Updated: 09/11/2023

Bamin Khomami, Ph.D.
Granger and Beaman Distinguished University Professor

Fellow, American Physical Society (APS)
Fellow, American Institute of Chemical Engineering (AIChE)
Fellow, American Association for Advancement of Science (AAAS)
Fellow, The Society of Rheology (SoR)

Professor of Chemical and Biomolecular Engineering
Professor of Mechanical, Aerospace, and Biomedical Engineering
University of Tennessee, Knoxville

CURRENT POSITIONS: Granger and Beaman Distinguished University Professor of Chemical and Biomolecular Engineering, University of Tennessee, Knoxville (appointed August 2006); Professor of Mechanical, Aerospace, and Biomedical Engineering University of Tennessee, Knoxville (appointed January 2011); Professor of Energy Science and Engineering, Bredesen Center for Interdisciplinary Research and Graduate Education, University of Tennessee, Knoxville (appointed August 2009-Present); Co-Founder and President, CELTIG Inc., Knoxville, TN (2015-Present); Co-Founder and CEO, International Graphene Inc., Columbia, SC (2020-Present).

DEPARTMANTAL, CENTER, AND COMPANY LEADERSHIP (Head, Chemical and Biomolecular Engineering 2006-2022)

- Developed a synergistic mixture of enthusiasm, passion, responsibility, and academic ideal within our program. This dynamic culture energized faculty, staff and students and it has enabled significant growth in the department's size, research portfolio, and productivity.
- Developed a new strategic plan that included: (1) new research cooperation groups, (2) new degree programs, (3) new departmental priorities, policies, and procedures to streamline operations, ensure equity, position resources, and facilitate innovative programs.
- Oversaw the largest growth period in the department's ninety-year history. Major changes since 2006 include: (1) doubling the size of the faculty (FTE) from 8.5 to 17 by hiring 16 new faculty including three Governor's chairs, two Assistant and one associate Professor from racial and ethnic minorities, first female endowed chair, and a Professor of Practice; (2) increasing the number of graduate students from 20 to 60 (98% Ph.D.); (3) increasing the number of undergraduate students from 95 to ~420; (4) an increase in faculty annual research expenditure from ~$140 to ~$400K.
- Efficient use of leadership team (Associate Department Head, Director of the Graduate Program, Director of Assessment and Accreditation, and Business Manager) to manage academic programs and staff.
- Balanced internal leadership activities (administration, vision, decision-making) with external leadership activities (department promotion, alumni relations, development).
- Actively nominate our faculty and students for internal, national, and international awards. Part of a broader effort to improve the image of the department.

- Founded the Sustainable Energy Education and Research Center. Developed its strategic and the business plan. To date, SEERC has attracted ~$35M of external funding.
- Co-Founder and CEO of CELTIG, LLC. CELTIG produces commercial quantities of high-quality graphene nanoplatelets/flakes marketed under the trade name Cicarbo™.
- Co-Founder and CEO of International Graphene, LLC. International Graphene produces commercial quantities of high-quality graphene nanoplatelets/flakes

ADMINISTRATION AND MANAGEMENT

- Responsible for operation of an academic department with a total current annual budget of ~$12.5M (research budget of $7.5M (2021)); Recognized as an efficient and visionary leader who has a broad view of Chemical and Biomolecular Engineering and vast knowledge of Chemical/Biomolecular/Biological, Mechanical, Biomedical and Material Science and Engineering departments worldwide.
- Approach all aspect of departmental administration with energy, enthusiasm, and efficiency. Created and maintained an open-door style of management and an informal but efficient office atmosphere.
- Regular meetings with faculty (2-3 per semester), staff (2 per semester), student leaders and organization (2 per semester), departmental leadership (once a month), and junior faculty (once a month).
- Annual Board of Advisor meetings.

EXTERNAL DEVELOPMENT

- Work closely with Director of Development and the UTK Foundation on strategic planning, gift solicitations, creation of endowments, fostering long-term relationships with potential donors, and stewardship.
- Quarterly update of document describing fundraising priorities and gift opportunities.
- Discuss departmental activities and plans at Tickle College of Engineering (TCE) alumni events as well as to potential donors, visiting alumni and industry (several per year).
- Actively promote accomplishments of our faculty and students through various electronic and printed media pieces (annual report, promotional video) as well as annual departmental award banquet.
- More than $15M in new gifts to the department since 2008.

EXAMPLES OF COMMITMENT TO DIVERSITY AND EXCELLENCE

- Hired the first African American and Native American Faculty in the history of the department.
- Appointed the first Associate Head in charge of diversity, equity, and inclusion at UTK.
- Eighty percent of new assistant professor hires during my tenure at UTK have received NSF-CAREER Awards. This a first in the history of the program (no CAREER or equivalent NSF awards prior to my arrival). In addition, one junior hire has received both the NSF-CAREER and DARPA-Young Investigator Award.

- Hired a prominent faculty (NSF-CAREER Awardee) to become the first female endowed chair in the history of the department.
- Hired a prominent faculty member to become the first female African American Faculty in the history of the department.
- Increased the percentage of female undergraduate and graduate students from 25% to 42% and from 3% to 20%, respectively.
- Increased the percentage of under representative minorities from 1 to 9%.
- Encouraged and participated in an NSF-funded program for underrepresented groups in S-STEM fields (undergraduate students). To date, a total over $1.2M has been committed to this program. The program is funded through 2021.
- Encouraged and participated in a funded (to date $1.1M) Department of Energy GAANN graduate student fellowships for underrepresented groups (women and minority) in CBE.
- Participate and co-manage the summer EASTMAN HITES (High School Introduction to Engineering Systems) for bringing students from underrepresented groups in S-STEM for seven days of training at UTK. The program now is in its 7th year, and it is slated to continue for the foreseeable future.
- Regularly participate in the UTK TLSAMPS (Tennessee Louis Stokes Alliance for Minority Participation).
- Facilitated by the Tennessee EPSCoR program, CBE has hosted undergraduate and graduate students as well as faculty during the summer from various HBCU partners. This program is in its tenth year and will continue for at least 5 more year.
- Encouraged and facilitated participation in the Girls raised in Tennessee (GRITS) and mentoring summer participants in the UTK Ronald McNair program for undergraduates from underrepresented groups.

SELECTED INITIATIVE

- Created policy and acquired resources to reduce teaching loads for untenured faculty as well as very research active faculty including three Governor's chairs. Developed strategies to ensure equitable workload across ranks within the department.
- Created and implemented a faculty mentoring and peer teaching evaluation program with both internal and external mentors/evaluators as well as industrial liaison(s) for all assistant and associate professors.
- Created and implemented an extraordinarily successful graduate and undergraduate student recruiting program. These programs have led to the highest student growth period in the eighty years history of the department.
- Created and charged two task forces for complete overhaul of our undergraduate and graduate curriculum including the creation of the biomolecular concentration.
- Created new development mechanism including cluster gifts, crowd funding to allow groups of alumni to pool their gift for initiatives including endowed fellowships, professorships, faculty fellows, and AIChE student chapter activities.

- Increased department's permanent endowment for graduate fellowships from $250K to more than $3.25M.
- Increased number of endowed faculty positions in the department from 0 to 3 (~$4.5M in endowment). This is in addition to the three Governor's chair positions that are each equivalent to ~$8M endowed chair positions.
- Secured $8M of internal and external funds (NSF, industry, and alumni) to renovate CBE instructional and research laboratories, faculty, and staff offices, as well as student communal areas.
- Identified emerging science and technology opportunities for CBE, TCE and the University.
- Interfaced with other University departments and relevant programs at the Oak Ridge National Laboratory (ORNL) to ensure that the CBE research enterprise is fully integrated and highly synergistic with other efforts on campus and at ORNL.
- Mentored new faculty in developing innovative externally funded research programs.
- Led or facilitated successful large, multi-investigator, interdisciplinary research endeavors including NSF IGERT, EPSCoR (Track I), and ARI grants.
- Formed a very distinguished and dynamic advisory board.
- Worked effectively with TCE leadership to fully address serious staff issues, including staff shortage and salary inequity (staff and faculty) problems.
- Successful full BET accreditations (2 cycles), as well as successful 5 and 10- year program reviews by Tennessee Higher Education Commission (THEC).
- Through the IGERT program, facilitated creation of the graduate certificate in sustainability science and technology
- Led the committee charged for curriculum development for the Energy Science and Engineering (ESE) PhD offered through the Bredesen Center (A joint venture between UTK and ORNL for interdisciplinary research and graduate education).
- Attracted 36 prominent faculty from 3 colleges and 8 departments to SEERC.
- Strategic investment of SEERC funding has resulted in external sponsored research and other support totaling over $40M (return on investment of ~10 fold).

EDUCATION

Ph.D. in Chemical Engineering, University of Illinois, Urbana, IL, 1987

M.S. in Chemical Engineering, University of Illinois, Urbana, IL, 1985

B.S. in Chemical Engineering, minor in Mathematics, Ohio State University, Columbus, OH, *Summa Cum Laude*, 1983

PROFESSIONAL EXPERIENCE

January 2021 to Present: Co-Founder and CEO of International Graphene Inc., Columbia, SC

May 2015 to Present: Co-Founder and President of CELTIG Inc., Knoxville, TN

January 2011 to present: Professor of Mechanical, Aerospace and Biomedical Engineering, University of Tennessee, Knoxville, TN

August 2009 to Present: Faculty, Bredesen Center for Interdisciplinary Research and Graduate Education, University of Tennessee, Knoxville, TN

January 2008 to July 2019: Founding Director of the University of Tennessee Sustainable Energy Education and Research Center (SEERC)

September 2006 to Present: Granger and Beaman Distinguished University Professor, Department of Chemical and Biomolecular Engineering, University of Tennessee, Knoxville, TN

September 2006 to July 2022: Granger and Beaman Distinguished University Professor and Head, Department of Chemical and Biomolecular Engineering, University of Tennessee, Knoxville, TN

1997 to September 2006: Francis F. Ahmann Professor and Director of Graduate Studies, Department of Chemical Engineering, Washington University, St. Louis, MO.

Summer 2003: Visiting Professor of Chemical Engineering and the Danish Polymer Centre, Technical University of Denmark, Copenhagen, Denmark.

Spring 2003: Visiting Professor of Fisica Fundamental, Universidad Nacional de Educación a Distancia (UNED), Madrid, Spain

Winter 2003: Visiting Professor of Chemical Engineering, Stanford University, Stanford, CA.

1995-1996: Visiting Professor of Chemical Engineering, Stanford University, Stanford, CA.

1992-1996: Associate Professor of Chemical Engineering, Washington University, St. Louis, MO.

1987-1992: Assistant Professor of Chemical Engineering, Washington University, St. Louis, MO.

1983-1987: University of Illinois Research Fellow, University of Illinois, Urbana, IL

RESEARCH INTERESTS

- **Structure, Dynamics and Rheology of Complex Fluids and Soft Matter**: Macromolecular Dynamics; Structure and Rheology of Complex Fluids; Self and Directed Assembly in Multi-component Block Polymers and Surfactants, Nano Particles and Membrane Proteins Surfactant Solutions; Viscoelastic Flows, Thermoplastic & Thermomechanical Flow Instabilities and Pattern Formation; Polymer- and Fiber-Induced Turbulent Friction Drag Reduction; Confined Systems; Microfluidics.
- **Multiscale Modeling and Simulation of Complex Systems:** Finite Elements, Spectral, and Finite Difference Methods; Brownian Dynamics; Dissipative Particle Dynamics; Self Consistent Field Theoretic Methods; Atomistic and Coarse-Grained Molecular Dynamics.
- **Processing Science of Micro-and-Nano-Structured Materials:** Hybrid and Biomimetic Materials for Sustainable Energy Applications; Polymeric Matrix Composites, Additive Manufacturing, Soft and Inorganic Photovoltaic Material; Non-Precious Metal Catalysts for energy application.
- **Nano and Micro-scale Interfacial Phenomenon:** Interfacial Transport in Nuclear Fuel Reprocessing; Driven Assembly of Membrane Proteins and Janus Particles at Interfaces; Membrane Protein Insertion in Bilayers and Vesicles.

- **Renewable Energy:** Functional material for renewable energy applications: Soft and bio-hybrid photovoltaics, Electrocatalysts, Energy storage (super capacitors and batteries).
- **Additive Manufacturing:** 3D printing of functional material: Printed Electronics, Energy Storage, Bio-Sensors.

TEACHING EXPERIENCE

- **Transport Phenomena**: Momentum, Heat and Mass Transport; Interfacial Transport.
- **Fluid Mechanics:** Low Reynolds Number Fluid Mechanics; Micro-Hydrodynamics; Experimental Fluid Mechanics; Non-Newtonian Fluid Mechanics; Turbulence.
- **Dynamics of Complex Fluids and Soft Matter:** Structure and Rheology of Complex Fluids, Polymer Physics; Statistical Mechanics of Macromolecules; Polymer Processing; Polymer Engineering and Science; Equilibrium Theory of Inhomogeneous Polymers.
- **Computational Methods:** Stochastic Simulation Techniques; Multiscale Computational Methods; Computational Fluid Dynamics.
- **Others:** Thermodynamics; Advanced Materials for Renewable Energy Applications; Synthesis and Design of Chemical Systems.

PROFFESIONAL RECOGNITIONS (Representative subset from recent years)

- Invited Speaker, "Direct numerical simulations of elastic turbulence in Taylor-Couette flow of dilute polymer solutions," USNCTAM, Austin, TX, June (2022)
- Invited Speaker, "Flow-Induced Crystallization of an Entangled Polyethylene Melt under Elongational Flows via Atomistic Simulation," Professor Tony McHugh's Farewell Symposium, Cyber Space, February (2021)
- Invited Speaker, New Phenomena in Elongational Flow of Entangled Polymeric Fluids: Configurational Microphase Separation and Beyond, " Professor Eric S. G. Shaqfeh' s 60th Birthday Symposium, Stanford, CA (2019)
- Elected fellow of the Society of Rheology (SoR): 2019
- Invited Speaker, Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges, APS March Meeting, Boston MA (2019)
- Keynote Speaker, Workshop- Scattering and Dynamics of Flowing Soft Matter, Lund, Sweden, December (2018)
- J. D. Lindsay Lecture Series at Texas A&M University, Department of Chemical Engineering: October (2018)
- Elected fellow of American Association of Advancement of Sciences (AAAS): 2017
- Distinguished Lecture Series Speaker at Syracuse University, Biomedical and Chemical Engineering: April (201).
- Invited Speaker, XVIIth International Congress on Rheology, Kyoto, Japan Aug. (2016)
- Invited Speaker, ICTAM, Montreal, Canada, Aug. 2016.
- Elected fellow of American Institute of Chemical Engineering (AIChE): 2015

- Invited Speaker, "XXXIV Dynamic Days Conference, Rice University, Houston, January (2015)
- Invited Speaker, Workshop on Complex Fluids and Flows in Industry and Nature, Pacific Institute for Mathematical Sciences, University of British Columbia, Vancouver, Canada, July (2013)
- Keynote Speaker, XVIth International Congress on Rheology, Lisbon, Portugal Aug. (2012)
- Invited Speaker, International Congress on Rheology, Lisbon, Portugal August (2012)
- Invited Speaker, Gordon Research Conference on Artificial Photosynthesis, Davidson, NC July (2012)
- Keynote Speaker, "International Workshop on Flow Instabilities and Turbulence in Viscoelastic Fluids," Lorentz Center, University of Leiden, Leiden, Netherlands, July (2010)
- Elected Fellow of American Physical Society (APS): 2009.
- Invited Speaker, Institute for Mathematics and Its Applications, Workshop on Flowing Complex Fluids: Fluid Mechanics-Interaction of Microstructure and Flow, University of Minnesota, Minneapolis, October (2009)
- Keynote Speaker, 5th Annual European Rheology Conference, Cardiff-Wales, April (2009)
- Plenary Speaker, Shanghai University Forum on Renewable Energy and Green Economy, Shanghai, China, October (2008)
- Invited Speaker, XVth International Congress on Rheology, Monterey, CA, USA, August (2008)
- Invited Speaker, Eastman Chemical Company, Kingsport, TN, Jan. (2007)
- Invited Speaker, 2007 MRS Fall meeting, Boston, MA, Nov. (2007)
- Outstanding Engineering Faculty, College of Engineering, University of Tennessee: 2007
- Invited Speaker, International Workshop on Mesoscale and Multiscale Description of Complex Fluids, Prato, Italy July (2006)
- Invited Speaker, ICAM Workshop on Multiscale Interactions and Dynamics in Complex Biological Systems, St. Louis, Missouri May (2006)
- Invited Speaker, ORNL/CNMS NanoFocUL Workshop, Oak Ridge, TN, August (2006)
- Plenary Speaker, European Conference on Reaction Engineering of Polyolefin, Lyon, France, June (2005)
- Plenary Speaker, 77th Annual meeting of the Society of Rheology, Vancouver, Canada (2005)
- Invited Speaker, Gordon Research Conference on CAE in Polymer Processing, Ventura, CA March (2005)
- Keynote Speaker, XIVth International Congress on Rheology, Seoul, South Korea Aug. (2004)

NOTABLE STUDENT AWARDS (Representative subset from recent years)

- Mariana Milano-Benitez, Placed 3rd, "Supercapacitor Electrodes Based on Reduced Graphene Oxide Composited with Manganese Metal Oxide," The **Exhibition of Undergraduate Research and Creative Achievement (EURēCA)** is an annual event highlighting research and creative activities *across all disciplines* by currently enrolled undergraduate students, May 2023.
- Mahshid Mokhtarnejad, placed 3rd in the AIChE Nanotechnology Graduate Student Award Session, Nov. 2022.
- Mahshid Mokhtarnejad, CBE 2021 Exceptional Progress Award for Outstanding Ph.D. Candidate.
- Dr. Srikanth Kommu, Distinguished Alumni Award 2021, Washington University, St. Louis, Missouri.
- Dr. Gregory Wilson, Distinguished Alumni Award 2020, Washington University, St. Louis, Missouri.
- Erik Ribeiro, CBE 2018 Exceptional Progress Award for Outstanding Ph.D. Candidate.
- Hanieh Niroomand, University of Tennessee Chancellor graduate student Extraordinary Professional Promise Award in Research: April 2017.
- Mohammad Hadi Nafar Sefiddashti, University of Tennessee Chancellor graduate student Extraordinary Professional Promise Award in Research: April 2017.
- Hadi Nafar Sefiddashti, CBE 2017 Jim and Sandra McKinley Outstanding Graduate Student Award.
- Mouge Mohagheghi, CBE 2016 Jim and Sandra McKinley Outstanding Graduate Student Award.
- Hanieh Niroomand was selected as the first PhD student to independently chair the AIChE Engineering Forum Division, Sustainable Energy from Renewable Resources Session in November of 2015, and 2016.
- Hanieh Niroomand placed 4th in the AIChE Bio Nanotechnology Graduate Student Award Session, Nov. 2016.
- Hanieh Niroomand won first place in the UTK campus wide 3-Minute Thesis Competition in 2016.
- Mahdy Malekzadeh, CBE 2013 Jim and Sandra McKinley Outstanding Graduate Student Award.
- Michael Neil Brown and Hanna Elizabeth Haines, 3rd Place Prize in the National Undergraduate Research Competition Held at Notre Dame University, NDconnect, 2013.
- Hanna Elizabeth Haines, University of Tennessee Chancellor Undergraduate Extraordinary Professional Promise Award: April 2013.
- Mark May, University of Tennessee Chancellor Undergraduate Extraordinary Professional Promise Award: April 2010.
- Arash Abedijaberi, CBE, 2009 Jim and Sandra McKinley Outstanding Graduate Student Award.

- Mukund Vasudevan, Graduate Student Poster Award (1st place), 79th Society of Rheology Annual Meeting, Salt Lake City, UT, Oct. 2007.
- Vidya Venkataramani, Graduate Student Poster Award (2nd place), 78th Society of Rheology Annual Meeting, Portland, Maine 2006.

