

## Rajesh Sundareshan

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CURRENTLY	Dean, Electrical, Electronics, and Computer Sciences Division Professor, Electrical Communication Engineering <b>Indian Institute of Science, Bengaluru, India</b>		
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RESEARCH INTERESTS	Decision theory; communication, computation, and control over networks; cyber-social systems; and more recently, data-driven decision frameworks for public health responses.		
PROFESSIONAL EXPERIENCE	<b>Indian Institute of Science</b> , Bangalore, India <i>Dean</i> , Electrical, Electronics, and Computer Sciences Division <i>Professor</i> , Electrical Communication Engineering <i>Member</i> , Centre for Networked Intelligence <i>Associate Faculty</i> , Robert Bosch Centre for Cyber-Physical Systems	<b>Jun. 2005 - present</b> <b>Aug. 2021 - present</b>	
	<b>Indian Statistical Institute - Bengaluru Centre</b> <i>Visiting Scientist</i> , Stat-Math Unit	<b>Feb. 2021 - Jul. 2021</b>	
	<b>Strand Life Sciences</b> <i>Visiting Scientist</i>	<b>Aug. 2020 - Jan. 2021</b>	
	<b>Université Paul Sabatier</b> <i>Visiting Faculty</i> , Institut de Mathématiques de Toulouse	<b>Sep. 2015 - Oct. 2015</b>	
	<b>University of Illinois at Urbana-Champaign</b> , USA <i>Visiting Scholar</i> , Coordinated Science Laboratory	<b>Aug. 2012 - Jul. 2013</b>	
	<b>Qualcomm Inc.</b> , Campbell, California, USA <i>Visiting Faculty</i>	<b>May 2007 - Aug. 2007</b>	
	<b>Qualcomm Inc.</b> , Campbell, California, USA <i>Senior Staff Engineer / Manager</i>	<b>Oct. 1999 - May 2005</b>	
	<b>Princeton University</b> , Princeton, New Jersey, USA <i>Research/Teaching Assistant</i> , Department of Electrical Engineering	<b>Sep. 1994 - Aug. 1999</b>	
EDUCATION	<b>Princeton University</b> , Princeton, New Jersey USA Department of Electrical Engineering	<b>Ph.D.</b> , September 1999 <b>M.A.</b> , May 1996	
	<b>Indian Institute of Technology Madras</b> , Chennai, India Department of Electrical Engineering	<b>B.Tech.</b> , EC, July, 1994	

EDITORSHIPS AND GUEST EDITING	Associate Editor, Stochastic Systems
	Member, Editorial Board, Journal of the Indian Institute of Science
	Guest Co-Editor, 5G and Beyond, Journal of the Indian Institute of Science
	Associate Editor for Communications, IEEE Transactions on Information Theory, 2012-2015
PLENARIES AND INVITED TUTORIALS	SIGMETRICS/Performance 2022, IIT Bombay (2022)
	Keynote speaker at the 14th International Conference on COMmunication Systems & NETworkS (COMSNETS 2022), Bengaluru (2022)
	North American School on Information Theory Speaker, Texas A&M University (2018)
	Plenary speaker at the 15th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, Wireless Networks (WiOpt 2017)
HONOURS AND AWARDS	IISc Alumni Award for Excellence in Research in Engineering 2022
	National Conference on Communications Best Paper Award 2015
	Indo-US Science and Technology Forum Fellow 2012-2013
	IETE K.S.Krishnan Memorial Best Paper Award 2006
	Senior Member, IEEE, 2006
SOME DISTANT RECOGNITIONS	Princeton University Merit Prize, 1994
	Notional Prize awarded by IIT Madras, for creditable performance in the Joint Entrance Examination, 1990 (All India Rank 49)
	Merit Prize awarded by the Central Board of Secondary Education, India, for being in the top 0.1% of successful candidates in Physics, 1990
	National Talent Search Scholarship awarded by the National Council for Educational Research and Training, India, 1988
PUBLICATIONS: JOURNAL	D.Maity et al., MIDAS: a technology-enabled hub-and-spoke system for the collection and dissemination of high-quality medical datasets in India, <i>BMC Medical Informatics and Decision Making</i> , 25(1), p.252, 2025.
	A.Sood, et al., Challenges and recommendations for enhancing digital data protection in Indian Medical Research and Healthcare Sector. <i>npj Digital Medicine</i> , vol.8, no.48, 2025.
	A.Sharma, A.R.Pinjari, S.K.Nirmale, R.Sundaresan, A human factors-based modeling framework to mimic bus driver behavior, to appear in <i>Transportation Research Part C</i> .
	D.Maity et al., MIDAS: a new platform for quality-graded health data for AI-enabled healthcare in

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S.Athreya, G.I.Menon, R.Sundaresan, “COVID-19 modeling for India and a roadmap for the future,” *Communications of the ACM*, vol. 65, issue 11, pp. 82-87, November 2022,

G.R.Prabhu, S.Bhashyam, A.Gopalan, R.Sundaresan, “Sequential multi-hypothesis testing in multi-armed bandit problems: An approach for asymptotic optimality,” *IEEE Transactions on Information Theory*, vol.68, no.7, pp. 4790-4817, July 2022.

