



ALUMNI AND CORPORATE RELATIONS
INDIAN INSTITUTE OF TECHNOLOGY MADRAS



CELEBRATING THE GENEROSITY OF
SHRI VENU ARAVAMUDAN

IMPACT OF YOUR GIVING IN 2024

DIRECTOR'S MESSAGE

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.

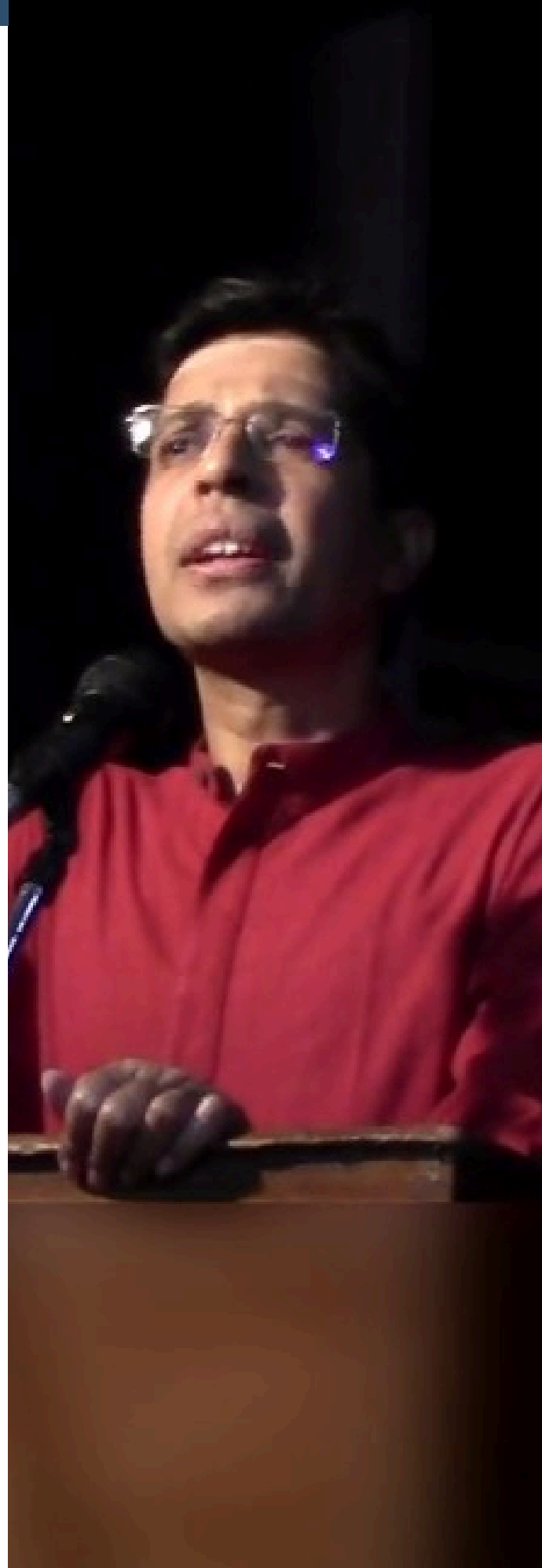
IIT Madras is making an indelible mark in promoting and providing education to students from the length and breadth of India to areas beyond Indian territory, through her initiatives in rural developmental educational programs, international, interdisciplinary M.Tech courses, and online diploma courses. 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!



Prof. Kamakoti Veezhinathan
Director, IIT Madras



DEAN'S MESSAGE

Greetings from the Office of Alumni and Corporate Relations,

I want to extend my deepest gratitude for your incredible generosity and continuous support towards IIT Madras. An act of giving is much more than making a donation. It is the manifestation of kindness, compassion, and deep-rooted empathy within each of us. It is the very essence of being human. And as one of our esteemed donors, you are no exception to this.