SYNERGETIC ACTIVITIES (Representative subset)

- **Co-chair** (with Brad Fenwick, Vice Chancellor of Research and Engagement)**,** University of Tennessee-Knoxville, Engineering Dean Search Committee (2008-2009).
- **Member,** University of Tennessee-Knoxville, Scientific Advisory Committee (2007-2016).
- **Chair,** University of Tennessee-Knoxville, Governor's Chair Searches in the areas of Catalysis, Sustainable Energy, and Bioenergy (2006-2014).
- **Member,** University of Tennessee-Knoxville, Governor's Chair Searches in the Areas of Soft Matter and Computational Sciences (2010-2017).
- **Member of Executive Committee,** University of Tennessee-Knoxville, and Oak Ridge National Lab Joint Institute for Advanced Materials (JIAM; 2007-2014).
- **Member of Executive Committee,** University of Tennessee-Knoxville and Oak Ridge National Lab Center for Interdisciplinary Research and Education (Bredesen Center); Head of Energy Sciences and Engineering Curriculum Subcommittee (2009-Present). Leader of the Renewable Energy Research Thrust (2009-2015).
- **Member of Advising Committee,** University of Tennessee-Knoxville, Research Computing Technology (RC-TAC; 2010- 2017).
- **Member of Editorial Boards,** Journals of Rheology (2007-Present), Non-Newtonian Fluid Mechanics (2008-2020), and Applied Rheology (2007-Present), International Journal of Molecular Sciences (Editor-in-Chief-Macromolecules Section; 2019-Present), Polymers (2020-Present).
- **Member,** AIChE Fluid Dynamics Programming Committee (1999-2005; "Friend" of the committee 2005-Present).
- **Member (1999) and Chair (2000-2002),** Bingham Medal Committee of the Society of Rheology.
- **Member,** ACS Murphree Award in Industrial and Engineering Chemistry, Nomination Committee (2008).
- **Co-Editor** (with Eric Shaqfeh, Professor of Chemical Engineering at Stanford University) of the special issue of Journal of Non-Newtonian Fluid Mechanics devoted to the XIIth International Workshop on Numerical Methods for Non-Newtonian Flows (2001).
- **Co-Faculty Advisor** of AIChE student chapter at Washington University (1992-1997).
- **Co- Faculty Advisor** of the CHEM-E Car Competition team, University of Tennessee-Knoxville (2007 and 2008).
- **Co-Faculty Advisor** of AIChE student chapter at University of Tennessee-Knoxville (2007 and 2008).

- **Team Member:** Nuclear Engineering 10 Program review committee, University of Tennessee-Knoxville (2018).
- **Director,** local AIChE Chapter in Oak Ridge/Knoxville (2015-2020).
- **Team Member:** Second Master Research Agreement with the Eastman Chemical Company.
- **Member (2020-2021**), Financial Oversight Committee of the Society of Rheology
- **Symposium Organizer/ Session Chair:** Member of the Technical Program Committee, 66th (1994), 67th (1995), 68th (1996), 70th (1998), 75th (2003), 77th, (2005) and 86th (2014) Annual Meeting of the Society of Rheology (Chaired 21 Sessions, 1990-Present); Member of the organizing committee, IUTAM Conference on Rheology and Computation Sydney, Australia: Session Chair (1) (1997). Session Chair for the tenth International Workshop on Numerical Methods for Viscoelastic Flows, (1997) and IUTAM symposium on viscoelastic fluid mechanics: Effects of molecular modeling, Stanford, CA (1998); Session Chair for Non-Newtonian Fluid Mechanics, complex fluids, novel flows in annual meeting of American Institute of Chemical Engineering (1994, 1994, 1998, 2001, 2003); Session Chair at the International Workshop on Numerical Methods for Viscoelastic Flows (10th (1997); 11th (1999), 12th (2001),13th (2003),14th (2005), 15th (2007), 17th (2010), 18th (2017); Session moderator, Gordon conference on CAE in polymer processing (1999, 2001, 2005); Session Chair for Non-Newtonian Fluid Mechanics at APS-DFD (2009 and 2011); Co-organizer (with Eric Shaqfeh) of XIIth International Workshop on Numerical Methods for Non-Newtonian Flows (2001); Session organizer and chair for Multiscale Modeling and Simulations, XVth International Congress on Rheology (2008); Member of Scientific Committee of US National Theoretical and Applied Mechanics (USNCTAM, 2022).
- **Reviewer: Archival Journals and Funding Agencies :** Nature, Nature Material and Physics, Nature Communications, Scientific Reports, Science, Proceedings of the National Academy of Science, Proceedings of the Royal Society A, Physical Review Letters, Physical Review Fluids, Physical Review E, Journal of Material Chemistry A, Soft Matter, RSC Advances, Nanoscale Advances, Macromolecular Theory and Simulations, Material Chemistry Frontiers, Catalysis Science and Technology, Macromolecular Rapid Communications, Polymers, Polymer, Journal of Fluid Mechanics, Physics of Fluids, Journal of Non-Newtonian Fluid Mechanics, Journal of Rheology, Journal of Applied Rheology, Macromolecules, ACS Macro Letters, ACS Nano, ACS Nano Letters, Advanced Materials, Advanced Energy Materials, Material Letters, Journal of American Chemical Society (JACS), JACS-Letters, Rheologica Acta, Journal of Advanced Materials, Langmuir, Journal of Chemical Physics, Journal of Physical Chemistry, Journal of Colloids and Interfacial Science, Polymer Engineering and Science, Physical Chemistry Chemical Physics, Applied Catalysis, B, Solvent Extraction and Ion Exchange, Chemical Engineering Science, Current nano Sciences, AIChE Journal, International Journal of Numerical Methods in Engineering, Euro Physics Letters, Journal of Industrial and Engineering Chemistry, Journal of Computational Physics, International Journal of Multiphase Flow, Computers and Chemical Engineering, Journal of Engineering Mathematics, Material Research Bulletin, Journal of Theoretical and Computational Fluid Dynamics, International Polymer Processing BBA-Biomembranes. US National Science Foundation, Chinese National Foundation, Israel National Science Foundation, Swiss National Science Foundation, Finland National Science Foundation, and Qatar National Research Foundation.

- **Professional Societies:** Member of American Institute of Chemical Engineering, Society of Rheology, American Institute of physics, American Chemical Society, American Physical Society (Division of Fluid Dynamics and High Polymer Physics); American Society of Engineering Education; American Association for Advancement of Sciences.

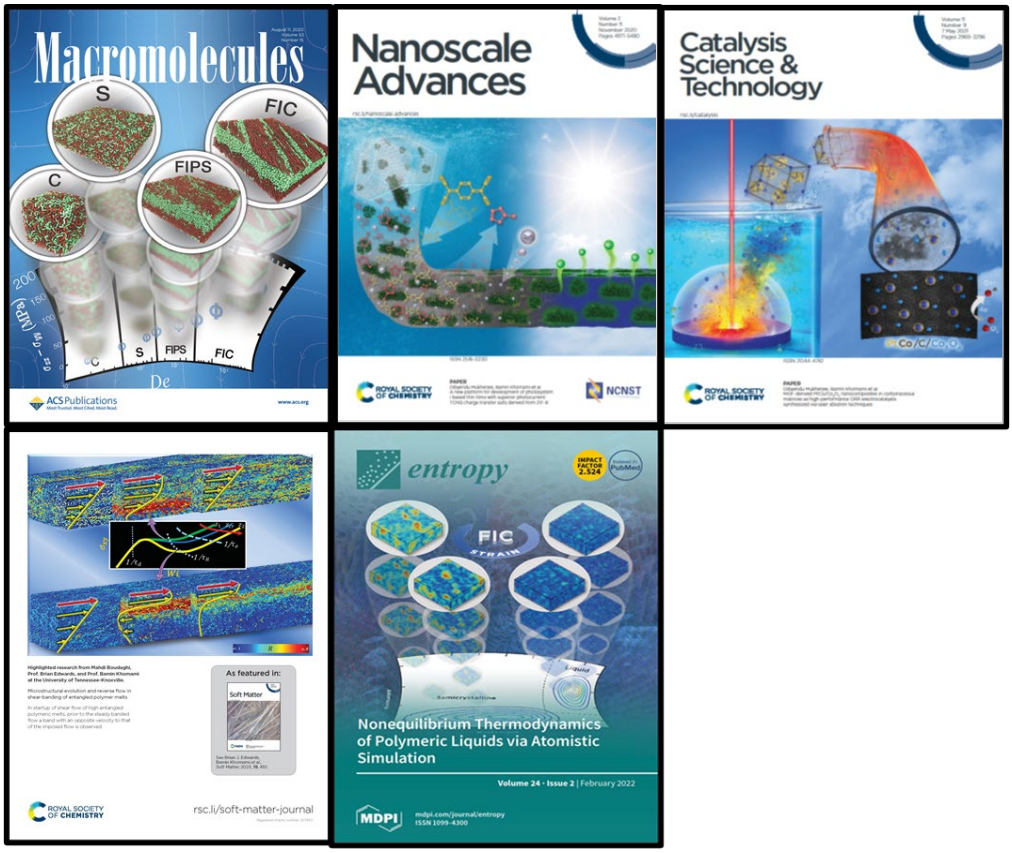
MENTORING/ADVISING:

- **Postdoctoral Scholars:** Current: **1**; Alumni: **14**
- **Research Professors/Associates: 0** ; Alumni: **3**
- **Doctoral:** Current: **3**; Alumni: **39**
- **Thesis Option Masters:** Current: **0**; Alumni: **9**
- **Undergraduate researchers:** Current: **1**; Alumni: **35**

CITATIONS: **Google Scholar (August 28, 2023)**

- **Citations: 6819 (2021:** (454); **2022:** (414); **2023:** 369 to date**)**
- **h-index: 47**
- **i10-index: 161**

COVER ARTICLES:



PUBLICATIONS

A) Peer Reviewed (~210; *: Corresponding Author)

1. B. Khomami and A. J. McHugh*, "Elongational Flow in a Two-Dimensional Channel Geometry," J. Appl. Polym. Sci., **33**, 1495 (1987). https://doi.org/10.1002/app.1987.070330506

2. A. J. McHugh*, M. E. Mackay, and B. Khomami, "Measurement of Birefringence by the Method of Isoclinics," J. Rheol., **31(80)**, 619 (1987). https://doi.org/10.1122/1.549939

3. B. Khomami and A. J. McHugh*, "Processing-Property Interactions in Poly (vinylidene fluoride). Part I. An Analysis of Melt Stress History in an Extensional Flow Geometry," J. Appl. Polym. Sci., **36**, 859 (1988). https://doi.org/10.1002/app.1988.070360410

4. B. Khomami and A. J. McHugh*, "Processing-Property Interactions in Poly (vinylidene fluoride). Part II. Morphology and Property Characterization of Extruded Films," J. Appl. Polym. Sci., **36**, 877 (1988). https://doi.org/10.1002/app.1988.070360411

5. A. J. McHugh* and B. Khomami, "Flow History-Morphology Development in Crystallizable Polymer Melts," Int. J. of Polym. Proc., **V4**, 252 (1990). https://doi.org/10.3139/217.900252

6. B. Khomami*, "Interfacial Stability and Deformation of Two Stratified Power Law Fluids in Plane Poiseuille Flow. Part I. Stability Analysis," J. Non-Newt. Fluid Mech., **36**, 289 (1990). https://doi.org/10.1016/0377-0257(90)85015-Q

7. B. Khomami*, "Interfacial Stability and Deformation of Two Stratified Power Law Fluids in Plane Poiseuille Flow: Part II. Interface Deformation," J. Non-Newt. Fluid Mech., **37**, 19 (1990). https://doi.org/10.1016/0377-0257(90)80002-H

8. B. Khomami* and C. A. Langton, "Processing-Property Interactions in Vinylidene Fluoride/Trifluoro-ethylene Random Copolymers," Polym. Eng. Sci., **31(11)**, 803 (1991). https://doi.org/10.1002/pen.760311107

9. Y. Y. Su and B. Khomami*, "Stability of Multilayer Power Law and Second-Order Fluids in Plane Poiseuille Flow," Chem. Eng. Communication, **109**, 209 (1992). https://doi.org/10.1080/00986449108910982

10. K. K. Talwar and B. Khomami* "Accuracy and Convergence of the p- and hp-type Finite Element Methods for the Navier-Stokes Equation," AIChE J., **38**, 83 (1992). https://doi.org/10.1002/aic.690380109

11. Y. Y. Su and B. Khomami*, "Interfacial Stability of Multilayer Viscoelastic Fluids in Slit and Converging Channel Die Geometries," J Rheol. **36(2)**, 357 (1992). https://doi.org/10.1122/1.550349

12. L. Skartsis*, J. L. Kardos and B. Khomami*, "Resin Flow through Fiber Beds During Composite Manufacturing Processes. Part I. Review of Newtonian Flow through Fiber Beds," Polym. Eng. Sci., **32(4),** 221 (1992). https://doi.org/10.1002/pen.760320402

13. L. Skartsis*, B. Khomami* and J. L. Kardos, "Resin Flow through Fiber Beds During Composite Manufacturing Processes. Part II. Numerical and Experimental Studies of Newtonian Flow Through Ideal and Actual Fiber Beds," *Polym. Eng. Sci.*, **32(4)**, 231 (1992). https://doi.org/10.1002/pen.760320403

14. L. Skartsis, B. Khomami* and J. L. Kardos, "Polymeric Flow through Fibrous Media," *J. Rheol.* **36(4),** 581 (1992). https://doi.org/10.1122/1.550365

15. Y. Y. Su and B. Khomami*, "Numerical Solution of Eigenvalue Problems Using Spectral Techniques," *J. Comput. Phys.* **100**, 297 (1992). https://doi.org/10.1016/0021-9991(92)90237-S

16. K. K. Talwar and B. Khomami*, "Application of Higher Order Finite Element Methods to Viscoelastic Flow in Porous Media," *J. Rheol.* **36**, 1377 (1992). https://doi.org/10.1122/1.550370

17. L. Skartsis*, B. Khomami and J. L. Kardos, "The Effect of Capillary Pressure on the Impregnation of Fibrous Media," *SAMPE J.*, **28(5)**, 19 (1992). https://www.academia.edu/2946732/The_effect_of_capillary_pressure_on_the_impregnation_of_fibrous_media

18. G. M. Wilson and B. Khomami*, "An Experimental Investigation of Interfacial Instability in the Multilayer Flow of Viscoelastic Fluids, Part I. Incompatible Polymer Systems," *J. Non-Newt. Fluid Mech.*, **41**, 355 (1992). https://doi.org/10.1122/1.550445

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B) Peer Reviewed Proceedings Papers (28; Abstracts that have appeared in conference proceedings. I stopped Keeping in 2016)).

1. L. Skartsis, J. L. Kardos and B. Khomami*, "Resin Permeation of Fiber Beds during Manufacturing of Composite Materials," *Proceedings, Comp'90, Third International Symposium,* University of Patras, Greece, Aug. (1990).

2. B. Khomami* and Y. Y. Su, "Numerical Solution of Eigenvalue Problems that Describes Stability of Multilayer Flows Using Spectral Techniques," B. Khomami and Y. Y. Su, *Proceedings of the Seventh Annual Meeting of the International Polymer Processing Society*, Hamilton, Ontario, April (1991).

3. K. K. Talwar and B. Khomami*, "An Experimental/Numerical Study of Viscoelastic Flow in Fibrous Media," *Proceedings of the Eighth Annual Meeting of the International Polymer Processing Society*, New Delhi, India, Mar. (1992).

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6. B. Khomami*, G. M. Wilson and Y. Y. Su "An Experimental/Theoretical Investigation of Interfacial Stability in Multilayer Coextrusion Processes," *Proceedings of the Eleventh Congress on Rheology, Brussels, Belgium, Aug. (1992).*

7. J. M. Kenny*, A. Trivisano, J. Kardos, and B. Khomami, "Mathematical modeling of the resin transfer molding of high-performance composites, *In International SAMPE Symposium and Exhibition*, **39**, 1263-1274 (2013).

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9. J.L. Kardos*, B. Khomami, P. Ramachandran, B. Yang and R. Shepard, "Affordable Processing of Composite Structures for the Civilian Infrastructure", Proceedings of the Fifth World Congress of Chemical Engineering, San Diego, CA, July (1996).

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11. H.K. Ganpule, M.M. Ranjbaran and B. Khomami*, "A Theoretical/Experimental Study of Interfacial Instabilities in Multi-Layer Flow of Viscoelastic Fluids", *Proceedings of the XII Congress on Rheology*, Quebec City, Canada, Aug. (1996).

12. W.R. Burghardt*, J.M. Li, B. Khomami and B. Yang, "Flow Birefringence Measurements and Numerical Simulations of Viscoelastic Flow in an Axisymetric Stagnation Geometry", *Proceedings of the XII Congress on Rheology*, Quebec City, Canada, Aug. (1996).

13. S. Kommu*, M. Al-Hayan, J.L. Kardos and B. Khomami, "Simulation and Sensor System for an Injected Pultrusion Process", *Proceedings of the 12th technical conference of the American Society for Composites*, Dearborn, Michigan, Oct. (1997).

14. S. Somasi*, B. Khomami, R. Lovett, "Simulation of Surface Diffusion of Silicon and Hydrogen on Single-Crystal Silicon Surfaces", in Proceedings of Electrochemical Society, Toronto, CA, May (2000).

15. U.A. Al- Mubaiyedh, R. Sureshkumar and B. Khomami*, "Nonlinear Stability Analysis of Non-Isothermal Viscoelastic Taylor-Couette Flow", *in Proceedings of XIIIth International Congress on Rheology*, Cambridge, U.K. Aug. (2000).

16. A. G. Lee, E. S. G. Shaqfeh and B. Khomami*, "An Experimental/Theoretical Study of Elastic Instabilities in Free Surface Displacement Flows", *in Proceedings of XIIIth International Congress on Rheology*, Cambridge, U.K. Aug. (2000).

17. M. Somasi and B. Khomami*, "Dynamics of Polymeric Fluids in Complex geometries: A Combined Brownian Dynamics – Finite Element Approach", *in Proceedings of XIIIth International Congress on Rheology*, Cambridge, U.K. Aug. (2000).

18. S. Somasi*, B. Khomami, R, Lovett, "An integrated Approach to Study Epitaxial Deposition of Silicon," MRS Proceedings (2001).

19. G. Bhatara, E.S. G. Shaqfeh and B. Khomami*, "A Computational Study of the Interfacial Dynamics of Free Surface Viscoleastic Fluid Flows," *in Proceedings of the XIVth International Congress on Rheology*, Seoul, South Korea, Aug. (2004).

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22. A. Abedijaberi, J. Soulages, H. C. Öttinger, Martin Kröger, and B. Khomami*, "Dynamics of Branched Polymer Melts in Complex Kinematics Flows: A Computational and Experimental Study," *in Proceedings of the XVth International Congress on Rheology*, Monterey, CA, USA, August (2008).

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24. M. Vasudevan*, E. Buse, H. Krishna, R. Kalyanaraman, A. Shen, B. Khomami, and R. Sureshkumar, "Reversible and Irreversible Flow-Induced Phase Transitions in Micellar Solutions," *in Proceedings of the XVth International Congress on Rheology*, Monterey, CA, USA, August (2008).

25. N. Liu and B. Khomami*, "Direct Numerical Simulation of Elastic Turbulence in Taylor-Couette Flow of Dilute Polymeric Solutions," *in Proceedings of the XVI International Congress on Rheology*, Lisbon, Portugal, August (2012).

26. A. Abedijaberi, and B. Khomami*, "Sedimentation of a Sphere in a Viscoleastic Fluid: A Multiscale Simulation Approach," *In Proceedings of XVI International Congress on Rheology*, Lisbon, Portugal, August (2012).

27. O. Dyck*, S. Hu, B. Khomami, and G. Duscher, "Electron energy-loss spectroscopic imaging for phase detection in organic photovoltaics," In Microscopy and Microanalysis, **20,** 538 (2014).

28. Mouge Mohagheghi and Bamin Khomami*, " Molecular Mechanism of Shear Banding in Entangled Polymer Melts," *In Proceedings of XVII International Congress on Rheology*, Kyoto, Japan, August (2016).

C) Book Chapters and Theses

1. "A Unified Approach to Modeling Transport of Heat, Mass and Momentum in Processing of Polymer Matrix Composite Materials," B. Khomami, Processing of Composites; Editors, **R.S. Dave, and A. Loos,** Hanser Publishers, Munich 158-180 (1999).

