



## Connecting Thinkers...



The University's 6<sup>th</sup> annual Research Retreat for Ph.D Scholars, was organised last week. Though we have been preparing for this for the last couple of months, nothing ever prepares us for the exciting, engrossing, and enthusiastic lectures by the plenary speakers and guests, nor can we ever anticipate the amount of learning that will happen during the concurrent sessions.

You will read about the Research Retreat in detail in this issue of *Thinklet*, but as editors, we would like to highlight an important aspect of the research journey, which gets discounted very often- Peer Learning, or learning with and through your colleagues. As the concurrent sessions in this year's Research Retreat progressed, we noticed that not only the presenters, but also the scholars in the audience noted, deliberated and pondered over the points made by our subject experts. There was also much reflection about the work of their colleagues, during the lunch and tea sessions, and the corridors lined up with scholars engrossed in exchanging notes about methods, results, literature, etc.

During the coursework classes in first year, we do not realise how much we subconsciously learn with our friends from different disciplines. Not only does peer learning provide a good sounding board for our ideas, and methods, it also helps us in not making the same mistake as our peers, and learning mutually. We do talk of teamwork during the Skill Development Workshops, but that gets side-lined in the course of our research. As our research progresses, our guides become the first source of ideas, and final approving authority. Unfortunately, there is no one in-between.

As academics, and as researchers, it is not only important to read other scholars' work, but also discuss your ideas, thoughts, and plans with your peers and colleagues, to know about the current trends and happenings. We need to take time out to discuss our work, the intermittent hiccups, and our invariable successes, with each other, and keep each other on track.

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## Guide's Column

### Towards Bimetallic Configurations

A metallic structure may need to operate under simultaneous action of different types of loads and working environments like monotonic, cyclic and impact loads, high and low temperatures, corrosive conditions etc. each one dominant at a definite location of the structure. It is virtually impossible to find a single homogenous metal that possesses all the properties to satisfy every stated operational requirement at a time. Therefore conventional practice of design with single metal necessitates use of higher factor of safeties to cater for material inadequacy against unfulfilled requirements that results in increased body mass. A bimetallic configuration offers a viable alternative in such cases. Different metals possessing distinct properties or same metals with different microstructures and properties are bonded to each other such that each metal performs the assigned role. All this ultimately leads to improvement in performance and life of the structures with added advantage of material optimisation in them.

However, there are numerous challenges that confront joining/welding of dissimilar metals. Different melting points of metals, their unequal thermal conductivities, issues regarding their microstructural compatibility with each other and generation of residual stresses are few of them. In this context, advent of new filler materials and modern bonding techniques like diffusion bonding, explosive cladding, friction stir welding etc. have greatly enhanced the manufacturability of bimetallic systems. These methods are capable of joining dissimilar metals at molecular levels thereby resulting in reasonably strong and defect free welds. There are reports about successful testing and implementation of bimetallic bodies in critical technologies namely aerospace, power and marine industries etc. Some interesting applications in aerospace sector are worth mentioning which are as follows:-

*Different metals possessing distinct properties or same metals with different microstructures and properties are bonded to each other such that each metal performs the assigned role.*

i) Copper liner assembly for flow of hot propulsion gases in rocket engine is diffusion bonded with steel structural jacket. Copper liner is chosen for its high thermal conductivity while structural support is provided by adjoining strong steel jacket.

ii) Cooling of sapphire window frame in the fore body of a missile is required to protect the electronic sensors underneath from severe hypersonic flight environment. Heating of sensor can blur the target signal. Very small and complex channels of different metals, with miniature etched passages for coolant flow in between, are diffusion bonded to fabricate the window frame.

