



ASME[®] 2019 **SMASIS**

CONFERENCE ON SMART MATERIALS, ADAPTIVE STRUCTURES,
& INTELLIGENT SYSTEMS (SMASIS)

SYMPOSIUM
September 9–11, 2019

Louisville, Kentucky

Schedule at a Glance

Schedule at a Glance

Monday, September 9

Breakfast - Olmsted Ballroom 4							
Francesco Lanza di Scalea (UCSD)- Keynote - Olmsted Ballroom 1-2							
	CHARRED	BARREL	OAK	BARLEY	RYE	MALT	COPPER
	Session 1-1: SMA-Applications	Session 5-1: New Approaches in SHM	Session 3-1: Design of Smart and Adaptive Systems I	Session 7-1: Biological and Thermal Applications	Session 4-1: Morphing Wing 1	Session 2-1: Advanced Materials, Mechanics, and Devices I	Session 9 Best Student Paper Competition I - Finalists
7:00AM-8:00AM							
8:00AM-9:20AM							
9:30AM-10:40AM	Chair: Cory R. Knick (ARL)	Chair: Hae Young Noh (Carnegie Mellon University)	Chair: Giovanni Berselli (University of Genoa)	Chair: Shahrazad Towfighian (SUNY Binghamton)	Chair: Paolo Eremanni (ETH Zurich)	Chair: Virginia DeGiorgi (NRL)	
	Co-Chair: Kenny Pagel (Fraunhofer IWU)	Co-Chair: Daewon Kim (Embry-Riddle Aeronautical University)	Co-Chair: Salvatore Ameduri (CIRA, Italy)	Co-Chair: Xuewei Zhang (Texas A&M University-Kingsville)	Co-Chair: Matthew Snyder (AFA)	Co-Chair: Constantin Ciocanel (NAU)	
9:30AM	5502	Invited Talk: 5764 (Ed Habbour, Sandia National Laboratories)	5519	5622	5738	5715	
9:50AM	5596		5523	5634	5695	5752	
10:10AM	5613	5750	5533	5767	5557		
10:30AM-10:50AM	Coffee Break - Olmsted Ballroom 1-3 Pre-function						
10:50AM-12:10PM	Session 1-2: SMA-Characterization	Session 5-2: Understanding Dynamics and Waves in SHM	Session 3-2: Vibration and Control	Session 7-2: Modeling and Characterization	Session 4-2: Lattice and Deployable Structures	Session 2-2: Multifield Response and Modeling I	Session 9 Best Student Paper Competition II - Finalists
	Chair: Mohammad Elahinia (University of Toledo)	Chair: Daniel Cole (ARL)	Chair: James Gilbert (Purdue University)	Chair: Christopher Cooley (Oakland University)	Chair: Johannes Riemenschneider (DLR)	Chair: Paris von Lockette (Penn State)	
	Co-Chair: Othmane Benafan (NASA Glenn Research Center)	Co-Chair: Soobum Lee (University of Maryland, Baltimore County)	Co-Chair: Yacoub Abdullah (PAAET, Kuwait)	Co-Chair: Amin Karami (SUNY Buffalo)	Co-Chair: Kazuko Fuchi (University of Dayton)	Co-Chair: Gary Seidel (Virginia Tech)	
10:50AM	5654	5556	5543	5539	Invited Talk: 5787 (Paolo Ermanni, ETH Zurich)	5681	
11:10AM	5692	5641	5548	Invited Talk: 5794 (Lei Zuo, Virginia Tech)	5620	5693	
11:30AM	Invited Talk: 5799 (Haluk Karaca, University of Kentucky)	5763	5570	(Lei Zuo, Virginia Tech)	5739	5719	
11:50AM			5571	5577		5733	
12:10PM-1:40PM	Active Materials and/or Multifunctional Materials TC Meeting	Adaptive Systems Dynamics and Controls TC Meeting	Structural Health Monitoring TC Meeting	Active Material Technologies and Integrated Systems TC Meeting	Bio-Inspired Structures and Systems TC Meeting	Energy Harvesting TC Meeting	
12:10PM-1:40PM	Lunch - Olmsted Ballroom 4						
12:10PM-1:40PM	CASMART Lunch Meeting - Hikes Point						

