


**DEPARTMENT OF MECHANICAL ENGINEERING**
**SEMINAR**
**Online**

<b>Title:</b>	<b>Advanced alloys: data-driven design strategies and deformation mechanisms</b>
<b>Speaker:</b>	<b>Dr. Wang Ming</b> Postdoctoral Fellow Department of Mechanical Engineering HKU
<b>Date:</b>	<b>25 April 2022 (Monday)</b>
<b>Time:</b>	<b>10:00am</b>
<b>Join Zoom Meeting</b> <a href="https://hku.zoom.us/j/97750641745?pwd=RDFaZE1Rbk5adVRmWVI2dFozeWlsdz09">https://hku.zoom.us/j/97750641745?pwd=RDFaZE1Rbk5adVRmWVI2dFozeWlsdz09</a>	
<b>Meeting ID: 977 5064 1745</b>	
<b>Password: 094789</b>	

**Abstract:**

Advanced alloys have a wide range of applications, especially in the fields of automotive, aerospace, marine and nuclear engineering. Traditionally, the advanced alloys with desired mechanical properties were mainly designed based on an experimental trial and error method. Nowadays, leveraging well-developed data science algorithms, machine learning has attracted growing attention in materials informatics and has been frequently applied to predict both physical and chemical properties of alloys. In this talk, I will firstly present our data-driven strategies, which combine machine learning with experiments and computations, to explore ductile Mg alloys and high entropy alloys. Furthermore, when advanced alloys are put into service, they may be subjected to collision accidents (i.e., high strain rates) and harsh environments (e.g., high and sub-zero temperatures). Accordingly, I will introduce split Hopkinson bar tensile testing technique and then discuss the deformation mechanisms of quenching and partitioning steels and Mg alloys at various strain rates. My future work will focus on more applications of data science in materials science and the service of advanced alloys in mixed conditions, e.g., high strain rates and extreme temperatures at the same time.

**Biography:**

Ming Wang is currently a postdoctoral fellow in the Department of Mechanical Engineering at the University of Hong Kong. He obtained his B.Eng. degree from the Honors School at Harbin Institute of Technology in 2016 and Ph.D. from the University of Hong Kong in 2021. His research interests focus on machine learning strategies for accelerated alloy design and the deformation mechanisms of advanced alloys under extreme conditions.

**ALL INTERESTED ARE WELCOME**

**For further information, please contact Prof. M.X. Huang at 3917 7906.**