

## **RAVI PRAKASH JAGADEESHAN**

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### **EDUCATION**

Jun. 1976–May 1981     **Indian Institute of Technology**, Madras  
                                 **B.Tech**, Chemical Engineering  
Aug. 1981–Jan. 1984     **University of Akron**, Ohio, USA  
                                 **M.S**, Chemical Engineering, Advisor: Prof. M. S. Willis  
Aug. 1984–Dec. 1989     **Indian Institute of Science**, Bangalore  
                                 **PhD**, Chemical Engineering, Advisor: Prof. K. Kesava Rao  
Jan. 2004–Dec. 2004     **Monash University**, Melbourne, Australia  
                                 **Graduate Certificate in Higher Education**

### **PROFESSIONAL HISTORY**

Jul. 2015–                 **University of Warwick**, UK  
                                 **Visiting Professor**, Department of Chemistry  
Jan. 2013–                 **Monash University**, Australia  
                                 **Professor**, Department of Chemical Engineering  
Jan. 2006–Dec. 2012     **Monash University**, Australia  
                                 **Reader**, Department of Chemical Engineering  
Jan. 2001–Dec. 2005     **Monash University**, Australia  
                                 **Senior lecturer**, Department of Chemical Engineering  
Sep. 2000–Jan. 2001     **Indian Institute of Technology**, Madras  
                                 **Associate Professor**, Department of Chemical Engineering  
May 1999–Apr. 2000     **University of Kaiserslautern**, Germany  
                                 **Alexander von Humboldt Research Fellow**,  
                                 Department of Mathematics  
Sep. 1995–Sep. 2000     **Indian Institute of Technology**, Madras  
                                 **Assistant Professor**, Department of Chemical Engineering  
Oct. 1994–Sep. 1995     **Indian Institute of Technology**, Madras  
                                 **Visiting Faculty**, Department of Chemical Engineering  
Oct. 1993–Sep. 1994     **Swiss Federal Institute of Technology**, Zürich, Switzerland  
                                 **Research Associate**, Polymer Physics Group  
                                 Advisor: Prof. H. C. Öttinger  
Oct. 1991–Sep. 1993     **University of Cambridge**, United Kingdom  
                                 **Research Associate**, Cavendish Laboratory  
                                 Advisor: Sir Sam Edwards  
Jun. 1990–Sep. 1991     **National Chemical Laboratory**, Pune, India  
                                 **Scientist C**, Chemical Engineering Division

Jan. 1990–May 1990 **National Chemical Laboratory**, Pune, India  
**Research Associate**, Chemical Engineering Division  
Advisor: Dr R. A. Mashelkar

### HONOURS, AWARDS, EDITORSHIP AND PROFESSIONAL MEMBERSHIPS

- Professor N. R. Kuloor memorial gold medal for the best PhD thesis in the Department of Chemical Engineering, Indian Institute of Science, for the years 1990-1991.
- Alexander von Humboldt Fellow, Department of Mathematics, University of Kaiserslautern, Germany, 1999-2000.
- President of the Australian Society of Rheology, 2006 to 2008.
- Editor-in-Chief Korea-Australia Rheology Journal, published by Springer, 2008 -
- Listed in Monash's top 250 researchers in 2010.
- Member, Australian Association of Alexander von Humboldt Fellows
- Council member, Australian Society of Rheology.
- Member, The Society of Rheology, USA.
- Member, German Society of Rheology.
- Australian representative on the International Committee on Rheology, 2016 -
- Member of US Society of Rheology Bingham Medal Award Committee (2017-2019)

### RESEARCH STUDENT SUPERVISION

Student	Type of student	Status	Years of enrolment	Supervisor Role** **Primary (M), Joint (J), Associate (A)
<b>KUMARI, Kiran</b>	PhD	Current	0.3	M (50%)
<b>KAILASHAM, Ramalingam</b>	PhD	Current	0.3	M (50%)
<b>AKITI, Narendra (IITB-M)</b>	PhD	Current	4.5	A (25%)
<b>HODGES, Emma Kate</b>	PhD	Submitted (07/2016)	4.5	J-Co (50%)
<b>CHANDI Sasmal</b>	PhD	Completed (2016)	3.5	M (75%)
<b>WANG, Jian Ke</b>	PhD	Completed (2014)	4	M (40%)
<b>JAIN, Aashish</b> <i>Aashish Jain was a recipient of the Finkel PhD Scholarship awarded by the Finkel Foundation.</i>	PhD	Completed (2013)	5	M (100%)
<b>GADKARI, Siddharth (IITB-M)</b>	PhD	Completed (2013)	4.5	M (30%)
<b>PAN, Sharadwata (IITB-M)</b> <i>Dr Pan won the award for 'Best PhD Thesis' in 2015, 'Best Collaboration' in 2014, and 'Best Seminar' in 2009 at the IIT-B Monash Research Academy.</i>	PhD	Completed (2014)	5.5	M (30%)

<b>TILVAWALA, Gopesh Chaitanyakumar</b>	Masters	Completed (2014)	2.5	A (25%)
<b>CHAKRABORTY, Debadi</b>	PhD	Completed (2011)	4	M (50%)
<b>PHAM, Tri Thanh</b>	PhD	Completed (2009)	4	M (75%)
<b>ACHARYA, Mohini Vaman</b>	Masters	Completed (2007)	2.5	J (50%)
<b>BAJAJ, Mohit</b>	PhD	Completed (2006)	4	M (90%)
<b>RANGANATHAN, Prabhakar</b> <i>Dr P. Ranganathan was awarded the Kenneth Hunt and Mollie Holman Medals for the most outstanding PhD thesis of the year in the Engineering Faculty for 2005.</i>	PhD	Completed (2005)	4	M (90%)

#### POST-DOCTORAL RESEARCH ADVISING

Post-doctoral Associates	Year	Topic
<b>Dr. Satheesh Kumar</b>	12/2001-11/2003	Universal Properties of Dilute Polymer Solutions
<b>Dr. P. Sunthar</b>	09/2002-02/2006	Dynamics of Dilute Solutions of DNA Molecules
<b>Dr. S. Pattanayek</b>	01/2006-12/2006	Dynamics of Polyelectrolyte Solutions
<b>Dr. M. Bajaj</b>	05/2006-01/2008	Complex Flows of Viscoelastic fluids
<b>Dr. J. Bosko</b>	01/2007-11/2008	Dynamics of Dendrimer Solutions
<b>Dr. A. Mehrotra</b>	04/2012-12/2013	Dynamics of Semidilute Polymer Solutions

#### RESEARCH FUNDING

Grant Scheme	Title	Applicants	Year	(\$'000)s
Engineering Faculty Grants Scheme, Monash University	Rheological Properties of Dilute Polymer Solutions, Monash University	R. P. Jagadeeshan	2001	12
New Staff Member Research Fund, Monash University	The influence of solvent quality on the rheological behaviour of dilute polymer solutions in simple shear and elongational flows	R. P. Jagadeeshan	2001	15
Engineering Faculty Grants Scheme, Monash University	Stress Relaxation in Entangled Polymer Solutions after a Large Uniaxial Elongational Step Strain	R. P. Jagadeeshan	2002	12.5

