

# ICOR 2023 Program

**Tuesday, December 12, 2023**

8:00-8:30 Registration & Reception

Hall A

8:30-9:00 Opening Ceremony

9:00-09:50 Plenary Lecture: **Ronald G. Larson**, University of Michigan, USA  
Multi-scale rheological modeling of polyethylene for processing flows

9:50-10:10 Break

| Date        | Hall A   | Hall B  |
|-------------|--|---|
|             | <b>Chair Persons: H. Nazockdast, M.K. Razavi, N. Golshan Ebrahimi</b>  | <b>Chair Persons: I. Ghasemi, B. Kaffashi, A. Ramezani</b>  |
| 10:10-10:40 | <b>Savvas G. Hatzikiriakos</b><br>University of British Columbia, Canada<br>Dynamics and Self-healing of Aminated Polyolefins  | <b>Mohammad Zia Alavi</b><br>University of Tehran<br>Evaluating Effects of Storage Temperature and Duration on the Blending between Aged and Virgin Bitumen Binders through Rheological Measurements          |
| 10:40-11:10 | <b>M. Reza Nofar</b><br>Istanbul Technical University, Turkey<br>Approaches to re-evaluate recycled thermoplastics   | <b>Shervin Ahmadi</b><br>Iran Polymer and Petrochemical Institute<br>Investigation of the effect of the presence of MWCNT on rheological properties of in-situ polymerized Nylon 12 during reactive extrusion |
| 11:10-11:40 | <b>Mehdi Razzaghi-Kashani</b><br>Tarbiat Modares University<br>Rheology of Hybrid-Filler Rubber Compounds  | <b>Foroud Abbasi</b><br>Iran Polymer and Petrochemical Institute<br>Rheological properties of virgin rubber/modified crumb rubber blends  |
| 11:40-12:10 | <b>Hamid Garmabi</b><br>Amirkabir University of Technology<br>Rheology of PP vitrimers   | <b>Amir Babaei</b><br>Golestan University<br>Rheology as a powerful tool to discriminate the contradictory effects  |
| 12:10-12:30 | <b>A-10-528-1</b><br>Effect of particle shape on the network structure of well-dispersed nanocomposites of graphitic nanoparticles in PVDF<br><b>M. Babaei, M. Heydarnejad Moghadam, F. Goharpey</b> | <b>A-10-509-1</b><br>Increasing electrorheological effect of chitosan by adding zinc oxide and cellulose fibers<br><b>P. Nouralizadeh, N. Golshan Ebrahimi</b>  |

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| 12:30-13:10 Exhibition & Poster Viewing |   |  |
| 13:10-14:10 Lunch Break                 |   |  |
| Date                                    | Hall A  | Hall B   |
|   | Chair Persons: <b>M.H.N. Famili, M. Mehranpour, M.H.R. Ghoreishy</b>  | Chair Persons: <b>F. Sharif, Sh. Ahmadi, M. Razzaghi-Kashani</b>   |
| 14:10-14:30                             | <b>A-10-546-1</b><br>Droplet impact on spherical surfaces: Effect of elasticity and diameter ratio on behavior of spreading and receding<br><b>M.K. Sheykhian, M.H. Kayhani, M. Norouzi</b> | <b>A-10-520-1</b><br>Investigation on the transient solution of electric field driven orientation and deformation of the angled droplet<br><b>T. Asadollahi, N. Golshan Ebrahimi</b> |
| 14:30-14:50                             | <b>A-10-485-1</b><br>Spontaneous imbibition of viscoelastic fluids in paper-based rapid diagnostic kits<br><b>F. Amjadizadeh, M. Pourjafar-Chelikdani, K. Sadeghy</b>                       | <b>A-10-606-1 (online)</b><br>Exploring the impact of chain architecture on morphology, dynamics, and viscoelastic behavior of ionomers<br><b>N. Sadeghi, F. Khabaz</b>              |
| 14:50-15:20                             | <b>Keynote</b><br><b>Kayvan Sadeghy</b><br>University of Tehran<br>On the use of vibration for controlling the settling dynamics of heavy particles in viscoplastic liquids                 | <b>Keynote</b><br><b>Sadhan C. Jana</b><br>University of Akron, USA<br>Impact of rheology on fabrication of mesoporous polymer sheets and films                                      |
| 15:20-15:50                             | <b>Ehssan Nazockdast</b><br>University of North Carolina, USA<br>The fluctuation dynamics of a filament in a spherical membrane   | <b>Mehdi Salami</b><br>Sahand University of Technology<br>Numerical study of viscoelastic two phase systems using RheoFEM  |
| 15:50-16:10 Break                       |   |  |
|   | Chair Persons: <b>M. Salami, J. Khademzadeh, F. Abbasi</b>  | Chair Persons: <b>M. Norouzi, K. Sadeghy, M.H.R. Ghoreishy</b>   |
| 16:10-16:40                             | <b>Keynote</b><br><b>Fardin Khabaz</b><br>University of Akron, USA<br>Thermodynamic description of the stress overshoot in sheared soft particle glasses                                    | <b>Keynote</b><br><b>S. Mohammad Taghavi</b><br>Laval University, Canada<br>Dynamics of viscoplastic fluid flow in superhydrophobic grooved channels                                 |
| 16:40-17:10                             | <b>Sarah Hormozi</b><br>Cornell University, USA<br>Nonlinear rheology of dense non-brownian suspensions: What is the role of particle shape?  | <b>Parisa Mirbod</b><br>University of Illinois, USA<br>Particle migration of non-colloidal, non-Brownian suspensions over permeable structures                                       |