Schedule at a Glance

Monday, September 9

	CHARRED	BARREL	OAK	BARLEY	RYE	MALT	COPPER
12:10PM-1:40PM	AIAA Lunch Meeting - Olmstead Ballroom 7						
12:10PM-1:40PM	Student PowerPoint Karaoke Lunch - Germantown						
1:40 PM-3:20 PM	Session 1-3: Polymers Chair: Ji Su (NASA Langley) Co-Chair: Allison Arnold (NASA Langley)	Session 5-3: Machine Learning and Probabilistic Approaches in SHM I Chair: Benjamin Grisso (Naval Surface Warfare Center Carderock) Co-Chair: Ed Habtour (Sandia National Laboratories)	Session 3-3: Design of Smart and Adaptive Systems II Chair: Bjoern Kiefer, (TU Bergakademie Freiberg) Co-Chair: Leandro Maio (University of Naples)	Session 7-3: Nonlinear and Broadband Energy Harvesting Chair: Shahrzad Towfighian (SUNY Binghamton) Co-Chair: Matthew Bryant (NC State)	Session 4-3: Morphing Missile Chair: Andres Arrieta (Purdue University) Co-Chair: Richard Beblo (AFRL)	Session 2-3: Advanced Materials and Transduction Chair: Paris von Lockette (Penn State) Co-Chair: Othmane Benafan (NASA-Glenn)	Symposium 9: Best Student Hardware Competition I - Finalists
1:40PM	5578	5506	5565	5542	5522	Invited Talk: 5501 (Virginia DeGiorgi, NRL)	
2:00PM	5712	5517	5627	5616	5770		
2:20PM	5713	5585	5674	5701	5524	5730	
2:40PM	5758	5697	Invited Talk: 5797 (Marcelo Savi, Federal University of Rio de Janeiro)	5768	5611	5747	
3:00PM	5775	5721			5601		
3:20PM-3:40PM	Coffee Break - Olmstead Ballroom 1-3 Pre-function						
3:40PM-5:20PM	Session 1-4: Composites I Chair: Osman Ozbulut (University of Virginia) Co-Chair: Ian Bond (Bristol University)			Session 7-4: Energy Harvesting and Storage Applications Chair: Steven Anton (Tennessee Tech) Co-Chair: Soobum Lee (University of Maryland, Baltimore County)	Session 4-4: Morphing Wing II Chair: Srinivas Vasista (DLR) Co-Chair: Andres Arrieta (Purdue University)	Session 2-4: Multifield Response and Modeling II Chair: Ryan Harne (Ohio State)	Symposium 9: Best Student Hardware Competition II - Finalists
3:40PM	5555			5629	5612	5638	
4:00PM	5583			5650	5598	5686	
4:20PM	5640			5687	5604	5711	
4:40PM	5653			5774	5609	5529	
5:00PM					5706	5773	
6:00PM-7:30PM	Welcome Reception - Olmstead Ballroom 5-6						
7:30PM-10:00PM	ASME ASMS Branch Meeting - Olmstead Ballroom 1-2						
7:45PM-10:30PM	Student Outing - Escape LOU						

