



Connecting Thinkers..



Editor's Message

The new batch of research scholars have started the course on Research Methodology. They are being put on the path of churning out their thoughts. But every time I see them it takes me back to the time that I did my Ph.D. It does make me feel ancient but also brings back the fundamental question – WHY? Since our childhood the first question somebody would ask us was ‘What do you want to be when you want to grow up?’ We would answer very enthusiastically with the innocent experience of our young age. But not happy with that they would ask ‘Why do you want to become that?’ That is where we would be flummoxed as we wouldn’t know what to say. Similarly, we got a range of answers when we asked the new batch of research scholars on the inaugural day “Why do you want to do a Ph.D.?” This tiny three-lettered word hides within itself the fundamental philosophy of every single situation of our lives. It makes us interrogate every decision that we take and it also pops-up whenever things are not going according to our plans or desire. When things go wrong we often ask this question “Why me?” I may be philosophising here but, if you look at the title of the degree that we get at the end of the journey it is nothing but philosophy! Therefore, it becomes imperative to start with this question – *Why Ph.D?* Probably then we will get the answers to all the other questions easily and all the pain and hard work will be worth it. Questioning makes us think systematically, improve our critical thinking and gain a better understanding of everything that we do and hope to achieve.

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GUIDE'S COLUMN

Machine Learning in Electronic Communication

Machine learning is a buzz word today in research as all industry need machines which can learn through experience. A subset of artificial intelligence, machine learning often uses statistical techniques to make computers to learn. Self driving cars, speech recognition, web search etc are some of the examples where machine learning is used today.

Machine learning (ML) allows software applications to become more accurate in predicting outcomes. In machine learning, algorithms are developed to receive input data and use statistical analysis to predict an output while updating outputs as new data becomes available. In electronic communication system, data transmitted is to be predicted

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from its noisy version at the receiving end. Statistics and information theory are foundations of many signal processing algorithms in communications. However, these algorithms are often optimised for mathematically convenient but not for real systems with many imperfections and non-linearities. Communication system based on Machine

Learning does not require such a tightly defined model and could be optimised for a real system.

A communication system based on ML will not be having blocks as we have in conventional system as it is trained to achieve only the best end-to-end performance. Neural networks are commonly used to implement ML algorithms which provide higher capacity to the system. Since execution of neural networks can be greatly parallelised, significant improvement in speed and lower energy cost can be achieved compared to existing communication systems.

ML techniques are tried in digital communications since long back. Few examples are non-linear channel modeling and prediction, localisation, equalisation, filtering, decoding, quantisation, compression, demodulation, and modulation recognition. Cognitive radio is an area where in ML is tried for spectrum identification. The advent of open-source ML libraries, and inexpensively available specialised hardware together with the surprising progress of ML in computer vision have stimulated transformed interest in the application of ML for communication and networking.

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TAKE IT EASY!

The minute you read the title, there are mixed reactions amongst us all. Some heave a sigh of relief and some wonder how hysterical can the writer be. It's true. TAKE IT EASY!! There are times when all of us feel aimless in life especially when we look around to find others having achieved their goal. Achievement isn't trouble-free. There are hardships all along. But without it, taste of success cannot be relished.

This article is dedicated to all my dear friends currently pursuing their Ph.D. Irrespective of the subject; this is one such degree that is a roller coaster ride. Study reveals that Ph.D students are at a higher risk of developing a psychiatric disorder like depression, more so for those in the Social and Life Sciences stream. Let me tell you one thing friends, that "You are not alone". There is an enormous crowd just like you, myself included. It is of utmost importance to take care of yourself because these problems can have a deleterious effect in the long-term run and there will be no looking back. Job opportunity is one more reason to worry which results in lack of sleep, not being able to enjoy your daily interests. Even if it's temporary, it's not awkward to seek personal or professional help that can let you see life in a different perspective.

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There was a time that when for months together, I only had negative outcomes as part of my experimentation. On the plus side, I have been fortunate to have a Supervisor who has been dynamic towards all research activities apart from the countless things she is engaged in and has always encouraged me and my fellow research scholars in making us believe that working hard today will yield to a better tomorrow.

I would like to convey this to all the Ph.D scholars out there to TAKE IT EASY!! Because this is only a temporary affair and not permanent. Take the failures along the way as a challenge as it is a great motivator. Patience is virtue but nonetheless, I have always believed that hard work is never disappointing and the results are always fruitful to treasure.

