

14 to 17
December
2016
ESTG.IPLeiria
PORTUGAL



POLITÉCNICO
DE LEIRIA

CDRSP CENTRE FOR
RAPID AND SUSTAINABLE
PRODUCT DEVELOPMENT

RESIM

REsearch on
Sustainable and Intelligent Manufacturing

DETAILED PROGRAMME

WEDNESDAY, December 14th

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| 9:00 | Registration/ Reception | |
| 9:15 | Opening Session | Rui Pedrosa Vice-President IPLeiria |
| | | Nuno Alves Director of CDRSP |
| | | Artur Mateus Vice-Director of CDRSP |
| 10:45 | | Geoffrey Mitchell Vice-Director of CDRSP |
| | Coffee-break | |
| 11:00 | Plenary Sessions | Ludovico Alcorta <i>Manufacturing the future</i> |
| 12:00 | | Edward Leonard <i>The History, Promise, Disappointment and Future of Artificial Organs</i> |
| 13:00 | | |
| | Lunch | |
| 14:30 | MANUFACTURING AND CLIMATE CHANGE | Geoffrey Mitchell <i>Climate Change and Manufacturing</i> |
| | | Rachel Armstrong <i>Living architecture: An innovative platform for designing and engineering with metabolism</i> |
| 16:00 | CHAIR: Nuno Alves | |
| | Coffee-break | |
| 16:15 | MANUFACTURING AND CLIMATE CHANGE | Sérgio Gonçalves <i>The fourth "R" - The reversion of objects as a way of reducing waste</i> |
| 16:35 | | Caroline Dominguez <i>Stocks management improvement in a nursing ward using lean approach and mathematical modelling</i> |
| 16:55 | | Tiago Marques <i>An additive manufacturing solution to produce big green parts from tires and plastics recycled</i> |
| 17:15 | | Márcia Figueiredo <i>Managing knowledge – the importance of databases in the scientific production</i> |
| 17:35 | | Nuno Lopes <i>Optimization of constructive systems through the application of a genetic algorithm</i> |
| 18:30 | Visit to CDRSP Welcome Dinner | |

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| 9:15 | MANUFACTURING FOR SECURE SOCIETIES – EUROPE IN A CHANGING WORLD | Alberto Estévez <i>Bio-manufacturing the future: Biodigital Architecture & Genetics</i> |
| 10:45 | | David Ezra <i>Optical security devices for products and documents</i> |
| Coffee-break | | |
| 11:15 | MANUFACTURING FOR SECURE SOCIETIES – EUROPE IN A CHANGING WORLD | Lindey Wuisan <i>Circular economy</i> |
| 11:35 | | Tiago Marques <i>An integrated hybrid system to ensure the authenticity of products with a high level of encryption</i> |
| 11:55 | | Rita Santos <i>The impact of unexpected nanoparticles emitted from manufacturing. Present and future</i> |
| 12:15 | | Nelson Martins-Ferreira <i>Quantum printing: a discrete approach to 3D printing</i> |
| 12:35 | | Amilcar Lopes <i>Smart Solar Energy</i> |
| Lunch | | |
| 14:30 | MANUFACTURING FOR IMPROVED HEALTH AND WELL-BEING | Antonio Apicella <i>Biomaterials</i> |
| 16:00 | | João Morais <i>Clinical trials from a medical perspective</i> |
| Coffee-break | | |
| 16:15 | MANUFACTURING FOR IMPROVED HEALTH AND WELL-BEING | Mohit Chhaya <i>Additive BioManufacturing: Lessons to be Learnt from the Additive Manufacturing Industry and the Road Ahead</i> |
| 16:35 | | Mónica Faria <i>Hemocompatible Nanostructured Membranes for Artificial Organs</i> |
| 16:55 | | Margarida Franco <i>Micro computed tomography detects changes in liver density between control and prediabetic rats</i> |
| 17:15 | | Sara Biscaia <i>Development of heterogeneous structures in Polycaprolactone-Alginate using a new 3D printing system - BioMEDbeta: design and processing</i> |
| 17:35 | | João Silva <i>Effects of different fibre alignments and bioactive coatings on mesenchymal stem/stromal cell adhesion, proliferation and chondrogenesis in poly (ϵ-caprolactone) scaffolds</i> |
| 17:55 | | Luís Francisco <i>Poly(ϵ-caprolactone) and polyethylene glycol diacrilate-based scaffolds for TMJ Bioengineered disc implants</i> |
| 18:30 | Visit to Mosteiro da Batalha Dinner at Villa Batalha Hotel | |