New Staff Member Research Fund, Monash University	Unravelling the conformations of DNA molecules	R. P. Jagadeeshan	2002	15
Expertise Grant Scheme, Victorian Partnership for Advanced Computing	Universal Rheological Properties of Dilute Polymer Solutions	R. P. Jagadeeshan	2002	30
Monash Research Fund Postdoctoral Fellowships scheme, Monash University	Micro-Macro Computation of Viscoelastic Roll Coating Flows	R. P. Jagadeeshan & C. Tiu	2002-2003	99
Engineering Faculty Grants Scheme, Monash University	Modelling the Stress-Conformational Hysteresis in Uniaxial Extensional Flows of Dilute Polymer Solutions	R. P. Jagadeeshan	2003	15
New Staff Member Research Fund, Monash University	The dynamics of protein folding	R. P. Jagadeeshan	2003	15
Expertise Grant Scheme, Victorian Partnership for Advanced Computing Discovery, ARC	Polymer Solution Rheology with a Realistic Meso-scale Polymer Model	R. P. Jagadeeshan	2003	30
	The flow properties of proteins and other biopolymers	T. Sridhar, & R. P. Jagadeeshan	2004-2006	365
Engineering Faculty Grants Scheme, Monash University	Understanding biopolymer-surface interactions	R. P. Jagadeeshan	2004	12
Engineering Faculty Grants Scheme, Monash University	Modelling The Coil-Stretch Transition In Extensional Flows Of Polymer Solutions	R. P. Jagadeeshan	2005	12
Engineering Faculty Grants Scheme, Monash University	Dynamics Of Interacting DNA And Single Wall Carbon Nanotubes	R. P. Jagadeeshan	2006	10.5
Chemical and Thermal Systems: Fluids and Hydraulics Program, National Science foundation, USA	Conformational Phase Transitions of Highly Flexible Polymers: Theory, Computer Simulation, and Single Molecule Experiments	E. S.G. Shaqfeh & R. P. Jagadeeshan	2005-2008	437
Linkage-International, ARC	DNA Dynamics in Shear and Extensional Flows: Simulation and Single Molecule Experiments	R. P. Jagadeeshan T. Sridhar & E. S. G. Shaqfeh	2005-2007	53

Discovery, ARC	Understanding the Behaviour of Single-Walled Carbon Nanotubes in Liquids	T. Sridhar, R. P. Jagadeeshan, M. Pasquali & E.S. G. Shaqfeh	2006- 2008	270
ARC, Linkage Infrastructure Equipment and Facilities	Biomedical Engineering Sensing and Imaging Facility (total of 20 investigators)	T. Sridhar,....., R. P. Jagadeeshan	2006	1300
Victorian Partnership for Advanced Computing e-Research Program Grants Scheme	Computational study of coarse-graining in macromolecular dynamics	P. Daivis, B. Todd & R. P. Jagadeeshan	2007	24
Engineering Faculty Grants Scheme, Monash University,	Structure and Flow Properties of Polymeric Dendrimers	R. P. Jagadeeshan	2007	16
Engineering Faculty Grants Scheme, Monash University	Is The Electrostatic Blob Model Applicable To Dilute Polyelectrolyte Solutions Undergoing Shear Flow?	R. P. Jagadeeshan	2008	13
Monash-CSIRO Collaborative Research Support Scheme	Multi-scale Modeling of the Structure and Dynamics of Hyperbranched Molecules: Brownian and Molecular Dynamics	R. P. Jagadeeshan & R. J. Varley	2008	42.5
Engineering Faculty Grants Scheme, Monash University	Realistic Simulation of Haemodynamics and Haemorheology in the Microcirculation.	R. P. Jagadeeshan	2009	17
Engineering Faculty Grants Scheme, Monash University	Cytoadhesive dynamics of parasitized red blood cells.	R. P. Jagadeeshan	2010	20
Linkage, ARC	Nanotechnology Enabled Electrochemical Energy Storage Materials from Indigenous Natural Graphite	M. Majumder, R. P. Jagadeeshan & R. Singh	2011- 2013	210
Discovery, ARC	Designing polymer additives to control breakup of jets and impacting drops	P. Ranganathan R. P. Jagadeeshan, D. Boger & G. McKinley	2012- 2014	320
Monash-Warwick Alliance Seed Fund	From qualitative to quantitative analysis of flow linear dichroism	R. P. Jagadeeshan & A. Rodger	2014	37

Monash-Warwick Alliance Seed Fund	Hydrodynamics of semi-dilute matter	R. P. Jagadeeshan & R. Ball	2015- 2016	7
Centre Europeen de Calcul Atomique et Moleculaire (CECAM)	Hydrodynamic Fluctuations in Soft-Matter Simulations	R. P. Jagadeeshan, B. Duenweg & F. Schmid,	2015	30

## RESOURCE SHARES AT MAJOR NATIONAL COMPUTATIONAL FACILITIES

Grant Scheme	Title	Applicants	Years	CPU Hours
Merit Allocation Scheme, Australian Partnership for Advanced Computing.	Viscoelastic Flow Computations using Finite Element and Smoothed Particle Hydrodynamics Techniques	R. P. Jagadeeshan & J. Monaghan	2002, 2003	45000 (2002), 51,532 (2003)
Merit Allocation Scheme, Australian Partnership for Advanced Computing.	Prediction of the Rheological Properties of Dilute Polymer Solutions with Brownian Dynamics Simulations	T. Sridhar & R. P. Jagadeeshan	2002 - 2007	30000 (2002), 40000 (2003), 50000 (2004), 50000 (2005), 20000 (2006), 39000 (2007)
Merit Allocation Scheme, Australian Partnership for Advanced Computing & NCI.	The Mechanical Properties of Bio- Macromolecules	R. P. Jagadeeshan	2004 - 2015	50000 (2004), 60000 (2005), 44000 (2006), 97600 (2007), 100000 (2008), 150000 (2009), 120000 (2010), 60000 (2011), 164000 (2012), 94000 (2013), 400000 (2015)
Resource Allocation Scheme, Victorian Life Sciences Computation Initiative.	Cytoadhesive dynamics of parasitized red blood cells	R. P. Jagadeeshan	2010 - 2015	50000 (2010), 660000 (2011), 660000 (2012), 1200000 (2013), 1200000(2014), 150000 (2015)

An in-kind value of \$0.50 per processor hour on compute systems has been recommended by the APAC board (up to 2007), and the NCI Steering Committee has recommended an in-kind value of \$0.10 per processor hour.

## ASSESSOR OF COMPETITIVE GRANTS

No	Funding body	Category of assessor	Number of applications assessed	Year
1	ARC Discovery	Oz Reader	1	2010
2	ARC Future fellow	Oz Reader	2	2010
3	Marsden Fund (Royal Society of New Zealand)	International Referee	1	2010
4	ARC Discovery	Oz Reader	4	2011
5	ARC Discovery	Oz Reader	4	2012
6	ARC Discovery	Oz Reader	1	2013
7	ARC Discovery	Oz Reader	2	2014
8	ARC Linkage	Oz Reader	1	2015
9	ARC Discovery	Oz Reader	1	2015

## TEACHING RESPONSIBILITIES (SINCE 2001)

Name (Subject code)	Credits	Enrolment	Involvement	Year
Chemical Engineering Computer Applications (CHE 3130)	4	40-65	70% lecturer with Dr P. Webley (2001); 80% lecturer with Dr P. Webley (2002); Sole lecturer 2003-	2001-5
Theory of Polymer Dynamics	—	5-10	Sole lecturer, Informal course of 25 lectures to post-graduate students in Chemical Engineering	2001
Thermodynamics II (CHE3115 & CHE3161)	4	50-100	50% lecturer with Prof. Frank Lawson; (2002); Sole lecturer 2003-	2002-6
Chemical Engineering Research Project (CHE4118)	9	1-2	Supervisor to groups of students	2001-2, 2004-6
Fluid Mechanics (CHE2100, CHE2082)	4	150-300	25% lecturer with Profs. J. Sheridan (2002-2003)/ R. Alfredson(2004-2006)	2002-6
Chemical Engineering Practice III (CHE3118)	4	40	Sole coordinator	2003
Modelling (CHE5171)	4	15	50% lecturer with Dr A. Hoadley; Distance Education	2004
Chemical Engineering Practice I (CHE2150)	4	65	Sole lecturer	2005
Chemical Engineering Research Project (CHE4180)	9	3	Supervisor to groups of students	2008

Chemistry and Chemical Engineering Thermodynamics (CHE3161)	6	100-130	Sole lecturer	2007-2010
Design Project (CHE4170)	12	100-130	Lecture on Technology Evaluation and mark chapter on this topic in the submitted design project report.	2009 -
Macromolecular Hydrodynamics (10.531/2.341)	H-credit	20-30	Post-graduate course, Guest lecturer at MIT, USA (20%) with Prof. Gareth McKinley	2014
Particle Technology (CHE4162)	6	100-140	50% lecturer with Prof. Wenlong Cheng	2012-2015
Chemical engineering research project (CHE4180)	12	2-6	Supervisor to groups of students	2009-12, 2015-
Fluid Mechanics (CHE2161)	6	100-300	33% lecturer with Mechanical Engineering (2007 S1 & S2, 2008 S1)	2007-8, 2011-13 (S1 & S2), 2014 (S2), 2015- (S1 & S2)
Transport Phenomena and Numerical Methods (CHE4163, CHE3167)	6	80-140	Sole lecturer	2008-2013, 2015-

