



Connecting Thinkers...



Editors' Message



Dear Thinkers, the end of colonial rule and cold war saw the growing importance of Non- Western civilizations in shaping the movement of world history. Especially the turn of the century saw an increasing break-down of walls, breach of traditional boundaries which inevitably led to a coming together of people and cultures. It was then that the socio-cultural, historical and political diversities in the world began to be openly acknowledged and celebrated. The birth of a new world order saw the paradoxical stands of liberalism and hegemonic structures existing side-by-side. Today, however, observing the progress of events and looking at the world around us, one is reminded of the 1993 *Foreign Affairs* article, where Huntington wrote: *It is my hypothesis that the fundamental source of conflict in this new world will not be primarily ideological or primarily economic. The great divisions among humankind and the dominating source of conflict will be cultural. Nation states will remain the most powerful actors in world affairs, but the principal conflicts of global politics will occur between nations and groups of different civilizations. The clash of civilizations will dominate global politics. The fault lines between civilizations will be the battle lines of the future.*

The very diversities that the people of the world exhibited and rejoiced about two decades ago are the ones which are being challenged, questioned and violated today; beliefs and ideologies are today under a scanner, and this often threatens the fundamental rights of the individual. It is critical to engage in a 'dialogue' and discourse which will help maintain, celebrate and honour diversities instead of making them reasons of conflict and thereby convert conflictual tendencies and divisiveness to peaceful-co-existence.

The timeless message of the Upanishads : ॐ सर्वे भवन्तु सुखिनः (Om, May All become Happy) सर्वे सन्तु निरामयाः ।

(May All be Free from Illness) सर्वे भद्राणि पश्यन्तु (May All See what is Auspicious)

मा कश्चिद्दुःखभागभवेत् । (May no one Suffer) ॐ शान्तिः शान्तिः शान्तिः ॥ (Om Peace, Peace, Peace)

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Achievements

Mr. Mouneshachari S a Ph.D. Scholar of Computer Science Engineering at Jain University, received the Best Paper Award for his paper on 'Computing Model for the Estimation of Correlation Between EQ (Emotional Quotient) and IQ (Intelligent Quotient)' at GMIT, Davangere on 5th September 2015.

Dr. Ranjith Krishna Pai, Associate Professor at the Centre for Nano and Material Sciences, Jain University has been selected for the "Outstanding Scientist Award" in the category of Thin Film Solar Cells (Science) by the Venus International Foundation. The award function will be held at VIFRA 2015 on 19th December 2015 in Chennai.

Dr Meghna Singhal, Research Guide and Faculty at the Department of Psychology, won the Best International Researcher Award at the International Congress of Clinical and Health Psychology with Children and Adolescents held at Madrid from 19th to 21st November. Her paper was selected among 350 papers presented from 34 countries.

Team Thinklet Congratulates all winners and wishes them All the Best in their future endeavours.

GUIDE'S COLUMN

Research on Photocatalysis at Centre for Nano and Material Sciences

Research at “Photocatalysis Unit” is interdisciplinary in nature, dedicated to issues on sustainable development, more so to meet societal demands of energy production, environment protection and economic health solutions. Our aim is to deepen the fundamental knowledge necessary to understand the catalytic and photochemical mechanisms that are required to develop nanomaterials and methods to satisfy the above needs.

Catalysis is one such requisite tool that can alter the mechanistic and kinetic pathways of charge transfer processes involved in heterogeneous assemblies, so as to improve the energy conversion efficiencies in photoresponsive organic-inorganic hybrid nanoassemblies, semiconductors and metal oxide nanoclusters. Semiconductor nanoparticles with size quantization effects and quantized charging effects in metal nanoparticles provide the base for effective systems and for designing next generation energy conversion devices.

