



Connecting Thinkers...

Editors' Message



All around us the world is changing, whether for good or bad, only time will tell. Political changes are ruling the roost ranging be it at the global level or the national scene or even the local setting. Every small change seems to have a spiraling effect in a big way, encompassing the entire world. Even in our research journey, we see a series of changes affecting not just our research work but our lives too. We start from a point thinking that if we keep walking straight we will reach our destination. However, the path has its own unique unexpected pathways and unanticipated dead ends. We are often forced to rework our strategies. The wiser thing would be to accept these changes – title, job, social expectations in terms of marriage, motherhood, even fatherhood. Maybe we could draw strength from the words of wisdom of the great seers of the modern times like Sri Sri Ravi Shankar Ji who says that, “Change is constant. But change is recognised by something which is constant! Focus on the unchanging aspect in you. That is the game-changer!!” In the rush of events through the day, and day after day, we tend to lose sight of ourselves which proves to be the major challenge standing in the way of our happiness. Little realising this, we restlessly look for ‘happiness’ around us forgetting that it is not to be found on Amazon or Flipkart, or any mall or store but within ourselves. The great teacher says that is when we have to find the anchor within ourselves. Rumi, the mystic says, “Let yourself be silently drawn by the stronger pull of what you really love. Only from the heart can you touch the sky.”

Wishing the very best of luck to all of you in your ‘search’. May ‘love’ be with you!!

*The Centre for Research in Social Sciences and Education of Jain University in collaboration with the Centre for the Study of Developing Societies, Delhi is organizing a Panel Discussion on the theme ‘INDIAN DEMOCRACY: LOOKING BACK, LOOKING FORWARD’ on Sunday 10th July 2016 at 5 pm at the 9th Block, Knowledge Campus of Jain University The 90 minute long Panel discussion would include **Dr Ramachandra Guha** the eminent author and historian and **Dr Ashutosh Varshney**, Professor of Political Science at Brown University as Panelists. We invite our doctoral scholars to join the Panel discussion and request you to send a mail to cersse@jainuniversity.ac.in expressing your interest to participate. Please send your responses on or before 4 July 2016.*

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GUIDE'S COLUMN

War and Peace: The Kurukshetra Conflict - A Mere Literature or a Struggle to Re-Establish Dharma?

The Kurukshetra war often called as the 'Mahabharata War' is described as a conflict that arose from a dynastic succession struggle between paternal cousins. It involved a number of kingdoms of those times participating as allies linked to rival groups. The war narrative forms more than quarter of the epic. The individual struggles for victory, the military formation, war diplomacy, meetings and deliberations, weapons used are all described in considerable detail. This Great War was looked at by succeeding generations as an end of an epoch. The two supreme commanders met and framed "Rules of ethical conduct" required for the *Dharmayuddha*.

Krishna himself speaks about how war is the result of escalation of Adharma and how a 'Yugapurusha' manifests himself to re-establish Dharma, Peace, Morality and Ethics.

"Whenever there is deterioration of Dharma, I manifest to uplift Dharma. I appear in every epoch to protect the noble and destroy the wicked and re-establish Dharma".

Dharma in this context would mean what is a timeless truth - what was, what is and what will be. It is called so because it has the capacity to sustain beyond the realm of time and space.

There is an intense interrogation of the role of Kurukshetra war in re-establishing peace and equilibrium in the society. It may not be out of context to say that even the victors of the battle - the Pandavas, were filled with remorse on seeing the destruction the war had caused. The eldest Pandava, Yudhishtira was given a long sermon after which he agreed to ascend the throne. The tragedy was that Duryodhana who was responsible for triggering off this battle was wiped out with all his brothers.

VyasaBharata, its various editions, research papers on the topic, references from literary pieces in other languages published and unpublished works on the chosen theme all speak about the battle in a similar tone.

The battle is full of binary oppositions like war and peace, men and women, good and evil, Dharmic and Adharmic, victor and vanquished and the like. The ultimate message is it is a reflection of the inner conflict or the cogitation of the mind. However the ultimate truth is that good triumphs over evil.

