

RES NOVAE

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Editorial Team:

- ❖ Ms. Anu Singla
- ❖ Ms. Neha Tuli
- ❖ Mr. Ravi Gupta
- ❖ Ms. Deepika Sharma

VIRTUAL PRIVATE NETWORK TECHNOLOGY

Dr. S. N. Panda

Director, Research

INTRODUCTION

World is passing through an extremely fearful environment due to increasing utilisation of computer and its associated network. Day by day the use of Information and Communication Technology is increasing in each and every sector and using the public network is becoming risky, whether it is wired or wireless. The connectivity of our system with Internet enhances the risk level for our system as well as the information.

Internet is a cheaper, fast, anywhere and anytime connectivity system for our society and society is actively or passively enhancing their dependency on it. Now a day the use of Internet of Things (IoT) is increasing where we can control our gadgets at home and office remotely, moreover gadgets can interact with other gadgets through ubiquitous technology.

When we are using Internet from any source it includes wide range of attacks like Domain Name System attack, Vampire Attack, Man-in-the Middle attack, Eavesdropping, etc. Any network transmissions that is not encrypted is providing access to sensitive and classified data, by using a very simple packet capturing tools which are readily available on the internet. The data may contain our login credentials such as user name and passwords for our email accounts, or worse, our net-banking credentials, this data when hacked might even leads to identity theft etc.

continued...



According to Symantec Security Response March-2015 now-a-days around one fifth of all tested mobile applications that are used to control Internet of Things devices are not complying with the essential use of Secure Socket Layer (SSL) connections which is mandatory in cloud computing environment. The process of mutual authentication between the server and client is not being implemented. The devices being used in IoT are not enforcing the use of strong passwords and some devices do not even have this capability. A two-factor authentication should normally be implemented in such devices but currently very few IoT clouds support it. Many service providers of IoT do not have delaying and lock-out measures to protect the end-user's account against various brute-force attacks other devices have been found to be vulnerable to account harvesting attacks. Lot of the IoT clouds and devices have been affected by same vulnerabilities that are found in common web application vulnerabilities. As many as fifteen web portals which are being used to control IoT devices had ten security issues that were discovered without performing any deep analysis tests. Six of them were serious issues, allowing unauthorized access to the backend systems. Most of the IoT devices and services are not being upgrade, or the mechanism for the same has not been built into the systems and even the devices that are updating are not providing signed firmware updates.

Use of Virtual Private Network (VPN)

VPN is usually used by remote users which are by default an open and shared resource. Whereas a private network in which the limited group of employees of a specific company or organization, are provided a secure connection and access to any data they require. Virtual Private Networks extend this connectivity to a large geographical area to other users who are mobile users, telecommuters, distant offices, suppliers and customers who need to access to the information and data in the main office. VPNs are Internet Protocol based networks which use encryption and tunnelling to provide following facilities:

- ❖ Remote Access: A remote user can connect to his corporate office anywhere and anytime
- ❖ Intranet: To link multiple branch offices to big organization into a logical uniform Intranet.
- ❖ Extranet: The Company's Intranet may be extended to include customers, partners and suppliers.

The features like authentication, confidentiality, integrity and are ensured in Virtual Private Network as security is a major concern.

The virtual private network (VPN) technology is used to provide secure access to remote private networks in a cost effective manner. Virtual Private Networks allows network administrators and end users to use the Internet to get the functionality of private WAN in a secure way and that too with very low cost. In Server edition of Windows 2003, Virtual Private Network is enabled using the Windows Remote Access and Routing service. Virtual Private Network is based on authentication and authorization services and other network

security technologies and using them it forms a comprehensive network access solution that provides, secure connection over the unsecure Internet.

Remote connection can be implemented using the following two strategies that provide secure connection between private networks and remote users.

Connection using dial-up or leased line

Using leased line or dial-up connection user can create a connection to a particular port on a remote server in his private network. This solution of using leased lines or dial-up to provide remote network access is more expensive as compared to the cost of using the Virtual Private Network connection for the same purpose.

