



R&D NEWS

Connect | Collaborate | Create

The e-newsletter from the Office of the Vice President (R&D) at UPES

Message from the Chancellor...

1st October 2013
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A University's worth, it's 'greatness', should be judged by its value to the society. A number of key characteristics that will help us to define how this value might be measured are identified in the body of the Plan. It is vital though to begin by placing the essential elements on the platform to achieve greatness i.e. to build UPES as a truly Research and Innovation led University.

Since its establishment in 2003, UPES has been among India's pioneering innovation driven University. We have a fine tradition of developing domain specific and industry ready graduates. However, after getting our teaching and learning processes in the right direction, we must continue to harness our research potential as well.

With the completion of the first decade since our inception, we have come along with the creation of 12 virtual research centres and winning more than 25 research projects from National and International Funding Organizations; both in the public and private sectors. This must motivate us to further develop and nurture our R&D ideas in the domain of Energy, Infrastructure and Transportation (EIT).

To assimilate and share the R&D activities at UPES, R&D department

is bringing out an electronic newsletter starting this month. I am optimistic that the newsletter will help the UPES fraternity to motivate themselves, develop and align their research interest with the appropriate research Centres and Institutes.

While initially it will be published on quarterly basis but I hope that our R&D activities will enhance exponentially enabling it to get published monthly. I request you to please share your invaluable work with the R&D team so that it can be incorporated in the future issues. Further, as can be seen, this is the first issue of this newsletter hence; I would like to request you to please share your feedback and comments to help us enhance the quality and coverage of the newsletter.

Let us continue to strive harder in sharing and developing our research activities to make UPES a truly research and innovation lead University. Let's connect and collaborate in order to create innovative technological solutions.



All the Best!
Dr. S J Chopra

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**UPES and ABB
join hands on
a Shale Gas
Modeling and
Simulation
Project!!!**

**International
Seminar on
Nanotechnology
in Energy
Systems2013**

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For more information on the R&D activities and to send in your contributions please contact the Editorial Team

"Innovation distinguishes a leader and a follower - Steve Jobs"

First International Seminar on Nanotechnology in Conventional and Alternate Energy Systems: A Global Status and Pathway 2013

The 'First International Seminar on Nano Technology in Conventional and Alternate Energy Systems, Global Status and Pathways' event was organized on 12th-13th August, 2013. The seminar was sponsored by Oil and Natural Gas Corporation (ONGC), Research and Development Centre of Indian Oil Corporation Limited (IOCL) and Central Science and Industrial Research (CSIR). A total of about 17 speakers from 4 different countries and 200 participants from industries, academic institutions, and research organizations all over the country and abroad had attended the Seminar.

During the two days of deliberations the experts in Nano sciences shared their views and concerns in technology and skill development, application of the technology in diverse areas, research and development, technology innovation, technology commercialization, human capital development and technology convergence. The seminar had a unified

poster session from all the participants. Posters represented areas like Nano computing; development of photo catalysts, Nano material for high speed water sterilization, Nano Technology in defense and security etc. which attracted the attention of all the participants and guests.

In the valedictory session, the stakeholders derived the fitting conclusion that Government-Industry-Academia interface would be the strongest tool to leverage the benefits of nanotechnology. It was realized that academic institutions and R&D institutions can play a pivotal role in this regard. The distinguished speakers as well as the guests appreciated UPES's efforts towards the direction of development of human capital in the research and development of Nano technology.

Seminar Website-

<http://www.nano-energy.com/>



Inaugural Session of the International Seminar

Seminar Highlights

- 1st International Seminar on Nanotechnology
- 2 Guests of Honor
- 3 Major Sponsors
 - 4 Countries
 - 17 Speakers
 - 30 Poster Presentations
- 200 Participants
- 500 Web Hits

New Research Heads

Institute of Nanoscience and Nanotechnology - Dr. Amit Kumar Chawla is in the field of nanotechnology for the past eight years. He has published more than 40 research papers in International journals and is also in the board of reviewers of several international journals. He has hands on experience on several sophisticated Nanomaterial synthesis techniques and characterization tools.