Dr.Rajani Jairam

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DNA Barcoding: Insect Identification by a Fragment of Mitochondrial DNA

Life appeared on earth roughly around 3.4 billion years ago and is still evolving into a variety of organic forms. Millions of animal and plant species have been identified by naturalists and taxonomists in last two centuries and still counting. Insects are one of the largest community inhabiting our planet and have survived the greatest mass extinctions faced by earth. Insects have so far attracted little attention. To catalogue them, naturalists came up with an idea of naming them. After 250 years of Darwin and Linnaeus, a new approach

It is estimated that in India, approximately 1,30,000 insect species are available, of which about 60,000 insect species have been identified.

called 'DNA Barcoding' is in use to name insects on the basis of a fragment of mitochondrial DNA sequence. This gene is frequently termed as COX1 in barcoding approach and serves as the core of a global bio-identification gene for insects and other animals. It is estimated that in India, approximately 1, 30,000 insect species are available, of which about 60,000 insect species have been identified. For the Ph.D. programme of the senior author, a total of 501 agriculturally important insects representing 282 species were sequenced and barcoded for a

658bp region of the mitochondrial cytochrome c oxidase subunit 1 gene (cox1). All the insects' mtDNA sequences were assembled and a phylogenetic tree was constructed. In the phylogenetic tree, two clades were obtained: the first cluster consists of orders Lepidoptera, Diptera, Hemiptera, Coleoptera, Odonata and Orthoptera, whereas another clade showed relationship between Hymenopteran and Thysanopteran insects, which is not in contradiction with cladistics analysis of morphological data for insect. The results obtained, thus, favour DNA barcoding as a decisive tool in quick and reliable identification of Insects.

*Rakshit Ojha & Sushil Kumar Jalali
Ph.D. Scholars in Biotechnology*

Jain University, attached with National Bureau of Agriculturally Important Insects

Achievements By Our Research Guides And Scholars!

- ◆ *Dr Mythili Rao, Dean of Languages has been asked to propose and lead a Panel on 'The Marginalized Literatures and their Assertions in Multilingual Societies' at the 21st World Congress of the International Comparative Literature Association to be held in Vienna from 21-27 July 2016.*
- ◆ *The Department of Psychology has been invited by the Scientific Committee of the 11th International Conference on Child and Adolescent Psychopathology, London from July 18th to 20th 2016 to present a special dedicated symposium titled "Preventive and Promotive Initiatives along the Developmental Trajectory: Insights from Urban India". Six of the Department faculty - Dr. Shailaja Shastri, Dr. Meghna Sighal, Dr. Sowmya Puttaraju, Dr. Akriti Srivastava, Ms. Ashwini and Ms. Nisha have been invited to present papers at the symposium on the following four themes: "Negotiating the journey of parenting in India: A Socio- Cultural Perspective"; "Teachers' mental well-being: A key to students' overall growth and wellness"; "SHH...Let's (NOT) talk about sex: Adolescent sexuality from a Psycho-socio-cultural perspective"; "What do you mean it's your life?!" Role of parents in deciding the career of their children". Besides this, the papers of three M.Sc. I Year students have also been accepted for presentation in the same conference. This work is based on the minor project undertaken by them in the second semester.*
- ◆ *Ms. Ashrini received the best poster presentation award for the presentation of her MPhil work in a "National Conference on Fundamental and Applied Chemistry 2016", at Salem. Also the same paper is accepted for publication in a peer-reviewed journal by the Organizers.*
- ◆ *Manasa K pursuing Ph.D in Chemistry at the Centre for Nano and Material Sciences, Jain University, won the Karnataka State Women's Chess Championship with a score of 7 points out of 9 rounds. The event was organized by Mandya Chess Academy under the auspices of United Karnataka Chess Association (UKCA) from 13th to 15th May 2016 at Gandhi Bhavan, Mandya. 68 players from all over Karnataka took part in this championship out of which 27 were International (FIDE) rated players. Manasa has the credit of clinching State Women's title 4 times. At present, she tops the list of female players in Karnataka with the highest FIDE Rating Points.*

Jain University would like to congratulate our colleagues on these achievements!

