

**To all those interested**

**From:** Prof. Dr. Vidosav D. Majstorović ([vidosav.majstorovic@sbb.rs](mailto:vidosav.majstorovic@sbb.rs))

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**Issue:**

**Re:** 8th International Working Conference – "**TOTAL QUALITY MANAGEMENT - ADVANCED AND INTELLIGENT APPROACHES**", 1<sup>st</sup> – 5<sup>th</sup> June, 2015 Belgrade, SERBIA – **Report from the International Working Conference TQM 2015**

**Dear Madam / Dear Sir,**

The 8th IWC TQM 2015 was held from 1<sup>st</sup> to 5<sup>th</sup> June, at The Faculty of Mechanical Engineering of the University of Belgrade. This already traditional the Conference was supported by the world's most relevant scientific and expert organizations for quality and engineering (**CIRP, IFIP, IMEKO, IFAC, EOQ, EFQM, JUSE, AAQ, PAQ i ASQ**), whereby the Conference entered into the calendar of globally prestigious conferences about the quality / management. After the reviews process there were **accepted 81 + 6 (Manufuture Conference)**. The papers came, **from 36 countries** in Asia, Africa, North and South America and Europe. From **abroad are 62 + 1** accepted papers, **from Serbia was 19 + 5 papers**. The Conference had **334 participants / authors** (with ICQ), of which **78 were from abroad** (with ICQ), coming from five continents.

Two version of the **Proceedings** were made two versions of the Conference: **printed with cca 650 pages** and CD versions, bouth of which were distributed to participants (with ISBN and COBISS.SD numbers). As the next step, after a triple international review process of the best papers will be publishing in **Special Issue of the TQM Journal - ISSN: 1754-2731 (Emerald)**.

The Conference started with RTD, by **chairman – Prof. Dr. Stanislav Karapetrović**, University of Alberta, Department of Mechanical Engineering, Edmonton, Canada. **The following presentations were given:**

1. **Critical Incident Technique, Dr. Jacqueline A. Douglas, Liverpool John Mores University, UK.**
2. **Overview of the Industry-University Cooperative Research Center (I-UCRC) on Intelligent Maintenance Systems at the University of Texas at Austin, Prof. Dr.**

**Dragan Djurdjanovic**, Dept. of Mechanical Engineering, University of Texas at Austin, USA.

3. **Writing for Publication in Journal from SCI lists**, **Prof. Dr. Alexander Douglas**, Editor The TQM Journal, Emerald Group Publishing Ltd, Howard House, Wagon Lane, Bingley, BD16 1WA, UK.

At the opening of all the Conference participants were welcomed by international high-level and local officials: **Prof. Dr. Nenad Zrnić**, Vice-Dean of Mechanical Engineering Faculty, hosting the Conference; **Prof. Dr. Alexander Douglas**, Editor of the TQM Journal, **Mr Nada Tršić – Milanović**, AbelaPharm, Quality Manager; **Gabor Bekefi**, CEO Carlsberg Srbija; **Prof. Dr. Dimitris Mourtzis**, CIRP Fellows Paris – who, opened the Conference.

Also, at the opening session of the Conference, were awarded to the **special award** following persons for their special personal contribution to this conference, as well as improvement of quality in Serbia, as follows: **Prof. Dr. Numan Durakbasa**, Interchangeable Manufacturing and Industrial Metrology, Institute for Production Engineering and Laser Technology, Vienna University of Technology, Vienna, Austria; **Ina Heine**, PhD student from Laboratory for Machine Tools and Production Engineering, RWTH Aachen University, Aachen, Germany for the best paper among of young researchers, **Biljana Oluic**, Hemofarm – Stada, Vršac, and **Enološka stanica**, Vršac.

