



# HILLY RAMBLINGS

JUIT's Quarterly Newsletter



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## Publications

Following is the list of publications of research papers in journals by faculty members of the University, across various Departments.

- S. Tayal, P. Bandopadhy, A. Aggarwal, S. Tandon, C. Tandon. "Cytoprotective role of the aqueous extract of Terminalia chebula on renal epithelial cells." International Brazilian Journal of Urology Vol 38(2), 199-209, 2012.
- A. Aggarwal, S. Tandon, S.K. Singla, C. Tandon. "A novel antilithiatic protein from Tribulus terrestris having cytoprotective potency." Protein and Peptide Letters, 2012. [Epub ahead of print]
- Gupta N., PK Naik and RS Chauhan. "Differential Transcript Profiling through cDNA-AFLP Showed Complexity of Rutin Biosynthesis and Accumulation in Seeds of a Nutraceutical Food Crop (Fagopyrum spp.)." BMC Genomics, 2012 (In Press) MS: 1246369316667407.
- Gupta N, Sharma S, Rana JC and RS Chauhan. "AFLP fingerprinting of tartary buckwheat accessions (Fagopyrum tataricum) displaying rutin content variation". Fitoterapia Vol 83:1131-1137, 2012.
- A. Katyal., D. Kumaran, M. Udayabanu.. "Behavioural dysfunction and delayed neuronal death associated with cholinergic hypofunction during global cerebral ischemia and the effect of rivastigmine, galantamine and choline," Int. J. Dev. Neurosci., 2012. (In press; <http://dx.doi.org/10.1016/j.ijdevneu.2012.03.336>).
- Pradeep K. Naik, Manu Lopus, Ritu Aneja, Surya N. Vangapandu, Harish C. Joshi. "In silico inspired design and synthesis of a novel tubulin-binding anti-cancer drug: folate conjugated noscipine (Targetin)". Journal Computer aided molecular design, Vol 26 (2), 233-247, 2012.
- Navin Tailor, Manu Sharma, Antioxidant hybrid compounds: "A promising intervention in oxidative stress induced diseases". Mini reviews in Medicinal Chemistry, 2012. [Epub ahead of print].
- Jayashree Ramana, "RCDB: Renal Cancer Gene Database", BMC Research Notes, Vol.5(246), 2012.
- Ashish R. Warghat, Prabodh K. Bajpai1, Ashutosh A. Murkute, Hemant Sood, Om P. Chaurasia and Ravi B. Srivastava. "Genetic diversity and population structure of Dactylorhiza hatagirea (Orchidaceae) in cold desert Ladakh region of India". Journal of Medicinal Plants Research Vol 6(12), 2388-2395, 2012.
- Rahul Shrivastava, Vivek Kr. Kashyap, Ravi Kr. Gupta, Brahm S. Srivastava, Ranjana Srivastava, Maloy Kumar Parai, Priyanka Singh, Saurav Bera and Gautam Panda, "In vivo activity of thiophene-containing trisubstituted methanes against acute and persistent infection of non-tubercular Mycobacterium fortuitum in a murine infection model", Journal of Antimicrobial Chemotherapy, Vol 67 (5), 1188-1197, 2012.
- Vishvanath Tiwari, Jitendraa Vashistt, Arti Kapil, Moganty R Rajeswari, "Comparative proteomics of inner membrane fraction from Carbapenem-resistant Acinetobacter baumannii with a Reference Strain", PLoS One. Vol 7(6), 2012.

## Editorial Board:

- Tejinderbir Singh Lamba
- Chanderdeep Tandon
- Sunil Kumar Khah
- Subodh Kumar Jain
- Davinder Singh Saini
- Rakesh Kumar Bajaj
- Shipra Sharma
- Amit Srivastava

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There were 19 Journal and 5 Conference Publications during the quarter.