Schedule at a Glance

Tuesday, September 10

Breakfast - Olmsted Ballroom 4					
Kon-Well Wang (National Science Foundation) - Olmsted 1-2					
Chair: Oliver J. Meyers, Clemson University					
	CHARRED	BARREL	OAK	BARLEY	RYE
7:00AM–8:00AM					
8:00AM–9:20AM					
9:30AM–10:30AM	Session 1-5: Composites II	Session 3-5: Modeling Complex Materials and Systems II	Session 6-1: Bioinspired Aviation	Session 4-5: SMA Applications	Session 2-5: Advanced Materials, Mechanics, and Devices II
	Chair: Constantin Ciocanel (Northern Arizona University)	Chair: Juliana Abel (University of Minnesota)	Chair: Eric Freeman (UGA)	Chair: Jonathan Luntz (University of Michigan)	Chair: John Gallagher (Merrimack)
	Co-Chair: Giulia Lanzara (University of Roma Tre)	Co-Chair: Uwe Marschner (TU Dresden)	Co-Chair: Joseph Calogero (Pratt & Whitney)	Co-Chair: Brent Utter (Lafayette College)	Co-Chair: Frederick Calkins (Boeing)
9:30AM	5684	5574	5567	5779	5655
9:50AM	5717	5614	5667	5610	
10:10AM		5628	5656	5504	
10:30AM–10:50AM	Coffee Break - Olmsted Ballroom 1-3 Pre-function				
10:50AM–12:10PM	Session 1-6: SMA-Applications and Characterization	Session 3-6: Modeling Complex Materials and Systems III	Session 6-2: Bioinspired Structures	Session 4-6: Heat Transfer By Means of SMA	Session 2-6: Lifetime and Fatigue of SMA Materials
	Chair: Bjoern Klefer, (TU Bergakademie Freiberg)	Chair: James Gibert (Purdue University)	Chair: Joseph Calogero (Pratt & Whitney)	Chair: Onur Bilgen (Rutgers University)	Chair: Theocharis Baxevanis (UH)
	Co-Chair: Dairren J. Hartl, (Texas A&M University)	Co-Chair: Francesco Danzi (Politecnico di Torino)	Co-Chair: Aimy Wissa (UIUC)	Co-Chair: Alexander Czechowicz (Kunststoffverarbeitung Hoffmann)	Co-Chair: Dimitris Lagoudas (TAMU)
10:50AM	5746	Invited Talk: 5586 (James Gibert, Purdue University)	5677	Invited Talk: 5762 (Koushik Datta, NASA)	
11:10AM	5776		5560		5511
11:30AM	5778	5594	5639	5636	5512
11:50AM	5781		5673	5633	5513
12:10PM–1:40PM	Lunch - Olmsted Ballroom 4				
12:10PM–1:40PM	Student Professional Development Panel - Copper				

Exhibits: Olmstead 1-3
5757
5727

Schedule at a Glance

Tuesday, September 10		CHARRED	BARREL	OAK	BARLEY	RYE
12:10PM-1:40PM	Journal of Intelligent Material Systems and Structures Editorial Board Meeting - Hikes Point					
1:40 PM-3:20 PM	Session 1-7: Multifunctional Materials I	Session 8-1: Emerging Research	Session 6-3: Biocomotion I	Session 4-7: Rotormorphing	Session 2-7: SMAs - Additive Manufacturing and Combined Responses	
	Chair: Zoubeida Ounaies, (Penn State University)	Chair: Onur Bilgen (Rutgers University)	Chair: Jovana Jovanova (Ss. Cyril and Methodius University)	Chair: Andres Arrieta (Purdue University)	Chair: Darren Hartl (TAMU)	
	Co-Chair: James Gibert, (Purdue University)	Co-Chair: Ryan L. Haine (Ohio State University)	Co-Chair: Mary Frecker (Pennsylvania State University)	Co-Chair: Johannes Riemenschneider (German Aerospace Center)	Co-Chair: Mohammad Elahinia (Toledo)	
1:40PM	5518	Invited Talk: 5786 (Leon Bellan, Vanderbilt University)	5670	5668	5573	
2:00PM	5520			5625	5546	
2:20PM	5582	5550	5676	5588	5605	
2:40PM	5608	5743	Invited Talk: 5796 (Amy Wissa, UIUC)	5558	5729	
3:00PM	5618				5734	
3:20PM-3:40PM	Coffee Break - Olmsted Ballroom 1-3 Pre-function					
3:40PM-5:20PM	Session 1-8: Multifunctional Materials II	Session 8-2: Origami Inspired Mechanical Switches	Session 6-4: Biomolecular Materials I	Session 4-8: Fluidic Actuators I	Session 2-8: Multifield Response and Modeling III	
	Chair: Dimitris Lagoudas (Texas A&M University)	Chair: Ryan L. Haine (Ohio State University)	Chair: Joseph Calogero (Pratt & Whitney)	Chair: Johannes Riemenschneider (German Aerospace Center)	Chair: John Gallagher (Merrimack)	
	Co-Chair: Arnaldo Casalotti, (University of Roma Tre)	Co-Chair: Stephen Sarles (University of Tennessee)	Co-Chair: Jovana Jovanova (Ss. Cyril and Methodius University)	Co-Chair: Jonathan Luntz (University of Michigan)	Co-Chair: TBD	
3:40PM	5651	5694	5525	5630	5527	
4:00PM	5682	5703	5735	5635	5691	
4:20PM	Invited Talk: 5798 (Gary Seidel, Virginia Tech)	5742	5751	5783		
4:40PM		5725		5759		
5:00PM		5777				
6:30PM-9:00PM	Pioneer Awards Ceremony Banquet - Kentucky Derby Museum/Churchill Downs					

