



HILLY RAMBLINGS

JUIT's Quarterly Newsletter



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Publications

During this quarter, the total number of research papers published by various departments, in different journals of repute is 15. The details are listed below:

- Jitender Monga, Chetan Singh Chauhan and Manu Sharma. "Human epithelial carcinoma cytotoxicity and inhibition of DMBA/TPA induced squamous cell carcinoma in Balb/c mice" by Acacia catechu heartwood, *J. Pharm. Pharmacol.*, Vol. 62, 1470-1482, 2011.
- Hemant Sood and RS Chauhan "Different Tissue Culture Parameters used for Increased Shoot Biomass and its Enrichment for a Medicinal Compound, Picroside-1 in an Endangered Herb", *Picrorhiza kurroa Royle ex Benth, Res Bioscientia*. Vol 2, 13-22, 2011.
- Anil Kumar, Rajesh Goyal, A.K. Gupta, "Experimental Study of Effects of Micro Silica and Steel Fibres on High Strength Concrete", *Global Journal of Engineering and Applied Sciences (GJEAS)*, Vol. 1 (3), 2011, pp. 153-157.
- Anil Kumar, "Active Control of Buildings Subjected to Seismic Excitations: Control System Design Using LQG Optimal Approach", LAP Lambert Academic Publishing, Saarbrücken, Germany, ISBN: 978-3-8465-2714-6.
- Abhilash Shukla, C.K.Singh, A.K. Sharma, "Study of the Properties of Concrete by Partial Replacement of Ordinary Portland Cement by Rice Husk Ash", *International Journal of Earth Sciences and Engineering (IJEE)*, Vol. 4, No.6 Spl., 2011, pp. 965-968.
- A.K. Sharma, Abhilash Shukla, C.K.Singh, "Model Analysis of Cold Formed Steel Residential Structure for Application to Seismic Design", *International Journal of Earth Sciences and Engineering (IJEE)*, Vol. 4, No.6 Spl., 2011, pp. 577-580.
- S. Mondal, J.N. Bandyapadhyaya, C.P. Gautam, "Strengthening and Rehabilitation of Reinforced Concrete Beams with Opening", *International Journal of Civil and Structural Engineering*, Vol.2 No.1, 2011, pp.127-137.
- K.Singh, R.K.Gupta and Sachin Kumar, "Benjamin-Bona-Mahony (BBM) Equation with Variable Coefficients: Similarity Reductions and Painlevé Analysis", *Applied Mathematics and Computation*, 217(2011) 7021-7027.
- Nirupama Prakash, "Health, Development, and Democracy: Health Systems in Southeast Asia and in Eastern Europe", *Research in Political Sociology, Volume 19-Democracies: Challenges to Societal Health*, ed. By Barbara Wejnert, Emerald Publishers, U.K., December 2011, pp 43-56.
- Nirupama Prakash, "Domestic Violence Against Women in Rural Rajasthan, India: A Sociological Analysis: Political Sociology, Volume 19-Democracies: Challenges to Societal Health, ed. By Barbara Wejnert, Emerald Publishers, U.K., Dec.2011, pp 89-102.
- R.K.Gupta and K.Singh, "Symmetry Analysis and Some Exact Solutions of Cylindrically Symmetric Null Fields in General Relativity", *Comm. Nonl. Sc. Num.Simul.* 16(2011) 4189-4196.
- K.Singh, R.K.Gupta and Sachin Kumar, "Exact Solutions of b-family Equation: Classical Lie Approach and Direct Method", *International Journal of Nonlinear Science*. 11 (1) (2011) 59-67. (World Academic Publisher).

