



**Science and Technology in Japan (July 6<sup>th</sup> - July 14<sup>th</sup>, 2023)**  
**Lecturer Profile, Abstract of Lecture and Field Trip**

<b>Lecture of Shape memory alloy and Lab. Tour in mechanical engineering</b>	
Date: July 7th	Lecturer: NOTOMI Mitsuo
<p>Abstract of the lecture:</p> <p>Shape memory alloy is one of the most strange and marvelous material in the earth because the alloy has remembered the original shape after suffering from large deformation, i.e., plastic beyond elastic and could recover it by heating. First of all, I'll show you some videos of the shape recovery experiments with some kind of metals and shape memory alloy. Secondly, I'll explain an outline of the mechanism of the shape memory alloy with a complete list of kinds of shape memory binary alloys. This list is one of my research results. Thirdly, I'll pick up one of the SMA applications in the most famous space project, that is Hayabusa mission. The fact using SMA actuator in the mission is not famous but I believe that is one of the key points for the success of the mission.</p>	
<p>Fieldwork: Lab. tour</p> <ul style="list-style-type: none"> <li>● Machine Dynamics Lab. (Matsuoka Lab.)</li> <li>● Complex Robot Systems Lab. (Niiyama Lab.)</li> <li>● Fluid Flow Design Lab. (Kametani Lab.)</li> </ul>	
	<p>NOTOMI Mitsuo            Professor            Department of Mechanical Engineering            Research Interests: Material strength, fracture mechanics, polymeric materials, shape-memory alloys, and finite element analysis.</p>
	<p>MATSUOKA Taichi            Professor            Department of Mechanical Engineering Informatics            Research Interests: Dynamics, Vibration control and Damping technology</p>
	<p>NIIYAMA Ryuma            Associate Professor            Department of Mechanical Engineering Informatics            Research Interests: Robotics and intelligent system</p>
	<p>KAMETANI Yukinori            Senior Assistant Professor            Department of Mechanical Engineering Informatics            Research Interests: Analysis, prediction, optimal design and control of heat and mass transfer by fluid flows</p>