

|                                   |           |
|-----------------------------------|-----------|
| <b>Preface</b> .....              | <b>IX</b> |
| <b>Scientific Programme</b> ..... | <b>1</b>  |
| <b>Author Listing</b> .....       | <b>69</b> |

## **COLLABORATIVE ENGINEERING**

|  |           |
|--|-----------|
| <b>Collaborative Product Design &amp; Development Process Modeling</b><br>Bruno Raffaele Trinchera .....         | <b>5</b>  |
| <b>A Semantic Adaptive Framework for Collaborative Systems</b><br>Aymen Kamoun, Saïd Tazi and Khalil Drira ..... | <b>10</b> |

## **PRODUCTION OPTIMIZATION**

|   |           |
|---|-----------|
| <b>A Direct Method for assessing the Influence of Material Couples on the Swashplate Angle of Axial Piston Pumps</b><br>Adrian Ciocanea .....   | <b>21</b> |
| <b>Concurrent Engineering by Hardware-in-the-Loop Simulation with R-T Workshop</b><br>Radu Puhalschi, Daniela Vasiliu, Daniel Dragos Ion Guta and Bogdan Mihalescu .....                        | <b>27</b> |
| <b>Simulation Supporting Concurrent Research Engineering: Electrifying Auxiliaries for Low Carbon Conventional Vehicles</b><br>Claudia Mathis, Alfred Steinhuber and Raul Estrada Vazquez ..... | <b>32</b> |

## **QUALITY ASSURANCE**

|  |           |
|--|-----------|
| <b>A Validation of Pace Rating using Video Technology</b><br>Peeradaech Suwittayaruk and Dirk Van Goubergen .....  | <b>39</b> |
| <b>Semantic Technologies and Augmented Reality for Inspection and Maintenance Processes</b><br>Janek Götze, Egon Müller, Andreas Rutsch and Christian-Andreas Schumann ..... | <b>45</b> |
| <b>Intelligent Manufacturing Systems based on Noise and Vibration Investigation</b><br>Miron Zapciu and Nicolae Boicea .....   | <b>49</b> |

# CONTENTS

## KNOWLEDGE ENGINEERING

### **Metaknowledge for Intelligent Simulation**

Tudor Niculiu, Maria Niculiu and Sorin Cotofană .....55

### **Practical Solutions for Small Hydro Power Plant Design**

Vlad Florin Pîrăianu and Cornel Ilinca.....59

### **Estimation by Simulating the net Heat Transfer Rate into aquatic Ecosystems**

Gabriela E. Dumitran and Liana I. Vuta .....63