2. "Numerical and Experimental Analysis of Flow Kinematics in a Two-Dimensional Bifurcating Flow Geometry," B. Khomami, M.S. Thesis, Univ. of Illinois-Urbana, Aug. (1985).

3. "Flow History-Morphology-Property Interactions in Poly (Vinylidene Fluoride)," B. Khomami, Ph.D. Thesis, Univ. of Illinois-Urbana, Aug. (1987).

PRESENTATIONS

1. Invited, Keynote* and Plenary (~120; Speaker)**

1. "Processing-Structure Formation in Crystallizable Polymer Melts," B. Khomami, 196th National Meeting of the American Chemical Society, Los Angeles, CA, Aug. (1988).

2. "Interface Stability of Two Power Law Fluids in Plane Poiseuille Flow," Y. Y. Su and B. Khomami, AIChE Symposium, St. Louis, MO, April (1989).

3. "Processing-Morphology Development in Crystallizable Polymer Melts," B. Khomami, General Electric CR&D, Schenectady, NY, Sept. (1989).

4. "Higher Order Finite Element Methods for Viscoelastic Flow Simulation," B. Khomami and K. K. Talwar, Seventh International Workshop on Numerical Methods in Non-Newtonian Flow, Stuart, FL, Feb. (1992).

5. "Viscoelastic Flow in Porous Media," B. Khomami, Washington University, Department of Chemical Engineering, March (1992).

6. "Viscoelastic Flow in Porous Media," B. Khomami, University of Missouri, Department of Chemical Engineering, Rolla, April (1992).

7. "Higher Order Approximations in Viscoelastic Flow Simulations and its Applications to Flow in Porous Media," B. Khomami, Sharif University of Technology, Tehran, Iran, June (1992).

8. "Higher Order Finite Elements for Viscoelastic Flow Simulation," B. Khomami, Rheology Research Center, University of Wisconsin, Madison, Oct. (1992).

9. "Compression Molding of Thermoplastic Polymers," B. Khomami, SACMI Corporation, IMOLA, Italy, Oct. (1992).

10. "Higher Order Finite Elements for Viscoelastic Flow Computations," B. Khomami, Notre Dame University, Department of Chemical Engineering, Feb. (1993).

11. "Higher Order Finite Elements for Viscoelastic Flow Computations," B. Khomami, Illinois Institute of Technology, Department of Chemical Engineering, Feb. (1993).

*12.***"A Comparative Study of Higher and Lower Order Finite Element Techniques for Steady State Viscoelastic Flows," B. Khomami, Eighth International Workshop on Numerical Methods in Non-Newtonian Flows, Cape Cod, MA, Oct. (1993).

13. "Interfacial Instabilities in Multilayer Flow of Polymeric Fluids in Parallel and Converging Channel Geometries," B. Khomami, G. M. Wilson, and H. K. Ganpule, Eighth International Workshop on Numerical Methods in Non-Newtonian Flows, Cape Cod, MA, Oct. (1993).

14. "Interfacial Instabilities in Superposed Flow of Viscoelastic Liquids," B. Khomami, Stanford University, Department of Chemical Engineering, Feb. (1994).

15. "Interfacial Instability in Multilayer Flow of Viscoelastic Fluids," B. Khomami, University of Sydney, Sydney, Australia, July (1994).

16. "Recent Developments in Computation of Viscoelastic Flows," B. Khomami, University of Sydney, Sydney, Australia, July (1994).

17. "Stability of Superposed Viscoelastic Flows," B. Khomami, University of Melbourne, Melbourne, Australia, July (1994).

18. "State-of-the-Art in Computation of Viscoelastic Flows," B. Khomami, Mold Flow Pty Ltd., Melbourne, Australia, July (1994).

19. "Recent Developments in Computation of Viscoelastic Flows with Higher and Lower Order Finite Elements," B. Khomami, Stanford University, Department of Chemical Engineering, Feb. (1995).

20.* "Interfacial Instabilities in Superposed Flow of Viscoelastic Fluids," B. Khomami, 38th Meeting of the Society of Natural Philosophy, Blacksburg, VA, April (1995).

21."Stability of Multilayer Viscoelastic Flows," B. Khomami and H. K. Ganpule, Ninth International Workshop on Numerical Methods in Non-Newtonian Flows, Rossett, Wales, April (1995).

22."Application of Higher Order Finite Element Techniques to Computation of Viscoelastic Flows," B. Khomami, K. K. Talwar and B. Yang, Ninth International Workshop on Numerical Methods in Non-Newtonian Flows, Rossett, Wales, April (1995).

23. "Recent Developments in Computation of Viscoelastic Flows with Higher and Lower Finite Elements," B. Khomami, Supercomputer Institute, University of Minnesota, May (1995).

24. "Stability of Stratified Viscoelastic Flows," B. Khomami, University of Minnesota, Department of Chemical Engineering, May (1995).

25. "Interfacial Instabilities in Superposed Flow of Viscoelastic Liquids," B. Khomami, Fluid Mechanics Seminar Series, Stanford University, May (1995).

26. "Viscoelastic Flow Simulations with hp-Adaptive Finite Element Techniques," B Yang and B. Khomami, Xth International Workshop on Numerical Methods for Viscoelastic Flows, Ocean City, Maryland, May (1997).

27."Can Flow Birefringence Data in Complex Flow Be Used to Infer the Uniaxial Elongational Properties of Polymer Solutions," W.R. Burghardt, J.M. Li, B. Khomami and B. Yang, Xth International Workshop on Numerical Methods for Viscoelastic Flows, Ocean City, Maryland, May (1997).

28. "Stability of Multilayer Interfacial and Free Surface Flows of Viscoelastic Fluids," H. K. Ganpule, C. T. Huang, and B. Khomami, IUTAM Symposium on Computational Rheology, Sydney, Australia, July (1997).

29. "Modeling of Steady Viscoelastic Flows with hp-Adaptive Finite Element Techniques," B. Yang and B. Khomami, IUTAM Symposium on Computational Rheology, Sydney, Australia, July (1997).

30. "Viscoelastic Instabilities," B. Khomami, Department of Chemical Engineering, University of Wisconsin, Madison, April (1998).

31.* "Performance of Elementary Molecular Models in Complex Viscoelastic Flow," W. R. Burghardt, J. M. Li, B. Khomami, and B. Yang, IUTAM Symposium on Viscoelastic Fluid Mechanics: Effect of Molecular Modeling, Stanford, CA, June (1998).

32. "Modeling of Lagrangian Unsteady Viscoelastic Flows with Constitutive Equations Based on Molecular Models," B. Yang, M. Somasi, and B. Khomami, IUTAM Symposium on Viscoelastic Fluid Mechanics: Effect of Molecular Modeling, Stanford, CA, June (1998).

33. "Viscoelastic Instabilities," B. Khomami, Department of Chemical Engineering, Northwestern University, Chicago, Illinois, Oct. (1998).

34. "Viscoelastic Instabilities," B. Khomami, Department of Chemical Engineering, University of Delaware, Newark, DE, Feb. (1999).

35. "Prediction and Control of Interfacial Instabilities in Multilayer Flow of Viscoelastic Fluids," B. Khomami, DuPont Central Research and Development, Experimental Station, Wilmington, DE, March (1999).

36. "Simulation of Viscoelastic Flows: Progress and Profess," B. Khomami, Gordon Research Conference on CAE in Polymer Processing, Ventura, CA March (1999).

37. "Role of Fluid Elasticity and Dynamic Modulation on Stability of Unidirectional Free Surface and Interfacial Flows," B. Khomami, IUTAM Symposium on Nonlinear Waves in Multi-Phase Flows, South Bend, IN July (1999).

38. "Simulation of Viscoelastic Flows: Progress and Profess," B. Khomami, Technical University of Delft, Delft, Netherlands, Aug. (1999).

39. "Stability of Isothermal and Non-Isothermal Viscoelastic Flows in Complex Geometries using Time-Dependent Simulations," B. Khomami, B. Yang, U. Al-Mubaiyedh and R. Sureshkumar, Eleventh International Workshop on Numerical Methods for Viscoelastic Flows, Vaals, The Netherlands, Aug. (1999).

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41. "Simulation of Viscoelastic Flows: Progress and Profess," B. Khomami, Université catholique de Louvain, Louvain-la-Neuve, Belgium, Sept. (1999).

42. "Simulation of Viscoelastic Flows: Progress and Profess," B. Khomami, ETH, ERCOFTAC lecture series, Zurich, Switzerland, Sept. (1999).

43. "Interfacial Stability of Multilayer Viscoelastic Flows," B. Khomami, ETH, ERCOFTAC lecture series, Zurich, Switzerland, Sept. (1999).

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63. "Thermoelastic and Thermomechanical Instabilities in Curvilinear Flows," B. Khomami, Gordon Research Conference on CAE in Polymer Processing, Ventura, CA March (2005).

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66. "Modeling and simulation of dynamics of polymeric solutions: Progress and Challenges," B. Khomami, Department of Chemical Engineering, University of Tennessee-Knoxville, Feb. (2006).

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68. "Modeling and simulation of dynamics of polymeric solutions: Progress and Challenges," B. Khomami, Department of Chemical Engineering, Lehigh University, April (2006).

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70. "Dynamics of Dilute Macromolecular Solutions: Coarse graining Strategies and Multiscale Flow Simulation," Bamin Khomami, Vidya Venkataramani, Anantha Koppol, Radhakrishna Sureshkumar, International Workshop on Mesoscale and Multiscale Description of Complex Fluids, Prato, Italy, July (2006).

71. "Dynamics of Dilute Macromolecular Solutions: Coarse graining, Scission and Confinement," B. Khomami, ORNL/CNMS NanoFocUL Workshop, Oak Ridge, TN, August (2006).

72. "The Future of Department of Chemical Engineering at University of Tennessee-Knoxville," B. Khomami, ORNL, Oak Ridge, TN, October (2006).

73. "The computational Materials Program at University of Tennessee-Knoxville," B. Khomami, Eastman Chemical Company, Kingsport, TN, Jan. (2007).

74. "Sustainable Energy Education and Research Center (SEERC): University of Tennessee's Response to the Global Energy Challenge," B. Khomami, Knoxville Technical Society, Knoxville, TN, Sept. (2007).

75. "Effects of Relaxation on Plastic Flow and Temperature Rise of a Zr-based Bulk-Metallic Glass," P. K Liaw, W. Jiang, F. Liu, H. Liao, H. Choo, B. Edwards, and B. Khomami, 2007 MRS Fall meeting, Boston, MA, Nov. (2007).

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77. "Modeling and Simulation of Dynamics of Polymeric Solutions: Progress and Challenges," B. Khomami, Department of Chemical Engineering, Georgia Institute of Technology, August (2008).

78. "Sustainable Energy Education and Research Center (SEERC): University of Tennessee's Response to the Global Energy Challenge," B. Khomami, Shanghai University forum on renewable energy and green economy, Shanghai, China, October (2008).

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*81**. "Modeling and Simulation of Dynamics of Polymeric Solutions: Progress and Challenges," B. Khomami, 5th Annual European Rheology Conference, Cardiff-Wales, April (2009).

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84. "Nonlinear Pattern Formation and Coherent Structure Dynamics in Viscoelastic Flows," R. Sureshkumar, D.G. Thomas, B. Khomami, K. Kim, C. F. Li, S. Balachandar, R. J. Adrian, Institute for Mathematics and Its Applications, Workshop on Flowing Complex Fluids: Fluid Mechanics-Interaction of Microstructure and Flow, University of Minnesota, Minneapolis, October (2009).

85. "Maximum Drag Reduction Asymptote in Turbulent Channel Flow of Polymer Solutions," Chang-Feng Li, Radhakrishna Sureshkumar, and Bamin Khomami, International Workshop on Flow Instabilities and Turbulence in Viscoelastic Fluids, Lorentz Center, University of Leiden, Leiden, The Netherlands, July (2010).

86. "Rational Design of Bio-Hybrid Photovoltaic Materials," B. Khomami, Texas Tech University, Lubbock, TX, April (2011).

87. "Characterization of Surface Assembled Photosystem I (PS I): Towards Future Bio-Hybrid Photovoltaic Devices", Dibyendu Mukherjee and Bamin Khomami Gordon Research Conference, Davidson, NC, July (2012).

*88.** "Direct Numerical Simulation of Elastic Turbulence in Taylor-Couette Flow of Dilute Polymeric Solutions," N. Liu and B. Khomami, International Congress on Rheology, Lisbon, Portugal, August (2012).

89. "Sedimentation of a Sphere in a Viscoleastic Fluid: A Multiscale Simulation Approach," A. Abedijaberi, and B. Khomami, International Congress on Rheology, Lisbon, Portugal, August (2012).

90. "Influence of Polymer Additives on Turbulent Taylor-Couette Flows: Direct Numerical Simulations and Mechanistic Insight," Bamin Khomami, Workshop on Complex Fluids and Flows in Industry and Nature, Pacific Institute for Mathematical Sciences, University of British Columbia, Vancouver, Canada, July (2013).

91. "Modeling and Simulation of Dynamics of Polymeric Solutions: Progress and Challenges," B. Khomami, Department of Chemical and Biomolecular Engineering, University of Connecticut, September 2013.

92. "Shear Banding in Entangled Polymeric Melts: Atomistic Simulations and Mechanistic Insight," B. Khomami, Department of Chemical Engineering, University of Florida, Gainesville, September 2014.

93. "Photosystem I (PSI)-Proteoliposome Formation: A Study on Detergent Mediated Protein Reconstitution Mechanism," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, FL-AVS International Symposium and Exhibition, Orlando, FL, March (2015)

94. "Elastically Induced Flow Transitions in the Taylor-Couette Flow: From Purely Elastic Turbulence to Polymer Induced Drag Enhancement," B. Khomami, XXXIV Dynamic Days Conference, Rice University, Houston (2015).

95. "Shear Banding in Entangled Polymeric Melts: Simulations and Mechanistic Insight," B. Khomami, Department of Chemical Engineering, Tulane University, New Orleans, LA, September (2015).

96. "From Single Molecule Dynamics to Shear Banding: Journey toward a Knowledge Based Design and Manufacture of Polymer Based Products," B. Khomami, Syracuse University, Distinguished Lecture Series, Syracuse, NY, April 2016.

97. Mouge Mohagheghi and Bamin Khomami, " Molecular Mechanism of Shear Banding in Entangled Polymer Melts," XVII International Congress on Rheology, Kyoto, Japan, August (2016).

98. Amir Saadat and Bamin Khomami," Large Scale Brownian Dynamics Simulation of Dilute and Semi-Dilute Polymeric Solutions," ICTAM, Montreal, Canada (2016).

99. "From Single Molecule Dynamics to Shear Banding: Journey toward a Knowledge Based Design and Manufacture of Polymer Based Products," B. Khomami, Purdue University, West Lafayette, IN, Oct. (2016).

100. "The Quest for Top 25 Ranking: A Public Relations/Marketing Exercise?" B. Khomami, SE Department Head/Chair Annual meeting, Asheville, NC, June (2017).

101."Paving the Way for Mechanistic Understanding of Shear Banding in Entangled Polymeric Melts via Detailed Mesoscopic Simulations, " Mouge Mohagheghi and Bamin Khomami, 18th International Workshop on Numerical Methods for Non-Newtonian Flows, Vancouver, CA, June (2017).

102. "From Single Molecule Dynamics to Shear Banding: Journey toward a Knowledge Based Design and Manufacture of Polymer Based Products," B. Khomami, Stanford University, Stanford, CA, November (2017).

103. "A Coil-Stretch Transition in Planar Elongational Flow of an Entangled Polymeric Melt, H. Nafar, B. J. Edwards, and B. Khomami," Annual European Society of Rheology, Sorrento, Italy, April (2018).

104. "Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges," B. Khomami, Texas A&M University, College Station, TX, October (2018).

105. Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges, Bamin Khomami, Rice University, Houston, TX, October (2018).

106.* "Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges," Bamin Khomami, Workshop- Scattering and Dynamics of Flowing Soft Matter, Lund Sweden, December (2018).

107*. "Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges," Bamin Khomami, APS March Meeting, Boston MA (2019).

108. "Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges," Bamin Khomami, PNNL, Computing and Analytical Division (2019).

109. "Modeling and Simulation of Complex Fluids," Bamin Khomami, Corning Inc. Corporate Headquarters, Corning, NY (2019).

110. "New Phenomena in Elongational Flow of Entangled Polymeric Fluids: Configurational Microphase Separation and Beyond, " Bamin Khomami, Professor Eric S. G. Shaqfeh's 60th Birthday Symposium, Stanford, CA (2019).

111. "Flow-Induced Crystallization of an Entangled Polyethylene Melt under Elongational Flows via Atomistic Simulation," Bamin Khomami, Professor Tony McHugh's Farewell Symposium, Cyber Space, February (2021).

112*. "Nonequilibrium thermodynamics of polymeric liquids via atomistic simulation," B.J. Edwards, M.H. Nafar Sefiddashti, and B. Khomami, Joint European Thermodynamic Conference, Prague, Czech Republic, June 14-18 (2021). Presented Virtually.

113." The Oldroyd-B fluid in elastic instabilities, turbulence, and particle suspensions, Eric Shaqfeh and Bamin Khomami, JNNFM Lecture series, December 2021. Presented Virtually- Joint Presentation.

114. "A reverse transition route from inertial to elasticity-dominated turbulence in viscoelastic Taylor–Couette flow," Bamin Khomami, JNNFM Lecture series, December 2021. Presented Virtually.

115 ."Elongational Flow Induced Flow Phenomena: Three Easy Pieces, Departmental Seminar Series, University of South Florida, Tampa Bay, FL, February 2022.

116. "Direct numerical simulations of elastic turbulence in Taylor-Couette flow of dilute polymer solutions," Jiaxing Song, Nansheng Liu, and Bamin Khomami, USNCTAM, Austin, TX, June 2022.

117. "Atomistic Simulation of Flow-Enhanced Nucleation and Flow-Induced Crystallization Above the Melting Point of Entangled Polymer Melts and Solutions Under Elongational Flow."

Brian J. Edwards, Mohammad Hadi Nafar Sefiddashti, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

118."Atomistic simulation of microphase separation and flow-induced crystallization above the melting point of entangled polymers under elongational flow," Brian J. Edwards, Mohammad Hadi Nafar Sefiddashti, and Bamin Khomami, APS March Meeting, Los Vegas, NV (2023).

119." Elongational Flow Induced Phenomena in Entangled Polymers: Three Easy Pieces," Bamin Khomami, Rice University, Houston, TX, September (2023).

2. Contributed (~305)

1. "Isoclinic Band Spreading in Slit Flow," B. Khomami and A. J. McHugh, 58th Annual Meeting of Society of Rheology, Tulsa, OK, Oct. (1986).

2. "An Analysis of Flow in a Converging Channel Die Geometry," B. Khomami and A. J. McHugh, 59th Annual Meeting of Society of Rheology, Atlanta, GA, Oct. (1987).

3. "Processing-Induced Structure Formation in Poly (vinylidene fluoride)," B. Khomami and A. J. McHugh, 59th Annual Meeting of Society of Rheology, Atlanta, GA, Oct. (1987).

4. "The Stability of Two Stratified Power Law Liquids in Slit Flow," B. Khomami, 60th Annual Meeting of Society of Rheology, Gainesville, FL, Feb. (1989).

5. "Interface Deformation in Stratified Two-Phase Flow of Power Law Fluids," B. Khomami, 60th Annual Meeting of Society of Rheology, Gainesville, FL, Feb. (1989).

6. "Interface Stability and Deformation of Two Stratified Fluids in Plane Poiseuille Flow," B. Khomami, AIChE Spring National Meeting, Houston, TX, April (1989).

7. "Interfacial Stability of Multilayer Superposed Polymeric Fluids in Plane Poiseuille Flow," B. Khomami and Y. Y. Su, 62nd Annual Meeting of Society of Rheology, Santa Fe, NM, Oct. (1990).

8. "Processing-Property Interactions of Vinylidene Fluoride/Trifluoro-ethylene Copolymers," B. Khomami, 62nd Annual Meeting of Society of Rheology, Santa Fe, NM, Oct. (1990).