Diasporic Writings of Syrian Christian Women

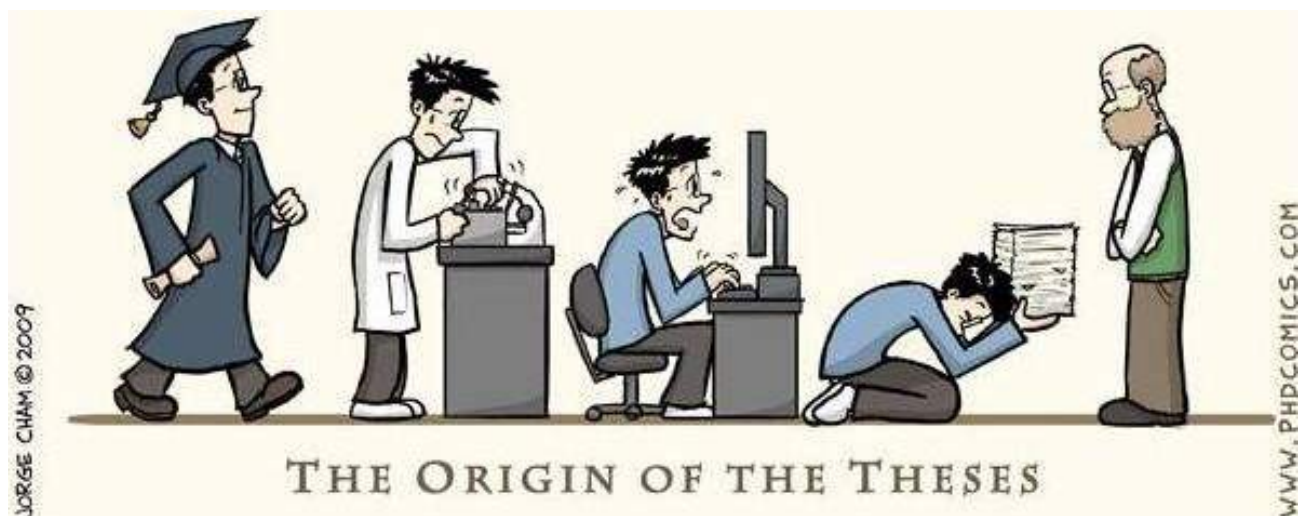
Personal experiences had to be substantiated with evidence and so I decided to research through fictional writings by Syrian Christian women writers.

My M. Phil work involved diasporic writings of women writers from a specific region and community in Kerala - the Syrian Christian community. One out of the many ways in which this mercantile community is identified is that of money and materialism. I had always been intrigued by the internal diaspora of this community. Personal experiences had to be substantiated with evidence and so I decided to research through fictional writings by Syrian Christian women writers. Through data collection, surveys, interviews and using Cultural Materialism as a theoretical framework, my findings corroborated my understanding of the community's identity. For example, one of my articles published in "Genres of Indian English Novels", focuses on the diasporic novel of Meena Alexander titled *Fault Lines: A Memoir*. The concept of homeland, nostalgia, cultural memory, sense of smell, sound and cultural imaginary from a woman's perspective was included to analyze this novel. The question of nativity and double consciousness and collective identity too was discussed. Gender conflicts, money and materialism are the primary threads running across these concepts. My M. Phil program at Jain University enabled me to find a solution to my research question.

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"Correction does much, but encouragement does more".

- Johann Wolfgang von Goethe



Damage Growth Studies in Laminated Composite Structures

The statement “Composites are the aerospace materials of 21st Century” is increasingly becoming true. 2 major transport aircrafts Airbus A 380 and Boeing 787 Dreamliner are built with primary structural components made of laminated composites. The extent of usage is high and to give an example it is stated that “the wings of the Dreamliner are composed of up to **50%** composite material by weight (80% composite material by volume)”. There are attempts to use composites in aircraft engines and this could be realised in the next few years.

Civil and Mechanical engineers are moving towards recommending composites where it is permitted by the user. The major advantages of composites are the high strength –by – weight ratio achievable and the absence of corrosion when exposed to saline environmental conditions. It is possible to tailor the laminates to achieve desired material properties in the desired directions.

Considerable extent of R&D is done on the initiation of some of these damages and their growth based on damage mechanics, but there is still ample opportunity.

Extensive research has been going on in composite structures for the past 3 – 4 decades. Several issues were addressed and acceptable solutions were arrived at. However there are certain aspects related of structural integrity are not fully explored, in safety critical fields such as aerospace vehicles. Unlike in metals, there are many types of damages which can occur in composites. Some of them are fibre breaks, fibre pull-outs, matrix cracking, delamination etc.

Considerable extent of R&D is done on the initiation of some of these damages and their growth based on damage mechanics, but there is still ample opportunity.

