

December 2012

Volume 1 Issue 9

# ReNews

Newsletter of Research Scholars

RESPECT

WOMEN



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# STOP VIOLENCE AGAINST WOMEN

coverpage



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#### Disclaimer

The views represented in ReNews in the reader contributed articles may not necessarily represent the views held by the ReNews team. The research scholars solely are responsible for their views.

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# editorial

Congratulations everybody! We have survived the Mayan apocalypse. We would have wished you a happy New Year, but that would mean we want you to be happy 365 days of the New Year. But we know from experience that research consists of ups and not ups, so instead we wish you the following for the coming year "Good luck surviving 2013".

December being the vacation month, most of us were in the holiday mood. But a lot of new initiatives have been started on the research front. After the start of ReNews, Research Portal and ReGCell, our dear RAS has started a lot of new things under the Re banner. ReGCell members have shown a lot of enthu and initiative and along with the RAS have started ReEcho and ReJoys this month. ReEcho is a research colloquium for the research scholars which serves as a platform for the scholars to debate on issues relevant to them. ReJoys gives an opportunity to a scholar to present his research in layman's terms to the entire community in IITM. With so many things coming up under the Re banner we have decided to rename our RAS to Re-Ishita.

The New Year has brought a new flavor to the campus with a new batch of M. S./ Ph. D. scholars joining us in December. We welcome all these bright minds of our country to this wonderful campus of ours and into the highly motivating and conducive research environment that is IITM.

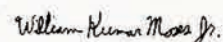
The contribution of Hindi articles has doubled this time and now we have two Hindi poems. With your continued contributions we hope to continue this trend. We also have a poem by our RAS (where does she get the time for all this?). Apart from this our readers have covered the ISRS conference held in December. We would also like to welcome our new correspondent Aravind Anthur. Do enjoy his article on IONS-Chennai which was also held in December. We also bring you the latest happenings in ReEcho and Rejoys as well as an update about the ReGCell activities.

For all you poor souls running around in insti trying to get information about admin procedures, seminar notices and a lot of others things, fret no more. Log on to the research portal at [www.researchportal.iitm.ac.in](http://www.researchportal.iitm.ac.in) for all the latest updates and happenings in our institute. It promises to be a one stop shop for all your needs and is kept up-to-date.

And finally we bring you the biggest news of 2013. ReNews is coming out in the 3rd dimension. We will be coming out with limited copies of the printed version of our newsletter. Head out to your Department office or the Central Library to leisurely browse through the hard copy of our newsletter.



Oswald Jason Lobo



William Kumar Moses Jr.



Placements have been the big event this month. With the number of companies that were open for M. S. and Ph. D. to the number of scholars availing placements being skewed not in favor of scholars, the placement season was not at all a success. Despite a task force committee being formed to address this pressing issue and even with the yearbook being sent to all the faculty, companies and alumni, the situation seemed no better. Efforts are still on to improve this situation by using the data obtained from IC&SR, regarding various organizations for which faculty at IITM do projects, and asking the scholars to give their inputs about which of these companies they would like to apply to. Their profile pages are linked to this feedback and these pages will be sent to the companies chosen by them through the respective faculty.

In all this turmoil, life moved on. The first ever ReEcho (colloquium for research scholars) happened on 03/12/2012 with the topic of discussion as "Research Environment at IIT Madras". Soon it was followed by another ReEcho on "Placement Scenario at IIT Madras for research scholars", on 26/12/12. The first ever ReJoys (an open platform where a scholar can explain his/her research work to the other scholars of IITM) happened on 26/12/2012 where Mr. Mohan Babu P., Ph. D. scholar, IIT Madras spoke about "Thermal Barrier Coatings". The second LaTeX workshop was conducted from 10 – 12 Dec., 2012, for a batch of 56 scholars. Another workshop will be organized from 02 – 04 Jan., 2013.

The Senate Meeting that was held on 04/12/12 ratified the enhancement of financial assistance from Rs. 1 lakh to Rs. 1.25 lakhs for attending international conferences/workshops/ seminars abroad to the full time research scholars and the payment of HRA to the married research scholars. The details of which can be found at <http://researchportal.iitm.ac.in/?q=node/149>. The Housing Allotment Committee (HAC) meet was held on 03/12/12 and considered modifying the current 2:1 ratio for allotting quarters between QIP and Regular scholars. Based on the number of scholars in waiting list (around 12 for QIP scholars and allotment is happening for July 2012, with a waiting time of around 6 months; around 150 for regular scholars and allotment is happening for 2010, with a waiting time of 2 years) the committee has decided to revise the ratio to 1:1 for QIP:Regular effective from 04/12/12.

## ► India Nanotech Innovation Award



*Prof. T. Pradeep, Department of Chemistry has been chosen for the 'India Nanotech Innovation Award' instituted by the Government of Karnataka in recognition of innovations in nano-technology that would revolutionize the Sector.*

## ► BM Birla Science Prize in Chemistry



*Dr. Santosh J. Gharpure, Associate Professor, Department of Chemistry, has been awarded the B.M. Birla Science Prize in Chemistry. The award ceremony would be held on 9th January 2013 at the B.M. Birla Science Centre in Hyderabad.*



## ► ISTE–IPCL Best Master's Thesis Award

The MS thesis entitled 'Modelling, Simulation and Optimization of Unloading Operations in Petroleum Product Storage Terminals' by *Shri S. ArunSrikanth, M S Research Scholar, Department of Chemical Engineering* who had passed out in July 2012 has been awarded the ISTE–IPCL Best Master's Thesis Award by IPCL. He has been guided by Prof Shankar Narasimhan and Dr. Sridharakumar Narasimhan.

## ► Best Poster Award – 57<sup>th</sup> DAE Solid State Physics

*Shri. Prashant Dabas, Ph. D Research Scholar, Department of Physics (PH08D025)* has won the 'Best Poster Award' for his paper entitled 'Influence of an Ionic Liquid on the Conduction Characteristics of Lithium Niobophosphate Glass' in the 57<sup>th</sup> DAE Solid State Physics Symposium held during 3–7 December, 2012 at IIT Mumbai. He has been guided by Prof. K. Hariharan.

