The 5th International Conference on Advanced Manufacturing Engineering and Technologies

DETAILED PROGRAMME

7th – 9th June 2017
Belgrade, Serbia
The 5th International Conference on Advanced Manufacturing Engineering and Technologies
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7th – 9th June 2017
Belgrade, SERBIA

Patrons/Main sponsors:
Foreword

The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) is organized and hosted by University of Belgrade, Faculty of Mechanical Engineering, Department for Production Engineering. It brings together experts from academia and industry and represents an excellent occasion for exchange of knowledge, ideas, experiences, research results, and information in the field of manufacturing. Conference topics cover a number of research areas in the field of manufacturing. Programme includes plenary sessions, special sessions, technical presentation, and social events for participants and accompanying persons.

NEWTECH Conference represents the result of international academic cooperation. The first NEWTECH conference was held from 23rd to 25th September in 2009 at Dunarea de Jos University of Galati, Galati, Romania (Conference Founder and Chair was Prof. Dr. Viorel Paunoiu), the second conference was held from 14th to 15th September 2011 at Brno University, Brno, Czech Republic (Conference Chair was Prof. Dr. Miroslav Piska), the third conference was held from 27th to 30th October 2013 at KTH Royal Institute of Technology, Stockholm, Sweden (Conference Chair was Prof. Dr. Cornel Mihai Nicolescu), and the fourth from 16th to 19th September at Wroclaw University of Technology, Poland (Conference Chair was Prof. Dr. Jerzy Jedrzejewski).

Conference Organization:

The working part of NEWTECH 2017 will be over three days. The first day will be dedicated to a series of invited presentations in various areas of manufacturing that will be delivered by top international experts from industry and academia. During the second day a number of invited plenary presentations referring to the recent trends in manufacturing will be offered. In addition, the three parallel sessions (Cyber Physical Manufacturing Systems, Machining Optimization, and Product Design) will be held. Finally the second day will include the technical presentation by Applied Nano Surfaces. The third day includes three parallel sessions (Machine Tools and In-Machine Measurements, Product Lifecycle Management, and Special Session on FabLab), as well as a series of invited presentations referring to Industry 4.0.

Panelists: Invited experts and representatives from EU, USA, and Far East.

Main Topics of Newtech 2017 include:

- Machine tools research and in-machine measurements
- Machine tool error budget and metrology
- Progress in CAD/CAM technologies
- Rapid prototyping and reverse engineering
- Nanomanufacturing machines and processes
- New manufacturing technologies and advanced material processing
- Functional and protective surfaces
The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) – 7th – 9th June 2017, Belgrade, Serbia

- Metrology and integrity of machined surfaces
- Manufacturing systems automation
- Cyber Physical Manufacturing Systems
- Reconfigurable Manufacturing Systems
- Assembly and manufacturing system maintenance
- Monitoring and optimization of manufacturing processes
- Advances in modeling, analysis and simulation of manufacturing machines and processes
- Production planning and control
- Business models in relation to production system
- Sustainable manufacturing systems development
- Resource conservative manufacturing

The greatest value of this year’s Conference represents the high—quality contribution of top experts in the field of manufacturing from 16 countries and three continents.

We express our gratitude to Conference Board and International Programme Committee members who kindly refereed the papers. Special gratitude is owed to the Springer and Mr. Pierpaolo Riva for publishing Conference Proceedings within the edition Lecture Notes in Mechanical Engineering. In addition, we highly appreciate the contribution of all authors.

A special acknowledgment is dedicated to the main patron – Government of the Republic of Serbia, Ministry of Education, Science and Technological Development, Serbia as well as to the sponsors: Abela Pharm, Belgrade, Serbia, Carlsberg, Serbia, and Applied Nano Surfaces, Sweden who enabled the the organization of the conference. In addition, we highly appreciate the efforts of all faculty and staff members and M.Sc. students from Faculty of Mechanical Engineering who contributed to the organization of the conference.

Welcome to NEWTECH, June 2017, Belgrade!