#### **DEPARTMENT AND MONASH UNIVERSITY SERVICE**

1. Information Technology Strategy Committee, 2002-2004
2. Department Postgraduate committee, 2004-2005
3. Faculty Engineering Research Committee, 2004-2006
4. Faculty Academic Progress and Exclusions Committee for undergraduate students
5. Review Panel member, Intelligent Robotics Research Centre, November 2004
6. Department Seminar co-ordinator, 2004-2006
7. Department Examinations Officer, 2007-2012
8. Faculty Outside Study Program (OSP) Committee, 2007-2014
9. Department Research and Training committee, 2012
10. Department Deputy Director of Research (Alternate on Engineering Research Committee), 2012-2015
11. Department Deputy Director of Teaching, 2015-
12. Department Milestone Panel Chair, 2016-

#### **INVITED, KEYNOTE AND PLENARY LECTURES (Since 2007)**

1. Invited speaker at the Symposium in honour of Professor K. Kesava Rao, Department of Chemical Engineering, Indian Institute of Science, Bangalore, 17 December 2016.
2. Invited speaker at the New Aspects of Micro- and Macroscopic Flows in Soft Matter conference, 15-17 August 2016, Okinawa, Japan
3. Plenary lecturer at the Korean-Australian Rheology Conference, Seoul, Korea, 5-7 November 2015

4. Invited speaker at the Microbiology@Monash 3rd Plenary Meeting, Melbourne, Australia, 3 December 2015
5. Plenary lecturer at the International Symposium on Rheology, Kyoto, Japan, 2013
6. Invited speaker at the Annual Statistical Mechanics Meeting, Melbourne, 1-2 December 2011.
7. Keynote speaker at the Korean-Australian Rheology Conference, Daejeon, Korea, 25-27 September 2011.
8. Invited speaker at the CECAM workshop on "Mesoscale Hydrodynamic Simulation of Non-Equilibrium and Driven Soft-Matter Systems", Forschungszentrum Juelich, Germany, 9-11 May 2011.
9. Invited speaker at the SERC School cum Symposium on Rheology of Complex Fluids, IIT Chennai, India, 4-9 January 2010.
10. Invited speaker at the workshop on "Flowing Complex Fluids: Rheological measurements and constitutive modelling", Institute for Mathematics and its Applications (IMA) at the University of Minnesota, USA, 14-18 September 2009.
11. Plenary lecturer at the 20th Anniversary Symposium of the Korean Society of Rheology, Seoul, Korea, 19-23 August 2009.
12. Invited speaker at the SERC School and Symposium on Rheology of Complex Fluids, IIT Mumbai, India, 18-22 February 2008.
13. Plenary lecturer at the Korean-Australian Rheology Conference, Jeju Island, Korea 16-18 September 2007.

#### **ORGANISATION OF NATIONAL & INTERNATIONAL SCIENTIFIC CONFERENCES**

1. **Co-organizer** with Eric S. G. Shaqfeh (Stanford University, USA) of the International Workshop on Mesoscale and Multiscale Description of Complex Fluids at the Monash-Prato centre, Italy, from 5th–8th July 2006.
2. **Co-organizer** with Leslie Yeo and James Friend of the “Complex Fluids & Microfluidics” Workshop, Melbourne, Australia, 1-2 September, 2008
3. **Co-organizer** with Burkhard Duenweg (Max-Planck Institute for Polymer Research, Germany) of school/workshop on “Fluid-Structure Interactions in Soft- Matter Systems: From the Mesoscale to the Macroscale” at the Monash-Prato centre, Italy, in November 2012. Workshop sponsored by the European organization Centre Européen de Calcul Atomique et Moléculaire (CECAM).
4. **Co-organizer** with Burkhard Duenweg (Max-Planck Institute for Polymer Research, Germany) and Friederike Schmid (Johannes Gutenberg University, Germany) of school/workshop on “Hydrodynamic Fluctuations in Soft-Matter Simulations” at the Monash-Prato centre, Italy, in February 2016. Workshop sponsored by the European organization Centre Européen de Calcul Atomique et Moléculaire (CECAM).

#### **MEMBERSHIP OF CONFERENCE SCIENTIFIC ADVISORY COMMITTEES**

1. Member of the International Advisory Board for the XVIIIth International Congress on Rheology (ICR2020) to be held in Brazil, 2020.
2. Scientific Committee for the IUTAM (International Union of Theoretical and Applied Mechanics) symposium on complex fluids and interfaces, December 2018, India.
3. Member of Technical Sessions Organizing committee and co-chairman of the symposium on “Homogeneous Polymeric systems” for the XVIIth International Congress on Rheology (ICR2016), Kyoto, Japan, August 2016.

4. Co-chairman of the session on “Computational Rheology”, 85th Annual Society of Rheology meeting, October 5-9, 2014, Philadelphia, USA.
5. Member of the organising committee for the 6th Pacific Rim Conference on Rheology (PRCR-6) held in Melbourne, 2014. Additionally, **co-organiser** with David Boger of a one-day special symposium honouring Tam Sridhar on his 65th birthday, and co-chairman of the session on “Polymeric Fluids”.
6. International Advisory Board for the 5th Pacific Rim Conference on Rheology held in Hokkaido University, Sapporo, Japan, from August 1 to 6 2010.
7. National Advisory Committee of the XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics held in Cairns, Queensland, Australia, from 19 to 23 July, 2010.
8. Scientific Committee for the 5th Australian-Korean Rheology Conference, Sydney, Australia, 1-4 November 2009.
9. Member of Technical Sessions Organizing committee and co-chairman of the session on Polymer Solutions, 79th Annual Society of Rheology meeting, October 7-11, 2007, Salt Lake City, Utah, USA.

## ARCHIVAL JOURNAL PUBLICATIONS

(Note that Ravi Jagadeeshan publishes under the name J. R. Prakash)

1. R. Prabhakar, C. Sasmal, D. A. Nguyen, T. Sridhar, J. R. Prakash, “Effect of stretching-induced changes in hydrodynamic screening on coil-stretch hysteresis of unentangled polymer solutions”, Rapid communication, *Phys. Rev. Fluids*, 2, 011301(R) (2017).
2. K. Hsiao, C. Sasmal, J. R. Prakash, C. M. Schroeder, “Direct Observation of DNA Dynamics in Semi-dilute Solutions in Extensional Flow”, *J. Rheol.*, 61, 151–167 (2017).
3. C. Sasmal, K. Hsiao, C. M. Schroeder, J. R. Prakash, “Parameter-free Prediction of DNA Dynamics in Planar Extensional Flow of Semi-dilute Solutions”, *J. Rheol.*, 61, 169–186 (2017).
4. Emma Hodges, B. M. Cooke, E. M. Sevick, Debra J. Searles, B. Duenweg, and J. R. Prakash, “Equilibrium binding energies from fluctuation theorems and force spectroscopy simulations”, *Soft Matter*, 12, 9803–9820 (2016).
5. B. Duenweg, J. R. Prakash, “Conference report on Hydrodynamic Fluctuations in Soft-Matter Simulations”, *Appl. Rheol.*, 26:5 (2016).
6. W. C. Soysa, B. Duenweg, J. R. Prakash, “Size, shape, and diffusivity of a single Debye-Huckel polyelectrolyte chain in solution”, *J. Chem. Phys.*, 143, 064906 (2015).
7. D. Chakraborty, J. R. Prakash, “Viscoelastic fluid flow in a 2D channel bounded above by a deformable finite thickness elastic wall”, *J. Non-Newtonian Fluid Mech.*, 218, 83 – 98 (2015).
8. K. V. Ramesh, R. Thaokar, J. R. Prakash, R. Prabhakar, “Significance of thermal fluctuations and hydrodynamic interactions in receptor-ligand-mediated adhesive dynamics of a spherical particle in wall-bound shear flow”, *Phys. Rev. E*, 91, 022302 (2015).
9. A. Jain, C. Sasmal, R. Hartkamp, B.D. Todd, J. R. Prakash, "Brownian dynamics simulations of planar mixed flows of polymer solutions at finite concentrations", *Chem. Eng. Sci.* 121, 245–257 (2015).
10. S. Pan, D. Ahirwal, D. A. Nguyen, T. Sridhar, P. Sunthar, J. R. Prakash, "Viscosity Radius of Polymers in Dilute Solutions: Universal Behaviour from DNA Rheology and Brownian Dynamics Simulations", *Macromolecules*, 47, 7548–7560 (2014).
11. S. Pan, D. A. Nguyen, T. Sridhar, P. Sunthar, J. R. Prakash, “Universal solvent quality crossover of the zero shear rate viscosity of semidilute DNA solutions”, *J. Rheol.*, 58, 339-368 (2014).