- Lavkush Sharma, Bhupendra Kumar Pathak, Nidhi Sharma, "Breaking of Simplified Data Encryption Standard Using Binary Particle Swarm Optimization", International Journal of Computer Science Issues, Vol. 9, Issue 3, No 1, pp. 307-313, May 2012.
- M. Sehgal M. and T.R.Singh. "Identification and analysis of biomarkers for repair proteins: a bioinformatic approach", JNSBM Vol. 3, 28-35, 2012.
- Nitin Gupta, Neeraj Gandotra and Rakesh K Bajaj, "Reliability Properties of Residual Life Time and Inactivity Time of Series and Parallel system", Journal of Applied Mathematics, Statistics and Informatics (JAMSI), Vol. 8 (1), pp. 5 -16, 2012.
- Viranjay M. Srivastava, K. S. Yadav, and G. Singh, "Analysis of drain current and switching speed for SPDT switch and DPDT switch with proposed DP4T RF CMOS switch," J. of Circuits, Systems and Computers, vol. 21, no. 4, June 2012, pp. 1-18.
- Neeraj Gandotra, Rakesh K Bajaj and Nitin Gupta, "Sorting of Decision Making Units in Data Envelopment Analysis with Intuitionistic Fuzzy Weighted Entropy", Springer: Advances in Intelligent and Soft Computing, Proceedings of ICCSEA 2012, Volume 166, 2012, 567-576, DOI: 10.1007/978-3-642-30157-557.
- Poonam, Anil Kumar, Ashok K. Gupta, "Study of Response of Structurally Irregular Building Frames to Seismic Excitations", International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development, Vol. 2, pp. 25-31, June 2012.
- Bhasker Gupta and Davinder S. Saini, "Space-Time/Space-Frequency/Space-Time-Frequency Block Coded MIMO-OFDM System with Equalizers in Quasi Static Mobile Radio Channels Using Higher Tap Order" Springer wireless personal communication, May. 2012. DOI: 10.1007/s11277-012-0672-9.
- Bhasker gupta and Davinder S. saini, " A Low Complexity Decoding Scheme of STFBC MIMO-OFDM system," Proc. of IEEE International Conference Wireless Advanced (WiAd 2012), pp.20-24, 25-27 June 2012, King's College, London, U.K.

### Conferences



Dept. of Bitochnology (DBT), Govt. of India granted full travel support to Dr. Sudhir Kumar for an invited talk in 62<sup>nd</sup> annual meeting of Society of Industrial Microbiology and Biotechnology (SIMB) at Washington DC, USA on 27<sup>th</sup> June, 2012.

- Saurabh Pandit, Kirti Shitiz, Rajinder S. Chauhan and Hemant Sood. Growth and Developmental Status of an Endangered Medicinal Herb(Picrorhiza kurroa) Influences Differential Biosynthesis andAccumulation of Major Chemical Constituents (Picroside-I andPicroside-II). International conference in biochemistry, biosciences and biotechnology: 2012 By World Academy of Science Engineering & Technology, Venice (Italy) April 11 -13th 2012.
- S.K. Jain (CIE) "Normality rule and fundamentals of plasticity theories", Proc. CSSM-Shimla 2012, Workshop on Critical State Soil Mechanics, 30-31 May 2012, JUIT, 30 pages.
- Prof Nirupama Prakash (HSS) presented a paper on "Overcoming Barriers for Women Empowerment Through Technology Intervention", 13th International Conference of International Society for the Study of European Ideas- The Ethical Challenge of Multisisciplinarity : Reconciling the Three Narratives- Arts, Science, and Philosophy, University of Cyprus, Nicosia, 2-6 July, 2012
- Prof Nirupama Prakash (HSS) presented a paper on "Rural Women and Development- Synergy between Technology and Society", International Journal of Arts and Sciences Conference for Academic Disciplines, Florence, Italy, 19 to 22 June 2012.
- Prof Nirupama Prakash (HSS) presented a paer on "ICT and Women Empowerment in a Rural Setting in India" in "Globalization, Technology Diffusion and Gender Disparity: Social Impacts of ICTs" edited by Rekha Pande and Theo Van der Weide, IGI Global, Hershey, Pennsylvania,USA, 2012, pp 15-24.

### Awards and Honours

- Dr. Harish Changotra (BT & BI) has been awarded Rapid Grant for Young Investigators (RGYI) by the Department of Biotechnology, India to work on project entitled "Identification of Single Nucleotide Polymorphisms in the transcriptional regulatory region of autophagy gene, ULK1 and their role in susceptibility to chronic hepatitis B virus infection"
- Dr. Hemant Sood (BT & BI) chaired a session in International Conference "ICBBB 2012: International Conference on Bioscience, Biotechnology, and Biochemistry" Venice, Italy on April 12, 2012.

