POSTGRADUATE INSTITUTE OF SCIENCE
UNIVERSITY OF PERADENIYA

Master of Physics of Materials Degree Programme (SLQF Level 9)

Master of Science (M.Sc.) in Physics of Materials Degree Programme (SLQF Level 10)

1. INTRODUCTION

With the development of new technologies, materials play an increasingly important role in modern society. Thus, Materials Science has now become established as a discipline in its own right as well as an important area in the fields of Physics, Chemistry and Engineering. A sound knowledge in Science and Technology of materials is necessary for the efficient use of materials in industry. This aspect is particularly important for a developing country like Sri Lanka in achieving its development goals.

The broad aim of this postgraduate degree is to give a basic knowledge in Physics of Materials with emphasis on technologically important materials. Therefore this programme will provide an opportunity to train graduate students required for various industries and also to improve the knowledge and skills of personnel already employed in the industrial sector.

The Board of Study in Physics has regularly updated the M.Sc. programme in Physics of Materials introducing new courses to suit national needs. This proposal introduces a five-credit independent study module to improve writing/oral communication skills as applied to Physics of Materials. This M.Sc. programme will thus prepare the candidate to take the challenge of meeting not only national needs in diverse areas as stated above, but also to continue toward a higher degree anywhere in the world.

2. OBJECTIVES OF THE PROGRAMME

1 To provide advanced knowledge and practical skills in Physics of Materials.
2 To engage students on experimentation and research in the field of different Materials.
3 To prepare students for material related careers in academia, government, industry and also to prepare them towards higher degree education.

3. PROGRAMME ELIGIBILITY

The minimum requirement for enrolment is

(a) a B.Sc. Special Degree in Physics or Chemistry, or
(b) a B.Sc. General Degree in Science with Physics as a subject, or

(c) a B.Sc. in Engineering Degree with Materials Science component, from a recognized university, or
(d) any other equivalent qualifications acceptable to the Postgraduate Institute of Science (PGIS).

The number of candidates admitted to the programme in a given year will depend on the number of places available in that year. The selection will be based on merit. Candidates should be proficient in English as English will be the medium of instruction for the programme.

4. PROGRAMME FEE

Category	**Programme Fee**	
	Master of Physics of Materials degree programme	M.Sc. in degree programme
Local candidates	Rs. 225,000/-	Rs. 300,000/-
Foreign candidates	Rs. 450,000/-	Rs. 600,000/-

Students registered for the Master of Physics of Materials degree programme shall pay the Programme fee in full or in two *(1/2 at the registration and the balance at the end of the first semester)* installments. An additional payment of Rs. 75,000/- (or Rs. 150,000/- form foreign students) should be made at the end of the first year to continue for the M.Sc. in Physics of Materials degree programme. Other payments including registration fee, medical fee, library subscription, examination fee and deposits (science and library) should be paid according to the procedure stipulated by the PGIS. (N.B. The Programme fees given above may be revised as per recommendation of the Board of Management of the PGIS.)

5. THE PROGRAMME STRUCTURE AND DURATION

This programme consists of three options for completion.

5.1 Masters Degree by Course Work (SLQF Level 9)

The Master of Physics of Materials degree can be obtained by completing course work only (without conducting any research project).

Course work, comprising of theory courses, and laboratory and/or fieldwork, shall be conducted over a period of two semesters of 15 weeks each. The total duration of the degree, including examinations, shall be about 12 months. Satisfactory completion of a minimum of 30 credits of course work with a GPA of not less than 3.00 is required for the successful completion of the degree - SLQF Level 9 (Students who do not satisfy the above criteria but obtain a GPA in the range 2.75 to 2.99 for course work of 25 credits are eligible for the Postgraduate Diploma in Physics of Materials - SLQF Level 8, and those who obtain a GPA in the range 2.75 to 2.99 for course work of 20 credits are eligible for Postgraduate Certificate - SLQF Level 7).

