# Special Issue

# Sintering Behavior in Steels

### Message from the Guest Editor

The sintering of PM steels has become increasingly challenging over the last 20 years. With the market entry of chromium alloyed steels, a new era in PM steels has started and moved from easy-to-sinter alloys Fe-Cu-Ni-Mo to more advanced systems alloyed with chromium and manganese. Basic scientific work has proven to be essential for understanding and establishing these alloys in industrial practice. Apart from maximum mechanical properties, PM steels are also faced with other demands from the end-users.

- Low-cost alloys require the development of lean alloy concepts, and their sintering behavior has to be studied.
- Precision of parts is of extreme importance to reduce the costs of mechanical working after the sintering process. This becomes even more important when high-temperature sintering is applied.
- High-temperature sintering needs new furnace concepts to reach all the properties that are offered by the new alloying systems.
- Modelling tools for the sintering process are necessary to predict the dimensional behavior and the final mechanical properties.

### Guest Editor

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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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