### Participation in Workshops

- Dr. Rahul Shrivastava and Dr. Jitendraa Vashistt attended a workshop on 'Molecular Diagnostics: Challenges vis-a-vis Growth Potential' at New Delhi, on 8th June 2012.



### Patents Filed



- Manu Sharma and S. Sharad Kumar. “An economical and improved process of isolation of antitumor pentacyclic triterpenoid Lantadene B from leaves of weeds Lantana camara L. (pink-edged red flowering variety)” Application No. 1970/DEL/2012.
- Sharma Shivam, Hemant Sood and R S Chauhan. “Inditech - A novel bioreactor” 2012 Application No. 1631/DEL/2012“

Two patents have been filed by the Faculty members of the University.

### PhDs Completed

- Ms. Anshu Aggarwal completed her PhD in Biotechnology & Bioinformatics on “Antilithiatic Effect of Tribulus Terresteris: An in vitro and in vivo study“ under the supervision of Prof. Chanderdeep Tandon (April, 2012)
- Mr. Manish S. Bhoyar completed his PhD in Biotechnology & Bioinformatics on “Molecular and phytochemical characterization and optimization of dormancy breaking treatment in Capparis spinosa L. from the Trans Himalayan region of Ladakh, India” under the supervision of Dr. Pradeep Kumar Naik and Dr. Gyan Prakash Mishra in April, 2012.
- Mr. Viranjay Srivastava has completed his PhD entitled “Analysis and Design of Double-Pole Four-Throw RF Switch by using Novel MOSFET Technologies” in June, 2012, under the supervision of Dr. Ghanshyam Singh (ECE).
- Ms. Shruti Jain completed her Ph.D. in Electronics and Communication Engineering on “Communication of signals and responses leading to cell survival/cell death using engineered regulatory networks” under the supervision of Dr. Pradeep Kumar Naik and Prof. Sunil V. Bhooshan. (May, 2012).

### New Joinings



- Mr. Ravinder Ahuja joined the department of CSE and ICT as a Lecturer. He is an M.Tech (CSE) from IIT Roorkee. Prior to joining JUIT he was working in GCET, Greater Noida.
- Ms. Ramanpreet Kaur joined the department of CSE and ICT as a Lecturer. She is an M.Tech (Information Security) from NIT Jalandhar. She is pursuing her PhD in Network Security from NIT Jalandhar.

### Activities @ JUIT

Four PhD scholars have completed their PhD during the quarter.



- Department of Civil Engineering organized a two day workshop on Critical State Soil Mechanics during 30-31 May 2012. Invited lectures were presented by Dr. J.T. Shahu of IIT Delhi, Dr. R.G. Robinson of IIT Madras and Dr. Altaf Usmani of EIL New Delhi. The workshop attracted 85 participants--25 professionals and 60 students from JUIT, Wagnaghat. The coordinators of the workshop were Dr. S.K. Jain and Dr. Ashok K. Gupta.
- 34th local chapter of the Indian Geotechnical Society, the IGS Shimla Chapter, was inaugurated at JUIT by Dr. K.S. Rao, Prof. IIT Delhi and President IGS, on May 30, 2012. Among those present during the ceremony were, Dr. Ravi Prakash, Vice Chancellor, JUIT, Dr. R.K. Srivastava, Dean MNIT and Chairman IGS Allahabad Chapter. The inaugural lecture titled, “Static and Dynamic Stability Analysis of Chenab Bridge Abutments”, was delivered by Prof. K.S. Rao. The following officers were announced for the IGS Shimla Chapter: Dr. Ashok Gupta, Chairman; Dr. Shiva Prakash (HOD Civil, Bahra University), Vice Chairman; Dr. S.K. Jain, Honorary Secretary; Mr. Anil Kumar, Treasurer.
- Department of Humanities and Social Sciences organized a 5-days IUCEE Workshop on “Effective Teaching” during June1 - 6, 2012. The Resource person for the Workshop was Dr. Veena Kumar, Rutgers University, USA. More than 25 Faculty members from different Departments participated in the Workshop.
- Department of Humanities and Social Sciences organized a 3-days Workshop on “Tools and Techniques for Data Analysis in Management Research” during June 7 – 9, 2012. The organizers and resource persons of the Workshop were Dr. Amit Srivastava, Mr. Puneet Bhushan Sood and Ms. Neha Aggarwal. 32 participants, both Faculty members and research scholars, from different States of India participated in the Workshop.
- Prof. Nirupama Prakash and Dr. Amit Srivastava are Principal Investigator and Co-Investigator respectively for a National Level Research on "Feasibility and Sustainability of SHARE Model of Collective farming in relation to Empowering Women" in Himachal Pradesh sponsored by Initiatives : Women in Development (IWID).



