

Available online at www.sciencedirect.com**ScienceDirect**

Procedia Engineering 132 (2015) 1 – 6

**Procedia
Engineering**www.elsevier.com/locate/procedia

The Manufacturing Engineering Society International Conference, MESIC 2015

Preface



© 2015 Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).
Peer-review under responsibility of the Scientific Committee of MESIC 2015

Manufacturing Engineering is a key-driver for the enhancement of economical sustainable development and for the increase on the quality of living of the citizens. Indeed, in a globalized world, Manufacturing Engineering faces continually new challenges and has to respond to them with technological improvements as well as with organizational approaches out of the traditional ones. Moreover, megatrends as the Digitization of the Society, the emergence of new urban manufacturing linked to the metropolitan concentration of the population, or the democratization of many manufacturing systems require specific response to adjust the supply chains, the training of the users, the data management and the quality assurance of the production.

The Manufacturing Engineering Society International Conference (MESIC) is conducted every two years fulfilling one of the most important objectives of the Spanish Manufacturing Engineering Society (SIF): creating forums for exchanging experiences in the related fields of knowledge.

The 6th edition of the Conference took place at the *Escola Tècnica Superior d'Enginyeria Industrial de Barcelona* of the *Universitat Politècnica de Catalunya* (UPC-BarcelonaTECH), in Barcelona, Spain, from 22nd to 24th July 2015. Following the objectives of the previous editions, the 2015 conference offered a unique meeting point for professionals, researchers and educators from industry, research centers and academia to present and discuss recent advances in the field of Manufacturing Engineering. The academic and scientific conference incorporated Special Sessions on Pan-European Collaborative Research Projects as well as Industrial Panels for Technological Success Cases dissemination and a dedicated exhibition area for companies, associations and research entities, to demonstrate live the latest technological advances.

From the awareness and attraction of scientific content, specific work was conducted to attract top-class results from worldwide as well as to grant doctoral students travel and accommodation to be present in the conference. Concerning the specific technological domains, a notable stress was undertaken to foster the participation and so to leverage the technological presentation of results under the Digital Manufacturing and Additive Manufacturing Technologies.

Papers relevant to the scope of MESIC include the following areas:

1. Moulding processes
2. Forming processes
3. Machining processes
4. Non-traditional manufacturing processes
5. Welding and joining technologies
6. Industrial metrology
7. Manufacturing systems
8. Automation of production
9. Digital Manufacturing and PLM Technologies
 - 9.1. CAD/CAM/CAE
 - 9.2. Modeling and simulation in manufacturing engineering
 - 9.3. Integrated development of products and processes
10. Production planning
11. Rapid prototyping and additive manufacturing
12. Integrated development of products and processes
13. Industrial quality and quality management
14. Teaching and learning in manufacturing engineering

Contributions were received from 19 different countries, adding up to 174 communications, of which 59 were presented orally and 115 were displayed via poster. The total number of attendees was 269, of which 50 were accredited as students. Also, the Industrial and Technological Special Sessions featured up to 19 industrial technology-driven project case presentations. The exhibition area incorporated 12 stands from companies, associations and research centers' demonstrators.

The internationalization of the conference was inherent and the attraction of delegates was also reinforced by the four Key-note Speeches delivered by the following renowned international speakers:

- Opening lecture “Hot stamping of Sheet Steels” by Professor Jose Manuel Prado from the *Universitat Politècnica de Catalunya* in Barcelona, Spain.
- Invited lecture: “PLM integration and Knowledge for decision support systems” by Professor Alain Bernard is from *École Centrale de Nantes* in Nantes, France.
- Invited lecture: “Airbus and the Factory of the Future” by George-Eric Moufle of the *Airbus Group Worldwide*.
- Closing lecture: “Advanced Manufacturing Systems and Industrial Technologies” by Professor Marco Taisch from the *Politecnico di Milano* in Milano, Italy.

The conference single language was English and the Oral presentations were organized in 14 sessions along the 3 conference days. Oral presentations were allocated ten minutes for presentation and five additional minutes to respond to questions from the audience, enabling further discussion. The contributions in poster format participated to the best poster competition and three awards were given to the winners during the gala dinner of the conference, based on the vote of all conference attendees.