VPN connections

Virtual Private Network can be implemented by using either PPTP i.e. Point-to-Point Tunnelling Protocol or (L2TP/IP-Sec) i.e. Layer Two Tunnelling Protocol/Internet Protocol over the Internet or any other intermediate network. If the VPN is implemented using the Internet as an intermediate network, the cost of setting up long-distance phone service or the hardware costs associated leased line. The Virtual Private Network solution includes security technologies such as advanced authentication and authorization, Network Access Quarantine Control and data encryption.

We are using Virtual Private Network (VPN) in our IoT as well as other value added transmission in our day to day life. Now the question is arising "Why we are using VPN?" Can VPN provide maximum security with minimum cost?

VPN protect our network from any attacks except Denial of Service Attack. VPN are vulnerable to man in middle attacks and can cause our traffic traverse through the rogue node but as the VPN data is encrypted so the hacker cannot read any information with in it, Virtual Private Networks do not use DNS servers for host address resolution, so many of the attacks based on DNS exploitation are not possible in VPN. Even if DNS attack would have affected VPN, they would have prevented the connection establishment but still the data would not be compromised or hacked. Thus, we should always ensure that VPN is established according to the laid encryption and authentication standards and not shortcut or work around should be used to establish a VPN connection.

VPNs are very useful and provide security when we want to use any kind of network connection while working at a remote location. VPN creates a secure communication tunnel between our system and a remote system. An insider attack is also not possible as the attacker might intercept the data but as it is encrypted he will not be able de-crypt it or make any intrusion or interfere with the communications.

Dr. S. N. Panda Ph.D. in Computer Science from Kurukshetra University, Kurukshetra is currently working as Director (Research) in CURIN-CACR¹. He is guiding Ph.D. and M.E Scholars and also handling various Innovative Patented Projects and Consultancies.



EXPERT TALKS DELIVERED

Become an expert in your field and success will follow.

Robert Kihlstrom

- ❖ **Dr. S. N. Panda**, Director, Research delivered extension lecture on 'Creative Research Formulation and Intellectual Property' in UGC, HRDC National Level Refresher Course, conducted by Academic Staff College, Punjabi University, Patiala on May 11, 2015



- ❖ **Dr. S. N. Panda**, Director, Research delivered a key note address at the International Conference on Advancement in Engineering Technology and Management AETM-2015, Bangkok on July 7, 2015.



- ❖ **Ms. Anu Singla**, Associate Professor, IAER² gave lecture on 'Energy Mentoring-Think Green, Live Green' during State Level Capacity Building cum Orientation Workshop for District Science Supervi-

sors and Energy Club In-charges - Establishing Energy Clubs in the State of Punjab, organized by Punjab State Council for Science & Technology, Chandigarh on behalf of Punjab Energy Development Agency, Chandigarh on July 22, 2015.



- ❖ **Ms. Anu Singla**, Associate Professor, IAER² gave talks on 'Wind Energy and Technologies' and 'Mini, Micro and Small Hydro Plants' during Short Term Course on 'Alternate Energy Sources and Energy Conservation' through ICT at NITTTR, Chandigarh on July 28, 2015.
- ❖ **Dr. S. N. Panda**, Director, Research delivered an extension Lecture on 'IoT: Idea Generation and Implementation', a program igniting the inclination towards research based projects, organized by School of Computer Sciences, Chitkara University on August 14, 2015.

BOOKS PUBLISHED

Creating a better future requires creativity in the present.

Matthew Goldfinger

- ❖ Chapter titled 'A Proactive Approach to Intrusion Detection in Cloud Software as a Service' written by Singh.B, Panda.S.N published in Book Achieving Enterprise Agility through Innovative Software Development Published by IGI Global Disseminator of Knowledge, ISBN13: 9781466685109.
- ❖ A book on 'Modern Practices in Energy Efficient Electronics', written by Vandana Thind, Shivani Sharma, Bishwajeet Pandey, LAMBERT Academic Publisher, Germany, August 2015, ISBN: 978-3-659-76759-3.
- ❖ A book on 'Pharmaceutical Chemistry-I' written by Mr. K.L. Chugh, Ritchu Babbar and Anshul Johar, Published by Kalyani Publishers.
- ❖ Prof. T. L. Singal, School of Electronics and Communications Engineering played an instrumental role in the 4th edition of the book "Millman's Electronic Devices and