Delamination could occur during manufacture or during flight operations. Low velocity impact through hail storms, debris hitting the wings during take-off and landing, dropping of tools are some of the events which can cause delamination. Many times these defects occur in the interior and are not visible on the outer surface. “Barely visible impact damage” is coined to understand the maximum sizes which may escape attention. These unnoticed defects may grow during operation and cause loss of buckling strength. Certain amount of research was carried out to understand “Delamination tolerance” levels. This defect is one which is amenable to Fracture Mechanics based analysis and is still open for further studies.

To conclude, in aviation and other fields where safety is of paramount importance and simultaneously economy of operations is demanded, composites play a significant role. However, certain aspects of this novel material are still to be explained to make most efficient use of it.

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The Ph.D. Expedition

When I received a call from my friend about a research opportunity in Jain University, that is when my research journey began. During a Ph.D. course, the guide plays an important role because they are our mentors for the said period of time. University formalities began with

These two years improved my knowledge and confidence in both science and life.

an entrance exam, followed by an interview which hinted at positive results. Course work connected me with scholars from different domains of interests and allowed me learnt from well-versed professors about research methodology, ethics, and fundamental chemistry. Further, skill development program taught us methods to improve our skills with respect to presentations, body language etc., and after completing pre-viva presentation, I was left with exactly two years to complete my research work.

These two years improved my knowledge and confidence in both science and life. I have attended assorted conferences, enjoyed, learnt, and simultaneously built my network with other researchers. I have faced frustrations caused due to rejections, and was able to overcome these stressful situations with the help of right guidelines given by my supervisor at the appropriate time.

My Ph.D. research years went in the blink of an eye and now, very soon, I am hoping I would be able to say Dr. Shwetharani R.

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My Journey from Industrial to Basic Research

As most students in India, I was also exposed to 'Chemistry' right from my childhood days. Since then my association with it grew. Everything from 'Periodic Table' to 'Chemical reactions' was very interesting for me. This long interest "precipitated" and this led to my doctoral study in Chemistry at Jain University. After working for couple of years in the industry, I realized the value of basic research and

I realized the value of basic research and the intellectual joy of creating something for the benefit of mankind.

the intellectual joy of creating something for the benefit of mankind and thus joined the doctoral research programme at Jain University, which gave an opportunity to excel in my career. Jain University's research programs are well recognized, latest, progressive, and innovative and based on practical applications. The standards are high especially in the field of Chemistry, since the fundamental principles are constantly incessantly developed. Since I was inclined towards the

Pharmaceuticals field, my research topic was related to the same. This provided me a strong foundation to understand basic relationships between chemical structures and biological activity and to show how these may be applied to rationalize drug design and development. This research topic was interdisciplinary in nature and connects various aspects of Chemistry and Computers. I am very fortunate that I met the best mentors and the professors at the right moment. With their able guidance, I have successfully completed various stages of my research programme and very happy to say that I have begun my preparation of synopsis for my final thesis. I am also delighted to share that we have made some good publications and become inquisitive investigators to inventors, as we filed few patent applications as well. At this point of time I, recollect the Chinese saying "if a candle is lit and as the candles grow in number the light grows".

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The Art of Teaching and Learning in Today's Education System

Teaching and learning is a bi-directional process involving a synergy that combines multiple learning experiences. As Faculty familiarize themselves with their students' learning styles they are constantly required to innovate with alternative learning techniques. This often helps students identify their multiple aspirations from learning including enhancing their own knowledge, skills, beliefs and attitudes. Motivation is the key factor to simulate individuals to constantly learn more things. The rapid changes and increasing complexity of today's new challenges place new demands on our education system. There has been a growing awareness of the need to review and improve the system of learning in this constantly changing and highly demanding environment.

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Within the conventional education system, some were assigned the role of a faculty while others were placed in the position of students. Things have changed dramatically today. The so called teacher and learner offer exchange roles. Teaching and learning today needs to be highly interactive, collaborative and mutually enriching. Today faculty and students are required to play multiple roles both within and beyond their classrooms. Learning often involves a dialogue on certain minimalists that must form a part of classroom transactions. Further, multi-convergent strategies need to be adopted keeping in mind learner's abilities, needs and interests. Involving students in what should be part of learning is today becoming critical. Celebrating their inputs and participation is today a vital element of meaningful learning.

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The Following Research Scholars Were Provisionally Awarded Ph.D. In The Month of June, 2016

Arun Bharadwaj in the domain of Cultural Studies, for the thesis titled '*Socio-Cultural Approach to Joyful Living with Reference to Management Principles from Ancient Wisdom*', under the guidance of Dr. Choodamani Nandagopal.