5.2 Masters Degree (SLQF Level 10)

In addition to Masters Degree with course work (5.1), the Masters Degree (Research) requires a research project. The duration of the entire programme shall be 24 months inclusive of 5.1. Completion of all the requirements of 5.1 with a GPA of not less than 3.00 is a prerequisite for the Masters Degree (Research). The research project for this degree should be conducted on full-time basis, and completed during the second year. The research component is allocated 30 credits, totalling 60 credits for the entire programme. After successful completion of the research project, the student shall be eligible for the award of the M.Sc. in Physics of Materials degree - SLQF Level 10 (Students who do not complete the research project within the stipulated time period shall be awarded the Master of Physics of Materials degree - SLQF Level 9).

5.3 Extension of the programme for M.Phil. (SLQF Level 11) or Ph.D. (SLQF Level 12)

After conducting research for a period of six months in the M.Sc. degree (research) programme, students who have demonstrated exceptional progress may apply for upgrading the degree status to M.Phil. The student should continue the research project and any additional research work/assignments recommended by the PGIS for a total of two years (60 credits of research) to qualify for the award of the M.Phil. degree (SLQF Level 11).

During the second year of research, students who have demonstrated exceptional and continuous progress may apply for upgrading the degree status from M.Phil. to Ph.D. The student should continue the research project and any additional research work/assignments recommended by the PGIS for another year on full-time basis (additional 30 credits) to qualify for the award of the Ph.D. degree (SLQF Level 12).

Master of Physics of Materials Degree Programme (SLQF Level 9)
Master of Science (M.Sc.) in Physics of Materials Degree Programme (SLQF Level 10)

Programme Summary

Course Code	Course No.	Lecture hrs.	Practical hrs.	Credits
Semester I				
PH500	Mathematical Methods and Computational Methods	30	-	2
PH 501	Quantum Mechanics and Statistical Physics	30	-	2
PH 502	Electron Theory of Solids	30	-	2
PH 503	Structure and Properties of Solids, Phase equilibria	30	-	2
PH 504	Semiconductors	30	-	2
PH 505	Ceramics Materials	30	-	2
PH 506	Polymers	30	-	2
PH 507	Solid State Ionic Materials	30	-	2
PH 508	Advanced Laboratory work	-	45	1
Semester II				
PH 516	Materials Characterization Techniques	45	-	3
PH 517	Magnetic Materials and Superconducting Materials*	15	-	1
PH 518	Glass and Glass Ceramics*	15	-	1
PH 520	Semiconductors Device Technology *	15	-	1
PH 521	Industrial Ceramics *	15	-	1
PH 523	Nuclear Materials *	15	-	1
PH 525	Metals and Alloys*	15	-	1
PH 526	Introduction to nanotechnology*	15	-	1
PH 598	Industrial Training *	-	-	1
PH 599	Independent Study**[1]	500 notional hrs.		5
PH 699	Research Project**[2]	3000 notional hrs. (one year duration)		30

**Optional courses (Students are required to select any five optional courses).*
***[1] Compulsory for Master of Physics of Materials (SLQF Level 9).*
***[2] Compulsory for M.Sc. in Physics of Materials (SLQF Level 10).*

6. PROGRAMME CONTENTS OF PH 599 AND PH 699

Course code	PH 599
Course title	Independent Study
Credits	05
Compulsory/optional	Compulsory
Prerequisites	-
Time allocation	500 notional hrs.
Aims	Aims: The overall aim is to familiarize the student with concepts and methods involved in scientific research **Specific aims:** 1. To explain the scientific process in the conduct of research. 2. To develop skills to write a review paper and a scientific research proposal. 3. To develop skills to make a presentation. 4. To master the application of statistical methods on quantitative scientific data.
Intended learning outcomes	At the end of the successful completion of the course, students will be able to, 1. Explain the scientific method. 2. Conduct an independent review of literature on a selected topic in the area of Physics of Materials. 3. Write a formal scientific report conforming to the guidelines provided. 4. Transfer the knowledge gained through (2) and (3) above in the form of a presentation. 5. Complete a research proposal conforming to the guidelines provided. 6. Perform statistical analysis of quantitative data.
Content	*Review paper* (1 credit equivalent): Review of literature; Development of the review paper in concise and professional manner and logical presentation of results that have been reported, writing the abstract, compilation of the list of references. *Proposal writing* (1 credit equivalent): Interpretation and critical evaluation of results of published research; Formulation of a research problem: Concise literature review, justification, time frame, identification of resources, budgeting, etc. *Project* (2 credit equivalent): Collection and statistical analysis of data on a topic associated with the review paper. *Seminar* (1 credit equivalent): Presentation of literature and data collected on a given topic; Preparation of an abstract, preparation of slides.