9. "Interfacial Stability of Multilayer Polymeric Fluids," Y. Y. Su and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1990).

10. "Convergence and Accuracy of the p-type Finite Element Method in Creeping Flow Problems," K. K. Talwar and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1990).

11."Newtonian and Non-Newtonian Flow Through Beds During Composite Manufacturing Processes," L. Skartsis, J. L. Kardos and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1990).

12. "Stability of Multiphase Flow of Viscoelastic Fluids in Parallel and Converging Channel Film Geometries," B. Khomami and Y. Y. Su, 63rd Annual Meeting of Society of Rheology, Rochester, NY, Oct. (1991).

13. "Viscoelastic FlowThrough Fiber Beds During Composite Manufacturing Processes," B. Khomami, L. Skartsis and J. L. Kardos, 63rd Annual Meeting of Society of Rheology, Rochester, NY, Oct. (1991).

14. "Simulation of Viscoelastic Fluid Flow Using an hp-Adaptive Finite Element Method," B. Khomami and K. K. Talwar, 63rd Annual Meeting of Society of Rheology, Rochester, NY, Oct. (1991).

15. "Interfacial Stability in the Multilayer Extrusion of Viscoelastic Fluids," B. Khomami and G. M. Wilson, AIChE Annual Meeting, Los Angeles, CA, Nov. (1991).

16. "Modeling of Viscoelastic Flow Through Fiber Beds During the Autoclave and Resin Transfer Molding Process," L. Skartsis, B. Khomami and J. L. Kardos, AIChE Annual Meeting, Los Angeles, CA, Nov. (1991).

17. "An hp-adaptive Finite Element Method for Viscoelastic Flow Simulation," B. Khomami and K. K. Talwar, AIChE Annual Meeting, Los Angeles, CA, Nov. (1991).

18. "Interfacial Instability in the Multilayer Extrusion of Viscoelastic Fluids," B. Khomami and G. M. Wilson, AIChE Annual Meeting, Miami, FL, Nov. (1992).

19. "A Comparative Study of Higher and Lower Order Finite Element Techniques for Computation of Viscoelastic Flows," B. Khomami, K. K. Talwar and H. Ganpule, 64th Annual Meeting of the Society of Rheology, Santa Barbara, CA, Feb. (1993).

20. "Multilayer Extrusion: Linear Stability and Bifurcations," B. Khomami and G. M. Wilson, 64th Annual Meeting of the Society of Rheology, Santa Barbara, CA, Feb. (1993).

21. "Mathematical Modeling of Resin Transfer Molding of High-Performance Composites," J. M. Kenny, A. Trivisano, J. L. Kardos and B. Khomami, 38th International SAMPE Symposium, Anaheim, CA, May (1993).

22. "A Numerical/Experimental Investigation of Viscoelastic Flow Past Arrays of Cylinders," B. Khomami and K. K. Talwar, 65th Annual Meeting of Society of Rheology, Boston, MA, Oct. (1993).

23. "Interfacial Instabilities in Superposed Flow of Viscoelastic Liquids in Parallel and Converging Channel Geometries," G. M. Wilson, H. K. Ganpule, and B. Khomami, 65th Annual Meeting of Society of Rheology, Boston, MA, Oct. (1993).

24. "Transient Shear Flow of Multimode Fluids," B. Khomami, A. Kollias and S. Prost-Domasky, AIChE Annual Meeting, St. Louis, MO, Nov. (1993).

25. "A Numerical/Experimental Study of Viscoelastic Flow in Arrays of Cylinders," B. Khomami, K. K. Talwar and H. K. Ganpule, AIChE Annual Meeting, St. Louis, MO, Nov. (1993).

26. "Superposed Flow of Immiscible Viscoelastic Liquids: Linear Stability and Bifurcations," B. Khomami and G. M. Wilson, AIChE Annual Meeting, St. Louis, MO, Nov. (1993).

27. "Hp Adaptive Finite Element Techniques for Computation of Viscoelastic Flows with Change of Type and Singularities," K. K. Talwar and B. Khomami, 66th Annual Meeting of the Society of Rheology, Philadelphia, PA, Oct. (1994).

28. "Start Up, Cessation and Large Amplitude Oscillatory Shear Flow of Multimode Viscoelastic Fluids," B. Khomami and S. Prost-Domasky, 66th Annual Meeting of the Society of Rheology, Philadelphia, PA, Oct. (1994).

29. "Interfacial Stability of Superposed Plane Poiseuille Flow of Viscoelastic Fluids: Combined Effect of Shear Rate Dependent Viscosity, First and Second Normal Stresses," B. Khomami and H. K. Ganpule, 66th Annual Meeting of the Society of Rheology, Philadelphia, PA, Oct. (1994).

30. "Numerical Simulation of Steady Viscoelastic Flows with Geometric Singularities," B. Khomami and K. K. Talwar, AIChE Annual Meeting, San Francisco, CA, Nov. (1994).

31. "A Theoretical/Experimental Study of Interfacial Instabilities in Superposed Flow of Viscoelastic Fluids," H. K. Ganpule and B. Khomami, AIChE Annual Meeting, San Francisco, CA, Nov. (1994).

32. "Modeling of Continuous Resin Transfer Molding Processes: Processing Issues and Numerical Simulation," J. L. Kardos, B. Yang and B. Khomami, AIChE Annual Meeting, San Francisco, CA, Nov. (1994).

33. "Domain Decomposition Spectral Techniques for Computation of Viscoelastic Flow Problems with Change of Type and Singularities," B. Khomami and K. K. Talwar, AIChE Annual Meeting, San Francisco, CA, Nov. (1994).

34. "Effect of Spectrum of Relaxation Times and Second Normal Stresses on the Stability of Superposed Pressure Driven Channel Flows," H. K. Ganpule and B. Khomami, 67th Annual Meeting of the Society of Rheology, Sacramento, CA, Oct. (1995).

35. "Interfacial Instabilities in 3-Layer Plane Poiseuille Flow of Viscoelastic Liquids," H. K. Ganpule, M. M. Ranjbaran and B. Khomami, 67th Annual Meeting of the Society of Rheology, Sacramento, CA, Oct. (1995).

36. "Numerical Modeling of Viscoelastic Flow Past Cylinders and Spheres," B. Khomami and B. Yang, 67th Annual Meeting of the Society of Rheology, Sacramento, CA, Oct. (1995).

37. "Modeling of Axisymmetric Contraction Flows with hp-adaptive Finite Element Techniques," B. Khomami and B. Yang, 67th Annual Meeting of the Society of Rheology, Sacramento, CA, Oct. (1995).

38. "Flow Birefringence and Numerical Simulation of a Shear Thinning Fluid in Axisymmetric Stagnation Flow," W. R. Burghardt, J. M. Li and B. Khomami, 67th Annual Meeting of the Society of Rheology, Sacramento, CA, Oct. (1995).

39. "A Theoretical/Experimental Study of Interfacial Instabilities in Multilayer Flow of Viscoelastic Fluids," H. Ganpule, M. Ranjbaran, and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1995).

40. "Effect of Fluid Elasticity on Flow Past Cylinders and Spheres," B. Khomami and B. Yang, AIChE Annual Meeting, Miami, FL, Nov. (1995).

41. "Flow Birefringence Measurements and Numerical Simulations of a Shear Thinning Fluid in Axisymmetric Stagnation Flow," J. M. Li, W. R. Burghardt, B. Yang and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1995).

42. "Effect of Second Normal Stresses and Spectrum of Relaxation Times on Stability of Two Component Stratified Flows," H. Ganpule, and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1995).

43. "The Effect of Interfacial Instabilities on the Strength of the Interface in Two Layer Plastic Structures," B. Khomami and M. Ranjbaran, AIChE Annual Meeting, Miami, FL, Nov. (1995).

44. "Higher-and-Lower-Order Finite Element Techniques for Viscoelastic Flows - A Comparative Study," B. Yang and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1996).

45. "Modeling the Effect of Fluid Viscoelasticity on Sedementation of Spheres and in Lid Driven Cavity Flows with Hp-Adaptive Finite Elements," B. Yang and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1996).

46. "On the Mechanism of Purely Elastic and Viscoelastic Instabilities in Multilayer Flow of Viscoelastic Fluids," H. Ganpule, M.M. Ranjbaran and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1996).

47. "Test of Viscoelastic Constitutive Equations in an Axisymmetic Stagnation Flow," W. Burghardt, J. Li, B. Khomami and B. Yang, AIChE Annual Meeting, Chicago, IL, Nov. (1996).

48. "Computer Simulation of Injected and Pultrusion Processes," S. Kommu, J. Kardos and B. Khomami, AIChE Annual Meeting, Chicago, IL, Nov. (1996).

49. "A 3-D Stability Analysis of Multilayer Flow of Viscoelastic Fluids: Effect of Second Normal Stresses," H.K. Ganpule and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

50. "Role of Fluid Elasticity on Stability of Multilayer Coating Flows," C.T. Huang and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

51. "Stability of Viscoelastic Flow Past Periodic Array of Cylinders," L. D. Moreno and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

52. "Viscoelastic Flow in Driven Lid Cavity and Contraction Flows," B. Yang and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

53. "Sedimentation of Single and Multiple Spheres in Viscoelastic Liquids," B. Yang and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

54. "The Rheology of Confined Polymer Solutions in Pressure Driven Flows: A Numerical Study," P.S. Doyle, E.S.G. Shaqfeh, H.K. Ganpule and B. Khomami, 68th Annual Meeting of the Society of Rheology, Galveston, Texas, Feb. (1997).

55. "Role of Fluid Elasticity on the Stability of Multilayer Interfacial and Free Surface Flows," C.T. Huang, H.K. Ganpule, and B. Khomami, 69th Annual Meeting of the Society of Rheology, Columbus, Ohio, Oct. (1997).

56. "An Experimental/Theoretical Investigation of Linear and Weakly Nonlinear Stability of Multilayer Channel Flows," H. K. Ganpule, K. C. Su, and B. Khomami, 69th Annual Meeting of the Society of Rheology, Columbus, Ohio, Oct. (1997).

57. "Computational Modeling of Viscoelastic Driven Lid Cavity Flows" A. M. Grillet, B. Yang, B. Khomami and E.S.G. Shaqfeh, 69th Annual Meeting of the Society of Rheology, Columbus, Ohio, Oct. (1997).

58. "Use of an Axisymmetric Stagnation Flow to Infer Elongational Properties of a Shear-Thinning Polymer Solution," W.R. Burghardt, J.M. Li, B. Yang and B. Khomami, AIChE Annual Meeting, Los Angeles, CA, Nov. (1997).

59. "3-D Flow and Pulling Force Modeling of Injected Pultrusion," I. Mustafa, B. Khomami and J. L. Kardos, AIChE Annual Meeting, Los Angeles, CA, Nov. (1997).

60. "Flow Birefringence and Computational Studies of a Polystyrene Boger Fluid in Axisymmetric Stagnation Flows," W. R. Burghardt, J. M. Li, B. Yang and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

61. "Role of Fluid Elasticity and Dynamic Modulation on Stability of Single and Multilayer Coating Flows," C. T. Huang and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

62. "Experimental Investigation of Viscoelastic Lid Driven Cavity Flows," A. M. Grillet, E. S. G. Shaqfeh and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

63. "Stability of Viscoelastic Taylor-Couette Flow: Influence of Relaxation Spectrum and Energetics" U. A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

64. "Stability Analysis of Complex Viscoelastic Flows Using Time Dependent Simulations" B. Yang and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

65. "Stability of Viscoelastic Flow Past Periodic Arrays of Cylinders," J. Piper, R. Sureshkumar and B. Khomami, 70th Annual Meeting of the Society of Rheology, Monterey, CA, Oct. (1998).

66. "A Flexible Approach to Modeling and Simulation of Fiber reinforced Composite Processing Using Object Oriented Techniques," S. Potaraju, B. Joseph, B. Khomami, and J. L. Kardos, AIChE Annual Meeting, Miami, FL, Nov. (1998).

67. "Characterization of Surface Diffusion and Adatom Hopping of Single Crystal Silicon Surfaces using "Density Functional" Inspired Molecular Dynamics Simulation," S. Goel, R. A. Lovett, and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

68. "Computational and Experimental Investigation of Lid Driven Cavity Flows," A. M. Grillet, E. S. G. Shaqfeh, and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

69. "Role of Fluid Elasticity and Dynamic Modulation on Stability of Channel Flows and Flows Down Inclined Planes," C. T. Huang and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

70. "Stability and Dynamics of Flow Through Periodic Arrays of Cylinders," J. L. Piper, R. Sureshkumar and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

71. "Analyzing the Stability of Viscoelastic Flows in Complex Geometries using Time Dependent Simulations," B. Yang and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

72. "Stability of Non-Isothermal Plane Couette and Taylor-Couette Flows," M. Somasi, U. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, AIChE Annual Meeting, Miami, FL, Nov. (1998).

73. "Stability of Non-Isothermal Viscoelastic Taylor-Couette Flow using Time-Dependent Simulations," U. A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, 71th Annual Meeting of the Society of Rheology, Madison, WI, Oct. (1999).

74. "Role of Fluid Elasticity and Dynamic Modulation on Stability of Unidirectional Free Surface Flows," C. T. Huang and B. Khomami, 71th Annual Meeting of the Society of Rheology, Madison, WI, Oct. (1999).

75. "Modeling Flows of Dilute Polymeric Solutions in Complex Flows with Dumbbell based Molecular Models," M. Somasi and B. Khomami, 71th Annual Meeting of the Society of Rheology, Madison, WI, Oct. (1999).

76. "Simulation of Flow of Dilute Polymeric Solutions Through a 4:1:4 Axisymmetric Contraction/Expansion Geometry Using Constitutive Equations Based on the elastic Dumbbell Model, B. Yang, and B. Khomami, 71th Annual Meeting of the Society of Rheology, Madison, WI, Oct. (1999).

77. "A Stochastic Simulation Approach to Study the Stability and Dynamics of Complex Viscoelastic Flows," M. Somasi and B. Khomami, 71th Annual Meeting of the Society of Rheology, Madison, WI, Oct. (1999).

78. "A Macroscopic and Stochastic Simulation Study of Flow of Dilute Polymeric Solutions in Complex Geometries," M. Somasi and B. Khomami, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

79. "Stability Analysis of Viscoelastic Flows in Complex Geometries using Stochastic Simulation Techniques," M. Somasi and B. Khomami, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

80. "The Effect of Dynamic Modulation on Stability of Unidirectional Free Surface and Interfacial Viscoelastic Flows," C. T. Huang and B. Khomami, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

81. "Modeling of Atmospheric Pressure Epitaxial Silicon Reactors," S. Kommu, B. Khomami and G. M. Wilson, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

82. "Application of Model Reduction for Real time Nonlinear Control of Injected Pultrusion Processes," S. Potaraju, B. Joseph, J. L. Kardos and B. Khomami, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

83. "Molecular Dynamics Simulation of Surface Diffusion of Silicon and Hydrogen on Single Crystal Silicon Surfaces with or without Hydrogen Coverage," S. Somasi, R. Lovett and B. Khomami, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

84. "Nonlinear Stability Analyses of Non-Isothermal Viscoelastic Taylor-Couette Flow," U. A. Al-Mubaiyedh, B. Khomami and R. Sureshkumar, AIChE Annual Meeting, Dallas, TX, Nov. (1999).

85. "An investigation of interfacial instabilities in superposed pressure - driven channel flow of Newtonian and Oldroyd-B fluids," M. A. Clarke, B. Khomami, Y. Renardy, and K. C. Su, SIAM Annual Meeting, Puerto Rico, July (2000).

86. "An investigation of interfacial instabilities in superposed pressure - driven channel flow of Newtonian and Oldroyd-B fluids," M. A. Clarke, B. Khomami, Y. Renardy, and K. C. Su, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

87. "The Influence of Energetics on the Stability of Viscoelastic Taylor-Couette and Dean Flows," U. A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

88. "A Combined Brownian Dynamics/Finite Element Technique/Krylov Subspace Method for Analyzing the Stability of Viscoelastic Flows," M. Somasi, P. Gigras, and B. Khomami, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

89. "Design and Optimization of Horizontal CVD Reactors," S. Kommu, G. M. Wilson, and B. Khomami, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

90. "Combined Brownian Dynamics/Finite Element Techniques for Simulation of Viscoelastic Flows," B. Khomami, and M. Somasi, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

91. "Silicon Epitaxy: A Molecular Dynamics Study," S. Somasi, R. Lovett and B. Khomami, AIChE Annual Meeting, Los Angeles, CA, Nov. (2000).

92. "Influence of Closures on the Eigen-Spectra of Elastic Dumbbell Based Models: A Multiscale Modeling Approach," M. Somasi and B. Khomami, 72th Annual Meeting of the Society of Rheology, Hilton Head, SC, Feb. (2001).

93. "Energetic Effects on the Stability and Dynamics of Viscous and Viscoelastic Taylor-Couette Flows," U. A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, 72th Annual Meeting of the Society of Rheology, Hilton Head, SC, Feb. (2001).

94. "An Integrated Molecular Dynamics and Monte Carlo Approach to Study Epitaxial Deposition on Silicon," S. Somasi, B. Khomami, and R. Lovett, Materials Research Symposium, Spring Meeting, San Francisco, CA, April (2001).

95. "A New Multiscale Approach for Complex Flow Simulation of Repatation Based Models with a Stochastic Strain Measure," P. G. Gigras and B. Khomami, XIIth International Workshop on Numerical Methods for Non-Newtonian Flows, Monterey, CA, July (2001).

96. "Comparison of Elastic Instabilities in 'Geometrically Similar' Peridic Flows," K. Arora, R. Sureshkumar, and B. Khomami, XIIth International Workshop on Numerical Methods for Non-Newtonian Flows, Monterey, CA, July (2001).

97. "New Brownian Dynamics Algorithms for Bead-Rod and Bead-Spring Chains," M. Somasi, B. Khomami, N. Woo, J. Hur, J. Butler, and E. S. G. Shaqfeh, XIIth International Workshop on Numerical Methods for Non-Newtonian Flows, Monterey, CA, July (2001).

98. "Viscoelastic Effects on Coating and Injection Flows: A combined Finite Element and Experimental Study," A. G. Lee, G. Bhatara, E.S.G. Shaqfeh and B. Khomami, XIIth International Workshop on Numerical Methods for Non-Newtonian Flows, Monterey, CA, July (2001).

99. "The free surface displacement and coating of a polymeric solution- A combined finite element and experimental study," A. G. Lee, E. S.G. Shaqfeh, and B. Khomami, 3rd Pacific Rim Conference on Rheology, Vancouver, CA, July (2001).

100. "A Discrete-Sectional Model for Particle Nucleation, Condensation, Coagulation and Transport in CVD Reactors", S. Kommu, B. Khomami, and P. Biswas, 20th Annual Conference of the American Association for Aerosol Research, Portland, Oregon, October (2001).

101."Influence of fiber additives on the stability of Taylor-Couette flow," V. Gupta, R. Sureshkumar, B. Khomami, and J Azaiez, 73rd Annual Meeting of The Society of Rheology Bethesda, Maryland, October (2001).

102. "Linear stability of homogeneous shear flow of linear and branched polymer melts," V. Ganesan and B. Khomami, 73rd Annual Meeting of The Society of Rheology Bethesda, Maryland, October (2001).

103. "Adaptive configuration fields for advanced reptation models," P. G. Gigras and B. Khomami, 73rd Annual Meeting of The Society of Rheology Bethesda, Maryland, October (2001)

104. "A Discrete-Sectional Model for Particle Dynamics in CVD Reactors," S. Kommu, B. Khomami, and P. Biswas, Annual meeting of AIChE, Reno, Nevada, November (2001).

105. "Linear Stability of Taylor-Couette Flow of Semi-Dilute Non-Brownian Fiber Suspensions," V. Gupta, R. Sureshkumar, B. Khomami, and J Azaiez, Annual meeting of AIChE, Reno, Nevada, November (2001).

106. "Simulation of Advanced Reptation Models using Adaptive Configuration Fields," P. G. Gigras and B. Khomami, Annual meeting of AIChE, Reno, Nevada, November (2001).