Belgrade, 24th March, 2017

Prof. Dr. Vidosav D. Majstorovic, Conference Chair
Prof. Dr. Zivana Jakovljevic, Organizing Committee Chair
The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) – 7th – 9th June 2017, Belgrade, Serbia

Main Patron


Main Sponsors:

Abela Pharm d.o.o., Belgrade, Serbia
Applied Nano Surfaces, Sweden
Carlsberg, Serbia

Conference Chair:

Prof. Vidosav MAJSTOROVIC (University of Belgrade, Serbia)

Conference Board:

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Prof. Miroslav PISKA (Brno University, Czech Republic)
Prof. Cornel Mihai NICOLESCU (KTH Royal Institute of Technology, Sweden)
Prof. Jerzy JEDRZEJEWSKI (Wroclaw University of Technology, Poland)

International Programme Committee:

Dr. A. ARCHENTI (KTH Royal Institute of Technology, SWE), Dr. A. BALSAMO (Italian Research Institute of Metrology, ITA), Prof. B. BABIC (University of Belgrade, SER), Prof. P. BARIANI (TU Padova, ITA), Prof. K. BOUZAKIS (Aristoteles University of Thessaloniki, GRC), Prof. A. BERNARD (Ecole Centrale de Nantes, FRA), Prof. F. BLEICHER (TU Vienna, AUT), Prof. S. BRUSHI (TU Padova, ITA), Prof. E. BUDAK (Sabanci University, TUR), Dr. L. CHEN (Prat & Whitney Manag. (Shanghai) Co. Ltd., CHN), Prof. L. De CHIFFRE (DTU, Lyngby, DNK), Prof. P.F. CHUMILLAS (Universid. Politècnica de Cartagena, ESP), Prof. E. CHLEBUS (Wroclaw University of Technology, POL), Prof. G. CHRYSSOLOURIS (University of Patras, GRC), Prof. A.G. COELHO (New University of Lisbon, PRT), Prof. G. CONSTANTIN (TU Bucharest, RO), Prof. B. DENKENA (IFW TU Hannover, DEU), Prof. N. DURAKBASA (TU Vienna, AUT), Prof. C. FETECAU (Dunarea de Jos Univer. of Galati, RO), Prof. S. IHLENFELD (Technical University of Dresden, DEU), Prof. W. GRZESIK (Opolie University of Technology, POL), Prof. H. HOCHEING (National Tsing Hua University, TWN), Dr. L. JALBA (SEEC Manufuture Program, RO), Prof. K. JEMIELNIAK (Warsaw University of Technology, POL), Prof. F. JOVANE (Politecnico di Milano, ITA), Prof. F. KIMURA (Hosei University, Tokyo, JPN), Prof. T. KJELLBERG (KTH Royal Institute of Technology, SWE), Prof. D. KOCHAN (Zent. für Ang. Forsch., Dresden, DEU), Dr. P. KOLAR (Czech Technical University in Prague, CZE), Prof. G. KOVACH (TU Budapest, HUN), Prof. D. KRAMAR (University of Ljubljana, SVN), Prof. T. LIEN (Norwegian Univer. of Science and Tech., NOR), Prof. L. MATTSSON (KTH Royal Institute of Technology, SWE), Prof. P.G. MAROPOULOS (University of Bath, GBR), Prof. H.Ch. MOHRING (Otto von Guer. Univer. Magdeb., DEU), Prof. L. MONOSTORI (Hungarian Academy of Science, HUN), Prof. D. MOURTZIS (University of Patras, GRC), Prof. D. NEDELCU (Gheor. Asachi Tech. Univ. of Iasi, RO), Prof. B. NEDIC (University of Kragujevac, SRB), Prof. M. NESLUSAN (TU Zilina, SLK), Prof. V. OSTASEVICIUS (Kaunas University of Technology, LTU), Prof. G. POPOV (TU Sofia, BUL), Prof. G. POULACHON
The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) – 7th – 9th June 2017, Belgrade, Serbia

(ENSAM ParisTech, Cluny, FRA), Prof. J. RECH (Ecole Nation. d'Ingénieurs de Saint-Etienne, FRA), Prof. F. RESTIVO (University of Porto, PRT), Prof. R. ROY (Cranfield University, GBR), Prof. M. SANTOCHI (University of Pisa, ITA), Prof. L. SETTINERI (University of Torino, ITA), Prof. G. SELIGER (Produktionstechnisches Zentrum Berlin, DEU), Prof. E. SHAMOTO (Nagoya University, JPN), Prof. T. SIBALIJA (Metropolitan University, SRB), Prof. W. SIHN (Technical University Vienna, AUT), Prof. M. TAISCH (Politecnico di Milano, ITA), Prof. S. TAKATA (Waseda University, Tokyo, JPN), Prof. T. TOLIO (ITIA-CNR, Milano, ITA), Prof. R. TETI (University of Naples, ITA), Prof. M. TRAJANOVIC (University of Nis, SRB), Prof. R. TUOKKO (Tampere University, FIN), Prof. Dj. VUKELIC (University of Novi Sad, SRB), Dr. J. VANCZA (Hungarian Academy of Science, HUN), Prof. F. Van HOUTEN (University of Twente, NLD), Prof. E. WESTKAEMPER (University of Stuttgart, DEU), Prof. K. YOUCEF-TOUMI (MIT, USA), Prof. G.X. ZHANG (Tianjin University, CHN), Prof. S. ZIVANOVIC (University of Belgrade, SER)