Assessment criteria:

Continuous assessment	End-semester examination
30%	Review paper 20% Proposal writing 20% Project 40% Seminar 60%

Recommended Texts:

1. Backwell, J., Martin, J. (2011) A Scientific Approach to Scientific Writing, Springer.
2. Postgraduate Institute of Science (2016) Guidelines for Writing M.Sc. Project Report/M.Phil. Thesis/Ph.D. Thesis
3. Priyantha, N (2015) Measurements and Errors in Chemical Analysis, Science Education Unit, University of Peradeniya.

Course code	PH 699
Course title	Research Project
Credits	30
Compulsory/optional	Compulsory
Prerequisites	-
Time allocation	3000 notional hrs. (one year duration)
Aims	Aims: The overall aim is to prepare the student to conduct a research independently. **Specific aims:** 1. To train students to apply scientific method in scientific research. 2. To train students to generate researchable hypotheses. 3. To train students to plan, design and conduct scientific research. 4. To gather reliable scientific data, analyse, and interpret. 5. To develop skills in scientific writing.
Intended learning outcomes	At the end of the successful completion of the course, students will be able to, 1. Apply the scientific method. 2. Design a research project. 3. Complete a research project. 4. Explain ethical issues in scientific research. 5. Describe the patenting process in research. 6. Make presentations at national/international conferences. 7. Produce a thesis conforming to the requirements of the PGIS. 8. Write manuscripts for publication in refereed journals.
Content	The students will conduct sufficient amount of laboratory/field work on a chosen research topic under the guidance provided by an assigned supervisor/s, make a presentation of research findings at a national/international conference, and produce a thesis.

Assessment criteria

Continuous assessment	End-semester examination
30%	Oral examination (20%) Thesis (40%) Conference presentation (10%)

Recommended Texts:

1. Backwell, J., Martin, J. (2011) A Scientific Approach to Scientific Writing, Springer.
2. Postgraduate Institute of Science (2016) Guidelines for Writing M.Sc. Project Report/M.Phil. Thesis/Ph.D. Thesis
3. Priyantha, N. (2015) Measurements and Errors in Chemical Analysis, Science Education Unit, University of Peradeniya.

CONTENTS OF OTHER COURSES

PH 500: Mathematical and Computational Methods in Material Physics (2 credits)

Solution of System of Linear Equations, Matrices and Determinants, Orthogonal functions, Fourier Transforms, Ordinary and Partial Differential Equations - Heat/Diffusion Equation, various solution techniques (Separation of Variables, Fourier Technique), Special Topics: Legendre Transform, Lagrangian Multipliers.

Classical and Modern Iterative techniques for Solving System of Linear Equations, Discrete Fourier Transform (DFT) and Fast Fourier Transforms (FFT), Numerical Solutions to Initial Value Problems - Euler Methods, Runge-Kutta Methods, Solutions to Partial Differential Equations - Finite Difference Methods, Finite Element Methods.

Solving Practical Problems in Physics using Computers.

PH 501: Quantum Mechanics and Statistical Physics (2 credits)

Quantum Mechanics: Applications of Schrödinger equation to 3-dimensional problems, Particle in a box, General potential problems, Spherical Harmonics, Harmonic oscillator, Solution using ladder operators, the H atom, Periodic lattice.

Statistical Physics: Introduction to classical and quantum mechanics, Thermodynamics, Probability distributions. Cannonical ensembles: Ensemble averages, Most probable distribution, Grand canonical ensemble, ensemble averages, Boltzman, Fermi-Dirac and Bose-Einstein Statistics, Ideal monoatomic and diatomic gasses, Chemical equilibrium Degenerated Fermi-Dirac gas, photon statistics. Crystals: Vibrational spectrum of monoatomic crystals, phonons, point defects, Imperfect gasses, Virial coefficients, Basic methods and results of statistical mechanics. Simple applications of statistical mechanics, Quantum statistics of ideal gases.