Priyanka P V in the domain of Management, for the thesis titled '*A Study on the Impact of Social Media on the Marketing Strategies in Selected Retail Outlets*', under the guidance of Dr. Padma Srinivasan.

Chandan H R in the domain of Chemistry, for the thesis titled '*Synthesis and Characterisation of Quantam Dots for Detection of Pathogens*', under the guidance of Dr. R Geetha Balakrishna.

Chitra Lakshman in the domain of English, for the thesis titled '*Travel Writing- Journey Outwards & Inwards - A Comparative Study of Three Travel Writers in the Indian context*', under the guidance of Dr. Kalpana Dhananjay.

Minnu Kejriwal in the domain of Visual Arts, for the thesis titled '*Significance of Symbolism in Art Historical Studies. Proposing a Model for Art Historical Analysis*', under the guidance of Dr. Choodamani Nandagopal.

Piyush Kumar Pareek in the domain of Computer Science Engineering, for the thesis titled '*An adoptive Model for lean software development in small and medium level firms in Bengaluru*', under the guidance of Dr. A N Nandakumar.

Prashanthi K in the domain of Biotechnology, for the thesis titled '*Evaluation of Anticancer Potentials of Microbial Pigments*', under the guidance of Dr. Varalakshmi.

CAHC SECURES PRESTIGIOUS ICHR PROJECT

The Centre for Ancient History and Culture (CAHC) of Jain University has been awarded a prestigious project by the Indian Council of Historical Research (ICHR) for the study of Garga-Jyotisha. Dr R.N.Iyengar, the Director of CAHC and a renowned researcher in the field who has been awarded the project, mentioned that Vriddha-Garga-Samhita, also known as Garga-Jyotisha, is an ancient text containing 8,000 verses and 16,000 lines of astronomical information which, could have influenced the mathematical astronomy of Aryabhata and other scholars from ancient India. Jain University is privileged that ICHR has recognized its scholars to undertake studies to map ancient scientific achievements.

Interview With Manasa K

Manasa K is pursuing her Ph.D in Chemistry at the Centre for Nano and Material Sciences, Jain University and won the Karnataka State Women's Chess Championship- reported on p. 3

How and when did you develop the interest in this Game? Any inspirations?

My Dad, My Inspiration! My father came across this game of Chess during his graduation days. Although he developed an interest towards the game, he did not continue playing it because he felt it was late for him to start and in those days the only thing in mind was getting a job! But he took an oath - to teach chess to all kids in the family. He taught all my cousins, my brother and too, but none including me developed an interest in the game. During my 5th standard vacation, in 2005, on a boring Sunday when there was a heavy downpour outside, out of the blue, I told my dad to search for our old chess board. The games which began that day went on for few more days and finally I ended up defeating my dad in a game! Seeing my interest, he quickly made me play a local chess tournament in Mangalore where I did very well. My journey in the field of chess began with this tournament and the support and help of my parents.

How does it feel to be a Winner and a Champion?

It feels just wow! Not only when I win a championship, but every time when I play a tournament I get to know my inner self which gives a reason to be happy. When I win a championship, my mind travels back in time and starts recalling all the struggles and hard work put in by my parents to bring me to that level. I feel every win is a small dedication to my loving parents.

What is a typical preparation regime that you follow?

I refer chess books for practicing and play online chess with other players during my free time. On the day of my game, I do a bit of yoga and meditation. Before the game starts, I think of my parents and then blank out all tensions and all other disturbances from my mind so that I can give my best moves in the game.

Now that you are a Research Scholar do you feel that your interest in Chess has contributed in any way to your research?

Pursuing research was my dream since college days and of course Chess has complimented my research in a good way. The credit of winning the gold medal for being the topper of my college in my graduation days goes to chess! That is because I strongly believe that playing chess has increased my concentration, dedication and hard work and also has helped me be more patient - an important research requirement.

How have you been able to connect your passion for Chess to Research?

For me, Chess and Research are two different passions which lead to a single goal and that ultimate goal would be service to humanity/society. In this way, I can always connect my passion for chess to Research. Through my passion for chess, I would like to teach underprivileged and differently abled kids and hope that from among them a few good chess players emerge. Through my passion for research, I would like to contribute something to the field of science which can help society and a future generation of researchers.

Team Thinklet

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ARTICLES FOR NEXT ISSUE SHOULD BE
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