CHANDRA NAIR

Short CV (for a detailed one, please click: Full CV)

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EXPERIENCE

Employment

The Chinese University of Hong Kong

Aug 2007 – Ongoing Sha Tin, Hong Kong S.A.R., China

- Professor, Department of Information Engineering
- Program Director, Mathematics and Information Engineering
- Associate Director, Inst. of Theoretical Comp. Science and Communication

Microsoft Research

Jun 2005 – Jun 2007 Redmond, WA, USA

- Post-doctoral researcher at the Theory Group

Education

Stanford University

Sep 1999 - June 2005 Stanford, CA, USA

- Master of Science (EE), Jan 2002
- Doctor of Philosophy (EE), June 2005
  - Thesis: Proofs of the Parisi and Coppersmith-Sorkin conjectures in the random assignment problem
- Stanford Graduate Fellow, Sep 2000 - Aug 2004
- Microsoft Graduate Fellow, Sep 2004 - June 2005

Indian Institute of Technology

Jul 1995 - June 1999 Madras, Tamil Nadu, India

- Bachelor of Technology (EE), July 1999
- Philips (India) and Siemens (India) award for best academic record in EE

INTERESTS

- Research
  - Primary: Non-Convex Optimization, Network Information Theory, High-Dimensional Probability
  - Secondary: Algorithms, Networking, Combinatorial Optimization
- Teaching
  - Signals and Systems, Probability Theory, Network Information Theory

RECOGNITION

- Plenary Speaker: The IEEE International Symposium on Information Theory (ISIT), 2021
- Plenary Speaker: The International Symposium on Information Theory and Its Applications (ISITA), 2018
- TPC co-chair: The IEEE International Symposium on Information Theory (2018)
- IEEE Fellow: Class of 2018
- IEEE Information Theory Society Distinguished Lecturer (2017-2018)
- IEEE Information Theory Society best paper award (2016)
- Associate Editor: IEEE Transactions on Information Theory (2014-2016)

TALKS (RECENT)

- A course on Information Inequalities on Additive Structures, Croucher School on Information Theory, August 2025
- Old Ideas are still gold, Abbas Fest, Stanford, June 2025
- A mutual information inequality and some applications, Its Entropy that counts: workshop celebrating the birthday of Jaikumar Radhakrishnan, Bangalore, May 2025
- Information Inequalities via Ideas from Additive Combinatorics, Seminar Series on Algorithmic Aspects of Information Theory, France, Dec 2024
- For a larger list of my talks: please see my full CV

PUBLICATIONS

- K. Lau, and C. Nair, “Information Inequalities via ideas from Additive Combinatorics", *IEEE Transactions on Information Theory*, (2025), 4055-4068.
- A. Gohari and C. Nair, “Outer Bounds for Multiuser Settings: The Auxiliary Receiver Approach", *IEEE Transactions on Information Theory*, (2022), 701-736.
- V. Anantharam, V. Jog and C. Nair, “Unifying the Brascamp-Lieb Inequality and the Entropy Power Inequality", *IEEE Transactions on Information Theory*, (2022), 7665-7684.
- C. Nair, L. Xia, and M. Yazdanpanah, “Sub-optimality of Han-Kobayashi achievable region for interference channels", *IEEE International Symposium on Information Theory (ISIT)*, (2015), 2416–2420.
- Y. Geng and C. Nair, “The capacity region of the two-receiver vector Gaussian broadcast channel with private and common messages", *IEEE Transactions on Information Theory*, (2014), 2087–2104.
- Y. Geng, A. Gohari, C. Nair, and Y. Yu, “The capacity region of classes of product broadcast channels", *IEEE Transactions on Information Theory*, (2014), 22–41.
- C. Borgs, J. Chayes, S. Mertens, and C. Nair., “Proof of the local REM conjecture for number partitioning I: Constant energy scales", *Random Structures and Algorithms*, (2009), 217–240.
- C. Nair, B. Prabhakar, M. Sharma, “Proofs of the Parisi and Coppersmith-Sorkin random assignment conjectures", *Random Structures and Algorithms*, (2005), 413–444.
- For a larger selection of works with a summary: please see my full CV
- For a complete list: please see my homepage