PH 502: Electron Theory of Solids (2 credits)

Quantum mechanical free electron theory; Fermi energy; transport properties of the conduction electrons, Thermal conductivity, Dielecric response of free electron gas, Heat capacity, Paramagnetic susceptibility, Positive hall coefficient, Electronic mean free path, Electrical conductivity of free electron gas, Thermionic emission, Failure of the free electron model. Propagation of an electron in a periodic potential, Bloch theorem, Kronig-Penny model, Brillouin zones, Energy Bands in solids, Electron dynamics in an electric field, Effective mass of an electron, Concept of holes, Fermi surfaces; Electron dynamics in a magnetic field, Cyclotron resonance, De Hass-van Alphen effect, Calculation of energy bands, 2D electron gas in a magnetic field.

PH 503: Structure and Properties of Solids, and Phase equilibria (2 credits)

Structure and Properties: Structure-property relation, Atomic arrangement, Phase arrangement and crystal imperfections, Plastic deformation of crystalline materials, Strengthening mechanisms in crystalline materials, Deformations of materials, Mechanical failure of materials, Development of strong solids.

Phase rules: One component systems, Triple point, Critical point, Two component systems, Binary ideal liquid mixtures, Deviations from ideality, Partially miscible binary liquid mixtures, Distillation and fractional distillation of binary liquid mixtures, Two component solid - liquid systems, Solid solutions, Ideal solid solutions, Solids showing partial solid solubility, Eutectic systems, Peritectic systems, Compound formation, Congruent and incongruent melting, Introduction to 3-phase equilibria and representation in equilateral triangle based phase diagrams, Some examples of important phase equilibrium.

Lattice Dynamics: Theories of heat capacity of solids; Lattice vibrations, Phonons, Phonon Scattering.

PH 504: Semiconductors (2 credits)

Introduction to Semiconductors: Charge carrier motion in semiconductors, Defects and impurities in semiconductors; excitons, polarons, optical absorption, direct and indirect band gap semiconductors,

Metal-Metal, Metal-Semiconductor; Semiconductor-Semiconductor Junctions. Ohmic contacts, Junction potential, action of a p-n junction; Zener diode, p-n-p and n-p-n transistors.
Semiconductor Devices: Solar cells, Light detecting devices, Solar energy materials, Technology of crystalline Si solar cells, Fabrication, assembling and encapsulation of Si-based solar cells. Thin film solar cells, Amorphous silicon solar cells, CdS, GaAs and CdS/CdTe solar cells, Photo Electrochemical Cells (PEC), Semiconductor lasers, Light emitting diodes

PH 505: Ceramic Materials (2 credits)
Old and new ceramics, Oxide and non-oxide ceramics, Mechanical, Thermal, electrical, magnetic and optical behavior; Piezo electric ceramics, Bio ceramics, Electronic and electro-optic ceramics, Powder processing, sintering, techniques for forming and densifying ceramics; Microstructure of Ceramics; Quality assurance; Failure analysis; toughening of ceramics; Reliability testing.Ceramic Composites, Ceramic Coatings and Films, Design, fabrication and properties of nanocomposites; Production, characterisation, application of thin and thick films.

PH 506: Polymers (2 credits)
Introduction to Polymers: A brief overview of important properties of polymers, conventional polymers, synthesis of polymers and characterisation, structure-property relationships. Properties of polymers: Rheology, industrial applications and special purpose polymers, Conjugated systems, synthesis of conjugated polymers; Charge transport and electrical conductivity, Optical properties; Applications of conjugated polymers.