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| 17:10-17:30 | <p style="text-align: center;"><b>A-10-500-1</b></p> <p>Structural transition from liquid to gel of phase change material nanoemulsions<br/> <u>S.P. Hosseini Largani, H. Salimi-Kenari, S.R. Nabavi, A.A. Rabienataj Darzi</u></p>                                     | <p style="text-align: center;"><b>A-10-525-1</b></p> <p>Utilizing rheometry for characterizing cure shrinkage in photocurable resins for digital light processing (DLP) 3D printing<br/> <u>A. Nejadebrahim, M. Ebrahimi, X. Allonas</u></p> |
| 17:30-17:50 | <p style="text-align: center;"><b>A-10-565-2</b></p> <p>Encapsulation of blackberry extract by basil seed gum-whey protein concentrate nanoemulsion: Rheological properties and encapsulation efficiency<br/> <u>S. Sadeghi, M.A. Razavi, S. Taziki Shams-abadi</u></p> | <p style="text-align: center;"><b>A-10-489-1</b></p> <p>Rheological behavior of PVC plastisol: the effect of filler, thickener, plasticizer contents<br/> <u>S. Ghasemi, M. Mohseni, F. Goharpey, M. Izadi</u></p>                           |

# ICOR 2023 Program

Wednesday, December 13, 2023

| Hall A   |  |
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| 9:00-9:50  | <b>Plenary Lecture: Jan Vermant</b> , ETH Zurich, Switzerland<br>Engineering sustainable multiphase systems  |
| 9:50-10:10 Break   |  |
| Date   | Hall A   |
| Keynote  | <b>Chair Persons: F. Goharpey, K. Sadeghi, B. Kaffashi</b><br><b>Dimitris Vlassopoulos</b><br>FORTH, University of Crete, Greece<br>Macromolecular architecture affects colloidal gelation                             |
|  | <b>Patrick Spicer</b><br>UNSW Sydney, Australia<br>Structure, flow and large strain flows of rough, arrested emulsion gels   |
|  | <b>Rob Poole</b><br>University of Liverpool, UK<br>On the Astarita flowfield and stress responses in 2D steady, homo-geneous viscoelastic flows  |
|  | <b>Mahmood Norouzi</b><br>Shahrood University of Technology<br>On the origin of Saffman-Taylor instability of viscoelastic fluids  |
|  | <b>Ahmad Ramezani</b><br>Sharif University of Technology<br>Investigation on non-Einsteinian rheological behavior of oxidized molybdenum disulfide nano-sheet in suspension of microglass beads in polyethylene glycol |
| Hall B   |  |
| <b>Chair Persons: M. Salami, H. Garmabi, I. Ghasemi</b><br><b>Amir Rezvani-Moghaddam</b><br>Sahand University of Technology<br>Rheology control: Tailoring properties in water-based coatings and inks                       |  |
| <b>Alex G. Kuchumov</b><br>Polytechnic University, Russia<br>Application of FSI and CFD in solution of actual cardiovascular problems  |  |
| <b>Abbas Shaikh</b><br>Tarbiat Modares University<br>Molecular perspective of elongational rheology of a viscoelastic fluid  |  |
| <b>Safa Jamali</b><br>Northeastern University, USA<br>Physics-discovery through machine learning for complex fluids and soft matter  |  |
| <b>Mehdi Mostafaiyan</b><br>Leibniz Institute of Polymer Research, Germany<br>The moving least-squares aided finite element method (MLS-FEM) as a means to accurate calculation of flow field parameters                     |  |
| <b>A-10-474-1</b><br>On the use of non-stick coatings for improving the performance of viscous micropumps in transporting shear-thinning fluids<br><b>M. Pourjafar, M.Y. Heidari, S. Barghaman, A. Abdollahi, K. Sadeghy</b> | <b>A-10-562-1</b><br>Study of Electrical properties and Rheological behavior of the nanocomposites based on PVDF and hybrid of silver Nanoparticles/graphene<br><b>P. Garshashi, F. Goharpey</b>                       |

