

భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్ भारतीय प्रौद्योगिकी संस्थान हैदराबाद Indian Institute of Technology Hyderabad

IWISE

IITH Women In STEAM Empowerment







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Message



I am delighted to be a part of this initiative to celebrate the remarkable achievements of our women faculty members through this Compendium. At IIT Hyderabad, we are firmly committed to fostering an environment of gender equality and inclusivity. This commitment extends to all aspects of our institute, including faculty recruitment, career development, and leadership opportunities.

It is particularly gratifying to witness the increasing number of women pursuing careers in STEAM fields and choosing IIT Hyderabad as their platform for excellence. We are proud to host special women's recruitmentdrives and actively supports initiatives that empower women to excel in academics and research.

This Compendium serves as a testament to the exceptional contributions of our women faculty members, who have not only made significant contributions to their respective fields but also serve as role models for future generations.

I congratulate all the women faculty members featured in this Compendium and extend my heartfelt appreciation for their dedication and achievements.

Prof B S Murty Director IIT Hyderabad

Message



On the occasion of International Women's Day, we are incredibly proud to release this Compendium celebrating the outstanding achievements of our esteemed women faculty members. This compilation showcases their remarkable contributions to Sponsored Research and Consultancy endeavours, significantly impacting various domains.

At IIT Hyderabad, we deeply value the diverse perspectives and expertise that our women faculty bring to the table. Their dedication and passion for research have yielded ground-breaking results, attracting significant funding and collaborations.

This Compendium not only highlights their achievements but also serves as an inspiration to aspiring female researchers and scientists. It is our hope that these stories will encourage more women to pursue careers in research and make their own indelible mark on the world.

We offer our heartfelt congratulations to all the women faculty members featured in this Compendium and express our sincere gratitude for their invaluable contributions to the institute's research and development landscape.

> Prof Chandra Shekhar Sharma Dean (Sponsored Research & Consultancy) IIT Hyderabad

Message



On the occasion of International Women's Day, I would like to congratulate all the women faculty, women staff and girl students at IIT Hyderabad for their remarkable achievements and their valuable contribution to this Institute.

On this Women's day, we embark on a journey of recognition, empowerment, and solidarity. This day serves not only as a tribute to the remarkable achievements of women throughout history but also as a reminder of the ongoing struggle for gender equality and women's rights worldwide.

Together, let us strive for a future, where women are empowered, respected, and valued as equals in all aspects of life. Let us continue to march forward until equality is a reality for all.

From the Dean's chair, let me assure our commitment for building a just, equitable and inclusive campus. IIT Hyderabad has always been proactive in promoting Women in their all endeavors and would continue to support in all possible ways.

Happy International Women's Day!

Prof V Kanchana Dean (Faculty) IIT Hyderabad



Name: Anamika Bhargava Designation: Associate Professor Department: Biotechnology Email: <u>abhargava@bt.iith.ac.in</u> Webpage Link: csl.biotech.iith.ac.in Scopus ID: 55537762800 Google Scholar ID: PfDpdzgAAAAJ

Research Area:

Cell signaling, Ion channel Biology, Receptor biology, Disease Biology, Toxicology.

Major Accomplishments:

- High-impact neurotoxicity research from pollutants widely publicized by the media may aid government agencies in formulating guidelines for chemical usage.
- Successfully established and currently heading the "Cell Signalling and Ion Channel Biology" research lab at IIT Hyderabad.
- Postdoctoral Research Fellowship Award from Heart and Stroke Foundation of Canada.
- Doctoral Fellowship award from Molecular Cell Biology and Oncology (MCBO) Program Innsbruck, Austria.
- Banaras Hindu University Gold medal in Master of Science, Biotechnology, India.

A Brief Introduction about yourself

I was born and brought up in Madhya Pradesh, India. My father had a transferable job so we kept shifting places. After completing Master's from BHU, I did doctoral studies from Medical University Innsbruck, Austria. Following post-doctoral research in Canada and London, I joined IITH as an Assistant Professor in 2014.

Why did you choose STEAM as a career?

I am from an upper-middle-class family that valued academics. I have always been keen on biology. Learning and discovering things about biological systems is fascinating. Each living organism is unique, and my ongoing research continually reveals novel insights.

People who have inspired you the most in your life and why?

Growing up, my father was my role model. A very hardworking man for whom everything was possible. Despite his strictness, which often pushed my sisters and me to our limits, I now recognize its necessity for our development. In this current phase of my life, I find inspiration in individuals who exhibit patience and perseverance in their endeavors.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

I never think too much about the future but focus on my next goals, which has driven me throughout. I embrace new challenges fearlessly; though setbacks occur, I pause, reflect, and adapt. That has kept me going. No secrets there

In your opinion, what can be done to bridge the gender gap in STEAM?

The gender gap can only be closed by a shift in attitudes, starting from childhood. Fostering an environment of equal opportunities for all genders in the upbringing of future generations will naturally diminish this gap. In my sincere belief, neither schemes nor reservations can truly bridge this gap; it is the disparity in mindset that requires resolution.

Your Advice to young girls and/or women aspiring to make a career in STEAM

In the 21st century, early planning is essential for success. Additionally, cultivating patience and unwavering determination proves invaluable in achieving long-term goals.



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Research Area:

UX-UI Design, Publication Design, Graphic Design, Typography & Ancient Scripts, Paper Engineering, and Heritage Documentation.

Major Accomplishments:

• National Award for the Book – "The Magic of Mandu – Suhur-e-Shaadiabad" for "Excellence in Publishing in English" by Ministry of Tourism, Incredible India, 2022.

Why did you choose STEAM as a career?

Fascinated by Art and Design from an early age, I was almost sure of becoming an artist or an archaeologist. I chose Design as it merged Art, Science, Engineering.

People who have inspired you the most in your life and why?

Nature is my biggest inspiration. However, I have been inspired by Hayao Miyazaki San, for his work, thought process and dedication & passion towards life. Through his exceptional repertoire of animated films, Miyazaki San has given me immense strength to pursue my dreams. His immense belief in girl power has also worked for changing societal perspective towards woman all over the world.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same? Leaving behind a lucrative professional career after a decade-long stint in the industry, I opted for further education, that eventually instilled an inquisitive zeal to pursue research.

In your opinion, what can be done to bridge the gender gap in STEAM?

We must engage and interact with the Next Gen to pursue careers of their interest, and not follow choices imposed on them by the society. We must make them to believe that women are inferior to none and have validated their provess in all fields.

Your advice to young girls and/or women aspiring to make a career in STEAM. Women should not fear of anyone, she should dare to dream, dare to achieve and dare to believe in herself.

Phrase that inspires you the most in your life

A dream doesn't become reality through magic; it takes sweat, determination and hard work. By Colin Powell

Strength is Life, Weakness is Death - Swami Vivekananda



Name: Anindita Majumdar Designation: Associate Professor Department: Liberal Arts Email: anindita@la.iith.ac.in Webpage Link: https://sites.google.com/iith.ac.in/aninditamajumdar/home?pli=1 Scopus ID: 55942780000 Google Scholar ID: l2yvxHwAAAAJ&hl ORCID ID: 0000-0003-4976-1129

Research Area:

medical anthropology, reproductive health, kinship.

Major Accomplishments:

- Social Sciences and Public Policy (SSPP) Global Visiting Fellow 2022-23, Global Health and Social Medicine, King's College London
- My book Transnational Commercial Surrogacy and the (Un)Making of Kin in India published by Oxford University Press in 2017 was shortlisted for the LSE-Bloomsbury Monographs on Social Anthropology Award, in 2016
- Member, International Advisory Board, Medicine Anthropology Theory Journal, 2020-ongoing
- Awarded the Wellcome UK Grant to support fieldwork on 'A Preliminary Study of Ageing and Assisted Reproduction in India'
- Awarded the Distinction in Doctoral Research Award by the Indian Institute of Technology-Delhi in March 2016

A brief Introduction about yourself

I was invited to contribute to the Oxford India Short Introductions Series on Surrogacy, published in 2019. Recently, I have co-edited and edited five journal special issues on kinship, population, and reproductive aging with Contemporary South Asia, Reproductive Biomedicine and Society Online, and Asian Bioethics Review, among others.

Why did you choose STEAM as a career?

I loved anthropology and the challenge of conducting fieldwork. My Masters in Sociology/Social Anthropology at the Delhi School of Economics, University of Delhi was very challenging and inspiring. I have enjoyed every bit of my journey including the hardships, that are inevitable, because I loved reading and writing about different cultures.

People who have inspired you the most in your life and why?

My supervisor Prof Ravinder Kaur at IIT Delhi and, later, Prof Ayo Wahlberg at the University of Copenhagen are my mentors. Drs Paro Mishra and Gayatri Nair at IIT Delhi—who are fantastic social scientists. My Mother, Archana, has been my biggest cheerleader: I am what I am because of her.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same? Being awarded the Wellcome Fund was a major turning point—facilitating multiple opportunities to do research and collaborate.

