

HSR2022 PROGRAM

Conference Venue: Skiathos Palace Hotel, Koukounaries, Skiathos (Kechria Room)

Wednesday, June 29, 2022

Short course

Non-Equilibrium Thermodynamics Modeling of the Rheology and Transport Phenomena

Instructor: Professor Antony N. Beris (University of Delaware)

08:00-08:30	Reception & Registration
08:30-12:20	4 x 50' lectures followed by 10' breaks
12:20-14:10	Lunch Break
14:10-16:00	2 x 50' lectures with a 10' break
16:00	End of short course

HSR2022 Conference

16:00-19:00	Registration
18:00-19:00	Poster Session - Committee: Stavroula Balabani, Savvas G. Hatzikiriakos
18:00-19:00	<p>Th. Athanasiou, M. Geri, G. McKinley, G. Petekidis, <i>High-frequency Optimally Windowed Chirp rheometry in fast evolving thermosets</i></p> <p>N.A. Burger, G. Meier, L. Bouteiller, B. Loppinet, D. Vlassopoulos, <i>High-pressure microrheology of supramolecular assemblies</i></p> <p>A. Diligenza, G. Esposito, K. Giannokostas, Y. Dimakopoulos, J. Tsamopoulos, <i>Hematocrit level-based assessment of turbulent-related wall shear stress of pulsatile blood flow in a pathological coarctation of the human aorta</i></p> <p>G.C. Florides, M. Modigell, G.C. Georgiou, E.J. Zoqui, <i>Squeeze flow of thixotropic semisolid slurries</i></p> <p>S.D. Gkormpatsis, K.D. Housiadis, G.C. Georgiou, <i>Steady sphere translation in an Oldroyd-B fluid with non-linear slip on the surface of the sphere</i></p> <p>E. Gryparis, C. Xenophontos, G.C. Georgiou, <i>Torsional parallel plate flow of Herschel-Bulkley fluids with wall slip</i></p> <p>N. Pelekasis, M. Vlachomitrou, A. Lytra, D. Dimopoulos, <i>Numerical study of the dynamic response of a liquid metal in a pore in the presence of a magnetic field and a heat load</i></p> <p>E. Moghimi, D. Vlassopoulos, <i>Rheology of reversible networks from star block copolymers</i></p> <p>A. Oikonomou, V. Vaitzis, M. Vlachomitrou, N. Pelekasis, <i>Trapped pulsations of microbubbles near a wall: Effect of sound amplitude and liquid viscosity on the microstreaming pattern</i></p> <p>S. Rosios, N. Pelekasis, <i>Weakly nonlinear analysis of the effect of shell stiffness on the fundamental resonance of coated microbubbles</i></p> <p>E. Vereroudakis, V. Chrisoulaki, E. Moghimi, G. Petekidis, <i>Crystallizing depletion colloidal gels by shear</i></p>
19:00-21:30	Transport and Welcome Reception at Agia Eleni Beach

Thursday, June 30, 2022

08:00-08:30	Registration
	Chair: Giovanni Ianniruberto
08:30-08:40	Opening, Introduction of Honoree Giuseppe Marrucci by Antony Beris
08:40-09:20	G. Marrucci , G. Ianniruberto, <i>Fast flows of unentangled polymers</i>
09:20-10:00	C. Schaefer, T.C.B. McLeish , <i>Spinning a yarn of the molecular rheology of natural silk spinning: sticky reptation in extensional flow</i>
10:00-10:20	C. Carotenuto, M. Minale , <i>Microstructural changes of concentrated Newtonian non-Brownian suspensions under oscillatory shear originating the failure of Cox-Merz rule</i>
10:20-10:40	T. Athanasiou, S. Kamble, D. Parisi, T. Chang, J. Allgaier, D. Richter, D. Vlassopoulos , <i>Ring polymer rheology and the limits of experimentation</i>
10:40-11:00	Coffee break
	Chair: Stavroula Balabani
11:00-11:20	D. Kogan, M. Gottlieb , <i>Non-linear-viscoelasticity characteristics of the gelation process</i>
11:20-11:40	S. Costanzo , V. Ianniello, <i>Nonlinear shear rheology of nearly unentangled H-polymer melts and solutions</i>
11:40-12:00	J. Piette, A.A. Moud, S.G. Hatzikiriakos , <i>Rheology of mature fine tailings</i>
12:00-12:20	S. Mitrou , S. Migliozzi, P. Angeli, L. Mazzei, <i>Rheology of dilute polydisperse bubble suspensions</i>
12:20-12:40	T. Athanasiou , N. Kalafatakis, D. Vlassopoulos, <i>Measurement of both normal stress differences using two partitions and piezoelectric sensor</i>
12:40-14:00	Lunch break
	Chair: Pavlos S. Stephanou
14:00-14:20	P. Moschopoulos , S. Varchanis, A. Syrakos, Y. Dimakopoulos, J. Tsamopoulos, <i>S-PAL: A stabilized finite element formulation for computing viscoplastic flows</i>
14:20-14:40	C. Pseudos, K. Giannokostas, Y. Dimakopoulos , J. Tsamopoulos, <i>A monophasic blood flow model for accurate prediction of wall shear stresses in the microcirculation</i>
14:40-15:00	D. Pasias, E. Kaliviotis , <i>Blood viscosity in passive microchannel flows: effects of erythrocyte deformability, aggregation and haematocrit</i>
15:00-15:20	M. Vlachomitrou , N. Pelekasis, <i>Acoustic interrogation of coated microbubbles in a wall restricted flow: the compression only and microstreaming effects</i>
15:20-15:40	A. Marousis, K. Psaraki, Y. Dimakopoulos , J. Tsamopoulos, <i>A multiphase model of vascular smooth muscle cell</i>
15:40-16:00	Coffee break
	Chair: Yannis Dimakopoulos
16:00-16:20	J. Bergfreund, P. Bertsch, P. Fischer , <i>Role of the hydrophobic phase on interfacial phenomena of surfactants, proteins, and particles at fluid interfaces</i>
16:20-16:40	T.X.D. Nguyen, S. Razavi, D.V. Papavassiliou , <i>Effects of surface-active nanoparticles and surfactants on the migration of drops in nanochannels</i>
16:40-17:00	A. Katsiavria , D.T. Papageorgiou, <i>Novel instabilities in immiscible multilayer viscous shear flows in the presence of interfacial slip</i>
17:00-17:20	A. Lytra , M. Vlachomitrou, N. Pelekasis, <i>Steady state and dynamic simulations of axisymmetric gas-liquid flow focusing arrangement in the presence of surfactants</i>
17:20	End of session - Free afternoon
21:00-24:00	HSR2022 Banquet at the Skiathos Palace Roof Garden