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## Research Retreat 2019- An Overview

The Annual Research Retreat at JAIN (Deemed-to-be) University is a platform for Research Scholars and Guides across various disciplines to come together and discuss research ideas and get inspired by listening to experts in their fields. Like every year, the event took place at JAIN Knowledge Campus, Jayanagar 9<sup>th</sup> Block, on 23<sup>rd</sup> and 24<sup>th</sup> November 2019. The Retreat had three General Plenary and four Faculty Plenary Sessions, along with the Concurrent Sessions where the research scholars presented their work.

At the inaugural function, both the Vice-Chancellor Dr. N. Sundararajan, and Pro Vice-Chancellor, Dr. Sandeep Shastri were present. Dr. Sundararajan inaugurated the Retreat and urged all scholars to be innovative and have an inquisitive temperament. Dr. Shastri spoke about the highlights of Research Retreat over the years and that the Retreat is a 'Best Practice' acknowledged by the NAAC and UGC accreditation committees that have evaluated our University. Both days of the Retreat started with hour-long Breakout Sessions, conducted by JAIN faculty members and Alumni. The sessions, attended by faculty members and scholars, saw an overwhelming response leading to very interesting discussions among the speakers and audience.

The first plenary session was a Panel Discussion on the *Research Culture at JAIN*, where Prof. B. Dattaguru, Dr. Srividya Shivakumar, Dr. Anupama Ghoshal and Mr. Abhijith Shenoy discussed about their ideas of Research at JAIN and how they would want the research culture to develop at the University. The discussion was moderated by Dr. Sandeep Shastri. The subject-wise Concurrent Sessions provided an opportunity to all scholars to present progress of their research of the last one year and got insightful guidance from the subject experts and panelists as to how they should go ahead with their work. The day ended with a Cultural Programme where our research scholars from different disciplines showcased their talent in dance, music, poetry, etc.

On the second day, Faculty-wise Plenary Sessions were organised, where esteemed academicians in the fields of Engineering, Management, Social Sciences and Languages, and Sciences discussed topics of importance and current research trends. The next session was a very special one where Ms. Dana Kursh, Consul General of Israel to South India, was invited to speak about *Research Culture in Israel*, and the opportunities of research partnership between India and Israel. The third Plenary speaker at the Retreat was Dr. A.S. Kiran Kumar, Former Chairman, ISRO, who spoke about *Challenges of Space Research and Technology for Societal Applications*. The Retreat concluded with the appreciative remarks by the President of the JAIN Trust, Dr. Chenraj Roychand, who presented the certificates of *Best Presentations* to research scholars of various disciplines, along with Dr. Kiran Kumar and Dr. C.G. Krishнадas Nair, Chancellor, JAIN.

## Inaugural Session and Panel Discussion at Research Retreat

The inaugural session of the Research Retreat started with a beautifully rendered invocation by Ms. Ananya Bhagath, a Ph.D research scholar at the university. In his opening remarks, Dr. Shastri mentioned that the Research Retreat was a 'Best Practice' to strengthen research culture at the University thereby 'unlocking ideas and exploring pathways'. The Retreat constituted different sessions, panel discussion and inputs by speakers from various domains and disciplines bringing together ideas under the roof of knowledge creation. Dr. Sundarajan inaugurated the Retreat and felt that every year the Retreat was scaling new heights. He hoped that in the coming years the Retreat would help showcase the research at JAIN to a much wider research audience. He gave anecdotal references of great scientists and Nobel laureates to emphasize on the key characteristics of a successful research, and researcher like observation powers, humility, sharing knowledge, never-say-die attitude, conviction about one's own research work etc. He ended the speech by thanking the entire organising team for this event which was one of the Best Practices of the University. Dr. Reetika Syal, Assistant Professor, CERSSE, JAIN compered the inaugural session.