107. "Nonlinear Dynamics of Newtonian and Viscoelastic Taylor-Couette Flows in Presence of Viscous Heating," U. A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, , Annual meeting of AIChE, Reno, Nevada, November (2001).

108. "Viscoelastic effects on free surface displacement flows: a computational and experimental study," A. Lee, E.S.G. Shaqfeh, and B. Khomami, 54th Annual Meeting of the Division of Fluid Dynamics, of APS, San Diego, California, November (2001).

109. "Viscoelastic Properties of the porcine beta-heavy lens Crystallins using dynamic light scattering," A. Mitra, E. Remsen, P. Hamilton, N. Ravi, and B. Khomami, Annual Meeting of the association of research in vision and ophthalmology, Fort Lauderdale, FL, May (2002).

110. "Adaptive Configuration Field: A New Multiscale Simulation Technique for Reptation Based Models with A stochastic Strain Measure and Local Variation of Life Span Distribution," P. G. Gigras and B. Khomami, Third International Conference on the Dynamics of Polymeric Liquids, Capri, Italy, May (2002).

111. "Complex Flow Simulation of Reptation Based Models with a Stochastic Strain Measure and Local Variations of Life Span Distribution," P. G. Gigras and B. Khomami, 74th Annual meeting of the Society of Rheology, Minneapolis, Minnesota, Oct. (2002).

112. "Polymer Chain Dynamics in Drag Reducing Flows: A Multiscale Approach," V. K. Gupate, R. Sureshkumar, and B. Khomami, 74th Annual meeting of the Society of Rheology, Minneapolis, Minnesota, Oct. (2002).

113. "Viscous heating effects on the stability of Taylor-Couette and Dean flows," D.G. Thomas, R. Sureshkumar and B. Khomami, 55th Annual Meeting of the American Physical Society, Dallas, TX., Nov. (2002).

114. "Polymer chain dynamics in turbulent channel flow," V.K. Gupta, R. Sureshkumar and B. Khomami, 55th Annual Meeting of the American Physical Society, Dallas, TX., Nov. (2002).

115. "Multiscale Simulation of Polymer Chain Dynamics in Drag Reducing Flows," V.K. Gupta, R. Sureshkumar and B. Khomami, Annual AIChE Meeting, Indianapolis, IN, Nov. (2002)

116. "Transitions to Non-Axisymmetric and Time-Dependent States in Viscoelastic Taylor-Couette Flow," U.A. Al-Mubaiyedh, R. Sureshkumar and B. Khomami, Annual AIChE Meeting, Indianapolis, IN, Nov. (2002).

117. "The Mechanism of Polymer Induced Turbulent Drag Reduction," V. Gupta, C. Li, R. Sureshkumar and B. Khomami, 75th Annual meeting of the Society of Rheology, Pittsburgh, Pennsylvania, Oct. (2003).

118. "The Influence of Fluid Viscoelasticity on the Interfacial Dynamics of Air Displacing Fluid, Flows," G. Bhatara, E.S. G. Shaqfeh and B. Khomami, 75th Annual meeting of the Society of Rheology, Pittsburgh, Pennsylvania, Oct. (2003).

119. "Thermoelastic and Thermomechanical Instabilities," D. Thomas, R. Sureshkumar and B. Khomami, 75th Annual meeting of the Society of Rheology, Pittsburgh, Pennsylvania, Oct. (2003).

120. "Accurate Numerical Simulation with Essential Reduced-Order Microstructure Models," V. Venkataramani, R. Sureshkumar and B. Khomami, 75th Annual meeting of the Society of Rheology, Pittsburgh, Pennsylvania, Oct. (2003).

121. "The Mechanism of Polymer Induced Turbulent Drag Reduction," C. F. Li, V. K. Gupta, and B. Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2003).

122. "Thermo-mechanical Instabilities in Taylor-Dean Flows," D. G. Thomas, R. Sureshkumar and B. Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2003).

123. "A Study of Viscoelastic Free –Surface Flows Using the Finite Element Method- HELE Shaw Cell Flows," G. Bhatara, E. S. G. Shaqfeh and B. Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2003).

124. "Thermo-mechanical and Thermo-elastic Instabilities in Taylor-Couette and Dean Flows," D. G. Thomas, R. Sureshkumar and B. Khomami, 56th Annual Meeting of the American Physical Society, Meadowlands, NJ., Nov. (2003).

125. "Ejections and Bursts in Turbulent Channel Flow of Dilute Polymeric Solutions," C. F. Li, V. K. Gupta, R. Sureshkumar and B. Khomami, 56th Annual Meeting of the American Physical Society, Meadowlands, NJ., Nov. (2003).

126. "Computer Simulation of the Surface Free Energy of the (100) Surface of Si, of the Line Free Energies of Steps on this Surface, and of the Transition State Free Energies of Adatoms Hopping Across this Surface", R. Lovett, S. Somasi and B. Khomami, Annual APS meeting, Montreal, Canada, March (2004).

127. "Polymeric Induced Turbulent Drag Reduction: A Mechanistic Study," C-F Li, V. K. Gupta, R. Sureshkumar and B. Khomami, XIVth International Congress on Rheology, Seoul, South Korea, Aug. (2004).

128. "Thermoelastic and Thermo-Mechanical Instabilities in Curvilinear Flows: Influence of Inertia and Gap Temperature," D. G. Thomas, R. Sureshkumar and B. Khomami, XIVth International Congress on Rheology, Seoul, South Korea, Aug. (2004).

129. "Effect of elasticity on free surface displacement flows with and without gravity: A computational study," G. Bhatara, E.S. G. Shaqfeh and B. Khomami, Annual AIChE Meeting, Austin, TX, Nov. (2004).

130. "Viscoelastic Fluid Displacement Flows and Stability: Dilute solutions, Non-Dilute solutions and Melts," Gandharv Bhatara, Eric S.G. Shaqfeh and Bamin Khomami, 12th International Coating Science and Technology Symposium, Rochester, NY, Sept. (2004).

131. "Influence of Chain extensibility and Relaxation Spectrum on polymer Induced Drag Reduction in Channel flow: A Computational Study," C-F Li, F. Mei, R. Sureshkumar and B. Khomami, Annual AIChE Meeting, Austin, TX, Nov. (2004).

132. "Passive Scalar Transport in Polymer Drag Reduced Turbulent Channel Flows," V. Gupta, R. Sureshkumar and B. Khomami, 57th Annual Meeting of the American Physical Society, Seattle, WA, Nov. (2004).

133. "Reduced-order modeling of dynamics of polymeric solutions under flow: A configuration-based approach," V. Venkataramani, R. Sureshkumar and B. Khomami, 76th Annual Meeting of the Society of Rheology, Lubbock, TX, Feb. (2005).

134. "Nonlinear hydrodynamics of time-dependent viscoelastic Taylor-Couette flows of dilute polymer solutions," D. G. Thomas, R. Sureshkumar and B. Khomami, 76th Annual Meeting of the Society of Rheology, Lubbock, TX, Feb. (2005).

135. "Direct Numerical Simulation of 3-dimensional and Time-dependent Viscoelastic Taylor-Couette Flow in the Inertial Regime," D. G. Thomas, R. Sureshkumar and B. Khomami, XIVth

International Workshop on Numerical Methods for Viscoelastic Flows, Santa Fe, New Mexico June (2005).

136. "Direct Numerical Simulation of Polymer Induced Turbulent Drag Reduction: Comparison of Spectral and Compact Finite Difference Schemes," C. F. Li, R. Sureshkumar, B. Khomami, Y. Dubief, P. Moin and E.S.G. Shaqfeh, XIVth International Workshop on Numerical Methods for Viscoelastic Flows, Santa Fe, New Mexico June (2005).

137. "Simulation of polymer chain scission," H. G. Sim, R. Sureshkumar, and B. Khomami, 77th Annual meeting of the Society of Rheology, Vancouver, Canada, October (2005).

138. "Influence of solution rheology on the extent of polymer induced drag reduction in turbulent channel flow: A direct numerical simulation (DNS) study" C. F. Li, R. Sureshkumar, B. Khomami, 58th Annual Meeting of the American Physical Society, Chicago, IL, Nov. (2005).

139. "Flow-induced scission of macromolecules," H. G. Sim, R. Sureshkumar, and B. Khomami, 58th Annual Meeting of the American Physical Society, Chicago, IL, Nov. (2005).

140."Pattern formation in viscoelastic Taylor-Couette flow: Ribbons, oscillatory strips, disordered states and diwhirls," D. G. Thomas, R. Sureshkumar, and B. Khomami, 78th Annual meeting of the Society of Rheology, Portland, Maine, October (2006).

141. "Hi fidelity coarse-grained models for dynamics of dilute polymeric solutions," V. Venkataramani, R. Sureshkumar and B. Khomami, 78th Annual meeting of the Society of Rheology, Portland, Maine, October (2006).

142. "Effect of Counter-Ion Concentration on the Rheology of Shear-Thickening Surfactant Solutions," Mukund Vasudevan, Bamin Khomami, Amy Shen, Radhakrishna Sureshkumar, Annual AIChE Meeting, San Francisco, CA, Nov. (2006).

143. "Simulation of Gas-Liquid Homogeneous Nucleation: A Molecular Dynamics Study," Swapnil Dhumal, Ronald Lovett, Bamin Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2006).

144. "Spatio-Temporal Pattern Formation in Viscoelastic Taylor-Couette Flow: Dynamical Simulation and Mechanism," Dennis G. Thomas, Bamin Khomami, and Radhakrishna Sureshkumar, Annual AIChE Meeting, San Francisco, CA, Nov. (2006).

145. "Dynamics of Polymeric Solutions in Prototypical Processing Geometries: a Multiscale Simulation Approach," Anantha P. Koppol, Radhakrishna Sureshkumar, Bamin Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2006).

146. "An Efficient Algorithm for Multiscale Flow Simulation of Dilute Polymeric Solutions Using Bead-Spring Chains," Anantha P. Koppol, Radhakrishna Sureshkumar, Bamin Khomami, Annual AIChE Meeting, San Francisco, CA, Nov. (2006).

147. "Polymer Induced Drag Reduction: The Interplay between Vortex Dynamics and Drag Reduction," C. F. Li, R. Sureshkumar and B. Khomami, 59th meeting of the American Physical Society, Tampa Bay, FL, Nov. (2006).

148. "Modeling the Propagation of Shear Bands in Metallic Glasses," B. Edwards, B. Khomami, and P. Liaw, 136th annual meeting TMS, Orlando, FL, Feb. (2007).

149. "Frictional Drag Properties of Polymeric Solutions in Complex Kinematics Flows: A multiscale simulation approach," A. Koppol, R. Sureshkumar, and B. Khomami, 25th International Workshop on Numerical Methods for non-Newtonian Flows, Rhodes, Greece, June (2007).

150. "Dynamics of Single DNA Molecules in Oscillatory Shear Flow," D. G. Thomas and B. Khomami, 79th annual meeting of the Society of Rheology, Salt Lake City, Utah, October (2007).

151. "Frictional Drag Properties of Polymeric Solutions in Complex Kinematics Flows: A multiscale simulation approach," A. Koppol, R. Sureshkumar, and B. Khomami, 79th annual meeting of the Society of Rheology, Salt Lake City, Utah, October (2007).

152. "Modeling and Simulation of Solvent Extraction in Centrifugal Contactors," V. de Almeida, S. Cui, and B. Khomami, 15th Symposium on Separation Science and Technology for Energy Applications, Gatlinburg, TN, Oct. (2007).

153. "A Computationally Efficient Reduced-Order Model for Macromolecular Solutions," V. Venkataramani, R. Sureshkumar, and B. Khomami, Annual AIChE Meeting, Salt Lake City, Utah, Nov. (2007).

154. "High Throughput Synthesis of Visible-Light-Active Nanostructured Tiox Photocatalyst in a Flame Aerosol Reactor," S. Dhumal, T. Daulton, J. Jiang, P. Biswas, and B. Khomami, Annual AIChE Meeting, Salt Lake City, Utah, Nov. (2007).

155. "Elucidation of Molecular Processes in Liquid-Liquid Extraction of Metal Ions: A Molecular Dynamics Study," S. T. Cui, V. de Almedia, and B. Khomami, Annual AIChE Meeting, Salt Lake City, Utah, Nov. (2007).

156. "Tools for Modeling and Simulation of Solvent Extraction," V. de Almeida, S. Cui, and B. Khomami, Nuclear Science & Technology Division Advisory Committee Review, ORNL, Oak Ridge, TN, Nov. (2007).

157. "Surface Attachment Dynamics of Photosystem-I Self-Assembly on Thiol Functionalized Au Substrates for Photovoltaic Applications," D. Mukherjee, M. Vaughn, B. Khomami, and B. Bruce, 17th Western Photosynthesis Conference, Asilomar, California, Jan. (2008).

158. "Reversible and Irreversible Flow-Induced Phase Transition in Micellar Solutions," M. Vasudevan, E. Buse, R. Kalyanaraman, A. Shen, B. Khomami, and R. Sureshkumar, APS March meeting, New Orleans, LA, March (2008).

159. "Understanding the deposition dynamics of Photosystem I (PSI) onto thiol-activated Au substrates," D. Mukherjee, M. Vaughn, B. Khomami, and B. D. Bruce, International Scanning Probe Microscopy, Seattle, WA, June (2008).

160. "Single-chain dynamics of linear polyethylene liquids under shear," J. M. Kim, B. J. Edwards, B. Khomami, and D. J. Keffer, XVth International Congress on Rheology, Monterey, CA, USA, August (2008).

161. "Nonlinear pattern formation in viscoelastic Taylor-Couette flow," D. Thomas, B. Khomami, and R. Sureshkumar, XVth International Congress on Rheology, Monterey, CA, USA, August (2008).

162. "Ejections and bursts in a low drag reduction turbulent channel flow of dilute polymer solutions," C.F. Li, X.D. Feng, G.F. Wu, Z.G. Zhao, R. Sureshkumar, B. Khomami, 12th Asian Congress on Fluid Mechanics, Daejeon, Korea August (2008).

163. "A simple framework for the influence of polymer additives on all drag reduction regimes in a turbulent channel flow," Chang-Feng Li, Gui-Fen Wu, Xiao-Dong Feng, Zuo-Guang Zhao, Radhakrishna Sureshkumar, and Bamin Khomami, 12th Asian Congress on Fluid Mechanics, August 18-21, Daejeon, Korea August (2008).

164. "Molecular Dynamics Investigation of Molecular Processes in Liquid-Liquid Extraction of Metal Ions," Shengting Cui, Valmor de Almeida, and Bamin Khomami,18th International Solvent Extraction Conference, Tucson, AZ, (2008).

165. "Dynamics of Individual Chains in Linear Polyethylene Liquids under Shear," Jun Mo Kim, David Keffer, Bamin Khomami, and Brian Edwards, Annual AIChE Meeting, Philadelphia, PA, Nov. (2008).

166. "Brownian Dynamics Simulation of Dilute Wormlike Micelle Solutions," Vidya Venkataramani, Shiboo Bhatnagar, Bamin Khomami, and R. Sureshkumar, Annual AIChE Meeting, Philadelphia, PA, Nov. (2008).

167. "Reversible and Permanent Flow-Induced Phase Transitions in Rodlike Micelle Solutions," M. Vasudevan, Eric Buse, H. Krishna, R. Kalyanaraman, Bamin Khomami, Amy Shen, and R. Sureshkumar, Annual AIChE Meeting, Philadelphia, PA, Nov. (2008).

168. "Hi Fidelity Multiscale Flow Simulation of Sedimentation of a Sphere in Dilute Polymeric Solutions," Arash Abedijaberi and Bamin Khomami, Annual AIChE Meeting, Philadelphia, PA, Nov. (2008).

169. "Hi Fidelity Multiscale Flow Simulation of Sedimentation of a Sphere in Dilute Polymeric Solutions," Arash Abedijaberi and Bamin Khomami, 61st Annual Meeting of the APS Division of Fluid Dynamics, San Antonio, TX, Nov. (2008).

170. "On the Limitations of Elastic Dumbbell based Constitutive Equations in Simulation of Flow of Dilute Polymeric Solutions with Stagnation Points," Arash Abedijaberi and Bamin Khomami, 81th annual meeting of the Society of Rheology, Madison, WI, Oct. (2009).

171. "Effect of Surface Attachment Characteristics on Photoactivity of Photosystem I Assembly on Thiol-Activated Au Substrates," Dibyendu Mukherjee, Michael Vaughn, Barry D. Bruce, Bamin Khomami, Annual AIChE Meeting, Nashville, TN, Nov. (2009).

172. "Impact of Fractal-Like Morphology on Surface Oxidation of Nanoparticles Synthesized Via Aerosol Route: A Kinetic Monte Carlo Study," Dibyendu Mukherjee, Matthew Wang, Bamin Khomami, Annual AIChE Meeting, Nashville, TN, Nov. (2009).

173. "Atomistic Simulation of Uranyl Ion Extraction by a TBP/Dodecane Solution," Xianggui Ye, Shengting Cui, Valmor de Almeida, Bamin Khomami, Annual AIChE Meeting, Nashville, TN, Nov. (2009).

174. "Mechanistic Dynamics of Single Chains in Dense Liquids Under Shear Flow," Jun Mo Kim, Brian Edwards, David Keffer, Bamin Khomami, Annual AIChE Meeting, Nashville, TN, Nov. (2009).

175. "Irreversible Flow-Induced Structure Transition in Rodlike Micelle Solutions," M. Vasudevan, E. Buse, D. Lu, A. Shen, B. Khomami, and R. Sureshkumar, APS March Meeting Portland, Oregon (2010).

176. "Multiscale simulations of chain dynamics in polymeric liquids undergoing shear," Jun Kim, Brian Edwards, and Bamin Khomami, APS March Meeting Portland, Oregon (2010).

177. "Fabrication of Complex Three-Dimensional Nanostructures from Self-Assembling Block Copolymer Materials on Patterned Surfaces: A computational Study," Xianggui Ye, Brian J. Edwards, and Bamin Khomami, APS March Meeting Portland, Oregon (2010).

178. "Attachment dynamics of Photosystem I on nano-tailored surfaces for photovoltaic applications," Dibyendu Mukherjee, Barry D. Bruce, and Bamin Khomami, APS March Meeting Portland, Oregon (2010).

179. "Continuum and Multi-scale Simulation of Mixed Kinematics Polymeric Flows with Stagnation Points: Closure Approximation and the High Weissenberg Number Problem" Arash Abedijaberi and Bamin Khomami, 16th International Workshop on Numerical Methods for non-Newtonian Flows, Northampton, MA, June (2010).

180. "A mean-field anisotropic diffusion model for unentangled polymeric liquids and semi-dilute solutions" J.M. Kim, P.S. Stephanou, B.J. Edwards, and B. Khomami, 16th International Workshop on Numerical Methods for non-Newtonian Flows, Northampton, MA, June (2010).

181. "Irreversible Flow-Induced Structure Transition in Rodlike Micelle Solutions" M. Vasudevan, E. Buse, D. Lu, A.Q. Shen, B. Khomami, and R. Sureshkumar, 16th International Workshop on Numerical Methods for non-Newtonian Flows, Northampton, MA, June (2010).

182. "Irreversible Flow-Induced Structure Transition in Rodlike Micelle Solutions" M. Vasudevan, E. Buse, D. Lu, A.Q. Shen, B. Khomami, and R. Sureshkumar, International Workshop on Flow Instabilities and Turbulence in Viscoelastic Fluids, Lorentz Center, University of Leiden, Leiden, The Netherlands, July (2010).

183. "Impact of particle morphology on surface oxidation of Al nanoparticles synthesized via aerosol route: A kinetic Monte Carlo study," Dibyendu Mukherjee, Matthew Wang, and Bamin Khomami, AAAR annual conference, Portland, Oregon, October (2010).

184. "A mean-field anisotropic diffusion model for unentangled polymeric liquids and semi-dilute solutions," Jun M. Kim, Pavlos Stephanou, Brian J. Edwards, and Bamin Khomami, 82nd Annual Meeting of the Society of Rheology, Santa Fe, New Mexico, October (2010).

185. "Irreversible flow-induced structure transitions in cylindrical micelle solutions," Radhakrishna Sureshkumar, Mukund Vasudevan, Eric Buse, Donglai Lu, Amy Shen, and Bamin Khomami, 82nd Annual Meeting of the Society of Rheology, Santa Fe, New Mexico, October (2010).

