

**FACULTY OF ARTS, SCIENCE AND HUMANITIES
DEPARTMENT OF PHYSICS**

Awareness of trends in technology

(2016-17)

Guest lecture/ Industrial visit/ Seminar/Workshop /Hands on Training / others	Seminar
Details of the program (Topic / Theme)	National Seminar on Advanced Materials and Applications
Academic year	2016-2017
Semester	Even
Number of Students participated	200
Name of the agencies involved with full contact details	KAHE
Name of the Resource person	Dr.S.V Subramanyam, Dr.R.Dhanasekaran, Dr.D. Mangalraj, Dr.P. Kuppusami
Venue	MBA Seminar Hall
Date of implementation (DD-MM- YYYY)	28.2.2017 to 01.03.2017

Date	Time	Name of the Resource person	Topics
28.2.2017	10.00 am	Dr.S.V Subramanyam, Professor (Rtd.), Department of Physics, Indian Institute of Science, Bangalore.	Recent developments in carbon and carbon nanotubes
28.2.2017	1.30 pm	Dr.R.Dhanasekaran, Professor, Crystal Growth Centre, Anna University, Chennai.	Growth and Characterization of Advanced Materials
01.03.2017	10.00 am	Dr.D. Mangalraj, Professor & Head, Bharathiar University, Coimbatore	Semiconducting metal oxide nanomaterials for gas sensing applications
01.03.2017	2.00pm	Dr.P. Kuppusami, Scientific Officer/ G, Physical Metallurgy Division, Indira Gandhi Centre for Atomic Research, Kalpakkam	Nanocomposite thin films and applications

Approval letter



KARPAGAM UNIVERSITY

Karpagam Academy of Higher Education

(Established Under Section 3 of UGC Act 1956)

Eachanari Post, Coimbatore – 641 021. INDIA

Phone: 0422-6453777, 6471113-5 Fax: 0422-2611043, 2611646

Email : info@karpagamuniversity.ac.in Web : www.karpagamuniversity.ac.in

No: KU/R/A1/Physics/N.Seminar/11860/2016

29.12.2016

To

The Head,
Department of Physics,
Karpagam University,
Coimbatore- 641 021.

Thro: The Dean,
Faculty of Arts, Science & Humanities,

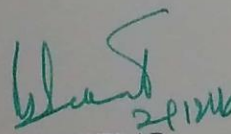
Sir,

Sub: - Permission to conduct National Seminar - requested - reg.
Ref: - Your letter dated 19.12.2016

With reference to your letter cited, I am by direction to inform you that permission is granted to your Department to conduct a National Seminar on "Advanced Materials and Applications" on 23rd and 24th February 2017.

Budget

Expected Income	:	Rs. 74,700/-
Expected Expenditure	:	Rs. 94,000/-
University Contribution	:	Rs. 20,000/-


REGISTRAR

Copy to

- 1) Chancellor's table
- 2) CEO's table
- 3) Vice-Chancellor's table
- 4) Accounts Department, (Original Sanction order is enclosed).

KU/PHY/2017/003

January 27, 2017

To
The Registrar
Karpagam University
Coimbatore - 21



Through
The Dean, FASH
Karpagam University
Coimbatore - 21

Sir,

Sub.: Permission to Postpone National Seminar - Reg.

Ref.: KU/R/A1/Physics/N.Seminar/11860/2016/4590 Dated 29.12.2016

With reference to above, I wish to inform you that the seminar that was scheduled to be held during February 23 & 24, 2017 has been postponed to February 28 & March 1, 2017 because of Pranaya, inter collegiate cultural festival (scheduled to be conducted during February 23 & 24, 2017). In this regard, I request you kindly to grant permission to conduct the seminar during February 28 & March 1, 2017.

Please do the needful.

Thanking you,

Yours truly,

(Dr. V. Senthil Kumar)

Forwarded
SR
27/1/2017

Submitted for approval

30/1/17
Dr

30/1/17
R

27/1/17
v.c

2
National Seminar

On

“ADVANCED MATERIALS AND APPLICATIONS”

February 28 & March 1, 2017



Enable | Enlighten | Enrich

**KARPAGAM
UNIVERSITY**

(Established Under Section 3 of UGC Act, 1956)

Organized by

**DEPARTMENT OF PHYSICS
KARPAGAM UNIVERSITY**

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University, Established Under Section 3 of UGC Act 1956)

Eachanari, Pollachi Main Road, Coimbatore-21, Tamil Nadu

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Fax: +91-0422-2980022, 2980023

E-mail: info@kahedu.edu.in

Profile

CURRICULUM VITAE

Name : Dr. P. KUPPUSAMI
Date of Birth : 08-10-1952
Present Post : Professor and Senior Scientist
Institution with address : Centre for Nanoscience and Nanotechnology & Centre of Excellence for Energy Research
Sathyabama Institute of Science and Technology,
Chennai-600 119
Email : pkigcar@gmail.com