The inaugural session was followed by the first plenary session, which was a panel discussion. The idea of starting the Research Retreat 2019, by having a panel discussion indeed was an innovative measure that the University had introduced. It provided a space shared by research guides, alumni and scholars of JAIN to exchange ideas, experiences and expectations. The session on *Research Culture at JAIN*, was moderated by Prof. Sandeep Shastri, Pro-Vice Chancellor, JAIN. The panel members were Prof. B. Dattaguru, Professor of Aerospace Engineering at School of Engineering and Technology, JAIN Global campus, Kanakapura, Dr. Srividya Shivakumar, Professor and Head, Dept of Microbiology, at Centre for Post-Graduate Studies, 3<sup>rd</sup> Block Jayanagar campus, Dr. Anupama Ghoshal, Ph.D in Management and JAIN Alumni and Mr. Abhijith Shenoy, Ph.D Research Scholar in Music, at JAIN. The session started by asking the panellists about the key element required to pursue quality research, and what culture had JAIN imbibed to ensure the same? Dr. Srividya highlighted the significance of both the guide and the research scholar coming together to cultivate and create an inclusive environment of research.

Prof. Dattaguru emphasised that research is a temperament, a life-long thought process of both the researcher and the guide. Mr. Abhijit Shenoy, said that at JAIN he had experienced research as ‘acquiring and cultivating’. Dr. Anupama, an alumna of the University spoke of research culture in terms of collaboration between the industry and the academia that would provide scope for more application-oriented research. The panellists were then asked to suggest what they would add in the already on-going research programme at the University. Mr. Ab-



hijit along with the other panellists firmly suggested that scholars should be supported by some research funds and grants by the University. Dr. Srividya added that it was also important to work out steps to make JAIN as the first choice of research scholars, by formulating policies to attract the best of students across globe.

Amidst all the panellists, the most interesting suggestion was made by Prof. B. Dattaguru, who pointed out that there was a requirement for a space – a ‘coffee club’ – that would provide the scope for discussions and dialogues amongst scholars from different domains, so that the research temperament could grow. In response to the suggestions, Prof. Shastri informed the gathering that avenues for increased funding were being explored. The other suggestions were also were taken note of. The session then opened up to questions from the audience, who posed genuine concerns,



such as what poses as the greatest challenge while doing research. All panellists had different takes on the question, such as lack of passion, lack of application-oriented research etc., but the most important challenge highlighted was the researcher’s personal honesty and ability. As the Retreat is all about ‘Exploring Pathways, Unlocking Ideas’, without a researcher’s personal honesty, passion and ethics pathways would remain unexplored and no ideas would be unlocked. The dialogue between all the panellists and the audience at large, threw light on

a lot of key concerns and issues that needed to be addressed, and some learnings from the panel members that helped us understand about the Research Culture at JAIN.

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## General Plenary Session: Ms. Dana Kursh

Her Excellency Ms. Dana Kursh, Consul General of Israel to South India, spoke at the Research Retreat on the theme *The Secret Component of a Start-up nation- Research!*, and the session was chaired by Dr. Sandeep Shastri, and Dr. Priyanca Mathur Velath, Associate Professor, CERSSE, JAIN introduced the guest. A clear and crisp definition of research was presented by Ms. Kursh, who stated that research is the foundation of innovation, within which lie the solutions to the most pressing problems of the society. A cross-cultural, global and collaborative approach to research was presented as the way forward to solve some of the problems facing India, Israel and the world as a whole. A comparison between India and Israel in terms of research not only brought out the shortfalls of research in India but also highlighted the benefits that India can reap out of research, by bridging the gap in research vis-a-vis Israel. The speaker pointed out that in India, 0.85 percent of GDP is invested in Research, as compared to 4.3 per cent in Israel. We have 216 researchers per million in India, whereas Israel has 8250. As a solution to bridge the gap in research, a collaborative approach involving Academia, Business and Government was advocated. In this area a lot of progress has taken place such as, 22 Memorandums of Understanding (MoUs) have been signed between Indian and Israeli educational institutions, resulting in greater partnership in areas of- *Agriculture, Water, Healthcare, Defence, Space and Cybersecurity*.