Joan Vivancos i Calvet. Chairman of the MESIC 2015
Irene Buj i Corral and Joaquim Minguella i Canela. Editors

Organizing Committee

- President of the Scientific Committee
Dr. Joan Vivancos, Chairman on Manufacturing of the Department of Mechanical Engineering at ETSEIB-UPC
- President of the Thematic Committee
Dr. Irene Buj, Senior Lecturer of the Department of Mechanical Engineering at ETSEIB-UPC
- President of the Organizing Committee
Dr. Joaquim Minguella, Director of Technology and Learning at Fundació CIM-UPC
- President of the Technical Committee
Mrs. Marta Martínez, Head of R+I at Fundació CIM-UPC

- Committee Members
J. Aguilar (SIF)
F. Romero (SIF)
S. Ferrándiz (SIF)
E. Gómez (SIF)
J. de Ciurana (SIF)
A. Sanz (SIF)
L. Sevilla (SIF)
F. Fenollosa (UPC-CIM)
F. Mas (Airbus Group)
J. Ríos (UPM)
P. Tamés (AFM / INVEMA)
S. Ekinovic (U ZENICA)
J.R. Gomà Ayats (UPC-FCIM)

- Secretariat Office
N. Esteban (UPC-FCIM)
E. Riera (UPC-FCIM)
E. Caballero (UPC-FCIM)
E. Rosendo (UPC-FCIM)
M.A. Rosendo (UPC-FCIM)
G. Casas (UPC-FCIM)
M.A. Sánchez (UPC-FCIM)
G. Álvarez (UPC-FCIM)
M. Prats (UPC-FCIM)
G. Puig (UPC-FCIM)
A. Artero (UPC-FCIM)

- Scientific Committee Members

| | |
|---|---|
| <p>Abele, Eberhard Abellán Nebot, José Vicente Aguado, Sergio Aguilar Martín, Juan José Al Omar, Anas Albajez, José Antonio Alberdi Gurrutxaga, Amaia Álvarez Alcón, Miguel</p> | <p>Technische Universität Darmstadt Univesitat Jaume I Universidad de Zaragoza Universidad de Zaragoza Universitat Politècnica de Catalunya Universidad de Zaragoza Tecnalia Universidad de Cádiz</p> |
|---|---|

| | |
|--------------------------------------|--|
| Anderl, Reiner | Technische Universität Darmstadt |
| Angius, Alessio | Universita' degli studi di Torino |
| Anglada, Eva | Tecnalia |
| Apetrei, Constantin | Universitatea Dunarea de Jos din Galati |
| Araújo, Maria Madalena T. | Universidade do Minho |
| Arrieta, Juanan | IK4-IDEKO |
| Arenas, José Manuel | Universidad Politécnica de Madrid |
| Ares Gómez, José Enrique | Universidad de Vigo |
| Arrazola Arriola, Pedro José | Universidad de Mondragón |
| Barreiro García, Joaquín | Universidad de León |
| Bašić, Hazim | Univerzitet u Sarajevu |
| Beranoagirre Imaz, Aitor | Euskal Herriko Unibertsitatea |
| Bermell, Pablo | Airbus Group Innovations UK |
| Bernard, Alain | Ecole Centrale de Nantes |
| Boronat Vitoria, Teodomiro | Universitat Politècnica de València |
| Buj Corral, Irene | Universitat Politècnica de Catalunya |
| Buza, Shaban | Universiteti i Prishtinës |
| Caja García, Jesús | Universidad Politécnica de Madrid |
| Camacho López, Ana | Universidad Nacional de Educación a Distancia |
| Cantero Guisández, José Luis | Universidad Carlos III de Madrid |
| Cardona Foix, Salvador | Universitat Politècnica de Catalunya |
| Català Calderón, Pau | Fundació CIM- Universitat Politècnica de Catalunya |
| Centeno Báez, Gabriel | Universidad de Sevilla |
| Colledani, Marcello | Politecnico di Milano |
| Cotterell, Matthew | Cork Institute of Technology |
| Cuesta González, Eduardo | Universidad de Oviedo |
| Cuiñas Vázquez, Daniel | Fundació CIM- Universitat Politècnica de Catalunya |
| de Agustina Tejerizo, Beatriz | Universidad Nacional de Educación a Distancia |
| de Ciurana Gay, Joaquim | Universitat de Girona |
| de los Santos López, Tània | Universitat Politècnica de Catalunya |
| de Sales Martín Fernández, Francisco | Universidad de Málaga |
| Dhokia, Vimal | University of Bath |
| Domingo Navas, María Rosario | Universidad de Sevilla |
| Ekinovic, Sabahudin | Univerzitet u Zenici |
| Estrems Amestoy, Manuel | Universidad de Navarra |
| Faura Mateu, Félix | Universidad Politécnica de Cartagena |
| Fenollosa Artés, Felip | Fundació CIM- Universitat Politècnica de Catalunya |
| Fernández Abia, Anabel | Universidad de León |
| Fernández Díaz, Justino | Universidad Pública de Navarra |
| Ferrandiz Bou, Santiago | Universitat Politècnica de València |
| Ferrer Real, Inés | Universitat de Girona |
| Ferrer Marti, Laia | Universitat Politècnica de Catalunya |
| Franco Ferreira, Lucía | AIMEN |
| Franco Chumillas, Patricio | Universidad Politécnica de Cartagena |
| Fudge, Colin | Royal Melbourne Institute of Technology |
| García Romeu, Maria Luisa | Universitat de Girona |
| García García, Manuel | Universidad Nacional de Educación a Distancia |
| García-Lomas Jung, Javier | Universidad de Sevilla |
| Gil del Val, Alain | Universidad Pública de Navarra |
| Goma Ayats, Joan Ramon | Fundació CIM- Universitat Politècnica de Catalunya |
| González Gaya, Cristina | Universidad Nacional de Educación a Distancia |