Circuits" by Jacob Millman, Christos C Halkias and SatyabrataJit, published by Mc Graw Hill. The revised edition emphasizes on Outcome Based Learning, follows Bloom's Taxonomy, and Interactive Quizzes through QR code integration. The acknowledgement by Dr. (Prof.) SatyabrataJit, IIT-BHU Varanasi, co-author of this book is reproduced here:

"I would like to take this opportunity to thank Prof. T L Singal, Department of Electronics and Communication Engineering, Chitkara University, Rajpura, Punjab who helped us with the revision of this book which certainly made my job easier. It was his ability to feel the students' pulse and willingness to develop a product for them that would considerably reduce their workload is that today you are holding this book in your hands. Abig 'Thank You', T L Singal!"



PROVISIONAL PATENTS FILED

Research is to see what everybody else has seen, and to think what nobody else has thought. Albert Szent-Gyorgyi

- ❖ **'Solar Lounge'**
Dt. 11/05/2015, No.272046 (Design Patent)
Inventors:
*Ms. Anu Singla, Mr. Shrey Dhiman
Mr. Manish Kumar Singh, Ms. Priyanka Saini*
- ❖ **'Improved Multifunctional Duster and Eraser Assembly for Writing Board'**
Dt.15/05/2015,No.1369/DEL/2015
Inventors:
Dr. Sushil Kumar
- ❖ **'Smart Helmet/Hat with Solar Panel for Security Surveillance'**
Dt.21/05/2015, No.1285/DEL/2015
Inventors:
*Dr. S.N. Panda, Dr. Archana Mantri,
Mr. Navin Kumar, Mr. Rajesh Kaushal
Mr. Satpal Singh, Mr. Piyush Sohal*
- ❖ **'Improved Multi Level Food Tray'**
Dt.09/06/2015,No.1731/DEL/2015
Inventors:
Dr. Rajnish Sharma
- ❖ **'User Controlled Automatic Timer based Mosquito Repellent Device'**
Dt.29/06/2015,No.1937/DEL/2015
Inventors:
Mr. Sagar Juneja
- ❖ **'Novel Resveratrol Derivatives with Therapeutic Activity'**
Dt.22/06/2015, No. 2211/DEL/2015
Inventors:
*Dr. Sandeep Arora, Dr. Mansi Chitkara
Dr. Anju Goyal*
- ❖ **'Vision Based Augmented Reality System for Student Attendance'**
Dt.30/06/2015,No.1954/DEL/2015
Inventors:
Dr. Archana Mantri, Ms. Deeptiprit Kaur
- ❖ **'Wind Turbine Driven Generator for Vehicle'**
Dt.30/06/2015,No.1962/DEL/2015
Inventors:
Mr. Prabhjot Singh
- ❖ **'Vertically Aligned Liquid Crystal Display Device and its Method of Manufacture Thereof'**
Dt.30/06/2015,No.1965/DEL/2015
Inventors:
Dr. Pankaj Kumar
- ❖ **'Novel Compounds with Anti-Inflammatory Activity'**
Dt.22/07/2015,No.2189/DEL/2015
Inventors:
*Dr. Sandeep Arora, Dr. Mansi Chitkara
Ms. Ritchu Babbar, Dr. Inderjeet Singh Sandhu
Dr. Sumesh Chandra Sharma*
- ❖ **'Synergistic Composition for treatment of Neurological Disorders'**
Dt.22/07/2015,No.2190/DEL/2015
Inventors:
*Mr. Mohammad Arshad, Mr. Paramdeep Singh
Mr. Gurjeet Singh Thakur*
- ❖ **'Novel Resveratrol Derivatives with Therapeutic Activity'**
Dt.22/07/2015,No. TEMP/E-1/22023/2015-DEL
Inventors:
*Mr. Sandeep Arora, Dr. Mansi Chitkara
Dr. Anju Goyal*
- ❖ **'Semi-Autonomous Object Dispensing Robot'**
Dt.23/07/2015,No. TEMP/E-1/22308/2015-DEL
Inventors:
Mr. Rishabh Ahuja, Ms. Parammeet Kaur
- ❖ **'Synergistic Composition for Treatment of Neurological Disorders'**
Dt. 22/07/2015. No. 2190/DEL/2015
Inventors:
*Mr. Mohammad Arshad, Mr. Paramdeep Singh
Mr. Gurjeet Singh Thakur*