Organizing Committee:

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Organized by:

University of Belgrade
Faculty of Mechanical Engineering
Department for Production Engineering
# The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) – 7th – 9th June 2017, Belgrade, Serbia

**Date:** 7th June, 2017 / Wednesday  
**Venue:** Faculty of Mechanical Engineering, Kraljice Marije 16, Belgrade

Registration desk: **08:00 – 16:30** Registration (CeNT – first floor)

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<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 09:00 - 10:00 | NEWTECH Conference and AMP Serbia 2017  
**Session 1: The Opening Ceremony and Plenary Presentation**  
Opening addresses  
**Opening Plenary Presentation:**  
ADVANCED MANUFACTURING PROGRAM CONFERENCE – Mission, Vision, Strategy  
Prof. Dr. Jun Ni, University of Michigan, Ann Arbor, USA  
Hall 211 (Second floor) |
| 10:00 - 10:30 | Welcome Cocktail - Club 210 (Second floor)                             |
| 10:30 - 13:00 | NEWTECH Conference and AMP Serbia 2017  
**Session 2: Plenary Session/Panel 1**  
**Plenary Presentations:**  
ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 1  
Hall 211 (Second floor) |
| 13:00 - 14:30 | Lunch break                                                            |
| 14:30 - 16:00 | NEWTECH Conference and AMP Serbia 2017  
**Session 3: Plenary Session/Panel 2**  
**Plenary Presentations:**  
ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 2  
Hall 211 (Second floor) |
| 16:00 - 16:30 | Coffee Break (CeNT – first floor)                                     |
| 16:30 - 18:00 | NEWTECH Conference and AMP Serbia 2017  
**Session 4: Plenary Session/Panel 3**  
**Plenary Presentations:**  
ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 3  
Hall 211 (Second floor) |
The 5th International Conference on Advanced Manufacturing Engineering and Technologies (NEWTECH 2017) – 7th – 9th June 2017, Belgrade, Serbia

Date: 8th June, 2017 / Thursday
Venue: Faculty of Mechanical Engineering, Kraljice Marije 16, Belgrade

Registration desk: 08:00 – 16:30 Registration / CeNT (first floor)

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<tr>
<td>09:00 - 11:00</td>
<td><strong>Session 5: Plenary Session</strong>&lt;br&gt;Plenary Presentations:&lt;br&gt;RECENT TRENDS IN MANUFACTURING&lt;br&gt;Hall CeNT (first floor)</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee Break (CeNT – first floor)</td>
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<td>11:30-13:30</td>
<td><strong>Session 6:</strong> CYBER PHYSICAL MANUFACTURING SYSTEMS&lt;br&gt;Hall CeNT (First floor)</td>
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<td><strong>Session 7:</strong> MACHINING OPTIMIZATION&lt;br&gt;Room 518 (Fifth floor)</td>
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<td><strong>Session 8:</strong> PRODUCT DESIGN&lt;br&gt;Room 514 (Fifth floor)</td>
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<tr>
<td>13:30 - 14:30</td>
<td>Lunch Break</td>
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<tr>
<td>14:30-16:00</td>
<td>Technical presentation:&lt;br&gt;APPLIED NANO SURFACES&lt;br&gt;Hall CeNT (First floor)</td>
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<td>16:00-16:30</td>
<td>Coffee Break (CeNT – first floor)</td>
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<tr>
<td>16:30-18:00</td>
<td><strong>BELGRADE SIGHTSEEING TOUR</strong></td>
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20:00 Newtech 2017: Conference Dinner (informal dressing)
Date: 9th June, 2017 / Friday  
Venue: Faculty of Mechanical Engineering, str. Kraljice Marije 16, Belgrade

Registration desk: **08:00 – 10:00** Registration (CeNT – first floor).

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<th>Time</th>
<th>Event</th>
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| 9:00-10:30 | **Session 9:** MACHINE TOOLS AND IN-MACHINE MEASUREMENTS  
              Hall CeNT (First floor)  
            **Session 10:** PRODUCT LIFECYCLE MANAGEMENT  
              Room 518 (Fifth floor)  
            **Session 11:** FabLab  
              Room 514 (Fifth floor) |
| 10:30-11:00| **Coffee Break (CeNT – first floor)**           |
| 11:00-13:00| **Session 12:** Plenary Session  
              Plenary Presentations  
              A ROADMAP TO INDUSTRY 4.0  
              Hall CeNT (First floor) |
| 13:00-14:00| **Farewell Cocktails in Club CeNT** (first floor) |
### Date: 7th June, 2017 / Wednesday  
### Venue: Faculty of Mechanical Engineering, Kraljice Marije 16, Belgrade

Registration desk: 08:00 – 16:30 Registration (CeNT – first floor).

