# Scientific Committee – Editorial Board

Aitzol Lamíkiz (UPV-EHU)
Alfredo Sanz (UPM)
Carmelo Javier Luis (UPN)
Carpóforo Vallellano (US)
Eduardo Cuesta (UNIOVI)
Emilio Gómez (UPM)
José Enrique Ares (UVIGO)
Eva M. Rubio (UNED)
F. Javier García-Lomas (US)
Félix Faura (UPCT)
Fernando Romero (UJI)
Francisco Aguayo (US)
Franck Girot (ENSAM-Burdeos)
Fernando Torres (UNIZAR)
Jesús María Pérez (UPM)
Joaquim de Ciurana (UdG)
Joaquín Barreiro (UNILEON)
Joaquín López (UPCT)
José A. Sánchez (UPV)
José María de la Portilla (ULPGC)
Juan Antonio García (UPV)
Juan José Aguilar (UNIZAR)
Justino Fernández (TECNUN)
Lorenzo Sevilla (UMA)
Luis N. López de Lacalle (UPV)
Luis P. Ferreira (IPP)
M. Henar Miguélez (UC3M)
Manuel San Juan (UVA)
María Jesús Martín (UMA)
Mariano Marcos (UCA)
Miguel Álvarez (UCA)
Miguel Ángel Sebastián (UNED)
Moisés Batista (UCA)
Pedro Arrazola (MU)
Pedro Núñez (UCLM)
Pedro Rosado (UPV)
Rosario Domingo (UNED)
Santiago Ferrándiz (UPV)
Vicente Jesús Seguí (UPV)

# Technical Edition

Jorge Salguero Gómez
Álvaro Gómez Parra
Pedro Fco. Mayuet Ares
Severo Raúl Fernández Vidal

# Sponsors

Manufacturing Engineering Society

Universidad de Cádiz

Escuela Superior de Ingeniería

ULPGC

Conferencia de Directores de Escuelas de Ingeniería Técnica Industrial

COGITI
Consejo General de la Ingeniería Técnica Industrial

# PREFACE

Nowadays, Materials Processing Engineering (MPE) -which includes Materials Processing Technologies knowledge and applications- is considered as an interdisciplinary field of Engineering commonly related with Manufacturing Engineering. The importance of this subject makes highly relevant the learning-teaching process of MPE, taking into consideration its importance and placement in a Manufacturing Process and/or a Manufacturing System. Thus, Materials Processing Learning and Training must be accompanied by different sets of workshops and lab practical experiences. Generally, the equipment needed to be applied in these labs or workshops is very expensive and it can be remain obsolete in a few years. On the other hand the continuous materials evolution provokes topic change necessities. Innovative education techniques based on information and communications technologies are currently under consideration in order to improve the materials processing learning and training.

This Volume of Materials Science Forum titled ***New Frontiers in Manufacturing Engineering and Materials Processing Training and Learning*** reports the latest developments and original applications, theoretical researches and case studies in the innovative education field applied to Materials Processing Engineering and Technologies, taking into account the Manufacturing Engineering viewpoint. The papers included in this issue have been selected from those presented to the Third Special Symposium on New Frontiers in Materials Processing Learning and Training of the 20th Innovative University Technical Learning, hold in Las Palmas de Gran Canaria (Spain) in July 2012.

We hope that all the papers here published can also contribute to the future development of new learning and training techniques in other disciplines.

Miguel Álvarez
Moisés Batista
Mariano Marcos
(Editors)