12. J. Zelko, J. R. Prakash, B. Duenweg, "Conference Report on Fluid-Structure Interactions in Soft-Matter Systems: From the Mesoscale to the Macroscale (Prato, 2012)", *Appl. Rheol.*, 23,124-125, (2013).
13. A. Jain, P. Sunthar, B. Duenweg, and J. R. Prakash, "Optimization of a Brownian dynamics algorithm for semidilute polymer solutions", *Phys. Rev. E*, 85, 066703 (2012).
14. D. Chakraborty, J. R. Prakash, J. Friend, and L. Yeo, "Fluid-structure interaction in deformable microchannels", *Phys. Fluids* 24, 102002 (2012).
15. A. Jain, B. Duenweg, and J. R. Prakash, "Dynamic crossover scaling in polymer solutions", *Phys. Rev. Lett.*, 109, 088302 (2012).
16. D. Chakraborty, and J. R. Prakash, "Influence of Shear Thinning on Viscoelastic Fluid-Structure Interaction in a Two-Dimensional Collapsible Channel", *Ind. Eng. Chem. Res.*, 50, 13161–13168 (2011).
17. J. T. Bosko, and J. R. Prakash, "Universal Behaviour of Dendrimer Solutions", *Macromolecules*, 44, 660-670 (2011).
18. S. Somani, E. S. G. Shaqfeh, J. R. Prakash, "The effect of solvent quality on the coil-stretch transition", *Macromolecules*, 43, 10679-10691 (2010).
19. T. T. Pham, B. Duenweg, and J. R. Prakash, "Collapse dynamics of copolymers in a poor solvent: Influence of hydrodynamic interactions and chain sequence", *Macromolecules*, 43, 10084-10095 (2010).
20. D. Chakraborty, M. Bajaj, L. Yeo, J. Friend, M. Pasquali, and J. R. Prakash, "Viscoelastic flow in a two-dimensional collapsible channel", *J. Non-Newtonian Fluid Mech.*, 165, 1204-1218 (2010).
21. T. T. Pham, U. D. Schiller, J. R. Prakash, and B. Dünweg, "Implicit and explicit solvent models for the simulation of a single polymer chain in solution: Lattice Boltzmann versus Brownian dynamics", *J. Chem. Phys.*, 131, 164114 (2009).
22. J. R. Prakash, Micro and macro in the dynamics of dilute polymer solutions: Convergence of theory with experiment, *Korea-Australia Rheology Journal*, 21, 4, 245-268 (2009). (Invited review article).
23. L. Y. Yeo, J. R. Prakash, J. R. Friend, "Conference Report on the Complex Fluids and Microfluidics Workshop 2008 (CFMW08)", *Appl. Rheol.*, 19, 44-46 (2009).
24. R. Duggal, P. Sunthar, J. R. Prakash, and M. Pasquali, "Multi-scale Simulation of Dilute DNA in a Roll-knife Coating Flow", *J. Rheol.*, 52, 1405-1425 (2008).
25. T. T. Pham, M. Bajaj, and J. R. Prakash, "Brownian dynamics simulation of polymer collapse in a poor solvent: Influence of implicit hydrodynamic interactions", *Soft Matter*, 4, 1196 - 1207 (2008).
26. S K Pattanayek, and J. R. Prakash, "Is the electrostatic blob model relevant to dilute polyelectrolyte solutions undergoing shear flow?", *Macromolecules*, 41, 2260 -2270 (2008).
27. J. T. Bosko, and J. R. Prakash, "Effect of molecular topology on the transport properties of dendrimers in dilute solution at theta temperature: A Brownian dynamics study", *J. Chem. Phys.*, 128, 034902 (2008).
28. M. Bajaj, M. Pasquali, and J. R. Prakash, "Coil-stretch transition and the breakdown of computations for viscoelastic fluid flow around a confined cylinder", *J. Rheol.*, 52, 197-223 (2008).
29. T. T. Pham, P. Sunthar, J. R. Prakash, "An alternative to the bead-rod model: Bead-spring chains with successive fine graining", *J. Non-Newtonian Fluid Mech.*, 149, 9-19 (2008).
30. M. Bajaj, J. R. Prakash, M. Pasquali, "A Computational Study of the Effect of Viscoelasticity on Slot Coating Flow of Dilute Polymer Solutions", *J. Non-Newtonian Fluid Mech.*, 149, 104-123 (2008).
31. T. Sridhar, Duc At Nguyen, R. Prabhakar, J. R. Prakash, "Rheological Observation of Glassy Dynamics of Dilute Polymer Solutions in Elongational Flows near the Coil-Stretch Transition", *Phys. Rev. Lett.*, 98, 167801 (2007).

32. R. Prabhakar, J. R. Prakash, and T. Sridhar, "Effect of configuration-dependent intramolecular hydrodynamic interaction on elastocapillary thinning and breakup of filaments of dilute polymer solutions", *J. Rheol.* 506, 925-947 (2006).
33. M. Bajaj, P. P. Bhat, J. R. Prakash, and M. Pasquali, "Multiscale Simulation of Viscoelastic Free Surface Flows", *J. Non-Newtonian Fluid Mech.*, 140, 87-107 (2006).
34. P. Sunthar, J. R. Prakash, "Dynamic scaling in dilute polymer solutions: The importance of Dynamic Correlations", *Europhysics Letters*, 75, 77-83 (2006).
35. R. Prabhakar, J. R. Prakash, "Gaussian approximation for finitely extensible bead-spring chains with hydrodynamic interaction", *J. Rheol.*, 50, 561-593 (2006).
36. P. Sunthar, D. A. Nguyen, R. Dubbelboer, J. R. Prakash, and T. Sridhar, "Measurement and prediction of the elongational stress growth in a dilute solution of DNA molecules," *Macromolecules*, 38, 10200-10209 (2005).
37. P. Sunthar and J. R. Prakash, "Prediction of chain length effects in elongational flows of dilute polymer solutions by successive fine graining ", *ANZIAM J.* 46 (E), C320—C335 (2005).
38. R. Prabhakar and J. R. Prakash, "Fast and accurate closure approximations for bead-spring models of dilute polymer solutions", *ANZIAM J.* 46 (E), C379—C393 (2005).
39. P. Sunthar, and J. R. Prakash, "Parameter free prediction of DNA conformations in Elongational flow by Successive Fine Graining," *Macromolecules*, 38, 617-640 (2005).
40. R. Prabhakar, J. R. Prakash, and T. Sridhar, "A successive fine-graining scheme for predicting the rheological properties of dilute polymer solutions," *J. Rheol.* 48, 1251-1278 (2004).
41. K. S. Kumar, and J. R. Prakash, "Universal consequences of the presence of excluded volume interactions in dilute polymer solutions undergoing shear flow," *J. Chem. Phys.* 121, 3886-3897 (2004).
42. R. Prabhakar, P. Sunthar, and J. R. Prakash, "Exploring the universal dynamics of dilute polymer solutions in extensional flows," *Physica A* 339, 34-39 (2004).
43. R. Prabhakar and J. R. Prakash, "Multiplicative separation of the influences of excluded volume, hydrodynamic interactions and finite extensibility on the rheological properties of dilute polymer solutions", *J. Non-Newtonian Fluid Mech.* 116, 163-182 (2004).
44. K. S. Kumar, and J. R. Prakash, "Equilibrium swelling and universal ratios in dilute polymer solutions: Exact Brownian dynamics simulations for a delta function excluded volume potential," *Macromolecules* 36, 7842-7856 (2003).
45. J. R. Prakash, "Rouse chains with excluded volume interactions: Steady simple shear flow", *J. Rheol.* 46, 1353-1380 (2002).
46. R. Prabhakar, and J. R. Prakash, "Hookean Dumbbells with Excluded Volume and Hydrodynamic Interactions", *J. Rheol.* 46, 1191-1220 (2002).
47. J. R. Prakash, "The influence of the range of excluded volume interactions on the linear viscoelastic properties of dilute polymer solutions", *Chem. Eng. Sci.* 56, 5555-5564 (2001).
48. J. R. Prakash, "Rouse chains with excluded volume interactions: Linear viscoelasticity", *Macromolecules* 34, 3396-3411 (2001).
49. S. Chakraborty, P. R. Nott, and J. R. Prakash, "Analysis of radial segregation of granular mixtures in a rotating drum", *Eur. Phys. J. E* 1, 265-273 (2000).
50. J. R. Prakash, and H. C. Öttinger, "Viscometric functions for a dilute solution of polymers in a good solvent", *Macromolecules* 32, 2028-2043 (1999).
51. J. R. Prakash, and H. C. Öttinger, "Universal Viscometric Functions for Dilute Polymer Solutions", *J. Non-Newtonian Fluid Mech.* 71, 245-272 (1997).
52. J. R. Prakash, "The Treatment of Hydrodynamic Interaction in Bead-Spring Models for Dilute Polymer Solutions", *J. Energy, Heat and Mass Transfer* 19, 57 (1997).
53. J. P. Bouchaud, M. E. Cates, J. R. Prakash and S. F. Edwards, "Hysteresis and Metastability in a Continuum Sandpile Model", *Phys. Rev. Lett.* 74, 1982-1985 (1995).