186. "A computational study of the influence of viscoelasticity on the interfacial dynamics of dip coating flows," Arash Abedijaberi, Eric S. Shaqfeh, and Bamin Khomami, 82nd Annual Meeting of the Society of Rheology, Santa Fe, New Mexico, October (2010).

187. "Uranyl Nitrate Complex Migration Into TBP/Dodecane Organic Solution: A Molecular Dynamics Study," Xianggui Ye, Shengting Cui, Valmor de Almeida, Benjamin P. Hay and Bamin Khomami, AIChE Annual Meeting, Salt Lake City, Utah, November (2010).

188. "Irreversible Flow-Induced Structure Transition in Cylindrical Micelle Solutions," M. Vasudevan, E. Buse, D. Lu, B. Khomami, A.Q. Shen, and R. Sureshkumar, AIChE Annual Meeting, Salt Lake City, Utah, November (2010).

189. "A Computational Study of the Influence of Viscoelasticity On the Interfacial Dynamics of Dip Coating Flows," Arash Abedijaberi, Eric S. G. Shaqfeh, and Bamin Khomami, AIChE Annual Meeting, Salt Lake City, Utah, November (2010).

190. "Elucidating the Formation of Block Copolymer Nanostructures on Patterned Surfaces: A Self-Consistent Field Theory Study," Xianggui Ye, Brian J. Edwards and Bamin Khomami, AIChE Annual Meeting, Salt Lake City, Utah, November (2010).

191. "Systematic Assembly of Photosystem I On Thiol Activated SAM/Au Substrates for Future Bio-Hybrid Photovoltaic Devices," Dibyendu Mukherjee, Barry D. Bruce, and B. Khomami, AIChE Annual Meeting, Salt Lake City, Utah, November (2010).

192. "Maximum Drag Reduction Asymptote in Turbulent Channel Flow of Polymer Solutions," Chang-Feng Li, Radhakrishna Sureshkumar, and Bamin Khomami, 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, CA, Nov. (2010).

193. "Simulation Wall-Bounded Turbulent Flows with Linear Effective Viscosity Models: Drag Reduction and New Mechanistic Insight," R. Wang, C-F. Li, Y.-C. Pan, and B. Khomami, 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, CA, Nov. (2010).

194. "Rational design of block copolymer morphologies via control of the film thickness and substrate patterning: A self-consistent field study," Xianggui Ye, Brian J. Edwards, and Bamin Khomami, APS March Meeting Dallas, Texas (2011).

195. "Photosystem I assembly on chemically tailored SAM/ Au substrates for bio-hybrid device fabrication," Dibyendu Mukherjee and Bamin Khomami, APS March Meeting Dallas, Texas (2011).

196. "Novel structure formation of dipolar Janus particles (JP) in electrolytes: A molecular dynamic (MD) simulation study," Mahdy Malekzadeh and Bamin Khomami, APS March Meeting Dallas, Texas (2011).

197. "Directing morphology development in Triblock copolymers: A Self-Consistent Field Theory Study," Mouge Mohagheghi and Bamin Khomami, APS March Meeting Dallas, Texas (2011).

198. "Systematic Assembly of Photosystem I on Chemically Tailored SAM/ Au Substrates for Future Bio-hybrid Device Fabrication," Dibyendu Mukherjee and Bamin Khomami, MRS Spring Meeting, San Francisco, CA (2011).

199. "Influence of excluded volume interactions on the force-extension behavior of flexible macromolecules: A Brownian dynamics simulation study," Mahdy Malekzadeh and Bamin Khomami, 83rd Annual Meeting of the Society of Rheology, Cleveland, Ohio, October (2011).

200. "Plunging of Solid Surfaces into the Viscoelastic Fluid: An Experimental/Numerical Study," Arash Abedijaberi, Eric Shaqfeh, and Bamin Khomami, AIChE Annual Meeting, Minneapolis, Minnesota, October (2011).

201. "Hierarchical Assemblies and Cluster Growth Regimes of Bipolar Janus Nanoparticles: Effect of Particle Characteristics," Mahdy Malekzadeh and Bamin Khomami, AIChE Annual Meeting, Minneapolis, Minnesota, October (2011).

202. "Atomistic Simulation of Water Extraction by TBP/Dodecane," Xianggui Ye, Shengting Cui, Valmor de Almeida, and Bamin Khomami, AIChE Annual Meeting, Minneapolis, MN, October (2011).

203. "Elastic turbulence in Taylor-Couette Flow of Dilute Polymeric Solutions: A Direct Numerical Simulation Study," Nansheng Liu and Bamin Khomami, 64th Annual Meeting of the APS Division of Fluid Dynamics, Baltimore, MD, Nov. (2011).

204. "Morphology of ABC linear triblock polymer melts: self-consistent-field theoretic simulation approach," Mouge Mohagheghi and Bamin Khomami, APS March Meeting Boston, MA (2012).

205. "Tailoring block copolymer morphology via control of topographical surface: A self-consistent field theoretic study," Xianggui Ye, Brian J. Edwards, and Bamin Khomami, APS March Meeting Boston, MA (2012).

206. "Hierarchical assemblies and cluster growth regimes of bipolar Janus nanoparticles: effect of particle characteristics," Mahdy Malekzadeh Moghani and Bamin Khomami, APS March Meeting Boston, MA (2012).

207. "Electrochemical Investigation into the Photoactivated Electronic Activities of Photosystem I (PS I) Immobilized on Self-assembled Monolayer/Gold Substrates," Dibyendu Mukherjee, Ilia Ivanov, and Bamin Khomami, MRS Spring Meeting, San Francisco, CA (2012).

208. "Elastic turbulence in Taylor-Couette Flow of Dilute Polymeric Solutions: A Direct Numerical Simulation Study," Nansheng Liu and B. Khomami, 17th International Workshop on Numerical Methods for non-Newtonian Flows, Blois, France, March (2012).

209. "Sedimentation of a Sphere in a Viscoleastic Fluid: A Multiscale Simulation Approach," A. Abedijaberi and B. Khomami, 17th International Workshop on Numerical Methods for non-Newtonian Flows, Blois, France, March (2012).

210. "Impact of Solvent Annealing on P3HT/PCBM Solar Cells: Role of P3HT and PCBM Solubility," S. Hu, H. Chen, B. Khomami, and M. Dadmun, World Polymer Congress, Blacksburg, VA, June (2012).

211. "Molecular Dynamics Simulation of Interfacial Water Extraction by TBP/n-Dodecane," Xianggui Ye, Shengting Cui, Valmor F. de Almeida and Bamin Khomami, AIChE Annual Meeting, Pittsburgh, PA, October (2012).

212. "Morphological Characterization of Self-Assembled ABC Triblock Terpolymer Thin Films," Mouge Mohagheghi and Bamin Khomami, AIChE Annual Meeting, Pittsburgh, PA, October (2012).

213. "Directed Assembly of Block Copolymers on Topographical Complex Surfaces: A Self-Consistent Field Theoretic Study," Xianggui Ye, and Bamin Khomami, APS March Meeting, Baltimore, MD (2013).

214. "Atomistic simulation of dynamics of individual molecules in entangled polymers undergoing homogenous shear flow," Hadi Nafar, Brian J. Edwards, and Bamin Khomami, 85th Annual Meeting of the Society of Rheology, Montreal, Canada, October (2013).

215. "Polymer induced breakdown of large-scale Taylor vortex structures and the resulting drag enhancement in turbulent Taylor-Couette flows: Direct numerical simulations and mechanistic insight," Nansheng Liu and Bamin Khomami, 85th Annual Meeting of the Society of Rheology, Montreal, Canada, October (2013).

216. "Composition Dependency of the Flory-Huggins χ Parameter in Isotopic Polymer Blends," Travis Russell, Brian Edwards and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2013).

217. "Hi-Fidelity Dissipative Particle Dynamics (DPD) Simulation of Shear Banding in Entangled Polymer Melts," Mouge Mohagheghi, and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2013).

218. "Atomistic Simulation of Dynamics of Individual Molecules in Entangled Polymers Undergoing Homogenous Shear Flow," Hadi Nafar, Brian Edwards and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2013).

219. "Charge Transfer to Photosystem I Through Hydroxyl-Terminated Alkanethiol SAM Length Modification," Tyler Bennett, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2013).

220. "Morphological and in Vitro Functional Investigation of Phospholipid-Membrane Associated Protein (PS I)," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2013).

221. "Polymer-Induced drag enhancement in turbulent Taylor-Couette Flows: DNS and Mechanistic Insight," Nansheng Liu, Bamin Khomami CCTAM, Xi'an, Shanxi, China (2013).

222. "Composition Dependency of the Flory-Huggins χ Parameter in Isotropic Polymer Blends," Travis Russell, Brian Edwards, and Bamin Khomami, APS March Meeting, Denver, Co (2014).

223. "Computationally efficient algorithms for incorporation of hydrodynamic and excluded volume interactions in Brownian dynamics simulations of high molecular weight polystyrene: An overview of the effective parameters in the coil-stretch transition," Amir Saadat and Bamin Khomami, 86th Annual Meeting of the Society of Rheology, Philadelphia, PA, October (2014).

224. "Hi-Fidelity simulation of flow-induced inhomogeneous disentanglement and shear banding in polymeric melts," Mouge Mohagheghi and Bamin Khomami, 86th Annual Meeting of the Society of Rheology, Philadelphia, PA, October (2014).

225. "Dynamics of individual molecules in entangled polymeric melts under homogenous shear flow: An atomistic simulation study," Hadi Nafar, Brian J. Edwards, and Bamin Khomami, 86th Annual Meeting of the Society of Rheology, Philadelphia, PA, October (2014).

226. "Simulation of dilute solutions of flexible polyelectrolyte chains: Equilibrium properties and force-extension behavior," Mahdy Malekzadeh Moghani and Bamin Khomami, 86th Annual Meeting of the Society of Rheology, Philadelphia, PA, October (2014).

227. "Hi-fidelity Brownian dynamics simulation of non-equilibrium properties of macromolecules in good solvents: A bottom-up approach," Mahdy Malekzadeh Moghani and Bamin Khomami, 86th Annual Meeting of the Society of Rheology, Philadelphia, PA, October (2014).

228. "Investigating the Effective Parameters in the Coil-Stretch Transition of High Molecular Weight Polystyrene Under Uniaxial Extensional Flow: A Hi-Fidelity Brownian Dynamics Approach," Amir Saadat and Bamin Khomami, AIChE Annual Meeting, Atlanta, GA, November (2014).

229. "Morphological Characterization of Detergent-Mediated Photosystem I (PS I)-Proteoliposome Formation," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Atlanta, GA, November (2014).

230. "The Relation Between Spatially Inhomogeneous Entanglement Densities and Shear Banding in Highly Entangled Polymeric Melts: A Coarse-Grained Molecular Simulation Approach," Mouge Mohagheghi and Bamin Khomami, AIChE Annual Meeting, Atlanta, GA, November (2014).

231. "Single Chain Dynamics of Entangled Linear Polyethylene Liquids Under Shear Flow: An Atomistic Simulation Study," Hadi Nafar, Brian J. Edwards, and Bamin Khomami, AIChE Annual Meeting, Atlanta, GA, November (2014).

232. "Electrochemical Characterization of Photosystem I (PS I)/Self-Assembled Monolayer (SAM)/Au Substrates: The Critical Bottle-Necks in Electron Transfer," Tyler Bennett, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Atlanta, GA, November (2014).

233. "DNS of Taylor-Couette Flows Between Two Co-Rotating Cylinders with Radial Heating," Hao Teng, Nansheng Liu, and Xiyun Lu, and Bamin Khomami, 67th APS-DFD meeting, San Francisco, CA, November (2014).

234. "Morphological Characterization of Detergent-Mediated Photosystem I (PS I)-Proteo-liposome Formation," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, MRS Fall Meeting, Boston, MA (2014).

235. "Direct Numerical Simulation of Viscoelastic Turbulent Taylor-Couette flows," Nansheng Liu, Xiyun Lu, Bamin Khomami, Symposium of turbulence and flow instability Shanghai, China (2014).

236. "Direct numerical simulation of elastically induced turbulent-like Taylor-Couette Flows in a Dilute Polymeric Solution," Nansheng Liu, Bamin Khomami ICCFD8, Chengdu, Shichuan, China (2014).

237. "A "matrix-free" Brownian dynamics approach for hi-fidielity simulation of semi-dilute polymeric solutions," A. Saadat and B. Khomami, 87th Annual Meeting of the Society of Rheology, Baltimore, MD, October (2015).

238. "Single chain dynamics of entangled linear polyethylene liquids under homogenous shear and planer elongational flows using nonequilibrium molecular dynamics simulations," M. Hadi Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 87th Annual Meeting of the Society of Rheology, Baltimore, MD, October (2015).

239. "Transition from homogeneous flow to a shear banded state before and after the stress overshoot in start flow of entangled polymer melts: The influence of flow ramp speed," M. Mohagheghi and B. Khomami, 87th Annual Meeting of the Society of Rheology, Baltimore, MD, October (2015).

240. "Investigating the behavior of bead-spring chains in dilute and semi-dilute regimes: A hi-fidelity Brownian dynamics approach," A. Saadat and B. Khomami, 87th Annual Meeting of the Society of Rheology, Baltimore, MD, October (2015).

241. "Detergent-Mediated Photosystem I (PS I) Based Proteoliposome Formation: A First Step towards Bio-Mimetic Device Fabrication," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Salt Lake City, UT, November (2015).

242. "Atomistic Simulation of Dynamics of Individual Molecules in Entangled Polymers Undergoing Homogenous Shear and Planer Elongational Flows," Mohammad Hadi Nafar Sefiddashti, Brian J. Edwards and Bamin Khomami, AIChE Annual Meeting, Salt Lake City, UT, November (2015).

243. "Molecularly Based Criteria for Shear Banding in Transient Flow of Entangled Polymeric Fluids," Mouge Mohagheghi and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2016).

244. "Photo-Electrochemical Characterizations of Photosystem I (PS I) Assembly Under Bio-Mimetic Membrane Confinement," Hanieh Niroomand, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2016).

245. "Dynamics of Linear and Comb DNA Solutions Using Efficient Brownian Dynamics Techniques," Amir Saadat and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2016).

246. "DNS of Taylor-Couette Flows Between Two co-rotating Cylinders with Radial Heating," Nansheng Liu, Hao Teng, Xiyun Lu, Bamin Khomami, 14th Conference of physics and mechanics, Mianyang, Shichuan, China (2016).

247. "Nonequilibrium Molecular Dynamics Simulations of Entangled Polymer Melts and Solutions Undergoing Planar Elongational Flows," Mohammad Hadi Nafar Sefiddashti, Brian J. Edwards and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2016).

248. "Atomistic Simulation of Dynamics of Individual Molecules in Entangled Polymers Undergoing Homogenous Shear Flow," Mohammad Hadi Nafar Sefiddashti, Brian J. Edwards and Bamin Khomami, AIChE Annual Meeting, San Francisco, CA, November (2016).

249. "Brownian dynamics simulations of single comb DNA molecules," A. Saadat, D. J. Mai, C. M. Schroeder, and B. Khomami, 88th Annual Meeting of the Society of Rheology, Tampa Bay, Florida (2017).

250. "Nonequilibrium molecular dynamics simulations of entangled polymer melts and solutions undergoing planar elongational flows," M. H. Nafar Sefiddashti, B. J. Edwards and B. Khomami, 88th Annual Meeting of the Society of Rheology, Tampa Bay, Florida (2017).

251. "Photocurrent Enhancements from Biomimetic Reconstructs of Photosystem I-Proteoliposomes Supported on Electrode," Hanieh Niroomand, Ravi Pamu, Dibyendu Mukherjee, and Bamin Khomami, MRS Spring Meeting, Phoenix, AZ, April (2017).

252. "Photocurrent Enhancements from Biomimetic Reconstructs of Photosystem I-Proteoliposomes Supported on Electrode," Hanieh Niroomand, Ravi Pamu, Dibyendu Mukherjee, and Bamin Khomami, ISF-2 young and ISF-2 conference, San Diego, CA, July (2017).

253. "Nonequilibrium molecular dynamics simulations of entangled polymer solutions undergoing planar elongational flows," Mohammad H. Nafar Sefiddashti, Brian J. Edwards, and Bamin Khomami, 89th Annual Meeting of the Society of Rheology, Denver, Colorado (2017).

254. "Evaluation of reptation-based modelling of entangled polymeric fluids including chain rotation via NEMD simulation," Mohammad H. Nafar Sefiddashti, Brian J. Edwards, and Bamin Khomami, 89th Annual Meeting of the Society of Rheology, Denver, Colorado (2017).

255. "Out-of-plane rotational motion in shear flow of polymer melts and solutions," Mohammad H. Nafar Sefiddashti, Carl N. Edwards, Brian J. Edwards, and Bamin Khomami, 89th Annual Meeting of the Society of Rheology, Denver, Colorado (2017).

256. "Hybrid Nanocomposites of Nanostructured Co_3O_4 Interfaced with Reduced/Nitrogen-Doped Graphene Oxides for Selective Improvements in Electrocatalytic and/or Supercapacitive Properties," Sheng Hu, Erick Ribeiro, Bamin Khomami, and Dibyendu Mukherjee, MRS Fall Meeting, Boston, MA, Nov. (2017).

257. "Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement Reaction as a Facile and Surfactant-Free Route for the Synthesis of Tailored Nanoalloys as Superior Oxygen Reduction Reaction Electrocatalysts," Sheng Hu, Dibyendu Mukherjee, and Bamin Khomami, MRS Fall Meeting, Boston, MA, Nov. (2017).

258. "Tuning the Photoresponse and Photocurrent Generations from Photosystem I Assembled in Tailored Biotic-Abiotic Interfaces," Dibyendu Mukherjee, Ravi Pamu, Hanieh Niroomand, Ramki Kalyanaraman, and Bamin Khomami, MRS Fall Meeting, Boston, MA, Nov. (2017).

259. "Construction of Biomimetic Photocathodes Using Photosystem I-Proteoliposomes Supported on Substrates," Hanieh Niroomand, Ravi Pamu, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Minneapolis, MN, November (2017).

260. "Nonequilibrium Molecular Dynamics Simulations of Entangled Polymer Solutions Undergoing Planar Elongational Flows," Mohammad Hadi Nafar Sefiddashti, Brian J. Edwards and Bamin Khomami, AIChE Annual Meeting, Minneapolis, MN, November (2017).

261. "Magnetic polymer nanocomposites for giant magnetoresistance and electromagnetic Sheilding," J. Guo, A. Galaska, B. J. Edwards, B. Khomami, and Z. Guo, AIChE Annual Meeting, Minneapolis, MN, November (2017).

262. "Tunable magnetoresistance of conductive polymer nanocomposites, "J. Guo, A. Galaska, S, Wei, B. J. Edwards, B. Khomami, and Z. Guo, AIChE Annual Meeting, Minneapolis, MN, November (2017).

263. "Magnetic polymer nanocomposites for electromagnetic interface shielding," J. Guo, A. Galaska, S, Wei, B. J. Edwards, B. Khomami, and Z. Guo, AIChE Annual Meeting, Minneapolis, MN, November (2017).

264. "Drag Reduction in Planar Couette Flow of Dilute Polymer Solutions," Hao Teng, Nansheng Liu, Xiyun Lu, and Bamin Khomami, 70th APS-DFD meeting, Denver, CO, November (2017).

265. "Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement Reactions (LASiS-GRR) enables green synthesis of colloidal nanoalloys and hybrid nanocomposites as ORR electrocatalysts," Dibyendu Mukherjee, Sheng Hu, Erick Ribeiro, Bamin Khomami, MRS Spring Meeting, April, Phoenix, AZ (2018).

266. "A Facile Synthesis of Catalytic Nanoparticles Confined within Metal Organic Frameworks (MOF) Using Tandem Laser Ablation Synthesis in Solution-Galvanic Replacement Reactions (LASiS-GRR)," Erick Ribeiro, Seyyed Ali Davari, Dibyendu Mukherjee, and Bamin Khomami, MRS Spring Meeting, April, Phoenix, AZ (2018).

