

Curriculum Vitae

DILIP RAGHAVAN

Office Address: Kobe University
Graduate School of System Informatics
Rokko-dai 1-1, Nada
Kobe 657-8501
Japan

Email Address: raghavan@math.toronto.edu
Homepage: <http://www.math.toronto.edu/raghavan>
Date of Birth: 1980 (Tamil Nadu, India)
Citizenship: Indian
Date of CV: April 9, 2012

Education

- 2008 Ph.D. University of Wisconsin–Madison, Mathematics (Advisors: K. Kunen, B. Kastermans). Minor: Philosophy
- 2008 M.A. University of Wisconsin–Madison, Mathematics
- 2001 B.A. College of Wooster, Wooster, OH, Mathematics (with Honors)
- 2001 B.A. College of Wooster, Wooster, OH, Philosophy (with Honors)

Employment

- 07/11 – JSPS Postdoctoral Fellow, Kobe University
(Mentor: Jörg Brendle)
- 07/08 – 06/11 Postdoctoral Assistant Professor, Dept. of Mathematics, University of Toronto
(Mentors: Stevo Todorčević and Juris Steprāns)
- 09/01 – 05/08 Teaching Assistant and Research Assistant, Department of Mathematics, UW–Madison
(also ran orientation program for incoming international TAs during Summer)
- 02/01 – 09/01 Research Analyst, Princeton Brand Econometrics, New York, NY
- 12/00 – 02/01 Quantitative Analyst, Goodyear, Akron, OH

Awards

- 2011 JSPS Postdoctoral Fellowship, Japan Society for the Promotion of Science, Japan.
- 2008 The Sacks Prize, Association for Symbolic Logic.
(awarded for the most outstanding doctoral dissertation in mathematical logic, with no restriction on the nationality of the candidate or the university where the doctorate is granted)
- 2001 The Remy Johnston Memorial Prize in Philosophy, College of Wooster, Philosophy Dept.
(awarded to a senior Philosophy major who has shown outstanding progress in developing philosophical skills and promise as a philosopher)

Research interests

Mathematical Logic, Set Theory, and General Topology

Research Papers

1. *There is a Van Douwen mad family*, Trans. Amer. Math. Soc., vol. 362 (2010), no. 11, pp. 5879–5891.
2. (with K. Kunen) *Gregory trees, the continuum, and Martin's axiom*, J. Symbolic Logic, vol. 74 (2009), no. 2, pp. 712–720.
3. *Maximal almost disjoint families of functions*, Fund. Math., vol. 204 (2009), no. 3, pp. 241–282.
4. *Almost disjoint families and diagonalizations of length continuum*, Bull. Symbolic Logic, vol. 16 (2010), no. 2, pp. 240–260.
5. *A model with no strongly separable almost disjoint families*, Israel J. Math., to appear (accepted 3 May 2010).
6. (with J. Steprāns) *On weakly tight families*, Canad. J. Math., to appear (accepted 14 September 2011).
7. (with S. Todorčević) *Cofinal types of ultrafilters*, Ann. Pure Appl. Logic, to appear (accepted 4 August 2011).
8. (with S. Shelah) *Comparing the closed almost disjointness and dominating numbers*, Fund. Math., to appear (accepted 13 February 2012).
9. *P-ideal dichotomy and weak squares*, submitted.
10. (with T. Yorioka) *Suslin lattices*, submitted.
11. (with H. Mildenberger and J. Steprāns) *Splitting families and complete separability*, submitted.
12. (with S. Shelah) *Embedding partial orders into the P-points under Tukey reducibility*, in preparation.
13. *Some preservation theorems for countable support iterations*, in preparation.

Talks and Presentations

Invited talks

- 2012 Jan. *Suslin Lattices*, Joint FWF-JSPS seminar on forcing in set theory, Kobe, Japan.
- 2011 Oct. *P-ideal dichotomy and weak squares*, RIMS Set Theory Workshop 2011, Kyoto, Japan.
- 2011 Mar. *P-ideal dichotomy and weak squares*, Young set theory workshop, Königswinter, Germany.
- 2010 Dec. *Embedding partial orders into the P-points under Tukey reducibility*, Cornell Logic seminar, Cornell University, Ithaca, New York.
- 2010 Oct. *Suslin Lattices*, Rutgers 2010 MAMLS Conference, Rutgers University, New Jersey.
- 2010 Sep. I declined an invitation to speak at the Japan-Mexico International Conference on Topology and its Applications V, Colima, Mexico.
- 2010 Apr. *A model with no strongly separable MAD families*, Boise Extravaganza in Set Theory, Boise, Idaho.
- 2010 Mar. *Plenary Lecture: Cofinal types of ultrafilters*, 2010 Annual Meeting of the Association for Symbolic Logic, Washington, DC.
- 2010 Feb. *A model with no strongly separable MAD families*, SEALS conference, University of Florida, Gainesville, Florida
- 2010 Feb. *Cofinal types of ultrafilters*, Miami University, Oxford, Ohio.
- 2010 Jan. *Cofinal types of ultrafilters*, Massachusetts Institute of Technology, Cambridge, Massachusetts.