## ► Dr. AV Rama Rao Foundation's Best PhD Thesis and Research Award in Chemical Engineering Symposium

*Dr. Ramsatish Kaluri, former Ph. D Research Scholar, Department of Chemical Engineering* has been awarded the Dr. A.V Rama Rao Foundation's Best PhD Thesis and Research Award in Chemical Engineering for his Ph D thesis entitled 'Studies on Heatline and Entropy Generation for Natural Convection due to Distributed Heating'. The award carries a Citation and cash award of Rs 25,000/- and will be presented on the inaugural day of the 65<sup>th</sup> Annual Session–cum–Indian Chemical Congress (CHEMCON 2012) to be held during December 27–30, 2012 at Jalandhar. He was guided by Prof. Tanmay Basak.

## ► Best Poster Presentation – Chemference '12

*S. Sriram, M S Research Scholar, Department of Chemical Engineering (CH11S029)* has been awarded the Best Poster Presentation for the paper entitled Generalised Analysis on Microwave Material Processing at the Chemference '12 organized by Chemical Engineering Department

of ICT– Mumbai and IIT Bombay during December 10 & 11, 2012. He is being guided by Prof. Tanmay Basak and Dr. Madhuchhanda Bhattacharya.

## ► Best Poster Award – Photonics 2012

*Shri. Anish Bekal, Department of Electrical Engineering (EE08D022)* has won the Best Poster Award for the paper entitled 'Study of Pulse Stability Enhancement in Regeneratively Mode–Locked Fiber Laser' at the Photonics 2012 held at IIT Madras. The award sponsored by OSA consists of a Citation and Rs 10000 cash award. The other co–authors of the paper are KovendhanVijayan and Dr. Balaji Srinivasan.

## ► Best Oral Presentation Award – Chemference '12

*Shri. Abhishankar Kumar, Ph. D Research Scholar, Department of Chemical Engineering (CH11D016)* has won the Best Oral Presentation award for the paper entitled Robust Optimal Plant Friendly Input Design for System Identification at the Chemference '12 organized by Chemical Engineering of ICT–Mumbai and IIT Bombay during December 10 & 11, 2012. He is guided by Dr. SridharakumarNarasimhan.

*Coming soon...*



For the first time an annual Magazine showcasing the research of IIT Madras



The month of December has been a momentous one. It has always been of keen interest to ReGCell to improve the overall research environment and the work culture here at IITM while tackling individual problems of research scholars as and when they seek help. A few initiatives were taken up in this regard. A colloquium for research scholars was ideated so that we at ReGCell aren't handicapped by the small set of brains we possess. ReEcho as it was called is a platform for scholars to voice their concerns, help the RAS with decisions, bring new ideas to the table and finally vent out their frustration about the state of affairs! The two sessions of ReEcho have confirmed our belief that the research scholar community is indeed a sleeping giant and it's just a matter of time before that giant wakes up and makes 'research' in institute its primary focus.

Another initiative that ReGCell brought out was ReJoys, the idea that everyone gets to enjoy research. With the fact that we spent hours, days and years in the lab working on our research problem, it shouldn't be an arduous task to explain it in layman's terms. ReJoys is an opportunity to express your ideas the way you want without your adviser and GTC/DC members breathing down on your necks. It is a chance to revisit your ordeals and moments of joy solving your problem while sharing it with other scholars.

In the background, a few more things are being planned. The idea of forming Focus groups wherein scholars with a common interest can come together and focus on learning more about it is in the pipeline. A few inputs on improving the research portal have been considered and work is in progress to implement them. The bleak placement scenario has also forced the team to look into the matter. The changes may be too slow and small to be noticed but change is definitely happening. We at ReGCell hope to have our hands busy with more initiatives from scholars and better response from them for the new initiatives. With the best of intentions and dreams of a better research culture in the forthcoming times we wish you all a very Happy New Year!

## ReJoys

An open platform where you can explain your research work to the scholars from all the departments.

Anyone interested in talking about your research can mail to [ras@smail.iitm.ac.in](mailto:ras@smail.iitm.ac.in).







## International Symposium for Research Scholars

Department of Metallurgical and Materials Engineering (MME), IIT Madras in association with IIM Chennai Chapter, has been organizing the biennial symposia, National Symposium for Research Scholars (NSRS), on Materials Science and Engineering, since 1996, at the national level. This was later transformed into International Symposium for Research Scholars (ISRS) since 2004. This time ISRS was held during December 13–15, 2012 at IC&SR Main Auditorium, IIT Madras. Dr Baldev Raj, former Director, IGCAR, Kalpakkam and President, Research, PSG Institutions was the Chief Guest and Prof Ravi Ravindran, Ryerson University, Canada was the Guest of Honour for the inaugural function. The inaugural address was delivered by Prof Sarit Kumar Das, Dean, Academic Research, IIT Madras. The chief guest, Dr Baldev Raj motivated the research scholars with an inspiring speech, indeed it was a perfect speech for the intended scientific fraternity. Subsequently, the release of ISRS–2012 souvenir took place.

The symposium itself aimed at reflecting on the development of communication and analytical skills along with the exchange of ideas and interaction among research scholars. Moreover, transforming scientific knowledge into technology and useful products is certainly one of the major challenges at present and in the foreseeable future. This needs a deep understanding of specific basics threaded with cutting edge technologies. Therefore, this symposium tried to discuss the science and technology required for developing materials to practically serve the needs of society and economy, in terms of high strength materials using amenable manufacturing techniques, as well as to envisage innovations which rely on the provision of such advanced materials. Materials in the context of efficient energy harvesting, strong and tender prosthetics, conducting polymers, alloys of greatest strength and wide range of applications were the highlights of the symposia. ISRS–2012 primarily focused on covering a broad range of metallurgical engineering and material science concepts and aided in expanding the horizons of research scholars in this context.