PH 507: Solid State Ionic Materials (2 credits)
Solid Electrolytes: Solid electrolytes, diffusion and ionic conductivity, requirements for fast ion conduction, theoretical models and Arrhenius relationship. Representative examples: α-AgI, Na-β-Al_2O_3, Li_3N, ZrO_2, α-Li_2SO_4. Composite materials and grain boundary effects, Binary and ternary systems, Solid solutions, Sample preparation, Ionic conductivity measurements by impedance spectroscopy, Electronic conductivity and transference number.
Solid Polymer Electrolytes: Polymeric structure, Salt-polymer complexes, Ionic transport and VTF equation, systems based on polyethylene oxide (PEO) and other polymers, Proton conducting polymers.
Electrode Materials: Electrode/electrolyte interface, Electrode potentials, Electrochemical intercalation. Cathode materials: MnO_2, TiS_2, V_6O_{13}, V_2O_5, LiV_3O_8, $LiCoO_2$ and $LiMn_2O_4$. Anode materials: metals, alloys, LiAl, LiC_6 etc. Conducting polymers as electrode materials.
Solid State Ionic Devices: Solid state batteries, LiI/I battery; Na/S battery, rechargeable lithium batteries with polymer electrolytes, lithium rocking-chair batteries and examples. Fuel cells, sensors and electrochromic devices.

PH 508: Advanced Laboratory work (1 credit)
Synthesis of materials, Powder preparation, Sol-gel method, Shape forming techniques, Solid state sintering, Vacuum evaporation, CVD, MOCVD, Electro-chemical methods, Sputtering, Determination of physical properties.
Characterisation of materials: XRD, DSC, DTA, TGA, Spectophotometry, I-V and C-V techniques, Four-probe technique, Impedance spectroscopy, Measurements of magnetisation and susceptibility by different methods, Neutron activation analysis.

PH 516: Material Characterization Techniques (3 credits)
Electron Microscopy and X-ray Methods: Instrument Construction, Comparison of Imaging principles with optical microscope, Scanning Electron Microscope(SEM), Image formation, signal processing and contrast mechanisms, secondary and back-scattered electrons; Transmission Electron Microscopy (TEM), image formation, electron diffraction, TEM applications, high resolution imaging; Sample preparation techniques for TEM and SEM; Analytical spectra, X-ray emission and EELS, Quantitative X-ray analysis. X-ray diffraction (XRD) techniques, basic principles, determination of unit cell dimensions and lattice types, powder diffraction principles, techniques and applications in the

characterisation of materials; Single crystal method, technique and measurements; Structure factors, Fourier and Patterson maps, structure determination and refinements. XRF, XAFS etc.
Thermal Analysis and Optical Spectroscopy: Differential Scanning Calorimetric (DSC), Differential Thermal Analysis (DTA), Thermo Gravimetry Analysis (TGA); Determination of melting points, phase transition temperatures, heats of phase transition.
Use of optical (UV, visible and IR) reflectance, and transmission spectroscopy for characterization of materials, determination of energy gaps in semiconductors, inter-band transitions; Optical transmission, in electrochromic materials; Grating monochromators, lock-in-technique; Modulation techniques; Fouriar transform spectroscopy (FTIR) for materials characterisation. NMR and Nuclear Methods: NMR and ESR techniques, Determination of trace elements using charged particles and neutron activation analysis. Determination of material properties using absorption, scattering and nuclear mechanisms of nuclear radiations.

PH 517: Magnetic Materials and Superconducting Materials (1 credit)
Magnetic materials: Classification of materials; Ferromagnetic domains, Domain walls, Paramagnetic resonance, Nuclear magnetic resonance, Ferromagnetic resonance, Spin waves.
Application of paramagnetic resonance and Faraday rotation, Permanent magnets, transformers and ferrites, Magnetic parametric amplifiers, Data storage, Magnetic recording.
Superconductivity: The superconducting state, BCS theory, Josephson effect, High temperature superconductivity. Applications of superconductors.

