



## Advancements in Machining Technologies of Titanium-Based Alloys

Guest Editor:

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Deadline for manuscript submissions:

**closed (31 March 2023)**

### Message from the Guest Editor

Machining has been and is still a major hurdle of manufacturing of titanium-based alloy components because of the low allowable cutting speed and high tooling cost. This is mainly attributed to the rapid increase in cutting temperature with an increase in cutting speed.

The aim of this special issue in *Metals* is to present the state-of-the-art research status in the advancements of machining technologies of titanium-based alloys including, but not limited to, the following topics:

- The machinability of various titanium alloys: additively manufactured titanium alloys, alpha-beta titanium alloys, beta titanium alloys etc.;
- Assisted machining: thermally assisted, ultrasonic vibration assisted machining, etc.;
- Non-traditional machining: electrical discharge machining, abrasive jet machining, etc.;
- Effective cooling strategies: high pressure coolant, cryogenic machining, minimum quantity cooling etc.;
- New materials, coatings and designs for cutting tools: polycrystalline diamond (PCD) tool, self-propelled rotary tool, etc.;
- Tribology of cutting and tool wear;
- Chip formation and control;
- Computational simulation of machining of titanium alloys.





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## Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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