Editorial Board:

- Tejinderbir Singh Lamba
- Chandrdeep Tandon
- Sunil Kumar Khah
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- Sachin Kumar, K.Singh and R.K.Gupta, "Painleve Analysis, Lie Symmetries and Exact Solutions for (2+1) dimensional Variable Coefficient Broer-Kaup Equations", *Comm. Nonl. Sc. Num. Simul.* 17 (4) (2012) 1529-1541. (Elsevier).
- R.Kumar, Pankaj Sharma, P.B. Barman, Vineet Sharma, S.C. Katyal and V.S. Rangra "Thermal stability and crystallization kinetics of Se-Te-Sn alloys using differential Scanning calorimetry", *J. Thermal Analysis and Calorimetry* (2011) DOI 10.1007/s10973-0112062-z.
- Anup Kumar, Pawan Heera, P.B. Barman and Raman Sharma, "Investigative study of optical parameters of Se_{80.5}Bi_{1.5}Te₁₈-yAg thin films", *Materials Science Forum*, 710 (2012) 739.

Conferences

During this quarter, faculty members of different departments presented several research papers in different national and international conferences. Details are given below:

Dept. of Physics organized a three days National Conference on "Recent Trends in Materials Science" in collaboration with MRSI, SSD, SSI" during October 8-10, 2011.

- Ashish R Warghat, Prabodh K Bajpai, Ashutosh A Murkute Hemant Sood and R B Srivastva. Morphometric and genetic divergence among populations of *Dactylorhiza hatagirea* (Orchidaceae), a terrestrial orchid in the Himalayan regions of India. 20th World Orchid Conference, Singapore, Nov.13-20, 2011.
- B Singh Sandhu, Taru Prasad, Sanya Bakshi, Sneha Gulati, RS Chuahan and Hemant Sood. Use of biotic and abiotic elicitors for the in vitro production of picosides in *Picrorhiza kurroa*. International conference on New Horizons In Biotechnology & 8th Convention Of The Biotech Research Society, India NHBT-2011 NIIST, CSIR, Trivandrum. Nov. 21 -24, 2011.
- Navneet Kaur, Anu Bhatt, RS Chuahan and Hemant Sood. Optimization of culture conditions for the micropropagation of medicinally important herb *Swertia chirayita*. NIIST, CSIR, Trivandrum NHBT-2011. Nov. 21 -24, 2011.
- Anu Bhatt, Shubi Kansal, RS Chuahan and Hemant Sood. Cost-effective procedure for micropropagation of commercially important apple root stocks. NIIST, CSIR, Trivandrum. NHBT-2011. Nov. 21 -24, 2011.
- Hemant Sood, Pooja Tandon, Eva Ahuja, Shalki Shabnam and RS. Chauhan. Optimization of in vitro liquid cultures for large scale production of commercially important *Cymbidium* species. National Conference on Orchids in India: Diversity, Characterization and Resource Development for Community Livelihood & Orchid Show. National Academy of Sciences, Allahabad. Dec.21 - 23, 2011.
- Nirupama Prakash, "Socio-economic and Transport related problems among Aged population in Rajasthan" at the 2nd International Workshop on Socio-economics of Ageing held at Institute of Ageing & Management, Lisbon Technical University, Portugal, November 4, 2011.
- G. Kannan, R. Rath, A. Nanda and S.K. Jain, "Geological Engineering: Approach and adoption in storage caverns," *Proc. Indian Rock Conference (IndoRock-2011)*, Oct 13-15, IIT Roorkee, pp. 227-232.
- S.K. Jain, "Roorkee polyaxial failure criterion for rocks fitted to concrete," *Proc. Indian Rock Conference (IndoRock-2011)*, Oct 13-15, IIT Roorkee, pp. 119-121.
- Ashish Kumar and U.C. Kothiyari, "Flow characteristics within the scour hole around exposed circular compound bridge pier," *Proc. Conf. on Hydraulics and Water Resources (HYDRO 2011)*, 29-30 Dec 2011, SVNIT, Surat.
- Bhasker Gupta and Davinder S.Saini, "BER Analysis of ST-Block Coded MIMO-OFDM Systems with Frequency Domain Equalization in Quasi-Static Mobile Channels" *Proc. of 2011 IEEE India Council Annual International Conference (INDICON-11)*, pp. 20-24, 16-18 Dec 2011, BITS, Hyderabad, India.
- Shruti Jain, Pradeep K. Naik, Sunil V. Bhooshan, "Model of Protein Kinase B for Cell Survival/Death and its Equivalent Bio Circuit", November 19-20, 2011, 2nd International Conference on Methods and Models in Science and Technology (ICM2ST-11). Jaipur, Rajasthan, India
- Shruti Jain, Pradeep K. Naik, Sunil V. Bhooshan, "Model of Protein Kinase B for Cell Survival/Death and its Equivalent Bio Circuit", November 19-20, 2011, 2nd International Conference on Methods and Models in Science and Technology (ICM2ST-11), Jaipur, Rajasthan, India.
- R. S. Raja Durai, "A Class of Optimal Complete-Complementary Codes of Different Length", in proceedings of 5th International Workshop on Signal Design and its Applications in Communications (IWSDA'11), pp. 92-95, October 10-14, 2011, Guilin, China.

