

Narayanan N

Postdoctoral Fellow

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Personal Details

date of birth 18 May 1977

Nationality Indian

Education

2009 **Ph.D.**, *Mathematical Sciences*, The Institute of Mathematical Sciences, Homi Bhabha National Institute.

2000 **M.Sc.**, *Operations Research and Computer Applications*, Cochin University of Science and Technology, -85%.

1997 **B.Sc.**, *Mathematics*, University of Calicut, 89.4%.

Ph.D. thesis

title *Acyclic, k -intersection edge colourings and oriented colouring.*

supervisor C R Subramanian

Research Interests

Graph Colouring, Extremal Graph Theory, Extremal Combinatorics, Graph Algorithms.

Coursework Attended

Algorithms, Mathematical Structures, Automata and Computability, Program Verification Theory and Practice, Optimization, Pattern Recognition, Stochastic Models, Topics in Applied Probability, Introduction to Logic (TIFR). Randomized Algorithms (IMSc). Complexity Theory (Self)

Journal Publications

Rahul Muthu, Narayanan N, and C R Subramanian. Improved bounds on acyclic edge colouring. *Discrete Mathematics*, 307:3063–3069, 2007.

Anna Fiedorowicz, Mariusz Hałuszczak, and Narayanan N. About acyclic edge colouring planar graphs. *Information Processing Letters*, 108:412–417, 2008.

Rahul Muthu, Narayanan N, and C R Subramanian. Optimal acyclic edge colouring of grid like graphs. *Discrete Mathematics*, Accepted, to appear.

Rahul Muthu, Narayanan N, and C R Subramanian. On k -intersection edge colourings. In *Discussiones Mathematicae Graph Theory*, 29(2):411-418, 2009.

Aravind Natarajan Narayanan N and C R Subramanian. Oriented colouring of some graph products. In *Discussiones Mathematicae Graph Theory*, Accepted.

Conference Publications

Rahul Muthu, Narayanan N, and C R Subramanian. Improved bounds on acyclic edge colouring. *ENDM, Proceedings of GRACO*, pages 171–177, 2005.

Rahul Muthu, Narayanan N, and C R Subramanian. Optimal acyclic edge colouring of grid like graphs. *LNCS (Proceedings of COCOON)*, 4112:60–367, 2006.

Rahul Muthu, Narayanan N, and C R Subramanian. Acyclic edge colourings of outerplanar graphs. *LNCS, proceedings of AAIM*, 4508:144–152, 2007.

Rahul Muthu, Narayanan N, and C R Subramanian. K -intersection colouring. In *Colourings Independence and Domination (CID)*, 2007.

Preprints/Submitted

Gerard J Chang, Narayanan N. Strong chromatic index of 2-degenerate graphs. *Submitted to European Journal of Combinatorics*.

Narayanan N. k -intersection edge colouring of k -degenerate graphs. *Preprint*.

Rahul Muthu, Narayanan N, and C R Subramanian. Acyclic edge colouring of partial 2-trees. *Not planning to submit*.

Rahul Muthu, Narayanan N, and C R Subramanian. Some graphs satisfying acyclic edge colouring conjecture. *Submitted*

Sunil Chandran, Rogers Mathew, Rajmohan M, Narayanan N. On unique shortest path graphs of diameter 2. *Preprint*.

Presentations

- K -intersection Colouring, International Conference on Colourings Independence and Domination, CID 07, Karpach, Poland.
- Acyclic Edge Colouring - A survey, University of Zielona Gora, Poland
- Max K -intersection Edge Colouring, IRISS 07, IIITH.
- Lovasz Local Lemma and Edge colouring - ISW 04, IMSc.
- Grid Graphs and Acyclic Edge Colouring - IMSc.
- The power of Probabilistic Method - Cochin university of Science and Technology.
- A survey on Acyclic Edge Colouring - Chennai Mathematical Institute.
- Acyclic Edge Colouring Planar graphs - Poster, International Conferenc on Discrete Mathematics, ICDM 08, Mysore, India
- Acyclic Edge Colouring and Discharging Method, Poster, Techvista 2008, Chennai.

Teaching Experience

I have always been attracted to the profession of teaching, mainly because of the way some great teachers influenced me in my educational career. I believe that, by being a teacher I can contribute to or rather pay back the society in a fundamental way. My philosophy of teaching is rooted on a strong teacher-student interaction. I believe that the process of inculcation is never complete without the presence of exercises and examples which help the student to assimilate the idea properly.

2007-08 Extremal Combinatorics - Graduate course

2004-06 Graph theory - Graduate course

2003 Discrete Math. - Graduate course (1/2 sem.)

2003 Game Theory - Graduate course(1/2 sem.)

- 1999 Linear Programming - Undergraduate course
2000 Statistics, Operating Systems and Programming with C++ - for Pre-univ. students

Experience

- current **Postdoctoral Fellow**, *Dept. Mathematics, National Taiwan University, Taipei, Taiwan.*
2009-2010 **Asst. Professor**, *C R Rao Advanced Institute for Mathematics, Statistics and Computer Science, Hyderabad, India.*
2009 **Postdoctoral Fellow**, *Indian Institute of Science, Bangalore, India.*
2003-2008 **Research Scholar**, *IMSc, Chennai, India.*
2007 **Visitor**, *University of Zielona Gora, Poland, Visited Prof. M. Borowiecki..*
2001-2003 **Junior Research Fellow**, *Tata Institute of Fundamental Research, Mumbai, India.*

Professional Services

- 2010- **Reviewer**, *American Mathematical Society.*
2010 **Reviewer**, *Journal of Applied Mathematics and Computing.*
2010 **Reviewer**, *Information Processing Letters.*
2009 **Reviewer**, *Acta Mathematica Sinica.*
2008 **Reviewer**, *Discussions Mathematicae Graph Theory.*
2007 **Reviewer**, *FSTTCS 2007.*

Languages

Malayalam	Native
English	Very Good
Sanskrit	Read/Write
Tamil and Hindi	Good

Computer skills

OS	Linux Administration	typography	ℒ _A T _E X
programming	C/C++	scripting	PHP, Shell

Interests

- recreation Karnatik music, Kathakali, play violin
other yoga, trekking, reading, stargazing, Indian philosophy, Science Popularisation

References

- 1 **Venkatesh Raman**
The Institute of Mathematical Sciences, CIT Campus, Chennai-113. India.
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- 2 **Gerard Jennhwa Chang**
Department of Mathematics, National Taiwan University, Taipei-10617, Taiwan
gjchang@math.ntu.edu.tw
- 3 **Sunil Chandran**
Dept. of Computer Science and Automation, Indian Institute of Science, Bangalore.

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4 **Mieczysław Borowiecki**

Dept. Math. Comp. Sci. and Econo., ul. prof. Z. Szafrana 4a, Uniwersytet Zielonogorski,
65-516, Zielona Gora, Poland.

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5 **Ambat Vijayakumar**

Department of Mathematics, Cochin University of Science and Technology, Kochi-22.

vijay@cusat.ac.in

6 **Amitava Bhattacharya**

Department of Mathematics, Tata Institute of Fundamental Research, Bombay.

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