Dr. Sachin Ahuja,

Coordinator of Office of Patent Facilitation and Licensing (OPFL) has successfully completed
WIPO certified general course on Intellectual Property.

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- ❖ 'A Parameterized Software Approach to Deal with Sock Puppets', Dt. 4/3/2015 Docket Ref. No. 1-218983919, by Dr. Jaiteg Singh, Deepak Thakur and Tanya Gera
- ❖ 'Safe Miner: A Fine Grained Aspect Level software for Resolving the Sentiment' dated 7/5/2015 Docket Ref. No. 1-2117871821, by Dr. Jaiteg Singh, Deepak Thakur & Tanya Gera.

CONSULTANCY PROJECTS

- Detection of various retinal blood vessel parameters from fundus images**
Organisation: Advenio Techno Sys Pvt. Ltd, Chandigarh
Project Head : Ms. Jasmeen Kaur
 August - November, 2015
 Centre for Advanced Computing Research
- To detect flame type and blot type hemorrhage from retinal fundus images**
Organisation: Advenio Techno Sys Pvt. Ltd, Chandigarh
Project Head: Ms. Navkiran Kaur
 August–November, 2015
 Centre for Advanced Computing Research
- Promotional Case Study of Innovative Pharma Apparatus Vertical Diffusion Cell**
Organisation: Excellion Innovations and Inventions Pvt. Ltd.
Project Head: Ms. M. Madhuri Sharma
 September- December, 2015
 Chitkara Business School
- Process validation of Permion Diffusion Cell**
Organisation: Excellion Innovations and Inventions Pvt. Ltd.
Project Head: Dr. Sandeep Arora
Team Members: Mr. Arvind Sharma, Dr. I. B. Singh
 July-October, 2015
 Centre for Research in Pharmaceutical Sciences

CONFERENCES/WORKSHOPS/SEMINARS

For good ideas and true innovation, you need human interaction, conflict, argument, debate.

Margaret Heffernan

Centre for Research in Education Innovation and Learning Analytics (CrEiLa) aims to capitalize on innovation so as to increase access to quality education and improve learning outcomes. It aims to identify promising education innovations, analyze what makes these innovations work, and connect innovators to the wider innovation ecosystem of funders, researchers, and policymakers. If these innovations are systematically mapped, their approaches and challenges understood, and their potential evaluated, their collective impact could improve the education, aid in replication and scaling of innovation.

- ❖ **Workshop on 'Education Leadership and Time Management'**
 July 1-2, 2015
 Dr. K. K. Sharma, H.O.D, BBA, B.COM, Chitkara Business School conducted a workshop on 'Education Learning and



Time Management', organized by CrEiLa³. The workshop saw active participation from a gallery of who's who in the University. They discussed the basic principles of educational leadership and deliberated upon how to lead and manage educational change. They tried and found out about their personal leadership styles and learnt various skills to hone them.

- ❖ **Workshop on 'How to Write Effective Test Items for Question Papers'**
 July 1-2, 2015
 Dr. Archana Mantri, Pro VC, CURIN conducted workshop



on 'How to write effective test items for question papers', organized by CrEiLa³. The workshop aimed at training teachers to write effective test items of the question paper. The participants worked in group to design a question paper based on Bloom's taxonomy. They had brainstorming activities and practiced various group activities like jigsaw, think-pair-share.

❖ **Workshop on
'Learning Technologies'**
July 6-8, 2015

Dr. K. K. Sharma, H.O.D, BBA, B. COM, Chitkara Business School conducted a workshop on 'Learning Technologies'



organized by CrEiLa³. Active, blended and collaborative learning were some of the topics covered in the workshop.

