



# NITCONNECT



A T W E L F T H M I L E P R O D U C T I O N



## ~~WOMEN~~ ALUMNI SPECIAL ISSUE

# FROM THE EDITORIAL DESK

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We start this Editorial with a confession – the third issue of NITConnect was supposed to be published by the beginning of October 2021. The reason that we are late by nearly three months are twofold.

Firstly, with the theme of this issue being, 'Women in Engineering', your Editorial team went in search for articles as far and as wide as we possibly could. But articles were simply hard to come by and it brought into quite sharp relief that the participation of our female alumni in NITCAA is nowhere near it needs to be. As Dr Sathidevi states in her message for this issue, a little less than 30% of the current student body on campus are female and that number is rising steadily every year. We fervently believe that much broader and deeper engagement with the female alumni body is critical to the long-term future and sustenance of the NITCAA Project.

Having stated the above, we finally ended up with a wide-ranging assortment of personal journeys, hard hitting experiences, and memories from a collection of our female alumni and faculty. The stories they weaved certainly left for us on the Editorial team some profound & uncomfortable foods-for-thought; whether as a profession, society, or nation, are we really doing justice to the undeniable talents of our women OR are we allowing age-old stereotypes and patriarchal mindsets to deny ourselves access to such a deep talent pool.

The second and more prosaic reason for the delay of this issue was that both our Chief Editor and Creative Director found themselves in the midst of a relocation out of India, which is not easy during the best of times, but proved to be especially fraught with issues in the era of Covid19. We express our profound apologies for the same.

Speaking of the pandemic, it seems to keep growing heads like a Hydra from Greek lore. Just when some semblance of normalcy seemed to be returning, a new 'Variant of Concern', Omicron is taking centre stage. The Editorial team reiterates our calls on all our alumni to do their solemn civic duty to keep our families, communities, and society at large safe.

For the first time, the 3rd issue of NITConnect will be available directly on the new NITCAA website (<https://www.worldnitcaa.com/page/NITCONNECT.dz>).

We congratulate the NITCAA Digital Platform Team who took painstaking efforts to launch the new Digital Platform for the benefit of our entire Alumni family. We encourage all to register themselves and take benefit of this amazing new tool to further the Alumni experience.

We again seek the support of the entire Alumni community with your contributions, suggestions and by spreading the word in your respective alumni circles. Please send in your feedback to [hariborg@gmail.com](mailto:hariborg@gmail.com).

The 3rd issue will be the last for the year 2021 and we intend to return in the new year with an edition focusing on NITC Entrepreneurs. All of us at the Editorial team takes this opportunity to express our Seasons' greetings in advance and hope for a better year in 2022.

## NITConnect Editorial Team

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Harikrishnan B, Chief Editor, Batch 2004 (EEE)

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Ravi Ananthan, Creative Director, Batch 2007 (Architecture)

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Dr Deepak Lawrence, Editor, Batch 2003 (Production)

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Dr Shijo Thomas, Editor, PhD 2016 (Mechanical)

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Abhijit Sreekumar, Alumni Affairs Secretary,

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# LETTERS TO THE EDITOR

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*That's certainly a stupendous efforts to get the nostalgic articles and put together in a grand manner, some in our mother tongue, especially during this period of lockdown due to pandemic!*

**K S Sudhakaran**  
**President, NITCAA**

*Beautifully done. Great articles.*

**Jacob Kurian**

*Great work and beautiful compilation.*

**Vikash Thakur**

*Salute to editorial board for an excellent work done. I have glanced thru from beginning to end from the moment it was received.*

**Varghese John**

*I have just completed reading it. It is a fabulous work. Kudos to Hari and the editorial team.*

**TT Job**

*Excellent job. Congratulations.*

**Krishnan M K**

*It was so interesting for me to learn about alum prior to me. Congratulations to you and your team.*

**Jayesh Joseph**

**K S SUDHAKARAN**  
Batch 1975 (Mechanical)  
President NITCAA



**MESSAGE FROM  
THE NITCAA PRESIDENT**

*Greetings!*

It gives me immense pleasure to note that NITConnect 3rd edition is being brought out with focus on WOMEN IN ENGINEERING.

I am excited with the topic as I feel it is high time that NITCAA has had participatory contributions from the alumnae of NIT, Calicut. NITCAA has alumnae across the globe, bringing in laurels to our Alma Mater and it is time that they join hands with the WORLD NITCAA in the decision-making process in general and contribute to the welfare of our Institute.



It is heartening to note that our Dr. Sathidevi's (herself an alumna of NITC) contributions to NITCAA apart from her commitment to NITC and fulfilling the responsibilities of the administration and teaching is quite commendable.

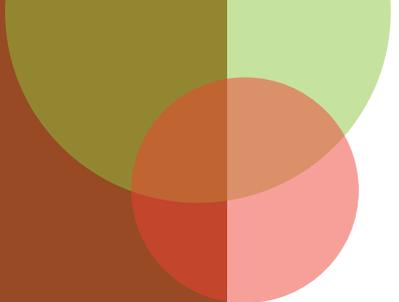
I am happy to share that NITCAA Governing Council has decided to invite minimum three (3) alumnae to the Governing Council as permanent invitees until the bye laws are amended to make them permanent members. NITCAA has implemented the digital platform alongside our web site [www.worldnitcaa.com](http://www.worldnitcaa.com). I take this opportunity to appeal to all our Alumni friends to reap the benefits of registering on this platform: connect with the alumni and enjoy the camaraderie across the batches.

NITCAA is also implementing the IMS (Institute Management System) at our Alma Mater – thanks to the combined efforts of the batches 1994,1995 and 1996. We have a committee for implementation of The Institute Management System (IMS) consisting of several Alumnae from India and abroad and their critical contributions and commitment are laudable.

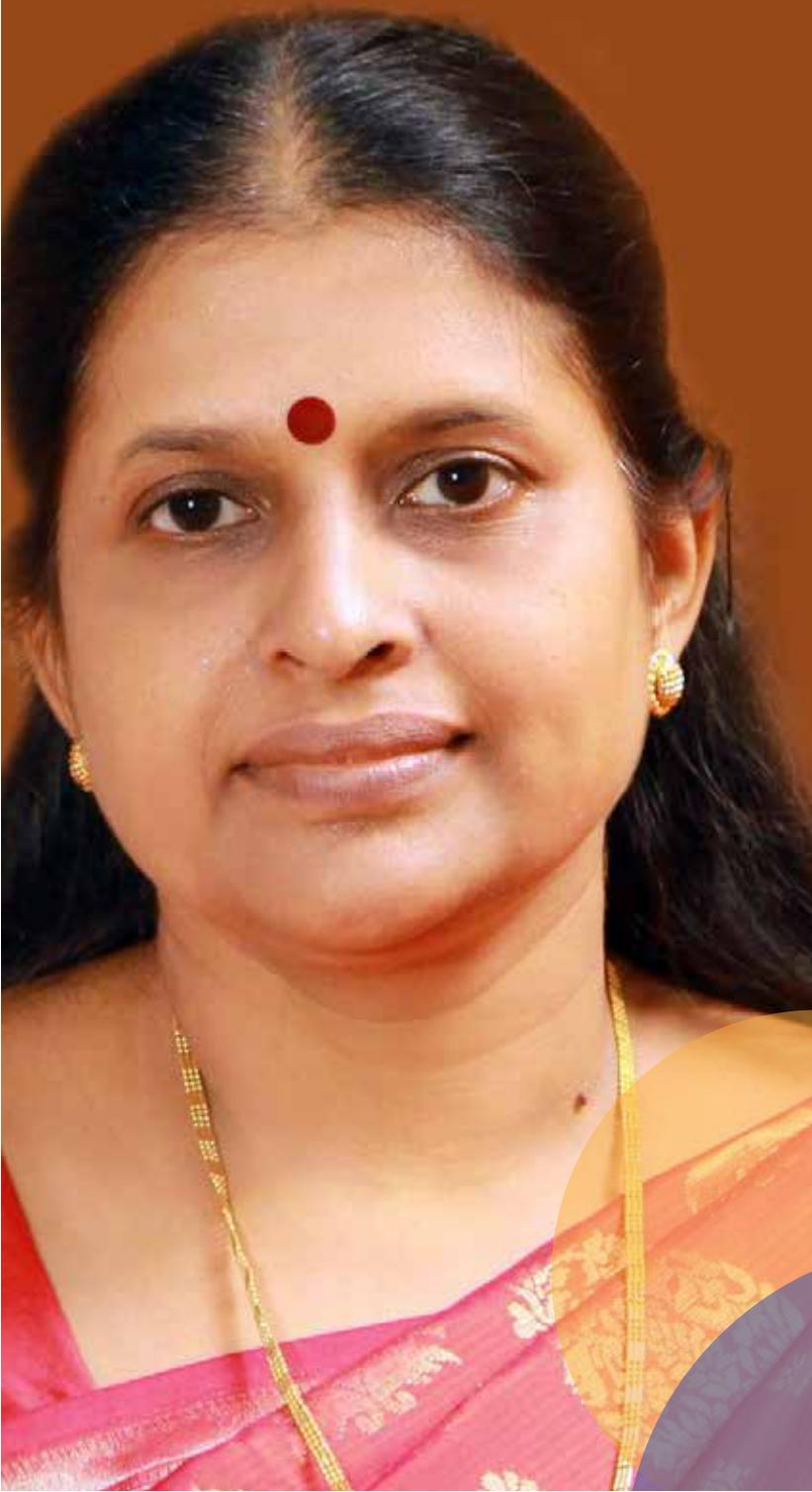
NITCAA has successfully conducted the AGM on 28th August 2021 on virtual platform and EGM physically at the Institute on 9th October 2021.

I take this opportunity to wish NITConnect and the Committee Chairman Harikrishnan along with his team all the success for this special issue.





DR. SATHIDEVI.P.S.  
Deputy Director,  
NIT Calicut



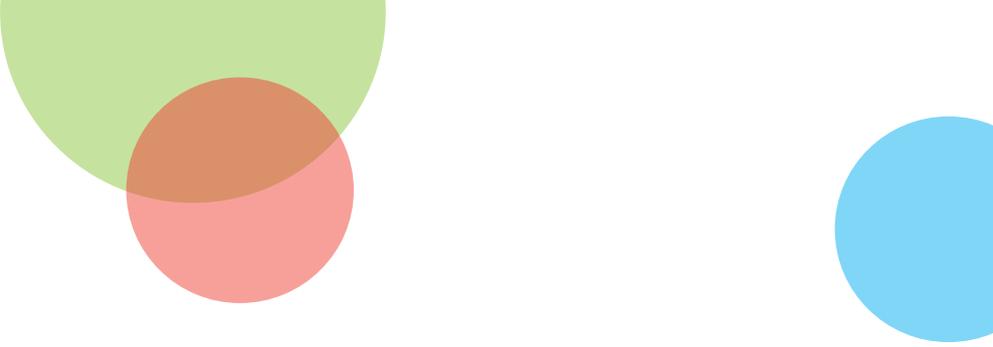
# MESSAGE

FROM THE NITC DEPUTY DIRECTOR

“ *As long as outmoded ways of thinking prevent women from making meaningful contribution to society, progress will be slow. As long as the nation refuses to acknowledge the equal role of more than half of itself, it is doomed to failure.* ”

NELSON MANDELA





It is with great happiness and satisfaction that I applaud the initiative of the NITCAA to focus on the female-alumni of the Institute in this issue of Alumni Connect. As an alumna, member of the faculty, researcher, it is with a deep sense of satisfaction that I pen this message.

The history of women contributing to the engineering profession dates back to 1944, when 3 women engineers graduated from the College of Engineering Guindy, Chennai. PK Thresia, Lellamma and Ayyalasomayajula Lalitha were the first women engineers in India. With India gaining independence, the gates of all professions were thrown open to women.

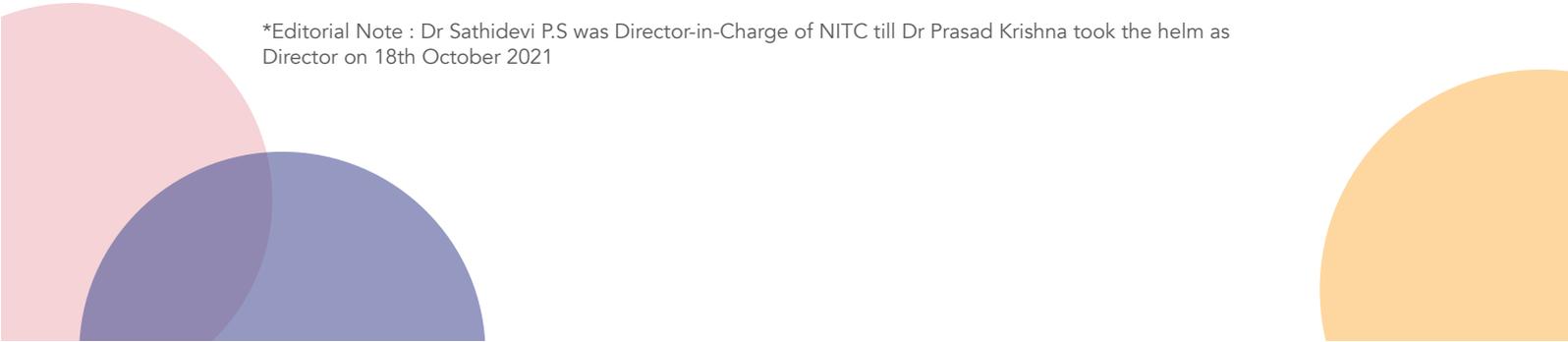
In the CREC, the first batch of 5 female students joined during the academic year 1965-66, four years after its inception in 1961. From then onwards, there has been a steady increase in the enrolment of female students and their saga of contributions continues. It is indeed noteworthy that, as the Institute celebrates its diamond jubilee year, a little less than 30% of the students enrolled to various undergraduate, postgraduate and doctoral degree programs are females. It goes without saying that the contributions made by them to their professional fields are remarkable. In addition to the same, the spirit of collegiality between the female students lasts for a lifetime. I am fortunate to have experienced this during my student life in the campus and the bond between the batches of students remain strong to this day.

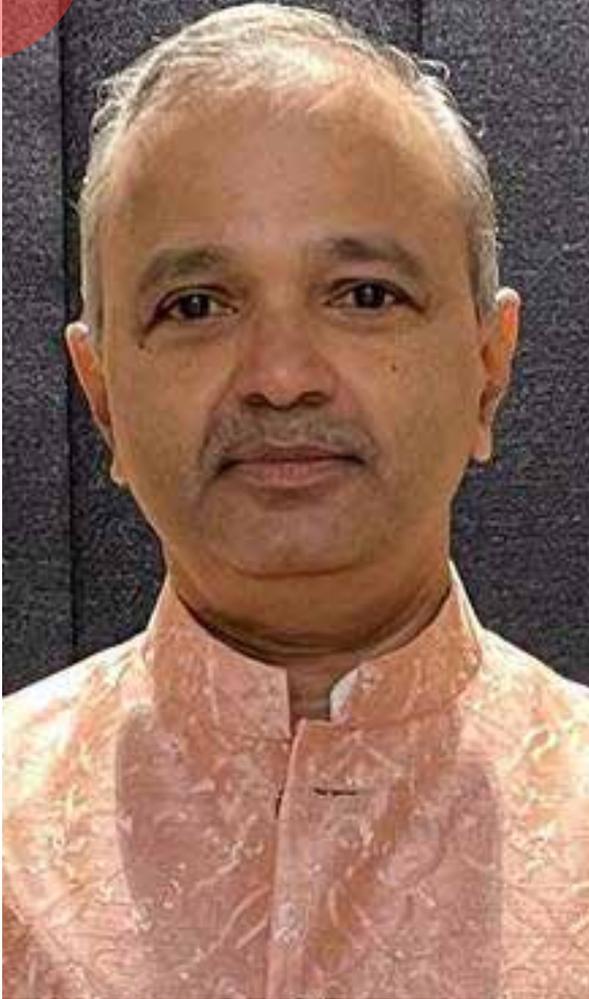
I hope this newsletter will highlight the success stories of our female alumni in their professional and personal journeys and their never-say-die attitude in facing the hurdles. I sincerely hope that the success stories would serve as a source of motivation for the younger generation as well.