Schedule at a Glance

Wednesday, September 11

Breakfast - Olmsted Ballroom 4			
7:00AM-8:00AM	Nancy Johnson (GM) - Keynote - Olmsted 1-2		
8:00AM-9:20AM	Chair: Andy Sarles, University of Tennessee		
CHARRED	BARREL	OAK	BARLEY
9:30AM-10:30AM	Session 3-7: Design of Smart and Adaptive Systems III Chair: Rocco Vertechy (University of Bologna) Co-Chair: Uwe Marschner (TU Dresden)	Session 6-5: Bioinspired Actuation and Sensing I Chair: Joseph Calogero (Pratt & Whitney) Co-Chair: Jovana Jovanova (Ss. Cyril and Methodius University)	Session 4-9: Fluidic Actuators II Chair: Srinivas Vasista (German Aerospace Center) Co-Chair: Brent Utter (Lafayette College)
9:30AM	Invited Talk: 5800 (Theocharis Baxevanis, U Houston)	5680	Invited Talk: 5785 (Jonathan Luntz, University of Michigan)
9:50AM	5708	5675	
10:10AM	5716		5784
10:30AM-10:50AM	Coffee Break - Olmsted Ballroom 1-3 Pre-function		
10:50AM-12:10PM	Session 2-10: SMA s for Actuator Applications Chair: Alexander Czechowicz (Bochum) Co-Chair: Dennis Otibar (Bochum)	Session 6-6: Biomolecular Materials II Chair: Airny Wissa (UIUC) Co-Chair: Michelle Mansour (UGA)	Session 4-10: Morphing Wing 3 Chair: Johannes Riemenschneider (German Aerospace Center) Co-Chair: Andres Arita (Purdue University)
10:50AM	5619	5745	AMTIS Award winner 5771 (Srinivas Vasista)
11:10AM	5669	5648	
11:30AM	5503	Invited Talk: 5801 (Eric Freeman, UGA)	5749
11:50AM			
12:10PM-1:40PM	Lunch - Olmsted Ballroom 4		
12:10PM-1:40PM	Aerospace Executive Committee Meeting - Hikes Point		
12:10PM-1:40PM	Student Trivia Lunch - Olmsted Ballroom 4		
1:40PM-3:20PM	Session 1-9: SMA - Characterization II Chair: Michael Mills, (Ohio State University)	Session 6-7: Bioinspired Actuation and Sensing II Chair: Eric Freeman (UGA)	Session 4-11: Smart Materials Applications Chair: Umesh Ghandi (Toyota)
	Session 8-4: 3D Printing & Advanced Manufacturing II Chair: Stephen Sarles (University of Tennessee)		

Wednesday, September 11

	CHARRED	BARREL	OAK	BARLEY
7:00AM–8:00AM	Breakfast - Olmsted Ballroom 4			
1:40PM	Co-Chair: Darren Hartl, Texas A&M University	Co-Chair: Giovanni Berselli (University of Genoa)	Co-Chair: Larry Peel (Texas A&M-Kingsville)	Co-Chair: Cody Wright (Rutgers University)
2:00PM	5705	5642	5696	5559
2:20PM	5709	5644	5698	5666
2:40PM	5714	5645	5561	5740
3:00PM		5671	5568	5760
3:20PM–3:40PM	Coffee Break - Olmsted Ballroom 1-3 Pre-function			
3:40PM–5:20PM	Session 1-10: Multifunctional Materials III	Session 8-5: Material Characterization & Metamaterials	Session 6-8: Biocomotion II	Session 4-12: Sensors and Self Sensing
	Chair: Allison Arnold (NASA Langley)	Chair: Giovanni Berselli (University of Genoa)	Chair: Jovana Jovanova (Ss. Cyril and Methodius University)	Chair: Andres Arrieta (Purdue University)
	Co-Chair: Gary Seidel (Virginia Tech)	Co-Chair: Julianna Abel (University of Minnesota)	Co-Chair: Eric Freeman (UGA)	Co-Chair: Kazuko Fuchi (University of Dayton)
3:40PM	5624	5615	5549	5515
4:00PM	5685	5646	5553	5551
4:20PM	5688	5661		5587
4:40PM	5732	5769		5736
5:00PM				5509



ASME[®] 2019 **SMASIS**

CONFERENCE ON SMART MATERIALS, ADAPTIVE STRUCTURES,
& INTELLIGENT SYSTEMS (SMASIS)