This edition of ISRS was 5th in the series of symposia solely dedicated to research scholars working on metallurgy, materials science and engineering. Beneficiaries and participants included scholars belonging to Ph. D., M. S., M. Phil. and equivalent research-based programmes from various academic institutions, scientists from diverse research laboratories and industries across India and abroad. They presented their research work during ISRS–2012. To brief on the statistics of the symposia, a total of 294 abstracts were received and 218 were shortlisted after a two round stringent selection, of which 179 participants finally registered for the symposium. This constituted 161 papers from Indian institutions and organisations and 18 papers from overseas institutes which included



**Niraj Chawake**  
Ph. D Scholar  
Dept. of Metallurgical  
& Materials Engg

*'A person in search of Truth.'*



**Sruthi K**  
Ph. D Scholar  
Dept. of Metallurgical  
& Materials Engg

*'Extracting happiness and reciprocating it to the maximum rejuvenates me.'*





countries like Canada, Germany, Kazakhstan, Malaysia, Singapore, UK and USA.

The 179 accepted abstracts were compactly spread over 19 technical sessions, 9 oral sessions consisting of 71 papers and 10 poster sessions consisting of 108 papers. The first four oral sessions were sponsored by Chennai Metco, JSW Steel, ARCI and NML. A unique feature of this edition of ISRS was that, there was no parallel session for the oral presentations, which proved to be an effective way of communication to scholars from all speakers whose oral presentations were a mix of numerous materials science disciplines. This aided in getting ideas and hold on various topics to those scholars who never thought to venture in to those areas. Another key feature of ISRS 2012 was that many retired faculty, along with the very first HOD Prof. E. G. Ramachandran of the Department of Metallurgy and Materials Engineering, IITM were invited to grace the occasion and also to chair the oral sessions. Regardless of their age, they chaired the session and asked challenging questions for many of the scholars to pondered over.

The oral and poster presentations were evaluated by the session chairs and a panel of experts in the respective fields and the best of papers/posters were selected to receive awards. The awards consisted of a merit certificate and a cash prize of Rs. 5000. A total of 19 awards were given. Also some of the best papers will be selected in a couple of months from now and will be published as a proceeding of this symposia, a special issue of the international journal 'Transactions of the Indian Institute of Metals', Springer.

The valedictory function was graced by Dr. Sundararajan, Director, ARCI, Hyderabad and Prof. K. Ramamurthy, Dean, Academic Courses, IIT Madras. Prof. Ganesh Sundara Raman presented the summary of the whole technical program. The program came to an end with distribution of the awards to the winners. Finally came the feedback session, many participants gave their positive feedbacks which inspired us to conduct ISRS 2014 with same zeal and enthusiasm in the future in the best way possible.

Overall, the compact three day symposium ensured an excellent opportunity to the participants for fruitful discussions and provided the platform to interact with their peers. It had been an awesome, enlightening and informative three day scientific meet, with the confluence of so many eminent personalities. It was indeed a big opportunity for all of us, as we witnessed and heard a lot of innovative scientific endeavours, ideologies, presentations and seminars of various scientific disciplines. These were the right chords to be picked and blended to discover cutting edge technologies, for further experimentations and studies. Ideas would have surely sown a seed of thought somewhere in the budding scientific minds of young scientists and further would encourage us in implementing many such ideas for the growth and development of material science.





## ReJoys

It's all about sharing the joy of your research



*Somewhere, something incredible is waiting to be known.*

*Carl Sagan*

Research is all about observing your surroundings and getting inspired by each tiny miracle of nature. Then we try to imitate it in many different ways and implement it for the comfort of our society. The present electronic advancements have been a help and also a hindrance in this regard. The information is overflowing everywhere and we don't have time to grasp it efficiently. The only thing lacking most among the scholars is interaction. In IITM we have a very vast community of researchers but the sad part is we are still in a cocooned state and this needs to be overcome at the earliest.

We at ReGCell came across a concept of "Dancing Your Thesis" that is catching popularity in many foreign universities. In this, the scholars explain their work through a particular dance form to a very diverse audience. Thinking on the same grounds we thought of taking this idea up and initiating with a simple talk session just for the sake of the joy in one's research and ReJoys was organized. ReGCell has initiated ReJoys wherein any scholar can come forward and talk about his/her research to a diverse audience. This will create awareness about research activities in IITM and also lead to more collaborative, productive and interesting outcomes. Also the scholar could become aware of new methods/techniques which he/she can use in their research in the future.

The first talk in this series was delivered by Mr. Mohan Babu P. from the Department of Material Sciences on the 26<sup>th</sup> of December. He presented his research interest "Thermal Barrier Coatings" in a joyous manner with a number of analogies and interesting comparisons. This coating is applied on the blades of turbines that has to help them sustain extremely high temperatures. Comparing this with a sweater he very effectively explained how it works. Talking about the underlying principle of state transformation he pointed out how the slow volume expansion works for the benefit of this cause. He also mentioned the ignorance to the cause of this transformation as such and inspired many curious minds to think of a probable explanation. All his analogies and one liners were quite appreciated by the audience. We would like to thank Mr. Mohan for taking the initiative of starting a cause that can lead to wonderful results in future.

*"It requires wisdom to understand wisdom: the music is nothing if the audience is deaf"*

*Walter Lippmann*

The support of the audience can't go unnoticed. They were very supportive to take time out of their busy schedules and come forward in support of the speaker. We would like to thank all of them and expect even greater participation in all future events.



# ReEcho

A common platform to discuss, dwell and debate on serious issues concerning a scholar's stay at IIT



ReEcho  
ReGCell

Research Environment at IIT Madras

ReEcho is a search for new ideas to break down the barriers in the research among scholars. A bunch of scholars bounce with their mundane research problems. The “Echo” in “ReEcho” is a reflex. When you perform research, you will experience, inexperience research area, awkward results, improper guidance and inadequate support which you would have previously unknown. How does a scholar communicate his difficulties in research? ReEcho is a nice, open, informal meet especially for scholars to speak up (reflex) their problems that they face as a researcher.

