

QERS 2017

September 6, 2017, Brno, Czech Republic



FACULTY institute  
OF MECHANICAL of production machines,  
ENGINEERING systems and robotics



SCIENCE  
JOURNAL

# Program

## 3rd International Workshop

**QERS 2017**

Venue:

**Aula Q**

**Faculty of Mechanical Engineering**

**Brno University of Technology**

Technická 2896/2

616 69 Brno

Czech Republic

## Wednesday September 6<sup>th</sup> 2017

|       |       |   |
|-------|-------|---|
| 10:00 | 11:00 | <b>Registration - AULA Q</b>  |
| 11:00 | 12:00 | <b>Opening ceremony - AULA Q</b><br><b>Industrial session:</b> <ul style="list-style-type: none"> <li>• ESI Group: Virtual reality in context of Industry 4.0.</li> <li>• SVS FEM: Modern simulation tools for mechatronics applications</li> </ul> |

## Lunch

Restaurace Q, Technická 2896/2, Brno

|            |  |
|------------|--|
| Start time | <b>Joint session Mechatronics 2017 &amp; Workshop QERS 2017:<br/>Industrial 4.0<br/>AULA Q</b>   |
| 13:00      | <b>JAN BERTHOLD, MARTIN KOLOUCH, VOLKER WITTSTOCK, MATTHIAS PUTZ:</b> ASPECTS OF THE INVESTIGATION OF THE DYNAMIC BEHAVIOUR OF MACHINE TOOLS BY OPERATIONAL MODAL ANALYSIS<br>(QERS) |
| 13:20      | <b>MARTIN KOLOUCH:</b> HAMMER PEENING WITH A PIEZO-ACTUATED TOOL FOR SURFACE FINISHING<br>(QERS)   |
| 13:40      | <b>MATEJ HARCARIK, ROBERT JANKOVYCH:</b> NOISE AND STEP HEIGHT PERFORMANCE OF SELECTED OPTICAL SURFACE MEASURING INSTRUMENTS<br>(QERS)   |
| 14:00      | <b>Petr Hadraba, Zdeněk Hadaš:</b> Dynamic Analysis of Multispindle Lathe<br>(Mechatronics)  |
| 14:15      | <b>Ondrej Andrs:</b> Using Industry 4.0 Technologies for Teaching and Learning in Education Process<br>(Mechatronics)  |

Coffee break (in front of **Aula Q**)

Please go to floor 12 of A1 building.

| Start time | Session<br>Floor 12, Building A1   |
|------------|--|
| 15:15      | <b>Phaneendra Mantada, Parameters</b> Influencing the Precision of Various 3D Printing Technologies              |
| 15:30      | <b>Petr Minar,</b> Thermal error behaviour reproducibility in series of machine tools                            |
| 15:45      | <b>Daniel Mader,</b> POSSIBILITIES OF PERFORMANCE MEASUREMENT OF COMBUSTION ENGINES                              |
| 16:00      | <b>Zuzana Kotianová,</b> Analysis of low frequency magnetic fields generated during welding                      |
| 16:15      | <b>Hana Opočenská,</b> USE OF MULTIPARAMETRIC DIAGNOSTICS IN PREDICTIVE MAINTENANCE                              |
| 16:30      | <b>Irina Fedorycheva,</b> An Identification of Safety Culture Level Using Questionnaire Surveys                  |
| 16:45      | <b>Erika Sujova,</b> Use of the LCC Analysis to Select a Technical Solution of Power for Application at Railways |

Rest of accepted papers will be presented at poster section.

## Interactive Poster Section

**17:00 – 18:30 Presentation of Posters – in front of AULA Q**

Conference attendees are invited to attend the Poster Session. Come view posters, enjoy light refreshments, ask questions, and network with colleagues in your field.

**18:30 End of the workshop**

## List of Posters

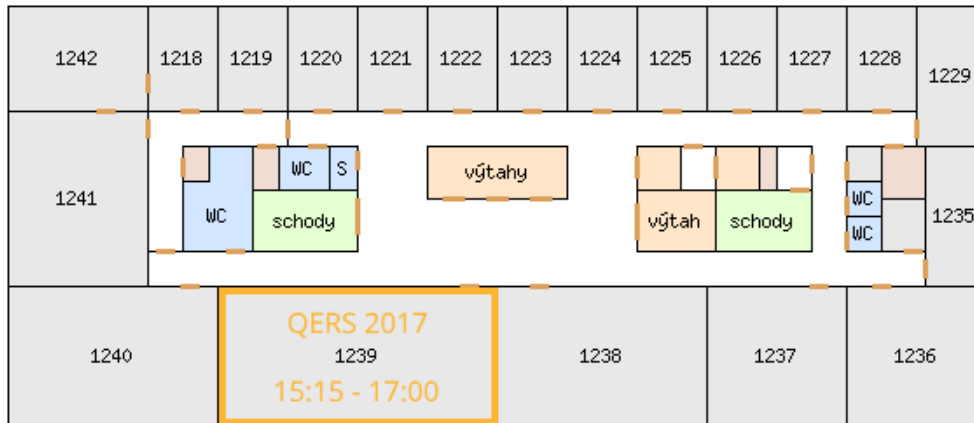
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|--|
| Jan Ručka, SAFETY OF THE WATER SUPPLY SYSTEM IN THE ABSENCE OF DESINFECTANT RESIDUE                      |
| Martin Weigl, AUTOMATIC STRAIGHTENING OF HARDENED SHAFTS   |
| Barbora Navratilova, Study of weighted multilateration in volumetry of CNC machine tools                 |
| Jakub Stetina, Correlation between dynamic properties of linear guide and radial force load              |
| Jakub Čedík, EFFECT OF TOP COVER SHAPE ON ENERGY DEMANDS AND PRESSURE INSIDE MULCHER WORKSPACE           |
| Petr Nahodil, SELECTED CHARACTERISTICS AND DIAGNOSTICS OF MOTOR POWERED BY FREQUENCY CONVERTER           |
| Ondrej Holub, Diagnostics and maintenance of machine tool spindles - new views                           |
| Andriy Mosyurchak, PROGNOSIS OF BEHAVIOUR OF MACHINE TOOL SPINDLES, THEIR DIAGNOSTICS AND MAINTENANCE    |
| Katerina Mouralova, OPTIMISATION OF WEDM SETTINGS PARAMETERS WHEN MACHINING PURE ALUMINIUM USING THE DOE |
| Katerina Mouralova, USING WEDM TO MACHINE A PURE MOLYBDENUM WELDING ELECTRODE                            |
| Jan Šrámek, DETERMINATION OF MEASUREMENT UNCERTAINTY OF CMM SIOS NNM-1                                   |
| Michal Holub, APPLICATION ON-THE-FLY MEASUREMENT OF CNC MACHINE TOOLS                                    |

Miroslav Dado, CALIBRATION OF PHOTOMETER-BASED DIRECT-READING AEROSOL MONITORS  
Filip Kšica, Position-dependent Response Simulation of Machine Tool Using State-space Models

## Poster Presentations

- Presenters should display paper titles, lists of authors and author affiliations on your posters.
- Posters should be printed with A0 size (portrait).
- Authors of poster papers will be present to answer questions concerning their papers.
- Posters not removed at the end of the interactive poster session will be considered unwanted and will be discarded.

## Map (Session 15:15-17:00)



## Sponsors



## Internet access

Username: **qers**

Password: **QERS+17**

## Lunches

Lunches are served at Q restaurant below the main auditorium of **Aula Q**. Participants can select from 3 courses. Bread, drinks and vegetable salads are part of the menu.