Thank you

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Importance of Attending Conferences

My association with ICAR- National Institute of Animal Nutrition and Physiology had given me many opportunities to attend both National and International conferences. Besides being a Ph.D scholar from JAIN (Deemed-to-be University) has also increased my appetite for conference lectures. To name a few, I attended conferences organised by Indian Science Congress, Annual Poultry Conference, Animal Nutrition Society of India, ADNAT as well by Global Animal Nutrition Conference. These conferences helped me in many ways and I would like to bring into focus how attending conference can help a person.

How attending conferences can help a student -

Though there are many benefits associated with attending conferences however, I would like to highlight the major ones in this article.

Paper presentation: Conferences give us the opportunity to present a paper in front of colleagues of the same or similar fields of study. This helps us in receiving constructive criticism and feedbacks which can be incorporated to improve our work.

Publication: Conference proceedings are always a good way to have your research published and indexed.

Listening to experts: Undoubtedly all good conferences invite eminent speakers from their respective fields. So isn't it a good opportunity to meet them and listen to their talks.

Networking: Attending conference gives an opportunity to build networks with other academics and experts in the same or similar field of studies all around the world and to share thoughts on recent advances and technological breakthroughs.

Idea for new research: Conferences will keep one updated on new findings that have taken place. This will also help in identifying new area of research.

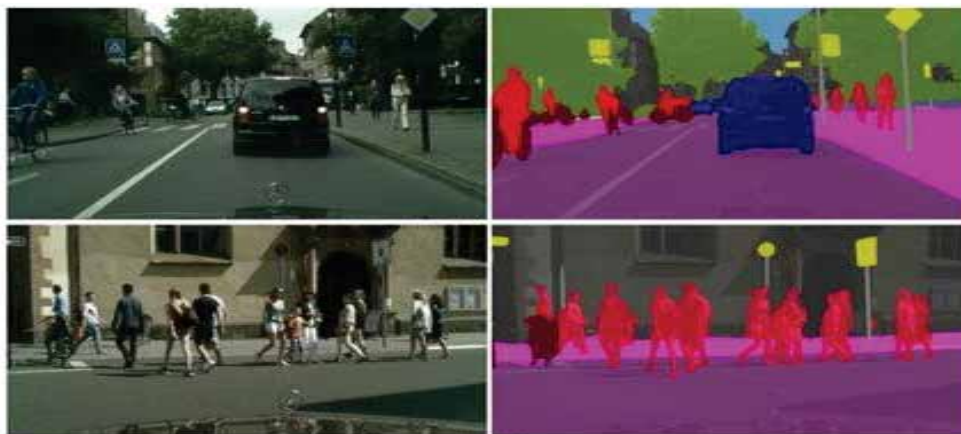
These are the few benefits I felt while attending conferences and I feel attending a conference has become a "must" to survive in an academic and research field. So I urge my fellow colleagues and scholars to make the most of it.

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Applications of Deep Machine Learning in Autonomous Driving

Conventional ADAS Algorithms are used for detection and classification of objects using various Classical Image processing algorithms for applications like Blind Spot Detection, Lane Keep Assist, Traffic Sign Recognition and Forward collision Warning using either Camera, Radar or Lidar. Deep Machine Learning applications is further used to evaluate the driving condition outside the car, classification of data through fusion of data from multiple sensors like camera, Radar, Lidar. With Artificial Intelligent solutions ADAS can classify an ambulance, police car or delivery truck and pull out of traffic. It can even identify pedestrians, cyclists and bikes. It can find the area in front of the car as free space for driving. Semantic segmentation is understanding an image at pixel level where each pixel in the image is an object class. We can realise the dream of building Driverless Cars by using heavy Deep Learning algorithms with minimal aid of Classical Image Processing Algorithm.

One challenge using the Deep Learning algorithms is it requires lots of sample images (Millions of annotated sample) which will require huge effort to create this data base for supervised learning. A good data set would include all possible combination of which will help in good prediction. Accuracy of prediction depends on how good your data base is.



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Science Related Workshop

A Ph.D Science Related Workshop was conducted by Department of Biochemistry at School of Sciences, Jayanagar 3rd Block, Jain University, Bengaluru on 4th August, 2018. The program begins with Dr. Bindhu O S, delivering a talk on the role of technology in pushing boundaries and improving the quality of research. Dr. Shwetha Sharma talked on Introduction to Latex software: Ease in document preparation. The session continued with Dr. Madhavarani speaking on application of software tools in data projection followed by Dr. Aranganathan V on how to avoid plagiarism. Lastly Dr. Malini S ended the session with a talk on strategies to avert thesis writing stress.