Nanostructures are utilized in four different ways to design solar energy conversion devices. a) To mimic the photosynthesis with acceptor- donor molecular clusters for water remediation. Nanooxide clusters can suitably be designed such that, on absorption of light and oxygen, induce a series of chain reactions involving reactive oxygen species to convert the organic pollutants (acceptors) in aqueous medium to carbon dioxide and water b) To produce fuels such as hydrogen through semiconductor mediated photocatalysis. Nature depends on photocatalysis to accumulate energy, and we can copy its example to generate hydrogen from water. Photocatalysts on apt tailoring of their band gaps can split water into hydrogen and oxygen using sunlight c) To design nanostructure semiconductor based solar cells. Semiconductor quantum dots are of specific interest for use in Quantum Dot Sensitized Solar Cells (QDSCs) because of their unique properties. Their size quantization allows one to tune the visible response and modulate band offsets for charge transfer across different sized particles. d) To modulate the fluorescence of the surface bound nanocrystals (on bio molecules) for biosensing. Nanocrystal fluoropores possess high emission quantum yield, narrow and symmetric emission, which make them excellent donors in fluorescence resonance energy transfer (FRET) process and hence are potential candidates to enhance the sensitivity levels of bioprobes.

Utilization of the redox ability of iron as dopant in nanooxides to produce excellent hydrogen, design of acceptor donor assembly of nanocrystals in organic acid for complete chromium elimination, design of quantum dot and hybrid solar cells for enhanced conversion efficiency and an on field nanocrystal probe designed for detection of *Staphylococcus aureus* TNase in water are some of our significant contributions, towards the development of novel catalytic systems for light energy conversion.

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Affective Teaching and Learning to Affective Computing

It is the right time to make our systems affective oriented, and examine how emotions can be incorporated into models of intelligence

Higher order activities in human endeavour are ruled by emotions. Emotions play a very important role in human intelligence, perception, memory, creativity, teaching, learning and so on. Modern Psychology is based on cognitive, affective and conative factors in the study of humans. Among these, affective factors which are noted to govern and rule our day to day activities. However, the misconceptions of "being emotional" or "acting emotional" are not valid proofs or excuses for ignoring the study of emotions and its application to teaching, learning and computers (systems) applications. It is the right time to make our systems affective oriented, examine how emotions can be incorporated into models of intelligence, and more specifically

ly into computers and their interactions with humans.

Research has revealed that the development of computers that focus on problem solving, reasoning, learning, perception and other cognitive tasks are basically essential to intelligence. This new "thinklet" about emotions in humans, identifies the importance of rethinking the role of emotion in computing and by extension inculcating this principle to teaching and learning environments since it governs and influences our passions. **"Computers should be adapting to people rather than people adapting to computers"**

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Preparation of Advanced, Low Cost TiO₂nanomaterial for Eco-Energy Production (hydrogen gas) via Simple Methods

Recent advances in porous materials have attracted great attention in scientific research due to its multi-disciplinary applications such as photocatalysis, photovoltaics, solar energy conversion etc. All these materials are measured based on their surface activity and adsorption properties. Research on semiconductor based metal oxides due to their stability and wide band gap energy values, has proven to be more advantages due to their strong oxidising power, non-toxicity, high resistance to chemical or photoinduced corrosion etc. Among these metal oxides, TiO₂ has gained tremendous attraction for photocatalysis and other applications. Several synthetic routes have reported to synthesize TiO₂ nanomaterials however they are complicated, time consuming and also yield less quantity of the material. Recently, we have developed a simple, innovative and cost effective method for the preparation of large amounts of highly porous and spongy-type TiO₂ materials using ionic liquid. The prepared porous material has employed as efficient photocatalyst in water-splitting process. Our article was selected and published in "Chemistry A European Journal" a highly reputed international journal in chemical science. I thank Dr. T. Ramakrishnappa, Prof. Jairton Dupont (UFRGS, Brazil) and Dr. Geetha R. Balakrishna for their motivation and support in my research work.