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Institute of Robotics Technology - Mr. Rajesh Singh is the head of the Institute of Robotics Technology. He has published more than 41 papers in various national/ international conferences /journals. He is also amongst the board of reviewers of many International journals. His areas of interests are Zigbee-wireless networks, Robotics, Microcontrollers and Analog Electronics.

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UPES' Innovative Research Models Exhibition

26th August 2013 would be remembered as red letter day in the history of UPES. The day marked the presence of Honorable Shri Pranab Mukherjee, the President of India.

Appreciating the University, "I compliment UPES for providing competent manpower to the country" He further added, "India has got maximum number of young populations and hence the long term prospects of India are bright. I have great confidence in the youth of our country. You are among the brightest people of the country."



The President of India, Shri Pranab Mukherjee inaugurated UPES' Innovative Research Models Exhibition which showcased few innovative R&D Models created by the faculty and researchers at UPES. The President appreciated the efforts of UPES. He appreciated the various models on display. He called upon the University to continue pursuing research and innovation in a big way. More pictures: <http://tiny.cc/upes13>

Key Open Research Calls

Grant Call	Area	Deadline	Web Link
Indo French (DST-ANR MoU) Programme	Engineering Sciences (Sub-areas: Material Science, Chemistry, Intelligent Transport System and Energy)	October 23 2013	http://cefipra.org/pdf/DST-ANR-Joint-Call-for-Pre-proposals.pdf
Application Invited for participation in Nobel Laureates Meeting 2014	Any Science Field (no Engineering). UG/PG/PhD Students and Young Post-doctoral	October 30, 2013	http://dst.gov.in/whats_new/whats_new13/Nobel%20Meeting%20announcement-2014.pdf
UGC XII Plan Guidelines-Research Projects for Teachers	Sciences including Engineering & Technology" and "Humanities, Social Science, Arts, Law and allied disciplines	October 31 2013	http://www.ugc.ac.in/mrp/default.aspx
United States-India Educational Foundation (USIEF) - Obama-Singh 21st Century Knowledge Initiative	Energy; sustainable development; climate change; environmental studies; and innovation	November 1 2013	http://www.usief.org.in/upload/OSI%20RFP%202013.pdf
India-Singapore (DST-A*STAR) Programme	Advanced Materials & Energy	November 15 2013	http://www.dst.gov.in/whats_new/whats_new13/COP_DST-ASTAR.pdf
R&D Support in Earth and Atmospheric Science	Atmospheric Science, Earth System Science Technology, Geoscience, Hydrology & Cryosphere and Ocean Science & Resources	Open Ended Call	http://dod.nic.in/RND/rnds.html ; http://dod.nic.in/RND/new_2_Guidelines.pdf
DRDO Grant-in-aid Scheme	Aerodynamics, Aerospace, Materials and Manufacturing, Propulsion, Structures and Systems Engineering	Open Ended Call	http://drdo.gov.in/drdo/English/index.jsp?pg=grantinaid.jsp
Ministry of Earth Sciences- GOI	Geosciences/Seismicity	Open Ended Call	http://dod.nic.in/RND/geoscience.html
Start-Up Research Grant (Young Scientists)	Any area in Engineering/Sciences	Open Ended Call	http://www.serb.gov.in/srg.php

Research Project Collaboration-UPES & ABB

Prof. B P Pandey and **Dr. S K Nanda** from Department of Petroleum Engineering & Earth Sciences-UPES have recently received a research consultation project on the “**Modeling and Simulation of Shale Gas Production**”. The project includes Mathematical modeling and flow behavior of shale gas from naturally fractured and stimulated shale beds and horizontal well including flow of water contained. The work will involve prediction of pressure drop in the well section as well as flow rate of gas and water.



