Narmada Sambaturu

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Indian Institute of Science,
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Research Interests

Computational Biology, Systems Biology, Immunology, Cancer Genomics, Cancer Immunotherapy, Host-Pathogen Interactions, Epidemiology, Network Approaches to Systems Biology.

Education

Doctor of Philosophy, Mathematical Biology Program, 2015 - ongoing
National Mathematics Initiative,
Indian Institute of Science, Bengaluru, India.
Supervisors: Prof. Nagasuma Chandra, Prof. N. Srinivasan.

Master of Science, School of Computing, 2012 - 2015
National University of Singapore, Singapore.
Supervisor: Prof. Wing-Kin Sung.

Bachelor of Engineering, Computer Science and Engineering, 2005 - 2009
M.S.Ramaiah Institute of Technology, Bengaluru, India.
affiliated to Visvesvaraya Technological University.

Research Experience

- **PhD student,** 2015 - ongoing
  Mathematical Biology Program, National Mathematics Initiative,
  Indian Institute of Science, Bengaluru, India.
  Supervisors: Prof. Nagasuma Chandra, Prof. N. Srinivasan.
- **Visitor,** Oct 2016 - Dec 2016
  Department of Applied Mathematics,
  School of Mathematics,
  University of Leeds, Leeds, UK
  Research advisors: Prof. Carmen Molina-París, Prof. Grant Lythe.
- **Junior Research Fellow,** Mar 2015 - Jul 2015
  Indian Institute of Science, Bengaluru, India.
  Research advisor: Prof. Nagasuma Chandra.
- **Intern,** Aug 2006
  Bioinformatics Centre,
  Indian Institute of Science, Bengaluru, India.
  Research advisor: Prof. K. Sekar.

Work Experience

Developer, Tata Consultancy Services 2009 - 2011
Technology Excellence Group,
Bengaluru, India.

Teaching Experience

Learning Enabler, Tata Consultancy Services Jan 2010 - Feb 2010
Common Initial Learning Program,
Bidadi, Karnataka, India.

Publications

1. **Sambaturu N**, Mukherjee S,López-García M,Molina-París C, Menon GI, Chandra N.
Role of genetic heterogeneity in determining the epidemiological severity of H1N1 influenza.
PLoS Computational Biology 14(3) (2018): e1006069.
2. **Sambaturu, Narmada**, Madhulika Mishra, and Nagasuma Chandra.
EpiTracer - An Algorithm for Identifying Epicenters in Condition-specific Biological Networks.
BMC genomics 17.4 (2016): 543.
3. **Sambaturu, Narmada**, Madhulika Mishra, and Nagasuma Chandra.
EpiTracer - An Algorithm for Identifying Epicenters in Condition-specific Biological Networks.
Proceedings of the 2015 IEEE International Conference on Bioinformatics and Biomedicine (BIBM). IEEE Computer Society, 2015. (Best Student Paper)
4. **Sambaturu, Narmada**
Towards Handling Repeats in Genome Assembly.
MSc dissertation, 2014.
5. Sridhar, Jayavel, **Sambaturu, Narmada**, Radhakrishnan Sabarinathan, Hong-Yu Ou, Zixin Deng, Kanagaraj Sekar, Ziauddin Ahamed Rafi, and Kumar Rajakumar.
sRNAscanner: A Computational Tool for Intergenic Small RNA Detection in Bacterial Genomes.
PLOS ONE 5, no. 8 (2010): e11970
6. Patil, Annapurna P, **Sambaturu, Narmada**, Chunhaviriyakul, Krittaya.
Convergence Time Evaluation of Algorithms in MANETs
International Journal of Computer Science and Information Security, IJCSIS 2009, Vol. 5, No. 1, pp. 144-149, September 2009

Workshop and conference presentations

- **Sambaturu, Narmada**, Sridhar Hannenhalli, Nagasuma Chandra.
Poster. *Cutting through the complexity of genomic data: A general method to identify candidate genes.*
RECOMB/ISCB Conference on Regulatory and Systems Genomics with DREAM Challenges, New York, NY, Nov 19 - 21 2017.
- **Sambaturu, Narmada**, Sumanta Mukherjee, Martín López-García, Carmen Molina-París, Gautam I. Menon, Nagasuma Chandra.
Role of genetic heterogeneity in determining the epidemiological severity of H1N1 influenza.
Discussion meeting on Mathematical Models of Infection, Immunity and Inflammation, Indian Institute of Science, Bengaluru. In association with the EPSRC-DST Indo-UK Initiative in Applied Mathematics and the EU-FP7 supported Indo-European Research Network in Mathematics for Health and Disease. April 2017.

Graduate Coursework

MSc (NUS):	Advanced Combinatorial Methods in Bioinformatics, Advanced Algorithms, Knowledge Discovery and Data Mining, Modeling and Analysis Techniques in Systems Biology, Advanced Topics in Data Mining.
PhD (IISc):	Current Trends in Drug Discovery, Special Topics in Theoretical Biology.

Computer Skills

Languages:	Python, R, MATLAB, C, C++, Java, Perl, HTML.
Bioinformatics tools:	Cytoscape, BLAST, CLUSTALW, IEDB tools, SAMtools, BWA.

Awards

- Best Student Paper Award, 2015 IEEE International Conference on Bioinformatics and Biomedicine (BIBM).
- One of 50 students selected from all over India for participation in a summer camp in Biotechnology at M.S.Swaminathan Research Foundation, Chennai, India (April 2013).
- All India Rank 25 in Secondary School Certificate (Std X) (2003).