The core aspects of the workshop were:

- To update specific aspects of classroom practice and promote learning with understanding.
- To design innovative and meaningful methods to develop students' higher order thinking skills

The workshop aimed at helping teacher to use classroom strategies for learners to construct their own meaning of new concepts, as well as ways to apply their knowledge in real world contexts.

❖ **Workshop on
'Outcome Based Education'**
July 6-8, 2015

Dr. Archana Mantri, Pro VC, CURIN conducted a workshop on 'Outcome Based Education' organized by CrEiLa³. The objective of the workshop was to make key faculty members



of each school/ department understand the importance of accreditation and Outcome Based Education. The faculty members were apprised with the ways of framing outcomes and objectives of each course and subsequently linking them to Program Educational Objectives.

❖ **Orientation Program for
Freshly Recruited Teachers**
July 6-8, 2015

Dr. Sangeeta Pant, Dean, CCEW conducted Orientation Program on 'Freshly Recruited Teachers', organized by CrEiLa³ to make all new faculty members of Chitkara University aware about regulations, best practices, and various types of teaching-learning and assessment methods.



❖ **Valedictory Function**
July 8, 2015

Dr. Madhu Chitkara, Hon'ble Vice-Chancellor, addressed the participants of the above workshops in the valedictory function.



She beautifully explained the attributes of a good teacher. She, in her own signature way impressed upon participants the importance of Bloom's taxonomy in a teacher's life. The participants also shared their own experiences and gave useful suggestions for the further improvements.

❖ **Workshop on
'Core Java'**
June 11-17, 2015

A workshop on 'Core Java' was conducted by Ms. Nishu Bali, Assistant Professor and Ms. Arzoo, Assistant Professor for ME scholars (CSE, ECE, ME) and M.Sc. (Maths). Java is core facet for all engineering disciplines. A horde of 21 participants had hands on coding experience in Java on various topics such as platform independence of Java, object oriented concepts, class and object concepts in Java, loops and methods and introduction to inheritance.



❖ **Awareness cum Demonstration Seminar on
'Oxygen: The Forgotten Essential for Healthy Life'**
June 25, 2015

Mr. Gautam Malik, Associate Professor, CSME organised an Awareness cum Demonstration Seminar on 'Oxygen: The Forgotten Essential for Healthy Life' for faculty and staff of various schools of the University. The seminar focused on the importance of oxygen in relation to human health. Mr. Malik acquainted the participants on the underlying mechanism of disease elimination using oxidative stress. He demonstrated the oxidative capabilities of oxygen to the participants.

❖ **Workshop on
'Analytical Method Development by HPLC for Formulations with Drug Combinations'**
July 16-25, 2015

The Centre for Research in Pharmaceutical Sciences organized a workshop on 'Analytical Method Development by HPLC for Formulations with Drug Combinations' in association with Dr. Morepen Lab, Baddi and Dove Analytical, Panchkula, for 2nd, 3rd and 4th year Bachelor of Pharmacy students held at Chitkara College of Pharmacy. The workshop supervised by Dr. Sandeep Arora and coordinated by Dr. Anju Goyal had expert session conducted by Sh. M.K Sharma, General Manager, QC, Dr. Morepen Labs, Baddi, in which around 70 students participated.



❖ **Workshop on
'Review and Research Idea Generation-Drug Discovery, Development and Commercialization'**
August 1, 2015

The Centre for Research in Pharmaceutical Sciences organized a faculty idea exchange session on the topic "Review and Research idea generation-Drug Discovery, Development and commercialization" was conducted at Chitkara College of Pharmacy with the purpose of mutual sharing of recent data on drug discovery and development, research and review between the faculty at Chitkara College of Pharmacy. The session supervised by Dr. Sandeep Arora and coordinated by Dr. Anju Goyal had thorough and in-depth scientific reviews from Ms. Alisha Sood,



Assistant Professor; Ms. Ramanpreet Kaur, Assistant Professor; Ms. Neelam Singh, Assistant Professor; Mr. Balkar Singh, Assistant Professor; Ms. Vandana Saini, Assistant Professor; Dr. Anju Goyal, Associate Professor; Ms. Ritchu Babbar, Assistant Professor and Mr. Rakesh Sindhu, Assistant Professor.