The first topic that was decided in a meeting by ReGCell members was a broad one – “Research Environment at IIT Madras”, since we wanted the research scholars to come out with their opinions on what they think about the environment at IIT Madras, is it good/bad/conducive for research. With this idea we made a few slides to guide the students through the thought process, since the topic was broad. Even though the turn-up was very low, who ever turned up participated actively in the discussion. They even pointed out that this topic is too broad and asked to focus on one issue at a time and sort it out. See! The outcome of people coming together for brainstorming! Few things that came out prominently was (a) Focus groups – to bring together peer groups in IIT Madras, to discuss a common interest. The participants also gave few good suggestions to make use of the existing research portal (which we call Re-Po!) to bring such individuals with a common interest together for interaction and discussions. This is actively pursued now, with one of the participants taking initiative in this direction and the link being tested out in research portal. (b) Publicity – to publicize the events more and find new innovative ways to publicize the events with the aim of reaching more research scholars. Few interesting ways are being tried out to publicize the events and reach more people, and all the events are announced with posters. This also is increasingly showing better results, since we are seeing an increase in participation in all the events that we are organizing now.

So this colloquium, ReEcho, was an attempt to help ourselves find the solution within ourselves. In an effort to continue this venture, we are organizing more such colloquiums, to brainstorm, to come up with more such discussions, to come up with more problems, and most importantly, to make an effort to find the solutions, within ourselves!





The ReEcho was held to discuss the placement scenario. RAS started the discussion stating the fact that although research scholars graduate throughout the year, their placements are restricted to a limited time (at most two months). An idea was mooted to arrange for placements throughout the year based on contacts from professors, alumni or through information obtained on openings without depending on the placement cell.

A scholar mentioned that we could directly contact the technical people through companies' contact points and present the case of research scholars to them. The issue of the way scholars present themselves/ their research was also highlighted. While an M. Tech. student's project shows his problem solving skills, an M. S. scholar's work reflects his unsuitability for the job, i.e. he is way too specialized, doesn't have an overall grip of the area, etc. Some people mentioned that the fact of scholars doing less number of courses was also a major reason.

Meanwhile, complaints regarding the payment of Rs. 1000/- every time a scholar sits for placement was brought up. Scholars felt it was unacceptable to pay 1000 in second or third years. The RAS then requested the scholars to think out of the box, come up with new solutions, create a parallel system for scholars' placements.

Propositions of asking professors to help students, starting an incentive for professors based on their help in placements, etc. were brought up by research scholars to which the RAS responded saying that there were issues which she cannot raise in board meetings effectively. The idea of asking for a cap on the duration of M. S. programme was brought up as many scholars were not allowed to join companies even after getting placed as their advisors did not allow them to graduate. The opportunities at Research Park were also mentioned. As none in the group knew if scholars could get a job at Research Park, a recent alumni based network was proposed which could be used to update job openings/references in the research portal. A job fair stretched over a couple of months for scholars was also mentioned as companies do have a recruitment season.

The suggestion from Dean (AR) regarding an orientation on the M. S. programme as many did not understand the outcomes of the programme resulting in disappointments in the end was also welcomed by the audience. As more and more policy related suggestions came up, the RAS requested the audience to focus on the matter at hand. It was observed that M. S. scholars who requested their advisor's aid in placements were offered project associate positions or conversion to Ph. D. The scholars were frustrated with the treatment meted out to them and declared that if things don't work out, they may resort to strikes and such behaviour.

The colloquium concluded that issues need to be raised with Dean (AR) and hence, an interactive session with the Dean was the need of the hour.





## Choices

Every stage of an individual's life has a defined space and time at which it keys in. For instance for childhood, developmentally and biologically speaking, one can't always remain a child or called so forever; there is an unambiguous time-limit. The same argument could be placed on the table with regard to adolescence, middle-age, and old-age. The development psychologies at every stage are like a fad in the market. It belongs to a one-off shell. On reaching a threshold, the shell breaks, driving us to look for other directions and possibilities to upturn and present ourselves a notch above, rather than acclimatizing to the past. In a way, it is imperative to keep track of how you are when you are.

Every individual journeys in search of an identity. One can't rush through while rummaging around in the pursuit of oneself. The quest should be cognizant, willful and upbeat, all at the same time. So what is the trajectory of the quest? That's where every individual differs. The digression happens based on the decisions one makes out of all the possibilities one is served with. Yes, the CHOICES one makes give a whole new look to what he/she is at every stage. As a matter of fact, with no exceptions, age of choice and individual are always alike. As the great Dyer said, one's life is the sum total of the choices one has made.

Making choices is one of the most challenging and strenuous tasks in life. Unfortunately, the whole reason for existence is based on the choices a person makes. Aristotle said, 'To do is to be'. But the pressing thought that comes to our mind is what to do? The beauty of life is, although people may stand on different pedestals, every path has umpteen numbers of prospects and each prospect gives its own panoramic view of where it would take us to.

The next question that could possibly blurt out from a sane mind is, "Fine, if a platter consists of an assortment of cookies and savories, how difficult is it to select a few that could satiate the hunger?" That certainly sounds sharp and on the ball. Alas, the innate assumption that everything on the plate is toothsome and edible is where the slip-up starts, for none said so. Too many cooks spoil the broth, isn't it? Indeed, a choice can make or break our future, but, at the same time, choices can never be categorized as good or bad in general. PERCEPTION IS REALITY. One takes a stand, lists down the wishes, adjudicates situations, makes a choice and progresses forward. In a way, one chooses things that aid him/her to get to the destination where one sees himself/herself a few years down the line. This is a repetitive act. Though this is a recurring act, it is never done seamlessly, for there is no meaning to life, without making mistakes. Also, there is no meaning to making a mistake, when one can't learn from it and redeem oneself. So, every choice an individual makes gives a shape to his/her personality, attitude, future, etc., and reflects at the end in the form of a wholesome and fulfilled life.