Dept. of CSE organized a three days IEEE International Conference on "Image Information Processing" during November 3-5, 2011.



- R. S. Raja Durai and Meenakshi Devi, "Construction of (N+M)-Direct codes in $GF(2^N)$ ", in proceedings of World Congress on Information and Communication Technologies (WICT), pp. 770-775, December 11-14, 2011, Mumbai, India.

The following papers were presented by JUIT faculty in national conference on Recent Advances in Civil Engineering & Infrastructure Development (RACE-Ind 2011) at JUIT, Guna during 21-22 Dec 2011:

- Kapil Dutt, A.K. Gupta, Rajesh Goyal and Anil Kumar, "Rock Supports and their Productivity in Tunneling Projects," pp. G7-9.
- A.K. Gupta, "Experimental Study on Particle Breakage of Rockfill Materials," pp. G10-12.
- Eshan Ganju, Himneet Singh and S.K. Jain, "Deep Soil Mixing: An untapped technique of soil improvement in India," pp. G27-33.
- Garima Duggal, Mohit Sharma and S.K. Jain, "Deep Soil Mixing versus Jet Grouting," pp. G34-37.
- Ashish Kumar, N. K. Samaiya, "Comparative study of flow characteristics around circular compound piers in rigid bed condition," pp. 63-70.
- N. K. Samaiya, Ashish Kumar, U.C. Kothiyari, "Flow Resistance for Rigid Bed Channels Carrying Cohesive Wash Load," pp. H71-75.
- Akash Khillan, Anil Kumar, A. K. Gupta, "Green Buildings for Hilly Regions," pp. S1-4.
- Poonam, Anil Kumar, A. K. Gupta, "Analytical Study of Dynamic Response of Building Frames with Structural Irregularities," pp. S62-67.
- Anil Kumar, Poonam, V.K. Sehgal, "Effectiveness of Semi-active Control of Buildings Using LQG Controller against Seismic Excitations," pp. S68-73.
- C.P. Chakravarthy, A. Nanda & S.K. Jain, "Three dimensional analysis of storage cavern," Proc. Indian Geotechnical Conference (IGC-2011), Indian Geotechnical Society, Kochi Chapter, December 15-17, 2011, Vol. I, pp. 965-968.
- Nirupama Prakash, "Socio-economic and Transport related problems among Aged population in Rajasthan, Proceedings of the 2nd International Workshop on Socio-economics of Ageing, Institute of Ageing & Management, Lisbon Technical University, Portugal, November 4, 2011
- Neena Jindal, Dr. Yajulu Medury and Dr. Anil Sehrawat, "Human Rights in Democratic Countries", Proc. Annual International Conference on Political Science, Sociology and International Relations (PSSIR) 2011, Global Science and Technology Forum (GSFT), Singapore, November 7-8, 2011.

There were 24 conference presentations during the quarter, including 10 at JUIT, Guna.