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<th>Time</th>
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| 09:00-10:00| **Hall 211 (Second floor)**  
NEWTECH Conference and AMP Serbia 2017  
**Session 1: The Opening Ceremony and Plenary Presentation**  
Conference/Session Speaker – Mrs Gordana Stijačić, TV Journalist RTS  
**Opening addresses:**  
- Faculty of Mechanical Engineering, Prof. Dr. R. Mitrović, Dean  
- University of Belgrade, Prof. Dr. V. Bumbasirević, Rector  
- City of Belgrade, Dr. S. Mali, Mayor  
- Belgrade Chamber of Commerce, M. Miletić, President  
- GIZ Belgrade, Dr. S. Heieck, Manager  
- Main Sponsor-Abela Pharm, MSc. D. J. Korčok, General Manager  
- Ministry of Economy, G. Knežević, Minister, Opening Conference  
**Opening Plenary Presentation:**  
ADVANCED MANUFACTURING PROGRAM CONFERENCE – Mission, Vision, Strategy, Prof. Dr. Jun Ni, University of Michigan, Ann Arbor, USA. |
| 10:00-11:00| **Welcome Cocktail - Club 210 (Second floor)** |
| 11:00-13:00| **Hall 211 (Second floor)**  
NEWTECH Conference and AMP Serbia 2017  
**Session 2: Plenary Session/Panel 1**  
**Plenary Presentations:**  
ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 1  
**Session Chairmen:**  
Prof. Dr.-Ing. Birgit Vogel-Heuser, Technical University of Munich, Head of Chair and Director of Institute Automation and Information Systems, Munich, Germany.  
Prof. Dr. Jay Lee, U of Cincinnati and Shaghai Jiao Tong University, Cincinnati, USA.  
Prof. Dr. Yasuhiro Takaya, Osaka University, Japan.  
Prof. Dr. Jozsef Vanca, TU Budapest, Hungary.  
Prof. Dr. Kornel Ehmann, Northwestern University, Evanston, USA.  
Prof. Dr. Detlef Kochan, TU Dresden, Germany.  
**Keynote Speakers:**  
1. Prof. Dr. Birgit Vogel-Heuser, Technical University of Munich, Head of Chair and Director of Institute Automation and Information Systems, Munich, Germany |
2. **INDUSTRY 4.0 IN GERMANY**
   - Prof. Dr. Jay Lee, University of Cincinnati and Shaghai Jiao Tong University, Cincinnati, USA
   - **INTELLIGENT MAINTENANCE**

3. **INTELLIGENT MANUFACTURING METROLOGY**
   - Prof. Dr. Yasuhiro TAKAYA, Osaka University, Japan

4. **AUTOMATED PLANNING FOR HUMAN-ROBOT ASSEMBLY**
   - Prof. Dr. Jozsef Vanca, TU Budapest, Hungary
   - "MANUFACTURING OF MIRO AND NANO PRODUCTS"

5. **ADVANCED MANUFACTURING AND INDUSTRIE 4.0 FOR SME**
   - Prof. Dr. Kornel Ehmann, Northwestern University, Evanston, USA

### Schedule

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<td>13:00-14:30</td>
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<td>Hall 211</td>
<td><strong>ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 2</strong></td>
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<td>14:30-16:00</td>
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<td><strong>Plenary Presentations:</strong></td>
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<td>Prof. Joe Beaman, University of Texas at Austin, USA</td>
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<td>Dr. James Truchard, Co-founder, President and CEO of National Instruments, Austin, TX, USA</td>
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<td>Prof. Dr. Sridhar Kotta, University of Michigan, Ann Arbor, MI, USA</td>
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<td>Dr. Augusta Paci, CNR, Rome, Italy</td>
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<td>Prof. Dr. Andreas Archenti, KTH Royal Institute of Technology, Stockholm, Sweden</td>
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<td>Keynote</td>
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<td>Prof. Dr. Miroslav Piska, TU Brno, Brno, Czech Republic</td>
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<tr>
<td>16:00-16.30</td>
<td>Coffee</td>
<td>(CeNT – first floor)</td>
<td><strong>Coffee Break</strong></td>
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1. **ADVANCED MANUFACTURING IN USA**
2. **INTELLIGENT INSTRUMENT RESEARCHES**
3. **ADVANCED RESEARCHES AT THE SMART PRODUCTS**
4. **INDUSTRY 4.0 – APPLICATIONS IN ITALY**
5. **SENSOR-BASED METROLOGY FOR SMART MANUFACTURING SYSTEMS**
6. **ADVANCED MANUFACTURING IN CZECH REPUBLIC**
### NEWTECH Conference and AMP Serbia 2017: Session 4: Plenary Session/Panel 3

