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Mechanical Alloying and Powder Compaction of Crystalline and Amorphous Composites

Guest Editor:

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Message from the Guest Editor

Mechanical alloying is widely recognized as a powder processing technique leading to the formation of many non-equilibrium and equilibrium structures, like extended solid solutions, amorphous alloys, nanocrystalline (nanostructured) alloys, intermetallic compounds, or in situ composites. The next step following the mechanical alloying process is usually powder compaction, preserving their non-equilibrium structure. Various techniques are employed for powder consolidation, like cold pressing followed by sintering, hot pressing, hot isostatic pressing, explosive compaction, and spark plasma sintering.

This Special Issue of *Materials* will be a detailed overview of recent research and development in the field of mechanical alloying/milling of metallic/ceramic powders followed by their compaction to get bulk amorphous/nanocrystalline materials and composites.

Potential topics include, but are not limited to:

- Mechanical alloying
- Mechanical milling
- Mechanochemical reactions
- Amorphous and nanocrystalline powders
- Bulk amorphous and nanostructured alloys
- Metallic composites
- Ceramic composites
- Powder compaction



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Message from the Editor-in-Chief

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