Strong academic institutions play a critical role in today's world - training minds young and old, and contribution to research and innovation. Your contributions have had a truly transformative impact, not only on the institute but also on our students, faculty and the broader community. This "Impact of Giving" report serves as a testament to the profound influence your contributions have had on the lives of our current students, the advancement of innovation in research, and the infrastructure of the institute.

At IIT Madras, we take great pride in the strong relationships we have fostered over the years. It is through your consistent engagement with us that we've been able to push the boundaries of innovative research, improve our infrastructure, and provide scholarships that have empowered students from diverse backgrounds. These efforts have created life-changing opportunities, ignited new ideas, and elevated IIT Madras to the forefront of global education and research.

Your commitment, as part of our esteemed benefactor network, has strengthened our institute's global reach. It has opened doors to new partnerships, fostered collaborations, and helped us nurture the leaders of tomorrow.

We are profoundly grateful for your belief in IIT Madras. Your continued support not only upholds the values and traditions of the institute but also helps us chart a bold and visionary path forward. Together, we are building a legacy of lasting excellence.

Once again, thank you for your dedicated engagement with IIT Madras

Prof. Ashwin Mahalingam

Dean, Alumni and Corporate Relations, IITM

SHRI VENU ARAVAMUDAN

1985/BT/CE

Senior Vice President Of Engineering
Oracle, Seattle, USA



The report will present a thorough assessment of the impact that your contributions have made towards G Aravamudan Institute Chair.

G. ARAVAMUDAN INSTITUTE CHAIR

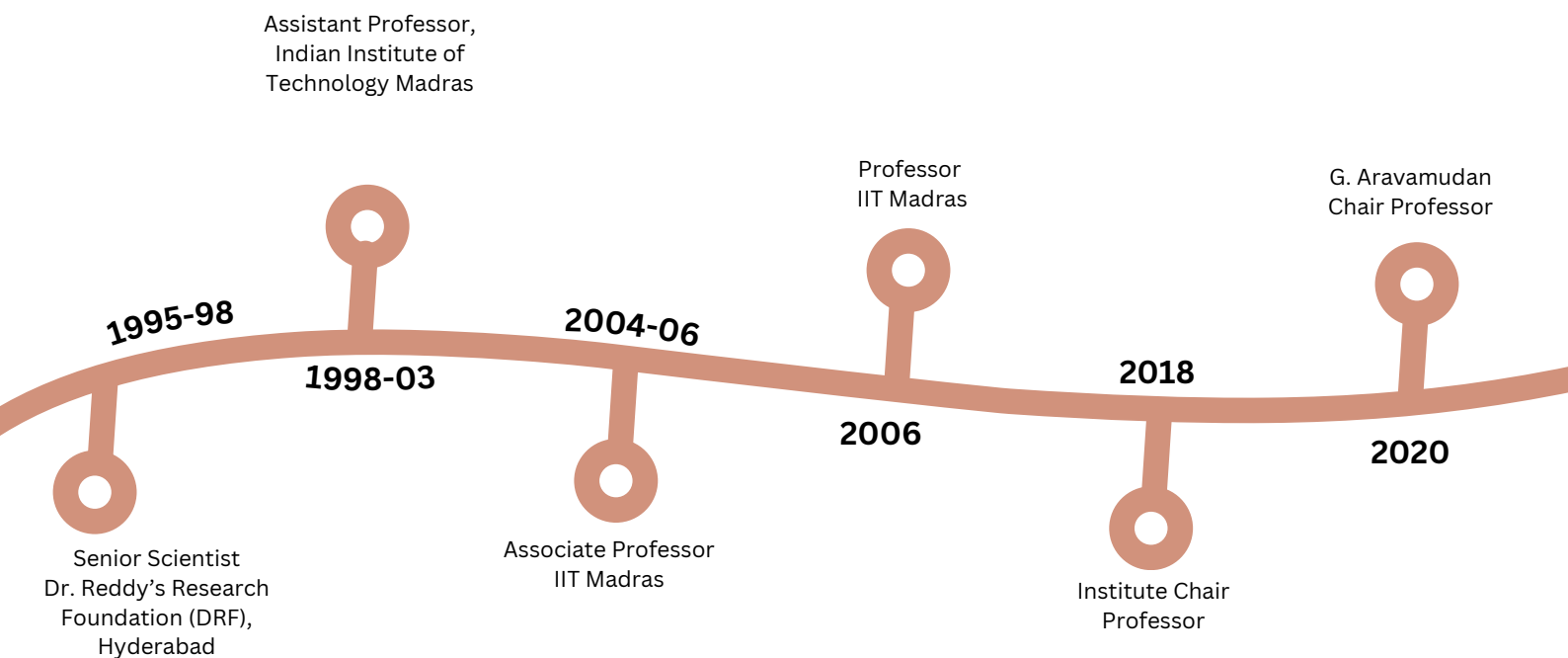
G. Aravamudan Institute Chair was instituted in 2018 by the thoughtful contribution of Shri Venu Aravamudan and it was named after his father Dr. G. Aravamudan, Retired Distinguished Professor, Department of Chemistry IIT Madras.