**Lessons from Israel:** Israel is the land of pioneering research with innovative systems like Iron Dome and Venus being developed to safeguard its nation. The secret behind their success was attributed to three elements, which are:

**Necessity:** Surrounded by hostile nations and hostile ecosystems (60 per cent of its land being covered in a desert), a necessity arose to work for the nation as whole. This is essentially what fuelled research and creativity that followed. Israel has a capacity to recycle 86 per cent of its waste water, which is not a small feat.

**Leadership:** The onus on allocating resources for research falls on the forward looking leadership.

**Culture:** The rough neighbourhood alongside compulsory conscription rules led to creation of a uniform psyche. A psyche of greater teamwork and also one which provided freedom to refute hierarchy. The same psyche got reflected in the start-up and research culture in Israel.

All the three factors have come together to form the strong foundation of research culture and start-up culture in Israel. The Israeli secret for transforming R&D into RD&I, which includes *implementation* has acquired importance because the fruits of research can only be reaped with strong *implementation structures* in place.



Ms. Kursh's session brought out many interesting aspects of research in Israel, along with a lot of curiosity among the JAIN research community of the ways to connect with the Israel research culture. Through an engaging Q&A session, it was brought out that India can also overcome its challenge of feeding 1.3 billion people and provide them a good standard of living by channelising the human, physical and financial resources into socially relevant research and implementing the same. These along with cyclical collaboration between academia, business and government can help reap complete benefits of research. It was highlighted that as a researcher one should be aware of the 'change potential' of their work on the society to bring true meaning to their work and to exponentially reap benefits of the same, and each research in-turn contributes to nation building.

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## General Plenary Session: Dr. Kiran Kumar

The third general plenary session was chaired by Dr. C.G Krishnadas Nair, Chancellor of JAIN. For this session we had the eminent space scientist Dr. A.S Kiran Kumar, former Chairman of Indian Space Research Organisation (ISRO). The session was compered by Dr. Guneet Inder, Assistant Professor, Dept. of Psychology, who introduced the guest speaker. Dr. Kiran Kumar chronicled the journey of ISRO from the time of its inception, and the



elaborated upon the crucial role played by Dr. Vikram Sarabhai, the visionary space scientist in-charge of the space programme of India. Dr. Kumar highlighted the paths and decisions taken by Dr. Sarabhai into making the Indian space programme a success and how he forged political and academic ties with countries such as Japan and Russia, who were way ahead of us in Space Research, so India could learn from their experience and expertise.



Dr Kiran Kumar then went on to talk about the Mars Mission, and the challenges they faced while launching the orbiter. He also went into the details of how the ISRO scientists came up with a low cost satellite. The speaker also highlighted how India faces challenges in basic science, as compared to other developed countries who are much ahead in their respective space programmes.

The Valedictory session followed Dr. Kiran Kumar's talk. Dr. Chenraj Roychand, Chairman, JAIN University Trust congratulated the research scholars for their efforts during the Retreat, and also gave various examples of innovation in doctoral studies internationally. The session ended by a formal vote of thanks by Dr. Priyanca Mathur Velath to the Faculty in-charge of various committees, the volunteers, the support staff, and the participants.



### *Glimpses of the audience during the Plenary sessions*



## Faculty Plenary Session: Dr. Tata Narasinga Rao

The faculty plenary session in Science was conducted by Dr. Tata Narasinga Rao, Assistant Director of ACRI, Hyderabad and was chaired by Dr. Geetha Balakrishnan, Director of CNMS, JAIN. Dr. Rao spoke on *Translational Nanomaterials Research: from Laboratory to Market* where he talked about different thrust areas like Nano materials, Fuel cell technology, Ceramics processing, Engineered coatings, Sol-Gel coatings, Non-oxide ceramics, Solar



