



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
OFFICE OF ALUMNI AND CORPORATE RELATIONS



**Celebrating the Generosity of
Mr. Yashpal S Sodhi &
Mrs. Parminder Sodhi**

Impact of your giving in 2024

Director's Message

Prof. Kamakoti Veezhinathan

Director, IIT Madras



Greetings!

IIT Madras continues to retain her top position for the ninth consecutive year, in the National Institute Ranking Framework, thanks to the world-class research, unwavering dedication and creative mindset of its faculty and students. The contribution and support of Alumni and well-wishers like you have crucially helped this standing and stature. Our achievements in research, education, innovation, and entrepreneurship have also earned us the recognition of an 'Institute of Eminence' as well as the top position in the Atal Innovation Ranking from the Government of India.

IIT Madras is making an indelible mark in promoting and providing education to students from the length and breadth of India to areas beyond Indian territory, through her initiatives in rural developmental educational programs, international, interdisciplinary M.Tech courses, and online diploma courses. The popularity and reach of our online courses can be gauged by the fact that around 25000 students in ages ranging from 17 to 82, have enrolled for these courses across national boundaries, and about 30% are from rural India. The institute, in a first-ever initiative by an IIT, has consolidated its position on the world map by establishing her international campus in Zanzibar, Africa where about 45 students have been admitted to different programs.

Innovation and entrepreneurship are ingrained in all our endeavours – our ambitious ventures in rocket and space explorations, the development of lab-grown diamonds, hyperloop, the Brain Research Centre etc, are a testimony to this. The start-up ecosphere is also a reflection of this spirit, wherein last year, 70 startups came to fruition, successfully nurtured by our centres of excellence, the Centre for Innovation, Nirmaan – the pre-incubator, the Incubation Cell technology centres such as 'IITM-Pravartak' at the IIT Madras Research Park and others.

This year, our target is to incubate at least a 100 Start-ups in various sectors. It is expected that at least 20% of the passing out students will be proud CXOs of their own ventures! The year 2023 also saw 221 national and 105 international patents from our Institute and we are looking to closing this current financial year with 366 patents, to account for 'a patent a day'.

Towards promoting inter-disciplinary research and exploring new frontiers, a Department of Medical Sciences and Technology was launched in May 2023, a School of Sustainability in Oct 2023, a Department of Data Science and Artificial Intelligence in Nov 2023 and a new Interdisciplinary Dual Degree program on Quantitative Finance in Dec 2023 through the synergy of the departments of Management Studies, Computer Science and Engineering and Mathematics. Our School of Sustainability has signed MoUs for collaborations with Tel Aviv University, Israel and Technische Universität Dresden, Germany, with the aim of being recognized as a leader for sustainability teaching and research in the global south.

Lofty ambitions and achievements are impossible without the deep-rooted faith and support of alumni and well-wishers like yourself. We are indebted to you for your bountiful, impactful contributions and the faith reposed on us. On behalf of IIT Madras, I express my deepest gratitude for continuing to strengthen the Institute. Together with your support, we are confident of building an IIT Madras that is more inclusive, diverse, and seized of tomorrow's needs to be nationally and globally relevant.

Thank you!



Dean's Message

Prof. Mahesh Panchagnula

Dean, Alumni & Corporate Relations, IITM

Greetings from the Office of Alumni and Corporate Relations!

Please accept my sincere appreciation for the unwavering support you continue to provide to IIT Madras. Your generosity is the cornerstone of our success, and we are truly grateful for your commitment to the causes that are important to the students and faculty of IIT Madras. This report is a testament to the profound impact your contributions have had –by transforming the lives of students, supporting research, augmenting Institute infrastructure, enhancing learning or through

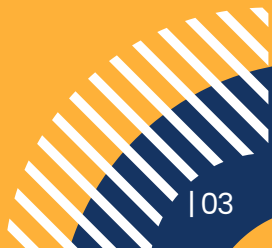
supporting other myriad causes. Your trust in us propels our ambitions, and we are committed to ensuring that your donations are utilized to their fullest potential.

In a world evolving rapidly in science and technology, we have set ambitious goals for ourselves. Your enduring enthusiasm and support provide fillip to our efforts. IIT Madras stands as a beacon of diversity, sustainability, innovation and research excellence. While we have transformed over the years, our commitment to being a premier institute in the country and abroad, remains steadfast, attracting the brightest minds from across the globe. I cordially invite you to visit the campus, witness first-hand the salutary impact of your contributions, and observe the Institute's growth and evolution over the years.

Your generous gifts have made an incredible difference in our Institute's aspirations – Thank you! Your continued partnership is invaluable as we navigate the exciting journey ahead, shaping the future of India and the world together.