We have developed a simple, innovative and cost effective method for the preparation of large amounts of highly porous and spongy-type TiO₂ materials using ionic liquid

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Marginalised Culture in Politics during Mahabharata and its Relevance in the Present Context

In the present scenario, the progressive socialist movements use political strategies to conquer public political power and bring about social transformation. The elements which bind the society and mediate its conflicts are the states and their national governments. The heads of states today are not held in any degree of respect. Most bureaucracies and policy-making bodies are beyond the realm of women's activism. The former traditional hierarchal, master-servant and bureaucratic relationships are ultimately restricted and mutually alienating.

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The political context of Mahabharata indicates that there was more of "participatory politics". The main domain of human relationship was founded on kinship, dwelt upon sharing and a traditional division of labour. No one had the scope to pursue their self-interests. The respectable roles given to **Vidura**, a shudra by birth, the powerful role of **Kunti** and **Draupadi** show that politics of Mahabharata was more transparent and the so called marginalised were directly included in the main stream politics. It becomes very important to remember how each and every character in Mahabharata asserted their presence though there was a large diversity of culture. Vyasa regarded a human being mainly for his attributes. Despite the cultural and political fragmentation the equal moral standing of all human beings can result from quality in all spheres of existence which promotes perception and consciousness at large.

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My Research Journey

In May 2013, I decided to quit corporate world where in I had put in 17 years of productive work in sales and marketing domains. An inclination towards researching always existed in me during my corporate life. I started my research journey with Jain University in August 2013. First six months were put in going through research course related sessions which aimed at setting the strong foundation with fundamentals of research methodology.

The faculty team comprising of well known global experts truly helped me shaping myself as a research scholar. The journey continued with unparalleled support and guidance coming in from my guide in deciding on scope and relevance of my research, formulation of research objectives, developing research design and identification of data sources. Currently, I am in the process of interpreting and analyzing the data. To support and develop research scholars like me, Jain University conducted series of workshops related to research methodology, analysis of data and developing leadership skills – all of which I attended. The university also conducted *Research Retreat* to bring scholars and experts together to assess progress of the research. I was encouraged to attend research conferences and present papers. The guidance given by university research experts and the guide helped me get an award for best paper presentation in an International Conference. I know that research journey never ends. Undoubtedly, my research journey in this university is an enriched one and I believe this journey will keep me excited always.

The guidance given by university research experts and the guide helped me get an award for best paper presentation in an International Conference

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Communication Feasibility Study: Smart Grid with Advanced Metering