In your opinion, what can be done to bridge the gender gap in STEAM? Women have to be included in decision-making at all levels—at home and outside.

Your advice to young girls and/or women aspiring to make a career in STEAM. There is a constant need to persevere but also prioritize health and well-being.



Name: Ambika S Designation: Assistant Professor Department: Civil Engineering Email: ambika@ce.iith.ac.in Webpage Link: https://sites.google.com/ce.iith.ac.in/iith-ambika Scopus ID: 57073622100 Google Scholar ID: JBIGeSkAAAAJ&hl ORCID ID: 0000-0003-1422-0277

Research Area:

Nanomaterials for Environmental Purification, Physicochemical Treatment of Pollutants, Life Cycle Sustainability Analysis, Waste to Wealth, and Resource Recovery Man Versus Climate Change.

Major Accomplishments:

- · Being in a Faculty position at IIT in India, working towards excelling in teaching, research, and administrative duties
- Established and led a team of researchers and young minds; fostering a culture of collaboration and achievement with projects, publications, and patents
- · Provided dedicated mentorship to aspiring professionals, nurturing their personal and professional growth
- Being an inspiration for the society from which I came from
- Survived through all the mess in life (on a lighter note!); being happy with a satisfactory profession; committed to achieving excellence and making significant breakthroughs in my professional and personal life.

A brief Introduction about yourself

I am Dr Ambika S - a faculty member at IIT Hyderabad, specializing in environmental engineering. Alongside my scholarly pursuits, I indulge in the pleasures of reading books, watching movies, and striving for a healthy and contented life. Oh, and I must mention I have the esteemed title of being the beloved wife of an Indian man and having a mischievous 10-year-old son who adds a delightful touch of chaos to my existence (in the most amusing way possible). Life is never dull in our funny little world!

Why did you choose STEAM as a career?

I chose a career in STEAM due to its endless possibilities for exploration, learning, application, and opportunity to mentor others, which greatly excites and fulfills me.

People who have inspired you the most in your life and why?

I am inspired by individuals who aim to raise societal standards through simple yet impactful ideas, coupled with long-term vision and unwavering commitment to excellence which further inspire others to reach their fullest potential.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

I have faced evolving challenges, which I've tackled by staying focused on my goals and committing to continuous learning. My philosophical outlook has helped me prioritize and learn from these experiences, making me stronger and more resilient.

In your opinion, what can be done to bridge the gender gap in STEAM?

Bridging the gender gap in STEAM requires a multifaceted approach. We must raise awareness and provide tailored education for girls, offer mentorship, and support networks, and actively challenge stereotypes and biases. In addition, children must receive a school education that emphasizes "gender equality," as it sets them on a path to think in alignment with this important principle.

Your advice to young girls and/or women aspiring to make a career in STEAM. Stay focused and be bold. Fight for the right reasons.



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Research Area:

Biofuels, Biochemicals, and Biomaterials.

Major Accomplishments:

- Developed In-house industrial enzymes production facility at the Integrated Bioprocess Technology Research Lab.
- Specialized in bacterial/fungal/yeast/mixed-culture-based fermentation product development, organic waste valorization processes, and integrated bioprocessing.
- Honored with Outstanding Women Researcher Award in Biofuels under Engineering discipline by Venus International Foundation (2024).
- Associate Fellow of Telangana Academy of Sciences (TAS)- 2019.
- Recipient of CSIR-Nehru Science Postdoctoral Fellowship, CSIR-HRDG, GoI (2018-2021).

Why did you choose STEAM as a career?

The main driver is my passion for science. So much is done in science yet always opens the window to undone. Exploring these untravelled paths can lead us to solutions of global interest.

People who have inspired you the most in your life and why?

My Mentors right from my master's till post-doctoral studies have inspired me and are continuing to inspire me in one or the other way.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Not one but there were many such situations. Sometimes mentally challenging and sometimes physically. My motto is 'Do not stop, get back to work'. This thought by itself spreads positive energy which is a must to Rise and stand on feet. Never Give Up attitude is a must to be a Strong Women.

In your opinion, what can be done to bridge the gender gap in STEAM?

The solution is to open more women-centric programs and spread awareness of the same. Also, the benefits of joining such programs should be mentioned which should include more than just academia.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Women in general are subjected to more challenging situations and sometimes to an extent of career drop. It is important to look at it as a 'passing cloud' and seek for alternatives to overcome the crisis. Perseverance and focus can make you what you wish to be.

Phrase that inspires you the most in your life

"Dream is not that which you see while sleeping it is something that does not let you sleep." — A.P.J. Abdul Kalam



Name: Haripriya Narasimhan Designation: Associate Professor Department: Liberal Arts Email: haripriya@la.iith.ac.in

Research Area:

Anthropology, health, media, gender, sustainable development.

Major Accomplishments:

- Getting first rank and gold medal in the MA
- Getting the Outstanding Teaching Assistant award at Syracuse University, when there was huge competition among PhD students
- And since 2012, managing a career and home, I consider that to be a major achievement.

A brief Introduction about yourself

I am an anthropologist. I love teaching, and fieldwork. And connecting to people.

Why did you choose STEAM as a career?

I wanted to be a doctor but when that didn't work out and I started PhD in Anthropology, I really liked the way it connected people to their lives. I wanted to teach that way in India. So I choose the career of an academic.

People who have inspired you the most in your life and why?

- My mother- for her belief that women should have a career
- My father- for his openness and telling us that there was a big world out there, beyond school and textbooks
- PhD supervisor Susan Wadley on how to be an advisor
- My mother-in-law, for her extraordinary mental strength

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

- Writing PhD thesis while holding another research job was tough. I managed due to support from senior colleague Prof. C.J.Fuller.
- Being a mother and in a new job was tough
- Being a caregiver and fulltime academic is equally tough.
- I am managing with support from a lot of colleagues, students, and family.

In your opinion, what can be done to bridge the gender gap in STEAM?

Though it may appear that there are more women in Arts compared to Science and Engineering, we need a lot more welltrained scholars. Women should be given extra scholarships to continue higher education. Employers should give a lot more flexibility. Male peers need to be educated about the problems faced by working women.

Your advice to young girls and/or women aspiring to make a career in STEAM. Do the homework. Understand how the 'system' works. Stay the course. Have confidence.



Name: Koyel Banerjee Ghosh Designation: Assistant Professor Department: Chemistry Email: koyel@chy.iith.ac.in Webpage Link: https://www.koyelbanerjeeghosh.com Scopus ID: 56312888500 Google Scholar ID: QhLTmsQAAAAJ, ORCID ID: 0000-0002-1376-5198.

Research Area:

Spin-dependent electrochemistry, chiral spintronics, magnetic materials, catalysis, energy materials.

Major Accomplishments:

- Award for Outstanding Achievements in Postdoctoral Research at the Weizmann Institute of Science, Israel.
- Qualified CSIR-Junior Research Fellowship for Doctoral Studies through National Eligibility Test.

A brief Introduction about yourself

I am Koyel, currently serving as an Assistant Professor in the Department of Chemistry at IIT Hyderabad. I was born and brought up in West Bengal. I did my B.Sc. and M.Sc. in Chemistry from Jadavpur University, Kolkata. I pursued my Ph.D. at CSIR-Central Glass & Ceramic Research Institute, Kolkata. My current research interests include spin-dependent electrochemistry, chiral spintronics, magnetic materials, catalysis, etc.

Why did you choose STEAM as a career?

I pursue my career in this field as there is plenty of room for thinking outside the box to solve complex problems or create something new. These outcomes may have a significant impact on society, such as developing new technologies, advancing medical research, or designing sustainable solutions.

People who have inspired you the most in your life and why?

My parents and my teachers encourage me from my early days of education to challenge the stereotypes and pursue my studies in these fields. My husband has always been supportive of my challenging career path. I am also very much grateful to my Postdoctoral Guide Prof. Ron Naaman, who demonstrates professionalism, expertise, and a commitment to lifelong learning. He is my role model in my scientific journey.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

In this career path, the mentor-student relationship is very important. It is very valuable and should be transformative. But, in some cases, I was not very lucky to have this kind of mentorship. I had to overcome this situation by changing the mentor which was a tough decision at that time.

In your opinion, what can be done to bridge the gender gap in STEAM?

STEM education for girls should be encouraged from an early age. A supportive environment in schools, colleges, and universities will inspire girls or women to pursue STEAM as their career without fear of discrimination. Besides, equal pay, a family-friendly work environment, and measures to prevent gender-based discrimination will promote gender equality in the STEAM field.

Your advice to young girls and/or women aspiring to make a career in STEAM.

First, you have to be confident in your ability. Your gender does not govern your ability to succeed in this field. Explore different areas in STEAM to find out your area of passion. Be hardworking to develop your skills and knowledge in that area. Always keep updating yourself as the STEAM field is always evolving.