"GIVING IS NOT JUST ABOUT
MAKING A DONATION -
IT'S ABOUT
MAKING A DIFFERENCE"





Mr. Yashpal S Sodhi

[1970/BT/EE]

**Former Manager
Submarine Power Systems**

The report will present a thorough assessment of the impact that your contributions have made towards V.V. Sastry Chair Professorship

V.V. Sastry Chair Professorship

The V. V. Sastry Institute Chair is funded by Mr. Yashpal Singh Sodhi and Mrs. Sodhi in honour of Prof. V.V. Sastry from the department of Electrical Engineering. Prof. V. V. Sastry was associated with Indian Institute of Technology since 1968 for 3- decades during which he had been a Professor of Electrical Engineering between 1980 and 1998. He won various national awards such as Inventions awards of NRDC and VASVIK award and had the international recognition as a Humboldt Scholar from German Government.



V.V. Sastry

Introduction of the Chair Occupant:

Prof. Amitava DasGupta is the current chair professor of V.V.Sastry Chair Professorship.

Education Background:

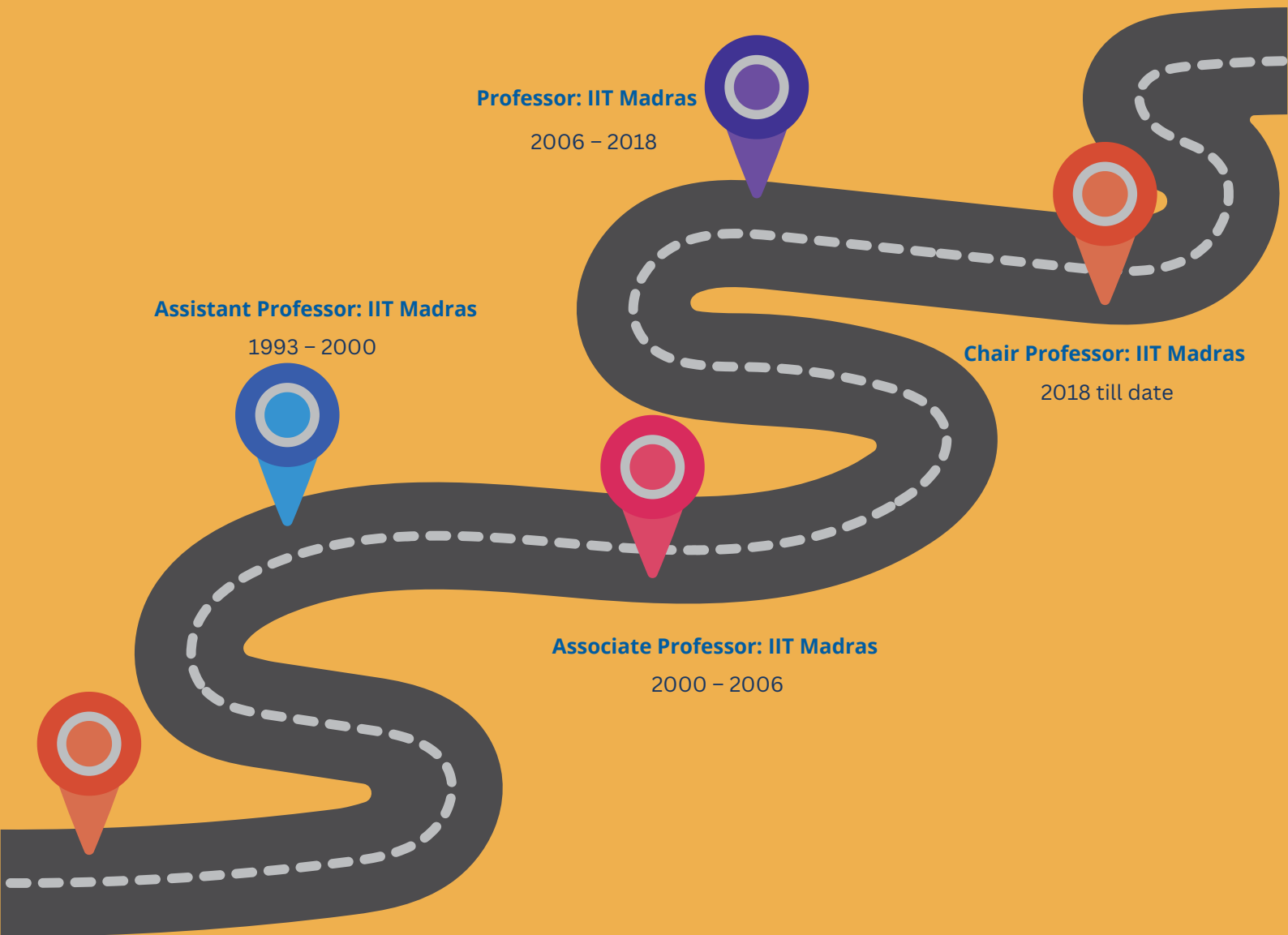
B.E., Electronics and Telecomm. Engg. (Jadavpur University, Kolkata)

