Special Issue

Artificial Intelligence and De-Skilling in Welding Research and Applications

Message from the Guest Editor

Artificial Intelligence (AI) is increasingly transforming the field of welding research. From data-driven modeling to autonomous experimental design, AI tools are accelerating innovation and reshaping the role of researchers. This shift raises important questions about de-skilling in welding research—specifically, whether a reliance on AI reduces the need for traditional domain expertise, and how this affects the depth and direction of scientific inquiry. This Special Issue invites original research and review articles that explore how AI is changing the nature of welding research. Topics include AI-assisted process development, predictive modeling, automated experimentation, and the evolving skill sets required in academic and industrial research environments. We aim to foster dialogue on how the welding research community can embrace AI-driven tools while preserving the rigor, creativity, and knowledge that define the field.

Guest Editor

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