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Research Area:

Design Thinking, Rural Entrepreneurship, Startups Ecosystem, Frugal Innovation, Appropriate Technology.

Major Accomplishments:

• Having a course in Coursera (mattered a lot to me) as I got to interact and teach people across the globe.

Why did you choose STEAM as a career?

I choose STEAM as a career because it helped to develop problem-solving skills, instilling curiosity about the world, and providing a platform for creating and making an impact.

People who have inspired you the most in your life and why?

I am highly inspired by my parents who have taught me how to remain humble and grounded in life, and, not to lose hope and faith in difficult times.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

I think the major challenge that I faced was believing in my abilities and potential for quite some time in my life. It all changed when I visited solo to People's Republic of China where I confidently managed to travel, communicate, adjust in a foreign land with ease and grace.

In your opinion, what can be done to bridge the gender gap in STEAM?

Sensitization of the endless opportunities that lies in STEAM. Educating them right from school and making aware of all the successful stories, wonderful possibilities that STEAM can do.

Your advice to young girls and/or women aspiring to make a career in STEAM.

You are far more capable than you think. Have faith, take that plunge even if it's scary, move with it and then enjoy the outcome. Don't be afraid to fail.

Phrase that inspires you the most in your life

"Be kind to yourself, and celebrate little wins"



Name: Jyothi Vedurada Designation: Assistant Professor Department: Computer Science and Engineering Email: jyothiv@cse.iith.ac.in Webpage Link: https://jyothivedurada.github.io/ Scopus ID: 57195278189 Google Scholar ID: bzSIDo8AAAAJ ORCID ID: 0000-0002-5911-6011 X(Twitter): @jyothivedurada

Research Area:

Spin-dependent electrochemistry, chiral spintronics, magnetic materials, catalysis, energy materials.

Major Accomplishments:

- "Distinguished Paper Award" for the paper titled 'MonkeyDB: Effectively Testing
- Correctness under Weak Isolation Levels' at OOPSLA 2021.
- "Distinguished Reviewer Award" for the work on the OOPSLA 2019 Artifact
- Evaluation PC.

school days.

- Google Research exploreCSR Award 2021.
- "Institute Research Award" in recognition of my PhD thesis work.
- Tata Consultancy Services PhD fellowship.

A brief Introduction about yourself

I am an assistant professor at the Dept. of CSE. My research interests are program analysis, compilers, and highperformance computing. Prior to joining IITH, I was a post-doctoral researcher at Microsoft Research. I received my PhD (+M.Tech) from IIT Madras. Before that, I worked as a Software Engineer at Hewlett-Packard.

Why did you choose STEAM as a career?

As I progressed through my education, I found myself drawn to the analytical and problem solving aspects of subjects like mathematics and computer science. I was also inspired by the potential for innovation and discovery within STEM fields. As a researcher, I wanted to contribute positively to society through this field.

People who have inspired you the most in your life and why?

Challenges taught me resilience and perseverance. My father's acts of kindness and compassion towards others have deeply influenced my own values and actions, inspiring me to make a positive impact on others.

In your opinion, what can be done to bridge the gender gap in STEAM?

In academia, waiving age limits often benefits many female candidates, especially as their biological clocks coincide with the typical age for pursuing a PhD. In general, mentorship programs and showcasing female role models in STEM fields can encourage girls and women to pursue careers in these fields.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same? Continuing with education (after 12th) itself posed a significant challenge because of my family's traditional beliefs and lack of precedent for girls receiving higher education. My uncle's support played a crucial role in enrolling for the bachelor's degree. My brother also supported me throughout engineering, especially since our father passed away during my

Your advice to young girls and/or women aspiring to make a career in STEAM. Your diverse perspective strengthens innovation and can make a significant impact on the world.

Phrase that inspires you the most in your life

"To understand yourself is the beginning of wisdom"



Name: Lopamudra Giri Designation: Associate Professor Department: Chemical Engineering Email: giril@che.iith.ac.in, Webpage Link: https://sites.google.com/iith.ac.in/bioimaging-and-dataanalysis/home#h.1cqk0l9mrisu Scopus ID: 8294358000 Google Scholar ID: Np06tFUAAAAJ ORCID ID: 0000-0002-2352-7919

Research Area:

Healthcare, Live cell imaging, Data Science, Systems Biology, and digital twin, Imaging devices.

Major Accomplishments:

- Fellowship: Centre for Bioprocessing and Biocatalysis (CBB) fellowship, University of Iowa, USA, 2006-2009.
- Awards: First rank among girls students in Board Exam, WB. 1995, Karl Kammermeyer Graduate Award for excellence in research and scholarship, PhD, 2009. Royal Academy, Engineering, "Portable imaging solution for protein detection", IITH, 35,000 SP, 2024.
- Patent granted: 201941027664, Title: Microfluidic devices and methods of fabrication thereof, 2019.
- Fellowship in MATRICS special call on COVID-19 "Development of computational and visualization software for evaluating drugs", 2020, DST.
- 40 peer-reviewed publications, H-index 12. Greater than 10 national/international project grants [DBT/DST/RAE].

A brief Introduction about yourself

I believe in making every adverse situation in life into a path for learning something new. I feel that "optimism" is one way to go forward. Also, a big believer in teamwork, and interested in building a women's team interested in chemical engineering and computer science equipped to solve challenges in healthcare.

Why did you choose STEAM as a career?

Mathematics being my favorite subject, I always wanted to stay in the field of engineering/applied mathematics. Later, with significant exposure to bioengineering at the University of Iowa, USA, I wanted to explore the application of engineering/mathematics in the field of biology and healthcare.

People who have inspired you the most in your life and why?

I draw inspiration from the richness of experiences around me. My family, a constant source of unwavering support, has been my foundational inspiration. Prof. E.P. Rao, Prof. RAAJ Ramsankaran, and Prof. Pierre Kirstetter, my advisors, have uniquely influenced my journey with their guidance and unwavering passion for their work.

In your opinion, what can be done to bridge the gender gap in STEAM?

Since the field of STEAM demands significant time and commitment, we need to have a realistic assessment of women's performance. Additionally, we need to have more women representatives in the decision-making committee that plays a role in the evaluation of careers at STEAM. Overall, we need to have a more encouraging environment for taking a career in STEAM (for example, some conferences/collaboration travel awards/start-up grants for women in computer science, women in AI, women in entrepreneurship, etc).

Your advice to young girls and/or women aspiring to make a career in STEAM.

Be knowledgeable on the history of women making a career in STEAM. Your career in STEAM will be a story and will inspire many more. Contribute significantly so that the next generation gets a better platform for women.

Phrase that inspires you the most in your life

"If you want to build a ship, don't drum up the men (lwomen) to gather wood, divide the work, and give orders. Instead, teach them to yearn for the vast and endless sea"



Name: Mahati Chittem Designation: Associate Professor Department: Liberal Arts Email: mahati@la.iith.ac.in Scopus ID: 55344884800 Google Scholar ID: Mahati Chittem ORCID ID: 0000-0002-8978-3544

Research Area:

Psycho-oncology, Psychosocial Endocrinology, Medical Psychology, Health Psychology, Relationship Science.

Major Accomplishments:

- Multiple publications with both domestic and international readership, thus helping create a dialogue on cultural inclusivity in psycho-oncology care
- Associate Editor (Psycho-oncology) in the Indian Journal of Medical and Paediatric Oncology, wherein I am also the Editor for a Special Issue on Psycho-oncology in India.
- Received multiple awards such as the Health Behaviour International Collaborative Award to work at MSKCC.
- Consultant adviser for several hospitals/clinics and MedTech companies, with a special focus on psycho-oncology, women's health, and endocrinology.

A brief Introduction about yourself

My areas of expertise are in chronic disease management and health behaviours. Within the domain of chronic disease management, I have specializations in psycho-oncology and endocrinology focussed on communication skills (for healthcare providers and patients/caregivers), cultural contexts of care, symptom identification and pathways to care, adherence, and end-of-life issues. Within the domain of health behaviours, I examine the cultural aspects of engaging in dietary, exercise and safe sex behaviours.

Why did you choose STEAM as a career?

I knew I was going to study psychology by the age of 7 and knew I'd aim to be an academician by the age of 11 - so, I guess, for me my path was clear from a really young age! As a kid, I was curious about the motivations behind people's actions and overtime I felt only a research/academic career will allow me the freedom to explore psychology with the depth and breadth I would want to.

People who have inspired you the most in your life and why?

My grandfather who was a President-award winning Hindi Pandit from Osmania University – I watched him writing or mentoring students during his every waking minute which was inspirational. Prof. Phyllis Butow from the University of Sydney who is a generous, kind and compassionate human being alongside being a world renowned pscyho-oncology researcher. Her working style and supportive attitude is something I adapted into my own research group.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

For me, it was the intersection of my personal life with my professional responsibilities that became major turning points. The first phase was when I had both my children – learning to choose children when it was needed and work when it was needed. I suppose this I learned through trial and error! The second phase was when I faced some personal setbacks. Fortunately, since I have been working in the self-care space, I was able to ask for help, become vulnerable and accept that this rough phase will also pass.