I once again congratulate the NIT Calicut Alumni Association for taking the initiative to bring out this issue of NITConnect on our female alumni. I hope that NITCAA would endeavor to choose many more such relevant topics in the future as well.

Wish you all enjoyable reading.

\*Editorial Note : Dr Sathidevi P.S was Director-in-Charge of NITC till Dr Prasad Krishna took the helm as Director on 18th October 2021





## **DR. PRASAD KRISHNA TAKES OVER AS DIRECTOR, NITC**

Dr Prasad Krishna, Head of the Department of Mechanical Engineering, National Institute of Technology, Surathkal took over as the new Director of National Institute of Technology, Calicut (NIT-C) on 18th October 2021.

Prof. Krishna has more than 37 years of professional experience in several fields including automobile manufacturing, precision machine tool design and development, metal casting, space research and teaching. He was the recipient of the prestigious Kirloskar Gold Medal and Sir M. Visvesvaraya Memorial prize from the University of Mysore for securing first rank in B. Tech Mechanical Engineering (1983) from the NIT Surathkal (formerly Karnataka Regional Engineering College).

He received his post graduate degree from the IIT Madras winning two silver medals and Prof. Sen Gupto prize for the best academic performance in the Department of Mechanical Engineering. Later, he obtained his doctoral degree in manufacturing from the University of Michigan, Ann Arbor, USA. Prof. Krishna had served as scientist at the Gas Turbine Research Establishment (DRDO), Bengaluru and Vikram Sarabhai Space Centre (ISRO), Thiruvananthapuram, design engineer at HMT Ltd Kochi before joining academia

The NITCAA looks forward to work with Prof. Krishna in furthering the Institute – Alumni partnership for the continuing benefit of NITC, the student body, faculty and the entire global NITCAA family.

# NITCAA DIGITAL PLATFORM

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A dedicated team of alumni members worked for the past 2 years to collect all alumni details, right from the first graduating batch of 1967. Our present digital platform has salient features like Batchwise, Chapter wise database along with professional and domain expertise details of our alumni, spread all across the globe.

This digital platform is intended to evolve into a knowledge bank of our alumni for the benefit of our student community and to our NITCAA family for meaningful engagement.

This digital platform is expected to catalyse groups of various interests to be formed, thus providing an open forum to discuss the latest technological developments and share alumni experiences in the particular field of interest. Student mentoring is identified to be a key activity on this platform, which is aimed to create a strong bonding between students and alumni members.

This platform will also connect our Alma Mater to all our alumni, periodically updating news and happenings in our Institute and campus.

Recognising the fact that NITCAA alumni are mostly on-the-go, a mobile app is available for ease of operation for the members.

I request all our alumni members to register and update your current data in this digital platform.

Our dream of a 'NITCAA digital platform' is finally taking shape, for which I am very thankful to my team members for their dedicated efforts.

Come, join the NITCA DIGITAL PLATFORM and make it a grand success!

With regards  
NITCAA Digital Platform Team

Website : <https://www.worldnitcaa.com/>

- Search & Browse for Alumni
- Start Conversations
- Connect with Alumni on-the-go
- Event RSVP
- Instant Notifications

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 $\lambda = m_1, m_2 = -2$   
 $m_1 = -2, m_2 = 1$   
 $x = \frac{1+1+(-2) \times 3}{-2+1} = 5$

$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

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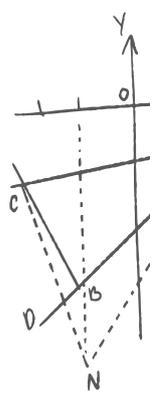
$m_1, m_2 = -2$   
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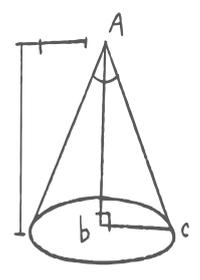
GITA RAMACHANDRAN  
1978 Batch, Electrical

# BREAKING MYTHS AND STEREOTYPES

"I was taught that the way of progress was neither swift nor easy."  
- Marie Curie.

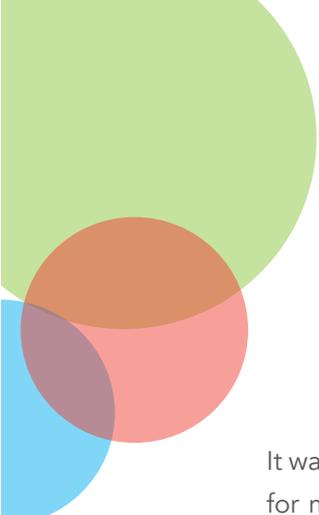


$S = (a+b)h/2, S = EF \cdot h$   
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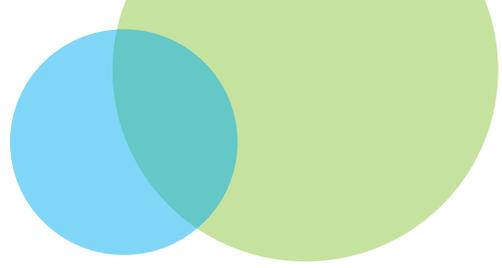
It was almost half a century back in 1974, that I took admission in REC Calicut. Main reason for my taking up Engineering was my passion for Mathematics and Physics, my love for solving problems and Logic, and probably genes of my dad who was a Mechanical Engineer. Even though my mother dreamt of her children becoming doctors, I was more attuned to Engineering like my younger sister and brother who also graduated from REC Calicut. Only one brother showed interest in Medicine, who went on to become a Doctor and another a Chartered Accountant.

As we all are aware, the strength of ladies doing Engineering in those days was less than 5 percent. We had 9 ladies in our batch comprising of 239 students. I started my career at Bharat Petroleum, where I became the first lady Engineer recruited by the organization. I have written about my entry and start of my journey as an Electrical Engineer in the book "Skyrocket to New Heights" authored by me (which went on to become a best seller book in the International Market). I was the first and only lady Engineer amongst 650+men, working in the Refinery for few years, till more women Engineers were recruited.

Soon after joining, I realized that I had to toil twice as hard to be treated on par with men and had to put in thrice the effort of any man to make my job visible and recognized. Today when I look back, I can find pointers to the gender stereotyping views held by the patriarchal society prevalent then and to a certain extent even now. In a way I am grateful for the same, as, but for the same, I may not have worked so hard to reach where I find myself today. Few of the stereotyping views still hold water, even after 4 decades, though few women have been able to break the glass ceiling.

As there were no peers, I did not have any anybody to guide me, to follow, or to relate to. But one thing that I was determined to, was that I will not make any move which will make the path difficult for other ladies to get an entry into this industry. Probably most of the pioneering initiatives that I could manage to implement, or the awards that I could win were a result of this determination, and sincerity that I displayed in the conceptualization and execution of my projects. I can also say that I was lucky to get few plum assignments, blessings from my parents, support from my teams, and the trust of my superiors, as I went on proving myself diligently.



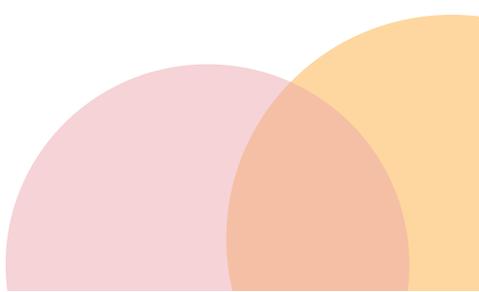
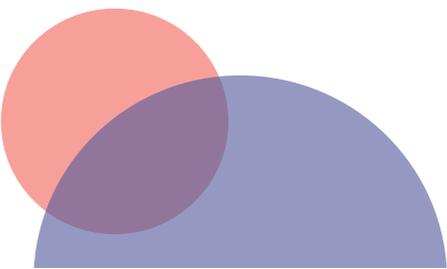


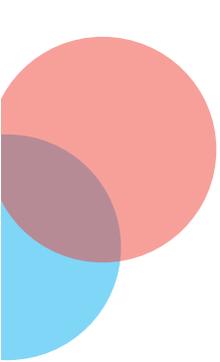
Role of a woman in the patriarchal society: Even a child can grow up to be a biased individual if the seeds of gender bias are sown from childhood. Several theories of prejudice like gender bias, Horn or Halo effect, Role congruity theory, has made it hard for women, specifically for women Engineers to rise and break the glass ceiling. The world of Engineering is perceived as a male dominated bastion. When it comes to picking a stream such as Civil, Mechanical, and Electrical, girls come across statements such as "this field is not for you". I think that all of these influence our lives, impact our choice of career and the stereotyping of roles to be performed by women in general.

There are a lot of myths surrounding the role of women in the industry particularly in the Engineering profession. Let me now throw some light on the stereotyping that existed, and how I could break some of them or is being overcome by other women Engineers now.

Women should dress and behave in a specific manner: The mere thought that an Engineer should look, dress, and behave in a certain way, has spoiled chances for women who could have been equally qualified and capable to take up such roles. Let me quote an instance from my life. During the earlier days when I was working in the Project department, I had once asked my counterpart in the execution department to carry out a job as per the contract specs and design. I was told to behave lady like, be polite and submissive while speaking. At that time, being new to the industry, I could not speak up, affecting my confidence in a big way. I would hesitate to speak, thinking twice before speaking, which I overcame by working on myself.

Women don't have the right attitude to work, & they bring up personal issues: Another view held by many are that women lack the proper attitude to carry on in the Engineering field. They attribute it to few irritants like 'taking too many leaves, chit chatting, gossiping, raising too many personal issues" and so on as the ones which women generally come up with. But I have found this to be totally out of place, as I have seen that, this is not dependent on the gender but the attitude of the concerned individual. Sincere and committed individuals, be it a man or a woman would be serious about their tasks and take it to conclusion. In fact, on observing, I have found this to be the other way round. As women Engineers are in a minority, even a single lapse on their part at any point in time is



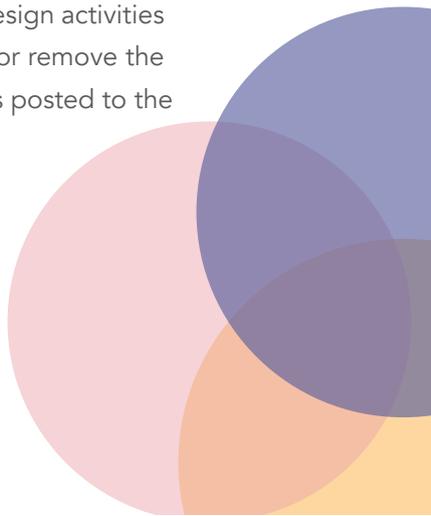


blown up, making it prominently visible to everybody. In my case, I was very careful and did not bring up any personal issues, and rarely took leaves.

Women leave the job after marriage, & for raising family: Normally people often think that a woman should leave her job, sit at home, and tend to the family after getting married. Some even tell the bride-to-be that she cannot work after she is married or after she begets children. So, many career conscious women have chosen to remain unmarried to satisfy their dreams of a fulfilling career, and others have chosen to leave their jobs after marriage. As this is applicable to any career, why chose Engineering to be singled out. Raising children can be a challenge for anybody pursuing a demanding career, but with a supportive family, supportive employers and the right infrastructure, there is no reason why it should be harder within the world of Engineering. Once you establish credibility in your chosen field, this can be overcome easily. In my life, I faced this dilemma when my children were 3 years and 1 year old respectively. As there were no crèche and no childcare facilities existing during the early 80s, I had no option, but to leave them with my parents who could not move out from Calicut. When I could no longer bear the separation from children, I decided to quit, but a very senior GM asked me to think over. He told me that as I was extremely good in my deliverables, and he saw a bright future for me, I should reconsider my decision. He stated to me that children would have grown up within the next 2 to 3 years, but I would have lost the opportunity for ever. He also showed me the way forward where I could take leave combining them with holidays or weekly offs and visit them. This was not so easy as there was no air connectivity back then, but I held on and am glad that I heeded to his advice. After attaining the age of 7 and 5, my children became 'latch-key' children who came back home, opened the door, and learnt to be responsible. Here I would like to mention that a supportive husband, supportive employer / boss does make a difference. And as a female boss, I can say that I have been very supportive of female Engineers who worked under me in my teams. There are many instances to narrate, but time and scope do not permit my writing about these.



Women are not ready to do field work: In India, we still like to believe that women do not enjoy working in the field which is not correct. Once, when I was handling design activities in Projects, I had to challenge my superiors, to either post me to the field, or remove the statement that that I cannot be posted to the field, from my appraisal. I was posted to the



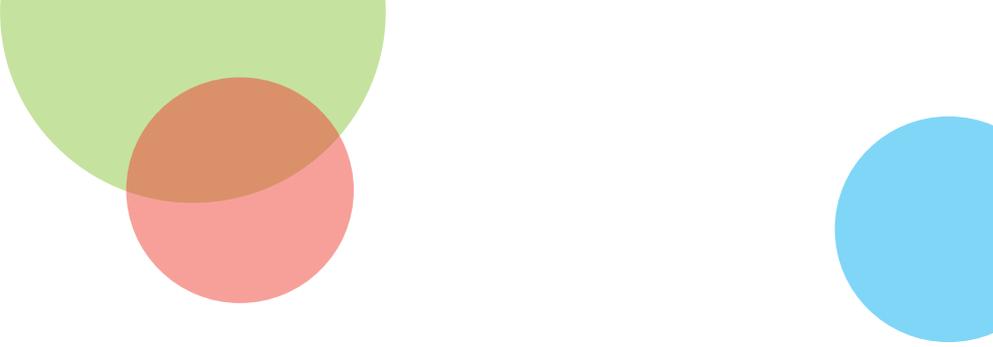


execution set up for a period of 6 weeks, on a trial basis. Not only could I complete execution and commissioning of various projects pending due to various issues during the 6 weeks that I was posted to field duty, but I could also obviate this dilemma forever. Now, with changing times, we have witnessed women taking up a lot of challenging roles in Defense, Aeronautics, Space and so on which nullifies this myth.

Women are not willing to work beyond office hours: I am sure most of us would have gone through these situations, where we are expected to work after our normal working hours. I have had to work beyond office hours, so many times, both when I was handling Electrical projects, or Information System related projects (hardware, networking ERP, software projects). When you must commission the switchgear or transfer from one bus to another, you need to execute them according to a plan taking advantage of the non-peak hours. (This is true for Software projects too, where you chose the non-peak hours for implementation). As a committed and disciplined Engineer, we are required to plan the outage and commissioning meticulously without hampering the normal activities. But it may so happen that at that instance a break down or a fire or some other emergency may occur, requiring you to postpone the activity, before clearances can be given. In fact, once I had to wait till 8 PM to get the required clearance, as a fire broke out in one of the plants which had to be put off before I could get the clearance which upset my schedule of commissioning. Under normal conditions is there a need for one to stay back for regular jobs, if they are planned and expected to be completed within the time schedules? The general excuse for denying the raise for women Engineers, are that they will not stay back as they may have to rush back for their domestic duties, which is totally baseless.

Women are reluctant to attend to duty/ calls in the night: Let me share another incident, which happened when I was interviewed for the graduate trainee Engineer post at refinery of Bharat Petroleum Corporation Ltd. The panel had eminent senior leaders from HR, Training and Operations. After the technical round of questions to which I could answer very well, came the one question, running topmost in their minds. 'Ok Gita, you realize that you being an Engineer, will have to be posted to the plants, where you can expect breakdowns, any time including in the night. How will you handle them?'. As I was quite bold, my answer was quite simple. 'Of course, I will attend to them? As for any other Engineers, I am sure, you will be providing a vehicle to commute, and I will make use of



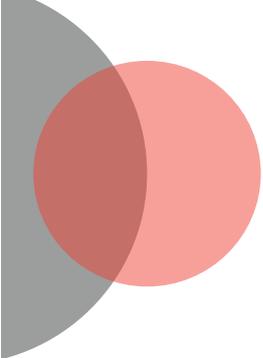


that and attend to them'. During those days', the factory rules did not permit ladies to stay beyond 6 PM. It's another matter that I worked in shutdowns which lasted from 7.45 Am to 7.45 Pm for one or 2 months continuously without a break, as well as attended to many issues in the night when the situation demanded the same of me. These experiences prepared me to have more grit and determination and be persevering for whatever I wanted to achieve in life.