It is natural during school days that we would have had so many choices and paths in front of us to



choose from. Many factors having a bearing on us, trying to persuade and manipulate. As a matter of fact, we would have been like a rolling stone trying to move heaven and earth. To high school, we would have carried over those dollops of mistakes as stepping stones to pace our life and carve a suitable career. Inevitably, the coming of age factors would have dangled us up above our world of life trying to drag us to nowhere. A segment where every individual stands a chance to botch up big time. The smart ones would have balanced it and the rest would have gone crazy and gotten driven by the ugly world of shadows. Those who were driven by the shadows, did they make a bad choice? Certainly not, for, speaking while standing in their shoes, they chose from things they could see. What is the point to be noted? A quiet mind is crucial, when one has to think in moderation. Choices always come buckled up, disheveled and entwined. A confused mind ends up off-beam on a track unheard of. The particular track would still consist of choices, but alas, by that time, the individual has already become powerless, with the existing identity lost.

All of tomorrow's happenings are the consequences of today's actions. One has to bear the brunt of the choices he/she makes, for as you sow, so shall you reap. When something goes wide of the mark, we touch upon our destiny and how lucky we are. But no one realizes, every individual is the creator of his/her own destiny. We are what our choices have made us. We end up in a so and so situation because of our so and so choices and nothing else. Personally, I feel luck is a word present in a fool's dictionary. What you choose is what you become. What you become is to choose further something better. It's a process, a cycle, something that's unstoppable. Successful aren't the people who make right choices. Successful are the people who make the choice: to choose or not to choose between giving up or fighting like hell.

So, is there any rational discourse on how to make good choices? Strictly, A BIG NO. It's human to make errors. Choices get better as we 'LEARN' from our mistakes. Every individual is bound to learn the art of making choices the hard way. You make, you learn. You don't make, still you learn. The question is whether you 'CHOOSE' to perceive? If you wish to, you get inked in the books of HOW TO, else as a chapter in HOW NOT TO. Either way, you end up as a lesson, even then it is solely out of the choices you make.

Embrace the power of choice, choose your love, love your choice, accept the mistakes, learn from them, get yourself motivated, apply it while progressing further, and build a world of yours which you'd never choose to escape from.

It's now up to you : TAKE IT OR LEAVE IT!



What's a cuppa chai without discussion on random events which have no connection with your research whatsoever? Well, turns out connections can still be made.





## Another Take on the World

# Why should I?

I was talking to one of my friends who writes. She said that she doesn't want to write down her thoughts because then the thought gets amplified and becomes prominent. There are a lot of such ideas and thoughts in everybody's mind, a huge inertia, which is preventing everybody to come out, and actively participate in activities. Today, let us try to ask "Why should I?" do any of these.

I am talking about writing for now. As for me, writing is a creative outlet. Lets start then. Please note that I am writing without any thoughts to put it down here, but let me see. I have always felt that there should be a creative side of you, which you should cherish, nourish and explore. Be it drawing, "creating" songs, writing, building, engineering, anything where you make something and can see, feel, touch, or smell it. It gives an extreme satisfaction at the end of that process, because I always believed that nothing comes "from" you, but "through" you. You are just a channel for everything to come to this world and these creative processes are a means for realizing and polishing that potential in you. Even now I am just giving my hand, eyes and brain for the thoughts to flow into this article. I didn't note it down, nor did I do any homework or preparation. You just sit down and make sure that you are open, ready and available for the thoughts to flow. Like physics says energy can only flow from a higher potential to a lower potential, so make sure that you are humble and always at a lower level.

You cannot take ownership of any of these ideas of creativity, because you are not the source, you are simply a channel and the quality of the ideas depends on the quality of your channel (you in short). At some moments, instants, it just flows through you when all the channels are open and receptive. And if you ask me what the source is then, I'll tell you that I don't know. but all I know from my little experience and from the life of great individuals is that they were never the source, but merely a channel. We just polish and work ourselves to become a good channel for the source. We can call it God, but the name doesn't matter and nor should we get caught up in names. Newton said that anybody who has worked as hard as him would have come up with the same results as he did, because Newton is never the source, he is only the channel. When the channel synchs with the source, knowledge, ideas, and creativity flows out of you. We need to make sure that there is some form of outlet for this, be it writing, drawing, painting, music, coding, experiments, etc. I enjoyed this flow of thoughts, which came through me and not from me, since I didn't have it when I started writing this article! What is the point then? The point is that the world begins at the end of our comfort zone, so come out!





## **Growth of a Nation.... A Deeper Meaning of “Growth”**

Growth of a nation? A visionary question! For most people in general, “growth” means improvement in economic status of the country. For some people it’s about improvement in science and technology and so on. When I see or hear about the “growth” of other countries, be it in any field, I often question myself, “What does “growth” really mean and what is the key factor governing the country’s growth?” What does our country lack in, that we are not “growing” at the same rate as other countries? Why is India still a developing country? After deep thought for quite some time, I arrived at this simple opinion:

*“Nation’s growth is in the hands of its people. No nation would ever grow until each and every citizen understands his/her roles and responsibilities towards the society, and country, as a whole, and contributes directly or indirectly through his/her activities, performed with high degree of sincerity, honesty, responsibility and pride”.*

I realized that our own country is admirable in most aspects. Our nation always had, and has, a rich cultural heritage. Our nation has produced great minds in the past and present, and this will continue for ever and ever. This has been a beautiful trend of our country. Some of the most admirable people in the past being Swami Vivekananda, Mahatma Gandhi, Dr. C. V. Raman, Rabindranath Tagore, Mother Teresa, J. N. Tata, and J. R. D. Tata to name a few. And of course Bharat Ratna Dr. A. P. J. Abdul Kalam in the present, who is still a great inspiration to millions of people and students like us. These people have put India on the world map and have one thing common among them: their work was for the nation and its people in some way or the other, which led to “growth” in spirituality, science, peace, literature, and economy to name a few. All these great souls also had a vision and took the responsibility of the nation on their shoulders.

IIT Madras is one such beautiful place, where I have been fortunate to witness and be with great talent, be it in the field of engineering, music, sports, management, leadership or photography to name a few. It’s an amazing hub of geniuses. I am sure there are other places in our country (need not be institutes) flocking with amazing pools of talent in every field. I have been fortunate to visit a small village as a part of IVil’s (IIT for Villages) program, where I have seen and interacted with around 250 school kids. I was shocked to see their enthusiasm for science and machines, and I am sure, if they are guided properly, they will be the top scientists and engineers of India.