Prof. Sundarababu Baskaran

G Aravamudan Institute Chair Professor
Department of Chemistry

RESEARCH & PROFESSIONAL EXPERIENCE



HONOURS, AWARDS & AFFILIATIONS

- 2015-2021 Associate Editor, J. Chemical Sciences
- 2018 Institute Chair Professor
- 2020 G Aravamudan Chair Professor
- 2020 Fellow of the Indian National Science Academy (FNA)
- 2021-2024 Convener, Chennai Chapter, Indian National Science Academy
- 2022-Present Member, Monitoring Committee for CSIR Mission Mode projects
- 2024-Present Member, National Committee for International Union of Pure & Applied Chemistry (IUPAC)
- 1991 Alexander von Humboldt Fellowship, Germany.
- 2003 Member, Chemical Research Society of India.
- 2004 Member, American Chemical Society.
- 2008 Bronze Medal, Chemical Research Society of India.
- 2010-15 National Representative, IUPAC
- 2012-15 Committee Member, DST-Fast Track-Young Scientist Scheme
- 2013 Fellow of the Indian Academy of Sciences (FASc)
- 2015-2018 Co-opted Member, PAC (Organic), SERB
- 2015-2019 Council Member, National Organic Symposium Trust

BROAD AREA OF RESEARCH

Dr. Baskaran has wide expertise in the design and development of new synthetic methodologies and their applications in the stereoselective synthesis of biologically active molecules. His research group has developed an unusually novel and general method for the stereoselective construction of azabicyclic systems based on epoxide-initiated cationic cyclization of azides. The scope of this methodology is further extended to hitherto unknown domino epoxy-olefin-azide cyclization. This novel domino cyclization has also been exploited in the stereo- and enantioselective total synthesis of anti-tumor agents, lepadiformine A & C and Crispine-A. In addition, his research group could efficiently convert D-mannitol to optically active antibacterial molecules such as Linezolid and Eperezolid. Moreover, a very general and efficient method has been developed for the one-pot synthesis of hydrophobically modified iminosugar C-alkynylglycosides via stereoselective alkylation of in situ generated iminium ions.

The synthetic potential of this method is further shown in the domino synthesis of iminosugar based hybrid molecules. Recently, his group has developed a one-pot strategy for the stereoselective synthesis of novel cyclopropane fused cyclic amidines using oxidative carbanion cyclization as a key step. The synthetic power of this method is further shown in the concise and stereoselective of antidepressant drug candidate GSK1360707 and key intermediates for the synthesis of drug molecules amitifadine, bicifadine and narlaprevir. Very recently, a hitherto known one-pot multicomponent method for the synthesis of functionalized sulfones has been developed using arylsulfonyl hydrazide and formaldehyde. In this one-pot reaction, arylsulfonyl hydrazide-formaldehyde reagent system serves as a novel "-CH₂-SO₂-Ar" transfer agent.