### Bits 'n' Pieces

- Dr. Yashwant Singh gave an expert lecture at Punjab Technical University Sponsored Faculty Development Programme on Software Engineering Practices ( in Object Oriented Programming) on 20th June 2012, organized by Department of Computer Science & Engineering, Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib from June 18-22, 2012.
- Dr. S.K. Jain was elected a Fellow of the Indian Geotechnical Society (FIGS) by the Executive Committee of IGS during their annual meeting in Hubli on 10 March. The certificate was delivered in New Delhi on 12 June.
- Dr. Tiratha Raj Singh (BT & BI) has been invited and joined as Section Editor in International Journal for Computational Biology (IJCB).



### Knowledge Bytes

The present section of Knowledge Bytes is contributed by Dr. Simran Tandon, Assistant Professor, Dept. of Biotechnology.

The media is full of reports on *stem cells*, but what exactly are these cells and why the hype?

The origin of these cells is at a very early stage in our development, approximately 5 days after the fertilization of the human egg. These embryonic stem cells, ES in short, are in fact the precursors of the more than 220 cell types present in our body. In simple words, we *stem* from these cells. These cells have an unlimited ability to divide either into new ES cells which are exact copies of each other or differentiate into a new cell types depending on the requirement of the body. In addition, compared to normal cells these stem cells have an unlimited capacity to divide. Apart from the ES cells, there is another group of stem cells known as adult stem cells which are present in the various organs of the body serving to replenish those cells which die in the course of our lifetime. Infact, adult stem cells are routinely being used to treat patients with leukemias.

Perhaps the most important potential application of human stem cells is the generation of cells and tissues that could be used for cell-based therapies. Today, donated organs and tissues are often used to replace ailing or destroyed tissue, but the need for transplantable tissues and organs far outweighs the available supply. Stem cells, directed to differentiate into specific cell types, offer the possibility of a renewable source of replacement cells and tissues to treat diseases including Alzheimer's diseases, spinal cord injury, stroke, burns, heart disease, diabetes, osteoarthritis, and rheumatoid arthritis. In the not so distant future, it is hoped that ES cells will be used to create a pancreas, liver, heart, lung thereby replacing parts of the damaged organs!

With this hope of being a panacea of all ills that may befall humankind, many companies have come up with stem cell banks. These banks store the next best thing to ES cells, ie. cord blood stem cells which are present in the umbilical cord when the baby is born! These cord blood stem cells are harvested from the cord blood obtained from the cord at the time of childbirth, after it is detached from the newborn and stored at temperatures of  $-196^{\circ}\text{C}$ . There are in fact a number of successful cases of cord blood stem cells used for the treatment of various genetic disorders. The fees for storage of these cells for a period of 20 years is around one lakh rupees, which is a small price to pay for insuring the lives of our loved ones. This facility is now being routinely used by many indian couples planning to have a baby and in fact there are a number of movie actors who have preserved their babies cord blood stem cells, Shilpa Shetty, Raveena Tandon, Madhuri Dixit, Hrithik Roshan to name a few!

Embryonic stem cells also gained considerable interest from the biopharmaceutical sector for their use in drug discovery and developmental toxicity testing. Teratogens may cause fetal abnormalities during development and are responsible for a significant number of birth defects. Animal models used to predict teratogenicity often do not faithfully correlate to human response. Human ES cells may prove clinically more relevant in developing safer and more effective drugs for human diseases. The establishment of human embryonic stem cell test raises hope to increase the safety of patients and consumers due to humanized and sophisticated pharmacological and toxicological in vitro tests.

With so many possibilities it is just a matter of time before all the promise that the field of stem cells holds becomes reality!

Prof. Sunil V. Bhooshan (HOD, ECE) authored a book entitled "Fundamentals of Engineering Electromagnetic". The book has been published under publisher Oxford University Press.



Dr Sunil Kumar Khah, Professor, Dept. of Physics, got a project sanctioned on "Shared Aperture Antennas" from CSIR, starting June 2012.