In your opinion, what can be done to bridge the gender gap in STEAM?

More active recruitment, more advocacy, more awareness, more endorsement from colleagues and superiors, more women in decision-making positions – we need more of everything and we need it consistently!

Your advice to young girls and/or women aspiring to make a career in STEAM.

Be brave and don't lose sight of your end goal. Ask for help, it's okay! Economic independence is imperative.

Phrase that inspires you the most in your life

"Everything happens for a reason"



Name: Maria Francis Designation: Assistant Professor Department: Computer Science and Engineering Email: <u>mariaf@cse.iith.ac.in</u> Webpage Link: <u>https://sites.google.com/view/maria-francis/home</u> Scopus ID: 56029594700 ORCID ID: 0000-0002-2537-5840 Google Scholar ID: <u>r5EduDsAAAAJ</u>

Research Area:

Computational Algebra, Pairings-based cryptography, Lattice-based cryptography, and Secure Computation over blockchains.

Major Accomplishments:

- Doing a Ph.D. in pure mathematics after a computer science undergraduate degree.
- Getting promoted in 1 year in Microsoft and becoming a program manager, one of the youngest at that time.
- Accepting that I will not be the best mother or the best researcher out there and that it is not an "all or nothing" choice.

A brief Introduction about yourself

I am a faculty at the CSE department at IIT Hyderabad. I work in the intersection of computer science and mathematics, precisely in the areas of computational algebra and pairings-based and lattice-based cryptography.

Why did you choose STEAM as a career?

I had always liked the "well-behaved" structures of algebra and geometry. It was not that I could solve discrete math problems easily, but every time I did, I had this aha moment and that was very satisfying. Since computer science is built on the fundamentals of discrete mathematics, this made me consider it as a career choice.

People who have inspired you the most in your life and why?

My parents believed that struggle is an integral part of learning and that anything worth achieving requires a lot of perseverance. That helped me navigate my academic life. In my engineering class, there were 11 female students, and the way they led their lives was a revelation and gave the young me a lot of confidence. They showed me that girls can code, be good at multiple things, and question societal norms without worrying about what people thought.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Since I had no formal training in pure mathematics, I registered for an Algebra course in my Ph.D. The professor was a good teacher but very stern. I could not answer any of his questions in class and he found my written answers verbose. The TA, however, was approachable, and I asked him all my queries, even the most basic questions. Finally, I got an A- and it made me confident in my ability to do mathematics.

In your opinion, what can be done to bridge the gender gap in STEAM?

Many girls, around 9th grade, decide the sciences are not for them, often because they are intimidated by them. Better teachers who focus on hands-on problem-solving and coding assignments will help girls make more informed decisions. Another point where we see a lot of attrition is when women have children. Access to good child care, relaxation of age criterion, and flexible working hours will all be of great help.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Do not get scared by mathematics. It may appear that everyone else knows a lot more than you do but it is like creating music -- if you spent a lot of time understanding the patterns, you will be able to create elegant mathematics.

Phrase that inspires you the most in your life

"The normal state of a mathematician is to be stuck" - a Princeton faculty member



Name: Meenakshi Sharma Designation: Assistant Professor Department: Civil Engineering Email: meenakshi@cc.iith.ac.in Google Scholar ID: https://scholar.google.com/citations?hl=en&user=palLuFEAAA

Research Area:

Experimental and analytical studies of cementitious materials, concrete mechanics, sustainable cementitious binders, the durability of concrete structures, and carbon utilization in concrete.

A brief Introduction about yourself

Before joining IIT Hyderabad, I worked as a postdoctoral researcher in the Laboratory of Construction Materials at EPFL, Switzerland. I have a PhD and Master's degree from IIT Delhi. I have a Bachelor's degree in Civil Engineering from NIT Kurukshetra. I have more than 5 years of teaching and research experience.

Why did you choose STEAM as a career?

My love of math, along with the social pressure and sense of pride that comes with it, was the original reason I chose STEAM. When I began pursuing my engineering degree, I realized how important it is to make a positive change in the world, and that led me to pursue it further.

People who have inspired you the most in your life and why?

My father has been my best inspiration all my life. Coming from an underprivileged family from Haryana and having three daughters, he had to face setbacks in society time and again. Since then, he has worked hard to recognize the situation of women in our society and has understood that he himself has to make a change to change it. His motivation, hard work and perseverance to give his three daughters the best education is my best inspiration.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Life always brings challenges, whether small or large. I believe in staying positive through the challenges and taking time to analyze them and plan actions to overcome them. I believe in the power of friendships and relationships to help you overcome hurdles in life.

In your opinion, what can be done to bridge the gender gap in STEAM?

Gender differences exist in our society at various levels. I believe that the first and most important step is to tackle the problem at grassroots level. Educate people about the importance of women in STEAM and empower them. The first step can be to motivate more girls via different platforms to get involved in STEAM and show the changes they can make in society.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Pursuing STEAM is commitment to life-long learning so be ready for it. Understand your interest and chose the field accordingly to achieve your dreams.

Phrase that inspires you the most in your life

धीरे-धीरे रे मना, धीरे सब कुछ होय,माली सीींचे सौ घडा, ॠतु आए फल होय।



Name: Mudrika Khandelwal Designation: Associate Professor Department: Department of Materials Science and Metallurgical Engineering Email: <u>mudrika@msme.iith.ac.in</u> ScopusID: 55774308000 GoogleScholarID: <u>https://scholar.google.co.in/citations?hl=en&user=BI-atz8AAAAJ</u>

Research Area:

Nanofibrous materials, drug delivery, packaging, antimicrobial materials.

Major Accomplishments:

- Received INSA Young Associate Membership
- Awarded NASI Platinum Jubilee Young Scientist and INAE Young Engineer Award
- Deployed food packaging solutions in warehouses to extend the shelf life of fresh produce
- · Patent granted to deal with fungal infections in females through essential oils, product design in progress
- Wrote an illustrated book "Demystifying the Nature" to present Nature as a mentor, model and measure for young budding kids.

Why did you choose STEAM as a career?

Growing up, I was fortunate to witness the impactful work of my parents, who are doctors dedicated to serving society through science as government employees, and my maternal grandfather, a chemical engineer focused on enhancing comfort through cellulose fiber production at Grasim Industries. With such diverse influences, I found myself torn between career paths and decided to study both mathematics and biology alongside physics and chemistry in high school. This led me to take both medical and IIT JEE entrance exams, and upon clearing both, I made the decision to pursue engineering. Having had exposure to both disciplines, which are often seen as alternatives, I've come to realize their complementary nature and appreciate the interdisciplinary aspects of science and technology.

People who have inspired you the most in your life and why?

In my formative years, my parents were my greatest inspiration, particularly because of their unwavering commitment to selflessly do good. As I progressed, certain colleagues whom I admired played a crucial role in motivating me to strive for excellence and continuously push my limits.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

I have been fortunate not to face any major challenges. I believe one that I can mention is about the transferable job of my parents and their long working hours. Making new friends and keeping in touch with the earlier ones has helped. Sharing issues and thoughts with friends and parents has helped me in a big way.

In your opinion, what can be done to bridge the gender gap in STEAM?

Considering the intricacies of society, it's crucial to involve all stakeholders in the decision-making process. Too often, decisions are made without the input of the individuals directly affected. It's important to enhance access to real-time information rather than relying solely on easily accessible online sources. Role model lectures can be incredibly impactful, but they must address relevant content to be truly effective.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Pursuing STEAM is commitment to life-long learning so be ready for it. Understand your interest and chose the field accordingly to achieve your dreams.

Phrase that inspires you the most in your life

Show must go on! Sky is the Limit!



Name: Pritha Chatterjee Designation: Assistant Professor Department: Civil Engineering, Climate Change Email: pritha@ce.iith.ac.in Webpage Link: Dr. PRITHA CHATTERJEE | IITH Civil Engineering Scopus ID: 7202034291

Research Area:

Resource Recovery from Waste, Bioelectrochemical Systems, Carbon Capture and Utilization, Sustainable Mobility.

Major Accomplishments:

- Head, Department of Climate Change
- · Youngest Associate Editor of ASCE Journals

Why did you choose STEAM as a career?

From childhood, I had always wanted to be a teacher. Science, then Engineering and later research in the same field appeared lucrative as it had the option of solving complex problems and finding innovative solutions, which I found intellectually stimulating and rewarding.

People who have inspired you the most in your life and why?

Inspiration has been subjective and came from a wide range of sources, mostly from my family and friends. While I learned the importance of smiling from someone, I understood the way to be calm at stressful situations from someone else.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

There are no events that I can name as such. Problems and challenges came in many forms, both personal and professional. I am still struggling. However a belief in "Karmanyevaadhikaaraste maa phaleshu kadaachana/Maa karmaphalahetur bhoor maa te sango'stvakarmani" loosely translated as "One has the right to duties only, not with the results. Motivation should not come from results"

In your opinion, what can be done to bridge the gender gap in STEAM?

