arts and Science College, Coimbatore.
- 7) Workshop on “Advanced Engineering Materials”, February 14-15, 2007, organized by Department of Physics, Government College of Engineering, Salem.
- 8) State level workshop on “Science Research Methodology”, August 30-31, 2006, organized by School of Physical Science, Mahendra Arts and Science College, Kalippatti.
- 9) Human Resource Development Intervention – Facilitating Excellence in Effective Leadership Teacher, June 16-18, 2006 at Mahendra Engineering College, Tiruchengode.
- 10) Ph.D Teaching Programme on “Energy Loss of MeV Ions in Solids & Programming Techniques”, July 28<sup>th</sup> – Aug.18<sup>th</sup>, 2003, conducted by Nuclear Science Centre (NSC), New Delhi.

#### **17) Participation in Orientation Programme/ Induction Programme/ Short term Courses**

- 1) Short – Term Course on “Journey from Semiconductor Physics to Smart Devices to Intelligent Automation” through online mode, jointly organized by National Institute of Technology Srinagar and Semiconductor Society of India from, 1st May – 5th May, 2021.
- 2) International Online Short Term Course on Recent Applications of Polymers” Organized by Department of Microbiology, Alagappa University, Karaikudi-630 003 from 03-05-2021 to 05-05-2021.
- 3) Orientation programme on Human energy management” Organized Department of Chemistry, Nirmala College for Women, Coimbatore on 27.05.2020
- 4) Refresher Course in Physics conducted by UGC-Human Resource Development Centre, Bharathiar University held from 22.01.2020 – 04.02.2020.
- 5) Orientation programme conducted by UGC-Human Resource Development Centre, Bharathiar University held from 10.05.2017 – 06.06.2017.



### **18) Participation in Faculty Development Programme**

- 1) Faculty Development Program on “Recent Advances in Smart Materials for Sensors and Energy Applications” organized by Departments of Physics, BMS Institute of Technology and Managemnet from 06.07.2020 to 10.07.2020.
- 2) FDP on “E- content making”. Organized by Servite Arts and Science College for Women, Karur., during 22.06.2020 to 26.06.2020.
- 3) FDP on “ICT tools for effective teaching”. Organized by Department of Mathematics (SF), Nirmala College for Women, Coimbatore, Coimbatore, on 1.07.2020.
- 4) FDP on “Trends in Teaching and Learning”. Organized by Department of Mathematics, Bishop Ambrose College, Coimbatore, during 26.05.2020 to 29.05.2020.
- 5) FDP on “Statistical Mechanics”. Organized by Department of Physics, PSGR Krishnammal College for Women, Coimbatore, during 25.05.2020 to 29.05.2020.
- 6) FDP on “Online Teaching Methods”. Organized by PG & Research Department of Mathematics, Nirmala College for Women, Coimbatore, during 20.05.2020 to 21.05.2020.
- 7) FDP on “The Use of Virtual Physics Labs -Creating Next Generation Teachers”. Organized by Department of Freshman Engineering, Geethanjali College of Engineering and Technology, [Telangana](#) in association with Indian Society for Technical Education (ISTE), during 20.05.2020 to 24.05.2020
- 8) FDP on “R Programming”. Organized by Department of Computer Science & Engineering, SKN Sinhgad College of Engineering, Korti, Pandharpur. during 30.04.2020 to 05.05.2020
- 9) FDP on “Moodle Learning Management System”. Organized by G. Venkataswamy Naidu College, Kovilpatti. during 30.04.2020 to 04.05.2020.
- 10) FDP on “R Programming”. Organized by Kaamadhenu Arts and Science College, Sathyamangalam. Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India. during 26.04.2020 to 02.05.2020.
- 11) Virtual FDP on “Recent Trends in Biomedical Engineering – Research Perspective”. Organized by Department of Biomedical Engineering, Dr. N.G.P. Institute of Technology, Coimbatore, MHRD - Institution's Innovation Council and AICTE - Industry Institute Partnership Cell during 26.04.2020 to 30.04.2020.

### **19) Conference/ Seminar/ Workshop Organized**

- 1) Seminar on Applications of Nanoscience, Solar energy and Magnetic Materials” on 25.09.2019.
- 2) Seminar on “Modern trends in Optics and Communication Techniques” on 12.02.2019
- 3) Seminar on “Recent trends in Solar Energy” on 28.11.2017
- 4) Seminar on IYL(International Year of Light) on 09.10.2015
- 5) National level Project contest “Mathematics and Science Innovative Project Contest-09” from 11th to 12th October 2009 at Mahendra College of Engineering, Salem.
- 6) National Seminar on “Nano Material Science and Technology” on 17th March 2008 at Mahendra College of Engineering, Salem.

## **20) Invited Speaker/ Session Chair – Conference/ Seminar/ Workshop**

Two days National Level Workshop on NANO MATERIALS NANO MAT-2012 on September 28-29, 2012, Organized by Department of Mechanical Engineering, Selvam College of Technology, Namakkal.

## **21) Awards and Achievements**

- ♣ Best poster presentation award in the International Conference on Ionic Devices, held at Anna University, Chennai, India on Dec. 7-9, 2006.
- ♣ Academic proficiency award – 1998-99 in Maharaja College for Women, Perundurai, Erode.
- ♣ Academic proficiency award – 1999-2000 in Kongunadu Arts and Science College, Coimbatore.
- ♣ Academic proficiency award – 2000-2001 in Kongunadu Arts and Science College, Coimbatore.