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| 9:15 | MANUFACTURING WITH INNOVATIVE SUSTAINABLE MATERIALS CHAIR: Sandra Amado | Mikael Lindstrom <i>Biobased materials for a circular economy</i> |
| 10:45 | | Mahadevappa Kariduraganavar <i>Smart biopolymers</i> |
| Coffee-break | | |
| 11:15 | MANUFACTURING WITH INNOVATIVE SUSTAINABLE MATERIALS CHAIR: Sandra Amado | Meruyert Nazhipkyzy <i>Obtaining superhydrophobic sand on the basis of soot synthesized during combustion of oil waste</i> |
| 11:35 | | Gabriela Martins <i>Optimization of a Wood Plastic Composite for Architectural Applications</i> |
| 11:55 | | M. L. Alves <i>Comparative analysis of the use of rapid manufacturing technologies in the production process of moulding blocks for plastic injection moulds</i> |
| 12:15 | | João Horta <i>Study of Wood-Plastic Composites with reused HDPE and sawdust</i> |
| 12:35 | | Florindo Gaspar <i>Cork Plastic Composite Optimization for 3D Printing Applications</i> |
| 12:55 | | Aidos Lesbayev <i>Synthesis of Magnetic Fibers of Polymethylmethacrylate with Addition Nano Magnetite</i> |
| Lunch | | |
| 14:30 | MANUFACTURING TO ENHANCE FOOD, SECURITY AND BIOECONOMY CHAIR: Nelson Martins-Ferreira | Hanna Tuomisto <i>The impact of cellular agriculture on sustainability of food systems</i> |
| 16:00 | | Sandra Forster <i>Personalised food products</i> |
| Coffee-break | | |
| 16:15 | MANUFACTURING TO ENHANCE FOOD, SECURITY AND BIOECONOMY CHAIR: Nelson Martins-Ferreira | Emilia Kuczynska <i>Biomechanical Characterization of Royal Gala Apple</i> |
| 16:35 | | Paula Faria <i>A non-linear finite element model to mimic apple mechanical behaviour</i> |
| 16:55 | | Miguel Gaspar <i>New computer tool for 3D shape recovery of objects</i> |
| 17:15 | | Miguel Gaspar <i>Development of an integrated system for automatic handling of snails</i> |
| 17:35 | | Miguel Silva <i>Multifunctional Films for Intelligent and Active packaging</i> |
| 17:55 | | Geoffrey Mitchell <i>New Tools for Understanding Complex Polymer Behaviour</i> |
| 18:15 | | Ana Lisboa <i>Green marketing and green brand - The Toyota case</i> |

18:30 **Visit to Vila de Óbidos**
Dinner at Josefa D'Obidos Hotel

SATURDAY, December 17th

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| 9:15 | INTELLIGENT MANUFACTURING SYSTEMS (INDUSTRY 4.0) | Artur Mateus <i>Industry 4.0</i> |
| 10:45 | | Filipe Silva <i>3D growing of smart components</i> |
| CHAIR: Pedro Martinho | | |
| Coffee-break | | |
| 11:15 | INTELLIGENT MANUFACTURING SYSTEMS (INDUSTRY 4.0) | Ana Tojeira <i>Direct Digital Manufacturing beyond geometry construction: the composition-structure-property relationships</i> |
| 11:35 | | David Oliveira <i>Influence of the cellular structures design, produced by SLM, on the mechanical and thermal behaviours for injection moulds</i> |
| 11:55 | | M. Nhangumbe <i>Geometric study of surface finishing of selective laser melting moulds</i> |
| 12:15 | | Geoffrey Mitchell <i>Morphology development during micro injection moulding of thermoplastics</i> |
| 12:35 | | David Oliveira <i>Water assisted injection moulding for single and multi-branched tubular components</i> |
| 12:55 | | Artur Mateus <i>Development of Robotized Additive Manufacturing Process</i> |
| CHAIR: Pedro Martinho | | |
| Lunch | | |
| 14:30 | INTELLIGENT MANUFACTURING SYSTEMS (INDUSTRY 4.0) | Nathalie Labonnote <i>Architectural Design and Additive Manufacturing</i> |
| | | Aníbal Traça de Almeida <i>Embedded Smart Systems</i> |
| | | Carlos Oliveira <i>RESIM: towards a carbon neutral event</i> |
| 16:00 | CHAIR: Nuno Alves | |
| Port of Honor | | |