But the question of “*growth of nation at an international level*” still remains unanswered! With amazing talent in every field, what is it that’s still lacking?

May be it is: “*Lack of deeper vision and a sense of higher responsibility*”.



Every citizen of our country is, no doubt, a responsible person in his/her own way, and that's the reason, we still have the concepts of "joint families", "good neighbours" and friends, where everyone cares for others with a sense of *responsibility and love*. It's a beautiful blessing, as we already have the most powerful tool required to grow. The need of the hour is to just expand and enhance this tool of love and responsibility, make a shift towards a more selfless thought, and apply it to the length and breadth of this country. What it means is that each and every citizen must realize that just as the home in which he/she stays belongs to him/her, in the same way the country also belongs to them. Just this visionary thought is required and everything else will follow (of course growth in every aspect).

How is this possible? As engineers, I shall say, understanding Newton's Integral calculus will help us solve this problem. "*When we integrate small quantities within limits (sometime indefinite limits too), we get a result for the entire range*". Similarly, when every individual starts understanding how important his/her presence in the society is, and how much of direct or indirect positive impact his work (academics/ research/ corporate jobs and in fact, every job one does) has towards the growth of the nation, he/she will definitely do the job well, with high level of love and responsibility. An important aspect of choosing a profession is: one should always do what one loves doing. This is the only magical formula for growth at all levels (both for the individual & subsequently for the nation as a whole).

For example, if people keep their homes and surrounding areas clean, naturally the entire country will be clean. Just like one does not want to pollute his/her home, one should not pollute the atmosphere. If the students study the subjects well, and not just for marks, they will be the masters of their subjects and bright minds of the future. If teachers teach well, they will contribute to creating scholars which India needs. Students and teachers should indulge in research areas and projects which have a greater and immediate impact on the betterment of the country. Even a scavenger on the road, by doing his job well, contributes in some way to keeping the country clean and deserves respect. Thus irrespective of one's profession, if done well, knowingly or unknowingly, each one starts contributing his/her bit towards making the country a better place leading to its "growth" in the broader sense!

I think, apart from just earning a living for one-self, it's the core responsibility of educated and experienced people to dedicate some time to teach and educate the children/students around them, in whatever way they feel comfortable, so that students do not waste time re-inventing the wheel and instead they move in the right direction in life. Looking at all these aspects, we see that it's good education with strong ethics which will bring about a strong sense of social responsibility in every individual. This will eventually lead to the individual's growth, which when "integrated" (calculus again) will result in the *Growth of the Nation*.



**S. V. S. Suresh**  
M. S. Scholar  
Dept. of Engineering Design

*'Perseverance and Dedicated work in right direction are the mandatory tools for turning a "Dream" into a "Reality".'*

*Thus "Growth" is not just a mere measure of how rich (monetary) or how much scientifically advanced a country is, but it collectively speaks about how Visionary and Responsible its citizens are at their own individual levels.*



## फिसलन



Aditi Yadav  
M. S. Scholar  
Dept. of Management Studies

*'Researching myself...  
phrasing the feelings.'*

रंगीन पानी में भंवर पड़े हों जैसे  
हर किसी को निगलता जा रहा है,  
बहुत फिसलन है यहाँ जरा देखो ....  
हर कोई बस फिसलता जा रहा है,

कच्चे रंगों की तितलियाँ हों जैसे  
धूप में सब रंग खोता जा रहा है,  
बहुत आज़ादी है यहाँ जरा देखो ....  
हर कोई बस उडे जा रहा है,

अपनों की शकल में पराये हों जैसे  
विश्वास तो मानो टूटता जा रहा है,  
एक अजीब सा नशा है यहाँ जरा देखो ....  
हर कोई बस पिए जा रहा है,

मन की आवाज़ दबी है ऐसे  
हर कोई बस मन की किए जा रहा है,  
जाने क्या मज़ा है ऐसे जीने में....  
हर कोई बस मरे जा रहा है,

'Valiathura pier', Kerala  
Photo credits : Aneesh Prabhakar



# Research from My Eyes!

What is research? If somebody would have asked me that question about a year ago, then I would have definitely given some lame answer, or if not lame then some superficial answer that might raise the expectations of the listener. But today as I complete my first year at IIT Madras, I definitely know the meaning of research, though still it is not complete.

So many would say research is getting deeper into something and extracting the essence out of it. Others would say that it is finding a needle in a haystack. And even some others would say research is a man's unknown destination, for which he keeps on longing. But to be honest I will say research is a composition of perseverance, luck and patience. It's difficult to say whether we play with research or research plays with us. Time plays a key factor. We researchers keep on lamenting that we have no time, or time is less or the task at hand is huge, but to be honest prolonged research might also not give fruitful output. In fact, it is because we researchers are bound to a time frame that we perform well.

Motivation and inspiration are other key factors for research. For us researchers, getting inspired by some fellow researcher or acknowledging the hard work put in by someone else pushes us to work a lot more. For some, like me, time and situation laid the seeds for research. But I feel that as it is said that marriages are made in heaven, so I feel that researchers are also pre-destined. On a lighter note, it's like we researchers marrying our research. This gives me a pull to say that someone rightly commented that research never ends and a researcher learns everyday. Isn't that similar to most of our Indian marriages, which are for a lifetime! Once bonded, you go on living, even though it might be a pain. Jokes apart, I believe it's research that brings out the real person in us.

Another important thing is what we researchers expect from ourselves at the end of each day. Well to be honest again, every morning I get up and build castles in the air and aim to get famous in the world. But that's not what we researchers should aim for. Our goals should be laid on the track set for the future. We should plan out realistic goals and set up checkpoints to see where we are. In fact, every day is a checkpoint. Each day I, as a researcher, should be able to judge by myself what I have done and what I couldn't do. Here the word "couldn't" does not signify not getting the solution for the problem at hand. It is more like analyzing whether earnest efforts were put in or not. I feel such steps could lead to satisfaction.



