CURRICULUM VITAE

Name: Madhavan Mukund

Date of birth: 1 May, 1965

Address: Chennai Mathematical Institute,
92, G N Chetty Road, T Nagar, Chennai 600 017, INDIA

Phone : +91-44-2815 7854, +91-44-2815 7855
Fax : +91-44-2815 7671

E-mail : madhavan@cmi.ac.in
URL : http://www.cmi.ac.in/~madhavan

Qualifications:

- PhD in Computer Science,
  Aarhus University, Aarhus, Denmark (August, 1992).
  Title of Thesis: *Models and Logics for Concurrency.*
- Bachelor of Technology, Computer Science and Engineering,
  Indian Institute of Technology, Bombay, India (July, 1986).

Current designation:

- Associate Professor
  Chennai Mathematical Institute, Chennai, India

Positions held previously:

- Reader
  Chennai Mathematical Institute, Chennai, India (May, 1996 to July, 2000)
- Fellow
  Chennai Mathematical Institute, Chennai, India (August, 1992 to April, 1996)
- Staff Scientist
  National Centre for Software Technology, Bombay, India
  (August, 1986 to January, 1987)

Research interests:

- Partial-order based models for concurrent systems
- Temporal logics
- Formal methods for specification, verification and testing of computing systems

List of publications

Refereed publications (in print)

1. M. Mukund, K. Narayan Kumar and P.S. Thiagarajan: "Netcharts: Bridging the gap between HMSCs and executable specifications", *Proc. 14th International Conference on Concurrency Theory (CONCUR 2003)*, Springer Lecture Notes in Computer Science, **2761** (2003) 296–310.

2. P. Gastin, M. Mukund and K. Narayan Kumar: "Local LTL with past constants is expressively complete for Mazurkiewicz traces", *Proc. Mathematical Foundations of Computer Science (MFCS) 2003*. Springer Lecture Notes in Computer Science, **2747** (2003) 429–438.

3. D. de Souza and M. Mukund: "Checking consistency of SDL+MSC specifications", *Proc. SPIN Workshop 2003*, Springer Lecture Notes in Computer Science, **2648** (2003) 151–165.

4. M. Mukund, K. Narayan Kumar and M. Sohoni: "Bounded time-stamping in message-passing systems", *Theoretical Computer Science*, **290(1)** (2003) 221–239.

5. M. Mukund: "Hereditary history preserving bisimulation is decidable for trace-labelled systems", *Proc. Foundations of Software Technology and Theoretical Computer Science (FSTTCS) 2002*, Springer Lecture Notes in Computer Science, **2556** (2002) 289–300.

6. P. Gastin and M. Mukund: "An Elementary Expressively Complete Temporal Logic for Mazurkiewicz Traces", *Proc. International Colloquium on Automata, Languages and Programming (ICALP) 2002*, Springer Lecture Notes in Computer Science **2382** (2002) 938–949.

7. S. Basu, M. Mukund, C.R. Ramakrishnan, I.V. Ramakrishnan and R.M. Verma: "Local and Symbolic Bisimulation Using Tabled Constraint Logic Programming" *Proc. International Conference on Logic Programming (ICLP) 2001*, Springer Lecture Notes in Computer Science **2237**, (2001), 166–180.

8. J.G. Henriksen, M. Mukund, K. Narayan Kumar and P.S. Thiagarajan: "Regular Collections of Message Sequence Charts", *Proc. Mathematical Foundations of Computer Science (MFCS) 2000*, Springer Lecture Notes in Computer Science **1893**, (2000), 405–414.

9. M. Mukund, K. Narayan Kumar and M. Sohoni: "Synthesizing distributed finite-state systems from MSCs", *Proc. 11th International Conference on Concurrency Theory (CONCUR 2000)*, Springer Lecture Notes in Computer Science **1877**, (2000) 521–535.

10. J.G. Henriksen, M. Mukund, K. Narayan Kumar and P.S. Thiagarajan: "On Message Sequence Graphs and Finitely Generated Regular MSC Languages", *Proc. International Colloquium on Automata, Languages and Programming (ICALP) 2000*, Springer Lecture Notes in Computer Science **1853**, (2000) 675–686.

11. M. Mukund, K. Narayan Kumar and Scott A. Smolka: "Faster Model Checking for Open Systems", *Proc. 5th Asian Computing Science Conference, (ASIAN '99)*, Springer Lecture Notes in Computer Science, **1742**, (1999) 227–238.