54. J. P. Bouchaud, M. E. Cates, J. R. Prakash and S. F. Edwards, A Model for the Dynamics of Sandpile Surfaces, *J. Phys. I France* 4, 1383-1410 (1994).
55. J. R. Prakash, J. P. Bouchaud and S. F. Edwards, Long-Time Large-Scale Properties of the Noisy Driven-Diffusion Equation, *Proc. Roy. Soc. Lond. A* 446, 67 (1994).
56. J. R. Prakash, and R. A. Mashelkar, The Diffusion Tensor for Hookean Dumbbells in Steady Shear Flow: Analytical Approximation, *J. Rheology* 36, 789-805 (1992).
57. J. R. Prakash, and R. A. Mashelkar, The Free Energy of a Deforming Lodge Rubber-like Liquid, *J. Non-Newtonian Fluid Mech.* 40, 337-351 (1991).
58. J. R. Prakash, and R. A. Mashelkar, The Diffusion Tensor for a Flowing Dilute Solution of Hookean Dumbbells: Anisotropy and Flow Rate Dependence, *J.Chem.Phys.* 95, 3743-3748 (1991).
59. J. R. Prakash, and K. K. Rao, Steady Compressible Flow of Granular Materials in a Wedge-Shaped Bunker, *J. Fluid Mech.* 225, 21-80 (1991).
60. J. R. Prakash, and K. K. Rao, Steady Compressible Flow of Granular Materials in a Wedge-Shaped Hopper: The Smooth Wall, Radial Gravity Problem, *Chem.Eng.Sci.* 43, 479-494 (1988).

### **PEER REVIEWED CONFERENCE PROCEEDINGS**

1. C. Sasmal, D. A. Nguyen, T. Sridhar, J. R. Prakash, and R. Prabhakar, 2016, "Concentration dependence of coil-stretch hysteresis in extensional flows of unentangled polymer solutions," Proceedings of the XVIIth International Congress on Rheology at Kyoto (Japan), from August 8 – 13th, 2016.
2. C. Sasmal, K. Hsiao, C. M. Schroeder, J. Ravi Prakash, 2016, "Stretch-relaxation of DNA molecules in semidilute solutions," Proceedings of the XVIIth International Congress on Rheology at Kyoto (Japan), from August 8 – 13th, 2016.
3. S. Pan, D. A. Nguyen, P. Sunthar, T. Sridhar, and J. R. Prakash, 2016, "Semidilute DNA Solutions in Shear Flow," Proceedings of the XVIIth International Congress on Rheology at Kyoto (Japan), from August 8 – 13th, 2016.
4. C. Sasmal and J. R. Prakash, Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, Asian Pacific Confederation of Chemical Engineering 2015 Congress, incorporating Chemeca 2015, 27 September - 1 October 2015.
5. Nguyen, D.A., Pan, S., Sunthar, P., Sridhar, T., J. R. Prakash, 2013, The extensional rheology of semidilute DNA solutions, Chemeca 2013: Challenging Tomorrow, Engineers Australia, Australia, pp. 52-57, 29 September 2013 to 2 October 2013.
6. Pan, S., (speaker), Nguyen, D. A., Sunthar, P., Sridhar, T., and Prakash, J R., Temperature-superposition of shear-thinning of Semi-dilute DNA solutions, In: Proceedings of the Polymer Processing Society Asia / Australia Conference (PPS – 2013), Mumbai, India. 04-07 December, 2013.
7. Jain, A., J. R. Prakash, 2012, A Brownian dynamics study of crossover scaling in semidilute polymer solutions, Proceedings of Chemeca 2012, Engineers Australia, pp. 1-10, 23 September 2012 to 26 September 2012.
8. Pan, S., Sunthar, P., Sridhar, T., J. R. Prakash, 2012, Universal crossover of static and dynamic properties of dilute DNA solutions, Proceedings of Chemeca 2012, 23 September 2012 to 26 September 2012, Engineers Australia, Vic Australia, pp. 1-10.
9. Jain, A., Sunthar, P., J. R. Prakash, 2011, Concentration dependent dynamics of polymer solutions: Universal behaviour from coarse-grained simulations, Proceedings of CHEMECA 2011 - Engineering a Better World, 18 September 2011 to 21 September 2011, Engineers Australia, Sydney, pp. 1-9.

10. Pan, S., Nguyen, D., Sunthar, P., Sridhar, T., J. R. Prakash, 2011, The shear rheology of semi-dilute DNA solutions, Proceedings of CHEMECA 2011 - Engineering a Better World, 18 September 2011 to 21 September 2011, Engineers Australia, Sydney, Australia, pp. 1-9.
11. Chakraborty, D., J. R. Prakash, 2010, Flow of a viscoelastic FENE-P model fluid in a two-dimensional collapsible channel, Proceedings of Chemeca 2010, 26 September 2010 to 29 September 2010, Engineers Australia, Australia, pp. 1-10.
12. Jain, A., Sunthar, P., J. R. Prakash, 2010, Efficient computation of hydrodynamic interactions in semidilute polymer solutions, Proceedings of Chemeca 2010, 26 September 2010 to 29 September 2010, Engineers Australia, Australia, pp. 1-10.
13. T. T. Pham, and J. R. Prakash, "Collapse dynamics of homo-polymers in a poor solvent: Influence of hydrodynamic interactions," CHEMECA 2007, Melbourne, Australia, 23 - 26 Sep., 2007.
14. J. R. Prakash and E.S.G. Shaqfeh, Foreword to the Special Issue of the Journal of Non-Newtonian Fluid Mechanics, being published as the Proceedings of the International Workshop on Mesoscale and Multiscale Description of Complex Fluids (IWMMCOF'06), Prato, Italy, July 5-8, 2006, Edited by J. R. Prakash and E.S.G. Shaqfeh, Journal of Non-Newtonian Fluid Mech., Article in Press, doi:10.1016/j.jnnfm.2007.07.006, 2007.
15. J. R. Prakash and E.S.G. Shaqfeh, Conference Report on the International Workshop on Mesoscale and Multiscale Description of Complex Fluids – IWMMCOF '06, Appl. Rheol., 16, 340–341, 2006.
16. M. Bajaj, M. Pasquali and J. R. Prakash, "Micro-Macro Simulation of Viscoelastic Flows at High Weissenberg Number using the Brownian Configuration Fields Method," CHEMECA 2006, Auckland, New Zealand, 17 – 20 Sep., 2006.
17. T. T. Pham, P. Sunthar and J. R. Prakash, "Comparison of Bead-Spring and Bead-Rod Models for Dilute Polymer Solutions: Validation of the Successive Fine Graining Method," CHEMECA 2006, Auckland, New Zealand, 17 – 20 Sep., 2006.
18. R. Prabhakar and J. R. Prakash, "A fast and accurate model for predicting the behaviour of dilute polymer solutions in complex flows," CHEMECA 2005, Brisbane, Australia, 25 – 28 Sep., 2005.
19. P. Sunthar, Y. W. Ooi, J R. Prakash, "Hydrodynamic radius of a flexible polymer in a dilute solution under theta-conditions," CHEMECA 2005, Brisbane, Australia, 25 – 28 Sep., 2005.
20. M. Bajaj, P. P. Bhat, J. R. Prakash, and M. Pasquali, "Micro-Macro simulation of viscoelastic free surface flows using the Brownian configuration fields method," Fourteenth International Congress on Rheology, Seoul, South Korea, 22 Aug. - 27 Aug., 2004.
21. P. Sunthar, J. R. Prakash, "Static and Dynamic Properties of Dilute Polymer Solutions: Brownian Dynamics Simulations of the Influence of Excluded Volume and Hydrodynamic Interactions," Fourteenth International Congress on Rheology, Seoul, South Korea, 22 Aug. - 27 Aug., 2004.
22. R. Prabhakar, J. R. Prakash, "Modelling the stress-conformational hysteresis in uniaxial extensional flows of dilute polymer solutions," Fourteenth International Congress on Rheology, Seoul, South Korea, 22 Aug. - 27 Aug., 2004.
23. P. Sunthar, R. Prabhakar, J. R. Prakash, "Rescaling of Excluded Volume and Hydrodynamic Interaction Parameters in Bead Spring Chain Models with Finitely Extensible Springs," Fourteenth International Congress on Rheology, Seoul, South Korea, 22 Aug. - 27 Aug., 2004.
24. K. S. Kumar, and J. R. Prakash, "Universal shear rate dependence of the viscosity of dilute polymer solutions in the presence of excluded volume interactions", CHEMECA 2003, 31st Australasian Chemical Engineering Conference, Adelaide, South Australia, September 2003.
25. R. Prabhakar, and J. R. Prakash, "Elongational Flow Behaviour of FENE Dumbbells with Excluded Volume and Hydrodynamic Interaction", 9th APCCHE Conference, Christchurch, New Zealand, 29 Sept - 3 Oct 2002.