Women are physically weak / their endurance; capabilities are questionable: Women are still seen as the physically weaker gender even though they have already proved themselves to be capable of doing much more than what is normal. One of the biggest myths of this profession is that you must be big and strong to work in these sectors which is factually not correct. Rather than strength, foresight, commitment, and imagination are required for making a success of it. Maybe we need to spread the word around that being an Engineer is more of brain than brawn. Its rather funny, that many times when I have mentioned that I am an Electrical Engineer, the first question to be asked to me was, do you know to change the bulb, fix the switch and so on. I am sure the lady Engineers may resonate with this. At one instance, one electrician came up with an issue of some controls in the overhead crane. Immediately, I realized that I was being challenged to go up the ladder to reach the control gears located on the bridge of the overhead crane in the workshop. Without batting my eyelid, I rose to reach the narrow straight ladder in the workshop and started climbing up. He rushed back and told me that he has already located the issue and could now resolve it.

Women are timid and can't assert: Historically, female Engineers might have struggled to hold their own in a room full of male colleagues. This was the case with me. I was the only female in the Project review meetings held each month during my early tenure. Those days' restrictions were not there on smoking within the rooms. So, I would sit next to a smoker, closing my nose, unable to bear the cigarette stench and unable to speak out, whereas they would smoke and keep their burning cigarettes on the ashtray kept between us. This was not because I was timid, but probably because, I did not want to hurt them. Later I learned to sit away from the smokers. In the later years, I have attended many coordination meetings and senior level executive meetings where I was bereft of female company, but I had no difficulty in asserting, speaking out and being heard. Today we can



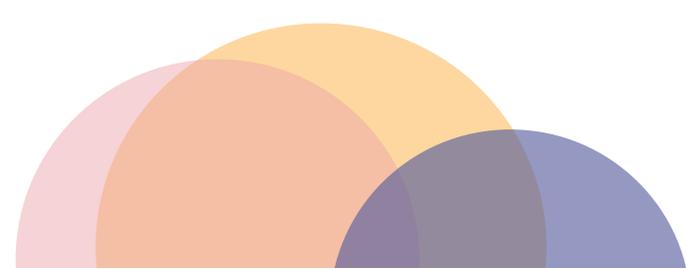


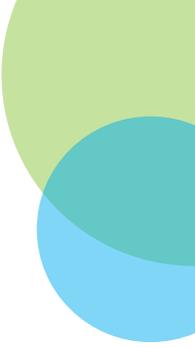
see many women Engineers having the right attitude, the right confidence and with the right opinions who are leading, speaking out and being heard. But there may also have been few stray occasions, wherein a male colleague would have been unfairly promoted or given a pay rise, because it was assumed that male Engineers were more assertive than us females.

Women are not good at Science, Technology, Engineering and or Mathematics (STEM): This is a myth which has no valid standing. Not anymore. If we keep track of the performances of girls, we can observe that girls are achieving higher grades across nearly all STEM GCSE subjects. Even though we see the proportion of girls pursuing these subjects dropping off, the cultural norms and other factors are to be blamed rather than the lack of ability.

Women excel at soft skills, not technical ones: How can one say that technical ability is defined by gender. This stereotypical myth is absurd and absolutely not true. Does not an Engineer, whether he is a man or woman require these soft skills? In fact, this should be seen as an added advantage, favorable to the woman Engineers. You can't be a successful Engineer without communicating effectively with clients and colleagues, managing teams, and remaining nimble, adaptable, and effective. Self-awareness, adaptability, empathy, self-discipline, self-control, ability to listen, charm, known as soft skills, are present more in women which makes them better leaders. In fact, these qualities helped me in my interactions with my teams and getting each member to perform to their best potential.

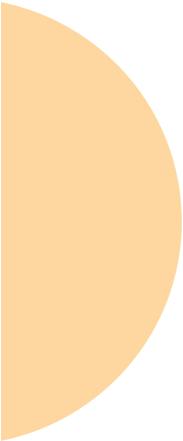
Women don't look like Engineers: Female Engineers often get told that they don't "look" like an Engineer. If you work in an office, you may not be covered in grease or oil, or be wearing boiler suits. When I was working in the field as Engineer in charge of the Electrical workshop, I was expected to wear pants, overalls, safety shoes and wear hard hat when moving around within the plants, having rotating machinery or where oil spillovers could be present to avoid accidents. But in an industry with such a vast array of roles from design and Engineering, computer software, spacecraft design, artificial Engineering, nanotechnology how should an Engineer look like? Should she be always in Pants/Overalls? I don't think so. Once a client wanted to meet me, the Project Manager for a discussion of the project. After fixing the appointment with my secretary, he came to





my cabin and knocked. On seeing me, and assuming me to be the secretary he asked me, as to where he could locate the Project Manager? Of course, he apologized profusely after realizing his folly. In my opinion, we need to be dressed for the job, which we are supposed to handle, unless there are some protocols to be followed as specified by the organization, you are working for.

## Finally, my take on this



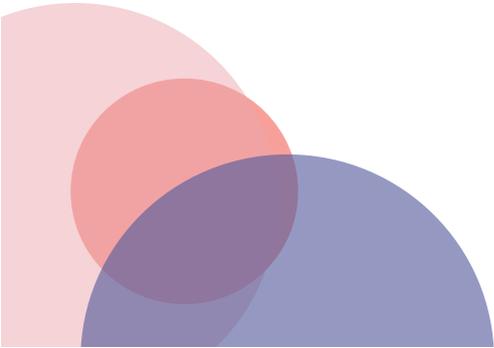
Why are we bent on typecasting ladies, stereotyping roles, and situations when it is other way round?

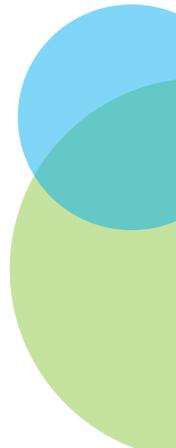
Can we not realize that women can bring in different perspectives and new ideas while designing & executing projects? These can have a huge positive impact in ensuring aesthetically appealing structures.

There have been remarkable stories about ordinary women breaking all barriers and conquering stereotypes to emerge as true winners and extraordinary role models. At present there is no field that women have not invaded. Women have the amazing ability to spot any possible opportunities and give them life. I can say with conviction, that women are more than capable of heading projects, departments, and companies within the Engineering sector.

History has proved time and again that women have reached pinnacles in Science, Technology, Engineering and Math's. Marie Curie, the first woman to win a Nobel Prize and the only woman in history to win two Nobel prizes for her contributions to science, was so passionate towards unraveling radioactivity that she ultimately sacrificed her life for the same. The first computer programmer was a woman Mathematician, Lady Ada Lovelace. The Brooklyn Bridge was completed in 1883 by the first field woman Engineer Emily Warren Roebling. She took over her husband Washington Roebling's responsibilities as a chief Engineer when he became bedridden due to illness.

Today there are many businesswomen and Technologists leading and rewriting history. Marisa Mayer was the president and CEO of Yahoo! between 2012 and 2017. Mary Teresa





Barra has held the CEO position at General Motors Company since 2014. There are many like them including Tessy Thomas, Padmshree Warrior and many others who have carved a niche for themselves.

It is sad to see people stereotyping Engineering as a man's job. Be it a desk job or the field, women are thriving. The tag of 'Man's job' should not deter any woman from not pursuing Engineering if that is their passion. All one needs is a conviction and ability to handle mental and physical pressure which is a part of any Engineering job. It clearly does not matter, if it is going to be difficult or what people are going to think about it. If your dream is to become an Engineer, follow it and reach for the stars! The key to success is persistence.

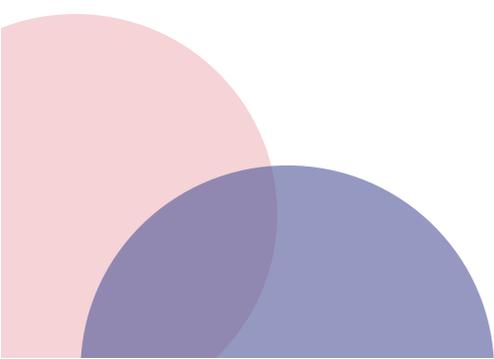
We also need to educate parents that Engineering is a great career for everyone. Hugely diverse and exciting sector with amazing opportunities are available to women.

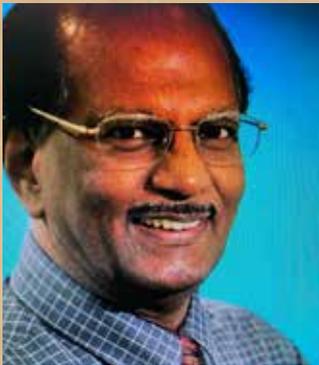
Even though my jobs and circumstances were not so easy, I have never taken them as obstacles, but treated them as opportunities and strived hard to accomplish them. When women support each other, incredible things happen! So as women leaders, my request to all is to let us help and mentor other women Engineers who enter the industry with dreams in their eyes, by showing them the right direction.

Let us all try to break the stereotype and encourage women Engineers to give wings to their dreams.

I would appreciate it if Engineers reading this send me their perspectives from their experience. If they have found any more stereotyping that I have missed, I would love to hear from you, and add them to this list. I would also like to appreciate you; in case you have encouraged your daughters to pursue Engineering and work in the plants.

My email id for communication is [ramachandrangita@gmail.com](mailto:ramachandrangita@gmail.com) and my website is <https://gitaramachandran.com/>





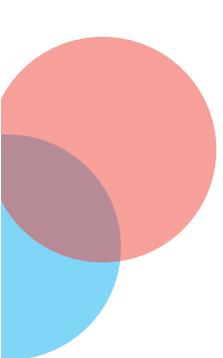
VARGHESE JOHN  
1962-67 Batch, Mechanical

# WOMEN IN ENGINEERING

## A HISTORICAL PERSPECTIVE

Ever since the civilised humans commenced their life as a society, there was a difference in roles played by men and women. It has been defined by men that they have certain role in life and women have other roles. Due to the physical strength attributed to men, it is always conceived that men will do all robust field work and women will do household work even though there was no evidence that household work is not tough. May be because housework was done in a sheltered premises and men worked in the field, forest, rough land, joined as soldiers to fight for feudal lords and kings.

Brave women took the responsibility of proving their worth in many fields as life progressed. It has been a struggle for women even to get voting rights even as late as 19th century. A movement was started in England (London to be precise) as early as 1897 by a few very courageous women for voting rights lead by Ms. Millicent Fawcett. But initially they were ridiculed by Society, Church and even women. But the movement prevailed and by early beginning of 20th century, voting rights for women was slowly recognised across Europe and USA and it spread step by step.



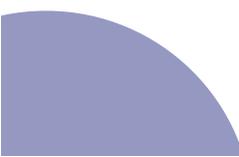
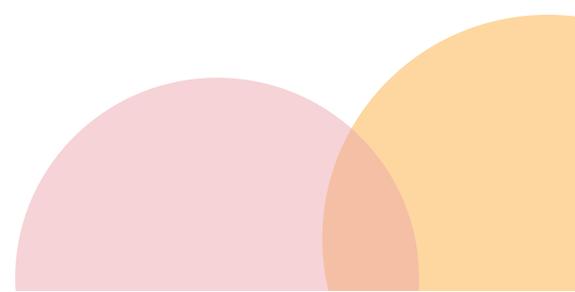
This struggle and forward thinking might have triggered the participation of women in many fields such as Engineering, Science, advanced Medicine, and many fields including politics. Engineering was considered a Man's job universally even up to mid-19th century. The field work associated with Civil engineering, the tough factory work with Mechanical engineering and danger of electrical flow could have prevented women to pursue this carrier. A search on the internet to find out the first engineer in the world, revealed number of names.

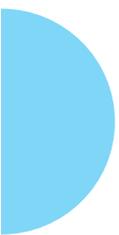
But I found that one Ms. Emily Roebling had worked as a supervisor during the construction of a large bridge in Brooklyn during 1883. Probably she might have been one of the first technically qualified civil/structural engineers in the world. (There is no definitive proof). My search has revealed that Rita De Morais Sarmiento was one of the first women in Europe to have an engineering degree in 1896. There is a record of one Elizabeth Bragg who graduated from University of California (Berkeley) in engineering in 1876. (USA). That is twenty years earlier than Europe. If this is correct, probably Ms. Bragg might be the first qualified engineer in the world.

Coming to home my first experience in knowing the participation of women in engineering came during my primary/secondary school days. Then during 7th year of my schooling, (primary was 5 years then), the daughter of our school principal joined College of Engineering Thiruvananthapuram (CET). It should be around 1956 and CET was the only recognised technical college in Kerala (Travancore-cochin) at that time. By that time there were several lady engineers working in government departments as engineers of different grades.

When I joined REC Calicut in 1962 as a first-year student, there were no women students. There were two women faculty members but they were not engineers. It was a big surprise to me, since I have been studying in co-ed schools ever since my primary days.

As published earlier the first batch of ladies joined REC-C only in 1965. Afterwards, soon after graduation in 1967, I was fortunate enough to join as Engineer Trainee at BHEL Trichy. There was no lady graduate engineer in the whole plant, even in the design departments. The design department was very large at that time itself because BHEL Trichy was an EPC capable establishment. By 1970, the plant had almost 1200 male engineers working at various departments at all levels. The first lady Engineer Trainee joined in 1976. She has done well during her term at BHEL and later left her employment from the plant for elsewhere as I have done.



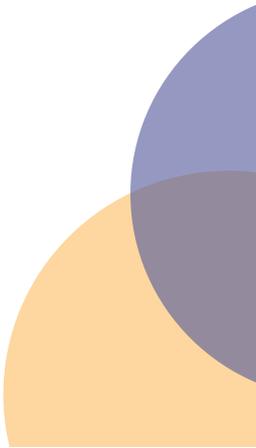
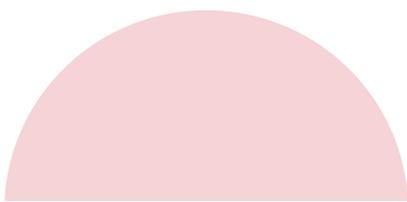


Today it is very happy to note that Dr. P Sathidevi is Director in Charge of our Institute at Calicut and crowned as the first lady to do so. Since 1981 end, my working life in Singapore was with a major ship repair cum engineering firm for about 15 years and I did not see many lady engineers in the complex, I suspect, mainly due to the nature of work such as ship repair and construction of equipment for oil and gas sector in the open field. There were two diploma graduate ladies working in the office in the contract department. But subsequently from 1990 onwards, I could see large number of lady engineers working in manufacturing, transport engineering, design and consultancy firms, telecommunication, petrochemical complexes, automation, and information technology. The change in 9 years was tremendous. Today the number of lady engineers are numerous in every discipline of engineering and some of them have marked their name very well at several fields.

Looking at the overall scenario on an all-India basis, it piqued my curiosity to find out who was the first lady engineer in India and what was their struggle to join, survive and establish.

My search invariably landed on A Lalitha of Chennai. Born to a Telugu family in 1919 and married at age of 15, widowed at age of 18, and single mother by 18, her life story is something like a Bollywood movie.

A Lalitha was a very good student at school, and after the death of her husband, expressed her wish to go for professional career as her brothers. Fortunately for her, the father who was a professor at CEG (College of Engineering, Guindy), supported her fully. She dabbled between medical and engineering, but she decided on engineering due to her burden of looking after a small child. First, she did her intermediate or equivalent. But CEG was not admitting any women for engineering at that time, and it was fully a man's world. She was not discouraged. Supported by her father she got admitted and completed her course in Electrical engineering by 1943/44. Her courage immediately inspired two ladies from Kerala (Travancore and Kochi then), and they joined for Civil engineering course supported by their parents the very next year at CEG. All the three graduated together in 1943/44 because the course for the two from Kerala was cut short due to the 2nd World War (This again happened in India for a period of 1962-1965 due to India- China war). They were PK Theresia and Leelamma Koshie.





