



### 3<sup>rd</sup> Sino-French Workshop on Digital Factory and Digital Manufacturing

November 12-14, 2015

Conference Center, Beihang University, China



Theme : “Smart Manufacturing and the Factory of the Future”

#### Sponsors:

Beihang University (BUAA)

French Academic Network in Mechanical and Manufacturing Engineering (GIS AIP-PRIMECA)

Science and Technology department, French Embassy in China

AIRBUS Group

Spring Technologies

#### Organizers:

Lihong Qiao, School of Mechanical Engineering and Automation, Beihang University (China)

Nabil Anwer, LURPA, ENS Cachan/Paris-Sud Univ., University of Paris-Saclay (France)

#### Workshop agenda

|   |   |
|---|---|
| <b><u>Opening 08:30 - 09:00, Thursday, November 12, 2015</u></b>                                      |   |
| Guests to deliver an address:   |   |
| A VP from BUAA  |   |
| Pierre Lemonde, Counselor for Science and Technology, Embassy of France in China                      |   |
| Dr. Pierre Vialettes, Head of Airbus Group Innovations North Asia                                     |   |
| Eric Lemaire, Asia-Pacific Manager, Spring Technologies   |   |
| Prof. Benoit Eynard, Director, AIP-PRIMECA  |   |
| Prof. Gang Zhao, Dean, School of Mechanical Engineering and Automation, BUAA                          |   |
| <b><u>Plenary Keynote Speeches (Chair: Prof. Gang Zhao) – New Main Building Conference Center</u></b> |   |
| <b><u>09:00 - 10:00, Thursday, November 12, 2015</u></b>  |   |
| <b><u>30mins</u></b>  | <b><u>Prof. Bo hu Li, Academician of Chinese Academy of Engineering, President of Chinese Association for System Simulation</u></b> |
|   | <b><u>- Smart Cloud Manufacturing (Cloud Manufacturing 2.0) - A kind of paradigm and approach of “Internet + manufacturing”</u></b> |

|  |  |
|--|--|
| <u>30mins</u>  | <u>Prof. Alain Bernard, Ecole Centrale Nantes, Vice-President of the French Rapid Prototyping Association</u><br><u>-New Trends in Additive Manufacturing</u>  |
| <u>10:00 - 10:30 Coffee/tea Break; Group photo</u>   |  |
| <b><u>Keynote Speeches (Chair: Prof. Benoit Eynard) – New Main Building Conference Center</u></b>  |  |
| <u>10:30 - 12:30, Thursday, November 12, 2015</u>  |  |
| <u>30mins</u>  | <u>Prof. Gang Zhao, Dean, School of Mechanical Engineering and Automation, BUAA</u><br><u>- Research activities in the School of Mechanical Engineering and Automation</u>   |
| <u>30mins</u>  | <u>Dr. Cyrille Schwob, Head of R&amp;T Asia-Pacific, Airbus Group Innovations Singapore</u><br><u>- Virtual reality: a new tool for aerospace engineering</u>  |
| <u>30mins</u>  | <u>Eran Gery, Distinguished Engineer, IBM</u><br><u>- Continuous engineering - an advanced engineering platform for end to end digital engineering</u>   |
| <u>30mins</u>  | <u>Eric Lemaire, Asia-Pacific Manager, Spring Technologies</u><br><u>- The future generation of CNC programming</u>  |
| <u>Lunch</u>   |  |
| <u>12:30 - 14:00, Thursday, November 12, 2015</u>  |  |
| <b><u>Technical Session (Chair: Prof. Alain Bernard) – New Main Building Conference Center</u></b> |  |
| <u>14:00 - 15:40, Thursday, November 12, 2015</u>  |  |
| <u>25mins</u>  | <u>Prof. Qiang Liu, Director, Research and Application Center of Advanced CNC Machining Technology, School of Mechanical Engineering and Automation, BUAA</u><br><u>- Surface Direct Interpolation for CNC milling</u> |
| <u>25mins</u>  | <u>Dr. Jean Bignon, G-SCOP, Grenoble Alpes University</u><br><u>- A Step Towards Accurate Automated Dimensional Control of Non rigid Mechanical Parts</u>  |
| <u>25mins</u>  | <u>Prof. Li Zheng, Industrial Engineering Department, Tsinghua University</u><br><u>- A new operator allocation policy: the bubble allocation</u>  |
| <u>25mins</u>  | <u>Prof. Rochdi Merzouki, CRISTAL, Polytech Lille, University of Lille</u><br><u>- Towards Cooperative Robotics in Manufacturing, Transport and Healthcare</u>   |

