



## Advances in Modelling for Additive Manufacturing

Guest Editors:

**Dr. George Panoutsos**

Department of Automatic Control  
and Systems Engineering,  
University of Sheffield, Sheffield  
S10 2TN, UK

**Prof. Dr. Hector Basoalto**

Department of Materials Science  
and Engineering, University of  
Sheffield, Sheffield S10 2TG,  
England

Deadline for manuscript  
submissions:

**closed (1 April 2021)**

### Message from the Guest Editors

Dear Colleagues,

The topic of Additive Manufacturing has seen a dramatic increase in research activity in recent years, with significant attempts to better understand processes at a fundamental level, develop hardware and software technologies that will enable better process monitoring, control and optimisation, as well as develop computational frameworks to ensure robust manufacture. At the core of many research efforts is the non-trivial task of development and use of mathematical models to capture and understand process-powder-part behaviours. A range of mathematical modelling methods are used, such as physics-driven analytical and numerical methods as well as data-driven methods relying on data-science and machine learning attempts. In this special issue, we aim to exemplify state-of-the-art modelling approaches with application to additive manufacturing, towards demonstrations of better understanding underlying AM physics and processes, as well as demonstrations of standalone models or integrated model-based systems that aim to monitor, control or optimise an AM process.





an Open Access Journal by MDPI

## Editor-in-Chief

**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

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Multidisciplinary*) / CiteScore - Q1 (*General Engineering*)

## Contact Us

---

Applied Sciences Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/applsci](http://mdpi.com/journal/applsci)  
[applsci@mdpi.com](mailto:applsci@mdpi.com)  
[X@Applsci](https://twitter.com/Applsci)