For the scientific and professional point of view, this year's Conference is particularly marked by the following events:

**1. Introductory Plenary Presentation - DEVELOPMENT OF IMPROVED TECHNIQUES FOR NEW LEVELS OF MANUFACTURING PRECISION WITH THE MICRO - AND NANO-COMPONENTS**, **Prof. Dr. Numan M. Durakbasa**, Institute for Production Engineering and Laser Technology, Vienna University of Technology, Vienna, Austria. Profesor Numan Durakbasa is the most distinguished professor / researcher for QM and metrology in production engineering in the world today. His basic message was that without the production of new, innovative products with added value, on micro-nano level, in which are incorporated new concepts of QM/Manufacturing metrology, there is no progress of the national economy. That means for Serbia, that no new industrial development, supported new approaches QM/Manufacturing metrology, Serbia can not join the EU.

**2. Introductory Plenary Session - Advanced Quality – World-wide Approaches (State of the Art) Seven world prominent researchers** exposed the latest trends in the new approaches to quality management / metrology, particularly in the field of advanced technology systems. Of particularly significance and impact were special lecture, **OUTLOOK ON FUTURE MANUFACTURING COMPETITIVENESS**, by **Prof. Dr. Jun Ni**, College of Engineering, University of Michigan, Ann Arbor, USA, and **A NEW ERA OF WEB COLLABORATION:**

**CLOUD COMPUTING AND ITS APPLICATIONS IN MANUFACTURING**, by **Dimitris Mourtzis, Babis Schoinochoritis, Ekaterini Vlachou**, *Laboratory for Manufacturing Systems and Automation, Department of Mechanical Engineering and Aeronautics, University of Patras, 26500, Rio Patras, Greece.*

The main message of this session is to develop the concept of QM in the technological system moves towards its integration with other engineering disciplines in this area, and it's all based on sustainable development.

**3. 4<sup>th</sup> Special Conference 'Manufuture in Serbia 2015' / Advanced Manufacturing Technology.** Introductory presentations was held by Prof. Dr. Miroslav Trajanović - **REVERSE MODELING OF HUMAN HUMERUS BY THE METHOD OF ANATOMICAL FEATURES (MAF)** and four additional papers from Greece and Serbia. The topics were as follows: VIRTUAL QUALITY ASSESSMENT FOR SCULPTURED SURFACE; ERROR DETERMINATION FOR 3-AXIS MILLING OF FREE FORM SURFACES; SWARM OPTIMIZATION ALGORITHM FOR FLEXIBLE PROCESS PLANNING and CALIBRATION SYSTEM AND ESTIMATION OF UNCERTAINTY IN MEASUREMENT. The conclusion of this Special Conference is that application of advanced technologies application in the manufacturing practice and research in Serbia, should be a solid foundadtion for re-industrialiazation of Serbia.

**4. 6<sup>th</sup> Balkan Conference on Quality / 7<sup>th</sup> Balkan Quality Forum - THE BALKAN AS A REGION OF QUALITY.** This now, traditional Conference gave highlights of QM and IMS practices in the Balkans, accros different aspects, such as manufacturing, education, consumer protection, etc. The main message of the Conference is to approach the QM / level in these countries is similar, but there is plenty of space for future cooperation, which will be the special work in the future.

**5. Workshop 2 / - HOLISTIC APPROACHES TO QUALITY IMPROVEMENT IN MANUFACTURING** by Prof. Dr. Jun Ni, *College of Engineering, University of Michigan, Ann Arbor, MI 48109, USA.*

Over the last hundred years, much progress has been made in manufacturing quality. Globalization competitions have further pushed quality improvement to a new level. This presentation will first review some of the early quality control and improvement efforts such as SPC, design of experiments, quality engineering, etc. Then, several recent research directions will be presented with some highlighted real manufacturing examples. These include: (1) in-process quality improvement technologies (e.g., real-time error compensation, machining chatter suppression, active balancing for improved quality), (2) stream-of-variation modeling and automatic root cause identifications (e.g., dimensional variation reduction for automobile body assembly, continuous baby diaper production process, and progressive stamping fault diagnosis), (3) high-definition metrology driven process control (e.g., machined surface error detection and compensation, tool wear estimation and compensation, assembly

fault detection), (4) robust process optimization (e.g., stamping tonnage optimization for variation reduction, fixture design optimization), (5) design for variation elimination (e.g., automobile body assembly), (6) process innovations (e.g., ultrasonic assisted friction stir welding for improved quality, dry/near dry electric-discharge machining for additive manufacturing), and (7) intelligent maintenance strategies (e.g., fault and anomaly detection, engineering immune system, maintenance decision support for yield improvement).