Activities @ JUIT

- Department of Humanities and Social Sciences completed three projects, during the quarter. They are:
 - Nirupama Prakash & Neetu Syal : Effect of Ageing on Access to Transport, Sociological & Clinical Disabilities in Himachal Pradesh (2011-2012) Sponsored by SUT, Hawthorn, Australia.
 - Nirupama Prakash & Amit Srivastava : Feasibility of Collective Women Farming in Relation to Women's Empowerment the State of Himachal Pradesh, 2011, sponsored by IWID, Chennai.
 - Nirupama Prakash & Usha Pathania: Springboard Womens' Development Program for Women at JUIT, 2011, sponsored by JUIT Centre for Women's Studies.
- The biography of Shruti Jain has been listed in Who's Who in Medicine and Healthcare 2011-2012 (8th Edition) in October 2011 issue.

Invited Talks

- Dr. Tiratha Raj Singh delivered an invited talk titled "Mining of hidden stop codons in genomic coding sequences: clues and innovations", in BioMining'2011, organized in conjunction with EGC-M'2011 at Tangier, MOROCCO, Nov 22, 2011.
- Dr. Tiratha Raj Singh delivered an invited talk titled "Bioinformatics and its applications in various research areas" at Thapar University, Patiala, India, Dec., 12, 2011.

Bits 'n' Pieces

- Dr. Ashok K. Gupta chaired the first session in Recent Advances in Civil Engineering & Infrastructure Development at JUET Guna during 21-22 Dec 2011.
- Dr. S.K. Jain chaired a session in Indian Rock Conference (IndoRock-2011) at IIT Roorkee during Oct 13-15. He also made a presentation inviting delegates to JUIT for the next Indian Rock Conference (IndoRock-2013) during 29-31 May 2013.
- Dr. Amit Srivastava attended a workshop on “Econometrics for Management Research” at IIM, Kozhikode, during Nov 7 – 11, 2011.



Patents Filed

- Chanderdeep Tandon and Anshu Aggarwal, “A novel anticalcifying protein from Tribulus terrestris” Application No. 2248/DEL/2011.
- Manu Sharma, S. Sharad Kumar, “An improved process of conversion of Lantadene A & B to reduced Lantadene A & B”. Application No. 2867/DEL/2011.

Bacteria is the word :
If you are in good health and averagely diligent about hygiene, you will have a herd of about 1 trillion bacteria grazing on your fleshy plains – about a hundred thousand of them on every square centimeters of skin. You are for them the ultimate buffet, with the convenience and warmth thrown in.

Knowledge Bytes

Here are the answers of the questions asked in the previous issue of the section:

- 7638.
- They actually spent Rs.25 + Rs.2 tip = Rs.27 and got back Rs.1 each which = Rs.30. In the first equation, the tip is part of the Rs.27, but then calculated again instead of the Rs.3 they got as change.
- $888 + 88 + 8 + 8 + 8 = 1000$.
- First, the one minute person and the two minute person must cross the bridge, for a total of two minutes. Then the one minute person should come back with flashlight - total of three minutes. The five minute person and the ten minute person cross together next, making the total thirteen minutes. Now the two minute person goes back and (total now fifteen minutes) and gets the one minute person and they cross together bringing the total seventeen minutes.

Here are the few interesting facts:

- It all begins with a single cell. The first cell splits to become two and the two becomes four and so on. After just 47 doublings, you have 140, 000 trillion (140, 000, 000, 000, 000, 000) cells in your body and are ready to spring forth as a human being.
- Age of earth: By the close of nineteenth century there was a lot of confusion regarding age of earth. Depending upon which text you were consulting the number ranged from 3 million to 2.4 billion. It was a BLUFF and BRILLIANT farm boy from New Zealand, named Earnest Rutherford, who produced irrefutable evidence that the earth was at least a many hundreds of millions of years old. Remarkably, his evidence was based on ALCHEMY – natural, spontaneous, scientifically credible and wholly non-occult, but alchemy nonetheless.