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<th>ADVANCED RESEARCH IN MANUFACTURING – WORLD-WIDE APPROACHES, Part 3</th>
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#### Session Chairmen:
- **Dr. Lim Ser Yong**, Director of the Singapore Institute of Manufacturing Technology, Singapore
- **Prof. Dr. Hideaki Hohonoki**, COHO Consulting, Tokyo, Japan
- **Prof. Dr. George Constatin**, TU Bucharest, Bucharest, Romania
- **Prof. Dr. Jerzy Jedrezevski**, TU Wroclaw, Wroclaw, Poland
- **Prof. Dr. Dusan Šormaz**, Ohio University, Department of Industrial and Systems Engineering, Ohio University, Ohio, USA
- **Prof. Dr. Peter Monka**, TU Presov, Presov, Slovakia

#### Keynote Speakers:
1. **Dr. Lim Ser Yong**, Director of the Singapore Institute of Manufacturing Technology, Singapore  
   **MANUFACTURING IN SINGAPORE – TRENDS IN RESEARCHES**
2. **Prof. Dr. Hideaki Hohonoki**, COHO Consulting, Tokyo, Japan  
   **INTELLIGENT MANUFACTURING, ITS TREND AND INFLUENCES IN JAPAN**
3. **Prof. Dr. George Constatin**, TU Bucharest, Bucharest, Romania  
   **CONTRIBUTIONS AND RESEARCH DIRECTIONS IN THE FIELD OF MODELING AND SIMULATION OF MACHINES AND SYSTEMS OF MACHINES**
4. **Prof. Dr. Jerzy Jedrezevski**, TU Wroclaw, Wroclaw, Poland  
   **INTELLIGENT MACHINE TOOLS**
5. **Prof. Dr. Dusan Šormaz**, Ohio University, Department of Industrial and Systems Engineering, Ohio University, Ohio, USA  
   **INTELLIGENT PROCESS PLANNING**
6. **Prof. Dr. Peter Monka**, TU Presov, Presov, Slovakia  
   **SLOVAKIA MANUFACTURING TRENDS**

#### Time:
- **16:30-18:00**

#### Event:
- **20:00**  
  **Newtech 2017: Conference Reception in Mayor City Hall Belgrade (informal dressing).**
### Plenary Session

**RECENT TRENDS IN MANUFACTURING**

**Session Chairmen:**
- Prof. Dr. Viorel Paunoiu, Dunarea de Jos University of Galati, Romania
- Prof. Dr. Wit Grzesik, Opole University of Technology, Poland
- Prof. Dr. Miroslav Piska, Brno University of Technology, Czech Republic
- Prof. Dr. Andreas Archenti, KTH Royal Institute of Technology, Department Production Engineering, Stockholm, Sweden
- Prof. Dr. Katarina Monkova, Technical University of Košice, Faculty of Manufacturing Technologies, Presov, Slovakia

**Keynote Papers:**

1. **Viorel Paunoiu, Doina Boazu**
   HYDRO-MULTIPOINT FORMING, A CHALLENGE IN SHEET METAL FORMING

2. **Wit Grzesik, Krzysztof Żak**
   HIGH-PRECISION MACHINING OF HARD STEEL PARTS USING SPECIAL ABRASIVE OPERATIONS

3. **Miroslav Piska, Petra Ohnistova**
   ON THE ADVANCED MILLING TECHNOLOGY OF THIN – WALLED PARTS FOR AEROSPACE INDUSTRY

4. **Károly Szipka, Theodoros Laspas, Andreas Archenti**
   MECHANISTIC APPROACH FOR THE QUASI – STATIC CAPABILITY EVALUATION OF MACHINE TOOLS

5. **Katarina Monkova, Peter Monka**
   SOME ASPECTS INFLUENCING PRODUCTION OF POROUS STRUCTURES WITH COMPLEX SHAPES OF CELLS

6. **Steven Y. Liang, Zhipeng Pan**
   PROCESS AND MICROSTRUCTURE IN MATERIALS-AFFECTED MANUFACTURING

