



2023 Engineering Mechanics Research Symposium Program
 Thursday, March 23rd
 Kelly Hall, Room 310

Session A		Moderator: James McClure		9am - 10:15am	
Author List		Title		Time	
Dillard, David A., BEAM, Virginia Tech; Orler, E. Bruce, Chemistry, Virginia Tech; Das, Arit, ChemE, Virginia Tech; Finley, Patrick, ICTAS, Virginia Tech; Bortner, Michael J., ChemE and MII, Virginia Tech; De Focatiis, Davide, ME, University of Nottingham;		Adhesion and Frictional Slippage of Elastomer Disks Compressed between Rigid Platens and Subjected to Torsion: Implications for Rheometry		9:00 AM	9:15 AM
Shanmugam, Bala, BEAM, Virginia Tech; Domann, John, BEAM, Virginia Tech;		Investigation of Meshfree Magnetostatic Modeling		9:15 AM	9:30 AM
Perez, Miguel A., BEAM, Virginia Tech; Terranova, Paolo, BEAM, Virginia Tech; Layman, Charles, VTTI, Virginia Tech; Jain, Sparsh, BEAM, Virginia Tech;		Data fusion approach for personal mobility device maneuver tracking		9:30 AM	9:45 AM
Pulliam, Joshua, BEAM, Virginia Tech; Morris, Giovanni, AOE, Virginia Tech; Haywood, Sydney, CBEE, UMBC; King, Zoe, EnvE, Brown; Anderson Jr., Jeffery Biol.Sci., Virginia Tech; Grafe, Ulmar, Biology, Universiti Brunei Darussalam; Khalid, Salwid, Biology, Universiti Brunei Darussalam; Socha, Jake, BEAM, Virginia Tech;		Reach for the skies: Effects of perch diameter on vertical gap crossing capabilities in arboreal snakes		9:45 AM	10:00 AM
Aung, Eighdi, BEAM, Virginia Tech; Abaid, Nicole, Mathematics, Virginia Tech; McClure, James, National Security Institute, Virginia Tech;		Flocking in Constrained Geometry		10:00 AM	10:15 AM
Raj, Neil, ME, Virginia Tech; Tafti, Danesh, ME, Virginia Tech;		Physics based deep learning for prediction drag in ellipsoidal particle suspensions		10:15 AM	10:30 AM
Poster Session		Moderator: John Domann		11am - Noon	
Author List		Title		Time	
McClure, James, Nat. Sec. Inst., Virginia Tech;		Digital twins from microscope image data		11:00 AM	12:00 PM
Bragg, Haden, BEAM, Virginia Tech; Perez, Miguel, BEAM, Virginia Tech;		Electric Infrastructure Considerations for Heavy-Duty Electric Vehicle Implementation		11:00 AM	12:00 PM
Mohammad Hossein Pour, Mehran, ME, Virginia Tech; Kale, Sohan, ME, Virginia Tech;		Inverse Formulation to Reconstruct Forces of Migrating Cells in Deformable Fibrous Environments		11:00 AM	12:00 PM
Selokar, Umang, ME, Virginia Tech; Kale, Sohan, ME, Virginia Tech;		Adhesion and separation of pressurized membranes on flat rigid substrates		11:00 AM	12:00 PM
Phalak, Yogesh, BEAM, Virginia Tech; Pendar, Hodjat, BEAM, Virginia Tech;		Decoding Snake Locomotion: The Role of Normal Force Modulation		11:00 AM	12:00 PM
Session B		Moderator: Jake Socha		12:30pm – 2pm	
Author List		Title		Time	
Khan, Saadbin, BEAM, Virginia Tech; Dhingra, Mrigank, BEAM, Virginia Tech; Socha, Jake, BEAM, Virginia Tech; Staples, Anne E., BEAM, Virginia Tech;		Effects of hydrodynamic slip and taenial structure in insect tracheal flows		12:30 PM	12:45 PM

Dubik, Justin, BEAM, Virginia Tech; Tartaglione, Alfonsina, Mathematics & Physics, Università degli Studi della Campania "Luigi Vanvitelli"; Dillard, David, BEAM, Virginia Tech; De Vita, Raffaella, BEAM, Virginia Tech;	A Pipkin-Rogers Constitutive Model for Creep of Vaginal Tissue	12:45 PM	1:00 PM
Talukder, Maahi, ME, Virginia Tech; Kale, Sohan, ME, Virginia Tech;	Examining the role of adhesion in cellular mechanics: a contact-mechanics based approach	1:00 PM	1:15 PM
Terranova, Paolo, BEAM, Virginia Tech; Perez, Miguel A., BEAM, Virginia Tech; Guo, Feng, Statistics, Virginia Tech;	Impact area and speed effects on risk of crash fatality and injury for powered two-wheelers	1:15 PM	1:30 PM
Tahmasian, Sevak, BEAM, Virginia Tech;	The effects of stroke plane angle and wing inertial forces on flight stability of hovering insects	1:30 PM	1:45 PM
Stremler, Mark, BEAM, Virginia Tech; Masroor, Emad, BEAM, Virginia Tech;	Drag and lift predictions for vortex-dominated bluff body wakes	1:45 PM	2:00 PM
Session C		Moderator: Mark Stremler	
2:30pm – 4pm			
Author List	Title	Time	
Colon, Camryn, ME, Virginia Tech; Edalatpour, Mojtaba, ME, Virginia Tech; Boreyko, Jonathan, ME, Virginia Tech;	Ice physics: electrification, jumping, and boiling	2:30 PM	2:45 PM
Simon, Alex, BEAM, Virginia Tech; Edsall, Connor, BEAM, Virginia Tech; Maxwell, Adam, Urology, University of Washington; Vlaisavljevich, Eli, BEAM, Virginia Tech;	Stiff Tissue Ablation using Single Cycle Histotripsy with Ultra-High Pulse Repetition Frequencies	2:45 PM	3:00 PM
Sinha, Ruhit, BEAM, Virginia Tech; Staples, Anne, BEAM, Virginia Tech;	Multifiber Computational Modeling of Hollow-fiber Hemodialyzers	3:00 PM	3:15 PM
Lin, Yushu, ME, Virginia Tech; Palmore, John, ME, Virginia Tech;	Effect of droplet deformation and internal circulation on drag coefficient	3:15 PM	3:30 PM
Thomas, John, AOE, Virginia Tech; Staples, Anne, BEAM, Virginia Tech; Tahmasian, Sevak, BEAM, Virginia Tech;	Design optimization of a vibratory vessel with a flexible fin	3:30 PM	3:45 PM
Jain, Sahaj, BEAM, Virginia Tech; Tafti, Danesh, ME, Virginia Tech;	Development of a CFD module towards simulations of Wave Energy Converters	3:45 PM	4:00 PM