LIST OF RECENT PUBLICATIONS

- ✔ Selective Electrophile-Promoted Cyclization Reactions of Lapachol and Evaluation of Bioactive Naphthoquinones Against Cancer Cell Lines, I. N. Omdim, K. O. Eyong, B. M. W. Ouahouo, H. L. Ketsemen, T. Werner, M. H. K. Kamdem, D. T. Ndinteh, G. N. Folefoc, A. Rajkumar, K. Morales, J. Taube, S. Baskaran J. Heterocyclic Chem., 2024, 1-15 (doi.10.1002/jhet.4935)
- ✔ Stereoselective Domino Semipinacol-Schmidt Reaction: Diastereoselective Synthesis of 7a-epi-(+)-Lepadiformine and Formal Synthesis of 7a-epi-(-)-Lepadiformine A M. Puppala, S. Gore, K. O. Eyong, S. Baskaran Eur. J. Org. Chem. 2023, 26, e202201490.
- ✔ Cascade Reaction of α -Aryl Vinyl and Propargyl Sulfonium Salts with Carbon Nucleophiles: Synthesis of Functionalized Benzyl and Homoallyl Thioethers Vilas M. Awchar and Sundarababu Baskaran submitted for publication (under review)
- ✔ Arylsulfonyl hydrazide-formaldehyde as "-CH₂-SO₂-Ar" transfer agent: Synthesis and Applications of Functionalized Sulfones Waghmode Amol Ganpat, Pramila Devi, Akriti Srivastava, Mallikharjuna Rao Lambu, and Sundarababu Baskaran Submitted for publication

PATENTS

- ✔ "PROCESS FOR PREPARING 3-AZABICYCLO[N.1.0]ALKANE COMPOUNDS" - Sundarababu Baskaran and Nemichand Pradhan New Indian Patent Application No. 202441077632 Ref: S 2024-25/1882 & IDF NO. 3097
- ✔ "PROCESS FOR PREPARING g-KETOSULFONE DERIVATIVES" -Sundarababu Baskaran and Waghmode Amol Ganpat docketed and assigned IDF No 3188. To promote Science among university/college students, actively participated and delivered many lectures in the "Academy Sponsored Lecture Workshops":

INDUSTRY-SPONSORED RESEARCH PROJECTS

- Three industry-sponsored projects (Rs 105 lakhs) are being implemented, and a few more projects are in the pipeline for funding. The RBIC projects mainly focus on the molecular weight reduction of biopolymers by chemical methods and further exploration of naturally occurring biopolymers and their fragments as novel antibacterial agents. We hope for a big breakthrough shortly.
- After realizing the initial objectives of our industry-sponsored project, large-scale preparation will be initiated through technology incubation.

PLANS AHEAD

Development of Green and Sustainable Chemical Processes:

- Sustainable chemistry encompasses the design, manufacture and use of efficient, effective, safe, and more environmentally benign chemical products and processes.
- Sustainability also introduces innovation into the design of new chemicals, production processes, and technologies.
- The concepts of green and sustainable chemistry have gained significant attention around the world given their potential to innovate and advance chemistry to help achieve global sustainable development goals.

Our future research goals will focus on the innovative design of environmentally sustainable one-pot multicomponent processes (Domino, Cascade and Tandem reactions) towards the synthesis of biologically relevant pharmaceuticals.

THANK YOU NOTE FROM CHAIR OCCUPANT

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*“Dear Venu,
We would like to express our deepest gratitude for your generous contribution towards the creation of “Prof. G. Aravamudan Chair Professorship” in IIT Madras.*

It is indeed a special privilege and great honour of being the first occupant of this prestigious chair professorship.

I am very grateful to IIT Madras for the unconditional support.

Thank you very much.

With best regards,

Baskaran”

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We are grateful to you and your family

SHRI VENU ARAVAMUDAN



Indian Institute of Technology Madras, Chennai 600036

www.iitm.ac.in

For more information, please contact:
Office of Alumni and Corporate Relations
T: +91-44-2257 8390 | www.acr.iitm.ac.in



December 2024

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!