PH 518: Glass and Glass Ceramics (1 credit)
Glass formation, Thermodynamic and kinetic aspects, Structure of glass materials, Physical and chemical properties of glasses, Ionically conducting classes, mixed conducting glasses. Phase separation of simple glasses, Crystallization of glasses and concept of glass-ceramics, properties and application of glass-ceramics. Glass ceramic composites

PH 520: Semiconductor Device Technology (1 credit)
Crystal Growth; Doping Techniques, Bridgeman and Czochralski methods, Chemical Vapor Deposition (CVD), Liquid Phase Epitaxy (LPE), Molecular Beam Epitaxy (MBE) etc., Device Fabrication Methods; Alloy Method, Diffusion method, Planer Method and Ion Implantation. Semiconductor Devices; Integrated circuit technology SLI, MSI, LSI, VLSI, Photolethography, fabrication of pn junctions, BJT and FET, IC resistors and capacitors, Solid state memories RAM, ROM, EPROM etc.

PH 521: Industrial Ceramics (1 credit)
Raw materials, Introduction to silicate chemistry, purification of raw materials, ceramic bodies and glazes, preparation of ceramic bodies and glazes. Shaping and drying , firing and kilns, ceramic products. Technologically important ceramics, Environmental issues related to the ceramic industry.

PH 523: Nuclear Materials (1 credit)
Nuclear units, nuclear radiation, radiation sources, natural radiation, interaction of radiation with matter, cross-section, stopping power, attenuation, radiation exposure and dose, permissible limits, radiation shielding, build up factors, shielding materials, design of shielding facilities, radiation detection, detector materials, nuclear reactors, reactor materials.

PH 525: Metals and Alloys (1 credit)
Introduction to metallurgy, Factors significant in metallurgy, Stages in the extraction of a metals, Location of ores, ore dressing, extraction processes, Pyrometallurgical processes, Hydrometallurgical processes, Ellingham diagrams and the extraction of metals, Exaction of some selected elements (Cu, Al, Mg, Zn, Ni, Sn, Pb, Ni), Alloys- Ferrous and non-ferrous alloys, T-T-T diagrams, Allotropic forms of iron, Iron-Carbon system, Cast irons, Steels, effect of alloying elements on properties and microstructure of a steel, Al, Ni, Cr based alloys - Properties and applications

PH 526: Introduction to nanotechnology (1 credit)

Introduction to nanotechnology, Characterization and manipulation of extremely small objects, nanoscale objects, Microscale objects, Size effects of properties observed in thin films, colloids and nanocrystals.
Conventional microfabrication including thin film deposition, lithography, chemical etching and electrodeposition. Analytical techniques: Electron Microscopy, Electron and X-ray Diffraction, Ellipsometry, Photoelectron, Optical and Ion spectroscopy and Probe Microscopy. Unconventional methods: soft-lithography and self-assembly.
Applications in Micro and Nano technology including Microelectronics, Microfluidics, Micro Electro Mechanical Systems (MEMS) and Molecular Electronics.

7. PROGRAMME EVALUATION

Evaluation of Course work

Based on the scheme given below, the overall performance of a student in a given course shall be evaluated by the respective instructor(s) and a grade shall be assigned.

Evaluation Scheme

- For all courses a minimum of 80% attendance is expected.
- The evaluation of each course (except independent study and research project) shall be based on within course and end of course examinations, and assignments. The weightage of marks given below can generally be used as a guideline in the computation of the final grade, except for Independent Study and Research Project.

End of course examination	50 - 60%
Continuous assessments (mid-semester examination, assignments, etc.)	40 - 50%

- Courses with laboratory and/or fieldwork shall be evaluated, where applicable, on a continuous assessment basis.
- The minimum grade a student should achieve to pass a course is C.
- Students will be informed of the evaluation scheme by the instructor at the beginning of a given course.

Grade Points and Grade Point Average (GPA)

The Grade Point Average (GPA) will be computed using the grades earned for core courses and optional courses, taken for credit. Preliminary courses, industrial training, research project and seminar will be evaluated on a pass/fail basis.