**Lalitha** is considered as first lady engineer in India because she joined first and inspired others. She started her career at Central Standards Organisation and took a lead role in inventing several devices along with her father. She was the only female engineer from India to attend the first international conference for women engineers in New York in 1964 representing India. She retired in 1977 and died at the age of 60. She has worked for AEI for 30 years.

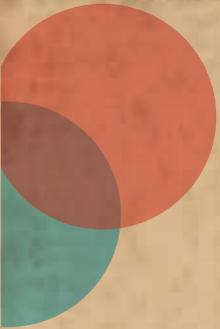
**P K Theresia**, the first Civil engineer along with Leelamma Koshie (George) started her career as Engineer for Kingdom of Cochin and retired as the first lady Chief engineer of Kerala & India and for that matter anywhere in Asia. Leelamma, who was extremely bright had her school years cut short and graduated in engineering at the age of 19 along with Lalitha in 1943/44. She started her career at the age of 19 at Kingdom of Cochin and went to the UK to qualify with a Masters in Town Planning in 1947. She retired as Asst Chief Engineer in 1978.

An interesting note is that CEG was established as School of Survey in 1794 in Chennai (then Madras), the first of its kind outside Europe. Then upgraded as Civil Engineering School in 1858 and renamed as College of Engineering in 1859. We can see that even my contemporaries joined a college of more than hundred years of history.

Among the pioneer women engineers in India there are two more names which are prominent.

**Rajeshwari Chatterjee (Shivaramajah)**, First women engineer from Karnataka in Electrical engineering. An extremely bright person, she first took her Masters in Mathematics in 1943 and then joined Indian Institute of Science at Bangalore as a research student in the Electrical Technology Department. So, it is possible that she qualified as an engineer by 1945. She went on to take her Masters in Electrical Engineering again at University of Michigan and PhD from USA and became a Professor at IISC, Bangalore. She was an activist and challenged social norms even during those times. She became a well-known academician in India.

**Rajyalakshmi**, First Telecommunication engineer from CEG Chennai (1945-48). She was very active in challenging social norms and married her colleague at AIR outside her brahmin caste and created a furore at that time.



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P K Theresia



Lalitha



Rajeshwari  
Chatterjee

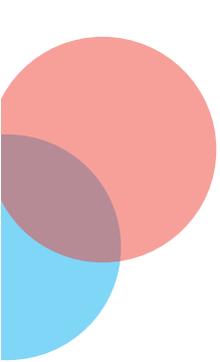


Leelamma  
koshie



Rajyalakshmi





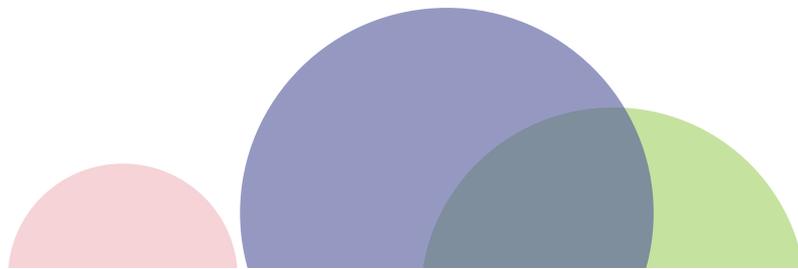
Among my contemporaries, there are several women who are/were very prominent personalities in engineering.

**Damayanti Gupta**, born in 1942 in Pakistan and refugee in India at the age of 5 in 1947. Born in a well to do family in Pakistan, but as fate intervened, lived in Mumbai as a refugee almost penniless for 10 years. She took an interest in Engineering at the age of thirteen, after hearing the speech by then Prime minister of India about women's role in engineering for industrial India. After graduating in Mechanical engineering in 1965, she had the courage to travel alone to Germany and USA to take her masters from Oklahoma university in USA. She was the first female postgraduate to be hired by Ford at Michigan. She had a tough time to get thru the selection because there were no female engineers in the factory at that time.

**Leela (Thadani) Feroz Poonawall**, born in 1944 in Sind in Pakistan and came to India as a refugee and lived in Pune. She lost her father and birthplace by age 3. She did her Mechanical engineering degree from University of Pune and graduated in 1967 and become the CEO of Alpha Laval and Tetra pack India. She has extensively contributed for furthering the education of women. She was one of first female CEO of a MNC in India.

**Sudha Murthy**, an extremely intelligent lady with a degree in Electrical and Electronics engineering from Bangalore and postgraduate from IISc, Bangalore. In both cases she stood first in university in her class. She is known more as an author/writer and chairperson of Infosys foundation. She is married to Mr Narayana Murthy, the founder of Infosys. She is also the first women to be hired by TELCO. There is an interesting storey to that the advertisement from TELCO stated, "Lady candidates need not apply". She decided to apply and wrote a letter to Tata questioning the discrimination. She got the job by giving very satisfactory answers to the selection board and Mr Tata himself. She was a fresh graduate then and not married to carry any weight around her other than her own first rank in her education. She later left the organisation after marrying Narayana Murthy.

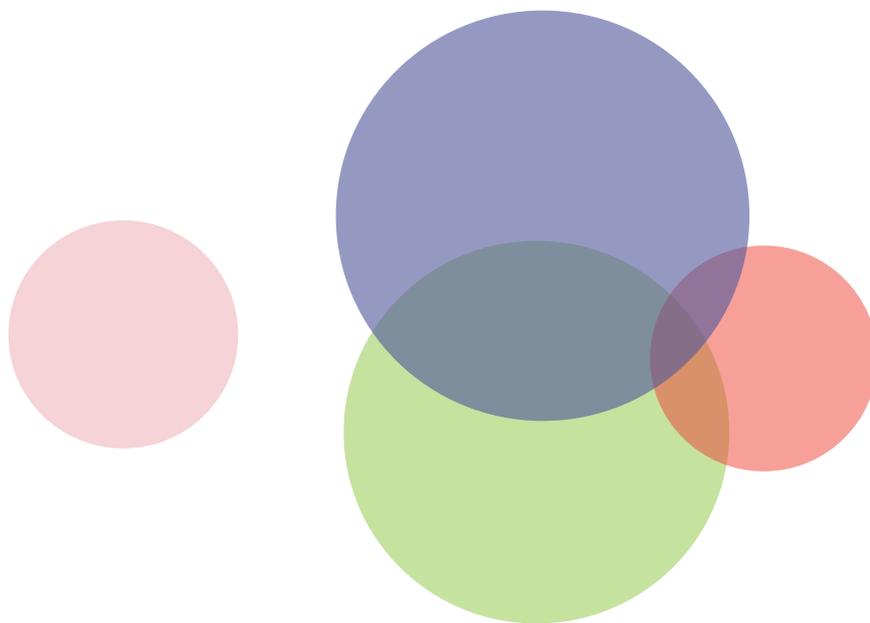
**Dr. Tessy Thomas**, a prominent scientist and first women scientist to head a missile project in India. She graduated from Government Engineering College, Trichur in 1984 and took her postgraduate from Institute of Armament Technology, Pune. She has an MBA and PhD in guided missiles technology. Her contributions are well known, and I am not going into the details here.





Above stories of enormous success achieved by women in the field of engineering shows that it is an area well suited for them. The erroneous thinking during earlier centuries was proved to be biased. The women who fought against adversities, pain of partition, loss of family, travelled to unknown lands alone, are just examples of courage, hard work, commitment, and efficiency.

The selection of names except for the first three is made purely on a sample basis, looking at their perseverance, commitment, intelligence, and courage despite very serious adverse circumstances. There are obviously many, many stories of incredible 'Women in Engineering'.



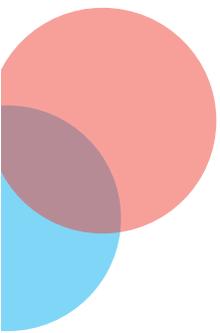


RAHNA KADER  
1991-95 Batch, ECE

# Women

IN THE  
TECH INDUSTRY



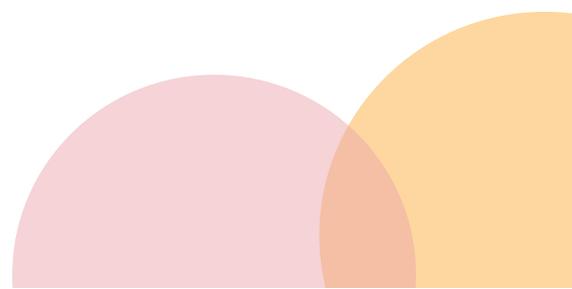
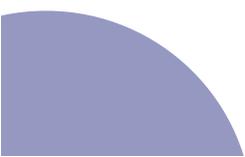


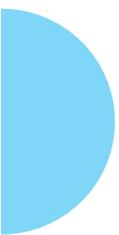
It was in the year 1991 that we joined a bachelor's course in Engineering. It also happened to be the year in which the Government of India introduced its New Industrial Policy; it was mostly an extension to the Liberalization, Privatization and Globalization policies which had been introduced a year prior. As a result of the new policies, there was a surge in the number of investments in the technology sector in India, both by domestic players as well as international ones. It was not just the lower costs of doing business that made India a lucrative technology hub; skilled labour, especially those who were comfortable with English was in abundance, and the time difference of twelve hours with the United States was seen as an attractive opportunity to ensure around the clock customer service to their clients.

While many of our seniors in college found their first jobs in government and public sector companies, by the time we reached our final year in 1995, the scenario had changed. Many leaders in the technology industry were recruiting software professionals from reputed campuses purely based on aptitude tests. So, the arrival of the industrial policies made it inherently easier to get placed in a good firm from the campus itself.

Hailing from a small village in Kerala, I was brought up no differently from the other girls of my generation, taught to be polite, soft-spoken, and compliant. Since my parents were both government servants, their stance on personal well-being and self-respect always emphasized the importance of having a job and thus a steady source of income. That said, they never dreamt of us growing up to decorate important official positions. My parents, themselves being people of quite moderate ambition regarding materialistic achievements, led me to believe in the virtues of having limited aspiration, but achieving greater personal satisfaction in life.

As I made the transition into the corporate world, the first thing I learned was that such inherent submissiveness that was inculcated in me would not help me get noticed amidst the pool of young talent. The corporate culture mandates that in order for employees to be successful, they should be able to express their views clearly, while confidently challenging the status quo and coming up with path breaking solutions for the problem in hand.





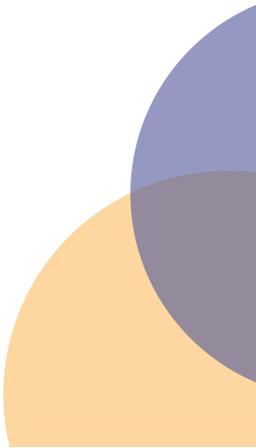
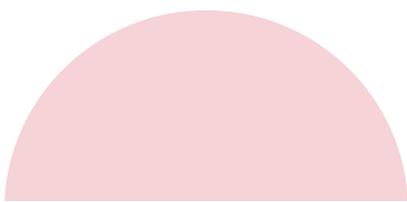
I have observed that a person's behavior and value system are moulded in a certain manner throughout her education process; the appetite for performing professionally can slightly modify it, but it is unlikely to be completely changed—and certainly not easily. I realized that all the women who made it or did not make it have faced similar situations in their professional and personal lives. But the differentiating factor was their approach towards the situation.

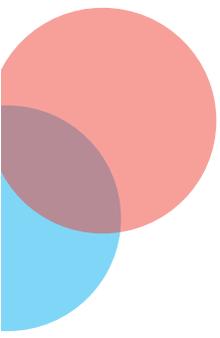
Looking back, I realize that my journey in the corporate world has not been a result of any planned effort from my side but rather due to mere chance and coincidence. The only event of my career that I could take genuine credit for is joining Oracle, one of the world's biggest Enterprise Software Solutions companies. I joined the Financials team of the Oracle Applications Development Organization. Now I lead the team of developers coding the Oracle Receivables & Revenue Management products under the Oracle Fusion Financials ERP suite.

When I started a career in software, there were quite a few professional obstacles I had to overcome. I did not have anyone to give me useful professional advice; the tech sector, in its infancy, was still evolving, and being an Electronics & Communication Engineer, I was not aware of the different options around. Today, the tech industry offers many exceptional women leaders for the young generation to look forward and learn from.

Even in contemporary arena, girls are less likely to pursue STEM (Science, Technology, Engineering and Mathematics) subjects in school and in higher education. In order to foster the female engagement with technology, the government of India has introduced additional 20% seat reservation for girls in the premium technology institutes like NITs and IITs.

Even with all the efforts, the tech industry remains male dominated and the women working in this field feel unheard unless conscious efforts are made to make their presence felt. The gender polarization has been identified as a burning issue to be addressed. Most of the leading tech companies are now developing strategies to attract and retain female talent with several personal development and leadership

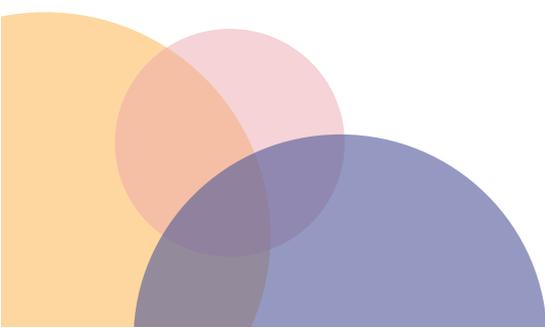


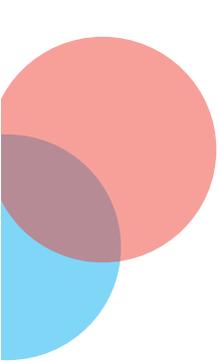
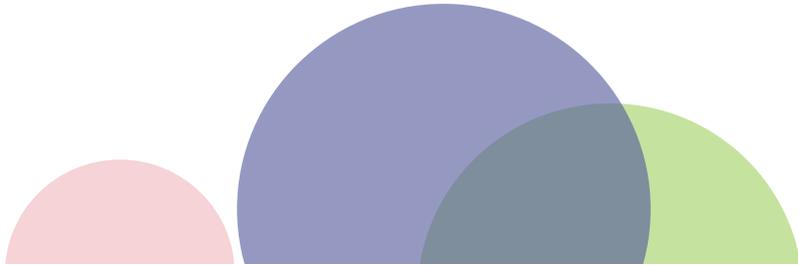


initiatives which help them to enhance professional skills. Individuals with diverse backgrounds but with common development interests gather to discuss and share their knowledge and experiences and such networks provide practical tools to women that quash unconscious biases and barriers. Despite these efforts made to achieve gender equality in the workplace, women are significantly under-represented in the technology industry, holding only 19% of the tech-related jobs at the top 10 global tech companies, as compared to 81% by men.

In the course of life, when the time comes to start a new family, it is more often seen that women are forced to shoulder much more responsibilities than their male counterparts; there is a continuous hemorrhaging of women out of work as they exit their careers over time, most notably as they become mothers. Although there have been small changes due to conscious efforts to generate awareness, such biases largely remain deep-rooted in society. At every stage in her life, the woman will be torn between the two conflicting aspects of her life; the professional side of her life would require her to turn a blind eye to many of the fulfilling dimensions of her personal life. Society might expect the woman to look into every detail of her family's well-being; it requires great focus and motivation to keep both the professional and personal aspects move forward harmoniously. Often one even falls into self-loathing. The realization that one's personal satisfaction cannot be measured in terms of the success in one's workplace alone will enable us to deal with such crises positively. We need to focus on the most important things in life at any point in time and act accordingly.