12. I. Castellani, M. Mukund and P.S. Thiagarajan: "Synthesizing distributed transition systems from global specifications" , *Proc. Foundations of Software Technology and Theoretical Computer Science (FST&TCS) '99*, Springer Lecture Notes in Computer Science, **1739**, (1999) 219–231.

13. M. Mukund, K. Narayan Kumar, J. Radhakrishnan and M. Sohoni: "Towards a characterisation of finite-state message-passing systems", *Proc. 4th Asian Computing Science Conference, (ASIAN '98)*, Springer Lecture Notes in Computer Science, **1538**, (1998) 282–299.

14. M. Mukund, K. Narayan Kumar, J. Radhakrishnan and M. Sohoni: "Robust Asynchronous Protocols are Finite-State", *Proc. International Colloquium on Automata, Languages and Programming (ICALP) '98*, Springer Lecture Notes in Computer Science, **1443**, (1998) 188–199.

15. M. Mukund and M. Sohoni: "Keeping Track of the Latest Gossip in a Distributed System", *Distributed Computing*, **10**, 3, (1997) 137–148.

16. N. Klarlund, M. Mukund and M. Sohoni: "Determinizing Büchi Asynchronous Automata", *Proc. Foundations of Software Technology and Theoretical Computer Science 15*, Springer Lecture Notes in Computer Science, **1026**, (1995) 456–470.

17. M. Mukund, K. Narayan Kumar and M. Sohoni: "Keeping Track of the Latest Gossip in Message-Passing Systems", *Proc. Structures in Concurrency Theory (STRICT)*, Berlin 1995, Workshops in Computing Series, Springer-Verlag (1995) 249–263.

18. N. Klarlund, M. Mukund and M. Sohoni: "Determinizing Asynchronous Automata", *Proc. International Colloquium on Automata, Languages and Programming (ICALP) '94*, Springer Lecture Notes in Computer Science, **820**, (1994) 130–141.

19. M. Mukund and M. Sohoni: "Keeping Track of the Latest Gossip: Bounded Time-Stamps Suffice", *Proc. Foundations of Software Technology and Theoretical Computer Science 13*, Springer Lecture Notes in Computer Science, **761**, (1993) 388–399.

20. M. Mukund: "Petri Nets and Step Transition Systems", *International Journal of Foundations of Computer Science*, **3**, 4, (1992) 443–478.

21. M. Mukund and M. Nielsen: "CCS, Locations and Asynchronous Transition Systems", *Proc. Foundations of Software Technology and Theoretical Computer Science 12*, Springer Lecture Notes in Computer Science, **652**, (1992) 328–341.

22. K. Lodaya, M. Mukund, R. Ramanujam and P. S. Thiagarajan: "Models and Logics for True Concurrency", *Sadhana*, **17**, Part I, (1992) 131–165.

23. M. Mukund and P.S. Thiagarajan: "A Logical Characterization of Well Branching Event Structures", *Theoretical Computer Science*, **96**, 1, (1992) 35–72.

24. M. Mukund and P.S. Thiagarajan: "An Axiomatization of Event Structures", *Proc. Foundations of Software Technology and Theoretical Computer Science 9*, Springer Lecture Notes in Computer Science, **405**, (1989) 143–160.

Refereed publications (to appear)

1. J.G. Henriksen, M. Mukund, K. Narayan Kumar, M. Sohoni and P.S. Thiagarajan: "A Theory of Regular MSC Languages", to appear in *Information and Computation*.

Invited contributions

1. M. Mukund: "From global specifications to distributed implementations", in B. Caillaud, P. Darondeau, L. Lavagno (eds), *Synthesis and Control of Discrete Event Systems* Kluwer (2002) 19-34.

2. M. Mukund and P.S. Thiagarajan: "Linear Time Temporal Logics over Mazurkiewicz Traces", *Proc. Mathematical Foundations of Computer Science (MFCS) '96*, Springer Lecture Notes in Computer Science, **1113**, (1996) 32–62.

3. M. Mukund and P.S. Thiagarajan: "A Petri Net Model of Asynchronously Communicating Sequential Processes", in R. Narasimhan, ed., *A Perspective in Theoretical Computer Science—Commemorative Volume for Gift Siromoney*, World Scientific, Singapore (1989) 165–198.