Name	Dr P Karuna Purnapu Rupa
Date of Birth	22-09-1972
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Academic Qualifications	PhD (Engg.), Jadavpur University. M.E (Mat.Sci), NIT-Trichy. M.Phil (Phy.), University of Hyderabad. M.Sc (Phy.), Osmania University.
Present Designation/Position	Associate Professor
Topics Taught	Electronic and Opto-electronic Materials; Advanced Composite Materials

Professional Experience

1	Associate Professor	Tripura University	Dec. 2017 to Till date
2	Sr. Assistant Professor	MVGR College of Engineering, Vizianagaram	April 2017 to Nov. 2017
3	Sr. Scientist	Non Ferrous Materials Technology Development Center, Kanchanbagh, Hyderabad	Oct. 2007 to March 2017
4	Scientist Fellow	CSIR-National Metallurgical Laboratory, Jamshedpur	Sept. 2004 to Sept. 2007

Research Interests

1 Hydrogen Storage Materials
2 Surface Engineering
4. Ultra-High Temperature Ceramics
5. Energy Materials – Solar Cells & ITSOFC's

Projects

Sl. No.	Title of Project	Duration	Total Cost	Funding Agency
1.	Novel synthesis routes for high purity Kesterite (CZTS/Se) and development of cost effective solar PV cells and modules (As PI) (Project is presently executed by NFTDC)	July 2015-July 2018	81.30 Lakhs	Ministry of Mines
2.	Synthesis of Magnesium based alloys with lower sorption temperatures (As Co-PI, PI-Director NFTDC)	July 2010-March 2014	82.66 Lakhs	Ministry of New and Renewable Energy

3.	Performance Optimization of IT-SOFC's by Inkjet Printing on Porous Metal Substrates (Jet-Cell) (As Team member, PI-Director NFTDC)	Collaborative Project between NFTDC and University of Cambridge, Funded by DST&RC-UK
4.	Development of Free Filament and Thin Film Strain Gauge (NiCr,PdCr) Sensor and Thin Film Temperature Sensor (Pt-PtRh) for Aerospace Applications (As Team member, PI-Director NFTDC)	Project Funded by AR&DB, Ministry of Defence
5	Sorption (Hydrogen sorption based cooling system) (As Team member, PI-Director NFTDC)	Project Funded by Thermax Limited

PG Thesis Supervised

1. Mr A Prasad Reddy, M.Tech. (Materials Technology, NIT-W), 2014

"Effect of nano oxide and exfoliated graphite additives on the hydrogen sorption characteristics of Mg_2Ni material".

2. Mr Nitin Kadam, M.Tech. (Materials Technology, NIT-W), 2014

"Development of multilayer protective coating on graphite articles using Atmospheric Plasma Spray process".

3. Mr Vaibhav Chilate, M.Tech. (Materials and Systems Engineering Design, NIT-W), 2016

"Development of CZTS based solar photovoltaic cell and concentrator".

Courses Attended

1. "Materials Science in Tribology" Under the Continuous Education Programme (CEP) of DRDO held at Defence Metallurgical Research Laboratory (DMRL), Kanchanbagh, Hyderabad, From 7th Feb. to 11th Feb. 2011

2. "Instructional Design and Delivery System" Conducted by National Institute of Technical Teachers Training & Research, held at MVGR College of Engineering, Vizianagaram, From 5th June to 10th June 2017.

Research Publications

1. P. Karuna Purnapu Rupa, P.C. Chakraborti, S.K. Mishra, Structure and indentation behavior of nanocomposite Ti-B-N films, *Thin Solid Films* 564 (2014) 160-169.

2. Vikas Jindal, P. K. P. Rupa, G. K. Mandal, V. C. Srivastava, Effect of High-Temperature Severe Plastic Deformation on Microstructure and Mechanical Properties of IF Steel, *Journal of Materials Engineering and Performance*, 23, (2014) 1954-1958.

3. S.K.Mishra, A.S. Bhattacharyya, P.K.P. Rupa, L.C. Pathak, XPS *Studies on Nanocomposite SiCN Coatings Deposited by Magnetron Sputtering. Nanoscience and Nanotechnology Letters*, 4 (3), (2013) 352-357.

4. P. Karuna Purnapu Rupa, Prashant Sharma, R. M. Mohanty, K. Balasubramanian, Microstructure and Phase Composition of Composite Coatings Formed by Plasma Spraying of ZrO2 and B4C Powders, *Journal of Thermal Spray Technology*, 19(4), (2010) 816-823.