### Schedule

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| 09:00 - 11:00 | **Hall CeNT (First floor)**  
**Session 5: Plenary Session**  
**Plenary Presentations:**  
RECENT TRENDS IN MANUFACTURING  

**Keynote Papers:**  
1. **Viorel Paunoiu, Doina Boazu**  
   HYDRO-MULTIPOINT FORMING, A CHALLENGE IN SHEET METAL FORMING  
2. **Wit Grzesik, Krzysztof Żak**  
   HIGH-PRECISION MACHINING OF HARD STEEL PARTS USING SPECIAL ABRASIVE OPERATIONS  
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4. **Károly Szipka, Theodoros Laspas, Andreas Archenti**  
   MECHANISTIC APPROACH FOR THE QUASI – STATIC CAPABILITY EVALUATION OF MACHINE TOOLS  
5. **Katarina Monkova, Peter Monka**  
   SOME ASPECTS INFLUENCING PRODUCTION OF POROUS STRUCTURES WITH COMPLEX SHAPES OF CELLS  
6. **Steven Y. Liang, Zhipeng Pan**  
   PROCESS AND MICROSTRUCTURE IN MATERIALS-AFFECTED MANUFACTURING  |
| 11:00-11:30 | **Coffee Break (CeNT – first floor)** |
### Hall CeNT (First floor)

**Session 6:**  
**CYBER PHYSICAL MANUFACTURING SYSTEMS**

**Session Chairmen:**
- **Prof. Dr. Zoran Miljkovic**, University of Belgrade, Faculty of Mechanical Engineering, Serbia  
- **Prof. Dr. Slavomir Bednar**, Technical University of Kosice, Faculty of Manufacturing Technologies, Slovakia  
- **Dr. Arvid Hellmich**, Fraunhofer-Institut für Werkzeugmaschinen und Umformtechnik IWU, Dresden, Germany  
- **Prof. Dr. Zivana Jakovljevic**, University of Belgrade, Faculty of Mechanical Engineering, Serbia

**Papers:**

1. **Slavomir Bednar, Vladimir Modrak, Zuzana Soltysova**  
   **COMPLEXITY ASSESSMENT OF ASSEMBLY PROCESS IN MASS CUSTOMIZED MANUFACTURING**

2. **Hajo Wiemer, Arvid Hellmich, Steffen Ihlenfeldt**  
   **A HOLISTIC APPROACH FOR DEVELOPING AND COMMISSIONING DATA DRIVEN CPPS FUNCTIONALITY IN MANUFACTURING**

3. **Johannes Hohmann, Tillmann Schatz and Peter Groche**  
   **INTELLIGENT WEAR IDENTIFICATION BASED ON SENSORY INLINE INFORMATION FOR A STAMPING PROCESS**

4. **Milica Petrovic, Zoran Miljkovic**  
   **BIOLOGICALLY INSPIRED OPTIMIZATION ALGORITHMS FOR FLEXIBLE PROCESS PLANNING**

5. **Zivana Jakovljevic, Stefan Mitrovic, Miroslav Pajic**  
   **CYBER PHYSICAL PRODUCTION SYSTEMS-AN IEC 61499 PERSPECTIVE**
### Room 518 (Fifth floor)
**Session 7:**
**MACHINING OPTIMIZATION**

**Session Chairmen:**
- Prof. Dr. Nikolaos M Vaxevanidis, School of Pedagogical and Technological Education (ASPETE), Athens, Greece
- Prof. Dr. Viorel Paunoiu, Dunarea de Jos University of Galati, Romania
- Prof. Dr. Davorin Kramar, Faculty of Mechanical Engineering, University of Ljubljana, Slovenia
- Prof. Dr. Ljubodrag Tanovic, University of Belgrade, Faculty of Mechanical Engineering, Serbia

**Papers:**

1. **Nikolaos M. Vaxevanidis, N.A. Fountas, G.V. Seretis, C.G. Provatis, D.E. Manolakos**  
   *A Multi-Parameter Experimental and Statistical Analysis of Surface Texture in Turning of a New Aluminum*

2. **Mitica Afteni, Ion Terecoasa, Cezarina Afteni, Viorel Paunoiu**  
   *Study on Hard Turning Process Versus Grinding in Bearing Components Process Flow*

3. **Branislav Sredanovic, Gordana Globic Lakic, Davorin Kramar, Janez Kopac**  
   *Study on the Machinability Characteristics of Inconel 718 Super Alloy During Micro-Milling*