It starts with education and awareness, followed by addressing stereotypes and bias, both conscious and unconscious bias, and supportive policies.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Fight like a girl. The universe is yours. You have the power within you, believe in that and that power will be manifested. Believe in yourself, prioritise yourself. Never let anyone tell you you are weak. Uthishtata, Jagrata, Prapya Varanibodhata (Arise, awake, and stop not till the goal is reached).

Phrase that inspires you the most in your life

Education is the manifestation of perfection already within us



Name: Ramya Sri Mullapudi Designation: Assistant Professor Department: Civil Engineering Email: <u>ramyamullapudi@ce.iith.ac.in</u> Webpage Link: https://sites.google.com/view/ramyasrimullapudi/home Scopus ID: 57208643173 Orcid ID: 0000-0002-0469-8691

Research Area:

Sustainable pavement materials, Asphalt rheology, Asphalt chemistry, life cycle analysis.

Major Accomplishments:

- · Involved as PI in several field projects for the design of pavements, forensic investigations, and material characterization
- · Involved in the capacity of PI in several research projects in the area of asphalt recycling, rheology, and chemistry
- Worked as a student member in the team to revise flexible pavement design guidelines for India
- Headed/involved in committees both on technical and non-technical fronts during student tenure and professional tenure.

A brief Introduction about yourself

I am a cheerful and happy-going person in general. I have completed my bachelor's from NITW, and master's and doctoral programs from IIT Kharagpur. I have joined IIT Hyderabad in September 2020. Took the lead in establishing the pavement research laboratory and my team worked on research-level and field problems.

Why did you choose STEAM as a career?

Civil Engineering fascinated me since childhood due to the scale of structures involved. Due to the fascination, I have joined bachelor's program in Civil engineering. I chose transportation engineering in my master's due to the dedicated faculty who taught us bachelor's courses. I chose to become a faculty after having many wonderful teachers at different levels of my education.

People who have inspired you the most in your life and why?

As mentioned before, several teachers were my inspiration at different levels of education. If I need to mention a single person, it is my master's and PhD supervisor who inspired me the most. I have learned several aspects like simplicity, dedication, discipline, punctuality, and perseverance from him apart from technical knowledge.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Latest struggle/challenge faced was to attend the interviews to crack a faculty position in a good institute. It was a challenge as a PhD student goes into the depth of his/her research topic during the doctoral tenure and in the interviews, we are usually asked questions about the general understanding of the domain. Several months of relearning the same things we learnt in bachelor's and master's programs helped to overcome the challenge.

In your opinion, what can be done to bridge the gender gap in STEAM?

We being faculty, giving opportunities to students by not looking at gender will help in improving the situation from our end.

Your advice to young girls and/or women aspiring to make a career in STEAM. Hard work, dedication and choosing the right opportunity will help to achieve your goal

Phrase that inspires you the most in your life

Never regret a day in your life. Good days give you happiness and bad days give you experience



Name: Shelaka Gupta Designation: Assistant Professor Department: Chemical Engineering Email: shelaka@che.iith.ac.in Webpage Link: https://guptashelaka.wixsite.com/shelaka Scopus ID: 56404877900 Google Scholar ID: Jdk32aoAAAAJ

Research Area:

Heterogeneous Catalysis, Density Functional Theory, Biomass, Wastewater treatment, High entropy alloys.

Major Accomplishments:

- Recognised as India's 75 women in STEAM by the Office of Principle
- Scientific Adviser to the Government of India, 2022
- Sumant Sinha Sustainability Leadership Award, 2019
- FITT Award for Best Industry Relevant Projects in Ph.D, IIT Delhi
- Gandhian Young Technological Innovation (GYTI) Award, 2018.

A brief Introduction about yourself

I am currently working as an Assistant Professor in the Chemical Engineering Department at IIT Hyderabad. I did my Ph.D. from IIT Delhi, Master's from IIT Roorkee and Bachelors's from DCRUST Murthal in Chemical Engineering. My research interests are focused on experimental and theoretical heterogeneous catalysis for sustainable production of fuels and chemicals.

Why did you choose STEAM as a career?

the real desire to do research came while doing my Masters at IIT Roorkee. I was the amazed by the fact that how catalyst derives the reaction and I ended up doing Ph.D. in the area of molecular modelling and now pursuing an academic career in the same field.

People who have inspired you the most in your life and why?

My parents are my biggest inspiration. My father was a maths teacher in a govt school. Despite being posted in remote locations in Himachal Pradesh his punctuality and dedication towards his job and his expertise in maths have played a pivotal role in my life. My mother irrespective of having lots of challenges on my personal front had a successful career in banking line for around 35 years.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same? Fear of travelling alone and staying away from the family were my biggest fear at some point of time. But now through experiential learning I have become mentally strong and much more independent.

In your opinion, what can be done to bridge the gender gap in STEAM? little flexibility, addressing the two body problem, mindfully working on the lived experience of the female faculties, students and staff.

Your advice to young girls and/or women aspiring to make a career in STEAM. Be your authentic self and don't let anyone deviate you from that path. Recognize your uniqueness. Always be mindful of the choices you make.

Phrase that inspires you the most in your life

'Tomorrow is another day' – Scarlett O'Hara



Name: Rekha Raja Designation: Assistant Professor Department: Artificial Intelligence Email: rekha.raja@ai.iith.ac.in Webpage Link: https://sites.google.com/site/rekharajarobotics Scopus ID: <u>54585810200</u> Google Scholar ID: <u>TpwO9QAAAAJ</u> ORCID ID: <u>0000-0002-1639-8477</u>

Research Area:

Robotics, Robot motion planning, Robot Vision, Machine Learning, AI.

Major Accomplishments:

- EurAgEng Award 2022: Awarded for real-time weed-crop classification in lettuce, showcasing innovation in AgroFood Robotics.
- Robocom 2022 Best Paper: Recognized for concurrent transmission in multi-robot coordination, advancing robotics and AI.
- Ph.D. Thesis: Explored rough terrain motion planning and redundancy resolution for rover manipulator systems, demonstrating expertise in robotics.
- Postdoc Work: Focused on cognitive robots for flexible agro-food technology, highlighting contributions to innovative agricultural robotics.
- Teaching and Supervision: Mentored students and taught sensing technology, mobile robotics, contributing to education and fostering future roboticists.

A brief Introduction about yourself

I am Rekha Raja, assistant professor at the department of AI at IIT Hyderabad, India. I am a robotics researcher with a Ph.D. in Mechanical Engineering. My work focuses on robotics, robot motion planning, AI, machine learning, and computer vision, agro-food robotics. With a passion for teaching, I've mentored students and authored award-winning papers, striving to advance the field with innovation and expertise.

Why did you choose STEAM as a career?

I chose science and technology for its limitless potential to solve real-world problems and drive positive change. The dynamic nature of fields like robotics, AI, and machine learning excites me, offering continuous learning and innovation. I believe in leveraging technology to make a meaningful impact on the society.

People who have inspired you the most in your life and why?

I am inspired by my parents and elder sister, witnessing their struggles, dedication, and passion to build a better life for themselves and those around them. Their resilience and commitment to their work inspire me to strive for excellence and make a positive impact in everything I do.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Being raised in a village with limited exposure, every step in my career has been cherished. The support of my family and teachers has been paramount. Their guidance helped me overcome challenges, shaping me into who I am today.

In your opinion, what can be done to bridge the gender gap in STEAM?

To bridge the gender gap in science and technology, societal mindset must evolve. While we profess gender equality, actions often fall short. True progress requires changing entrenched beliefs and practices. Embracing diversity and providing equal opportunities will create a balanced, inclusive society where everyone, regardless of gender or sexual orientation, can thrive.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Hard work and persistence are the key. Despite obstacles, maintain your focus, work diligently, and remain determined. Your dedication will lead you to success. Stay committed to your goals and never lose sight of your aspirations.

Phrase that inspires you the most in your life

"All birds find shelter when it rains. But Eagle avoids rain by flying above the clouds. Problems are common but attitude makes a difference" – APJ Abdul Kalam



Name: Sameen Naqvi Designation: Assistant Professor Grade I Department: Mathematics Email: sameen@math.iith.ac.in Webpage Link: https://naqvisameen26.wixsite.com/website Scopus ID: 57191164043 Google Scholar ID: mBlmsSYAAAAJ ORCID ID: 0000-0002-3659-0212

Research Area:

Reliability Theory, Applied Statistics, Stochastic Orders, System Signatures.