- 2009 Nov. *A model with no strongly separable MAD families*, Workshop on combinatorial set theory and forcing theory, Kyoto University, Japan.
- 2009 Aug. *Cofinal types of ultrafilters*, BLAST 2009, New Mexico State University, Las Cruces.
- 2009 Jul. *Cofinal types of ultrafilters*, Second European set theory meeting in honor of Ronald Jensen, Będlewo, Poland.
- 2009 Jan. *Suslin lattices*, VIG in honor of John Steel, UCLA.
- 2008 Sep. *Definability of MAD Families in ω^ω* , Model Theory Seminar, McMaster University.
- 2008 Mar. *Solution to a Problem of Van Douwen*, Spring Topology and Dynamical Systems Conference, Milwaukee.

Invited Research Visits

- 2012 Mar. *Invited visit to Hebrew University of Jerusalem*, Jerusalem, Israel, hosted by Saharon Shelah.
- 2011 Sep. *Invited visit to Fields institute*, Toronto, hosted by S. Todorčević.
- 2011 Sep. *Invited visit to Rutgers University*, New Jersey, hosted by Saharon Shelah.
- 2011 Jan. *Invited to participate in the Set Theory Workshop held from January 9th–January 15th, 2011*, hosted by Mathematisches Forschungsinstitut Oberwolfach, Germany.
- 2010 Dec. *Invited visit to Cornell University*, Ithaca, NY, hosted by Justin Moore.
- 2010 Oct. *Invited visit to Rutgers University*, New Jersey, hosted by Saharon Shelah.
- 2010 Aug. *Invited visit to Institute of Mathematical Sciences*, Chennai, hosted by R. Ramanujam.
- 2009 Jul. *Invited visit to University of Paris VII*, hosted by Veličković.
- 2009 Apr. *Invited visit to UCLA*, hosted by Itay Neeman and UCLA Logic Center. I gave a series of four lectures at the Logic seminar in UCLA.

Contributed talks

- 2008 Mar. *Solution to a Problem of Van Douwen*, Boise Extravaganza in Set Theory, Boise, Idaho.
- 2010 Aug. *Cofinal types of ultrafilters*, ICM satellite event on logic and set theory, Chennai, India.

Referee activities

Journals refereed

- Annals of Pure and Applied Logic
- Fundamenta Mathematicae
- Journal of Symbolic Logic

Teaching activities

As a postdoc at University of Toronto:

- Introduction to Combinatorics (MAT344) (taught once)
(course website maintained at <http://www.math.toronto.edu/raghavan/344>)
- Linear Algebra II (MAT224) (taught once)
(course website maintained at <http://www.math.toronto.edu/raghavan/224>)
- Introduction to Ordinary Differential Equations (MAT244) (taught once)
(course website maintained at <http://www.math.toronto.edu/raghavan/244>)
- Calculus II (for engineers) (MAT187) (taught once)

I was responsible for most aspects of the above courses, including setting exams and quizzes, formulating the syllabus etc.

As a Teaching Assistant at UW–Madison:

- Calculus and Analytic Geometry II (Math 222) (taught 4 times)
- Discrete Mathematics (Math 240) (taught once)
- Precalculus (Math 114) (taught once)
- Calculus with Algebra and Trigonometry I (Math 171) (taught once)
- Calculus with Algebra and Trigonometry II (Math 217) (taught once)
- Business Calculus (Math 211) (taught once)
- Trigonometry (Math 113) (taught twice)

I was responsible for showing the students how to solve selected homework problems, for working out key and illustrative examples, answering questions, conducting review sessions and giving the students regular feedback by grading HW assignments and quizzes.

Other Teaching Activities:

- TA Coordinator (mentor and observe incoming TAs assigned to a lecture)
- International TA Training (mentor, observe and train incoming international TAs)

Membership in Professional Organizations

- American Mathematical Society
- Association for Symbolic Logic

Other Organizational Activities

- I was a co-organizer of *KunenFest*, a conference in Set Theory and Set Theoretic Topology in honor of Ken Kunen.
(website at <http://www.math.wisc.edu/kunenfest/>)
- Departmental Steward for the Teaching Assistants' Association (The graduate students' Labor Union at UW–Madison)

References

Stevo Todorčević
Department of Mathematics
University of Toronto
Toronto, ON M5S 2E4
stevo@math.toronto.edu
<http://www.math.toronto.edu/stevo/>

Juris Steprāns
Department of Mathematics and Statistics
York University
Toronto, ON M3J 1P3
steprans@yorku.ca
<http://www.math.yorku.ca/steprans/>

Saharon Shelah
Einstein Institute of Mathematics
Edmond J. Safra Campus, Givat Ram
The Hebrew University of Jerusalem
Jerusalem, 91904, Israel
shelah@math.huji.ac.il

Kenneth Kunen
Department of Mathematics
University of Wisconsin–Madison
Madison, WI 53706
kunen@math.wisc.edu
<http://www.math.wisc.edu/kunen/>

Arnold W. Miller
Department of Mathematics
University of Wisconsin–Madison
Madison, WI 53706
miller@math.wisc.edu
<http://www.math.wisc.edu/miller/>

Bart Kastermans
Department of Mathematics
University of Colorado–Boulder
Boulder, CO 80309
kasterma@colorado.edu
<http://www.bartk.nl/>

Robert Jerrard (teaching)
Department of Mathematics
University of Toronto
Toronto, ON M5S 2E4
rjerrard@math.toronto.edu
<http://www.math.toronto.edu/rjerrard/>