



## **Metal Matrix Composites and Syntactic Foams: Manufacturing, Properties and Applications**

Guest Editor:

**Prof. Dr. Yuyuan Zhao**

1. College of Mechanical and  
Automotive Engineering, Ningbo  
University of Technology, Ningbo,  
China

2. School of Engineering,  
University of Liverpool, Liverpool  
L69 3GH, UK

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### **Message from the Guest Editor**

Metal matrix composites have experienced rapid developments in the last few decades. Metal matrices cover almost all types of alloys, from aluminum alloys to steel, titanium, magnesium and more advanced high-performance alloys, such as high-entropy alloys. The reinforcements vary not only in form from particulates to fibers but also in materials from ceramics to some exotic fillers. In fact, the word “reinforcement” is not an accurate description of the second phase, as many second phases are added not necessarily to make the composite stronger and stiffer but to provide a special function. For example, metal matrix syntactic foam is a special composite containing hollow ceramic particles to offer compressibility and thus energy-absorption capabilities. While the more conventional manufacturing methods, such as casting, powder metallurgy and spray forming, are still the mainstream, recent advances in new technologies, e.g., additive manufacturing, have provided a new impetus to the field. This Special Issue covers a wide range of topics with emphasis on recent developments in materials, fabrication, characterization, properties and applications.





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**Prof. Dr. Giulio Nicola Cerullo**

Dipartimento di Fisica,  
Politecnico di Milano, Piazza L.  
da Vinci 32, 20133 Milano, Italy

## Message from the Editor-in-Chief

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Applied Sciences Editorial Office  
MDPI, St. Alban-Anlage 66  
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