I. Educational Qualifications:

Name of the examination/Degree	Subjects	Area of specialization	Name of Institute/ University/ Board	Year of passing	Percentage/ Grade
B.Sc	Physics	Physics	University of Madras, Chennai	1974	76.2%
M.Sc	Physics	Physics	University of Madras, Chennai	1977	First Class with University II Rank
Ph.D	Physics-Metallurgy - Interdisciplinary	Physics, Metallurgy and Materials Science	University of Madras, Chennai	1996	Highly recommended

II. Employment History (including post-doc):

Period (Year)	Name of the examination/Degree/ Post as applicable	Area of specialization/ Subjects	Name of Institute/ University
Jan 7 th 2013- till date	Professor & Senior Scientist	X-ray Diffraction, Electron Microscopy, PVD and CVD coatings, Nanoscience and Nanotechnology of Energy Materials, , Supercapacitors, Solar Cells, Solid Oxide Fuel Cells, Thermal Barrier Coatings, Dielectrics, Tribology of Hard Coatings	Centre for Nanoscience and Nanotechnology, Sathyabama Institute of Science and Technology, Rajiv Gandhi Road, Chennai-600 119
Aug 2011-October, 2012	Scientific Officer/H & Head, X-ray Diffraction and Surface Engineering Section Professor	Electron microscopy, X-ray Diffraction, Surface modification thin films and coatings by plasma and laser based techniques	*Physical Metallurgy Group, IGCAR, Kalpakkam * Homi Bhabha National Institute (HBNI), BARC, Mumbai
Aug 2004-July 2006	Scientific Officer/G & Programme Leader	Electron microscopy, X-ray Diffraction, Surface engineering, thin films and coatings by plasma and laser based techniques	Physical Metallurgy Division IGCAR, Kalpakkam

Jan 2002-Sept 2003	JSPS Fellow & Scientific Officer/G	Thermal barrier Coatings	National Institute for Materials Science, Tsukuba (NIMS), Japan
Aug 2001-Dec 2001	Guest Scientist under DAAD	Magnetron sputtering of Al doped ZnO Thin Films for Solar applications	Helmholtz-Zentrum Berlin (HZB), Germany
Aug 2000-July 2001	Scientific Officer/F	Electron microscopy, X-ray Diffraction and Surface Engineering and High Tc superconducting thin films	Physical Metallurgy Section IGCAR, Kalpakkam
Aug1994-July 2000	Scientific Officer/E	X-ray diffraction, Surface Engineering and High Tc Thin Films	Physical Metallurgy Section Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam
Aug1989-July 1994	Scientific Officer/D	Physical Metallurgy, X-ray diffraction and Surface Engineering	-----Do-----
Aug 1985-July1989	Scientific Officer/C	X-ray diffraction and Surface engineering	-----Do-----
Feb1977-July 1985	Scientific Assistant	Crystal Growth and X-ray diffraction	-----Do-----
1977	Lecturer	Physics	Sacred Heart College, Tirupattur, Madras University

III. International Fellowships/ Reconition

1. **Journal of Nuclear Materials** awarded **Certificate of Outstanding Contribution in Reviewing** in December 2017 in recognition of contributions made to the quality of the Journal.
2. **Japan Society for Promotion of Science (JSPS) Fellow** at High National Institute for Materials Science, Tsukuba Science City, Ibaraki 47-0035, Japan during Feb 1, 2002- Sept 1, 2003.
3. Guest Scientist at Hahn Meitner Institute, Berlin, Germany under **DAAD Fellowship (Indo-German exchange program)** during August 1-Dec 31, 2001.

VI. Membership of Academic and Professional Bodies

- **Professor** at HBNI-IGCAR, Kalpakkam of Homi Bhabah National Institute (University), Mumbai of Department of Atomic Energy.
- Member, Board of Studies of Dept. of Physics, Sacred Heart College, Tirupattur, Madras University and Crystal Growth Centre, Anna University, Chennai.
- Life Member, Indian Institute of Metals
- Life Member, Indian Physics Association

Summary of Publications:

No. of papers in Journals	: 136
No. of Conf. Proc.	: 66
No. of patents	: 6
No. of Best Paper Awards	: 16
Review papers	: 5
Book chapters	: 12
No. of papers presented	: 220