26. J. R. Prakash, "Rouse Chains with Excluded Volume Interactions in Steady Shear Flow: Comparison of Brownian Dynamics Simulations with the Gaussian Approximation", 6th World Congress of Chemical Engineering, 23-27 September 2001, Melbourne, Australia, Paper 1090.
27. J. R. Prakash, "Material functions for Rouse chains with excluded volume interactions in simple shear flows", Proceedings of the XIIIth International Congress on Rheology, 20-25 August 2000, Cambridge, UK, Vol. 1, 338-339.

## BOOK CHAPTERS

1. J. R. Prakash, The Kinetic Theory of Dilute Solutions of Flexible Polymers: Hydrodynamic Interaction, in *Advances in the Flow and Rheology of Non-Newtonian Fluids*, D.A. Siginer, D.De Kee and R.P. Chabra, eds., Elsevier Science, (1999).
2. J. R. Prakash, The Prediction of Universal Viscometric Functions for Dilute Polymer Solutions under Theta Conditions, in *Dynamics of Complex Fluids*, M. J. Adams, R. A. Mashelkar, J. R. A. Pearson, A. R. Rennie, eds., Imperial College Press-The Royal Society, (1998).
3. M. S. Willis, S. Bybyk, R. Collin and J. R. Prakash, Theory of Filtration, in *Advances in Transport Phenomena in Porous Media*, J. Bear, M. Y. Corapcioglu, eds., Martinus Nijhoff, Dordrecht, 343 (1987).
4. M. S. Willis, J. R. Prakash and I. Tosun, A Continuum Theory for Filtration, in *Fluid Filtration: Liquid*, P. R. Johnston, H. G. Schroeder, eds., Vol. II, ASTM STP 975, American Society for Testing Materials, Philadelphia, 163 (1986).

## CONFERENCE PRESENTATIONS

1. J. R. Prakash, Parameter-free prediction of DNA dynamics in planar extensional flow of semidilute solutions, Statistical Mechanics of Soft Matter, Melbourne, 28-29 November 2016.
2. C. Sasmal, K.-W Hsiao, C. M. Schroeder, and J. R. Prakash (Poster), Parameter-free prediction of DNA dynamics in planar extensional flow of semidilute solutions, Soft Matter - Theoretical and Industrial Challenges: Celebrating the Pioneering Work of Sir Sam Edwards, Isaac Newton Institute, Cambridge, 7-9 September 2016.
3. J. R. Prakash, Dynamics of Semidilute Polymer Solutions, New Aspects of Micro- and Macroscopic Flows in Soft Matter conference, Okinawa, Japan, 15-17 August 2016.
4. J. R. Prakash, Treating Fluctuating Hydrodynamic Interactions in Polymer Solutions Far from Equilibrium: Closure Approximations Beyond Zimm Theory, CECAM workshop on "Hydrodynamic Fluctuations in Soft-Matter Simulations", Monash University Prato Centre, Italy, February 9-12, 2016.
5. J. R. Prakash, Adhesive dynamics of parasitized red blood cells, Microbiology@Monash 3rd Plenary Meeting, Melbourne, Australia, 3 December 2015.
6. J. R. Prakash, Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, Statistical Mechanics of Soft Matter, Melbourne, 30 Nov–1 Dec, 2015.
7. J. R. Prakash, Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, Korean-Australian Rheology Conference, Seoul, Korea, 5-7 November 2015.
8. W. C. Soysa, B. Dünweg, and J. R. Prakash (speaker), Size, shape and diffusivity of a single Debye-Hückel polyelectrolyte chain in solution, The Society of Rheology 87th Annual Meeting, Baltimore, Maryland, October 11-15, 2015.

9. C. Sasmal (poster) and J. R. Prakash, Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, The Society of Rheology 87th Annual Meeting, Baltimore, Maryland, October 11-15, 2015.
10. J. R. Prakash (poster), Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, 24th International Conference on Discrete Simulation of Fluid Dynamics, The Royal Society of Edinburgh, UK, 13-17 July 2015.
11. J. R. Prakash, Coil-stretch hysteresis in planar mixed flows of polymer solutions at finite concentrations, Ian Snook Conference on Chemical Physics, Dec. 4-5, 2014.
12. J. R. Prakash, Semidilute solutions in shear flow, 6th Pacific Rim Conference on Rheology (PRCR-6), Melbourne, 20-25 July 2014.
13. J. R. Prakash, Concentration Dependent Dynamics of Semidilute DNA Solutions, Statistical Mechanics of Soft Matter Meeting, Melbourne, 21-22 November 2013.
14. A. Jain, R. Hartkamp, C. Sasmal, A. S. Mehrotra, B. D. Todd, R. Prabhakar, J. R. Prakash, (speaker), Brownian dynamics simulations of semidilute polymer solutions undergoing planar mixed flow, The Society of Rheology 85th Annual Meeting, Montréal, Canada, October 13-17, 2013.
15. J. R. Prakash, Molecular simulation of complex fluids, Monash-Warwick Workshop "Simulation and Modelling" Melbourne, 18-20 March 2013.
16. J. R. Prakash, Concentration dependent dynamics of semidilute polymer solutions, CECAM workshop on "Fluid-Structure Interactions in Soft-Matter Systems: From the Mesoscale to the Macroscale", Monash University Prato Centre, Italy, 26-30 November 2012.
17. S. Pan, A. Jain, D. A. Nguyen, P. Sunthar, T. Sridhar, B. Duenweg, J. Ravi Prakash (speaker), Concentration dependent dynamics of semi-dilute DNA solutions, The XVth International Congress on Rheology, Lisbon, Portugal, 5-10, August 2012.
18. A. Jain (poster), B. Duenweg, J. Ravi Prakash, Dynamic Crossover Scaling in Semidilute Polymer Solutions, The XVth International Congress on Rheology, Lisbon, Portugal, 5-10, August 2012.
19. J. R. Prakash, Universal crossover dynamics of semidilute polymer solutions: DNA rheology and Brownian Dynamics simulations, Annual Statistical Mechanics Meeting, Melbourne, 1-2 December 2011.
20. J. R. Prakash, Concentration dependent dynamics of semidilute DNA solutions Korean-Australian Rheology Conference, Daejeon, Korea, 25-27 September 2011.
21. J. R. Prakash, Concentration dependent dynamics of semidilute DNA solutions, CECAM workshop on "Mesoscale Hydrodynamic Simulation of Non-Equilibrium and Driven Soft-Matter Systems", Forschungszentrum Juelich, Germany, 9-11 May 2011.
22. A. Jain, P. Sunthar, B. Duenweg and J. R. Prakash (speaker), Concentration dependent dynamics of polymer solutions: Universal behaviour from coarse-grained simulations, The Society of Rheology 83rd Annual Meeting, Cleveland, Ohio, October 9-13, 2011.
23. S. Pan (speaker), D. A. Nguyen, P. Sunthar, T. Sridhar, and J. R. Prakash, The shear rheology of semi-dilute DNA solutions, The Society of Rheology 83rd Annual Meeting, Cleveland, Ohio, October 9-13, 2011.
24. J. T. Bosko, and J. R. Prakash (speaker), Effect of solvent quality on the dynamics of dilute dendrimer solutions, XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics, Cairns, Australia, 19 - 23 July, 2010
25. J. T. Bosko, and J. R. Prakash (speaker), Effect of solvent quality on the dynamics of dilute dendrimer solutions, Second International Soft Matter Conference, Granada, Spain, 4-8 July, 2010.