Pre- Lunch session

All sessions were well received by the audience. The highly informative session on tools, software and instrumentation for researchers to use during their study was dealt in detail and session was well appreciated. Possible hands on training or a demonstration on the use of these tools were done as they were found to be highly useful by the research scholars. Latex software and its demonstration was well acknowledged.



More information on coding basics of Latex software was suggested. Awareness towards this tool at the beginning of Ph.D and presentation was also appreciated. Understanding statistical tools and effective usage in respective work has shed light on the importance of statistical analysis in Ph.D work. How to use 3D graphical representation and its relevance in Ph.D work was well demonstrated by the instructor in charge.

Post Lunch session

Afternoon sessions were well received for their conception and presentation. Understanding the importance of avoiding plagiarism during thesis/ paper writing and implications of plagiarism was found interesting and beneficial by the scholars. This has instilled a strong message in students' perspective. Stress management with activity at the end enlightened the students to deal with it without inhibitions. It has equipped the budding scholars to overcome stress with ease.



Overall session

All sessions were found interesting, informative and beneficial by the scholars. They unanimously acknowledged that information from all sessions could be used in their Ph.D work and help them in writing their thesis without any hindrance. The Workshop conducted by the Department of Microbiology will be covered in the next issue of Thinklet.



A Journey from Bengaluru to Boston

The day I joined my doctoral research I had challenged myself to be unique and to stand out in the group. Finally it did happen and I thank everyone in this journey who played a role in transforming me to reach the same. The journey was not that easy as is written here in simple words. Until last year I was unaware that there was any award that can support me to travel for an international conference from the Indian Phytopathological Society (IPS). It was the suggestions from my guide Dr. Kumudini Belur Satyan along with Dr. Sangeetha and Dr. Devappa from the College of Horticulture, University of Horticultural Sciences, Bagalkot helped me sail through the different stages of competition. The final national level competition was held at Assam Agricultural University, Jorhat, Assam. It was indeed a great exposure for me, as I met the best plant scientists from all over the country. The competition was between the selected candidates from eight different zones of the country. Three of us whose names were shortlisted were asked to submit a brief bio data, along with the abstract of the work carried out to the American Phytopathological Society (APS) for their final decision. Then on 29th of March 2018, I was on cloud nine as I received an email from APS regarding the travel sponsorship to attend the annual meet in Boston. This APS annual meet, marking the 50th year of the society, the International Conference on Plant Pathology (ICPP) 2018 was held at Boston and co-sponsored by the International Society for Plant Pathology (ISPP). I was happy to be a part of this historical meet, which gave me the precious opportunity to interact with scientists, entrepreneurs and foundation members of the society. This one-to-one interaction and Idea café gave an opportunity to discuss in person with the great scientists on collaborative studies and in developing a network. I thank JAIN (Deemed-to-be University), IPS and APS for giving me this wonderful opportunity.

Savita V Patil

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“Even if things don’t unfold the way you expected, don’t be disheartened, or give up. One who continues to advance will win in the end.”

- Daisaku Ikeda

Thinklet Welcomes our 2018 Batch— A Few Responses from this Newest Batch

Research methodology classes which are conducted at Jain University have scholars from multi disciplinary domains and the interaction with them gave me an exposure to understanding different approaches to research. During the inaugural function of the Ph.D. programme, we were told that the classes would be for three hours at a stretch. It made me think that all these days we were delivering lectures to our students and now how well can we behave as students. I thought that the lectures would be boring and one sided. This thought of mine changed after attending the first session when the resource person managed to gain the attention of 140 students with good examples, interaction and activity based learning. The session on 'Choosing a Research Topic', helped me to choose an appropriate research title to match the hypothesis, outcomes and research questions. The sessions increased my knowledge of recent trends in various fields such as Biotechnology, Economics, Literature, English, Social Science, Psychology, Computers, Mechanical, Civil, Electronics and many more.

Sufia Banu

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I never knew that Jain University would have so much to offer to me as food for thought. Such was my presumption before attending the Research Methodology class. On the very first day, I realised that the three hour class provides no room for boredom. Enthusiastic students from all streams of knowledge with an everlastingly enthusiastic resource person fill the room with zest and pro-activity. We dabble with concepts, participate and offer insights to the topic under discussion. The participatory method of teaching adopted is commendably effective in bringing out the students' potential. Eloquence and witty humour throughout stir up the audience. The Research Methodology course has facilitated me to enhance my analytical ability, lateral thinking and has also enabled me to get a bird's eye view of the fundamentals of research. It has reinvigorated my independent learning spirit, collaborative spirit and the need to be on my toes and re-channelise my energies optimally. We are all now truth-seekers, each seeking a different truth, which might get crystallised for some time, become fluid again and get re-crystallised.