Major Accomplishments:

- EurAgEng Award 2022: Awarded for real-time weed-crop classification in lettuce, showcasing innovation in AgroFood Robotics.
- Robocom 2022 Best Paper: Recognized for concurrent transmission in multi-robot coordination, advancing robotics and AI.
- Ph.D. Thesis: Explored rough terrain motion planning and redundancy resolution for rover manipulator systems, demonstrating expertise in robotics.
- Postdoc Work: Focused on cognitive robots for flexible agro-food technology, highlighting contributions to innovative agricultural robotics.
- Teaching and Supervision: Mentored students and taught sensing technology, mobile robotics, contributing to education and fostering future roboticists.

A brief Introduction about yourself

I am Dr Sameen Naqvi is currently working as an Assistant Professor in the Department of Mathematics, IIT Hyderabad. She is currently supervising three Ph.D. students and has also supervised the project work of multiple MSc and BTech students. Dr Sameen has been actively involved in teaching, mentoring, and administrative work.

Why did you choose STEAM as a career?

I pursued a career in Statistics because it provided me with a unique perspective on working with numbers. Beyond data analysis, Statistics encompasses data collection, summarization, and visualization, offering a comprehensive insight into data. This holistic approach resonated with my interest in understanding and interpreting information effectively.

People who have inspired you the most in your life and why?

My journey has been shaped by the unwavering support of my parents, who tirelessly worked to propel me to this stage in life. Their dedication, steadfastness, and teachings on self-reliance have been instrumental. Additionally, my maternal uncle, a dedicated teacher himself, has been a guiding force, providing motivation and invaluable support at every step.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

Pursuing higher education is a challenging journey with several ups and downs. However, I overcame it with the support of my family who taught me to seek the path of knowledge through patience and hard work.

In your opinion, what can be done to bridge the gender gap in STEAM? I believe that ensuring proper education and raising awareness about various prospects in STEAM fields would significantly contribute to bridging the gender gap.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Believe in your capabilities, seek out female role models for inspiration, and refuse to let societal stereotypes or biases hinder your aspirations.





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Research Area:

Data mining for big data, AI for finance and precision medicine Bayesian Analysis, Multivariate, and matrix-variate skewed and volatile distributions, Bilinear Regression (GMANOVA), Extensions of the EM algorithm and Newton-Raphson Method Adaptive designs for clinical trials (Randomization techniques), Spatio-temporal modeling.

Major Accomplishments:

- Associate Editor of Statistica Neerlandica, a peer-reviewed journal by the Netherlands Society for Statistics and Operations Research
- Fields Research Fellow (2022) by the Fields Institute for Research in Mathematical Sciences to visit the University of Toronto
- Florence Nightingale Award of \$1000 at the International Biometric Conference (IBC) 2020
- IBS (International Biometric Society) Young Ambassador at the World Statistics Congress, 2019 with an award of \$5000
- Statistical Alliance for Vital Events –Advanced Queen Elizabeth Scholars (QES-SAVE) Award 2019 at the University of Toronto for Visiting Researcher
- F.R. Britton Scholarship of 5000 CAD for the year 2014-15
- International excellence award of 5000 CAD each (for 2 consecutive years 2013-15)

A brief Introduction about yourself

I am a Statistics Professor and researcher with a diverse experience of teaching doctors, engineers, lawyers, government officers, corporate executives, MBA and undergraduate students. I work in a few different fields of statistics and Machine learning and collaborate with industry and academia abroad. My research areas include but is not limited to AI, ML, Statistics, Matrix Calculus and Numerical Analysis. I did my PhD in Statistics from McMaster University in 2017 and was a Postdoctoral Fellow at the University of Toronto till 2018 working on data mining for big data. Post that I have been an Assistant Professor in Indian Institute of Management (IIM) for 3.5 years before joining IIT H in 2021. I have supervised around 15-20 UG and PG students and Graduate Engineers. I have been serving on the Program Committees and Awards Committee for the International Conferences such as the International Biometrics Conference (IBC) 2022 and 2024, Indian International Statistics (CWS) and Data Science, and its Governing Council member. I have been invited on panels and organizing committees of international conferences. I work on big data and AI projects on UPI fraud modelling, Digital Payments etc, modelling financial data for catastrophic events etc.

Why did you choose STEAM as a career?

As a small child I wanted to be an astronaut, for few months around Boards I also wanted to be a pilot and then learnt that it costs hell of money to become a pilot, obviously that was not an option. I always wanted to be a space scientist. Many people around me – teachers, friends parents everyone used to say I would grow up to be a statistician. I don't think that affected me. I wanted to be a statistician since I loved the subject, since school, stats was my elective. And I also knew Stats had better prospects both in research and industry as compared to maths. This was before the era of Data Science and Big Data. I am glad I ended up studying Stats all my life – the subject that quantified uncertainty. Life is uncertain, every moment is uncertain, so is the market.

People who have inspired you the most in your life and why?

Parents, teachers, professors Prof. Mala Rao and Prof. LS Murthy.

In your opinion, what can be done to bridge the gender gap in STEAM?

Remote places in India do not have good tuition centres to prep for entrance exams, and hence parents don't want to send their under-age girls, as opposed to boys, away for studying in a far-away city, due to safety reasons. Might need a shift here – both in thinking and actual safety.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Always be high-value so that you are sought after. Never settle for anything less. There are enough people to undermine you, don't add yourself to that list. Keep yourself updated, and never shy away from learning from everyone and everything around you, the day you stop learning is the day you stop growing and I believe is the day you die inside. Be enthusiastic. Try to have constructive mentors and peers.

Phrase that inspires you the most in your life

Not online. Prof. LS Murthy once told me 'Sayantee, never change yourself, that is the worst thing you can do to yourself, you are what you are'. This always keeps me going.



Name: Seema Krishnakumar Designation: Assistant Professor Department: Design Email: seema@des.iith.ac.in Webpage Link: seemakk.com

Research Area:

Communication Design, Interaction Design, Data and information visualization, Human-computer interaction, Visual culture.

Major Accomplishments:

- Initiating and setting up one of the first State Govt. run Design Schools of the country in Kerala during 2008 09.
- One of a handful of female documentary photographers from Kerala.
- Fulbright Nehru Masters' fellow for leadership development

A brief Introduction about yourself

Seema has more than a decade – long experience as a visual communicator, documentary photographer, and design faculty. She has worked for various Governmental and non – Governmental organizations as a designer. Earlier she worked with DJ Academy of Design, Kerala State Institute of Design, and National Institute of Design as an academic. Her subject interests are in the intersection of socio–political – cultural – environmental – climate domains.

Why did you choose STEAM as a career?

There was a natural inclination and aptitude for Design in the first place. The interdisciplinary approach of Design and to be able to deliver tangible outcomes for various contexts have been one of the biggest driving force for choosing a career in the Design field.

People who have inspired you the most in your life and why?

One of the earliest influence has been Architect Laurie Baker who settled in India from England and worked in Kerala for most of his life. His contextual choices in determining architectural characteristics stood much ahead of time. Prof. S Balaram who is one of the first design teachers of India and key person behind National Institute of Design, for his Indian contextualisation of design and its education.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

One of the challenges in the beginning of the career was the insufficiency of the institutions around Design in India, except NID and IDC (IIT Bombay) which was hardly representative of the Indian subcontinent. The way to overcome was to initiate the building of such institutions that would cater to design education and practice. A design start-up of fresh graduates and later setting up of Kerala State Institute of Design in early stage was to address these deficiencies.

In your opinion, what can be done to bridge the gender gap in STEAM?

Interestingly in the last one decade, design education has almost closed the gender gap for girls. But when it comes to a design career, the gap again widens. The fast changing landscape of technology with AI and emerging new disciplines in Design requires upskilling of female workforce.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Earlier there was a stress on certain skills in design education. Though they are still necessary, to be able to navigate the interdisciplinary nature of design and its geographical contexts would be an asset. To be empathetic and observe life is an extremely important quality required at any part of the design process.



Name: Srirupa Chatterjee Designation: Associate Professor Department: Liberal Arts Email: srirupa@la.iith.acin Webpage Link: https://sites.google.com/a/iith.ac.in/dr-srirupa-chatterjee/ Scopus ID: 56910470400 Google Scholar ID: lgIKCx8AAAAJ ORCID ID: 0000-0002-0210-0510

Research Area:

Body Studies, Literary and Critical Theory, American Fiction, Travel Narratives, Gender Studies.

Major Accomplishments:

- Qualified UGC-NET and joined the PhD program at IIT Kanpur where I received the institute
- level award for research publications
- As my first professional appointment, I joined IIT Jodhpur at Assistant Professor in the
- School of Liberal Arts
- Thereafter I joined IIT Hyderabad as Assistant Professor in the Department of Liberal Arts
- I have been the Head of my Department since August 2023.
- I am happy to have trained doctoral scholars who are doing well as young independent
- researchers today.

A brief Introduction about yourself

I was born to a Bengali doctor father and homemaker mother, and was schooled in Ranchi, Jharkhand. I thereafter I moved to Delhi for under and postgraduate education and finally obtained my doctoral degree in English from IIT Kanpur. I have been an academic for more than 10 years, and presently live in Hyderabad, India with my husband, who is a clinical trials professional.