267. "Kinetic Monte Carlo models to study nucleation and evolution of metal/metal oxide nanoparticles grown via aerosol route," Dibyendu Mukherjee, Seyyed Ali Davari, Bamin Khomami, ACS National Meeting & Expo (Division of Environmental Chemistry), March, New Orleans, LA (2018).

268. "Photocurrent Enhancement from Photosystem I Assembled on Plasmonic Nanopatterned Structures," Ravi Pamu, Venkatanarayana Prasad Sandireddy, Ramki Kalyanaraman, Bamin Khomami, and Dibyendu Mukherjee, MRS Spring Meeting, April, Phoenix, AZ, (2018).

269. "Jolly Green MOFs—Embedding and Activating Photosystem I in a Highly Porous Metal Organic Framework," Tyler Bennett, Michael Vaughn, Dibyendu Mukherjee, and Bamin Khomami, MRS Spring Meeting, April, Phoenix, AZ, (2018).

270. "DNS of Viscoelastic Planar Couette Flow," Nansheng Liu, Hao Teng, Xiyun Lu, Bamin Khomami, 10th Conference of Fluid Mechanics, Hangzhou, Zhejiang, China (2018).

271. "Microenvironment Alterations Affect Photocurrent Responses from Photosystem I (PSI) Confined in Biomimetic Solid-Supported Lipid Bilayers," Dibyendu Mukherjee, Hanieh Niroomand, Ravi Pamu, and Bamin Khomami, MRS Spring Meeting, April, Phoenix, AZ, (2018).

272. "A Coil-Stretch Transition in Planar Extensional Flow of an Entangled Polymeric Fluid," M. H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 90th Annual Meeting of the Society of Rheology, Houston, TX (2018).

273. "Drag Reduction in Plane-Couette Flow of Dilute Polymeric Solutions: A DNS Simulation Study," Nansheng Liu and Bamin Khomami, AIChE Annual Meeting, Pittsburgh, PA (2018).

274. “A study of curvature-dependent drag enhancement mechanism of viscoelastic Taylor Couette flow,” Jiaxing Song, Nansheng Liu, Hao Teng, Xiyun Lu, and Bamin Khomami, CCTAM, Hangzhou, Zhejiang, China (2019).

275. “Microphase separation in entangled polymeric solutions,” M. H. Nafar Sefiddashti, B. J. Edwards and B. Khomami, 91st Annual Meeting of the Society of Rheology, Raleigh, North Carolina (2019).

276. “Elucidating the molecular rheology of entangled polymeric fluids via direct comparison of NEMD simulations and model predictions,” M. H. Nafar Sefiddashti, B. J. Edwards and B. Khomami, 91st Annual Meeting of the Society of Rheology, Raleigh, North Carolina (2019).

277. "Jolly Green MOF: Confinement and Photoactivation of Photosystem I in the Metal Organic Framework ZIF-8," Tyler Bennett, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019)

278. "Biohybrid Photoelectrode Made from Photosynthetic Protein Complex Psi Entrapped within a Semi-Conducting Tcnq-Based Charge-Transfer Film," Tyler Bennett, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019).

279. “Plasmon Induced Photocurrent of Photosystem I Assembled on Metal Nanostructures,” Ravi Pamu, Bamin Khomami, and Dibyendu Mukherjee, AIChE Annual Meeting, Orlando, FL (2019).

280. “Microphase Separation in Entangled Polymeric Solutions,” Mohammad Hadi Nafar Sefiddashti, Brian J Edwards and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019).

281. “Elucidating the Molecular Rheology of Entangled Polymeric Fluids Via Direct Comparison of NEMD Simulations and Model Predictions,” Mohammad Hadi Nafar Sefiddashti, Brian J Edwards and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019).

282. “The correspondence between drag enhancement and vortical structures in turbulent Taylor-Couette flows with polymer additives: A study of curvature dependence,” Nansheng Liu and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019)

283. “Laser Ablation Synthesis in Solution for the Rational Design of Hybrid Carbon-Based Nanocomposites for Enhancements in Electrochemical Storage and Conversion Systems,” Erick L. Ribeiro, Sheng Hu, Dibyendu Mukherjee and Bamin Khomami, AIChE Annual Meeting, Orlando, FL (2019).

284. “The onset of purely elastic and thermo-elastic instabilities in Taylor-Couette flow as a function of gap ratio and fluid thermal sensitivity,” Reza Ghanbari and Bamin Khomami. Annual European Rheology Conference (AERC) Cyber Space, April (2021).

285. "Microphase separation and flow-induced crystallization in entangled polymeric solutions in extensional flows," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 92nd Annual Meeting of the Society of Rheology, Bangor, Maine (2021).

286. "A Thermodynamically Inspired Method for Quantifying Phase Transitions in Polymeric Liquids with Application to Flow-Induced Crystallization of a Polyethylene Melt," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 92nd Annual Meeting of the Society of Rheology, Bangor, Maine (2021).

287. "Flow-Induced Crystallization of a Polyethylene Liquid Above the Melting Temperature and Its Nonequilibrium Phase Diagram," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 92nd Annual Meeting of the Society of Rheology, Bangor, Maine (2021).

288. "A Thermodynamically Inspired Method for Quantifying Phase Transitions in Polymeric Liquids with Application to Flow-Induced Crystallization of a Polyethylene Melt," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, AIChE Annual Meeting, Boston, MA (2021).

289. "Flow-Induced Crystallization of a Polyethylene Liquid Above the Melting Temperature and Its Nonequilibrium Phase Diagram," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, AIChE Annual Meeting, Boston, MA (2021).

290. "MOF-Derived PtCo/Co3O4 nanocomposites in Carbonaceous Matrices As High-Performance ORR Electrocatalysts Synthesized Via laser Ablation Techniques," Dibyendu Mukherjee, Erick L. Ribeiro and Bamin Khomami, AIChE Annual Meeting, Boston, MA (2021).

291. "Controllable Synthesis of Hybrid Nanocomposite Structures Via Laser Ablation Technique for Electrochemical Energy Storage and Conversion Devices," Mahshid Mokhtarnejad, Erick L. Ribeiro, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Boston, MA (2021). **Carbon Nanomaterials: Graduate Student Award Session.**

292. "Controllable Synthesis of Hybrid Nanocomposite Structures Via Laser Ablation Technique for Electrochemical Energy Storage and Conversion Devices," Mahshid Mokhtarnejad, Erick L. Ribeiro, Dibyendu Mukherjee, and Bamin Khomami, AIChE Annual Meeting, Boston, MA (2021).

293. "Effects of Chain Length and Polydispersity on Shear Banding in Simple Shear Flow of Entangled Polymeric Melts," Mahdi Boudaghi, Brian Edwards, and Bamin Khomami, AIChE Annual Meeting, Boston, MA (2021).

294."Calculating the Entropy of an Entangled Linear Polyethylene Melt Under Shear and Elongational Flows Via Atomistic Simulation," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, AIChE Annual Meeting, Boston, MA (2021).

295."Tuning Photocurrent Responses from Photosystem I Interfaced with Tailored Plasmonic Gold and Silver Nanopatterns," Ravi Pamu, Bamin Khomami, and Dibyendu Mukherjee, AIChE Annual Meeting, Boston, MA (2021).

296. "A Thermodynamically Inspired Method for Quantifying Phase Transitions in Polymeric Liquids with Application to Flow-Induced Crystallization of a Polyethylene Melt," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, APS March Meeting, Chicago, IL (2022).

297. "Discovery of Maximum Drag Enhancement Asymptote in Turbulent Curvilinear Flow of Dilute Polymeric Solutions," Yabiao Zhu, Fenhui Lin, Nansheng Liu, and Bamin Khomami, 93rd Annual Meeting of the Society of Rheology, Chicago, IL (2022).

298. "Flow-Induced Configuration Microphase Separation and Crystallization of Entangled Polyethylene melts in Uniaxial Extensional Flows," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 93rd Annual Meeting of the Society of Rheology, Chicago, IL (2022).

299. "Structural and Rheological Responses of Entangled Polyethylene Solutions to Uniaxial Extensional Flows via Nonequilibrium Molecular Dynamics Simulations," H. Nafar Sefiddashti, B. J. Edwards, and B. Khomami, 93rd Annual Meeting of the Society of Rheology, Chicago, IL (2022).

300. "Elucidating the Role of Network Topology Dynamics on the Coil-Stretch Transition Hysteresis in Extensional Flow of Entangled Polymer Melts," Mahdi Boudaghi, Mohammad Hadi Nafar Sefiddashti, Brian J Edwards, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

301." Structural and Rheological Responses of an Entangled Polyethylene Solution to Uniaxial Extensional Flows Via Nonequilibrium Molecular Dynamics Simulations," Mohammad Hadi Nafar Sefiddashti, Brian J Edwards, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

302. "On the Critical Conditions of Thermoelastic Instabilities in Curvilinear Shear Flows: A Minimal Model," Radhakrishna Sureshkumar, Dennis Thomas, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

303. "High Performance 3D Printed Faradaic Supercapacitor Using Hybrid Nanocomposites of Reduced Graphene Oxide/MnOx-Based Electrodes," Mahshid Mokhtarnejad, Erick L. Ribeiro, Dibyendu Mukherje, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona (2022).

304. "Flow-Induced Configuration Microphase Separation and Crystallization of Entangled Polyethylene Under Uniaxial Extensional Flows," Mohammad Hadi Nafar Sefiddashti, Brian J Edwards, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

305. "Discovery of Maximum Drag Enhancement Asymptote in Turbulent Flow of Dilute polymeric Solutions," Yabiao Zhu, Nansheng Liu, and Bamin Khomami, AIChE Annual meeting, Phoenix, Arizona, Nov. (2022).

306." Nanostructured Manganese-Oxide/Reduced Graphene Oxide Hybrid Nanocomposites for Performance Enhancements of All-Printed Supercapacitor Devices," Erick Ribeiro, Mahshid Mokhtarnejad, Dibyendu Mukherjee, Bamin Khomami, and Rigoberto Advincula, MRS Fall Meeting, Boston, Massachusetts, Nov. (2022).

307. ”Flow-induced configuration microphase separation and crystallization of entangled polyethylene under uniaxial extensional flows,” ,” Mohammad Hadi Nafar Sefiddashti, Brian J Edwards, and Bamin Khomami, APS March Meeting, Los Vegas, NV (2023).

308.” Direct numerical simulation of viscoelastic turbulent Taylor-Couette flow,” J. Song, N. Liu, Xi-Yun. Lu, B. Khomami, 22nd International Couette Taylor Workshop, June, Barcelona, Spain (2023).

Book Reviews and Major Technical Reports (*representative subset*)

1. “High Performance Etching; Development of a Process for 200 mm and Beyond,” H. Erk, K. Belhe, K. K. Talwar, M. P. Duduković and B. Khomami, MEMC Electronic Materials Inc., St. Peters, MO, June (1991).

2. “Compression Molding of Bottle Caps,” A. Arefmanesh and B. Khomami, SACMI Corporation, IMOLA, Italy, October (1992).

3. “Non-Isothermal Crystallization Kinetics of Polyproylene,” B. Khomami, SACMI Corporation, IMOLA, Italy, April (1993).

4. “Paragon: A Program for Analyzing Stability of Multilayer Viscoelastic Flows – User’s Guide,” B. Khomami, Washington University, Jan. (1996).

5. “Interfacial Stability Analysis of Three Layer Symmetric Flow of Polymer Melts,” B. Khomami NIKE-IHM, Portland, Oregon, July (1998).

6. “Interfacial Stability Analysis of Five Layer Symmetric Flow of Polymer Melts,” B. Khomami, NIKE-IHM, Portland, Oregon, May (1999).

7. Review of “Computational Rheology” R.G. Owens and T. N. Phillips, Imperial College Press (2004).

8. “Micro-layer Extrusion of Polymer Melts,” B. Khomami, NIKE-IHM, Portland, Oregon, May (2004).

9. “The correlation between interfacial slip and film quality in Micro-layer Extrusion of Polymer Melts,” B. Khomami, NIKE-IHM, Portland, Oregon, May (2005).

10.”Interfacial Dynamics in Micro-layer Extrusion of Polymer melts,” B. Khomami, Bryce Corporation, Memphis, TN (2008).

11. “ Maximizing moisture resistance through interfacial engineering in Micro-layer Extrusion of polymer melts,” B. Khomami, Bryce Corporation, Memphis, TN (2009).

12. “ Maximizing moisture resistance through interfacial engineering in Micro-layer Extrusion of polymer melts,” B. Khomami, Bryce Corporation, Memphis, TN (2011).

13.” On the influence of interfacial structure on moisture barrier properties of Micro-layer extruded films: Simulations and electron microscopy studies,” B. Khomami, Bryce Corporation, Memphis, TN (2011).

DOCTORAL STUDENTS- Alumni (Total 38)

1. Yuan-Yuan Su; January 1992; Chemical Engineering at Washington University.
Thesis: Interfacial Stability Analysis of Multilayer Viscoelastic Fluids and its Application to Co-extrusion Processes.
Current Position: Professor of Chemical Engineering, NTUT, Taipei, Taiwan; Retired January 2022.

2. Lambros Skartsis; January 1992; Chemical Engineering at Washington University
Thesis: The Permeation of Fiber Beds by Newtonian and Non-Newtonian Fluids with Applications to the Autoclave and Resin Transfer Molding Processes
Current Position: Head of Quality Assurance, Human Resources and Internal Control, Elite S.A. Footwear, Athens, Greece

3. Kapil K. Talwar; May 1992; Chemical Engineering at Washington University
Thesis: Viscoelastic Flow Computations Using the HP-Version of the Finite Element Method with Applications in Flow through Porous Media.
Current Position: Chief Executive Officer, VPAC Innovations, Melbourne, Australia

4. Gregory M. Wilson; May 1993; Chemical Engineering at Washington University
Thesis: An Experimental Investigation of Interfacial Instabilities in Superposed Flow of Polymer Melts.
Current Position: Former Director of the National Center for Photovoltaics; NREL, Golden, CO; Retired January 2021. Currently Vice President, Science and Advanced Technologies, JERA Americas, Denver, Colorado and Principal G. M. Wilson Consulting, LLC.

5. Mohammad Ranjbaran: August 1996; Chemical Engineering at Washington University
Thesis: Experimental Studies of Interfacial Instabilities in Multilayer Flow of Polymers Melts.
Current Position: Professor, Department of Mechanical Engineering; Shahid Rajaeey University, Tehran, Iran; Retired January 2019.

6. Kuan-Cheng (Garth) Su; December 1997; Chemical Engineering at Washington University
Thesis: Experimental Studies of Interfacial Instability in Superposed Flow of Well Characterized Polymeric Solutions.
Current Position: Global Director, Business and Market Segments, MTS Systems Corporation, Minneapolis, MN

7. Herambh K. Ganpule; May 1998; Chemical Engineering at Washington University
Thesis: A Theoretical Investigation of Interfacial Instabilities in Multilayer Viscoelastic Channel Flows and Its Applications.
Current Position: Director, Strategic Business Development at 3M, St. Paul, MN

8. Ibrahim Mustafa; May 1998; Chemical Engineering at Washington University
Thesis: A 3-D Nonisothermal Flow Simulation and Pulling Force Model for Injection Pultrusion.
Current Position: Research Scientist, SABIC Corp., Saudi Arabia

9. Anne Grillet; February 1999; Chemical Engineering at Stanford University (Joint with Eric Shaqfeh)
Thesis: Viscoelastic Instabilities in Recirculation Flows.
Current Position: Research Fellow, Sandia National Laboratory, New Mexico

10. Chao-Tsi Huang; December 1999; Chemical Engineering at Washington University
Thesis: Role of Fluid Elasticity and Dynamic Modulation on the Stability of Multilayer Flows down an Inclined Plane.

Current Position: Senior Research Scientist, Industry Technology Research Institute of Taiwan, Taiwan

11. Sairam Portaraju; December 2000; Chemical Engineering at Washington University (joint with Babu Joseph)
Thesis: Model Based Control of Polymer Composite Manufacturing Processes.
Current Position: Senior Research Scientist, Bayer Corp., Houston, Texas

12. Bin Yang; Graduated May 2001; Chemical Engineering at Washington University
Thesis: Flow Modeling and Stability Analysis of Viscoelastic Flows Using the Finite Element Method.
Current Position: Senior Development Engineer at Corning Corporation, Corning, NY

13. Srikanth Kommu; May 2001; Chemical Engineering at Washington University
Thesis: A Theoretical/Experimental Study of Silicon Epitaxy and Particle Dynamics in CVD Reactors.
Current Position: Executive Director, Semiconductor Business, Brewer Science, INC, Rolla, MO

14. Sweta Goel-Somasi; August 2001; Chemical Engineering at Washington University
Thesis: An Atomistic Simulation of the Epitaxial Growth of Silicon (100).
Current Position: Manufacturing Scientist at Corteva Agriscience, Indianapolis, IN.

15. Madan Somasi; August 2001; Chemical Engineering at Washington University
Thesis: Dynamics of Polymeric Fluids: A Combined Brownian Dynamics Finite Element Approach.
Current Position: Leader US Crop Protection Regulatory Center of Expertise at Corteva Agriscience, Indianapolis, IN.

16. Usamah Al-Mubaiyedh; August 2001; Chemical Engineering at Washington University
Thesis: Thermomechanical and Thermoelastic Instabilities in Taylor-Couette Flow.
Current Position: Professor and Head, Dept. of Chem. Eng., King Fahd University of Petroleum & Minerals, Dhahran Saudi Arabia

17. Alex G. Lee; October 2001; Chemical Engineering at Stanford University (Joint with Eric Shaqfeh)
Thesis: Viscoelastic Effects on Free Surface Displacement Flows: A Computational and Experimental Study.
Current Position: Basestocks & Specialties Global Marketing Strategy Advisor; ExxonMobil Fuels, Lubricants & Specialties Marketing, Spring, TX

18. Piyush G. Gigras; From Aug. 1999 to Dec. 2002
Thesis: Flow Simulations of Entangled Polymeric Melts: A Multiscale Approach.
Deceased.

19. Gandharv Bhatara; December 2004; Chemical Engineering at Stanford University (Joint with Eric Shaqfeh)
Thesis: A Computational/Experimental Study of Elastic "Ribbing" Instabilities.
Current Position: Director of Business Development, Mentor Graphics, San Francisco, CA.

20. Vijay Gupta; December 2006; Chemical Engineering at Washington University
Thesis: Multiscale and Continuum Level Simulation of Polymer and Fiber Induced Effects on Flow Transitions and Turbulence.
Current Position: Associate Professor (teaching track), University of Missouri, Columbia.

21. Arpita Mitra; December 2006; Chemical Engineering at Washington University
Thesis: Molecular Interactions Modulating Microtubule Stability and Dynamics
Current Position: Research scientist, Corning Corporation, New York

22. Dennis Thomas; December 2006; Chemical Engineering at Washington University (Joint with Suresh Sureshkumar)
Thesis: Flow Instabilities and pattern formation in complex fluids: Effect of elasticity and thermal gradients
Current Position: Senior Research Scientist, PNNL, Richland WA.