**Suyash Gupta**  
M. S. Scholar  
Dept. of Computer Science &  
Engineering

*'True work and patience form the prime recipe for success.'*

Ah, satisfaction! That's the most important part. Within the realms of satisfaction lies the key to happiness. Firstly, satisfaction should not be at the cost of someone else's suffering. I, as a person, should make sure that to get my work done, I do not fire at someone's back. Secondly, satisfaction

readers articles



what has been gained. Also, as researchers, most of us would go on a series of days of lows where we get depressed. In fact that is the best time to cheer up. Watch some movies, party with friends or visit a place or so. But avoid being like me who keeps on crying about his fate, "Why me and why only me?" In fact, please do not start "praying to God" as if some angel will come flying down to solve your problems.

Such moments test our endurance even more. Take every such day as a fight. Go for one on one battles with your problem. Let it smash your mind for a few days. Finally you will have your time to punch it hard, so that it will never rise again. At the end you have to win, after all we are in the city of Mr. Rajnikant. On a serious note, I respect that man personally a lot, and don't want to hurt sentiments, but just want to impart the fact that after the rain the sun has to come.

**Ishita Kumar**  
Ph. D Scholar  
Dept. of Aerospace  
Engineering



*'Sarcasm of life: To be or not to be.'*

## To Be or Not To Be

A fleeting thought, through my mind, that sweeps  
To be or not to be...  
Through the dark nights my heart weeps  
wondering to be or not to be

Crushed under the bloody boots of laziness  
The fight for self respect lost in this maze  
Dancing around is the insanity, ego and craziness  
Right and wrong vanishes in this haze

Haunted with the nightmares, my mind creeps  
And asks, to be or not to be  
When a beautiful mind cannot grow in bounds and leaps  
Whether to be or not to be....





## मेरा फिल्म प्यार



Ranjan Piyush  
M. S. Scholar  
Dept. of Applied Mechanics

*'A person in search of himself!'*

नजरे मिली और इजहार हो गया , पता ही नहीं चला यारो कब प्यार हो गया ।

करने लगे हम रोज बातें , कटने लगी दिन और रातें ।

कुछ अनकही कुछ अनसुनी सी बातें रह गयी , ऐसा लगा की कुछ अधुरी मुलाकातें रह गयी ।

ये आलम था इतना सुहाना , लफजों में मुसकिल है बताना ।

उसकी अदा पे मैं लट्टू हो गया , मानो कोई घोडा टटू हो गया ।

कुछ ऐसा छाया उसका दीवानापन , किसी काम में न लगता था मन ।

ऐसे ही मेरा प्यार बढ़ने लगा , मानो मौनसून में कोई भरा नाला उमडने लगा ।

मैंने सोचा अब बहुत हुआ प्यार , समय आ गया कि कर दु इजहार ।

फिर सेमेस्टर खत्म हुआ , वो चली गई कौलेज के पार ।

इस तरह इजहार से पहले ही , खत्म हो गया मेरा फिल्म प्यार ।

*Photo Credits:*

Chaitanya V  
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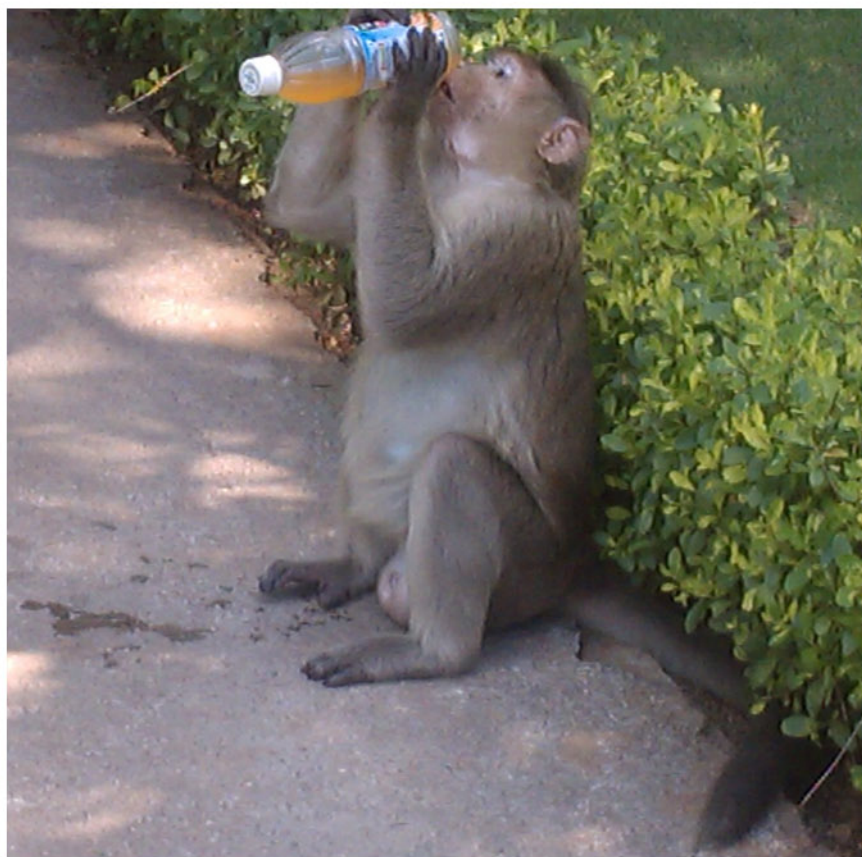
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Engineering



## IONS - Chennai 2012

A completely student organized conference, by an ordinary bunch of research scholars. Possible? Let's see! These bunch didn't have any support or money, basically they had nothing but their enthusiasm. Whenever this idea of taking up this conference came up in discussions, there was fear and skepticism in the minds of students, and they had to move against this huge inertia and skepticism, both from inside and outside. If you take such an ambitious proposal to people, I will tell you in advance what you will hear! Then one day they thought, "what the hell, lets do it", because the amount of brainstorming required to think "to do or not to do" was sufficient to organize a good conference. So they jumped, very well aware that they were going to face difficulties. First of all, who will be the convenor? Negative opinions were there at that point as well! Nobody was willing. But one guy said, he will do it, he is ready to become the convenor! That was the beginning, nobody knew how to organize a conference, there was no funds, there was just a lot of students and their enthusiasm as the start up fund! We now know that it was more than sufficient.