4. **Milos Pjevic, Ljubodrag Tanovic, Filip Vucetic**  
   *Experimental Determination of Brittle Fracturing Appearance during Static Indentation of Materials Based on Stone*
<table>
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<tr>
<th>Time</th>
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<tr>
<td>11:30-13:30</td>
<td><strong>Session 8:</strong> PRODUCT DESIGN</td>
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<td>Session Chairmen:</td>
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<tr>
<td></td>
<td>Prof. Dr. Virgil Teodor, Dunarea de Jos University of Galati, Department of Manufacturing Engineering, Romania</td>
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<td>Prof. Dr. Maja Cavic, University of Novi Sad, Faculty of Technical Sciences, Serbia</td>
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<td>M.Sc. Piotr Jabłoński, Poznan University of Technology, Poland</td>
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<td>Papers:</td>
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<tr>
<td>11:30-13:30</td>
<td>1. Florin Susac, Nicuşor Baroiu, Bogdan Liviu Marcu, Daniel Ganea, Virgil Teodor</td>
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<tr>
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<td>PARAMETRIC DESIGN OF AN ELECTRIC DRIVEN REDUCTION GEAR FOR ANCHOR AND MOORING WINCHES</td>
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<td>HOB MILL PROFILING METHOD FOR GENERATION OF TIMING BELT PULLEY</td>
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<td>11:30-13:30</td>
<td>3. Piotr Jabłoński, Piotr Czajka</td>
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<td>STRUCTURAL FEM ANALYSIS OF THERMAL SPRAYED COATINGS UNDER CONDITIONS OF CONTACT PRESSURE AND HIGH TEMPERATURE</td>
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<td>REDUCING OF SCUFFING PHENOMENA AT HCR SPUR GEARING</td>
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<td>11:30-13:30</td>
<td>5. Maja Cavic, Marko Pencic, Milan Rackov, Ivan Knezevic, M. Zlokolica</td>
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<td>DYNAMIC OPTIMIZATION OF THE CAM-LEVER MECHANISM FOR THERMOFORMING MACHINE TOOL DRIVING</td>
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<td>13:30-14:30</td>
<td>Lunch Break</td>
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<td>14:30-16:00</td>
<td>Technical presentation:</td>
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<td>APPLIED NANO SURFACES</td>
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<td>Hall CeNT (First floor)</td>
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<td>16:00-16:30</td>
<td>Coffee Break (CeNT – first floor)</td>
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<tr>
<td>16:30-18:30</td>
<td>BELGRADE SIGHTSEEING TOUR</td>
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**20:00** Newtech 2017: Conference Dinner (informal dressing)
Date: 9th June, 2017 / Friday  
Venue: Faculty of Mechanical Engineering, str. Kraljice Marije 16, Belgrade

Registration desk: **08:00 – 10:00** Registration (CeNT – first floor).

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<tr>
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| 9:00-10:30 | Session 9:  
MACHINE TOOLS AND IN-MACHINE MEASUREMENTS  
**Session Chairmen:**  
Prof. Dr. Jozef Peterka, Slovak University of Technology, Trnava, Slovakia  
Prof. Dr. Virgil Teodor, Dunarea de Jos University of Galati, Department of Manufacturing Engineering, Romania  
Prof. Dr. Sasa Zivanovic, University of Belgrade, Faculty of Mechanical Engineering, Serbia  
Papers:  
1. Virgil Teodor, Florin Susac, Nicușor Baroiu, Viorel Paunoiu, Nicolae Oancea  
GRAPHICAL METHOD IN CATIA FOR SIDE MILL TOOL PROFILING USING THE GENERATING RELATIVE TRAJECTORIES  
2. Marcel Kuruc, Martin Necpal, Tomáš Vopát, Vladimir Šimna, Jozef Peterka  
INFLUENCE OF ULTRASONIC ASSISTANCE ON DELAMINATION DURING MACHINING OF CFRP COMPOSITE  
3. B.-A. Behrens, A. Bouguecha, C. Bonk, D. Rosenbusch, Nenad Grbic, M. Vucetic  
INFLUENCE OF THE DETERMINATION OF FLC’S AND FLASC’S AND THEIR APPLICATION FOR DEEP DRAWING PROCESS WITH ADDITIONAL FORCE TRANSMISSION  
4. Goran Vasilic, Sasa Zivanovic, Branko Kokotovic  
MODELLING AND ANALYSIS OF 3-AXIS RECONFIGURABLE HYBRID KINEMATICS MECHANISM WITH TRANSLATORY ACTUATED JOINTS |
### Room 518 (Fifth floor)

