



**6<sup>th</sup> International (online) Summer School on  
Advanced Material Systems (AMS):  
Manufacturing – Characterization – Modeling  
July 20-24, 2020**

**Program**

**Day 1 – Monday, July 20, 2020 (Central Daylight Time (CDT))**

<b>08:00-08:15</b>	Welcome Session	- Dr. S. Stylianidis, Vice Rector for Research AUTH - Dr. K. Katsifarakis, Dean of Engineering AUTH - Dr. D. Lagoudas, Senior Associate Dean for Research TAMU
<b>08:15-08:30</b>	Introduction / Expectations	Dr. N. Michailidis, Director of the TEES-AUTH Partnership

<i>Session I: Advanced Materials &amp; Manufacturing</i>		<i>Instructor</i>
<b>08:30-09:10</b>	Shape Memory Materials (SMAs)	Dr. D. Lagoudas
<b>09:10-09:50</b>	Additive Manufacturing of Phase Transforming Materials	Dr. I. Karaman
<b>09:50-10:00</b>	Break	
<b>10:00-10:40</b>	Additive Manufacturing of Shape Memory Polymers (SMPs) and 3D scaffolds	Dr. N. Michailidis
<b>10:40-11:20</b>	Processing and Characterization of Porous Materials	Dr. F. Stergioudi
<b>11:20-11:40</b>	Discussion	

**Day 02 – Tuesday, July 21, 2020**

<i>Session II: Micromechanics Workshop, Virtual hands-on &amp; student projects</i>		<i>Instructor</i>
<b>08:00-08:40</b>	Micromechanics Workshop Part I	Dr. D. Lagoudas
<b>08:40-09:20</b>	Micromechanics Workshop Part II	Dr. G. Chatzigeorgiou
<b>09:20-09:30</b>	Break	
<b>09:30-10:10</b>	Micromechanics of Multifunctional Composites	Dr. G. Seidel
<b>10:10-10:50</b>	Experimental measurement of effective elastic properties	Dr. K. Katakalos
<b>10:50-11:50</b>	Student Projects Assignment	Dr. G. Chatzigeorgiou

**Day 03 – Wednesday, July 22, 2020**

<i>Session III: Simulation of Smart Materials &amp; Structures</i>		<i>Instructor</i>
<b>08:00-08:40</b>	Micromechanics of Ductile Failure	Dr. J. Wilkerson
<b>08:40-09:20</b>	Fracture in SMAs	Dr. T. Baxevanis
<b>09:20-09:30</b>	Break	
<b>09:30-10:10</b>	Materials for Active Vibration Control	Dr. D. Saravanos
<b>10:10-10:50</b>	Optimization & Design of Morphing Structures	Dr. D. Hartl

**Day 04 – Thursday, July 23, 2020**

<i>Session IV: SMA Workshop and Student projects</i>		<i>Instructor</i>
<b>08:00-09:30</b>	SMA Workshop	Dr. A. Karakalas
<b>09:30-09:40</b>	Break	
<b>09:40-11:00</b>	Review of progress on projects	Dr. G. Chatzigeorgiou
<b>11:00-...</b>	Students continue working on their Projects	



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**Day 05 – Friday, July 24, 2020**

<i>Session V: Industrial Applications of Advanced Material Systems</i>		<i>Instructor</i>
<b>08:00-08:40</b>	BETA CAE Systems   Capturing Multi-scale response of Composites with Homogenization techniques	Dr. I. Nerantzis
<b>08:40-09:20</b>	BOEING   Shape Memory Alloys in Aerospace: Breakthroughs and Roadblocks to Innovation	Mr. J. Mabe
<b>09:20-09:30</b>	Break	
<b>09:30-11:00</b>	Presentation of Student Projects	All instructors
<b>11:00-11:30</b>	Certificate Awarding Ceremony and Conclusion of Summer School	All instructors
<b>11:30-12:00</b>	Networking session	All instructors