(vii) Patents

1. A stable wear resistant coating on low carbon steel alloy and method thereof, Suresh Udaiyappan, Kuppusami Parasuraman, Kamalan Kirubakaran Amirtharaj Moses, Sasipraba Thankappan, Priya Vedanarayanan, Sasikumar Krishnamoorthy, Solairaju Marimuthu, Dhanalakshmi Sathishkumar, Solomon Uthriappan, Balamurugan Venkatesan
2. Development of compositionally graded Ni-YSZ nanocomposite coatings for high temperature and corrosive environments, A. M. Kamalan Kirubakaran, **P. Kuppusami**, T. Dharini and T. Sasipraba, Application No. 201741046287/ Dtd 22/12/2017.
3. Development of Magnetron Sputtered Transition metal Nitride Coatings (CrN, ZrN, AlN) and Evaluation of their Structural Mechanical and Corrosion Properties, B.Subramanian, S.Mohan, **P.Kuppuswami**, M.Jayachandran, A joint patent by DAE-CSIR Application No. 359/DEL/2011 and Publication date: 31/08/2016.
4. Pulsed DC plasma based CVD technology for the production of Ti metallic, TiN/Ni composite coatings using metalloorganic precursors of Ni and Ti, S. Arockiaswamy, P. Antony Premkumar, K.S. Nagaraja, V.S. Raghunathan, **P. Kuppusami**, C. Mallika, A.Dasgupta, Application No. 1012/CHE/2008.
5. A process for providing hard chromium nitride coating on substrates, **P. Kuppusami**, ArupDasgupta, O.M. Sreedharan, Falix Lorrence, V.S.Raghunathan, Baldev Raj, N. Nagaraja and Antony Prem Kumar, Patent Application No. 37/MUM/01/ dated 09/07/2001. Patent No: 198325 Dated 17.1.2006.
6. A glow discharge plasma based CVD technology for the production of Ni coatings and composite coatings of CrN and nickel, P. Antony Premkumar and K. S. Nagaraja, **P. Kuppusami**, A.Dasgupta, V. S. Raghunathan, C.Mallika and Baldev Raj, Application No. 272/Che/2005.
7. An improved process for producing mixed oxide coated titanium electrodes having enhanced life in electrochemical applications and the electrodes so prepared, U. Kamachi Mudali, **P. Kuppusami**, V. R. Raju and V. S. Raghunathan, Patent Application No. 807/Bom/99 Dated 17.11.1999; Patent No.195371.

VIII. Details on Funded Projects

(i) BRNS Projects Completed as PC

1. Development of magnetron sputtered transition metal nitride coatings (CrN, ZrN, AlN) and evaluation of their structural, mechanical and corrosion properties, PI: Dr. B. Subramanian, Scientist, Electrochemical Materials Science Division, CECRI, Karaikudi-630 006, Tamil nadu, PC: **Dr. P. Kuppusami**, Scientific Office/G, Physical Metallurgy Division, Indira Gandhi Centre for Atomic Research, Kalpakkam-603 102.
2. Ceramic metal and polymer metal composites for electromechanical applications, PI:Dr. Jose James, Scientist E-II, RRL, Pappanamcode, Thiruvananthapuram,-65019. PC: Dr. P. Parameswaran and **Dr. P. Kuppusami**, Scientific Office/G, Physical Metallurgy Division, Indira Gandhi Centre for Atomic Research, Kalpakkam-603 102.

X. Research Guidance Completed

(a) M. Tech Thesis (By Research)	:	10
(b) M. Phil Thesis	:	14
(c) Ph.D thesis (completed) - Full time	:	06

Report

The two-day national seminar was started with lightning the lamp by chief guest and conveners. The Registrar delivered the presidential address. More than 150 students have participated in the program. In the first day of seminar, the first talk was given by Dr.S.V Subramanyam, Professor from Indian Institute of Science, Bangalore. He had delivered the lecture on the topic carbon and carbon nanotubes. He explained the basic of nanomaterials and their preparation methods. Followed by him Dr.R.Dhanasekaran, Professor, Crystal Growth Centre, Anna University, Chennai had given a lecture on Growth and Characterization of Advanced. The topic covered the basics of crystal growth and advanced materials. The talk was useful for the students and scholars. They gained a knowledge on various advanced materials and their applications. After lunch the MSc and BSc students presented their poster to the audience and resource persons. The next day talk was started with Dr.D. Mangalraj, Professor & Head, Bharathiar University, Coimbatore. He had delivered the lecture on Semi conducting metal oxide nanomaterials for gas sensing applications. Followed by the lecture Dr.P. Kuppusami, Scientific Officer/ G, Physical Metallurgy Division, Indira Gandhi Centre for Atomic Research, Kalpakkam had given a topic on Nanocomposite thin films and applications. In the evening the PhD scholars from various colleges presented their work through poster and orally. The two-day seminar was gone smoothly and all the talkies were useful for students and faculties. Most of the students have clarified their doubts on their field. The resource persons, replied for questions in an easy way.



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Pollachi Main Road , Eachanari (Post), Coimbatore-21

DEPARTMENT OF PHYSICS
National Seminar
on
ADVANCED MATERIALS AND APPLICATIONS
February 28 & March 1, 2017


Certificate

This is to certify that Prof./Dr./Mr./Ms. BALAMURUGAN . V of _____
KARPAGAM UNIVERSITY has participated/presented a paper
entitled _____

in National Seminar on "**ADVANCED MATERIALS AND APPLICATIONS**" organized by Department of Physics, Karpagam
University on February 28 & March 1, 2017.


Dr. B. JANARTHANAN
Organizing Secretary


Dr. V. SENTHIL KUMAR
Convener


Dr. M. PALANISWAMY
Dean (FASH)