| | |
|------------------------------------|--|
| González Sainz, José Antonio | Universidad Politécnica de Madrid |
| Guilemany, Josep Maria | CPT- Universitat de Barcelona |
| Güngör, Ali | Bahçesir University |
| Hernández Castellano, Pedro M. | Universidad de las Palmas de Gran Canaria |
| Hortigón Fuentes, Beatriz | Universidad de Sevilla |
| Hribnik, Aleš | Univerza v Mariboru |
| Izquierdo Aramburu, Borja | Euskal Herriko Unibertsitatea |
| Jerbic, Bojan | Sveučilište u Zagrebu |
| Jin, Yan | Queen's University of Belfast |
| Jordi Nebot, Lluisa | Universitat Politècnica de Catalunya |
| Kiritsis, Dimitris | École Polytechnique Fédérale de Lausanne |
| Kopac, Janez | Akademsko In Raziskovalna Mreža Slovenije (ARNES) |
| Lagarrigue, Pierre | Centre Universitaire Jean-François Champollion |
| Lamikiz Mentxaca, Aitzol | Euskal Herriko Unibertsitatea |
| Lelardeux, Cathy | Centre Universitaire Jean-François Champollion |
| López Rodríguez, Joaquín | Universidad Politécnica de Cartagena |
| Luis Pérez, Carmelo | Universidad Pública de Navarra |
| Madou, Marc | University of California Irvine (USA) |
| Majarena Bello, Ana Cristina | Universidad de Zaragoza |
| Malone, Eva | Napier University |
| Manrique García, Juan Antonio | Universitat Politècnica de València |
| Marcos-Bárcena, Mariano | Universidad de Cádiz |
| Maresca, Piera | Universidad Politécnica de Madrid |
| Marín Martín, Marta M ^a | Universidad Nacional de Educación a Distancia |
| Martinez Miralles, Jordi Ramon | Universitat Politècnica de Catalunya |
| Martínez Donaire, Andrés Jesús | Universidad de Sevilla |
| Martins, Paulo | Instituto Superior Técnico do Lisboa |
| Mas, Fernando | Universidad de Sevilla / Airbus Group |
| Miguel Eguía, Valentín | Universidad de Castilla La Mancha |
| Minguella Canela, Joaquim | Fundació CIM- Universitat Politècnica de Catalunya |
| Miroslav, Neslusan | Žilinská Univerzita |
| Montealegre Aguado, María Ángeles | AIMEN |
| Montiel Parreño, Enrique | INESCOP |
| Morales Palma, Domingo | Universidad de Sevilla |
| Musemić, Rajfa | Univerzitet u Sarajevu |
| Mutilba, Unai | IK4-TEKNIKER |
| Newman, Stephen | University of Bath |
| Núñez López, Pedro J. | Universidad Castilla-La Mancha |
| Ortega Rodríguez, Naiara | Euskal Herriko Unibertsitatea |
| Oruč, Mirsada | Univerzitet u Zenici |
| Padula, Giuseppe | Università degli Studi di San Marino |
| Pàmies Vilà, Rosa | Universitat Politècnica de Catalunya |
| Pasang, Timotius | University of Auckland |
| Pastor Pérez, Jorge Juan | Universidad de Zaragoza |
| Pérez Bilbatua, Joseba | Mondragon Corporation |
| Pérez García, Hilde | Universidad de León |
| Petković, Darko | Univerzitet u Zenici |
| Pinto Ferreira, Luís | Instituto Politécnico do Porto |
| Pombo Rodilla, Iñigo | Euskal Herriko Unibertsitatea |
| Puig Ortiz, Joan | Universitat Politècnica de Catalunya |