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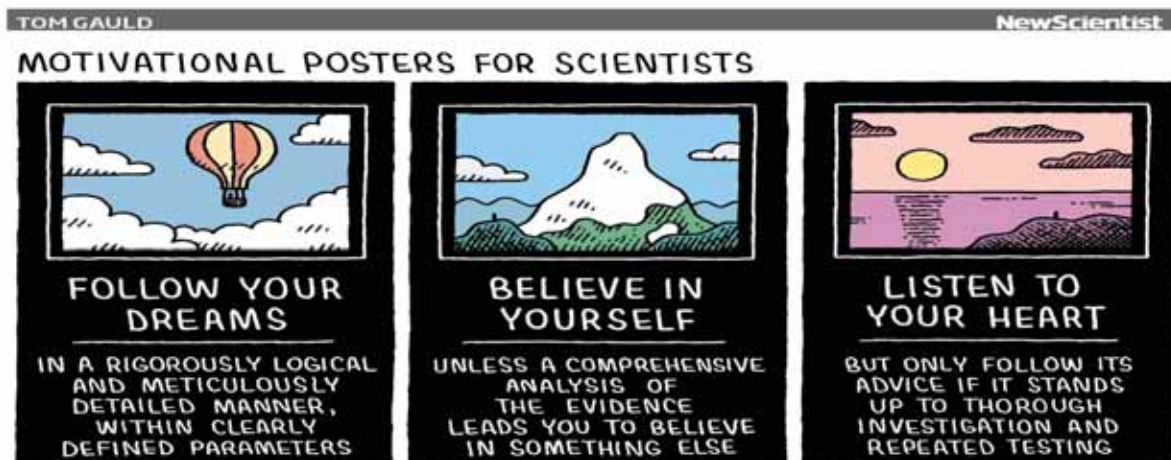
I am quite impressed with the research method class. The course is extremely well organized in a systematic manner. The class are not only created a platform for sharing the knowledge among different academic disciplines but also gave the freedom to explore the ideas. The concepts were communicated by using the relevant examples and case studies which enlighten me to be open-minded and think critically.

Nevil Pradeep Dsouza
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As a part of my M. Phil. degree in 2012, I had undergone the research methodology course. After enrolling for the Ph.D. programme in 2018, I had a choice whether or not to attend the Research Methods course. Since, there was a gap in my research journey, I chose to redo the research methodology course and I believe this to be one of the most fruitful decisions. It made me realise that research is a continuous process, it is no more the same as it used to be few years back and several new developments need to be taken into account. In addition, the research methodology course has given me a lot of space to think, formulate and develop ideas. The course is thought-provoking, engaging and often leaves us with something to ponder upon. The research group comprises of a mix of scholars across various disciplines, thereby, giving an opportunity to interact, know and learn from diverse domains.

Roshni Sharma
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Poster sent by Sivaram, Ph.D Research Scholar in Cultural Studies



JAIN (Deemed-to-be University) Convocation-Saturday, September 1st, 2018

At the JAIN (Deemed-to-be University) Convocation held at the Global Kanakpura Campus on Saturday, September 1st, 2018, 82 Research Scholars were awarded their Ph.D Degrees and 16 Research Scholars their M.Phil degrees.

We extend our heartiest Congratulations to them and their families!



Celebrating Success

An evening of celebration was organised at JAIN on 6th September 2018, to honour those who received their M.Phil Degrees as part of the Batch of 2016. Each of the scholars who had applied for their Degree at the Convocation in Person and Absentia were honoured for the achievements in the presence of their family members and Guides. Dr R. S. Deshpande a Member of the Board of Management of JAIN and the former Director of the Institute for Social Economic Change (ISEC) was the Guest of Honour. On the occasion, the Guides of all the students who received their Degrees were also honoured.

Some of those who received their M.Phil degrees spoke about how the course had transformed their lives and made them more focused and committed to research. Some of the Guides also highlighted the importance of the research culture that had been created at JAIN for undertaking research and commended the scholars on their achievements.



