# Special Issue

# Microstructural Degradation of Superalloys during Service: Mechanical and/or Corrosion

## Message from the Guest Editors

Superalloys used as blade material for gas turbines are strengthened by small intermetallic γ′-precipitates of the Ni3Al type. γ′-precipitation provides excellent mechanical properties at high temperatures, but its efficiency strongly depends on the size and morphology of the γ′-precipitates. During high temperature service in aircraft and power gas turbines, the γ/γ′-microstructure of nickel-base superalloys gradually degrades. This degradation of the microstructure deteriorates the mechanical properties. In this issue, we invite contributions on the microstructure degradation of superalloys and the microstructural characterization and relationships between microstructure and its properties. The submitted works are expected to feature but are not limited to the following topics:

- Microstructural characterization of superalloys;
- Relationship between microstructural variation and its properties;
- Microstructural variation during corrosion of superalloys;
- Stress corrosion induced microstructural degradation in superalloys;
- Evaluation of serviced turbine blade;
- Newly developed superalloys: high entropy alloys, etc.

## Guest Editors


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## Deadline for manuscript submissions

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

## Editor-in-Chief

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