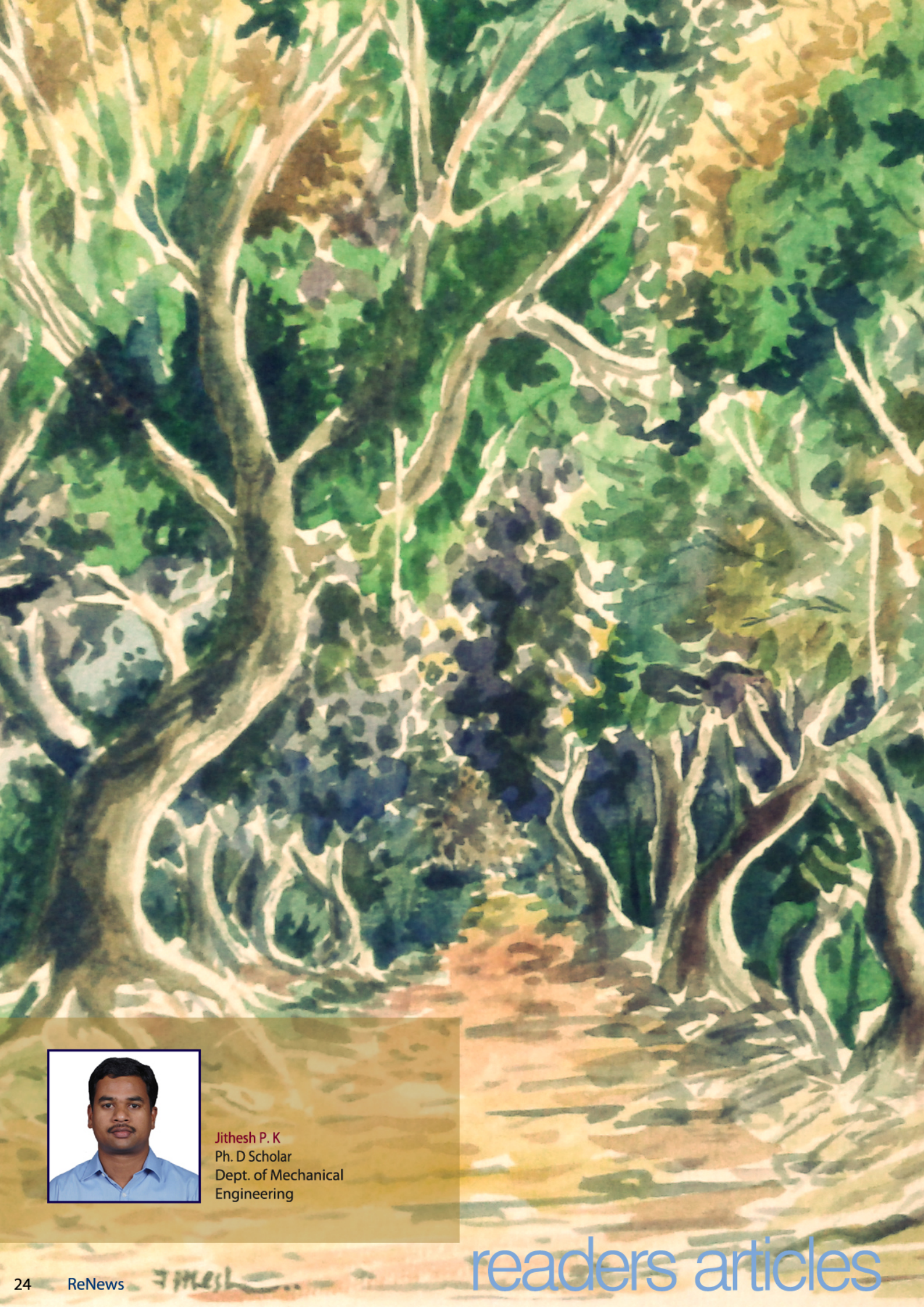
There were a lot of things associated with such a conference, and a lot of unknowns as far as we students were concerned. The unknowns were divided into committees and individuals were given responsibility. The convenor was the central link to all these committees, someone like a conductor of an orchestra. There was progress in few of them, no progress in others, but everybody was moving ahead, slower/faster, it didn't matter. Having the conference along with Photonics 2012 (another major international conference) also helped this conference a lot. Their support also played a major role in the smooth running of this conference. Having IONS along with Photonics 2012 was a calculated decision since the students were not that confident to make that giant leap of having an independent one. But looking back, I am sure they would have realized that everything boiled down to that initial jump. But having it alongside Photonics 2012 made certain things easier for students.

As the last countdown for the conference started, the excitement among the students was clearly visible and the lab was literally vibrant. The conference began on time and there were plenary talks, invited talks and seminars/posters by students, just like any other conference. The quality of all of them was very good. Most importantly, all this was free! Nobody had to pay anything, and travel grants were provided for travel of students! We know the condition of research scholars, and I am yet to see/hear about a conference which was free and open like this. Prizes were distributed based on marks given by the chairs of session and it ended with a talk by chapter leaders of different colleges, leading to a discussion on research. Then lunch on the second day (we were also very happy to provide food to the participants and everybody associated with the conference directly/indirectly without restrictions) was in St. Joseph Engineering college, after which a Mahabalipuram trip was arranged for the participants. They were brought back and there was an IONS dinner at Checkers hotel, for all the participants of the conference. It was nice to see the smiling faces of participants at the end of the conference! Even though I won't claim that this was the best conference and all, students did every single thing in this conference, they were involved in everything from top to bottom, every bit of it. They were the conference! Result – the amount of things they learned and the skills that they got is beyond comparison. Hats off to all the sweat, pain and efforts of each and every one of them. I am sure they are ready for more challenges ahead.

*P.S. These are personal views of the author, and may not reflect the opinion of the IONS team as a whole.*

Aravind Anthur





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