S.Yasodharan, R.Sundaresan, “Large deviations of mean-field interacting particle systems in a fast varying environment,” *Annals of Applied Probability*, vol. 32, no. 3, 1666-1704, June 2022.

S.Yasodharan, R.Sundaresan, “Large time behaviour and the second eigenvalue problem for finite state mean-field interacting particle systems,” *Advances in Applied Probability*, April 2022.

N.Rathod and R.Sundaresan, “Relay Placement Algorithms for IoT Connectivity and Coverage in an Outdoor Heterogeneous Propagation Environment,” *IEEE Access*, Volume 10, pp.13270-13289, 2022.

M.R.Padma, et al., “Second round statewide survey for estimation of the burden of active infection and anti-SARS-CoV-2 IgG antibodies in the general population of Karnataka, India,” *International Journal of Infectious Diseases – Regions*, Volume 1, pp.107-116, December 2021.

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K.P.Naveen and R.Sundaresan, “Double-auction mechanisms for resource trading markets,” *IEEE/ACM Transactions on Networking*, vol.29, no.3, pp.1210-1223, June 2021.

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- D.Thirumulanathan, R.Sundaresan, Y.Narahari, "Optimal mechanism for selling two items to a single buyer having uniformly distributed valuations," *Journal of Mathematical Economics*, vol. 82, pp. 1-30, May 2019.
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INVITED ARTICLES C.R.Murthy, R.Sundaresan, 5G and beyond, Guest Editorial, *Journal of the Indian Institute of Science*, vol. 100, no. 2, pp. 259-261, April-June 2020.

Book review of *Game Theory and Mechanism Design* authored by Y. Narahari, *Current Science*, vol. 111, no. 6, 25 September 2016.

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DISSERTATION R.Sundaresan, *Coded communication over timing Channels*, Ph.D. dissertation, Department of Electrical Engineering, Princeton University, Princeton, NJ, Sept. 1999.

CONFERENCES W.Majumder, A.Kumar, C.R.Murthy, R.Sundaresan, "A Comparison of Scheduling Algorithms for Packet Voice in a 5G Cellular System and Their Impact on Full Buffer eMBB Flows," *2025 National Conference on Communications (NCC)*, 6-9 March 2025.

- S.Chakraborty, N.Chitta, R.Sundaresan, "Demonstration of Automation of Network Configuration Generation using Generative AI," Demo paper, *20th International Conference on Network and Service Management*, Prague, Czech Republic, 28-31 October 2024.
- S.Chakraborty, N.Chitta, R.Sundaresan, "Automation of Network Configuration Generation using Large Language Models," *4th International Workshop on Analytics for Service and Application Management (AnServApp) 2024*, Prague, Czech Republic, 28 October 2024.
- V.Kushwaha, A.R.Pinjari, T.Rambha, S.K.Shaukat, R.Sundaresan, P.Verma, "A city-scale framework for collaboration between ride-hailing and transit service providers," *17th International Conference on Travel Behaviour Research*, Vienna, Austria, 14-18 July 2024.
- P.M.Hiremath, A.Joglekar, R.Sundaresan, D.Kulkarni, J.Tew, "Enabling Traceability of Manufactured Products in an Assembly Line," *The 2024 National Conference on Communications*, Chennai, 28 February - 02 March 2024.
- K.V.Krishna Chaythanya, A.Chattopadhyay, A.Kumar, R.Sundaresan, "Quickest Change Point Detection with Measurements over a Lossy Link," *62nd IEEE CDC 2023*, Singapore, December 2023.
- A.Adiga et al., "A multi-team multi-model collaborative COVID-19 forecasting hub for India," *Winter Simulation Conference 2023*, San Antonio, TX, USA, December 2023.
- V.Kushwaha, A.R.Pinjari, S.K.Shaukat, R.Sundaresan, Y.Suzuki, P.Verma, "An auction mechanism to facilitate collaboration between rideshare and transit service providers for first- and last-mile services," in *The 16th International Conference on Travel Behaviour Research*, Santiago, Chile, December 2022.
- A.Joglekar, G.Bhandari, R.Sundaresan, "ESD wrist strap-based EDA sensor cum ESD strap integrity monitor," *IECON 2021, the 47th Annual Conference of the IEEE Industrial Electronics Society*, October 2021.
- S.Yasodharan and R.Sundaresan, "The four levels of fixed-points in mean-field models," *National Conference on Communications*, Online, July 2021.
- P.N.Karthik, R.Sundaresan, "Learning to detect an odd restless Markov arm," *2021 IEEE International Symposium on Information Theory*, Online, July 2021.
- A. Talekar, et al., "Cohorting to isolate asymptomatic spreaders: An agent-based simulation study on the Mumbai Suburban Railway," *The 20th International Conference on Autonomous Agents and Multiagent Systems, AAMAS-2021*, May 2021.
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- C.Kuruganti, et al., "A distributed hierarchy based framework for validating edge devices performing state estimation in a power system," *2020 IEEE International Conference on Power Systems Technology (POWERCON)*, Bangalore, India, 2020, pp. 1-6, September 2020.
- P.N.Karthik, R.Sundaresan, "Detecting an odd restless Markov arm with a trembling hand," *2020 IEEE International Symposium on Information Theory*, Online, July 2020.
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"Method and system for synchronizing plurality of events in an assembly line",  
coinvented with G.Bhandari, D.Raghunath, Prakash H.M., A.V.Joglekar, D.M.Kulkarni, S.Mohanty,  
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PROFESSIONAL ACTIVITIES General Co-Chair, 16th International Conference on COMmunication Systems & NETworkS (COM-