**6. Closing Plenary Session – QM, TQM & IMS New Dimensions**, with the eight speakers considered new directions in the field of QM, TQM, BE and Integrated Management System (IMS). **Speakers were world-renowned experts in this field from Europe, North America and Serbia.** The conclusion of this session is that standardized management systems are rapidly evolving and it is very important for a country like Serbia, its scientific and professional community to be aware of these developments. This Conference accomplishes this goal, but such activities are needed over longer period of time.

**7. Young PhD researchers Session** – is one of the most important parts of TQM Conference. This session was introduced in year 2007, in order to recognize the best PhD student working his/her PhD thesis this. This year, this awarded went to - **Ina Heine**, *Laboratory for Machine Tools and Production Engineering, RWTH Aachen University, Aachen, Germany.*; **for paper CRITICAL INCIDENTS OF QUALITY ORIENTATION IN LOWER AND MIDDLE MANAGEMENT.**

**8.** Last but not least, it was **Excursion tour to the "Lola Institute", Belgrade**, as offered to the Conference participants. Tour visitors had the opportunity to get familiar with research programs on robotics, machine tools, computer controlled systems and quality management that have or are taking place at the Institute.

*As we summarize all the facts about this year's Conference of TQM, we can draw the following conclusions:*

**a)** TQM Conference is now recognized as a place where every two years, world and national experts meet to share their knowledge and research results in the broad field of quality and manufacturing. Compared to the previously held TQM Conference in 2013, this year, we had increased the number of papers as well as also the number of participants from abroad and our country.

**b)** The presence and presentation of their scientific views on the area of **QM, Metrology, Competitiveness and Cloud Manufacturing, Prof. Dr. N. Durakbasa, Prof. Dr J. Ni and Prof. Dr. Dimitris Mourtzis** respectively, had given this year's conference a world the level of impact and significance (the three researchers each have over 500 references SCI and their SCI citation indices are index is greater than 7000). In particular, it is noted that the

number of SCI reference speakers at the opening plenary session was greater than 700, which indicates their status are that it is a world-class scientists in their fields, in accordance with the key the moto of TQM Conference.

c) An important achievement of this conference is received by the trust received from **The TQM Journal - ISSN: 1754-2731 (Emerald), be issued Special Issue**. In this way, the conference gets a NEW scientific dimension. A special issue of the TQM Journal dedicated to the 2015 TQM Conference will be publishing in June 2016.

d) Our Conference is becoming a place where the quality and the integration of new generations of technologies and systems providing sample opportunity to learn about the attitudes and experiences of neighboring countries, and around the world throught inspired presentations from global experts in the field.

e) A large presence of **young researchers**, especially from around the world, will provide continuity of competent people in this area in the future.

A large number of individuals and organizations helped to organize this Conference at such a high professional level and with wonderful amenities. We would all like give special thanks to **the main patron - Carlsberg Serbia doo and main sponsor - AbelaPharm, Belgrade**.

All these facts indicate to us that eminent participants from around the world, as well as the organizers and volunteeeres, who, as in the past were especially dedicated to their work, Belgrade was, in the way, **"A World Center of Quality"**, between the 1<sup>st</sup> and 5<sup>th</sup> June this year.

**We hope you to welcome you to the 9<sup>th</sup> IWC TQM 2017. from 5<sup>th</sup> to 9<sup>th</sup> June.**

**Sincerely yours**

**Prof. Dr. Vidosav Majstorović**



**President and founder of the TQM Conference**