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| 13:00-13:20             | <p style="text-align: center;"><b>A-10-506-2</b></p> <p>Polyacrylamide/agar double network hydrogels reinforced with nanoparticles<br/> <u><a href="#">A. Mirmohamadali</a></u>, <u><a href="#">H. Nazokdast</a></u>, <u><a href="#">F. Goharpey</a></u></p> |  | <p style="text-align: center;"><b>A-10-461-2</b></p> <p>Rheological behavior of polylactic acid (PLA): The effect of chain extender and graphene oxide nanoplatelets (GO)<br/> <u><a href="#">A. Rastegar</a></u>, <u><a href="#">P. Ehsani Namin</a></u>, <u><a href="#">I. Ghasemi</a></u></p> |  |  |
| 13:20-14:10 Lunch Break |  |  |  |  |  |
| Date                    | Hall A   |  | Hall B   |  |  |
|                         | <p><b>Chair Persons: <a href="#">H. Nazockdast</a>, <a href="#">M. Mehranpour</a>, <a href="#">R. Khosrokhavar</a></b></p>   |  | <p><b>Chair Persons: <a href="#">Sh. Ahmadi</a>, <a href="#">A.A. Yousefi</a>, <a href="#">N. Golshan Ebrahimi</a></b></p>   |  |  |
| 14:10-14:30             | <p style="text-align: center;"><b>A-10-503-2</b></p> <p>Effect of solid content and comonomers addition rate on the rheological behavior of polymer brush systems<br/> <u><a href="#">A. Parvaz</a></u>, <u><a href="#">S. Ghasemirad</a></u></p>            |  | <p style="text-align: center;"><b>A-10-497-2</b></p> <p>Numerical investigation and experimental observation of viscoelastic Multiphase flows<br/> <u><a href="#">A. Baglari</a></u>, <u><a href="#">M.H. Hassan-Khani</a></u>, <u><a href="#">M.H.N. Famili</a></u></p>                         |  |  |
| 14:30-15:00             | <b>Keynote</b>   | <p style="text-align: center;"><b>Peter Fischer</b><br/> ETH Zurich, Switzerland</p> <p>Slime for defense–rheological design principles in a marine environment</p>                    | <p style="text-align: center;"><b>A-10-469-1</b></p> <p>On the relaxation spectra of ionically cross-linked and unmodified poly-propylene blends<br/> <u><a href="#">H. Namvar Maroofy</a></u>, <u><a href="#">M.-J. Hafezi</a></u></p>  |  |  |
| 15:00-15:30             |  | <p style="text-align: center;"><b>Esmaeel Moghimi</b><br/> Georgetown University, USA</p> <p>Stress, velocity and density fluctuations in a shear-thickening suspension</p>            | <p style="text-align: center;"><b>A-10-471-1</b></p> <p>Effect of organoclay on the rheology and morphology of poly(lactic acid) and natural rubber blend<br/> <u><a href="#">M.H. Alemi</a></u>, <u><a href="#">A. Jalali-Arani</a></u></p>   |  |  |
| 15:30-16:00             |  | <p style="text-align: center;"><b>Jeff Morris</b><br/> City College of New York, USA</p> <p>Correlation between cluster rigidity and shear thickening in dense suspensions</p>         | <b>Keynote</b>   | <p style="text-align: center;"><b>Joao Maia</b><br/> Case Western University, USA</p> <p>A novel approach to the recycling of PET/PE blends and laminates: Rheology-driven continuous in-melt separation</p> |  |
| 16:00-16:20 Break       |  |  |  |  |  |
| Date                    | <b>Keynote</b>   | Hall A   |  | Hall B   |  |
|                         |  | <p><b>Chair Persons: <a href="#">H. Nazockdast</a>, <a href="#">F. Goharpey</a>, <a href="#">B. Kaffashi</a></b></p>   |  | <p><b>Chair Persons: <a href="#">I. Ghasemi</a>, <a href="#">M.K. Razavi</a>, <a href="#">M. Salehi</a></b></p>  |  |
| 16:20-16:50             |  | <p style="text-align: center;"><b>Alan Jeffrey Giacomini</b><br/> Queen ´s University, Canada</p> <p>Recent advances in polymer viscoelasticity from general rigid bead-rod theory</p> | <b>Keynote</b>   | <p style="text-align: center;"><b>Reza Foudazi</b><br/> University of Oklahoma, USA</p> <p>Rheological study of nanoemulsions with repulsive and attractive interdroplet interactions</p>                    |  |

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| 16:50-17:20                         | <b>Keynote</b>  | <p style="text-align: center;"><b>Gerald Fuller</b><br/>Stanford University, USA</p> <p>Live cell rheometry applied to airway mucus</p> | <b>Keynote</b>  | <p style="text-align: center;"><b>Sachin Velankar</b><br/>University of Pittsburg, USA</p> <p>Material instabilities in tension and compression: Viscoelastic creasing and plastic necking</p> |
| 17:20-17:40                         | <p style="text-align: center;"><b>A-10-611-1 (online)</b></p> <p>Bacteriophage Pf1 complex viscosity<br/><b><u>M.A. Kanso</u>, V. Calabrese, A.Q. Shen, M. Chol Pak, A.J. Giacomini</b></p> |   | <p style="text-align: center;"><b>A-10-607-1 (online)</b></p> <p>Air-water interfacial rheology of per- and polyfluoroalkyl substances (PFAS)<br/><b><u>M. Zhou</u>, R. Foudazi</b></p> |  |
| <b>17:40-18:00 Closing Ceremony</b> |   |   |   |  |