Infrastructure

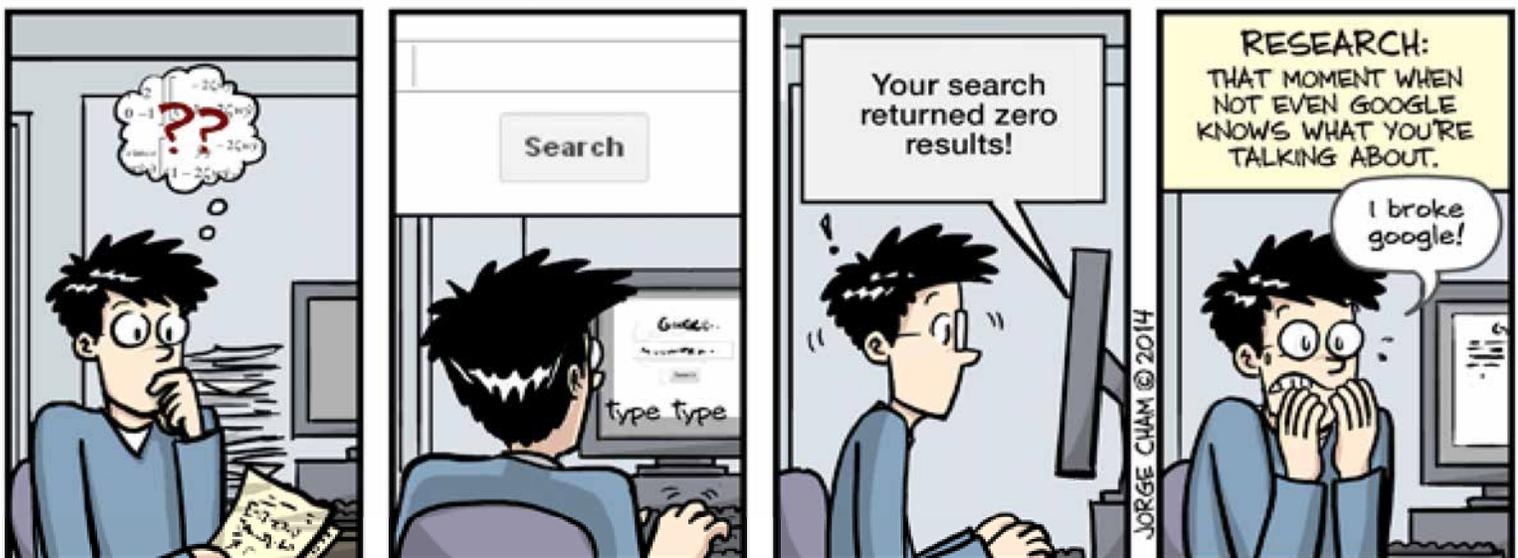
Intelligent grid is the next generation power grid and it is also known as Smart Grid. A smart grid is an integration of information and communication technologies into conventional transmission and distribution system. Drivers of the smart grid increase in electricity demand and supply short fall, loss reduction, managing human element, reliability, renewable energy integration and technological advancement. A smart grid embrace new technologies i.e. telecommunication, control, self -healing, efficiency, reliability and security of power systems. A communication infrastructure is most important part to the success of grid intelligence. Various smart grid technologies already been used by power sector of India are smart metering, Automatic Meter Reading (AMR), SCADA system, GIS mapping and load forecasting.

A communication infrastructure is most important part to the success of grid intelligence.

Advanced Metering Infrastructure, AMI is the strong carrier for harmonious relationship of power supply in smart grid .AMI allows faster outage detection and restoration of service. It also provides customer with greater control over their electricity usage. AMI contains many devices like data management center master station communication center, intelligent terminal and smart meter.

Among them smart meter is the key component of the advance metering infrastructure. Wireless communication plays vital role in smart grid, Advancement in GSM technology have made it possible to get all real time application in smart grid environment. AMI smart meters equipped with Power Quality (PQ) monitoring capabilities enable more rapid detection, diagnosis and resolution of PQ problems. Operationally, with AMI the utility knows immediately when and where an outage occurs so it can dispatch repair crews in a more timely and efficient way. Meter-level outage and restoration information accelerates the outage restoration process, which includes notifying consumers about when power is likely to return.

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History of the Gramophone Record

HMV had once published a pamphlet giving the history of the Gramophone record. Gramophone was invented by Thomas Alva Edison in the 19th century. Edison, who had invented many other gadgets like electric light and the motion picture camera, had become a legend during his times.

When he invented the gramophone record, which could record human voice for posterity, he wanted to record the voice of an eminent scholar on his first piece. For that he chose Prof. Max Muller of England, another great personality of the 19th century. He wrote to Max Muller saying, "I want to meet you and record your voice. When should I come?" Max Muller who had great respect for Edison asked him to come on a suitable time when most of the scholars of the Europe would be gathering in England.

Accordingly Edison took a ship and went to England. He was introduced to the audience. All cheered Edison's presence. Later at the request of Edison, Max Muller came on the stage and spoke in front of the instrument. Then Edison went back to his laboratory and by afternoon came back with a disc. He played the gramophone disc from his instrument. The audience was thrilled to hear the voice of Max Muller from the instrument. They were glad that voices of great persons like Max Muller could be stored for the benefit of posterity.