Though more than a quarter of a century has passed after the beginning of the "software revolution" in India, a significant portion of today's collective consciousness remains unaware of the business environment prevalent in the software industry, or more importantly, the several advantages it offers in terms of the financial benefits and the flexible work culture. In an era where technology is bringing about paradigm shifts, relentless innovation keeps companies in the forefront and both genders have an equal opportunity to innovate. With organizations focusing on reducing gender polarization, it is time for today's women to step up and look to the software industry for their career options. This industry is more women friendly than any other industry for the following reasons:

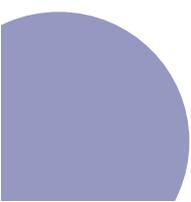


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- The much-applauded flexi-timing is a boon for the working mothers. Most of the good companies are flexible in terms of the number of hours the employee spends at work, the focus is more on the quality and timely delivery. If you learn to manage the time well and pay attention to every detail of what you work on, you will be able to handle the other personal responsibilities also very well. Moreover, companies make deliberate attempts to include the day to day needs of their employees into their work schedules so that they get the required personal time. To quote an example from my own life when my child was in his lower primary classes, I was officially given a break from 2 PM to 5 PM every day so that I reach home before my son reaches home from his school. I would compensate this loss by working extra in the early morning or late evening at my own convenience. The management was always supportive of this requirement for almost 5 years continuously till he was old enough to handle his chores himself.
  - The concept of remote working allows employees to work from a location outside the office premises. If you have a laptop with good network connectivity, you can complete your work, and ensure a better work-life balance. Again, I was given an option to work from home whenever my child had holidays and that made my life more fulfilling and satisfied.
  - As long as you work hard and have something to showcase, it doesn't matter where you come from or how you look; the working environment promotes equal opportunities for all employees.
  - The organizational hierarchy is only for giving you directions. However, you have the absolute freedom to experiment in doing things differently.

We live in an era of unprecedented opportunities. Once you are into the corporate world, you should keep the following in the mind

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- Always express your thoughts and feelings in a positive way. Don't shy away; nothing is obvious. No one has the time to review your 'silent' work and motivate you; everyone is busy with their own tasks. You need to take ownership of your career and show the ambition and drive to rise up in the chosen profession. Today's corporates are not managing the career of their knowledge workers, each one is expected to be doing that job herself.
  - Understand your strengths and try to build on them. Generally, people achieve great results by doing things they are good at, instead of trying to improve on their weak areas.
  - Always try to understand the direction towards which your company is moving and its wider business environment. Try to understand how your role fits-in in the context of the overall business direction. If your personal ethics and value system resonates with that of the organization, you find yourself living a worthy and fruitful life. If you find any difficulty in this aspect, don't hesitate to seek help of your manager. This will help you contribute effectively, as you will now know why you are doing certain jobs which you otherwise think are unimportant.
  - And finally, working really hard is not always the only key to success. Understand the importance of devoting a little time in developing relationships, establishing networks, and hanging out for likeability. These are also crucial factors to one's success.

There would be situations where one needs to go the extra mile to complete the project deliverables and meet the deadlines, but that is more of an exception than the norm. In my career spanning over twenty-five years, I have never perceived the pressures and responsibilities to be a burden, rather I felt always energized when such occasions arose. I sincerely hope that this article provides an impetus for many more women to consider the tech industry as a serious career option.



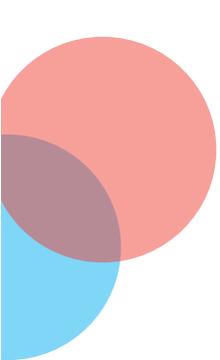


DR. DEEPTHI BENDI  
Assistant Professor  
Department of Architecture & Planning

# REFLECTIONS

EXPLORATIONS AND EXPERIENCES



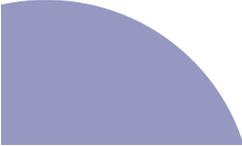
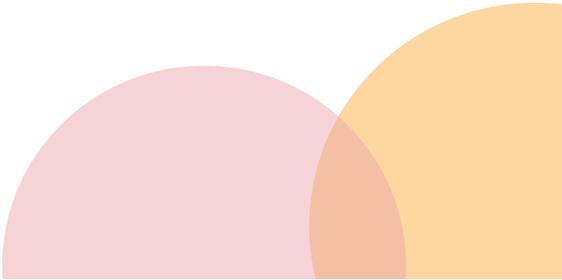


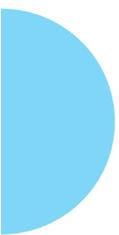
*In this article, I attempted to share my experiences and lessons learned. I reflect on my nearly 18 years of journey in the 'Built Environment' as a student, practitioner, and researcher in India and England. Some of the challenges and explorations of my life are penned for you. This may help budding professionals and enthusiasts in their early careers. Indeed, there were many lessons I gathered in the last two decades, of which I have selected a few relevant points for the current theme of our newsletter. The views expressed in this article are purely personal and do not represent those of my organisation.*

The data stories reveal that the world's women in numbers do not stand as tall as the achievements of women in their respective fields. The field of Science and Engineering is not an exception to this. A recent study by United Nations, titled 'The World's Women 2020: Trends and Statistics' presents interesting findings based on over 160 UN datasets. It states that women continue to be underrepresented among graduates in the fields of Science, Technology, Engineering, and Mathematics (STEM), constituting only 35% of the world's STEM graduates. According to the UN, women comprise only 14% of the total 280,000 scientists, engineers, and technologists in research development institutions in India. The rate of discontinued female and drop-out numbers is alarming too.

One of the pressing challenges is expanding and retaining women professionals in the leaky STEM career line. The root cause analysis reveals both fundamental and debatable causes. While the evident gap is intimidating, the growth in number over the past 25 years and the opportunities set an encouraging backdrop. At this juncture, as I talk about 'retention' in this field, I attempt to reflect on my academic life and professional career being a woman engineer (in construction). This article summarises my reflections with the hope of encouraging young professionals to pursue a long career amidst the challenges and intimidating circumstances. Before I dive into my flashback, I would like to take this opportunity to acknowledge the consistent efforts and policy interventions by several governments, numerous organisations, and individuals across the globe in promoting and supporting women in all realms.

I humbly put forth my experiences. You may select the points that resonate with you. It may need a bit of customization for your context and the current phase of life. Feel free to tweak it. Here goes the list.





## Language is a problem, but you are not alone

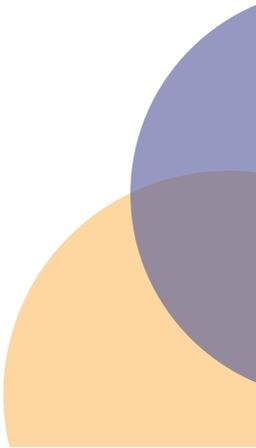
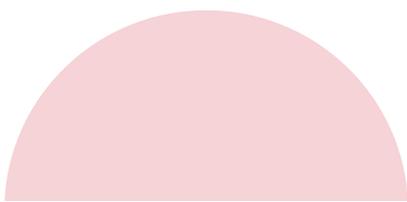
English, or any foreign language, is a barrier for millions across the globe. Here I would like to share my experiences from my Undergraduate studies. My B. Arch was a bag of mixed experiences. It was quite an overwhelming and partially intimidating journey. The first challenge was in the form of 'English'. In fact, it continues to be a challenge. My entire schooling was in Telugu (my native language) instruction mode. It took me a few years to grasp and absorb lectures, literature, and essential discussions. But as I grew, I understood that I am not alone in this struggle. I have met several students and young professionals struggling with vocabulary and suffered from bullying. Thus, my first significant learning was realising it is my problem, but I am not the only one. That gave me the confidence to combat and aspire. Similarly, language could be your problem, too. But you are not alone. If English is blocking you from achieving your dreams, how about, you start your practice immediately? Well, practice makes a woman perfect, too, and as we all know, communication is vital for a successful career.

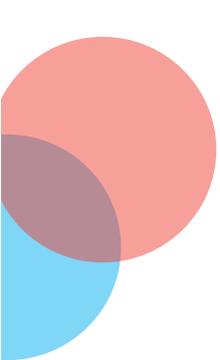
## Diverse environments bring new learning and creative solutions

During my Post Graduation and Ph.D. days, I realised the beauty of diverse backgrounds. I experienced an atypical learning environment, rich diversity, an agile teaching system, and campus life at the University of Salford Manchester, England. The student life at UoS and my excellent teaching and learning cohorts at the School of Built Environment opened new avenues. I became part of 10 different societies, including Women in Construction. The quality of mentoring and peer-to-peer learning was exceptional. Our debates and arguments always led to new explorations in various domains. I continue to refer to some of my journals and notes of my uni days. It sparks an idea or two on the days I am stuck, and a few other times, I reach out to my research contacts in multiple disciplines. I also find it easy to adapt to new environments because of my past experience with diverse groups. Realise the power of diverse work/research groups and embrace it. Therein lies a bonus point - such workgroups bring a wide range of delicacies to the table. Imagine sharing a variety of platters during your lunch or dinner break. Imagine the endless stories about its origins. If you are a foodie like me, you would agree. Wouldn't you?

## Good work wins hearts and minds. Be part of spirited teams

I gather this from my work experience in the industry. I worked as an Architect in





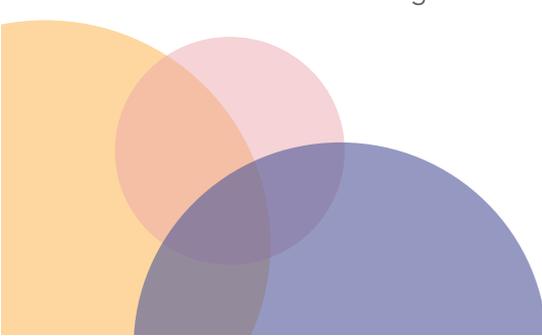
Hyderabad and Bangalore, a part-time site manager in Manchester, and a few seasonal jobs. I had an opportunity to work with a dominant male workforce. Some of them were judgemental. A few were hesitant to accept the instructions, while some vendors were skeptical about the instructions. It was challenging. The deliverables were always stretched beyond the expected time schedule. The years of working in adverse site conditions with a few encouraging and largely stereotypical staff exposed me to the reality of the industry. But commitment, serious work, consultations, and co-operation changed things at work. I found teams where I best fit after some ground research. I understood the value and potential of teamwork. With good teams, we could move mountains, do wonders. Our teams worked in tandem and completed a few prestigious projects with just two to three months overrun. I did well because my team did well. So be a contributor to the team and do good work. Good work is often contagious, and hard workers are positive influencers. Your work speaks for you. Find the team that best suits you, be a contributor and a positive influence. Let the targets melt.

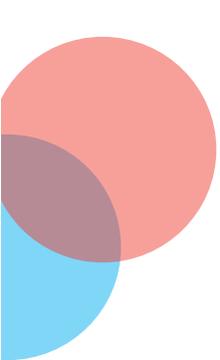
### **A part-time job is a game-changer**

Young students/ readers with a career break may find this interesting. Often, money takes the prime attention when one talks about a part-time job. But if you become observant, every part-time job is an opening to the part of the world unseen. I do not remember the money I earned, but I remember the fun and hard-earned lessons from various part-time roles. My part-time profile ranges from site manager at the Construction and Property Renovation firm to, casual job as a retail assistant in Manchester United Football Stadium, Paralympics 2012, Christmas jobs in Sainsbury's, and KFC. Every single job has introduced me to different nationalities, ideologies, religions, and cultures. If you get a chance, choose a suitable part-time job, and give your best. Do not differentiate it as part-time or full-time. A job is a job. Stick to your work ethic and sharpen your skills.

### **Volunteering is a foundation course for a gratifying career**

I earned some of the most memorable experiences and valuable lessons of my life from volunteering. I volunteered in many academic and social events. Even today, if time permits, I do not shy away from volunteering for a meaningful task or community job. One such volunteering work introduced me to the research group engaged in 'Promoting Construction Careers for Women in the North West, England' at UoS.





There onwards, it was a snowball effect. It connected me to a highly motivated and talented pool of people. I heard about the Career Development Plan for the first time in one of their workshops. In that same workshop, I fumbled while explaining my long-term plan, yet no one in the 30+ audience reacted to it. In fact, many women engineers have shown interest in commenting on my plan and guiding me through my initial days. I won rich experiences through community works. It continues to bring immense satisfaction that is incomparable to any monetary benefit.

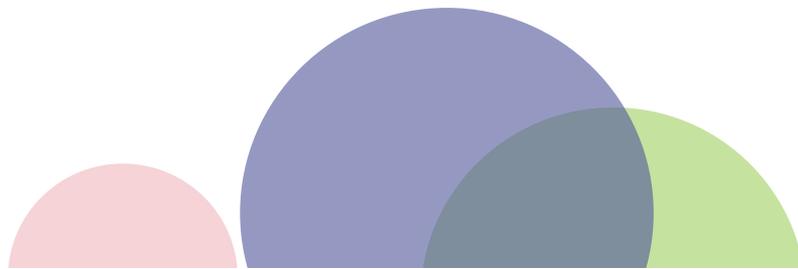
### **Challenges across the globe are merely the same**

I think the adage 'grass on the other side always looks greener' best fits here. In my little observation, I noticed that we consider the limitations and challenges as contextual or geo-specific struggles. I was born here; hence I am suffering; this wouldn't have happened if I had worked in that company. This and that. I was of a similar mindset for quite a spell of my adulthood. But I gradually grasped the reality and understood that challenges are universal. So are the hurdles. I realised racism and disparity have no geographical boundaries. Many countries host narrow minds. No profession runs without conflicts. Everything comes with its own baggage. A level playing field is a rarity if not a myth. But the good news is since several challenges are universal, we may overcome them by acquiring a few mandatory skill sets. You may conduct your own SWOT analysis to find your interests and niche. Once you analyse, self-equip yourself to win the game. Every day is a learning day.

### **Find a mentor or mentors in different realms**

I benefitted a lot, and I continue to enjoy the luxury of receiving apt mentoring. Mentors are like our Google maps. They ease navigation and often re-direct if we are stuck or lost. I am fortunate to have professional mentors like my supervisor Prof. Arif. It is an association of more than 12 years. I continue to seek his guidance whenever I am in doubt. I share every update, no matter how small it is. I occasionally share my frustration, too (we are all human!). He is one of the most pragmatic people I have ever met, and his mentoring immensely helps me.

Similarly, I have a few other mentors from different walks of life. Whenever I have sought their suggestions, they have never turned their backs. Some may give appointments for a later time, but they always accommodated me. They were patient to listen and share their experiences. A few of my mentors have also shared their





failure stories. It instilled confidence in me. It helps me to accept, forgive and analyse my mistakes. After a detailed post-mortem of every failure, I focus on the reasons and room for improvement with greater clarity. In my early days, having a mentor felt like having a rear camera to a car. Mentors shed light on our safety zone, and if we continue to update our progress, they may alert or correct us if we are entering the danger zone. If you do not have a mentor yet, search for one right away.

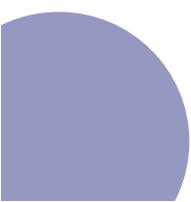
All you need to check is the compatibility and their willingness to mentor you. In my experience, I noticed that busy professionals and bureaucrats are approachable and sensible mentors. So do not hold back if you think a Prof could be your mentor if you think a CEO could be your mentor. Or you may search via the alumni link. Avail mentor features of the NITCAA webpage. You try to reach them and express your interest. Tell them why you believe that they are the best fit to mentor you. Share your career plan or your aspirations. Share your confusion. They may take a rain check. It could be a yes or no. But do not stop it if it does not work. Re-search, Re-configure, and Repeat till you find your mentor. Create your mentors' group. After all, we navigate better with a compass in our hands.

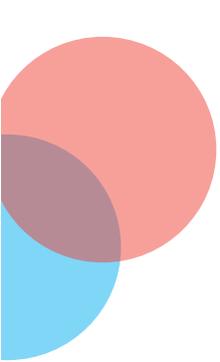
*I also take this opportunity to thank my family (they are part of my mentor group) and all my mentors.*

### **Ask questions and be a sincere listener**

A part of this point is my work in progress. I mark it as a lesson since I have realised the merit of this point through several personal experiences. I will elaborate. It is a known fact that 'question' is the origin of learning. We learn and grow when we stay curious and ask what, why, and how (also other similar questions). Hence, asking question is essential for our learning. I ask all my seniors about various things. I do not hesitate to ask if I lack knowledge and the other person is aware of the know-how. I also ask people younger than me what they think, how they feel, and why. My seniors helped me in improving my skills and quality of work. My young friends enabled me to view an alternative method /dimension to some solutions. It broadens my exposure. Thus, I value good questions, and I enjoy interactions with all age groups.