**Session 10:**

**PRODUCT LIFECYCLE MANAGEMENT**

**Session Chairmen:**
- Prof. Dr. Laurentiu Cicerone Popa, University Politehnica of Bucharest, IMST Faculty, MSP Department, Romania
- Dr. Gheorghe Popan, INCD Mechatronics & Measurement, Bucharest, Romania

**Papers:**

1. Laurentiu Cicerone Popa and Emil Costel Cotet  
   **VIRTUAL MODEL IN MONITORING AND OPTIMIZATION OF A SELECTIVE WASTE COLLECTION INTEGRATED SYSTEM**

2. Gheorghe Popan and Dorin Angelescu  
   **FLEXIBLE CONTROL SYSTEM USED IN THE NANOTECHNOLOGICAL PRODUCTION FLOW**

3. Anca Iuga, Vasile Popa and Luminița Popa  
   **INDUSTRIAL PRODUCT LIFE CYCLE STAGES AND LIFECYCLE ECO-DESIGN**

4. Mital Chakankar, Cheer Su and Hong Hocheng  
   **RECOVERY OF METALS FROM SOLAR CELLS BY BIOLEACHING**

### Room 514 (Fifth floor)

**Session 11:**

**FabLab**

**Session Chairmen:**
- Prof. Dr. Milan Lečić, University of Belgrade, Faculty of Mechanical Engineering, Serbia
- Prof. Dr. Đorđe Čantrak, University of Belgrade, Faculty of Mechanical Engineering, Serbia
- Dr. Ivana Gadjanski, University of Belgrade, Faculty of Mechanical Engineering, Innovation Centre, Serbia

**Papers:**

1. Jelena Pejović Simeunović, Ivana Gadjanski, Željko Janićijević, Milica Janković, Marko Barjaktarović, Novica Janković and Đorđe Čantrak  
   **MICROFLUIDIC CHIP FABRICATION FOR APPLICATION IN LOW-COST DIY microPIV**

2. Borko Jovanović, Ivana Gadjanski, Jela Burazer, Luka Nikolić, Nina Babić, Milan Lečić  
   **R&D IN A FAB LAB: EXAMPLES OF PASTE EXTRUSION METHOD**

3. Zorana Trivković, Jelena Svorcan, Ognjen Peković and Toni Ivanov  
   **MANUFACTURING TECHNOLOGY OF AIRCRAFT AND WIND TURBINE BLADES MODELS, PLUGS AND MOULDS**

**10:30-11:00**

**Coffee Break (CeNT – first floor)**
### Hall CeNT (First floor)

**Session 12: Plenary Session**  
**Plenary Presentations**  
**A ROADMAP TO INDUSTRY 4.0**

**Session Chairmen:**
- Prof. Dr. Nikolaos M. Vaxevanidis, School of Pedagogical and Technological Education (ASPETE), Athens, Greece
- Prof. Dr. Vidosav Majstorovic, University of Belgrade, Faculty of Mechanical Engineering, Serbia  
- Prof. Dr. Djordje Cica, University of Banja Luka, Faculty of Mechanical Engineering

**Keynote Papers:**

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<tbody>
<tr>
<td>1</td>
<td>CYBER-PHYSICAL MANUFACTURING SYSTEMS (CPMS)</td>
<td>Zivana Jakovljevic, Vidosav Majstorovic, Slavenko Stojadinovic, Srdjan Zivkovic, Nemanja Gligorijevic, Miroslav Pajic</td>
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<td>2</td>
<td>AN INTEGRATION OF BIO-INSPIRED ALGORITHMS AND FUZZY LOGIC FOR TOOL WEAR ESTIMATION IN HARD TURNING</td>
<td>Djordje Cica, Branislav Sredanovic, Stevo Borojevic, Davorin Kramar</td>
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<td>3</td>
<td>AN ADVANCED CAI MODEL FOR INSPECTION PLANNING ON CMM</td>
<td>Slavenko Stojadinovic, Vidosav Majstorovic, Numan Durakbas</td>
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<td>4</td>
<td>RESEARCH ISSUES IN EDM, ECM AND USM AND THEIR HYBRID MACHINING PROCESSES</td>
<td>Kamlakar Rajurkar</td>
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<td>5</td>
<td>INTELLIGENT DUAL CURVE-DRIVEN TOOL PATH OPTIMIZATION AND VIRTUAL CMM INSPECTION FOR SCULPTURED SURFACE CNC MACHINING</td>
<td>N.A. Fountas, Srdjan Zivkovic, R. Benhadj, C. Stergiou, Vidosav Majstorovic, Nikolaos M. Vaxevanidis</td>
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<td>11:00-13:00</td>
<td>Farewell Cocktail in Club CeNT (First floor).</td>
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