❖ **Faculty Development Program on
'Analog System Design using Aslpro kit from Texas Instruments'**
August 21-22, 2015

A workshop on 'Analog System Design using Aslpro kit from Texas Instruments' organized by MISRC⁴ in collaboration with Texas Instruments India University Program, IEEE students' chapter and with support from Starcom Information Technology Limited. There was an



expert talk by Mr. Sanjay Srivastava, Director University Program, Texas Instruments, India during the inaugural session. 25 faculty and research scholars from 5 different institutions signed up for the program. Participants learnt to build interesting analog systems like - Automatic Gain Control System, Voltage Controlled Oscillators, Universal Active Filters, Phase Locked Loop etc, using two fundamental building blocks Op-Amp (TL082) and Analog Multiplier (MPY634KP). Mr. Narendra Babu was the trainer.

❖ **Workshop on
'User Awareness Program'**
August 26, 2015

IEEE, ACM, Knimbus 'User Awareness Program' was conducted by Mr. Sanjay Rajan, Training Manager from Global Information System Technologies Pvt. Ltd. (GIST) He discussed how faculty / students can utilize subscription of these leading publishers to explore and access the latest technology content. It was very valuable and informative session for faculty members and research scholars.



MEETINGS UNDER SHARE- Showcase Harp Appreciate Research Exchange

Visit to Anglia Ruskin University, London

May 30 - Jun 10, 2015

Dr. Madhu Chitkara, Hon'ble Vice Chancellor, Chitkara University and Dr. Archana Mantri, Pro Vice Chancellor attended 'Going Global 2015 and Anglia Ruskin University Research Conference' at Anglia Ruskin University, London. Going Global is an annual forum for education world leaders to debate international higher and further education issues and challenges, and to discuss collaborative solutions. Dr. Mantri presented CURIN at the conference and highlighted the research and projects undergoing in our University.



Mr. Raman Talwar, Chief Executive, Simulanis Solutions Pvt. Ltd., New Delhi

July 9, 2015

Mr. Talwar discussed various technologies and implementations of Augmented Reality in engineering



education in the meeting held with Dr. Archana Mantri and her team members at Chitkara University. It was an interactive session where Ms. Deeptipreet Kaur, Assistant Professor, ECE discussed her topic of research -Tracking Techniques in the field of AR. Ms. Neha, Assistant Lecturer, CSE discussed her project she made using the software- Aurasma.

Dr. Bob Gill, British Columbia Institute of Technology, Canada

July 23, 2015

Dr. Gill visited Chitkara University and shared his ideas and



research projects with Dr. Archana Mantri, Dr. S.N. Panda, Dr. Jaiteg Singh and Dr. Nitin Saluja. Dr. Gill briefed about the technologies trend in biomedical, teaching aids and automation domains. He discussed about the new developments in the area of biomedical as the solution to FEM analysis of whole human body impedance. Then he talked about remote monitoring of vital signals and discussed its application in analysis of big data.

Visit to Spray Engineering Devices, Mohali

August 08, 2015

The Consultancy Division, OPFLC⁵ organized a visit of faculty members (ME, EE, CSE, CURIN, Management, and Applied Sciences) to Spray Engineering Devices (SED), Mohali to explore opportunities of collaborating with industry. The visit was facilitated by Dr. Parikshit Bansal, External Expert- Consultancy Projects, OPFLC⁵. Mr. Ashok Kumar Nanda, President, SED discussed about the products and services provided by the company. The



Heads of various sections explained the working of sugar industry and the processes involved while visiting faculty members shared their interest areas. A brief discussion was held on probable areas where faculty members may provide support to industry defined problems or projects. Ms. Anu Singla, Coordinator- External Projects, CURIN thanked Mr. Nanda for willingness of his organization in associating with academia for their projects.