Why did you choose STEAM as a career?

How humanity functions within the ambit of cultural discourses is something that fascinated me since childhood. Additionally, I was deeply interested in understanding how human imagination attempts to understand and represent reality. Hence, the arts, especially literary studies, which allows one to examine humanity and culture in all its diversity was a natural choice for me. In fact, I had been a student of the sciences till high school, and once I realized how science, technology, and art ultimately merge to craft the world we live in, I was most inspired to study literature.

People who have inspired you the most in your life and why?

My mother for her unfaltering dutifulness and righteousness; many of my professors in college and university for their erudition, and my thesis adviser, Professor Neelakantan at IIT Kanpurfor helping me understand that compassion and knowledge go hand in hand to make a good human being.

Major turning points/events in your life and/or the main challenges that you have faced

and how you overcame the same?

Coming from a small town, the life and exposure that I obtained as a young girl after I left home has had profound influences on me. Parental support and my own aspirations kept me going through many adversities that life did bring up. But eventually, I am grateful to the powers that be for everything I have today.

In your opinion, what can be done to bridge the gender gap in STEAM?

Greater encouragement and opportunities need to be provided to young girls all across the country for them to move toward higher education; given that knowledge is power in today's times more than ever before. Further, we need conversations on how diverse educational and professional opportunities today are so that girls (and boys) can fearlessly choose topics and subjects that truly inspire them and contribute to the world in their own distinct ways.

Your advice to young girls and/or women aspiring to make a career in STEAM. Persevere and avoid short cuts. Smart and hard work is inevitably rewarded.

Phrase that inspires you the most in your life

I have several quotes that inspire me. But presently, I like this one by the American writer, Marilynne Robinson: "We experience pain and difficulty as failure instead of saying, I will pass through this, everyone I have ever admired has passed through this, music has come out of it, literature has come out of it. We should think of our humanity as a privilege."



Name: Suhanya Duraiswamy Designation: Assistant Professor Department: Chemical Engineering Email: suhanya@che.iith.ac.in Webpage Link: murelab.weebly.com Scopus ID: 26767701000 Google Scholar ID: 1wSCHuoAAAAJ

Research Area:

Microfluidics, Biomedical Devices, Sensors, Microphotoreactors, Nanomaterial synthesis and assembly.

Major Accomplishments:

- Teaching excellence award, IITH, 2023
- Getting research grant from SERB (SRG,SPG), DBT (Special call), STARS, JICA and ICMR worth Rs 144,76 (as PI) and Rs 146.33 (as co-PI)
- 5 Patent applications (3 recently submitted to the Institute for approval) filed so far, for the work initiated in my lab (Micro Reaction Engineering lab), @IITH
- Joining IITH as Assistant Professor in 2019 and establishing my working lab during Covid19
- PhD thesis from a new lab first student to the professor. Thesis led to a patent and a start-up and was awarded Extra-Chapter Challenge award by NUS-Enterprise.

A brief Introduction about yourself

I graduated from BITS, Pilani, Rajasthan with an MSc (Hons.) in Physics and B.E. (Hons.) in Chemical Engineering under the dual degree program. I completed my PhD from Chemical Engineering in 2012 from National University of Singapore and started up Nanoix (a nanomanufacturing company) which was later renamed to Metralyx. I also worked as a postdoctoral fellow and scientist in Singapore for 7 years before moving to India.

Why did you choose STEAM as a career?

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Personally, my father is a Physics PhD and had always been a passionate teacher instilling in me the value of education and a curiosity about how things work. I had interest in teaching, and my yearlong internship (at IICT) in my bachelor's program fuelled my research career. The idea that we can find cure for ailments and provide safe and healthy living conditions for all, through research, has been a driving force since then.

People who have inspired you the most in your life and why?

- My father a passionate teacher. He inculcated the habit of reading every day and being inquisitive.
- My PhD Supervisor Dr Saif Khan He is a gold medallist from ICT Mumbai and went on to do a PhD from MIT and became an Assistant Professor at NUS immediately after PhD. His outlook to life and research is radical and inspiring. I learnt all my life skills and lab-based skills under his tutelage, and I always look up to him for moral support. He has always believed in me and has given me opportunities to prove myself.
- Dr Sridhar (IICT) I was his intern for a year during my 5 years bachelor's and his research on water treatment using spiral wound membranes showed me that research can change lives instilled my passion for research and also helped me gain admission into NUS.

In your opinion, what can be done to bridge the gender gap in STEAM?

- Women are in general considered the weaker section of the society which is inhibiting them to perform in STEAM. This opinion is not true this needs to be engraved in everyone's mind. The change needs to happen at the grassroots level. We can do this by:
- Conduct awareness camps to educate the educated world about women empowerment.
- Adopt few schools in our surroundings and work with their teachers to come up with a program that will inspire the girls to STEAM and spread awareness.
- Organize workshops/internship programmes/mini projects to motivate female students in high schools and colleges to take up STEAM.
- Facilitate female students to showcase their talents be it in performing arts or in science and engineering through various platforms conferences, social media and the like.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Be focussed and don't worry about small setbacks. Keep your long-term goal in mind and move ahead steadily. The hurdles on the way will vane with time. Do not be demotivated by the negative thoughts around you.



Name: Dr Shubha Ranganathan Designation: Associate Professor Department: Liberal Arts Email: shubha@la.iith.ac.in Webpage Link: https://sites.google.com/a/iith.ac.in/dr-shubha-ranganathan/ Scopus ID: 56005796400 Google Scholar ID: https://scholar.google.co.in/citationsuser=PJkwdRYAAAAJ&hl=en&oi=ao ORCID ID: 0000-0002-6954-2727

Research Area:

Disability studies, mental health, medical anthropology, qualitative research, and care work.

Major Accomplishments:

- During the period from 2021 to 2023, while heading the Department of Liberal Arts I was the PI of 3 research projects and co-PI of one consultancy project. Currently, I am also PI of one SPARC project of about 30 lacs.
- In 2022-2023, I was instrumental in bringing to the department a major funded research project (of which I am also co-PI) of USD 196,000/- in collaboration with an adjunct faculty
- Successfully guided four doctoral students and currently guiding six students
- Published a total of 9 articles in 2023
- During my tenure as Head of the department, I was able to bring about greater recognition to the department by starting a new MA program, a new Minor in Creative Arts, as well as through facilitating the affiliation of excellent adjunct faculty with the department

A brief Introduction about yourself

I am an interdisciplinary social scientist engaging in qualitative research on disability, mental health, and gender with an aim to address socially relevant issues and thereby bring about meaningful change in society. My larger goal is to have a more inclusive and just society in which we build solidarities.

Why did you choose STEAM as a career?

Academia allows me to explore my main passions - teaching, research, and guiding in creative and impactful ways. I enjoy lifelong learning and interacting with young minds. I am passionate about socially relevant research and hence delved into the social sciences. I believe that the greatest potential and power we hold is in our collective strength and solidarity.

People who have inspired you the most in your life and why?

My teachers in psychology at the undergraduate level, my parents, the Dalai Lama, and poets like Emily Dickinson and Kabir, have inspired me and from my students, I derive continuing energy.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

One major turning point was when I chose to move to the Arts stream after schooling even though I had good grades. I decided to pursue my interest even though my school teachers did not understand it. Another milestone was when I chose to major in Psychology due to my interest in the mysteries of the human mind. Finally embarking on the PhD.

In your opinion, what can be done to bridge the gender gap in STEAM?

Provide equal opportunities to girls to study and pursue their dreams and share stories of female role models for them to draw inspiration from. Encourage their curiosity at younger ages and allow them to teach them to stand up for themselves and speak their minds.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Follow your heart and your dreams because a career is not just a job. It doesn't define you but it does determine what you will be spending much of your working day on. So choose based on your interest. Trust your intuition because you know yourself best.

Phrase that inspires you the most in your life

"You have to believe in yourself when no one else does"



Name: Shruti Upadhyaya Designation: Assistant Professor Department: Civil Engineering Email: <u>shrutau@ce.iith.ac.in</u> Scopus ID: 56439082700 Google Scholar ID: https://scholar.google.co.in/citations?user=BnK37qIAAAAJ&hl=en ORCID ID: 0000-0002-1266-263X

Research Area:

Hydrometeorology, Remote Sensing, Precipitation And Associated Hazards, High Impact Weather, Explainable AI/ML (XAI/ML).