energy materials, Auto-active energy, Carbon materials, Characterization and testing and LASER processing of materials. He also spoke about how laser can be used for additive manufacturing which provides enormous saving. Talking about the different problems of India, Dr. Rao elaborated on how Nano-carbon is producing pollution in Delhi. He discussed about the Lithium imports in India, and the use of super capacitors with Lead acid batteries which can store more amounts of energy so that vehicles can run on these batteries for

longer periods of time. He also talked about the process of synthesizing the Graphene reinforced Copper matrix composites, and explained how the aluminum Nano powder produces large amounts of hydrogen flames which can be used in motorbikes, and its drawbacks. Production of employment and money, through transnational technologies was also discussed, along with an interesting example of how wearing jeans can save water, by coating Nano and silver particles on the cloth, to avoid smell and hence reduce the need for frequent washing. While talking of pollution, Dr. Rao elaborated how lithium and sulphur can be combined in a battery to be used in the vehicle to provide more mileage. The session was quite enjoyable since the speaker gave many relatable examples.

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***“Remember to look up at the stars and not down at your feet. Try to make sense of what you see and wonder about what makes the universe exist. Be curious. And however difficult life may seem, there is always something you can do and succeed at. It matters that you don't just give up”***

***Stephen Hawking***



## Faculty Plenary Session: Dr. Narendar Pani

The faculty plenary session for Humanities, Social Sciences and Languages, was chaired by Dr. Mythili P. Rao, Dean of Languages, and the guest speaker was Dr. Narendar Pani, Professor and Dean at National Institute of Advanced Studies, Bangalore. Dr. Pani's session on *Pragmatism and Method* offered insights and updates to the understanding of research methodology to scholars and research enthusiasts. Having drawn from the traditional categorisation of Method as “instrumental” and “constitutive”, Dr. Pani elaborated upon the structure of knowledge and its paradigms that these methods constitute. The foundational approach that he took before contemporising the topic at hand aided the audience to historicise “method” and “knowledge acquisition” in research itself. By problematising the paradigms in Social Sciences, he shifted the conversation towards one of the fundamental conundrums in research regarding “objective truths.”



A thorough examination of Karl Popper's arguments about a researcher's ambitious effort to arrive at absolute truth was followed by its contextualisation. The obsession that an era in academia had towards science's conviction in absolute truth was discussed. Hume's reflections on the problem of induction were mentioned in the context. Through those discussions Dr. Pani posited arguments regarding the question of truth and the impossibility of discounting relativity of truth due to Hume's arguments. It steered the discussion towards accepting the factor of “belief” in any statement regarding truth. However, it instigated further contemplations on the issue of differentiating between truth and belief. Dr. Pani labelled it as the “demarcation problem” and threw light on the predicament of a rational mind to demarcate between the end of belief and beginning of truth in any findings, and brought in a discussion on the diverse ways in which this issue had been addressed.

Propperian response to the issue was more significantly elaborated upon, especially Prop's proposition to take falsifiability instead of verifiability as the criterion for this demarcation as “it must be possible for an empirical scientific system to be refuted by experience.” However, Dr. Pani pointed out the fallibility in this approach by indicating the possibility of false positives and false negatives. He gave the example of the shift in society's approach to poverty alleviation programmes across time. He elaborated on how there had been a tendency to ensure benefits to all those who are poor even if it meant the inclusion of non-poor in schemes and how it gradually shifted to an attitude that demanded authorities determine poverty by absolute exclusion of non-poor people even if it was at the expense of some of the poor people along with them. Dr. Pani explained how such an error was culturally determined and thereby led to conversations around subjectivity in Social Sciences. He identified that as a trigger to the demise of compulsory theorisation in the discipline. It was a part of the postcolonial approaches in methodology as well due to its refusal to absolutely submit to western theories. Dr. Pani associated this with the rise of pragmatism in Social Sciences and its particularistic trial and error approach. Hence he problematised the discussion further by drawing from Maruyama's exploration of the universal approach, particularistic approach and cyclical approach to arrive at the right method. In conclusion he proposed the need to have diagnostic methods over engineering method which ensures conceptualisation with ethical acceptability.