26. J. T. Bosko, and J. R. Prakash (speaker), Dynamics of dendrimer solutions, SERC School cum Symposium on Rheology of Complex Fluids, IIT Chennai, India, 4-9 January 2010.
27. T. T. Pham, and J. R. Prakash (speaker), Polymer Chains In A Poor Solvent Subjected To Extensional Flow, 5th Australian-Korean Rheology Conference, Sydney, 1-4 Nov 2009.
28. J. R. Prakash, Micro and Macro in the Dynamics of Dilute Polymer Solutions, Institute for Mathematics and its Applications (IMA) at the University of Minnesota, USA, 14-18 September 2009.
29. J. R. Prakash, Micro and Macro in the Dynamics of Dilute Polymer Solutions: Convergence of Theory with Experiment, 20th Anniversary Symposium of the Korean Society of Rheology, Seoul, Korea, 19-23 August 2009.
30. J. R. Prakash, Micro & Macro in the Dynamics of Polymer Solutions, Inauguration of the IITB-Monash Research Academy, November 26-29, 2008, Mumbai, India.
31. Shikha Somani (speaker), Eric Shaqfeh, and J R. Prakash, A Brownian dynamics study of the effect of solvent quality on the coil-stretch transition, The XVth International Congress On Rheology, Monterey, California 3-8 August 2008.
32. D. A. Nguyen, B. Dan, N. G. Parra-Vasquez, M. Pasquali (speaker), J R. Prakash, and T. Sridhar, Extensional rheology of single walled carbon nanotubes in liquids, The XVth International Congress On Rheology, Monterey, California 3-8 August 2008.
33. P. Sunthar (speaker) and J R. Prakash, Modelling the dynamic scaling of dilute polymer solutions and its application to rheology, The XVth International Congress On Rheology, Monterey, California 3-8 August 2008.
34. J. T. Bosko and J R. Prakash (speaker), Rheology of dendrimers in solution via Brownian dynamics simulations, The XVth International Congress On Rheology, Monterey, California 3-8 August 2008.
35. J. R. Prakash, Glassy Dynamics in Dilute Polymer Solutions near the Coil-Stretch Transition, SERC School/CEP Course and Symposium on Rheology of Complex Fluids, February 18-22, 2008, IIT Bombay, Mumbai, India.
36. J. R. Prakash, Glassy Dynamics in Dilute Polymer Solutions, Tri-University Workshop, December 6-7, 2007, Monash University, Melbourne, Australia (Keynote Lecture).
37. S K Pattanayek, and J. R. Prakash (speaker), Is the Blob model applicable to dilute polyelectrolyte solutions undergoing shear flow?, Molecular Modelling, November 27-30, 2007, Melbourne, Australia
38. J. R. Prakash, Is the Blob model applicable to dilute polyelectrolyte solutions undergoing shear flow?, SOR 79th Annual Meeting, October 7-11, 2007, Salt Lake City, Utah, USA.
39. J. R. Prakash, The Dynamics of Polymer Collapse as a Toy Model for Protein Folding, Biennial Conference of the Australian Association of Von Humboldt Fellows, September 7-9, 2007, Melbourne, Australia.
40. J. R. Prakash, Micro & Macro in the Dynamics of Polymer Solutions, Korean-Australian Rheology Conference 2007, September 16-18, 2007, Jeju Island, Korea (Plenary Lecture).
41. M. Bajaj, M. Pasquali, J. R. Prakash (speaker), Coil-stretch transition and the break down of continuum models, XVth International Workshop on Numerical Methods for Non-Newtonian Flows (IWNMNNF 2007) June 6-10, 2007, Rhodes, Greece.
42. J. R. Prakash, Bulk Stress Hysteresis and Driven Glassy Dynamics in Extensional Flows of Polymer Solutions, AIChE Annual Meeting, Nov. 12-Nov. 16, 2006, San Francisco, USA.
43. J. R. Prakash, Convergence of Experiment and Theory for Dilute Polymer Solutions with Successive Fine Graining, International Workshop on Mesoscale and Multiscale Description of Complex Fluids, July 5-July 8, 2006, Prato, Italy.
44. P. P. Bhat (speaker), M. Bajaj, J. R. Prakash and M. Pasquali, Numerical analysis of the dynamics of stretching viscoelastic liquid filaments using the micro-macro Brownian Configurations Fields (BCF) method AIChE Annual Meeting, Oct. 30-Nov. 4 2005, Cincinnati, USA.

45. P. Sunthar, D. A. Nguyen, R. Dubbelboer, J. R. Prakash (speaker), and T. Sridhar, Elongational viscosity of dilute solutions of DNA molecules, Society of Rheology 77th Annual Meeting, 16–20 October 2005, Vancouver, Canada.
46. R. Prabhakar, J. R. Prakash (speaker), and T. Sridhar, Influence of configuration-dependent drag on the capillary thinning of filaments of dilute polymer solutions, Society of Rheology 77th Annual Meeting, 16–20 October 2005, Vancouver, Canada.
47. J. R. Prakash, Understanding and Predicting the Dynamics of Dilute Polymer Solutions, Biennial Conference of the Australian Association of Von Humboldt Fellows, 2 – 4 September 2005, Brisbane, Australia
48. J. R. Prakash, Understanding and Predicting the Dynamics of Dilute Polymer Solutions, Australian-Korean Rheology Conference, 17– 20 July 2005, Cairns, Australia (Keynote Lecture).
49. M. Bajaj (speaker), P. P. Bhat, J. R. Prakash and M. Pasquali, Micro-macro Simulation of Transient Viscoelastic Free Surface Flows using the Brownian Configuration Fields Method, XIVth International Workshop on Numerical Methods for Non-Newtonian Flows Santa Fe, 12 – 15 June 2005, New Mexico U.S.A.
50. R. Duggal (speaker), P. Sunthar, J. R. Prakash, and M. Pasquali, Molecular Conformation of DNA in a Small-scale Coating Flow using a Macro-Micro Approach, AIChE Annual Meeting, 7–12 November 2004, Austin, USA.
51. J. R. Prakash, Unravelling the Dynamics of Polymer Solutions in Extensional Flows, Complex fluids workshop, The 12th Biennial Computational Techniques and Applications Conference, CTAC 2004, 30 September 2004, Melbourne, Australia (Invited speaker).
52. P. Sunthar (speaker), and J. R. Prakash, Nonlinear Bead Spring Chain Models for Dilute Polymer Solutions: Rescaled Intra-Molecular Interactions and Successive Fine Graining, 22nd IUPAP International Conference on Statistical Physics, STATPHYS 22, 4–9 July 2004, Bangalore, India.
53. M. Bajaj, M. Pasquali, and J. R. Prakash (speaker), Micro-Macro Simulation of Viscoelastic Coating Flows, CRC Smartprint Conference, 6–7 July 2004, Melbourne, Australia.
54. M. Bajaj (speaker), J. R. Prakash, and M. Pasquali, Micro-Macro Simulation of Viscoelastic Hele-Shaw Flow, Moving Boundaries 2003, Seventh International Conference on Computational Modelling of Free and Moving Boundary Problems, 4–6 November 2003, Santa Fe, USA.
55. R. Prabhakar, P. Sunthar, and J.R. Prakash (speaker), Unravelling the Dynamics of Polymer Solutions in Extensional Flows, New Materials and Complexity, 3–7 November 2003, Kioloa, Australia.
56. R. Prabhakar and J. R. Prakash (speaker), Parameter-Free Predictions of the Behaviour of Dilute Polymer Solutions in Extensional Flows: Comparison with Experiment, Society of Rheology 75th Annual Meeting, 12–16 October 2003, Pittsburgh, USA.
57. P. Sunthar (speaker) and J. R. Prakash, Predictions of the evolution of DNA conformations in an extensional flow, Korean-Australian Rheology Conference, Gyeongju, Korea, 24–26 September 2003.
58. R. Prabhakar (speaker) and J.R. Prakash, Prediction of Rheological Properties of Dilute Polymer Solutions in Extensional Flows, Korean-Australian Rheology Conference, Gyeongju, Korea, 24–26 September 2003.
59. J. R. Prakash, Molecular Rheology of Dilute Polymer Solutions, Mini-Symposium on Flows of Complex Fluids, 5th International Congress on Industrial and Applied Mathematics, ICIAM 2003, 7–9 July 2003, Sydney, Australia (Invited speaker).
60. R. Prabhakar, and J. R. Prakash (speaker), Superposition of Finite Extensibility, Hydrodynamic Interaction and Excluded Volume Effects in Bead-Spring Chain Molecules for Dilute Polymer Solutions, XIIIth International Workshop on Numerical Methods for Non-Newtonian Flows, 4–7 June 2003, Lausanne, Switzerland.