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Recently Submitted Research Proposals

Proposal Title	Agency/ Grant Call	Investigators
Improving Accessibility and Affordability of Higher Education: A Study on the Viability of Massive Open Online Courses (MOOCs) in India	ICSSR	Dr. Alka Dwivedi and Dr. Neelu Ahuja
Low-Cost Infrastructure for Distance Learning using Renewable Energy	DST (Indo-Brazil) with Mackenzie Presbyterian University, Brazil	Dr. Neelu Ahuja, Dr. Alka Dwivedi, Dr. Pankaj Sharma and Dr. Prasoom Dwivedi
Renewable Energy based Smart Mini Grid with Enhanced Stability & Protection Schemes (RESP Project)	DST (Indo-Brazil) with Salvador University–UNIFACS, Brazil	Mr. Saurabh Biswas, Mr. Dhruv Sharma and Mr. N B Soni
Carbon Nanomaterials for Fuel Efficiency in Automotive Technology	Indo-US STF	Dr. Santosh Dubey and Dr. V Aravind (Clarion, USA)
Bioremediation of Automobile Effluents (waste oil) with Microbial Culture in Dehradun district of Uttarakhand	Uttarakhand State Biotechnology Department (USBDB)	Dr. Kanchan Bahukhandi, Dr. Nihal Siddique and Ms Madhuben Sharma
Study of Thiosemicarbazide Derivatives via Docking Studies & their Antimicrobial Activities	DBT	Dr. Shailey Singhal, Dr. Shaifali Arora Dr. Versha Parcha (HNB Garhwal Univ)
Indo-U.S. Joint Centre for Studies on Nanoscale Materials for Hydrogen Storage and Applications for Fuel Cells	Indo-US STF	Dr. G Gopalakrishnan, Dr. Sanket Goel, Mr. Venkateswaran PS, Dr. Pradeep Haldar (CNSE-Albany), Dr. R K Malhotra (IOCL-R&D)
Exploratory study towards an Integrated System for CO ₂ capture and H ₂ production by Artificial Photosynthesis	DST-UKIERI	Dr. Sanket Goel, Mr. Venkateswaran PS and Dr Mamdud Hossain (RGU-UK)
Material, Methods and Technology in Oil Exploration and Exploitation (workshop)	India-Japan Cooperative Science Program (DST)	Dr. S K Nanda and Dr. Shigemi Naganawa (Univ of Tokyo)
Evaluation of the use of pine needles as a feedstock for biomass gasification	GIZ	Dr Pankaj Kumar Sharma, Mr Saurabh Biswas, Mr R.Dhinesh Balaji and Mr K. Kowtham Kumar
Development of knowledge-based tutoring system for seismic data interpretation using visual and analytical tools integrated with intelligent tutoring	Cognitive Science Research Initiative (CSI) Grant call	Dr. Neelu J. Ahuja and Dr. Manish Prateek
Technology Interventions for providing Livelihood Opportunities through Clean Energy Solution in Rupin Ranges of Uttarakhand	DST TIME-LEARN Programme	Dr Pankaj Kumar Sharma, Dr. Prasoom Dwivedi, Ms. Arti Jain, Mr. Sunil Dhingra (TERI), Manju Shree (TERI) and Mr. Rakesh Prasad (TERI)

“Every really new idea looks crazy at first - Abraham Maslow”

Recent Publications

Authors	Title	Journal/ Publisher	Volume- Page Number	Impact Factor	DOI
Bhawna Yadav Lamba, Girdhar Joshi, Avanish K. Tiwari, Devendra Singh Rawat, Sudesh Mallick	Effect of antioxidants on physico-chemical properties of EURO-III HSD (high speed diesel) and Jatropa biodiesel blends	Energy/ Elsevier	In Press	3.651	http://dx.doi.org/10.1016/j.energy.2013.08.005
Girdhar Joshi, Bhawna Y. Lamba, Devendra S. Rawat, Sudesh Mallick, and K. S. R. Murthy	Evaluation of Additive Effects on Oxidation Stability of Jatropa Curcas Biodiesel Blends with Conventional Diesel Sold at Retail Outlets	Ind. Eng. Chem. Res./ American Chemical Society	52, 7586-7592	2.25	http://dx.doi.org/10.1021/ie400801h
Sumeet Gupta, Manvinder Singh Pahwa	Techno Economic Evaluation of Exploration and Production	International Journal of Global Economy/ Research Center for Social Sciences	9, 152-172	1.9	-
Vineet K. Srivastava, Sarita Singh, Mukesh K. Awasthi	Numerical solutions of coupled Burgers' equations by an implicit finite-difference scheme	AIP Advances/ American Institute of Physics	Vol. 3, Issue, 8 Year, 2013 082131 (7 pages)	1.349	http://dx.doi.org/10.1063/1.4820355
Mukesh Kumar Awasthi,	Study on magneto-hydrodynamic Kelvin-Helmholtz instability with mass transfer through porous media	The European Physical Journal Plus/ Springer	Vol. 128, Issue, 9 Year, 2013 101 (14 pages)	1.302	10.1140/epjp/i2013-13101-6
Santosh K. Gupta, Sanjeev Garg	Multi-Objective Optimization Using Genetic Algorithm (GA)	Control and Optimization of Process Systems (Advances Chem. Eng., Vol. 43)/ Academic Press, New York- Book Chapter	43,205-245	-	http://dx.doi.org/10.1016/B978-0-12-396524-0.00004-0
R. Yadav, U. Guven	Aerothermodynamics of a hypersonic projectile with a double-disk aerospike	The Aeronautical Journal/ Royal Aeronautical Society, UK	Vol.117, No.1195, 913-928	0.31	-