Now the later part is my recent addition. By large, all adults know the importance of listening. I will not waste your time repeating it. Instead, let me share my experience of practicing to be a good listener. I take part in a lot of quality conversations. But at

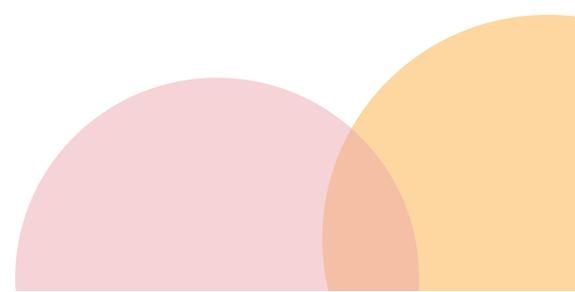
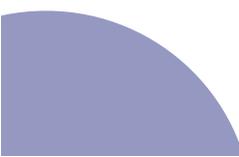




times, I ended up interrupting other participants or speakers in discussions. I used to complete their sentence! In my view, it was an expression of my attention. But apparently, such responses interrupt the thought flow and derail the conversation. That is an alarming thing, isn't it? So, let us continue paying attention. Ask what interests you. Listen with your ears and eyes and try to absorb. Let the speaker(s) finish their sentence! I am exercising it. If it convinces you, join the club. Listening tops the list of skills essential for a successful career.

Here we are, almost at the end. I also value empathy, gratitude, self-advocacy, and adaptability. Going through this article, it may appear that these lessons are universally applicable despite gender. Yes, they are. Our intellectual evolution and our response system do not have any separation as men and women. It is the most natural human ability, and we are all able humans at the core. But for some of us, society builds walls, throws stones, and a few even attack your confidence. If the place you live or work or any individual attempts to curtail your aspirations by suggesting 'this is not for women', 'this is difficult for women' or forces you to exit the profession based on your gender, DON'T FALL FOR IT without testing it yourself. If it is your dream, just believe in yourself, trust your skills, and break the barriers. Bring the walls down. Because like Ruth Bader Ginsburg said, "Women belong in all places where decisions are being made." As an engineer, we are part of creation and decision-making. Our every day is about new decisions and new learning. Let us become the woman of skill and resolve to face today's challenges and build a bigger and better-engineered world for tomorrow. Shine ON.

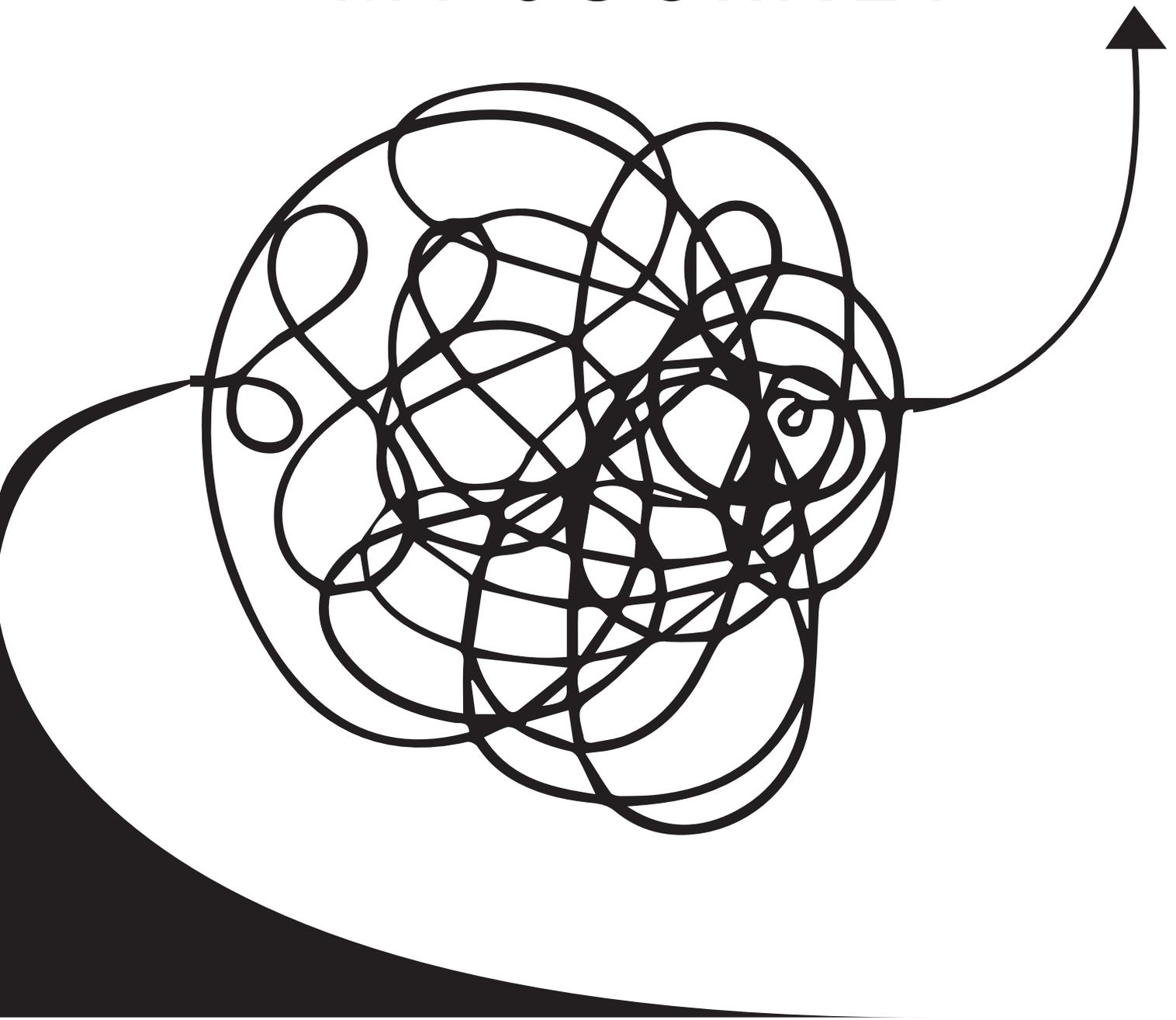
*Thank you for reading. I would love to hear about your experiences. You may reach me at [drdepthibendi@gmail.com](mailto:drdepthibendi@gmail.com).*

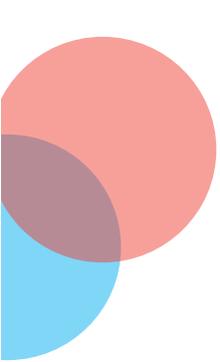




PUSHPA PAULOSE  
1971-76 Batch, Electrical

# MY JOURNEY





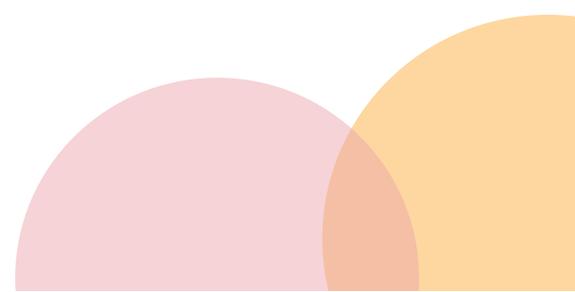
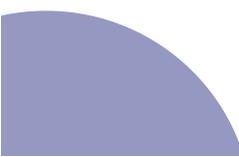
Hello everyone, my name is Pushpa Paulose, and I belong to 1971-76 Electrical Batch. Muthulakshmi (Mech 1972batch) asked me to write about my engineering journey. First, I was reluctant but then she insisted, and I decided to write. If in any way, it can inspire our juniors it will make me very happy.

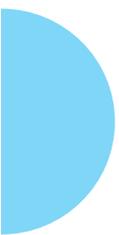
My excitement was beyond comprehension when I got the admission card to join NIT (then REC). My Father and I came to the admission office when Prof Bahaudhin, the principal wanted to speak to us personally. I was the only female candidate that year. First, he spoke to my father and asked him to persuade me to drop this idea. It was more my father's dream than mine. He told the principal that whatever I decide will be ok with him. Next, I was called in by the Principal and he explained that it is a very tough field for girls, and it is not possible for them to do well, and I will be ruining my career. I told him that I am determined to pursue this degree and I will do my very best and that he will not be sorry to admit me.

Finally, I got my admission, and my father took me to the girl's hostel which was a small house then. The next day I reached the college campus and even before I entered the classroom I was hooted and whistled at by the seniors. I was sure they would not harm me physically and so I kept a straight face with my heart pounding and reached my seat. My classmates went through more ragging because of me. This became a daily routine for a month or so and then everything subsided. It was very difficult to sit alone in a class of all boys with no one to share notes and assignments. The culture then was totally different from what the new generation is enjoying today.

I completed my degree and returned to Chennai in 1976. Took up a job at an electrical company and worked there for six months. In the meantime, my father was planning to start an industry at Aluva, my hometown. I came back to Aluva and joined SSI training for young entrepreneurs.

At that time, I could not accept this idea because I felt I need experience before I venture into something like that. I felt I should do my master's in a good field and that is when I applied for admission to NIT Surathkal for Industrial Electronics which was a very sought-after field. I managed to get a seat there. The quota was only for 10 students.





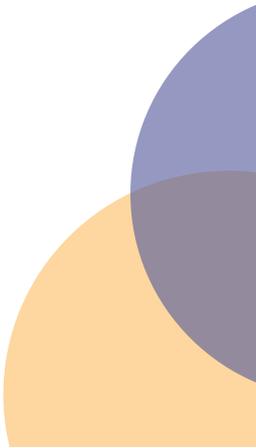
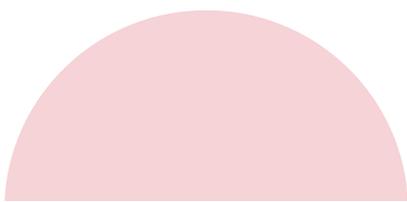
After completion of my MTech, I came back to Aluva and joined Eddy current control Ltd at Chalakudy. The owner Mr. M. D. Jos gave me ample opportunities and treated me very well because of my MTech degree. I was made in charge of production and R&D. I worked very hard and made a lot of waves in the company not knowing I was creating a lot of enemies among the senior managers. I was shocked with the politics there and one day I left the company not planning to return. When my mother realized that I had quit the job she was very sad and told me that with this attitude I would not succeed in my career. She asked me to go back, which I did.

Finally, after trying for another job, I got a chance to work for O/E/N India. Without creating any controversy, I worked there for 3 years. My mind was all set to go to the United States and finally I was able to go there through my husband. After I reached the US, I searched fervently for a job and within two months I was able to get an engineering job at a noted Avionics company in Florida. Here I started as an entry level engineer. My hard work and dedication paid-off. Sky was the limit and politics had no space here. I grew with the company and became the director of engineering in a span of ten years. While working here I was able to get an American patent for some communication design work.

Luck was not totally on my side because I gave birth to a baby girl who had numerous medical problems. Taking care of her and my job was an impossible task which I juggled thanks to the support of the company management. Finally, I thought enough is enough and we decided to come back and settle at Aluva at the banks of Periyar.

After a few years, I took up the job of HOD for Electrical, Electronics and Computer Science at MES Engineering College. I worked there for about six years enjoying every moment of my teaching life. Later, I had to give up my job because my daughter needed my undivided attention.

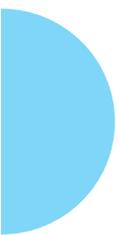
Thank you all for reading my experience. I have no regrets and I do not think I could have done better than what I achieved. All thanks to my Alma Mater.





# MUSINGS

BEENA BHATT  
1988-92 Batch, Architecture



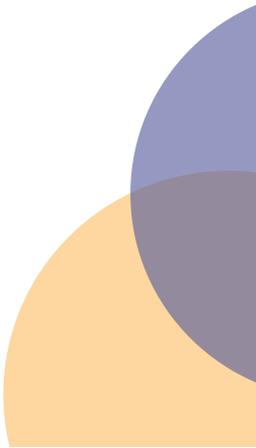
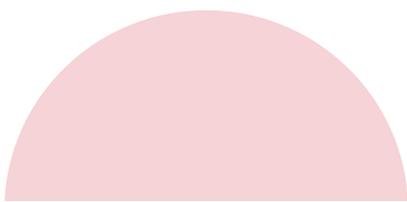
Leaving home at the age of 18 to join college was not easy. There was nervousness and at the same time excitement of treading the unknown. Getting admission into REC was like a dream come true for everyone in my family except for me. Maybe it was the branch of engineering that I would be studying that did not excite me. But join I did, and four years of my life were spent less in studies and more of I don't know what.

Times were different then, life was simpler, needs were few, no mobiles, laptops, gadgets, and the internet. Calling home was from either the STD booth or the common phone in the hostel. We all adjusted well in the hostel, there were five of us in a room, and this continued till the third year, after which we got a single room. There were differences, but life went on. Walking down to college for the early morning classes, I still remember enjoying the view of the 'blue mountains' as they seemed at that time of the day. The long walks in the evenings to the 'Valley' was something to look forward to. Life's luxuries at that time besides the hostel food were Mamu's juice shop and 'Pappachan's' kada. No fast food joints. And the pastimes were either a game of TT or Badminton.

After graduation, the realities of life became more evident as at that time there were fewer women in the construction field and companies were reluctant to take in women engineers. Even now I remember working on a salary of Rs. 2000/ month and being happy that I was doing something creative. For ten years I worked in the field of Structural Engineering and when I took a sabbatical after my daughter was born the salaries started to increase; but now it seems impossible getting back to work.

The Facebook era brought us all together once again since we were hardly in touch after graduation. 18 years after graduation a few of us had our first meeting in Bangalore and it was just like catching up on old times, reminding us of the days we spent together.

Hopefully there will be more of REC/NIT Alumni meets, and I will be able to attend the next one. And finally in remembrance of two of my batch mates Suma and Ligi who are no longer with us. Their memories will always be there with us.



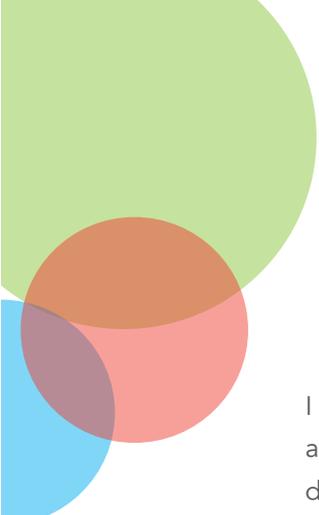


DARSHANA SURESH  
2016-20 Batch, CSE

# ON PINK TOYS AND IMPOSTER SYNDROME

It was during my second year in college when the topic came up in our class group; women in engineering. Or rather, the lack of them. It was no surprise to have fewer girl students in our college, the field of engineering being predominantly male. But we wondered aloud why that was the case.

Someone chipped in that we women were probably wired that way, lacking the interest or even the skillset demanded by the discipline. Maybe that was just the natural course of things. Because surely, there were opportunities, incentives, and adequate resources for everyone to hop into the wagon, and yet, very few of the women tend to make that choice. It had to mean that women just weren't into it, right?



I was unsettled by that idea, afraid that it might be true. So, I dove into a sea of articles online desperate to prove it wrong. There were several studies that tried to decipher the gender gap in STEM field. Some blamed sexism in the workplace, some blamed the demands that came with motherhood, and still others blamed unsatisfactory work environment, lack of female role models, and of course the rock-hard gender stereotypes.