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## Faculty Plenary Session: Mr. Apurba Das

The faculty plenary session on Management was conducted by Mr. Apurba Das, Head- Computer Vision and Video Analytics, Tata Consultancy Services. He spoke on *Engineering the Perception of Research in Industry* and the session was chaired by Dr. Amit Gupta, Professor, Kautilya Entrepreneurship and Management Institute, JAIN. Mr Das outlined very interesting aspects of research in industry and brought out that with the advent of Artificial Intelligence and the Internet of Things, no aspect of living remains unimpacted by technology; ranging from business transformations, medical advancements to lifestyle improvements, artificial intelligence and IoT. The impact of these is seen in our daily life with applications of face recognition and pseudo-bio-metrics.

Dealing further with security management using technology, footfall detection has played a vital role in monitoring the movement of vehicles and customers. It helps boost sales productivity, improve the efficiency of businesses by identifying weaker sections and implementing training programs. Giving an example of one of the largest malls of Europe, The Kamppi Shopping Centre, Mr Das brought out that the mall used footfall detection to identify that their peak sales hour is during lunch breaks and not evenings as the common belief goes. The video analytics market is another booming industry and is expected to grow at a rate of 21% between 2016 and 2021. It detects events, specific behaviors via video analysis of monitored environments. In the healthcare domain, video analytics along with deep learning is being used in real-time high accuracy colon polyp detection and fast, automatic processing of wireless capsule endoscopy images. Intelligent vision systems along with infrared technology are used in Driver Attention Monitoring which helps prevent accidents due to drowsiness and fatigue amongst drivers. The system evaluates steering inputs, head and eye movements measuring Driver Attention Detail and hence triggering alerts if required.

It was an engaging session with explanations and examples of Natural Language Processing, Machine Learning, Deep Learning, Artificial Intelligence, etc. AI and IoT are helping transform businesses with improved inventory tracking and management, improved customer experience, and efficient hiring process, use of data mining and operational automation in the various verticals. Both IoT and AI make businesses smarter and help complete mammoth tasks accurately, achieving greater revenues and more efficient processes. In spite of its growing visibility, AI and Machine Learning have some challenges to face. With the increasing amount of data across industries, data storage along with identifying the right data is a common problem. Too much data can take the focus away from actionability and lead to data paralysis. Further hiring the right set of talent with the required skills to work on it also poses a challenge. Experts believe that for analytics to be meaningful and profit-generating, it needs to be more agile and in sync with the goals of the businesses.

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## Faculty Plenary Session: Dr. Veda Sandeep Nagaraja

The faculty plenary session on Engineering was conducted by Dr. Veda Sandeep Nagaraja, Associate Professor at the ECE department at Nitte Meenakshi Institute of Technology, Bangalore on *Current Research Trends and Opportunities to Excel*. The session was chaired by Dr. S.A. Hariprasad, Director, School of Engineering and Technology, JAIN. Dr. Veda emphasised the various challenges a researcher faces in the research journey, and the discussion covered the reasons for this as well: lack of awareness and exposure to different new domains or extensions of the existing domain of research etc. She also brought out the solutions for these problems and said that Research should always be selected out of passion and interest, and that a successful research journey has to be accomplished by a motivating supervisor. The interaction session gave innovative solutions to handle the challenges of lack of infrastructure, lack of support from institutions, and funding related aspects for the research program. It was also suggested that KPIT driven courses from the industries should be introduced as part of the credit based elective subjects in colleges and universities. Dr. Veda brought out that the cultivation of research culture is an essential factor, and explained how it can be practically implemented. The current trends and emerging opportunities in VLSI, MEMS were discussed. In the concluding note, information regarding networking, global collaborations, research fellowship schemes, funding importance and opportunities was included. In a nutshell, it was emphasised that it is not easy to do research, and we have to challenge ourselves at every point, starting with coming out of our comfort zone.