5. P.K.P. Rupa, P.C. Chakraborti and S.K. Mishra, Mechanical and deformation behaviour of titanium diboride thin films deposited by magnetron sputtering, *Thin Solid Films*, 517(9), (2009) 2912-2919.

6. S.K. Mishra, P.K.P. Rupa and L.C. Pathak, Surface and nanoindentation studies on nanocrystalline titanium diboride thin film deposited by magnetron sputtering, *Thin solid Films* 515(17), (2007) 6884-6889.

7. S.K. Mishra, Chander Shekhar, P.K.P. Rupa and L.C. Pathak, Effect of pressure and substrate temperature on the deposition of nano-structured silicon–carbon–nitride superhard coatings by magnetron sputtering , *Thin Solid Films*, 515 (11), (2007) 4738-4744.

8. S.K. Mishra, P.K.P. Rupa, S.K. Das and V. Shcherbakov, Effect of titanium diluent on the fabrication of Al2O3–ZrB2 composite by SHS dynamic compaction, *Composites Science and Technology*, 67 (7-8), (2007) 1734-1739.

9. B. Goswami, P. Karuna Purnapu Rupa, S Tarafdar, G. Krishna, S.B.Kumar and A.K.Ray, Fatigue damage of a thermal barrier coated Ni-based superalloy, *High Temperature Materials and Processes*, 26 (3), (2007), 209-219.

10. Ashok Kumar Ray, Bangsidhar Goswami, Mahendra Prasad Singh, Deepak Kumar Das, Nilima Roy, Byomkesh Dash, B. Ravi Kumar, Ajoy Kumar Ray, Gautam Das, P. Karuna Purnapu Rupa, Narayan Parida, Arpan Das, Jagannathan Swaminathan and Eshwarahalli Dwarakadasa, , Characterization of bond coat in a thermal barrier coated superalloy used in combustor liners of aero engines, *Materials Characterization* , 57(3), (2006), 199-209.

11. S.K. Mishra, P.K.P. Rupa and L.C. Pathak, Nucleation and growth of DC magnetron sputtered titanium diboride thin films, *Surface and Coatings Technology*, 200 (12-13), (2006) 4078-4081.

12. S.K. Mishra, P.K.P. Rupa, S.K. Das, and V. Shcherbakov, Effect of Alumina Diluent on the Fabrication of In-Situ Al2O3-Ti/ZrB2 Composite by Self Propagating High Temperature Synthesis Dynamic Compaction, *Metallurgical and Materials Transactions B*, 37B, (2006) 641-647.

13. S. K. Mishra, H. Gaur, P.K.P. Rupa, and L.C. Pathak, Deposition of nanostructured Si–C–N superhard coatings by rf magnetron sputtering, *Journal of Vacuum Science & Technology B*, 24 (3), (2006) 1311-1317.

International Conferences: Full Length Papers

1. P. K. P. Rupa, V. R. Goli, K. Balasubramanian, R. I. Tomov, V. R. Kumar,B. A. Glowacki and V. V. Krishnan, Development of Intermediate Temperature (550-650^{o}C) Metal Supported Solid Oxide Fuel Cells (SOFCs) Using Plasma Processes, ECS Transactions, 68 (1) 2245-2258 (2015).

2. S. H. Rahul, P. K. P. Rupa, N. Panda, K. Balasubramanian, R. V. Kumar, V. V. Krishnan, Novel Co-Sintering Techniques for Fabricating Intermediate Temperature, Metal Supported Solid Oxide Fuel Cells (IT-m-SOFCs), Thirteenth International symposium on Solid Oxide Fuel Cells 13 (SOFC-XIII), Okinawa Japan, *ECS Trans. 2013 57(1): 857-866.*

3. P. Karuna Purnapu Rupa, P.C. Chakraborti, Suman Kumari Mishra, Nanoindentation Studies of Hard Nanocomposite Ti-B-N Thin Films. *AIP Conf.Proc. 1393(2011) 239-240.*

4. P. Karuna Purnapu Rupa, P.C. Chakraborti, Suman Kumari Mishra, Indentation Response and Contact Damage of Hard Ti-B-N Films Deposited by Magnetron Sputtering, *Eurasian Chemico-Technological Journal, Volume 13, Number 1-2, (2011) 81-84.*

International Conference: Talks Delivered

1. “Thin film T/C and strain gauge sensors”, International Conference on Coatings, Thin films Multilayer Systems and Devices Held at NFTDC, Hyderabad; 14-16, December 2016.

2. “Storage Characteristics of Mg based hydrogen storage device”, 3rd International Hydrogen and Fuel cell conference; 7-9 Dec 2014 Udaipur.