Prof. (Dr.) Sumeet Dua, College of Engineering and Science, Louisiana Tech University

August 10, 2015

Prof. Dr. Dua discussed his research project Bio Med Chem computing soft and suggested inclusion of patient selection stage as the first block of the project during data collection. The possible industrial, societal and research group applications for the proposal was explored in the meeting with Dr. Archana Mantri and Dr. Nitin Saluja, Associate Director, CURIN in Chitkara University. Dr Nitin Saluja explained to Request for Proposal for Human Simulator Development.



Meeting IMTECH, CSIR in Chandigarh

August 11, 2015

The meeting for ITRA Biomedchem computing soft team was organized by CSIR-IMTECH Chandigarh to discuss progress in the project. The first draft of the project was made ready at the meeting. The project details were finalized and each team presented the technical aspect of their work. The advancement in type-2 diabetes

diagnosis was discussed and Dr. Sumeet Dua from Louisiana Technological University highlighted the importance of computation in the project. The project was discussed for type-2-diabetes model at various levels i.e cellular level, molecular level, tissue level and organ levels. The stochastic modeling of the process is extensively discussed in the meeting. The meeting was concluded with role of each member in the project and objectives are assigned to come up with draft-1 of full proposal.



Indian BioMedChem Computing Soft Meeting, CORE, Thapar University, Patiala

August 24, 2015

ITRA Biomedchem computing soft team from Chitkara University visited Thapar University Patiala to discuss the progress in the project BMCC. The meeting is attended by eminent personalities of interdisciplinary subjects Dr. Archana Mantri, Pro-Vice Chancellor, Dr. Nitin Saluja, Dr. Sachin Ahuja, Dr. Meenakshi Sood and Dr. Varsha Singh from Chitkara University, Punjab, Prof (Dr.) Rajesh Khanna, Prof. (Dr.) Sanjai Saxena, Dr. V. P. Singh, Dr. Siddharth Sharma, Thapar University, Patiala, Dr. Avnish Kumar, Government Medical College, Patiala, Dr. Deepak Sharma, CSIR-IMTECH Chandigarh, Dr. Deepthi Bathula, Dr. C. K. Narayanan, IIT Ropar, Punjab. The various aspects of genome wide association studies for Diabetes Type-2 are discussed in the meeting. The data flow diagram was made ready and the fusion of interdisciplinary work was carried out. The interdisciplinary aspects were chalked out in presence of experience and distinguish experts in their domains.

Visit to Cosmo Ferrites Ltd., Jabli, Himachal Pradesh

August 30, 2015

Dr. I.S. Hudiaara, Director Research and Dr. I.S. Sandhu, Dean, Examination and Professor of Physics, visited Cosmo Ferrites Ltd., Jabli, District Solan, Himachal Pradesh. The signing of MOU for Co-operation in Research and Development is in process.

2nd IEEMA Regional Meet

August 31, 2015

Ms. Anu Singla, Associate Professor, IAER² attended 2nd IEEMA Regional (Haryana-Punjab-Himachal Pradesh-Chandigarh) Meet at Chitkara International School, Chandigarh. She presented research projects and activities of IAER²-CURIN. The meeting was chaired by Mr Hartek Singh, Managing Director, Hartek Group.



PUBLICATIONS

Good ideas and innovations must be driven into existence by courageous patience.

Hyman Rickover

- ❖ Musavi, SHA, Chowdhry, B. S., Kumar, T., Pandey, B., Kumar, W., 'IoTs Enable Active Contour Modeling Based Energy Efficient and Thermal Aware Object Tracking on FPGA', Springer Wireless Personal Communications, ISSN:1572-834X(electronic), SCI Indexed, Vol.82, No.3, pp.1-15, May 20, 2015. <http://link.springer.com/article/10.1007/s11277-015-2753-z>.
- ❖ Sethi, R., Arora, S., Jain, S., Jain, N., 'Synthesis, Characterization and Biological studies on Mannich Bases of 2-Substituted Benzimidazole Derivatives', Journal of Pharmaceutical Technology, Research and Management, Vol. 3(1), pp. 57–64. DOI: 10.15415/jptm.2015.31005, May 2015.
- ❖ Singh, R. P., Hudiaara I.S., Pandey, S., Kumar, P., 'Effect of