|  |  |
|--|--|
| <u>Coffee/tea Break</u>  |  |
| <b><u>Technical Session (Chair: Prof. Lihong Qiao) – New Main Building Conference Center</u></b> |  |
| <u>16:00 - 17:40, Thursday, November 12, 2015</u>  |  |
| <u>25mins</u>  | <u>Prof. Henry X.G. Ming, Institute of Smart Manufacturing System, School of Mechanical Engineering, Shanghai Jiao Tong University</u><br><br><u>- Towards Smart Product &amp; Service Ecosystem in Internet Era</u>                             |
| <u>25mins</u>  | <u>Prof. Samuel Gomes, IRTES, University of Technology of Belfort Montbeliard (UTBM)</u><br><br><u>- From Lean Product Development to Lean Innovation - A decade of electric/hybrid vehicles designed and manufactured at UTBM Smart Factory</u> |
| <u>25mins</u>  | <u>Prof. Chengen Wang, Deputy Director, State Key Laboratory of Synthetical Automation for Process Industries, Northeastern University</u><br><br><u>- Product design and engineering analysis technologies</u>                                  |
| <u>25mins</u>  | <u>Dr. Alex Ballu, I2M, University of Bordeaux</u><br><br><u>- Geometric Tolerancing in Digital Product Development: from ideal to non-ideal geometry</u>  |
| <u>Workshop Banquet</u>  |  |
| <u>18:30-21:30, Thursday, November 12, 2015</u>  |  |
| <b><u>Technical Session (Chair: Prof. Philippe Girard) – New Main Building – A849</u></b>        |  |
| <u>09:00 - 10:20, Friday, November 13, 2015</u>  |  |
| <u>20mins</u>  | <u>Prof. Jihong Liu, School of Mechanical Engineering and Automation, BUAA</u><br><br><u>- Road to Digital Enterprise: Actions in China</u>  |
| <u>20mins</u>  | <u>Prof. Vincent Cheutet, DISP, National Institute of Applied Sciences of Lyon (INSA Lyon)</u><br><br><u>- Towards information system agility in manufacturing</u>   |
| <u>20mins</u>  | <u>Dr. Wenlei Xiao, School of Mechanical Engineering and Automation, BUAA</u><br><br><u>- Robot Off-line Programming System for Additive and Subtractive Manufacturing</u>   |
| <u>20mins</u>  | <u>Dr. Khalid Kouiss, Pascal Institute, French Institute for Advanced Mechanics (IFMA)</u><br><br><u>- Strategy for smart and agile manufacturing system : Application from automotive industry</u>  |
| <u>Coffee/tea Break</u>  |  |

**Technical Session (Chair: Prof. Lianyu Zheng) – New Main Building – A849**

10:40 - 12:00, Friday, November 13, 2015

|               |   |
|---------------|---|
| <u>20mins</u> | <u>Dr. Alexandre Durupt, Roberval, University of Technology of Compiègne (UTC)</u><br><u>- Closed-loop process engineering and planning for smart manufacturing and digital factory</u> |
| <u>20mins</u> | <u>Dr. Shixin Xu, School of Mechanical Engineering and Automation, BUAA</u><br><u>- Reverse Engineering for NC Machining</u>  |
| <u>20mins</u> | <u>Dr. William Derigent, CRAN, Lorraine University</u><br><u>- Information management applied to smart products and complex systems</u>   |
| <u>20mins</u> | <u>Dr. Weidong Li, School of Mechanical Engineering and Automation, BUAA</u><br><u>- Precise stretch forming using digital process model for aircraft skin component</u>                |

Lunch

12:00 - 13:30, Thursday, November 13, 2015

**Technical Session (Chair: Dr. Nabil Anwer) – New Main Building – A849**

13:30 - 14:50, Friday, November 13, 2015

|               |  |
|---------------|--|
| <u>20mins</u> | <u>Prof. Lianyu Zheng, School of Mechanical Engineering and Automation, BUAA</u><br><u>Key characteristics management and applications in product lifecycle</u>  |
| <u>20mins</u> | <u>Dr. Charyar Mehdi-Souzani, LURPA, ENS Cachan/Paris-Sud Univ., University of Paris-Saclay</u><br><u>- QualiPSO: from sensor assessment to sensor selection in dimensional metrology for manufacturing industry</u> |
| <u>20mins</u> | <u>Dr. Zhang Min, Beijing University of Technology</u><br><u>- Metrology performance of laser line scanning for Additive Manufacturing</u>   |
| <u>20mins</u> | <u>Dr. Sébastien Garnier, IRCCyN, University of Nantes</u><br><u>- Optimization of robotics machining taking into account robot defects</u>  |

Coffee/tea Break

Beihang's Lab Tours (starts at 15:00): Virtual Reality, Robotics, Fluid Mechanics, ...

Beijing night tour (starting from 16:30)

Farewell dinner in downtown

**Technical Session ( Education) (Chair: Prof. Jingjun Yu) – New Main Building – A849**

08:30 – 09:50, Saturday, November 14, 2015

|               |   |
|---------------|---|
| <u>20mins</u> | <u>Prof. Philippe Girard, IMS, University of Bordeaux</u><br><u>- Education and teaching in manufacturing Technology</u>  |
| <u>20mins</u> | <u>Dr. Jianxin Yang, Fundamental Industrial Training Center, Tsinghua University</u><br><u>- The Development of Engineering Training Center Driven by Makers</u>                            |
| <u>20mins</u> | <u>Dr. Sébastien Le Loch, IRCCyN, University of Nantes</u><br><u>- Evolutions of CAD educational methods due to software enhancements, a case study</u>                                     |
| <u>20mins</u> | <u>Dr. Weiqun Yang, Engineering Training Center, Beihang University</u><br><u>- Industry 4.0 Innovative Training For Education Through Collaborating University, College and Enterprise</u> |
| <u>Visits</u> |   |