| | |
|---------------------------------|---|
| Reig Pérez, Miguel Jorge | Universitat Politècnica de València |
| Reñones Domínguez, Anibal | Centro Tecnológico CARTIF |
| Reyes Pozo, Guillermo | IQS Sarrià |
| Rico Fernández, Jose Carlos | Universidad de Oviedo |
| Rios Chueco, Jose | Universidad Politècnica de Madrid |
| Rodríguez Salgado, David | Universidad de Extremadura |
| Romero, David | Tech de Monterrey |
| Romero Subirón, Fernando | Universitat Jaume I |
| Rosado Castellano, Pedro | Universitat Politècnica de València |
| Sağlam, Necdet | Hacettepe University |
| Salcedo Pérez, Daniel | Universidad Pública de Navarra |
| San Juan Blanco, Manuel | Universidad de Valladolid |
| Sánchez Lite, Alberto | Universidad de Valladolid |
| Sánchez Galindez, José Antonio | Euskal Herriko Unibertsitatea |
| Sánchez Reinoso, Horacio | U. Politècnica de Cartagena |
| Sánchez Carrilero, Manuel | Universidad de Cádiz |
| Santolaria Mazo, Jorge | Universidad de Zaragoza |
| Sanz Lobera, Alfredo | Universidad Politècnica de Madrid |
| Schmid, Manfred | Inspire AG, IRPD |
| Sebastián Pérez, Miguel Ángel | Universidad Nacional de Educación a Distancia |
| Selles, Miguel Ángel | Universitat Politècnica de València |
| Sevilla Hurtado, Lorenzo | Universidad de Málaga |
| Sierra Alcolea, Cayetano | Universitat Politècnica de Catalunya |
| Shyha, Islam | Northumbria University |
| Solano García, Lorenzo | Universitat Politècnica de València |
| Soriano, Cecilia | CIMNE - Universitat Politècnica de Catalunya |
| Sorli, Mikel | Tecnalia |
| Travieso Rodríguez, José A. | Universitat Politècnica de Catalunya |
| Tosello, Guido | Danmarks Tekniske Universitet |
| Ukar Arrien, Eneko | Euskal Herriko Unibertsitatea |
| Vallellano Martín, Carpóforo | Universidad de Sevilla |
| Vila Pastor, Carlos | Universitat Jaume I |
| Villa, Agostino | Politecnico di Torino |
| Vizan Idoipe, Antonio | Universidad Politècnica de Madrid |
| Joan Vivancos Calvet | Universitat Politècnica de Catalunya |
| Wilkins, Terrence A. | University of Leeds |
| Wyss, Ramon A. | KTH Royal Institute of Technology |
| Yagüe-Fabra, Jose A. | Universidad de Zaragoza |
| Young, Bob | Loughborough University |
| Zayas Figueras, Enrique Ernesto | Universitat Politècnica de Catalunya |