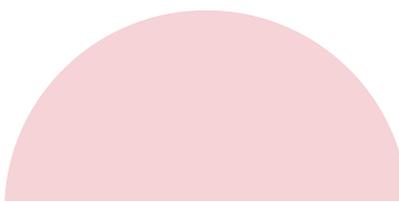
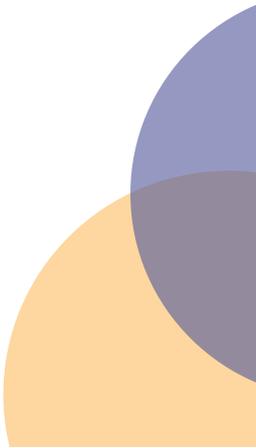
But at the root level, I learned something else. It was that a lot of us women tend to have a big bout of imposter syndrome when it comes to the STEM field. We lack confidence in this discipline. We hold fast to the belief that we're simply not good enough for it, that we don't belong. This mental block in turn takes us a step backwards, or sometimes completely out of the picture.

Of course, imposter syndrome isn't exclusive to women. But it makes sense for it to be widespread among a minority community. Minorities find it harder to fit in, to feel safe, and to be heard. They feel like an imposter in spite of any evidence conveying otherwise.

While there are plenty other factors that contribute to the gender gap in this field, I write about this because it is something I identify with. Throughout my high school, I was that person second-guessing my abilities despite scoring well in science. Scores merely reflected textbook knowledge after all, what if I was no good in the practicality of things? Even as I got into NITC, I was afraid of being finally exposed as an inferior. I remember thinking that my female peers were exceptional to have made it here, unlike me. I was here by luck. I wasn't smart enough.

I believed that we'd have to go that extra mile to be in par with the boys. But the truth is, we only needed to be ourselves. In the four years of college, we made it through the highs and lows of academia in the same manner as our male counterparts did.

It is true that most girls don't develop an affinity towards engineering. It is thought of as a guy's territory. Even the girls who enter the field are thought to be tomboyish in nature. At least the ones in the field know this to be a myth. But why were most girls averse to this domain of work in the first place?



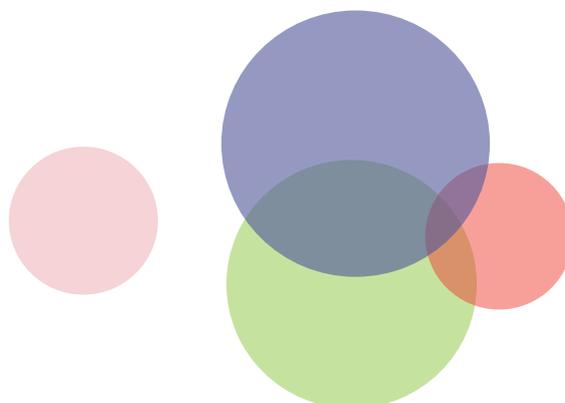


It turns out that this diffidence and lack of interest in engineering among girls is an age-old cultural consequence. It began all the way from that moment the aisle of pink toys was demarcated from the blue at the kids store. From the age where barbie dolls and building blocks defined the gender of a child, ultimately defining their interests and skills. We grew up confined to the stereotypes of what we could and couldn't do, most of the time without realizing it.

It was this study in particular that led to a revamping of the toy industry. It gave birth to GoldieBlox, a toy company that builds interactive toys and construction kits for little girls. These toys diversified the playfield for kids. It promised an exposure to develop motor and spatial abilities that the girls otherwise missed out on at a young age. These were abilities that could play a crucial role in the interests developed when growing up.

This paradigm shift encourages a cultural upbringing that erases gender stereotypes. The toys represent just one side of the matter. What we need are more inclusive conversations and activities in our social environment that don't limit individuals to established gender roles. We need our kids to grow up with the knowledge of all the possibilities waiting for them ahead.

And there, I had my answer. The gender gap in engineering has its roots and reasons. No, we weren't wired by birth to dislike building things. We were instead wired that way when growing up. And it looks like it's about time we did some rewiring.





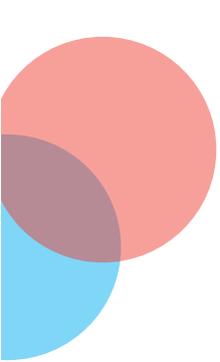
NEERAJA P  
2016-20 Batch, CSE



OLIVE THOMAS  
2015-19 Batch, CSE

# INTO THE TECH

We joined our first job in tech careers recently with absolutely no idea of what to expect, add to it the pandemic and work style shift. Besides the classroom knowledge, a few hackathons and college projects, we had pretty much no idea how software development actually happened in the industry.



## **The learning curve**

Even though freshers have training, getting familiarized with the huge codebase, the processes and procedures for each and every development work is a tough task in itself. This gets even more difficult when you are a fresher and you start your career working from home. The first few months were periods of self-doubt for most of us. To quote from personal experiences, many a time, we thought we would never be able to complete a task on our own. But just like every other fresher, we too learned, in due course of time. Learning is a slow process and accepting it is the first step

## **Asking for help**

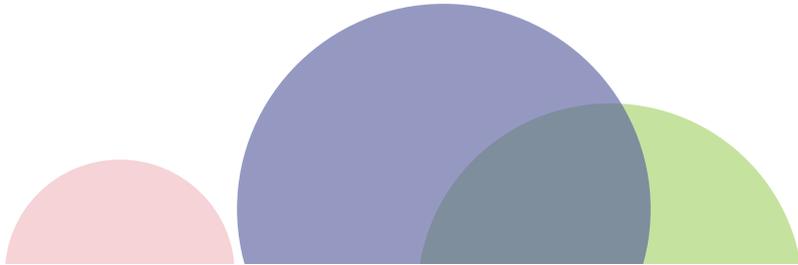
Getting stuck with an issue is common and asking for help should also be. If you are facing an issue, most likely someone else has already faced it. If we cannot find a solution within a specific time, we should try to ask around. Most of the time, we can get those issues resolved much faster this way

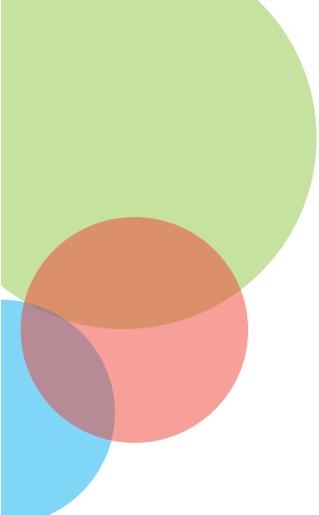
## **Sole female**

Most of the time in tech companies, we generally see females to be quite less in number. Most of us can relate to being the only female developer in our teams. The experiences are different for different people. While some may not experience any difference whatsoever, there are also cases where women are judged and treated differently.

## **WFH**

The idea of working from home, in the comfort of our homes, not having to get dressed, not having to waste our time in traffic, all sounds wonderful. But along with the comforts, WFH comes with its own set of challenges. Time management and balancing work-life are some really difficult issues that most of us face. For an experienced person, who is already in the groove and knows what is expected of them, things might not seem very difficult. But that is not the case with a fresher. Things may seem bizarre. The transition from being a college student to corporate life virtually is challenging. As we discussed earlier, the learning period in itself is a tough time. Added to that comes the overhead of having to clear your doubts over a call or IM. Convincing managers and ourselves that we have done enough for the day





was yet another challenge. Without almost no casual interactions in between work, WFH has mostly turned to all work and zero social interactions. Taking enough breaks and maintaining a healthy lifestyle became all the more important now that our offices are in our home.

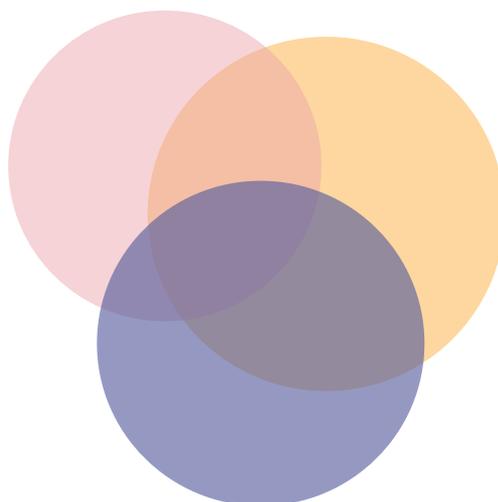
### **Financial independence**

Starting our career opens our eyes to the world of finance like never before. Since financial education was never a part of our curriculum, it is imperative for everyone to make an effort to be financially literate. With the internet and free availability of resources, there isn't any scope of excuse for being ignorant.

Financial independence is crucial for every individual, even more so for women, given the social conditions we are in. Even today, there are many households where women's earnings are entirely surrendered to the spouse/male family head without being given a choice. It is normalized to such an extent that women do not seem to have a problem with it. There should be a conscious shift in everyone's mindset about this heavily normalized injustice.

Moving into the tech world is a huge change with adaptability being integral to help you grow. Every day brings its own challenges, and every challenge that comes in brings a new set of learning experiences. The way you deal with the challenges and capitalize on your opportunities will help to shape your career. And finally, don't forget to take breaks and have fun.

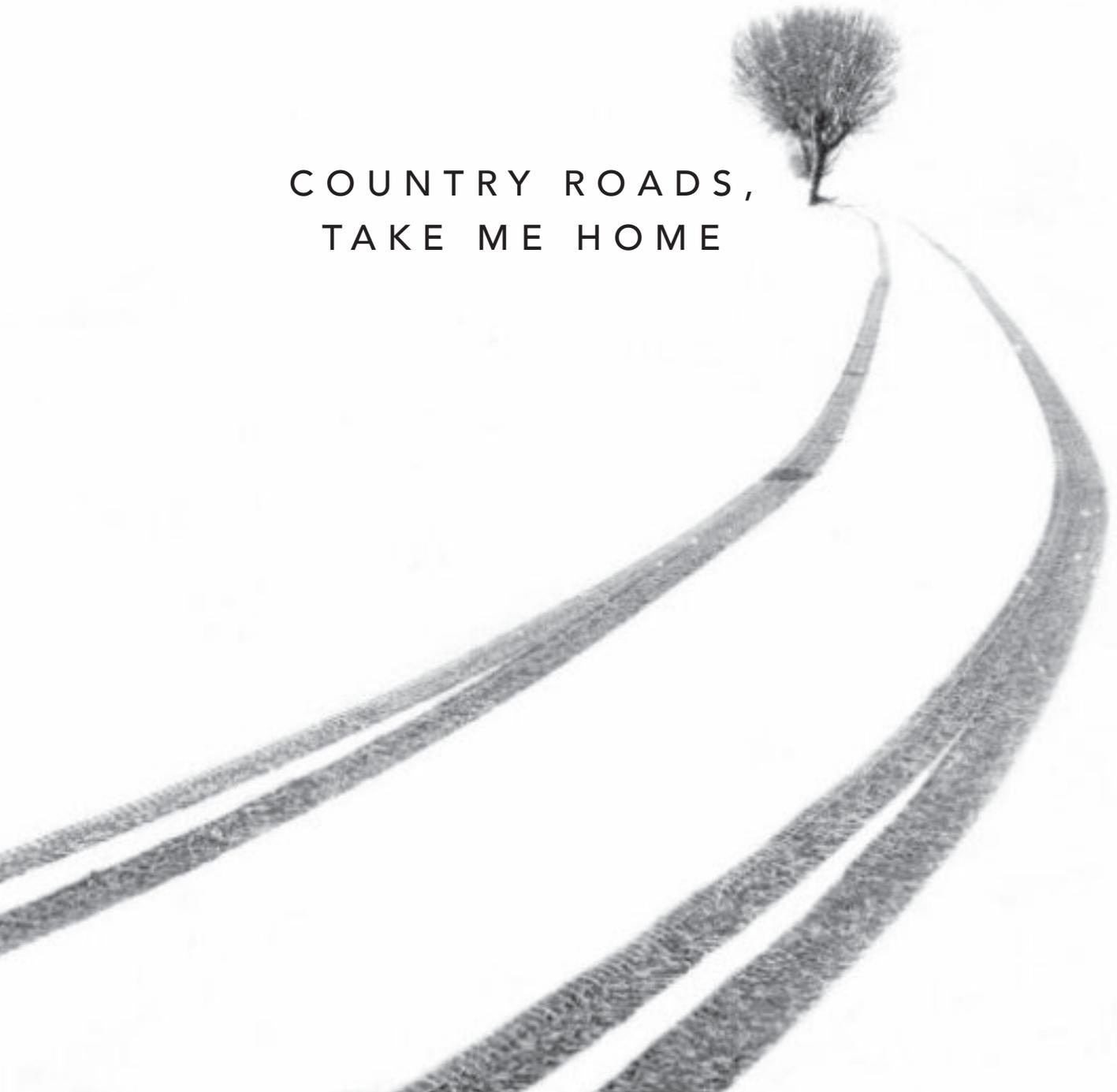
*Cheers!!*





MANJIMA UNNI  
2000-04 Batch, Civil

COUNTRY ROADS,  
TAKE ME HOME





When Hari (my batchmate & Editor of NITConnect) asked me to come up with an article for our Alumni Newsletter, I enthusiastically agreed. Little did I know that the habits I had developed expertise in while at the Institute, will come to haunt me and I will push the submission till the deadline and beyond. Unfortunately, unlike the yesteryears, I did not have any of my friends' record book to turn to, to copy or use as a reference. I finally decided to start from my recent visit and interaction I had at NITC.

During 2019 I had the opportunity to return to the Campus as part of the recruitment panel for the firm I work for. It felt truly special to address the graduating batch of 2020 at the Aryabhata. I could clearly recall how I had sat wide-eyed in the audience all those years ago.

A short break between the interview sessions gave me a chance to meet a few of my beloved Professors and quickly do a round of our beautiful campus. Not to miss the canteen and Co-ops, I ended up having an egg biriyani and a chocolate shake. The visit to NITC would not have been complete without going to LH (Ladies Hostel). Though some new structures have come up it felt nice to see my old room, the Mess, and the TV room. It was a truly nostalgic trip in every sense, and it brought back a flood of memories.

I still remember clearly that rainy morning I reached AB (Administration Building) for the first time to attend the counselling session and sitting in the auditorium mightily impressed with all the goings-on. The girl who was just before me in the queue ended up being one of my best friends. After allocation of the branch, a quick meet with the then principal MPC (Prof MP Chandrasekhar) was followed by sealing the deal to become a very proud CRECIan.

I was one of the (un)lucky few who was caught by seniors on the very first day college life. Being a day scholar at that time, I was escorted to the canteen from the bus stop for the typical interview round. When I came out, I saw my friends still waiting for which I was so thankful for that. Thus, on the very first day, we were late entrants to George Sir's Engineering Maths class, and little did we know this was a trend to be continued.

The next few days went in whirlwind of introductions with 400 odd freshers figuring out and getting familiar with each other from various parts of Kerala and the Nation





as a whole. We even had IIM K 'buddas' (that's what they used to call themselves) for company next door as their campus was still getting constructed. Lunch times used to be interesting when the seniors used to come hunting for day scholars or in REC lingo 'dayschis' - we were sitting ducks and stood out from other freshers, who had to adhere to a dress code.

The real fun of college life started when the cultural fests for Freshers (Sangam conducted by Indian Cultural Association & Debutante by Literary & Debating Club) happened. I did not want to miss out on any of the festivities and spent the duration of both events as a 'Guest' at the LH. All those jam-packed days and nights working together with my beloved 'Civilians' had me hooked on hostel life and I got myself enrolled just before the first semester exams. LH would be my home till graduation.

Looking back, that first year in campus was the 'longest', with every day throwing a new challenge and experience at me. Second and Third Years just flew by with a cavalcade of Sessionals, Semester exams, Labs, Projects, Ragam, Tathva, IPF (Industrial & Planning Forum) events, many a trip, Mamachan lunches, co-ops, Lovely Foods, and my weekend laundry trips home.

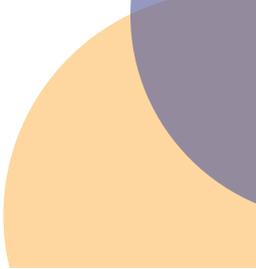
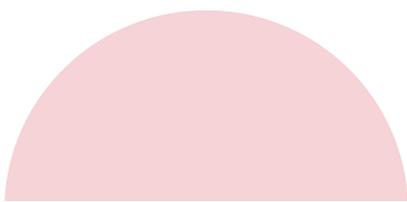


By the time final year dawned upon us, there was a collective shudder in the batch that our days at NITC were numbered. In between hunting for jobs via campus placements, casting a weary eye at further studies, all of us tried to cram in as much of NITC as we could before the clock literally ran out. We were the special batch who spent 2 years in CREC and the next 2 in NITC. We experienced the intricacies of University of Calicut for 2 whole years and then enjoyed the 2 years under the deemed University status of NITC.

