



## Assessment of Metallurgical and Mechanical Properties of Welded Joints via Numerical Simulation and Experiments

Guest Editor:

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Deadline for manuscript submissions:

**closed (10 April 2022)**

### Message from the Guest Editor

Dear Colleagues,

Welding has been the most important joining technique applied to metallic materials since the early twentieth century when the arc welding technology developed. Advantages of welding processes are: Absence of holes that weaken the structure, reduction of production cost, faster speed of fabrication compared to bulky riveted/butted joints and so on. However, there are disadvantages, as well. Near the joint, the metallic material is altered, most of the time in a negative direction. Fatigue strength in particular is reduced compared to that of the parent metal because of metallurgical defects or stress concentration effects at the weld toe and/or root. Residual stresses are even induced that according to their sign could reduce the load bearing capacity and the fatigue strength of the joint. This Special Issue aims to collect original works dealing with new advances in welded joints microstructure and mechanical characterization via numerical simulation and/or experiments. Papers that propose new numerical strategies as well as experimental fatigue data and design methodologies are particularly appreciated.





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