Patents Filed

Patent Title	Office	Inventors
Micro-viscometer for Detection and Monitoring Applications	Patents Office New Delhi (#2713/DEL/2013)	Dr. Sanket Goel, Mr. Venkateswaran PS, Mr. Rahul Prajesh* and Dr. Ajay Agarwal* (*CSIR-CEERI)
Fuel injection system for compression ignition engines of stationary applications, particularly for diesel	Patents Office New Delhi (#2792/DEL/2013)	Mr. Shyam Pandey, Dr. Parag Diwan, Dr. P K Sahoo and Dr. S J Chopra

Research Centers and Institutes

Research/ Institute	Head	Contact	Email (@ddn.upes.ac.in)
Institute of Alternate Energy Research	Dr. P K Sahoo	542/ 9997110710	pradeepta
Centre for Energy Economics Research	Dr. Prasoom Dwivedi	223/ 9720277508	pdwivedi
Centre of Infrastructure and Project Finance	Dr. Sumeet Gupta	229/ 7895617071	sumeetgupta
Centre for Earth Sciences	Dr. K S Misra	322/ 7895731699	ksmisra
Centre for Energy Law	Dr. S G Sreejith	507/ 8909732275	sgsreejith
Environment Research Institute	Ms. Arti Jain	431/ 9997168107	arti.jain
Computational Research Institute	Dr. Neelu Ahuja	176/ 9557999208	neelu
Automotive Research Institute	Mr. Umesh Wazir	339/ 8126259952	uwazir
Institute of Nanoscience and Nanotechnology	Dr. Amit Chawla	416/ 9719242461	akchawla
Institute of Robotics Technology	Dr. Rajesh Singh	375/ 9837043685	rsingh
Centre for Aerospace Research			
Centre for Supply Chain Management	We are looking for heads of these centers. If you are interested to be nominated, please contact us with you profile in lieu to the activities of the center.		

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<http://research.upes.ac.in>

Bits and Bytes

Patent Filing- The **Patent Information Center (PIC)** at the Uttarakhand State Council for Science & Technology (**UCOST**) helps with the upstream work leading to file a patent. To avail this opportunity, please visit <http://ucost.in/pic.html>



Don't publish your Invention before filing Patent

International Travel Grants-

- SERB/DST- <http://www.serb.gov.in/its.php>
- CSIR- http://www.csirhrdg.res.in/tg_form.htm
- UGC- <http://www.ugc.ac.in/oldpdf/xiplanpdf/travelgrant08.pdf>
- UCOST- <http://ucost.in/download.html>

Conference/Workshop Funding

- SERB/DST- <http://www.serb.gov.in/apbs.php>
- MNRE- <http://tiny.cc/mnre>
- CSIR- http://www.csirhrdg.res.in/sy_form.htm
- UGC- <http://www.ugc.ac.in/oldpdf/xiplanpdf/researchworkshop.pdf>
- DAE/BARC - http://barc.gov.in/brns/brns_symposia.html
- UCOST- <http://www.ucost.in/download.html>

Ethics in Publications (<http://tiny.cc/upes-pub>)

- Avoidable predatory publishers, Unacceptable Impact Factor
- SCI JCR List of 8281 Journals
- Suggested UPES publication policy