61. R. Prabhakar, and J. R. Prakash (speaker), Brownian dynamics simulations of Rouse Chains with Excluded Volume and Hydrodynamic Interactions, 6th European Conference on Rheology, EURHEO, 1–6 September 2002, Erlangen, Germany.
62. J. R. Prakash (speaker) and R. Prabhakar, Gaussian approximation for Hookean dumbbells with hydrodynamic interaction and excluded volume, Australian-Korean Rheology Conference, Melbourne, Australia, 20–21 September 2001.

## INVITED LECTURES

1. Invited Lecture at the The Royal Society Indo-UK Forum on the Dynamics of Complex Fluids, held in association with the program at the Isaac Newton Institute for Mathematical Science, Cambridge, at the Cavendish Laboratory, Cambridge, UK, June 1996.
2. Invited Lecture during the research program on Jamming and Rheology: Constrained Dynamics on Microscopic and Macroscopic Scales, conducted by the Institute for Theoretical Physics, University of California, Santa Barbara, USA, December 1997.
3. Invited Lecture at the workshop on Mathematics in Industry, co-sponsored by the Indian Institute of Science, Bangalore and the Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, January 1998.
4. Invited Lecture at the Fluid Dynamics Colloquium, Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, February 1999.
5. Invited Lecture at the Institute of Mathematical Sciences, Chennai, March 1999.
6. Invited Lecture at the Institut für Polymer, Swiss Federal Institute for Technology, Zürich, Switzerland, October 1999.
7. Invited Lecture at the Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom, October 1999.
8. Invited Lecture at the Department of Mathematics, University of Kaiserslautern, Germany, April 2000.
9. Invited Lecture at the Department of Chemical Engineering, Monash University, Australia, May 2000.
10. Invited Lecture at the Mathematics Colloquium, Department of Mathematics, Monash University, Australia, July 2001.
11. Invited Lecture at the Department of Mechanical and Mechatronic Engineering, University of Sydney, Australia, December 2001.
12. Invited to give the Engineering Deans Seminar, Monash University, Australia, August 2002.
13. Invited Lecture at the Department of Mathematics, University of Kaiserslautern, Germany, August 2002.
14. Invited Lecture at the Department of Chemical Engineering, University of Melbourne, Australia, October 2002.
15. Invited Lecture at the Applied Physics Department, Royal Melbourne Institute of Technology, Australia, July, 2003.
16. Invited to give a seminar at the Lunch Maths Seminar series, Department of Mathematics, Monash University, Australia, September, 2003.
17. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Madras, India, December 2003.
18. Invited Lecture at the Department of Physics, Indian Institute of Technology, Madras, India, December 2003.
19. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Science, Bangalore, India, December 2003.
20. Invited to give the Department seminar at the Department of Chemical Engineering, Rice University, USA, February, 2004.
21. Invited to give the Department seminar at the Department of Chemical Engineering, University of Washington, St Louis, USA, February 2004.

22. Invited Lecture to the Australian Society of Rheology as part of the 2005 Rheology Lecture Series, Melbourne, Australia, May 2005
23. Invited Lecture at the Centre for Molecular Simulation, Swinburne University of Technology, Melbourne, Australia, June 2005.
24. Invited Lecture at the Department of Chemical Engineering, University of Queensland, Australia, September 2005.
25. Invited Lecture at the Department of Applied Mathematics, Research School of Physical Sciences, Australian National University, Canberra, Australia, September 2005.
26. Invited speaker at the Department Colloquium in the Department of Chemical Engineering, Stanford University, USA, October 2005.
27. Invited Lecture at the Institute for Polymer Physics, Department of Materials, ETH Zürich, July 2006.
28. Invited Lecture at the Max Planck Institute for Polymer Research, Mainz, Germany, August 2006.
29. Invited speaker at the Department Colloquium in the Department of Chemical Engineering, Stanford University, USA, November 2006.
30. Invited to give the Department seminar at the Department of Chemical Engineering, MIT, USA, November 2006.
31. Invited Lecture at the Monash School of Mathematical Sciences, Colloquium, Monash University, Australia, April 2007.
32. Invited speaker at the Rheology Group Seminar in the Department of Chemical Engineering, Stanford University, USA, October 2007.
33. Invited Lecture at the Max Planck Institute for Polymer Research, Mainz, Germany, June 2008.
34. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Madras, India, January 2009.
35. Invited Lecture at the Department of Chemical Engineering, Rice University, USA, September, 2009.
36. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Mumbai, India, December 2009.
37. Invited Lecture at the Fluid Dynamics Colloquium, Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, December 2009.
38. Invited Lecture at the Fluid Dynamics Colloquium, Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, June 2011.
39. Invited Lecture at the Max Planck Institute for Polymer Research, Mainz, Germany, November 2012.
40. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Science, Bangalore, India, December 2012.
41. Invited speaker at the Complex Fluids and Polymer Engineering Group Seminar, National Chemical Laboratory, Pune, India, December 2012.
42. Invited Lecture at the Department of Chemical Engineering, University of Queensland, Australia, September 2013.
43. Invited lecture to the Robert K. Prud'homme group, Department of Chemical & Biological Engineering, Princeton University, October 2013.
44. Invited speaker in the Comp Chem Seminar at the Research School of Chemistry, ANU, Australia, February 2014.
45. Invited lecture to the Doyle/McKinley group, MIT, USA, February 2014.
46. Invited Lecture at the Department of Chemical Engineering, Rice University, USA, April, 2014.
47. Invited speaker in the Polymer Seminar at the Program in Polymer Science and Technology (PPST), MIT, USA, April 2014.

48. Invited Lecture at the Molecular Organisation and Assembly in Cells Doctoral Training Centre, University of Warwick, UK, June 2014.
49. Invited Lecture at the Molecular Organisation and Assembly in Cells Doctoral Training Centre, University of Warwick, UK, October 2014.
50. Invited Lecture at the Department of Chemical Engineering, Columbia University, USA, October, 2015.
51. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Mumbai, India, January 2015.
52. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Science, Bangalore, India, January 2015.
53. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Mumbai, India, February 2016.
54. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Delhi, India, February 2016.
55. Invited Lecture at the Department of Chemical Engineering, Indian Institute of Technology, Kanpur, India, February 2016.