In his address, Dr Deshpande complimented the University for the rigour of its research programmes and congratulated each of the graduating scholars. He felt that this first step that they had taken in their research journeys would be an important milestone in their research journeys and would have provided them a strong foundation.

Faculty Achievement



Dr. Sandeep Shastri, Pro - VC and Director, CERSSE was invited by UNDP to be an International Consultant at a Workshop for Pacific Rim States on Strategies for Regulating Political Parties attended by Party representatives and Election Commission officials of over 8 Pacific Rim countries at Port Vila, Vanuatu from 19 – 21 September 2018. Dr Shastri was one of the key Resource Persons at the Consultation.

Dr. Sandeep Shastri with the Prime Minister of Vanuatu at the Consultation

Deepest condolences from the Thinklet Family

RIP Tracy K. S.

With a heavy heart we would like to announce the sad demise of a very loved Research Scholar, Tracy K.S., who was pursuing her Ph.D. in Psychology. An extremely sensitive person, Tracy would immediately establish a bond with whomever she came in contact with. Ever smiling and affable, very pleasing in nature, she made friends wherever she went. A sharp mind and deep insight into human psyche, JAIN University has lost a precious researcher. She may have gone from our sight but never from our heart. May her memories give peace and comfort to the family.



ALUMNI PAGE

The JAIN Alumni Association was created to foster a spirit of loyalty, to promote and support parent organisational goals and to strengthen the ties between Alumni, community and its parent organisation. As the 'senior-most' in terms of the highest degree that we secured from JAIN and as the Doctoral Alumni of JAIN we have a special responsibility.

At the last meeting of the Alumni, I was chosen to coordinate the activities of the Alumni. We were also given the application form for joining the Alumni and details relating to the one time Rs 500 Alumni fee to be paid. I do hope we all have filled in the forms and paid the Alumni fee.

We decided on that day itself that we would undertake a few immediate tasks. We were offered an entire page in the Research Newsletter of JAIN to outline Alumni activities and achievements. This note is a part of that page. We also decided to institute a Ph.D. Alumni Gold Medal to be given to the best women Ph.D Student from among those received their doctoral degrees at that convocation. Dr Shastri, the Pro VC also mentioned that they plan a booklet on the first 250 Ph.D degrees awardees in JAIN. This would include a profile of each of those awarded the degree, their achievements post award of Ph.D. and also a brief profile of their Guides.

We have a plan to carry out the following additional Tasks:

1. To Ensure Registration of all Alumni under Association
2. To help create corpus funds for the benefit of Researchers and for **Ph.D. Alumni Gold Medal**
3. To Launch an Innovation Club, which will work on projects which benefits the society
4. To Organise Workshops and Seminars by our Alumni in their expertise
5. To Create a WhatsApp Group
6. To contribute to THINKLET – the Research Newsletter of JAIN and then develop an Alumni Newsletter
7. Organise a minimum of one or two events/year
8. Create an online alumni directory which contains database of all alumni.

Do let us know about your suggestions and ideas in this regard

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Responses to Thinklet Issues

Kiran . P (Magavi)

Dear Thinklet team,

Received the issue. Thank you. Condolences on the demise of Dr. Uchil. The tribute is so beautifully penned by Dr. Sandeep Shastri Sir. The article on Procrastination woke me up in many ways and I realised we all go through these phases as scholars. Thanks Dr. Madhavi for highlighting certain lapses and pitfalls of a researcher. Not only made good reading but also alerted me in more than one way. Great to see so many activities conducted by our research Alma Mater. Overall another attractive and interesting issue of Thinklet. Also reminds me that I have not contributed in a while. No procrastination here!!! Will send a good read for the next issue

Jagannatha Venkataramaiah, Former Manager, Scientist/ Engineer SF, ISTRAC ISRO

Feel proud and happy to be a part of Thinklet Community. Each issue to me is a learning reinforced communication. This issue is unique and of very high value. Thanks to team Thinklet.

Dr. Kumara G Adi, Associate Professor, Davanagere

Thanks to Thinklet team for updates and good articles. My only suggestion is to publish names of all such people who completed their research degree with title. Update in every Thinklet issue.

Kruthika N, Ph.D Research Scholar in Botany

It gives us joy and confidence to read what we have sent. Thank you for this opportunity.

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ARTICLES FOR NEXT ISSUE SHOULD BE SENT BY
20th OCTOBER 2018 OF NOT MORE THAN **250**
WORDS

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AND THE KNOWLEDGE DOMAIN OF YOUR INTER-
EST.