- Ni Doping on Structural and Magnetic Properties of ZnO Nanoparticles', International Journal of Semiconductor Science & Technology, Vol. 5, Issue 2, 1-10, ISSN (P) 2250-1576; ISSN (E) 2278-9405, June 2015.
- ❖ Singh, D., Garg, K., Singh, R., Pandey, B., Kalia, K., Noori, H. 'Thermal aware Internet of Things Enable Energy Efficient Encoder Design for security on FPGA', International Journal of Security and Its Applications, Vol.9, No.6, pp. 271-278, June 2015. <http://link.springer.com/article/10.1007/s11277-015-2753-z>.
 - ❖ Kalia, K., Pandey, B., Kaur, A., Nanda, K., Malhotra, S., Hussain, D.M.A., 'Pseudo Open Drain IO Standard Based Energy Efficient Solar Charge Sensor Design on 20nm FPGA', 11th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2015), Sydney, Australia, June 9-12, 2015.
 - ❖ Singla, A., Singh, K., Kumar, Y., Vinod and Padhy, N.P., 'Development of Distributed Solar Photovoltaic Energy Market in India', Conference IEEE PES General Meeting 2015, Denver, Colorado, USA, July 26 - 30, 2015.
 - ❖ Kaur, H., Garg, D., Goyal, A., Pandey, B. 'Processor Specific Data Processing Device (DPD) Design for Energy Efficient Data Center', International Journal of Energy, Information and Communications, Vol.6, Issue 3, pp.29-38, July 2015.
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OUR RESEARCH REVIEWERS

Innovation distinguishes between a leader and a follower.

Steve Jobs

- ❖ Dr. S. N. Panda, reviewed the research papers of EURASIP Springer Journal on topic 'High-speed Pedestrian Detector Implementation for Intelligent Vehicles'.
- ❖ Dr. I.S. Hudiara, reviewed a paper entitled, "Mathematical Formulation of Surface Conductivity for Graphene Material", for Journal of Engineering Science and Technology (JESTEC).

Dr. S.N. Panda,

conferred as "COSMIC Outstanding Researcher Award 2015" in the field of Computer Science & Engineering by Cosmic International Journal, Bangkok, Thailand on 23/7/2015.

HIGHLIGHTS

If you want to stand out, don't be different, be outstanding.

Meredith West

- ❖ Infosys Inspire- Faculty Excellence Awards (2015)
Dr. Jaiteg Singh, Associate Professor, CACR1 has been recognized as Bronze partner faculty and was the runner up in the Distinguished Facilitator of Inspire Faculty Excellence Awards 2015.
- ❖ Dr. Archana Mantri, Pro Vice Chancellor, CURIN is designated as Senior Member of IEEE society for her significant contributions to the profession.
- ❖ Mr. Amit Sharma from Apeejay Institute of Management & Technology, Jalandhar awarded Ph.D. (Computer Sc.) in Aug 2015, from PTU Jalandhar under the guidance of Dr.S.N. Panda, Director, Research.
- ❖ A Research Proposal entitled synthesis characterisation and study of Microwave Absorption by Nano Ferrites was short listed by Nano-Mission of Department of Science and Technology Govt of India. Dr I. S. Hudiara and Dr I. S.

Sandhu gave the presentation of the proposal at Bangalore at the Invitation of Department of Science and Technology.



Dr. I. S. Sandhu and Dr I. S. Hudiara also visited Prof C. N. R. Rao former scientific Advisor to Prime Minister Mr. Manmohan Singh at Indian Institute of Science Bangalore.

FORTHCOMING EVENTS

- ❖ Hands-On Workshop on 'Autodesk® Maya and Unity Software' is being organized by CURIN in association with IEEE and IETE Student Chapters on September 25-26, 2015. The workshop will be conducted by a Professional Trainer from Simulanis Solutions Private Limited, to enable participants to understand and develop Augmented Reality, Virtual Reality based mobile applications.
- ❖ Workshop on 'Routing Techniques in Computer Communication Network' is being organized by CACR¹ on October 10-11, 2015. The workshop will focus on routing techniques.