M.Tech, Electrical Engg. (IITM)

PhD (IIT Kharagpur)



Prof. Amitava DasGupta



Lecturer: IIT Kharagpur
1988 – 1993

Assistant Professor: IIT Madras
1993 – 2000

Associate Professor: IIT Madras
2000 – 2006

Professor: IIT Madras
2006 – 2018


Chair Professor: IIT Madras
2018 till date

Broad Area of Research:

1. Advanced and compact models for present generation MOSFET and HEMT devices
2. MEMS based devices
 - RF MEMS devices such as switches and resonators
 - Sensors such as pressure sensors and accelerometers
 - Energy harvesters
3. Semiconductor technology
 - a) Silicon devices
 - b) GaN HEMT devices


Students contributions (who were involved in Research):

 15 completed

 3 ongoing

PhD guidance

 18 completed

 3 ongoing

MS (by research)

Current Research:

Compact models for GaN HEMTs (Research Centre on GaN Research and Development)

Developing a charge based comprehensive compact model for GaN HEMTs for DC, small signal and transient applications

GaN based technology for RF Power amplifiers and DC-DC converters (Research Centre on GaN Research and Development)

Developing Enhancement mode GaN HEMT technology for microwave monolithic integrated circuits (MMICs)

MEMS based piezo thin film energy harvesters (DRDO)

Developing energy harvesters for underwater applications

RF MEMS based nano resonators for RF oscillators (Ministry of Electronics and Information Technology)

Developing oscillators at 1 GHz by combing MEMS nano resonators and CMOS amplifiers

List of publications and presentations:

1. International Journals: 99
2. Conference presentations: 125
3. Latest publications

- ▶ Ajay Shanbhag, Ramdas P Khade, Sujan Sarkar, MP Sruthi, Deleep Nair, Anjan Chakravorty, Nandita DasGupta, Amitava DasGupta, "An accurate method to extract thermal resistance of GaN-on-Si HEMTs", Applied Physics Letters, vol. 122, issue 21, May 2023.
- ▶ Ramdas P Khade, Sujan Sarkar, Ajay Shanbhag, Amitava DasGupta, Nandita DasGupta, "Substrate Bias Stress Induced Kink Effect in GaN-on-Silicon High Electron Mobility Transistor", IEEE Journal of the Electron Devices Society, May 2023.
- ▶ Sruthi M. P., Ajay Shanbhag , Deleep R. Nair, Anjan Chakravorty, Muhammad Ashraful Alam, Nandita Dasgupta and Amitava Dasgupta, "Scalable Charge-Based Compact Model for Drain Current in Fin-Shaped GaN HEMTs", IEEE Transactions on Electron Devices, vol 70, no.3, pp.979-985, March 2023.
- ▶ Kanaka Joy, Anurag Swarnkar, MS Giridhar, Amitava DasGupta, Deleep R Nair, "RF MEMS capacitive shunt switch for low loss applications", Journal of Micromechanics and Microengineering, vol. 33, issue 3, February 2023
- ▶ Ajay A P, Dhiman Chatterjee and Amitava DasGupta, "A novel integrated transdermal drug delivery system with micropump and microneedle made from polymers", Micromachines B: Biology and Biomedicine, Micromachines 2023, 14(1), 71; <https://doi.org/10.3390/mi14010071>

4. Latest presentations (Invited talks)

- ▶ "A Compact Model for Trigate GaN based FinHEMTs", IEEE EDTM, Bangalore, Feb. 2024
- ▶ "IIT Madras Charge Based Compact Model (ICM) for GaN based HEMTs", IEEE ICEE, Bangalore, Dec. 2022

Honours, Awards & Affiliations:

Fellow, Indian National
Academy of Engineering (INAE)

Chair Professor, IIT Madras

Member, IEEE

Plans ahead:

Develop Research Centre on GaN Research and Development into an internationally recognized Centre of Excellence

Thank you note from Chair Occupant:

"I thank Mr. Yashpal Sodhi and Mrs. Parminder Sodhi for instituting this chair in honour of Prof. V.V. Sastry. I also thank IIT Madras for choosing me as the first recipient of this chair. I thank my teachers, colleagues and students for guiding me and providing necessary support"



We are grateful to you and your family

Mr. Yashpal S Sodhi & Mrs. Parminder Sodhi

Thank you for your sustained generosity to IIT Madras over the years. Contributors such as yourself enable our students and Professors to dream big and work towards a better and brighter future. We hope you are proud of your alma mater and how it has remained steadfastly committed to academic and research excellence during and after your time here. You and your family have been instrumental in facilitating this significant growth.

Our efforts to nurture the culture of academic excellence that is the hallmark of IIT Madras - quality education, cutting-edge research, and unfettered creativity - shall continue. We are privileged and humbled to have you and your family walking with us along this trail. We wish you and your family the best always in all walks of life!



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For more information, please contact:
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