INTERNATIONAL WORKSHOP ADITIVE MANUFACTURING

2ND INTERNATIONAL WORKSHOP

ADDITIVE MANUFACTURING AND SUSTAINABILITY

BOOK OF ABSTRACTS

IWAM 24

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WELCOME

We are pleased to present the International Workshop on Additive Manufacturing and Sustainability Book of Abstracts. This compilation brings together researchers, professors, and innovators from around the world who are advancing additive manufacturing (AM) and sustainable practices.

As the global community prioritizes environmental responsibility, additive manufacturing has emerged as a transformative technology capable of revolutionizing industries while reducing ecological footprints. This workshop unites advanced research, innovative applications, and progressive strategies to examine how additive manufacturing can enhance sustainability.

Within these pages, you will find a diverse array of abstracts showcasing ground-breaking work in areas such as:

Sustainable materials and processes in AM,

Energy efficiency and waste reduction,

Circular economy and lifecycle analysis,

Each contribution reflects a commitment to addressing the challenges and opportunities at the intersection of technology and sustainability. We hope this collection not only informs but also inspires collaboration and innovation among participants.

We are profoundly grateful to the authors, reviewers, and organizers whose unwavering commitment has enabled the publication of this book. A special thank you to our sponsors and partners for their unwavering support in bringing this workshop to life.

We appreciate your participation in this wonderful adventure. Let's work together to advance sustainability and innovation!

Warm regards,

The IWAM 2024 Organizing Committee,

João Rocha

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Increasing motivation and learning in digital manufacturing: Blended Intensive Programs for STUDENTS

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This article deals with an approach to teaching digital manufacturing and in particular additive manufacturing through a set of tasks involving scanning and 3D printing. This pedagogical project stands out for incorporating international students from multiple international institutions and different background through the Blended Intensive Program (BIP), this program had students from various areas Science, Technology, Engineering, Arts and Mathematics (STEAM). Research results indicate that this approach produces excellent results in terms of student engagement and learning outcomes. The program effectively promotes students' creative skills, solving a set of tasks by group, combining theoretical training with practical experience in a competitive environment.

Keywords: Digital Manufacturing; Additive Manufacturing; Blended Intensive Program (BIP); Student Engagement.

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