STATEMENT OF TEACHING INTEREST

Papers Taught (Medium of instruction is English)

Physics (theory and practical covering major areas) for Chemistry and Mathematics Major Undergraduate students;

Physics (theory and practical covering major areas) for Physics Major Undergraduate students;

Solid State Physics, Spectroscopy, Nuclear Physics, Mathematical Physics, Quantum Mechanics, Crystalline Materials Science and Nanophysics for Physics Major Postgraduate students;

History of Science, Environmental Science, Personality Development and Social Value Education (Foundation Course Papers) for Undergraduate students;

Research Methodology, X-ray Crystallography, Crystal Growth and Characterization and Crystalline Materials Science for M.Phil. and Ph.D. Scholars;

Synthesis of Nanomaterials and Characterization of Nanomaterials for Ph.D. Scholars; etc

Duration

More than **26** years at **Undergraduate** (B.Sc.) level;

More than **31** years at **Postgraduate** level; etc

Philosophy

As per Students' requirements, plan and execute the teaching

Past Experience

I have a total of about **31 years teaching experience at postgraduate level [For more than 1 year at Department of Nuclear Physics, University of Madras and School of Physics, Madurai Kamaraj University; for more than 26 years at Department of Physics, S. T. Hindu College - affiliated to the Manonmaniam Sundaranar University; and for more than 4 years at PSN College of Engineering and Technology (Autonomous) – affiliated to the Anna University].**

I have used both **normal class room teaching** (chalk and board) and **power point presentation** as the methods of teaching. I have prepared and provided required **study materials** along with **conducting periodical tests, giving assignments and holding problem solving, seminars and discussions** (by the students).

I have **rich experience in serving as an Examiner** (Done both question paper setting and evaluation duties) for Manonmaniam Sundaranar University, Tirunelveli, Noorul Islam University, Thuckalay, Scott Christian College (Autonomous), Nagercoil, Sarah Tucker College (Autonomous), Tirunelveli, Meenakshi College (Autonomous), Chennai and St. Mary's College (Autonomous), Tuticorin. Also, I have **evaluated several M.Phil. and 7 Ph.D. Theses** (from different Universities in Tamil Nadu, Kerala and Gujarat states in India).

Teaching '**Atomic and Nuclear Physics'** (for undergraduates dealing with atomic models, properties of nucleus, nuclear models, radioactivity, nuclear reactors, etc), '**Crystal Growth**' (for postgraduates dealing with major methods used for growing single crystals, viz. solution methods, melt methods and gel methods) and '**Materials Science'**

(for postgraduates dealing with structure and physical properties of solid materials especially single crystals) was interesting to me in the past.

Lectures Delivered

I have delivered **several lectures** in the **neighbouring institutions** to encourage research activity by the Physical Sciences Teachers of these institutions. Also, I have delivered lectures on 'Solution and Gel Methods for Crystal Growth', 'Urinary Stone Crystals' 'Solid State Ordering', 'Crystalline Materials for Second Harmonic Generation', 'Nanostructured Materials', 'A Facile Method to Prepare Quantum Dots', etc in several **Refresher Courses conducted by the Anna University (Chennai), University of Kerala (Thiruvananthapuram) and Pondichery (Central) University.**

Awards/Honours Received

Although 'Student Evaluation of Teachers' is not practiced in Colleges in Tamilnadu, I have received directly and indirectly good remarks and comments only. In addition, I have inspired several students and young teachers by my intelligence, hard work, patience, knowledge, attitude, helping tendency, contributions, scholarship, etc. **The Tamilnadu State Government has recognized my teaching contributions and honoured me by giving the Best Teacher Award (2008-2009).** Also, the Kanniyakumari Academy of Arts and Sciences (KAAS) has recognized my academic achievements and honoured me by giving the **Academic Achievement Award (2010).** In addition, I have received the **Tamilnadu State Government Award** for my book **'Vignana Varalaru' (1996)** and **Life-Time Achiever's Award (2012)** from Scott Alumni Association.

Curriculum Development

I have rich experience in Curriculum Development by serving as a Member of the following:

Academic Excellence Committee, S. T. Hindu College, Nagercoil;
Advisory Committee for Physics, Malankara Catholic College, Mariagiri;
Board of Studies (Physics), Scott Christian College (Autonomous), Nagercoil;
Board of Studies (Physics), St. Xavier's College (Autonomous), Tirunelveli;
Board of Studies (PG Physics) Manonmaniam Sundaranar University, Tirunelveli;
Board of Studies (UG Physics), Manonmaniam Sundaranar University, Tirunelveli;
Board of Studies (M.Sc. Nanosci. & Nanotech.) Manonmaniam Sundaranar University, Tirunelveli;
Research Committee, PSN College of Engineering and Technology (Autonomous), Melathediyoor, Tirunelveli;
Research Co-ordinator for Science, S. T. Hindu College, Nagercoil;
Board of Studies (Engineering Physics I & II and M.Sc. Materials Science course), PSN College of Engineering and Technology (Autonomous), Melathediyoor;
Board of Studies (Physics), Sri GVG Vishalakshi College for Women (Autonomous), Udumalpet;
Board of Studies (Nanoscience), Sarah Tucker College (Autonomous), Tirunelveli;
Board of Studies (Physics), St. Mary's College (Autonomous), Thoothukudi; etc

Currently, Chairman of the Board of Studies for the School of Basic Engineering and Sciences, PSN College of Engineering and Technology (Autonomous), Tirunelveli

Future Interest

I will be **interested in teaching** papers (courses) related to:

Solid State Materials Science;

Introductory Physics; etc

However, as it is not a problem for me, I would be happy to teach any required papers (courses).

I would like to **introduce**, if required, any of the following courses.

(1) Title: INTRODUCTION TO NANOMATERIALS
Description: Meaning, properties and applications of nanomaterials; Nanocomposites; Synthesis of nanomaterials – Physical, chemical and biological methods; Characterization of nanomaterials – Chemical, structural, optical, magnetic, electrical and mechanical.

(2) Title: SEMICONDUCTOR QUANTUM DOTS
Description: Elemental and compound semiconductors; Electronic properties of semiconductors; Semiconductor devices; Quantum confinement and its consequences; Quantum confined systems; Dielectric properties; Quasi particles and excitons; Optical properties and radiative processes; Transport properties.

(3) Title: ELECTROCHEMICAL POWER SOURCES
Description : Introduction to energy storage and release; Battery technology; Batteries with aqueous electrolytes; Batteries with non-aqueous electrolytes; General aspects of fuel cells; Various types of fuel cells; Capacitor technology; Electrochemical double-layer supercapacitors; Electrochemical pseudocapacitors; Coupling with batteries and fuel cells; Characterization and diagnosis techniques; Applications and challenges.

(4) Title: ELECTROMAGNETIC INTERFERENCE (EMI) SHIEILDING
Description: Fundamentals and design of EMI shielding; Characterization of EMI shielding materials; Enclosure design and material selection; Metal-formed EMI gaskets and connectors; Conductive elastomer gaskets; Board-level shielding materials and components; Composite materials and hybrid structures; Absorber materials; Grounding and cable-level shielding; Special shielding materials