23. Vidya Venkataramani; August 2007; Chemical Engineering at Washington University
Thesis: Modeling and Simulation of Dynamics of Dilute Macromoelcular Solutions: A configurational Based Approach.
Current Position: Executive-Advanced Design tools at GE Aerospace, General Electric Corp. Karnataka, India

24. Anantha Koppol; August 2007; Chemical Engineering at Washington University
Thesis: Dynamics and Frictional Drag Behavior of Viscoelastic Flows in Complex Geometries: A Multiscale Simulation Approach
Current Position: Research Engineer, General Electric Corp. Bengaluru Bengaluru (Bangalore), India

25. Swapnil Dhumal; December 2007; Chemical Engineering at Washington University
Thesis: An Experimental/Computational Study of Gas-Phase Nanoparticle Synthesis with Applications in Photocatalysis
Current Position: Research Engineer, General Electric Corp. Bengaluru (Bangalore), India

26. Mukund Vasudevan; December 2008; Chemical Engineering at Washington University (Joint with Suresh Sureshkumar)
Thesis: Flow Induced Self Assembly in Micellar Fluids with Applications to Nanomanufacturing
Current Position: Business Development Manager at Tessenderio Kerley, Inc., Phoenix Arizona

27. Jun Mo Kim; August 2010, Chemical and Biomolecular Engineering at University of Tennessee (joint with Brian Edwards)
Area of Research: Non-Equilibrium Molecular Dynamics Simulations of entangled macromolecules
Current Position: Research Professor**,** Ulsan National Institute of Science and Technology, Ulsan, Korea

28. Arash Abedijaberi: August 2011; Chemical and Biomolecular Engineering at University of Tennessee, Knoxville
Thesis: Dynamics of Polymeric Solutions in Complex Kinematics Bulk and Free Surface Flows: Multiscale/Continuum Simulations and Experimental Studies
Current Position: Fiber Process Modeling Manager, Corning Inc., Corning, New York

29. Travis Russell: August 2014, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Brian Edwards)
Thesis: Composition Dependency of the Flory-Huggins Interaction Parameter in Polymer Blends: Structural and Thermodynamic Calculations
Current Position: Senior Engineer, ENERCON Inc., Kennesaw, GA

30. Mahdy Malakzadeh: **December 2014, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Thesis: Hi-Fidelity Simulation of the Self-Assembly and Dynamics of Colloids and Polymeric Solutions with Long Range Interactions
Current Position: Manager at Sealed Air, Materials Performance and Innovation, Charlotte, NC

31. Mouge Mohagheghi: **May 2016, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Thesis: Dynamics and Self-Assembly of Single and Multi-Component Polymeric Fluids: A Mesoscopic Computational Study
Current Position: Senior Scientist-Fabric Care Process leader, Proctor and Gamble Corporation, Cincinnati, OH

32. Amir Saadat: **December 2016, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Thesis: Large Scale Brownian Dynamics Simulations of Dilute and Semi-dilute Polymeric Solutions
Current Position: : Research Engineer, Google X, Mountain View, CA.

33. Hanieh Seyedeh Niroomand: **May 2017, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Dibyendu Mukherjee)**
Thesis: Morphological and Photoelectrochemical Characterization of Membrane Reconstituted Photosystem I (PSI)
Current Position: Research Scientist, Eastman Chemical Company, Kingsport, TN

34. Mohammad Hadi Nafar Sefiddashti: **December 2018, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Brian Edwards)**
Thesis: Non-Equilibrium Dynamics of Entangled Polymeric Fluids
Current Position: Senior Computational Scientist/Engineer; Aspen Technologies, Bedford, Massachusetts, USA.

35. Tyler Hamilton Bennett: **August 2019, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Thesis: Embedding and Photoactivating Photosystem I
Current Position: Postdoctoral Scholar within Jagjit Nanda's group, Distinguished Staff Scientist, Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee

36. Ravi Pamu: **May 2020, Mechanical, Aerospace and Biomedical Engineering at University of Tennessee, Knoxville (Joint with Dibyendu Mukherjee)**
Thesis: Tuning the Photocurrent Responses from Photosystem I via Microenvironment Alterations: Effect of Plasmonic Electric Fields and Membrane Confinements
Current Position: Research Engineer**,** Intel Corp., Phoenix, AZ, USA>

37. Erick Leonar Ribeiro: August 2020, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Dibyendu Mukherjee)
Thesis: Manufacturing of carbon-based hybrid nanocomposites with engineered functionalities via Laser Ablation Synthesis in Solution (LASiS) techniques
Current Position: Former Associated Scientist, NASA Academic Mission Services, Columbia, Maryland; Currently **:** Postdoctoral Scholar with Gobet Advincula**,** Chemical and Biomolecular Engineering at University of Tennessee, Knoxville

38. Tianyu Li: May 2023, Material Science Engineering at University of Tennessee, Knoxville (Joint with Kunlun Hong)
Thesis: Oligo-dimethyl-siloxanes with Charged Chain Ends: Synthesis, Characterization, and Properties
Current Position: Postdoctoral Fellow, CNMS, ORNL (with Dr. Kunlun Hong)

39. Mahdi Boudaghi Khajehnobar: May 2023. Chemical and Biomolecular Engineering at University of Tennessee, Knoxville
Thesis: Molecular Rheology of Entangled Polymeric Fluids: A molecular simulation perspective
Current Position: Senior Engineer/Soft Matter Scientist, Rheological characterization, and Process Modeling and Innovation, Kraton Corporation, Houston, TX, USA.

THESIS OPTION MASTER'S-Alumni (Total 9)

1. Catherine A. Langton; December 1989; Chemical Engineering at Washington University
Thesis: Processing-Property Interactions of Two Vinylidene-Fluoride/Trifluoroethylene Co-polymers.
Current Position: Senior Research Engineer, Dow Chemical Corp., Midland, Michigan; Retired January 2022.

2. Yen-Hung Lai; May 1996; Chemical Engineering at Washington University
Thesis: Various Techniques for Measuring Permeability of Woven Fabrics Used in Liquid Composite Molding.
Current Position: Not available.

3. Srikanth Kommu; May 1996; Chemical Engineering at Washington University
Thesis: Numerical Simulation of Injection Pultrusion
Current Position: Executive Director, Semiconductor Business, Brewer Science, INC, Rolla, MO

4. Luis D. Moreno; August 1996; Chemical Engineering at Washington University
Thesis: Stability of Viscoelastic Flows through Periodic Square Array of Cylinders.
Current Position: Senior Research Engineer, Intel Corp., Portland, OR

5. Vijaylakshmi Ganesan; June 2002; Chemical Engineering at Washington University
Thesis: Linear Dynamics of Unidirectional Planar Shear Flows of Linear and Branched Polymeric Melts.
Current Position: Not available.

6. Joel Simonson; May 2003; Chemical Engineering at Washington University
Area of Research: Acoustic Streaming in Complex Fluids.
Current Position: Senior Engineer, Anheuser-Bush (In Bev), St. Louis, MO

7. **Arash Abedijaberi: August 2007; Chemical and Biomolecular Engineering at Washington University**
Thesis: Dynamics of Branched Polymer Melts in Complex Kinematics Flow: A Computational/ Experimental Study.
Current Position: Fiber Process Modeling Manager, Corning Inc., Corning, New York

8. Sheng Hu; August 2013; Chemical and Biomolecular Engineering at University of Tennessee, Knoxville
Thesis: The Impact of Selective Solvents on the Structure and Function Evolution in Solvent Annealed Organic Photovoltaics
Current Position: Senior R&D Scientist, Frontida BioPharm, Inc. Philadelphia, PA

9. Reza Ghanbari; December 2013; Chemical and Biomolecular Engineering at University of Tennessee, Knoxville
Thesis: The Onset of Purely Elastic and Thermo-Elastic Instabilities in Taylor-Couette Flow: Influence of Gap Ratio and Thermal Sensitivity
Current Position: Postdoc at Lund University, Sweden

POST DOCTORAL SCHOLARS-Alumni (Total 13)

1. Dr. Yuan-Yuan Su; 1/92-6/92; Chemical Engineering at Washington University
Area of Research: Interfacial Dynamics of Multilayer Pressure Flows of Viscoelastic Fluids
Current Position: Professor of Chemical Engineering, NTUT, Taipei, Taiwan; Retired, January 2022.

2. Dr. Lambros Skartsis; 1/92-12/92; Chemical Engineering at Washington University
Area of Research: Influence of Capillary Pressure on Permeation of Fiber Beds
Current Position: Head of Quality Assurance, Human Resources, and Internal Control), Elite S.A. Footwear, Athens, Greece

3. Dr. Kapil K. Talwar; 1/93-3/93; 7/93-1/95; Chemical Engineering at Washington University
Area of Research: Modeling of Thermoplastic Resin Transfer Molding Processes
Current Position: Chief Executive Officer, VPAC Innovations, Melbourne, Australia

4. Dr. Gyanendra P. Sasmal; 8/93-9/94; Chemical Engineering at Washington University
Area of Research: Development of Finite Volume Based Flow Simulation Methods for Bulk and Free Surface Viscoelastic Fluids
Current Position: Analytical Engineer; Belcan Engineering Group Inc., Cincinnati, Ohio.

5. Dr. Ali Arefmanesh; 9/91-9/93; Chemical Engineering at Washington University
Area of Research: Compression Molding of Semi-Crystalline Polymer Melts: A Finite Element Based Approach
Current Position: Professor of Mechanical Engineering, University of Kashan, Kashan, Iran; Retired, January 2021.

6. Dr. Changfeng Li; 10/2002-12/2006; Chemical Engineering at Washington University
Area of Research: Multi-scale Flow Modeling of Entangled Polymeric Systems; Mechanism of Polymer and Fiber Induced Turbulent Drag Reduction.
Current Position: Professor, School of Energy and Power Engineering, Jiangsu University, Zhenjiang, Jiangsu 212013, P.R. China.

7. Dr. Hoon Goo Sim; 6/2003-5/2005; Chemical Engineering at Washington University
Area of Research: Flow Induced Macromolecular Scission.
Current Position: Research Professor, Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI.

8. Dr. Dibyendu Mukherjee; 2007-2011; Chemical and Biomolecular Engineering at University of Tennessee- Knoxville
Area of Research: Hybrid Photovoltaic Materials and Devices
Current Position: Research Professor, Department of Chemical and Biomolecular Engineering, University of Tennessee- Knoxville.

9. Dr. Xianggui Ye; 2007-2013; Chemical and Biomolecular Engineering at University of Tennessee- Knoxville

Area of Research: Nuclear Fuel Reprocessing
Current Position: Research Scientist, Brewer Science, Rolla, MO.

10. Dr. Sheng Hu; 2015-2017; Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Dibyendu Mukherjee)
Area of Research: Non-Precious Metal Catalysts; Laser Ablation
Current Position: Senior R&D Scientist, Frontida BioPharm, Inc. Philadelphia, PA.

11. Dr. Bo Zhang, 2015-2017; Chemical and Biomolecular Engineering at University of Tennessee-Knoxville
Area of Research: Fission Gas Modeling; Large scale simulation of population dynamics
Current Position: Research Scientist; Zuoyebang Inc., China.

12. Dr. Hanieh Seyedeh Niroomand: **2017-2018, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Area of Research: Photoelectrochemical Characterization of Membrane Reconstituted Photosystem I (PSI)
Current Position: Research Scientist, Eastman Chemical Company, Kingsport, TN.

13. Dr. Michelle Aranha: 2019-2020, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville
Area of Research: Atomistic Simulation of Nano-Particle Membrane Interactions
Current Position: Dana-Farber Cancer Institute, Boston, MA

14. Dr. Ravi Pamu: **2020-2021 Chemical and Biomolecular Engineering at University of Tennessee, Knoxville (Joint with Dibyendu Mukherjee)**
Area of Research: Bio-Hybrid Material for Energy Applications
Current Position: Packaging R&D Engineer, Intel Corp., Phoenix, Arizona

15. Mohammad Hadi Nafar Sefiddashti: **2019-2022, Chemical and Biomolecular Engineering at University of Tennessee, Knoxville**
Thesis: Non-Equilibrium Dynamics of Entangled Polymeric Fluids
Current Position: Senior Computational Scientist/Engineer; Aspen Technologies, Bedford, Massachusetts, USA.

RESEARCH ASSOCIATES-Alumni (Total 3)

1. Dr. Shengting Cui, Research Associate Professor; 2008-2015
Area of Research: Molecular Modeling and Simulations
Current Position: Application System Analyst; Washington State University, Washington. Retired January 2022.

2. Dr. Nan-Sheng Liu, Research Associate; 2010 to 2013
Area of Research: Elastic Turbulence
Current Position: Professor, Department of Modern Mechanics, University of Science and Technology of China, Anhui, Hefei 230026, China.

3. Dr. Xianggui Ye; 2013-2015, Research Associate; Chemical and Biomolecular Engineering at University of Tennessee- Knoxville
Area of Research: Rational Design of Soft Matter
Current Position: Research Scientist, Brewer Science, Rolla, MO.

UNDERGRADUATE RESEARCHER- **Alumni (Total 35)**

1. Steven Durst, 1990; Position after Graduation: Joined Industry

2. John Kasab, 1990; Position after Graduation: ChE Doctorate Program at University Wisconsin-Madison

3. Michael Cleveland, 1992; Position after Graduation: ChE Doctorate Program at University of Wisconsin-Madison

4. Dean Kassman, 1993; Position after Graduation: ChE Doctorate Program at Rice University

5. Michael Fanset, 1993; Position after Graduation: ChE Doctorate Program at UCSB

6. Luis Moreno, 1993; Position after Graduation: ChE MS Program at Washington University

7. Michael Biehn, 1994; Position after Graduation: ChE Doctorate Program at North Carolina State

8. Lissa Padnick, 1994; Position after Graduation: BME Doctorate Program at UCSD

9. Polina Gertsberg, 1995; Position after Graduation: Joined Industry

10. Donald Eizenga, 1995; Position after Graduation: ChE Doctorate Program at MIT

11. Dung Nguyen, 1995; Position after Graduation: Joined Industry

12. Carleen James, 1995; Position after Graduation: Joined Industry

13. Suzanne Hyde, 1996; Position after Graduation: ChE Doctorate Program at University of Notre Dame

14. Wendy Jenks; 1996, Position after Graduation: Joined Industry

15. Darby Robinson; 1997, Position after Graduation: MD/PhD Program at Washington University

16. Justin Piper, 1998; Position after Graduation: ChE Doctorate Program at Stanford University

17. Tariq Al-Ameri, 2001; Position after Graduation: ChE Doctorate Program at the Imperial College of London

18. Karen Leslie, 2001; Position after Graduation: Joined the ChE Doctorate Program at Johns Hopkins University

19. Bryan Hendricks, 2002; Position after Graduation: MS Program in Env. Eng. at Washington University

20. Ajey Dambal, 2003; Position after Graduation: ChE Doctorate program at Stanford University

21. Ryan DePuit, 2005; Position after Graduation: ChE Doctorate program at UCSB.

22. Heath Johnson, 2008; Position after Graduation: ChE Doctorate program at NCST.

23. Bryan Smith, 2008; Position after Graduation: ChE Doctorate program at University of Michigan.

24. Zhao Wang, 2009; Position after Graduation: ChE Doctorate program at University of Wisconsin.

25. Ben Renner, 2010; Position after Graduation: ChE Doctorate program at MIT.

26. Mark May 2010; Position after Graduation: Process Engineer, Dow Chemical Company, Houston, Texas.

27. Hannah Haines, 2013; Position after Graduation: Process Engineer, Eastman Chemical Company, Kingsport, TN.

28. Neil Brown, 2014; Position after graduation: Process Engineer, Eastman Chemical Company, Kingsport, TN.

29. Samira Ibrahim, 2016; Position after graduation: PhD student in Chemical and Biomolecular Engineering at Vanderbilt, Nashville, TN.

30. **Kangmin Cheng, 2017;** Position after graduation: PhD student in Mechanical Engineering, Rensselaer Polytechnic Institute.

31. Brian Park, 2018; Position after graduation: PhD student in Chemistry, University of Tennessee-Knoxville.

32. Madison Sherrod, 2018; Position after graduation: Process Engineer, Eastman Chemical Company, Kingsport, TN.

33. Carl Edwards, 2019; Position after graduation: PhD student in Computer Science, University of Illinois- Urbana- Champaign.

34. Bahar Meshkat, 2019: Position after graduation: Medical School at Vanderbilt, Nashville, TN.

35. Evan Kirch, 2021: Position after graduation: Graduate student in CBE at UTK.

OTHER PAST GRADUATE STUDENTS & POST DOCTORAL COLLABORATORS- **Alumni (Total 12)**

1. Scott Prost-Domasky; Doctorate in ME from Washington University in 1997
Current Position: Consulting, Engineer, APES, Inc., St. Louis, Missouri
Area of Research: Dynamics of Polymeric Liquids in Time Periodic Flows
Publication: 1

2. Patrick Doyle; Doctorate in Chemical Engineering from Stanford University in 1997
Current Position: Haslam Professor of Chemical Engineering, MIT
Area of Research: Brownian Dynamic Simulation of Confined Polymeric Flows
Publication: None; Developed the theoretical framework for follow up publications with Nathan Woo.

3. Bin Lin; Doctorate in ChE from Washington University in 2002
Current Position: Technical Director, Henkel, Phoenix, AZ
Area of Research: Influence of Non-Normal Interactions on dynamics of complex fluids
Publication: 1

4. Nathan Woo; Doctorate in Computational Sciences from Stanford University in 2003
Current Position: Senior Research Engineer, Intel Corp. Portland, Or
Area of Research: Non-Local Dynamics of DNA; DNA Scission.
Publications: 2

5. Aravind Rammohan; Doctorate in ChE from Washington University in 2003
Area of Research: Single Chain Dynamics in Time Periodic and Stochastic Flows.
Current Position: Division Director, Corning Corporation, New York

Publication: None; Developed the framework for a publication with an undergraduate researcher-Ryan DePuit

6. Kartik Arora; Doctorate in ChE from Washington University in 2004
Current Position: Data Scientist & Vice President of Engineering at TOOVIA, San Francisco, CA
Area of Research: An Experimental/Computational Study of Hydrodynamic Instabilities in Flow of Polymer Solutions and Melts.
Publication: 2

7. Charles Schroeder; Doctorate in Chemical Engineering from Stanford University in 2004
Current Position: Professor and **Ray and Beverly Mentzer Faculty Scholar**, Department of Chemical and Biomolecular Engineering, University of Illinois-Urbana
Area of Research: Understanding the Dynamics of highly branched and comb polymers via single molecule visualization and Brownian dynamics simulations
Publication: 1

8. R. C. Ramaswamy; Doctorate in ChE from Washington University in 2005
Area of Research: Thermoelastic Interfacial Instabilities
Current Position: Senior Research Engineer, Eastman Chemicals, Tennessee
Publication: None- Developed the computational platform for a publication with an MS student—Reza Ghanbari

9. Danielle J. Mai ; Doctorate in Chemical Engineering, University of Illinois-Urbana 2018
Current Position: Assistant Professor**, James and Anna Marie Spilker Faculty Fellow**, Department of Chemical Engineering, Stanford University, Stanford, CA
Area of Research: Dynamics of Comb Polymers in Shear Flows: A single molecule study
Publication: 1

10. Hao Teng ; Doctorate in Modern Mechanics, University of Science and Technology of China 2018
Current Position: Unknown.
Area of Research: DNS study of turbulent Couette flow with buoyancy/viscoelastic effects
Publication: 2

11. Yabiao Zhu; Doctorate in Modern Mechanics, University of Science and Technology of China 2021
Current Position: Research Engineer at Yangzhou CIRI, Shenyang Aircraft Design & Research Institute, Yangzhou, Jiangsu 225000, China
Area of Research: Direct Numerical Simulation of Viscoelastic Turbulent Spanwise-Rotating Plane Couette Flow
Publications: 4

12. Jiaxing Song; Doctorate in Modern Mechanics, University of Science and Technology of China 2022
Current Position: Postdoctoral Scholar, Max Planck Institute for Solar System Research, Göttingen, Germany.
Area of Research: Direct numerical simulation of viscoelastic turbulent Taylor-Couette flow
Publications: 5

VISITING PROFESSORS **(Total 6)**

1. Eric Shaqfeh, Lester Levi Professor, Department of Chemical Engineering, Stanford University, Stanford, CA (May 2004 Washington University, St. Louis).

2. Antony Beris, Arthur B. Metzner Professor, Department of Chemical and Biomolecular Engineering, University of Delaware, Newark, Delaware (Summer 1996 Washington University, St. Louis).

3. Professor Jay Schieber, Department of Chemical and Biomolecular Engineering, Illinois Institute of Technology, Chicago, Illinois (Summer 1998 Washington University, St. Louis).

4. Professor Fernando Pinho, Mechanical Engineering Department, Universidade do Porto, Porto, Portugal (Fall 2004 & Spring 2005 Washington University, St. Louis).

5. Professor Sang Joo, School of Mechanical Engineering, Yeungnam University, South Korea (Fall 2016 University of Tennessee Knoxville).

6. Suresh Sureshkumar, Distinguished University Professor, Biomedical & Chemical Engineering, Syracuse University, Syracuse, NY (Fall 2019 University of Tennessee Knoxville).