Major Accomplishments:

- [2023] Scientific High-Level Visiting Fellowships (SSHN) 2023 a Short Research Trip to France (SRFT) by the Embassy of France in India.
- [2018] Prof. U.C. Kothyari's best Ph.D. thesis by the Indian Society of Hydraulics.
- [2016,2017] International research travel grants from the Council of Scientific & Industrial Research (CSIR), and the Department of Science and Technology (DST)
- [2014-2017] Senior and Junior Research Fellowship by Ministry of Human Resource Development (MHRD), Govt. of India

A brief Introduction about yourself

Hailing from the historical city, of Bijapur, Karnataka, I transitioned from Civil Engineering to a more interdisciplinary field of Remote Sensing and GIS. My academic journey spans Visvesvaraya Technological University, and IIT Bombay, and work at the University of Oklahoma, USA. Joining IITH in 2023, I'm passionate about teaching, and using data-driven approaches to tackle hydro-meteorological challenges. Collaborating with young bright minds, constant learning, and problem-solving keep me motivated. During non-working hours, I enjoy dancing, cooking, and hiking.

Why did you choose STEAM as a career?

Driven by curiosity and passion, I chose a STEAM career to serve society through research and teaching. Exposure to opportunities and recognizing my strengths fueled my interest in addressing real-world challenges, motivating me to integrate AI/ML and hydro-meteorology for innovative solutions and impactful tools/products.

People who have inspired you the most in your life and why?

I draw inspiration from the richness of experiences around me. My family, a constant source of unwavering support, has been my foundational inspiration. Prof. E.P. Rao, Prof. RAAJ Ramsankaran, and Prof. Pierre Kirstetter, my advisors, have uniquely influenced my journey with their guidance and unwavering passion for their work.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

One significant turning point in my life was realizing the common expectation for women to be superwomen, excelling in every aspect. Overcoming this required prioritizing my physical and mental health, acknowledging the need to put myself first. It took time, but with the support of my incredible family and friends, I am trying to embrace this realization. This shift is helping me enjoy and appreciate both my work and personal time.

In your opinion, what can be done to bridge the gender gap in STEAM?

Addressing the gender gap in STEAM requires eliminating unconscious bias and fostering early engagement for girls in a supportive environment. Training both genders is key. Openly discussing failures alongside successes is vital, acknowledging the real-world challenges women may encounter in balancing family, home, and work.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Embrace curiosity, persist through challenges, accept failures. Surround yourself with mentors and a supportive community. Every hurdle is a chance to learn and grow. You have the power to make a meaningful impact in STEAM.



Research Area:

Flow and transport in porous media, multi-scale modelling and experiments, pore-scale modelling, upscaling of transport processes, liquid filtration through porous membranes.

Webpage Link: https://sites.google.com/iith.ac.in/seetha/

Major Accomplishments:

- DST INSPIRE Faculty Award, 2016
- Berkner Travel Fellowship, American Geophysical Union, 2014
- Established Scientist's Travel Award, European Geosciences Union, 2014
- G.M. Nawathe Award for Best Presentation during HYDRO 2013, The Indian Society for Hydraulics, 2014
- Innovative Student Projects Award at Masters level, Indian National Academy of Engineering, 2010.

Name: Dr Seetha N

Scopus ID: 35280746200

Designation: Associate Professor **Department:** Civil Engineering **Email:** seetha@ce.iith.ac.in

Google Scholar ID: So8YlrMAAAAJ

A brief Introduction about yourself

I believe in making every adverse situation in life into a path for learning something new. I feel that "optimism" is one way to go forward. Also, a big believer in teamwork, and am interested in building a women's team interested in chemical engineering and computer science equipped to solve challenges in healthcare.

Why did you choose STEAM as a career?

I like mathematics very much from my school days. So, I choose engineering as my career.

People who have inspired you the most in your life and why?

I am fortunate to have some of the highly knowledgeable, inspiring and encouraging teachers who helped to identify the potential in me and moulded me into a better person.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same? The turning point in my life was joining IISc for my PhD.

In your opinion, what can be done to bridge the gender gap in STEAM?

I think creating societal awareness about gender inclusivity is very important in bridging the gap.

Your advice to young girls and/or women aspiring to make a career in STEAM. Follow your passion and keep trying. Do not get disheartened by failures.

Phrase that inspires you the most in your life

"Follow your passion"



Name: V. Kanchana Designation: Professor Department: Physics Email: <u>kanchana@phy.iith.ac.in</u> Webpage Link: https://people.iith.ac.in/kanchana Scopus ID: 6602687276 Google Scholar ID: uySJQxEAAAAJ ORCID ID: 0000-0003-1575-9936

Research Area:

- Quantum Topological Materials
- Quantum transport and Device applications
- Energy Harvesting Materials
- Topological Superconductors

Major Accomplishments:

- Established a Materials Design and Simulation Lab focusing on exploring novel materials with promising device applications
- Graduated 8 Ph. d Students and guiding 8 more in the leading areas of Condensed matter Physics
- 140 International publications with a H-index of 38 (Google Scholar) with 4050 citations
- Received a few Awards and honors, which include, the DAE Young Achiever award, MRSI medal, and SMC bronze medal.

A brief Introduction about yourself

A person who wants to pursue science with utmost passion. I started my career with a humble beginning and reached this position with continued hard work, perseverance, and dedication with strong support from my students. A dream that is a reality today, mainly because of the encouragement from my near and dear.

Why did you choose STEAM as a career?

To be honest, I started a science career as I had that as the only possible option before me for higher studies. Little did I think that my choice would lead me to such a position, where I can explore science without barriers.

People who have inspired you the most in your life and why?

• My main inspiration stems from my family and the importance they gave to my higher studies without any restrictions. Their support is the strongest inspiration for me to achieve my goals.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

The major challenge for any working woman is balancing the personal and professional responsibilities. I greatly owe a lot to my family, especially to my husband who stood as a great support in achieving what I am today.

In your opinion, what can be done to bridge the gender gap in STEAM?

• Supporting more women scientists in their early careers with grants and all required support may certainly inspire women to excel in their career path.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Be strong and goal oriented. Continue your passion with utmost commitment despite the hurdles which you may face. You are sure to achieve one day.

Phrase that inspires you the most in your life

"You have to believe in yourself when no one else does"



Name: Vandana Sharma Designation: Associate Professor Department: Physics Email: <u>vsharma@phy.iith.ac.in</u> Webpage Link: https://vsharmagroupiith.wixsite.com/quantum-dynamics-lab Scopus ID: 57215712963 Google Scholar ID: 6zD0I9wAAAAJ ORCID ID: 0000-0001-9830-2485

Research Area:

Ultrafast dynamics, Atom and Molecules, Medical Imaging devices, Instrumentation for fundamental science.

Major Accomplishments:

- Young Scientist Award in National Physicists Conclave-2024 (NPC-2024) for developing a medical device
- Sree Ramakrishna Paramahamsa Research Award 2020 for developing a robotic 3D vein viewer
- Sheldon Datz, Best Scientist award, Freiburg, Germany, July 2007, for developing a 6D electron-ion imaging spectrometer (First in India)
- Prestigious Joint Institute of Laboratory Astrophysics Post Doctoral Fellowship, University of Colorado at Boulder, USA
- Guest Editor for a Special issue in the Journal of Physics B (https://iopscience.iop.org/collections/jpb-230809-313)

A brief Introduction about yourself

From a modest upbringing, I embraced my parents' sacrifice-fueled resilience. Their emphasis on education propelled me to pursue a doctorate in Physics. I'm passionate about developing imaging technologies. During summers I love to teach underprivileged kids, fulfilling my duty to the nation. Cooking and trekking relax me amidst work pressures.

Why did you choose STEAM as a career?

Inspired by my father's advanced engineering work, I developed a keen interest in science from a young age. It's where I find all the answers to my questions and where mysteries get solved.

People who have inspired you the most in your life and why?

My parents are my greatest inspiration. Despite financial constraints, they indigenously crafted big devices from cheaper materials. Despite lacking a formal engineering degree, my father's ingenuity astounded me; he's among the finest engineers I've ever seen. Their resourcefulness and determination have shaped me into who I am today.

Major turning points/events in your life and/or the main challenges that you have faced and how you overcame the same?

After my bachelor's, my father hoped I'd choose computer science as a master's program, but I aimed for a career in Physics. Defying his wish created a gap between us, but as he saw me pursue my dreams, any distance vanished. Our bond grew stronger, united by understanding and support.

In your opinion, what can be done to bridge the gender gap in STEAM?

Empower both women and men early on about life balance. Each contributes equally to the social and professional spheres. Social duties aren't solely women's, and professional tasks aren't solely men's. Collaboration is key to creating a harmonious and successful community. It's about teamwork and shared responsibility.

Your advice to young girls and/or women aspiring to make a career in STEAM.

Genius isn't inherent; we all possess strengths. Identify and hone yours, trust your instincts, and take action. Just do it.

Phrase that inspires you the most in your life

"You have to believe in yourself when no one else does"



There is no force more powerful than a woman determined to rise

~ W.E.B. Dubois

"

Women must not accept; they must challenge. She must not be awed by that which has been built up around her; she must reverence that woman in her who struggles for expression

~ Margaret Sanger





భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్ भारतीय प्रौद्योगिकी संस्थान हेदराबाद Indian Institute of Technology Hyderabad

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