After several rounds of applause and congratulations to Thomas Edison, Max Muller came to the stage and addressed the scholars and asked them, "You heard my original voice in the morning. Then you heard the same voice coming out from this instrument in the afternoon. Do you understand what I said in the morning or what you heard in the afternoon?" The audience fell silent because they could not understand the language in which Max Muller had spoken. It was 'Greek and Latin' to them as they say. But had it been Greek or Latin, they would have definitely understood because they were from various parts of Europe. It was in a language which the European scholars had never heard. Max Muller then explained what he had spoken. He said that the language he spoke was Sanskrit and it was the first sloka of Rig Veda, which says "Agni Meele Purohitam". This was the first recorded public version on the gramophone plate.

अग्निमीळे पुरोहितं यज्ञस्य देवं रत्वीजम ।

होतारं रत्नधातमम ॥ Rig Veda 1.001.01

aghnimīle purohitam yajñasya devam ṛtvījam ।

hotāraṃ ratnadhātamam ॥ Rig Veda 1.001.01

Why did Max Muller choose this? Addressing the audience he said, "Vedas are the oldest text of the human race. And "Agni Meele Purohitam" is the first verse of Rig Veda. In the most primordial time, when the people did not know how even to cover their bodies and lived by hunting and housed in caves, Indians had attained high civilization and they gave the world universal philosophies in the form of the Vedas". When "Agni Meele Purohitam" was replayed the entire audience stood up in silence as a mark of respect for the ancient Hindu sages.

The verse broadly means: "Oh Agni (Fire), You who gleam in the darkness, to You we come day by day, with devotion and bearing homage. So be of easy access to us, Agni, as a father to his son, abide with us for our well being."

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"Many of life's failures are people who did not realize how close they were to success when they gave up." -Thomas Alva Edison

Report on the 7th Peter Drucker Forum

The 7th Peter Drucker Forum was held in Vienna from the 4th till the 6th of November. As a Drucker Challenge Essay winner, I had received an invitation to attend the Forum and take part in the discussions held over two days. On the first day- the 4th of November, all the winners attended a get-together held at the Austrian National Library which was established in the 18th century and also given a guided tour of the Library. Following this was a Speakers Reception event held at the historic City Hall. At the reception, I was able to meet and interact with speakers at the Forum and other Vienna city officials who were present.

Heard speakers such as Henry Mintzberg, Joseph Maciariello and Steve Denning who are literally household names in the field of Management

The following day-5th of November, the Forum began formally. The Forum was designed in such a way that there were a series of Panel Discussions-all of them dealing with sub-themes under the major theme of the Forum-Managing Humanity in the Digital World. Here I was able to listen to speakers like Henry Mintzberg, Joseph Maciariello, Steve Denning and so on who are literally household names in the field of management. Apart from this, I had the opportunity to meet and interact with successful women entrepreneurs and practitioners like Robin Chase, Rachel Botsman and Dambiso Moyo which was hugely inspirational for me personally. I also had the opportunity to discuss my doctoral study topic with a number of people who were able to give me a lot of insights and input for the same. The same evening a

Gala dinner had been arranged at the famous Marx Halle. The Drucker Challenge Award ceremony took place during the evening. Each winner's name was individually called out and made to rise and applauded to individually.

The second day of the Forum was equally rousing and motivating. The highlights included how collaborative learning was a more successful model as compared to individual ventures. Secondly it was shown how innovation can be present in small aspects of the workplace and doesn't necessarily have to be present at a larger scale only. Lastly, it was showcased how thinking creatively and innovatively could be developed as a way of life in people. For me, the above points were my main takeaways from the Forum which was filled with some great insights.

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The Fifth Annual Convocation of Jain University will be taking place on 5th December 2015 at the Global Campus. All students who have completed their Ph.D. and M.Phil in the last year will be receiving their degrees.

Team Thinklet

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