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### *Responses for Research Retreat*

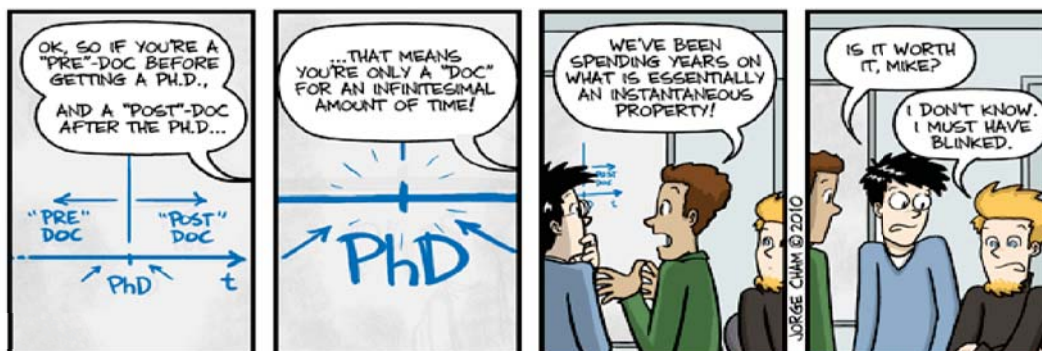
*Gayathri C. Ph.D Scholar in Management:* Thank you for the wonderful speakers for the Research Retreat 2019. I would like to particularly share my appreciation for the session by Dr. Rajani Jairam. Ma'am shared some amazing points connecting Sanskrit studies to the various fields such as Management, Life sciences, Astronomy and Environmental sciences and shared the exact verse/ shloka/ scripture that highlight these. The explanation of the same was in such simple language that people from non-Sanskrit background like me could easily understand. Loved her comparison of the same poetry written by Western and Indian poets verse by verse. Instead of taking a controversial or religious approach, Ma'am highlighted the same in such a nice scientific manner that encouraged us to appreciate it more. Her session helped me to realise that there is so much that the Indian scriptures have to offer which is often not highlighted as the Western references. She also suggested how we need to break the barrier of language and look at the original versions. We must look at more Indian scriptures and other material to cite in all the articles/blogs we write or share. My most important takeaway was this and I am now sharing it with all the people I work and interact with. In my opinion this is a great way to highlight all the Indian scriptures we have and share it with the world. I also would like to express my appreciation on the choice of Entrepreneurship topic in the session by Dr. Deepti Swamy and the start-up related topic in the plenary session. Academics is very essential but to enable us on the usefulness of it also in the market/industry side is extremely helpful to us.

*Kakali Roy Chowdhury, Ph.D Scholar in Cultural Studies:* The much awaited Research Retreat Program got over with an overwhelming response and enthusiastic participation of the Team JAIN PhD. Taking part in RR is almost equivalent to writing a sub-chapter of my thesis. The interactions with scholars and experts are like informal interviews that helps in gathering data/ informations. Lighter moments shared with peers give opportunity to off load the stress of the work. Critical analysis of the review committee, scoldings of my guide and presentation of other fellow scholars open up many closed doors of the channels for thoughts. What ever more I say, would be a repetition to the complements the Team have already achieved. Last but not the least, the ginger tea (being a Bengali more fond of tea than coffee) in the middle of two sessions is just an amazing energy booster. Looking forward for such intellectual gatherings soon. We scholars vouch for the best of our efforts to make that successful too. Once again, my sincere thanks you and the Team for gifting this wonderful time and opportunity.

## Concurrent Sessions and Best Presentation Awards

There were 19 Concurrent Sessions which were held across different disciplines during the Retreat. Research Scholars presented their progress of the past one year and received valuable feedbacks from the expert panellists and peers interested in the subject. The scholars were marked for their progress and presentation skills. The following Scholars received the Best Presentation award for each of the concurrent sessions.