At NITC we found friendship, struggles, pure bliss of teamwork, hard work, success, failures, love, heart breaks, difference of opinions and when we were ready to step out into the wider world by the summer of 2004, I firmly believe we had become a set of well-rounded adults moulded adults.

Even now when we catch up from different parts of the world, we realise that we haven't really changed much since then. The same amount of craziness and passion remains within us. I am already looking forward to being back again at one of my all-time favourite places.

**"Tatta datta tattatta eeya oaaa NITC"**





RAGI K GOPI  
2002-06 Batch, CSE

WELFARE SCHEMES  
FOR  
WOMEN EMPLOYEES



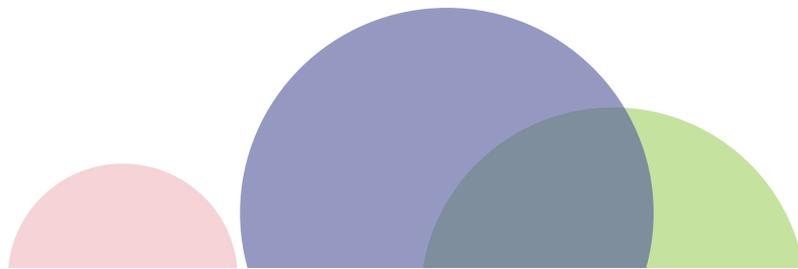


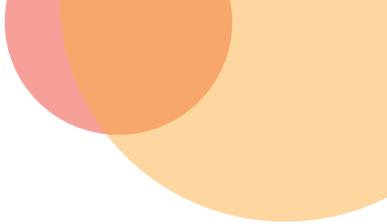
It has been a long time since I graduated from NIT Calicut and the memories and experiences recollected here is quite a tardy process. After almost 15 years, I received a forwarded message in our ladies WhatsApp group, calling for contribution from women alumni of REC/NIT Calicut for writing the articles for our Alumni newsletter. I took up this matter with a staff member working in Mechanical Department at NIT Calicut. There I was told that the Central Workshop in Mechanical Department does not have lady's toilet facility till date. It struck a chord with me and made me to think it over. As a result, it brought back to my mind about the current issues that women still face today in our country. Moreover, with my past experience in Amrita research Center under Amrita University for Women Empowerment project and later, now working in ESIC, a social service organization under MoL&E, Government of India, I have been exposed to the various women welfare schemes being implemented in our country.

Though I was fully occupied with pending works because of lockdowns imposed owing to the ongoing COVID-19 pandemic, I got the burning desire to pen down some things that came to mind about the various issues being faced by women in India.

As per the news reports, Governments has provided the women welfare schemes related to Health, Safety, Social Security and Wage protection measures through various labour laws, it is to be noted that some workplaces under tertiary sector category, still neglect the needs of the women which further discourages them from working freely and independently. It is mandatory for all the organisations employing women to ensure adherence to the provisions related to women in our labour laws. Industry needs to factor that some special considerations need to be extended to their women employees due to physiology, household chores, pregnancy, family responsibilities and sometimes due to poor health.

In particular, as we live thru the Covid-19 pandemic, I would like to highlight the important provisions meant for the welfare of women, such as Clean and Hygienic workplace including bathrooms, washrooms, restrooms, and drinking water facilities, Maternity, Sickness and Disability benefits, Equal Pay etc.

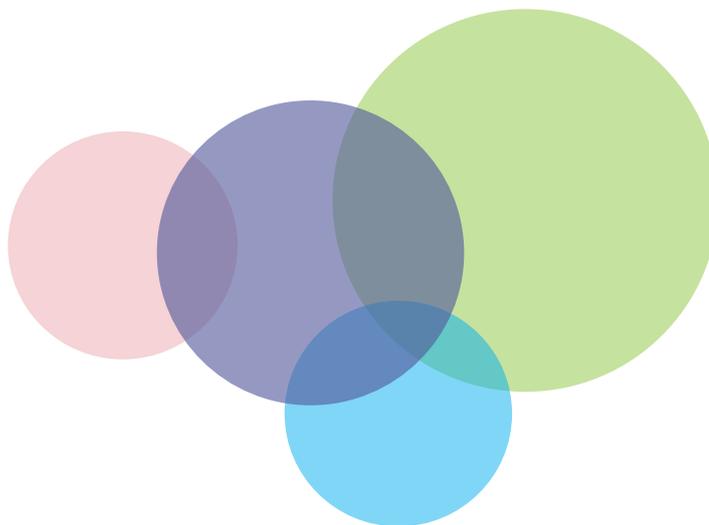




It is imperative to say that everyone needs a healthy and safe workplace to work efficiently and effectively. A healthy workplace increases the productivity of employees and reduces sick leaves.

Of all the above provisions, the women's toilet is a sign of the real level of inclusion of women in institutions. Implementing this will not be easy, but there is no denying the need for greater awareness and action on this issue across India. Speak to almost any woman who has worked for a few years and has experience of different workplaces, and you will get many stories about inadequate, badly designed, poorly maintained and sometimes completely non-existent toilet facilities.

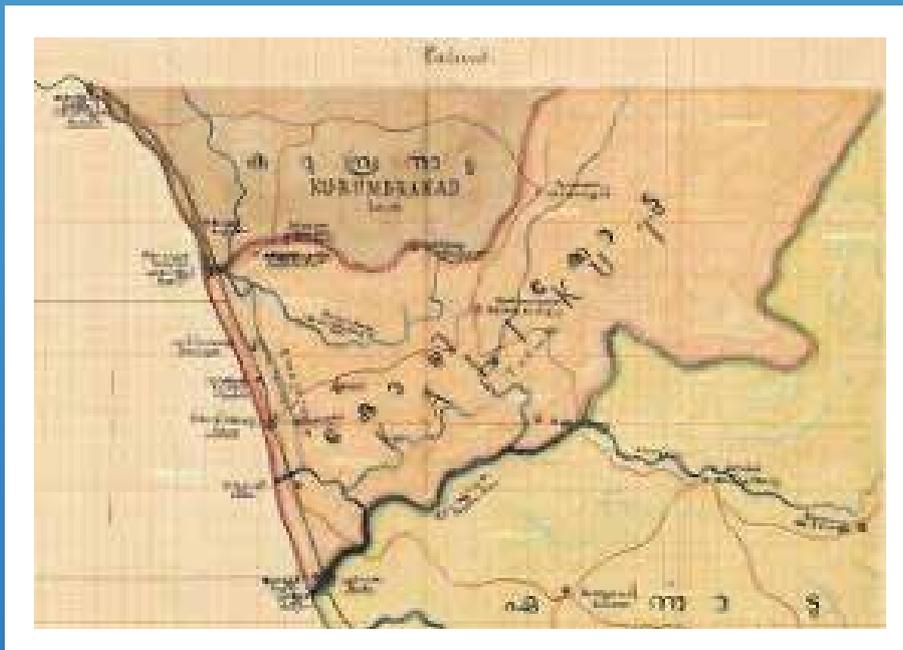
Hence every organization and commercial establishments in India need to plan and implement a logical design for an equitable workplace that provides the essential facilities to the women so that there will be a rise in the inclusion of women in the workforce in the future.

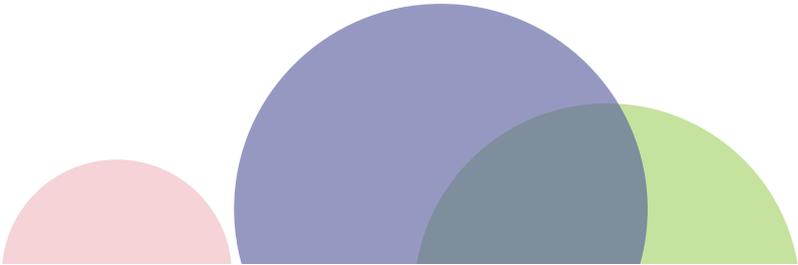
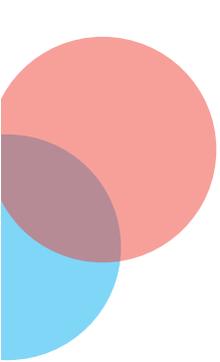




DR KASTHURBA A K  
Professor and Head,  
Department of Architecture

CONSERVATION OF  
URBAN HERITAGE CORE OF  
CALICUT CITY  
REVITALIZATION OF  
TALI HERITAGE ZONE





The historic urban precincts display unique Architectural character, cultural traditions and microenvironment which projects the richness and unique identity of the community which thrived in the region. This micro- environment serves as attractive nodes for the tourists and scholars who visit the city. Conservation of these heritage Architecture and settings are highly essential to maintain the distinctiveness of the region. The continuity of architectural character and cultural traditions of the region ought to be maintained for sustainable heritage conservation and potential development of the region. Social integration of various communities at different times can also be achieved without losing their identity.

Two significant historic urban core which recalls the glorious past of Calicut city during the medieval period are Tali temple environs and Kuttichira Muslim settlement. These historic urban precincts around large tank/ chira maintains a tranquil and serene experience in active public zone and focal area of the settlement. These large ponds or traditional water bodies known as chira and kulam played significant role in water management of communities for centuries. These traditional ponds with its indigenous hydro-geological features regulate floods and droughts by managing the water table fluctuations of the region. These ponds fulfill the basic functions such as water harvesting, storage, maintaining the ground water table and support the drainage eco-systems. Rejuvenation of such heritage urban water bodies become significant for water management and environment sustainability. Often these tanks nourish the flora and fauna of the locality and assist in combating the urban heat island and climatic changes.

#### Tali temple and settlement

The Tali temple complex with its historical associations with Zamorins forms an urban heritage core of the Calicut city. The sacred settings of the temple consisting of large pond (chira), century old Zamorin School, surrounding Agharams, peepal trees with basements (althara), etc. renders a serene atmosphere for the urban public in the busy life of the city. Even in the present-day people assemble around the pond at dawn and dusk to enjoy the tranquil environment amidst the busy urban life. The cultural heritage of the Tamil Brahmin community of music and dance practice and

vedapadasala is still active. The aura of flowers and vegetarian food and ringing of bells from the temples form an intangible heritage of the locality. This area is a sought destination for scholars to learn music, dance and for vegetarian foods for daily use and for special occasions by the Brahmin community in this locality. Calicut, where resides the Mahadeva of Samoothiris, is reminiscent of some of the illustrious episodes in the history of Malabar as well as ancient Kerala. It reminds the customs, life as well as polity of the state in the bygone days and of the vim and valor of great Zamorins who were amongst the most accomplished sovereigns of Kerala.

The temple complex occupies a strategic position in the layout and is protected by a huge enclosure wall made of dressed laterite masonry of elephant form (Gajapallam). The main entry is from the east side through an imposing gateway 'gopuram' consisting of granite monolithic columns on the ground floor and the upper floor is made of timber. Conservation of Tali complex is not about restoring the temple, it is to mainly establish the experience of lifestyle which existed in Calicut during the days of Zamorin reign in the pre-independence era of Calicut. The sanctity of the region has been under neglect due to fast urbanization and encroachment of commercial activities from the proximity of Palayam bus stand and Railway station. An attempt has been made to preserve the heritage architecture and settings for the public. Norms and vigilance had to be enforced to prevent public nuisance.



The Revitalization of area around Tali Chira by DTPC

The space around the pond is equipped with public seating to enjoy the heritage space and environment settings. An information center with a museum is being set up for the scholars irrespective of religious restrictions to learn about the heritage temple architecture. An Aarattu kadavu has been added for the ritualistic needs for the deity of the temple. Separate covered area for bathing has been incorporated for the public bath. Facility for light and sound show to showcase the heritage has been incorporated. The area around the tank and landscape of the area with sacred settings has been included. This temple complex and precincts were upgraded as a heritage zone and a memorial center for the Zamorin, with its historical value and identity. The project taken up by District Tourism Promotion Council (DTPC) to revitalize this heritage urban core retaining the Architectural character and environmental quality is nearing completion.



Zamorin Plaza with public seating and stone pavings added in the east side of the tank. The area for the public to enjoy the serene settings near the pond in the backdrop of Zamorin school. Natural stones such as granite and laterite has been used for the work.

The landscaping has been carried out using sacred plants used for the temple; pooja herbs like Thulsi, Mandaram, Thecchi, Pichakam and trees such as Peepal, Koovalam, Neem and Chembakam.

The relief works encompassing the Zamorin Plaza evokes the historical and cultural events during the Zamorin era such as Ariyittuvazhicha, Ezhunallathu of Zamorin, Revathi Pattathanam, Mamamkam, Thyagaraja sangeetha sabha, Mangattachanum Poonthanavum and Tali Brahmana sadya.



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## FACULTY IN THE NEWS

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**Dr. A P SHASHIKALA**, Professor (HAG), Civil Engineering Department was awarded The "Outstanding Woman Structural Engineer Of The Year 2020" instituted By The Indian Association Of Structural Engineers, On July 2021



**Dr. A SHAIJA**, PROFESSOR, DEPARTMENT OF MECHANICAL ENGINEERING has been nominated as a member of the Senate in Indian Institute of Information Technology Design and Manufacturing (IIITDM), Kurnool, an Institute of National importance under Government of India, on August 2021 for a period of two years



**Dr. N SANDHYARANI**, PROFESSOR, SCHOOL OF MATERIALS SCIENCE AND ENGINEERING won the prestigious SERB POWER FELLOWSHIP from Department Of Science and Technology, Govt Of India. SERB POWER FELLOWSHIP is instituted to recognize and reward outstanding women researchers and innovators. The fellowship consists of a personal fellowship amount of rs.15,000 per month and a research grant of rs.10 lakhs per year for 3 years.

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## ALUMNI RECOGNITION

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**MR A K BALASUBRAMANIAM**, Rtd. Director (Technical), Nuclear Power Corporation of India Ltd., a 1978-83 B.Tech Mechanical Engineering from NIT Calicut was elected as a Fellow of the Indian National Academy of Engineers (INAE).

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**DR. SUBASH C K**, who completed his PhD from School of Materials Science and Engineering, won the prestigious INSPIRE Faculty Fellowship 2020 under the Engineering Sciences category. He is currently working at the Centre for Nano and Soft Matter Sciences, Bengaluru

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**DR. NUJOOM SAGEER KARAT**, who completed his B.Tech from ECE, won the prestigious INSPIRE Faculty Fellowship 2020 under the Engineering Sciences category. He is currently an Inspire Faculty Member in the Dept of ECE, NIT Calicut.



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## DELHI CHAPTER

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Delhi Chapter had our first in-person meet in September 2021 after the Covid pandemic struck and lockdowns were imposed since March 2020. More events are now planned from the end of this year onwards.

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## COCHIN CHAPTER

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The newly elected Executive Committee of the NITCAA Cochin Chapter for the year 2021-2022 took over charge from May 2021 with Jacob Kurian E as President, Jijo G John as Vice President, Darryl Andrew as Secretary, Shilen Sagunan as Jt Secretary and B Ashok Kumar as Treasurer.

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## TRIVANDRUM CHAPTER

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The AGM of NITCAA TRIVANDRUM Chapter was conducted on 23/10/21 and unanimously elected the existing Governing Council members to continue for the period 2021- 23. The Governing Council Meeting was conducted later on 29/10/21 and unanimously elected the following office bearers of the Association for the period 2021-2023.



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## MUMBAI CHAPTER

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Mumbai Chapter held our AGM on 12th June 2021 via online platform due to continued restrictions on gatherings at Maharashtra. Mumbai Chapter hosted the Webinar on "Hydrogen Energy – A Technology Overview " on 11th September 2021 and carried out charity in form of medicines to "Immanuel Mercy Home & Ashram".