Friday, July 1, 2022	
	Chairs: Kostas D. Housiadas, Georgios Georgiou
08:30-09:10	E. Mitsoulis , <i>Advances in rheology and polymer processing: A modeling and simulation point of view</i>
09:10-09:30	C. Dritselis, G. Karapetsas , <i>A parametric study of dynamics of liquid lens spreading over a viscoplastic liquid substrate</i>
09:30-09:50	A. Spyridakis , P. Moschopoulos, S. Varchanis, Y. Dimakopoulos, J. Tsamopoulos, <i>Bubble rise in elastoviscoplastic materials</i>
09:50-10:10	C. Lambride, A. Syrakos, G.C. Georgiou , <i>Flow development of power-law fluids in tubes and channels</i>
10:10-10:30	E. Vereroudakis , E. Locatelli, B. Loppinet, C. Likos, D. Vlassopoulos, <i>Study of dendronized polymers across different length scales and concentration regimes: State of the art and future perspectives</i>
10:30-10:50	Coffee break
	Chair: Efstathios Kaliviotis
10:50-11:10	N.D. Polychronopoulos , J. Vlachopoulos, <i>Extensions of Frenkel's model of viscous sintering</i>
11:10-11:30	I.N. Besiri , T.B. Goudoulas, E. Fattahi, T. Becker, <i>In situ custom-made rheological setup for real-time mechanical characterization of crosslinking reactions</i>
11:30-11:50	T. Boulafentis , T. Lacassagne, N. Cagney, S. Balabani, <i>Flame-patterns and diwhirls in elasto-inertial Taylor Couette flows</i>
11:50-12:10	A. Oseli, T. Tomković, M. Mihelčič, S.G. Hatzikiriakos, A. Vesel, L. Slemenik Perše , <i>Network formation in carbon nanotube polymer-based nanocomposites during injection and compression molding</i>
12:10-12:30	A.A. Mishra , D. Arlov, F. Innings, R. Kadar, <i>Thixotropic modelling of yield stress fluids</i>
12:30	End of morning sessions
12:30-13:30	HSR elections
13:30-15:30	Lunch break
15:30-21:30	Boat trip between Skiathos and South-East Pelion with a stop at Katigiorgi

Saturday, July 2, 2022

	Chairs: Panagiota Angeli, Dimitris Vlassopoulos
08:30-09:10	P. Moldenaers , <i>Towards miniaturization: how does confinement affect the break-up and coalescence of droplets in shear flow?</i>
09:10-09:30	S. Jariwala, N.J. Wagner, A.N. Beris , <i>A thermodynamically consistent, microscopically-based, model of the rheology of aggregating particles suspensions</i>
09:30-09:50	D.G. Tsalikis , C. Christopoulou, K.S. Karadima, I.P. Stott, V.G. Mavrantzas, <i>Multi-scale simulation approach to morphology and microrheology of mixed surfactant-cosurfactant micellar solutions</i>
09:50-10:10	T. Athanasiou, B. Mei, K.S. Schweizer, G. Petekidis , <i>Cage formation and dynamics in repulsive and attractive glasses probed by high frequency rheology</i>
10:10-10:30	N. Antonova , <i>Evaluation of the microrheological properties of blood cells using microfluidic methods</i>
10:30-10:50	Coffee break
	Chairs: Athanasios Papathanasiou, Nikos Pelekasis
10:50-11:10	N. Patsalidis , G. Papamokos, G. Floudas, V. Harmandaris, <i>Modelling of Polymer/Alumina Interfaces via Ab-initio Calculations and Machined-learned Molecular Dynamics Simulations</i>
11:10-11:30	K. Ritos , <i>Exploring quenchant properties at the nanoscale – A molecular dynamics study</i>
11:30-11:50	E. Gkolfi , P. Bacova, V. Harmandaris, <i>Investigation of the tunable character of the star-shaped polymer melts through chemistry-specific model</i>
11:50-12:10	P.S. Stephanou , I.Ch. Tsimouri, V.G. Mavrantzas, <i>A two-species model for the rheology of associative polymer networks from nonequilibrium thermodynamics</i>
12:10	Closing Remarks: Nikos Pelekasis and Kostas Housiadas