On completion of the end of course examination, the instructor(s) is/are required to hand over the grades of a given course to the programme coordinator who will assign the Grade Points using the following table:

Grade	Grade Point
A+	4.0
A	4.0
A^-	3.7
B^+	3.3
B	3.0
B^-	2.7
C^+	2.3
C	2.0
F	0.0

The Grade Point Average (GPA) will be computed using the formula:

$$GPA = \frac{\Sigma c_i g_i}{\Sigma c_i},$$

where c_i = number of credit units for the i^{th} course, and
g_i = grade point for the i^{th} course

Make-up Examinations

'Make-up' examinations may be given only to students who fail to sit a particular examination due to medical or other valid reasons acceptable to the PGIS.

Repeat Courses

If a student fails a course or wishes to improve his/her previous grade in a course, he/she shall repeat the course and course examinations at the next available opportunity. However, he/she may be exempted from repeating the course, and repeat only the course examinations if recommended by the teacher-in-charge or M.Sc. Programme Coordinator. The student may repeat the same course or a substituted (new) optional course in place of the original course. A student is allowed to repeat five credits of coursework free-of-charge. The maximum number of credits a candidate is allowed to repeat is fifteen. The maximum grade, a candidate could obtain at a repeat attempt is a B and he/she is allowed to repeat a given course only on two subsequent occasions.

Evaluation of Research Project

Research project will be evaluated on the basis of a written report (M.Sc. project report) and oral presentation (see Section 6.0 of the PGIS Handbook for the format of the project report).

8. PANEL OF TEACHERS

Prof. K. Premaratne, Department of Physics, University of Peradeniya.
B.Sc. (Cey.), Ph.D. (Hawaii); Specialization:Semiconductor Physics

Prof. P. Samarasekara, Department of Physics, University of Peradeniya.
B.Sc. (Kelaniya), Ph.D. (CUNY); Specialization: Theoretical Cond. Matter Physics

Prof. M.A.K.L. Dissanayake, National Institute of Fundamental Studies, Kandy.
B.Sc. (Perad.), Ph.D. ((Indiana); Specialization: Solid State Physics

Prof. M.A. Careem, Dept. of Physics, Faculty of Science, Univ. of Peradeniya
B.Sc.(Cey.), Ph.D.(London); Specialization:Solid State Physics

Prof. B.S.B. Karunaratne, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Warwick); Specialization: Materials Physics

Prof. K.P. Vidanapathirana, Department of Electronics, Wayamba University, Kuliyapitiya.
B.Sc. (Perad.), Ph.D. (Perad.); Specialization:Solid State Physics

Dr. N.F. Hettiarachchi, Department of Physics, University of Peradeniya.
B. Sc (Sri Lanka), Ph. D. (Hull); Specialization: Magnetic Materials

Dr. R.L. Wijayawardana, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (SUNY); Specialization: Nuclear Physics

Dr. P.W.S.K. Bandaranayake, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Perad.); Specialization:Solid State Physics

Dr. G.K.R. Senadheera, Open University, Polgolla
B.Sc. (Perad.), Ph.D. (Perad.); Specialization:Solid State Physics

Dr. L.R.A.K. Bandara, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Perad.); Specialization:Solid State Physics

Dr. V.A. Seneviratne, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Oklahoma); Specialization:Solid State Physics

Dr. J.P. Liyanage, Department of Physics, University of Peradeniya.
B.Sc. (Col.), Ph.D. (Col.); Specialization: Atmospheric Physics
Dr. C.P. Jayalath, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Hampton); Specialization: High Energy Physics
Dr. B.S. Dassanayake, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Western Michigan); Specialization: Nano/Semiconductor Physics
Dr. T. Ranawaka, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Houston); Specialization:Theoretical High Energy Physics
Dr. B.M.K. Pemasiri, Department of Physics, University of Peradeniya.
B.Sc. (Perad.), Ph.D. (Cincinnati); Specialization:Nano/Semiconductor Physics
Dr. G.A.K.S. Perera, Department of Electronics, Wayamba University, Kuliyapitiya.
B.Sc. (Perad.), Ph.D. (Perad.); Specialization:Solid State Physics
Dr. A.Wijayasinghe,National Institute of Fundamental Studies, Kandy.
B.Sc. (Perad.), Ph.D. (Perad.); Specialization: Materials Physics

9. PROGRAMME COORDINATOR

Dr. V A Seneviratne
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Peradeniya

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