- ◇ Aerospace Engineering- *Srinivasan Ramprasad*
- ◇ Civil and Mechanical Engineering- *Shaik Numan M. and Shreedhar Kolekar*
- ◇ Computer Science and Computer Science Engineering- 1- *Ravi B.C.*
- ◇ Computer Science and Computer Science Engineering- 2- *Baswaraju Swathi*
- ◇ Electrical and Electronics Engineering- 1- *Beera Babu Srinivas Kumar*
- ◇ Electrical and Electronics Engineering, Mathematics and Physics- 2- *Guruprasad S.P. and Sundar M.N.*
- ◇ Management and Commerce – 1- *Divya Prabhu*
- ◇ Management and Commerce– 2- *Asra Ahmed and Sahana Maiya*
- ◇ Biochemistry and Forensic Science- *Archana S.S.*
- ◇ Biotechnology and Forensic Science- 1- *Kamalnath M.*
- ◇ Biotechnology and Forensic Science- 2- *Venkata K.M.*
- ◇ Chemistry and Nanotechnology- 1- *Divya Prasad*
- ◇ Chemistry and Nanotechnology- 2- *Manohara H.M.*
- ◇ Microbiology- *Vinutha S.*
- ◇ Psychology- *Ankitha U.*
- ◇ English- *Pashiya M.*
- ◇ Hindi and Kannada- *Hoysaladitya K.N.*
- ◇ Social Sciences- *Menaka Thammaiah*
- ◇ Cultural Studies, Dance and Music- *Ananya Bhagath*



## Achievements and Publications

Dr. Srividya Shivakumar, Professor and Head, Department of Microbiology was a Teacher Invitee for the 85th Annual Meeting of the Indian Academy of Sciences held at the University of Hyderabad, Hyderabad during 8th to 10th November 2019 and actively took part in the scientific programs.

Balaji Rao, Ph.D Scholar in Management, conducted an exclusive session for the Chartered Accountants of the Belgaum Chapter on 6th November, 2019 in Belgaum. The subject of the session was Financial Markets.

Ashrini B.S., Ph.D Scholar in Biotechnology, received the MJ Thirumalachar Award (Young Scientist) for Best Oral Presentation at the MSI Conference.

Chitresh Shrivastva, M.Phil Research Scholar in Public Policy, published an article titled '*High-Speed Rail: Modernising India's Transport*' published by Asia & the Pacific Policy Society, Crawford School of Public Policy, Australian National University. The article can be accessed at: <https://www.policyforum.net/high-speed-rail-modernising-indias-transport/>. He was also invited by the Christ Institute of Management, CHRIST (Deemed to be University), Bengaluru to deliver a guest lecture at the Corporate Interface, hosted by the Institute of Management on the topic "*Managerial Perspective of Managing Indian Railway Network*" on November 13, 2019 and as the guest for *Walk the Talk* on Issues in Railway Management, by the Institute of Management, CHRIST (Deemed to be University).



Samhita K., Ph.D Scholar in Psychology, presented a paper entitled '*Quantum Chemical Conditioning: A Thought Experiment*' at the 4th International Conference on Quantum Energy Medicine held at Suvarnamuhki Ashram, Vadera-halli, Kanakpura, Bengaluru. The conference took place from 22nd November to 24th November 2019.

Yallappa B. Saunshi, Ph.D Scholar in Biochemistry was presented with the Best Poster Award by the Animal Physiologists Association in the session Climate Change, Stress and Bioenergetics in the National Conference on "Issues and Strategies for Physiological Capacity Building in Animals" held at College of Veterinary Science, SVVU, Tirupati, during 14-15 October 2019.



In the November 2019 issue of Thinklet, the department of Dr. Salamun De was wrongly mentioned as Microbiology instead of Biotechnology. We apologise for the oversight.

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