

## Minisymposia Schedule

### 19<sup>th</sup> U.S. National Congress on Theoretical and Applied Mechanics

As of May 13, 2022

#### Technical Sessions (TS)

Below are the days/times of the 14 technical sessions at the Congress.

TS1	<b>Monday</b> , June 20, 10:15 – 12:00pm
TS2	Monday, 1:45 – 3:30pm
TS3	Monday, 3:45 – 5:30pm
TS4	<b>Tuesday</b> , June 21, 10:15 – 12:00pm
TS5	Tuesday, 1:45 – 3:30pm
TS6	Tuesday, 3:45 – 5:30pm
TS7	<b>Wednesday</b> , June 22, 10:15 – 12:00pm
TS8	Wednesday, 1:45 – 3:30pm
TS9	Wednesday, 3:45 – 5:30pm
TS10	<b>Thursday</b> , June 23, 10:15 – 12:00pm
TS11	Thursday, 1:45 – 3:30pm
TS12	Thursday, 3:45 – 5:30pm
TS13	<b>Friday</b> , June 24, 10:00 – 12:00pm
TS14	Friday, 1:45 – 3:30pm

MS #	Title	# Sessions	Technical Sessions
102	Contemporary Meshfree Methods in Computational Mechanics	3	TS11, TS12, TS13,
103	Data-driven Approaches for Multiscale and/or Multiphysics Systems	5	TS1, TS2, TS3, TS4, TS5
104	Meshfree, Peridynamics, and Particle Methods: Contemporary Advances and Applications	3	TS1, TS2, TS3
105	Physics-Based Simulation & Machine Learning Fusion for Sensor Network Design, Optimization, and Digital Twin Applications	1	TS14
106	Theory and Applications of Functional Interpolation to Optimization and Control	3	TS1, TS2, TS3
108	Mechanics of Granular and Geo-Mechanical Systems	4	TS11, TS12, TS13, TS14
110	100 Years of International Collaboration in Mechanics: The Legacy of Theodore von Karman	2	(Plenary Session ), TS13,
111	Statistical Physics Techniques in Computational Mechanics	3	TS7, TS8, TS9
201	Studies in Electrokinetic and Electrohydrodynamic Flow	2	TS1, TS2
203	External Biofluid Mechanics	3	TS6, TS7, TS8
204	Recent Advances in Cardiovascular Fluid Mechanics	2	TS1, TS2
205	Biofluid Mechanics in Thrombosis and Hemostasis	4	TS1, TS2, TS4, TS5
206	Bio-Inspired Propulsion	2	TS13, TS14
207	Microswimming in Newtonian and Complex Fluid Environments	3	TS3, TS4, TS5
208	Cavitation and Bubble Dynamics	4	TS10, TS11, TS12, TS13

210	Complex Fluids and Soft Matter	3	TS1, TS2, TS3
211	Rheology and Interfaces in Complex Fluids	3	TS5, TS6, TS7
212	Hydrodynamic Stability and Simulation of Complex Fluid Flows in Porous Media	2	TS10, TS11
213	Modeling and Simulation of Energetic Materials	2	TS8, TS9
214	Electrokinetics for Nano and Microfluidics	6	TS1, TS2, TS3, TS4, TS5, TS6
216	Reacting Flows	2	TS6, TS7
217	Dynamics and Instabilities of Flows with Particles Across Length Scales	6	TS8, TS9, TS10, TS11, TS12, TS13
218	Mechanics and Dynamics of Porous-particle Suspensions	1	TS7
220	Nonlinear Dynamics of Active Fluids and Transition to Active Turbulence	3	TS12, TS13, TS14
221	Methods for Data-Driven Modeling of Unsteady Fluid Flows	5	TS4, TS5, TS6, TS7, TS8
222	Elastic and Elasto-Inertial Turbulence: New Discoveries and Remaining Challenges	2	TS3, TS4
223	Mechanics and Rheology of Vitrimers	1	TS14
224	High-Speed Boundary Layer Transition	4	TS1, TS2, TS3, TS4
225	Turbulence in Compressible Flows: Recent Advances and Open Questions	2	TS6, TS7
301	Mechanics of Electrochemical Materials and Systems	4	TS6, TS7, TS8, TS9
302	Large Deformation and Failure of Lithium-ion batteries	1	TS10
303	Modeling and Design for Energy Devices	2	TS13, TS14
305	Mechanics-Guided Design, Material Processing and Applications of Composites <sup>2</sup>	2	TS9, TS10
307	Thermodynamic Modeling of Void Evolution, Fatigue, and Tribo-Wear	2	TS10, TS11
308	Computational Fracture, Fatigue and Damage Modeling	2	TS3, TS4
309	Recent Developments in Peridynamics Modeling	2	TS4, TS5
310	Plasticity & Ductile Failure	7	TS8, TS9, TS10, TS11, TS12, TS13, TS14
311	Mechanics of Friction, Fracture and Damage in Materials Across Scales	5	TS9, TS10, TS11, TS12, TS13
312	Micro-Projectile Impact Testing of Emerging Materials	2	TS4, TS5
313	Deformation and Assembly of Materials and Structures at Solid-liquid Interfaces	2	TS12, TS13
314	Mechanics and Physics of Advanced Manufacturing Processes – Surfaces, Materials and Deformation	5	TS1, TS2, TS3, TS4, TS5
315	New Metamaterial Concepts	5	TS1, TS2, TS3, TS4, TS5
316	Mechanics of Architected Materials	10	TS5, TS6, TS7, TS8, TS9, TS10, TS11, TS12, TS13, TS14
317	Mechanics of Multifunctional Low-Dimensional Materials	5	TS10, TS11, TS12, TS13, TS14

318	Physics-Based and Data-Driven Multiscale Modeling of Nano-Materials	3	TS1, TS2, TS3
319	Phase Field Study of Microstructures and Behaviors of Advanced Materials	1	TS14
320	Mechanics and Physics of Active Materials	6	TS7, TS8, TS9, TS10, TS11, TS12
321	Dynamics of Soft Materials and Structures	3	TS7, TS8, TS9
322	Multiscale Methods and Mechanics of Soft Matter and Hierarchical Materials	3	S12, TS13, TS14
323	Soft Matter Mechanics, Physics, and Devices	4	TS7, TS8, TS9, TS10
324	Mechanics of Soft Matter: From Living Systems to Functional Composites	7	TS1, TS2, TS3, TS4, TS5, TS6, TS7
325	Mechanics of Liquid Crystal Elastomers	3	TS1, TS2, TS3
326	Fracture and Damage of Soft Materials	4	TS9, TS10, TS11, TS12
327	Mechanics of Polymeric Gels	2	TS5, TS6
328	Mechanics of Flexible, Stretchable and Bio-integrated Electronics	5	TS4, TS5, TS6, TS7, TS8
329	Mechanics of Soft and Active Interfaces: Theory, Simulations, and Experiments	2	TS11, TS12
330	Mechanics of the Human Skull and Brain	2	TS1, TS2
331	Programmable and Active Metamaterials	3	TS10, TS11, TS12
332	Machine Learning in the Experimental Mechanics of Materials	3	TS10, TS11, TS12
333	Cell Mechanics and Mechanobiology	4	TS6, TS7, TS8, TS9
334	Trustworthy Augmented Intelligence and Data-driven Material Modeling	6	TS4, TS5, TS6, TS7, TS8, TS9
335	Instabilities in Solids and Structures	5	TS1, TS2, TS3, TS4, TS5