SNETS 2024), Bengaluru, 2024

Steering Committee, Asian Engineering Deans Summit, Hong Kong, 2023.

TPC Member, IEEE International Symposium on Information Theory, ISIT 2021

TPC Member, 12th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2021

TPC Member, IEEE International Symposium on Information Theory, ISIT 2020

TPC Member, 11th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2020

TPC Member, ACM Mobihoc 2019

TPC Member, IEEE International Symposium on Information Theory, ISIT 2019

TPC Member, National Conference on Communications, NCC 2019

TPC Member, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2019

Workshop Co-Chair and TPC Member, International Conference on Signal Processing and Communications, SPCOM 2018

TPC Member, IEEE International Symposium on Information Theory, ISIT 2018

TPC Member, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2018

TPC Member, National Conference on Communications, NCC 2018

TPC Member, 10th Intl. Conference on Communication Systems & Networks, COMSNETS 2018

TPC Member, 2017 International Conference on Advanced Networks and Telecommunication Systems (ANTS 2017)

Co-chair, Workshop on Research to Impact, November 2017.

General Co-chair, International Symposium on Cyber-Physical Systems, July 2017.

TPC Member, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2017

TPC Member, National Conference on Communications, NCC 2017

TPC Member, 9th Intl. Conference on Communication Systems & Networks, COMSNETS 2017

TPC Member, IEEE International Symposium on Information Theory, ISIT 2016

TPC Member, International Conference on Signal Processing and Communications, SPCOM 2018

TPC Member, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2016

TPC Member, National Conference on Communications, NCC 2016

Co-chair, Workshop on Game Theory and Mechanism Design, January 2016

Co-chair, Advanced Training in Mathematics, Workshop on Applied Probability, January 2016

Associate Editor for Communications, IEEE Transactions on Information Theory, 2012-2015

Workshop Co-Chair, 13th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2015

TPC Member, National Conference on Communications, NCC 2015

Coordinator, Joint Telematics Group of IITs and IISc, 2008 - 2014

Programme Committee, IISc/Microsoft Research Summer School on Wireless Networking, 2014

TPC Member, IEEE International Symposium on Information Theory, ISIT 2014

TPC Member, 12th International Symposium on Modeling and Optimization in Mobile, Ad Hoc,

and Wireless Networks, WiOpt 2014

TPC Member, National Conference on Communications, NCC 2014

Organiser, Workshops on New Avenues for Network Models and Social Networks, January 2014

TPC Co-Chair, 11th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2013

TPC Member, National Conference on Communications, NCC 2013

Finance Co-Chair, International Conference on Signal Processing and Communications, SPCOM 2012

TPC Member, National Conference on Communications, NCC 2012

Local Organisation Committee, IISc Mathematics Initiative (IMI) Networks Thematic Programme 2011-2012

TPC Member, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2012

Member, Organising Committee, ICTS School and Workshop on Network Science in Electrical Engineering and Computer Science, January 2012

TPC Member, Gamesec 2011

Member, Organising Committee, Workshop on Introduction to Network Science, September 2011

TPC Member, 9th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt 2011

Member, Conference Executive Committee, Finance and Local Organisation, National Conference on Communications 2011

Member, Local Organising Committee, ICM Satellite Conf on Probability and Stochastics 2010

TPC Member, International Conference on Signal Processing and Communications, SPCOM 2010

Organiser, Joint Telematics Group Summer School 2010

TPC Member, National Conference on Communications, NCC 2010

TPC Member, International Conference on Distributed Computing and Networking, ICDCN 2010

Organiser, Joint Telematics Group Summer School 2009

TPC Co-Chair, Wireless Systems: Advanced Research & Development, WISARD 2009

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Organiser, Workshop on Cognitive Radio 2007