



Conference Program

| 29. 05. 2017 (Monday) | 30. 05. 2017 (Tuesday) | 31. 05. 2017 (Wednesday) | 01. 06. 2017 (Thursday) |
|------------------------------------|---|--------------------------------|--------------------------------|
| 17:00 – 20:00 <i>Registration</i> | 07:30 – 09:15 <i>Breakfast</i> | 07:30 – 09:00 <i>Breakfast</i> | 07:30 – 09:00 <i>Breakfast</i> |
| 18:30 – 19:00 <i>Welcome drink</i> | 08:00 – 12:00 <i>Registration</i> | 09:00 – 12:00 <i>Lecture</i> | 09:00 – 11:30 <i>Lecture</i> |
| 19:00 – 20:00 <i>Dinner</i> | 09:30 – 10:00 <i>Conference Opening</i> | 12:30 – 13:30 <i>Lunch</i> | 12:00 – 13:00 <i>Lunch</i> |
| | 10:00 – 12:00 <i>Lecture - Common Section</i> | 13:30 – 17:00 <i>Lecture</i> | |
| | 12:30 – 13:30 <i>Lunch</i> | 19:00 <i>Social Evening</i> | |
| | 13:30 – 18:00 <i>Trip Skalnaté pleso</i> | | |
| | 18:30 – 19:30 <i>Dinner</i> | | |
| | 19:30 <i>Individual Program</i> | | |

Lecture blocks

| 30. 05. 2017 (Tuesday) - 10:00 – 12:00: Common section | |
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| Chairman: <i>prof. Ing. František Šimčák, CSc.</i> | |
| 1. | EAN Conference in Time and Event Holý, S. |
| 2. | HBM Test and Measurement Klement, J. |
| 3. | Centripetal and/or centrifugal Okrouhlík, M. |
| 4. | Modal Analysis of Graphene Sheets Embedded in Elastic Medium Using Finite Element Method Bocko J |

| 31. 05. 2017 (Wednesday) | | | |
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| 09:00 - 10:30: Section I (max.10 min) | | 09:00 - 10:30: Section II (max.10 min) | |
| Chairman: <i>prof. Ing. Jozef Bocko, CSc.</i> | | Chairman: <i>doc. Ing. František Duchoň, PhD.</i> | |
| 1. | Use of FBG Sensors for Delamination Growth Measurement under Mode I loading Dvořák, M., Schmidová, N., Kadlec, M., Růžička, M. | 1. | Virtual Instrumentation in the Diagnostic and Control Process for Industrial Applications Koniar, D., Hargaš, L., Danko, M., Taraba, M., Uriča, T., Simonová, A., Hanko, B. |
| 2. | An Alternative Material Model for Finite Strain J2 Plasticity with Isotropic Hardening Écsi, L., Élesztós, P. | 2. | 3D Vision Methods for Enhanced Human-robot Interaction Tölgyessy, M., Dekan, M., Rodina J. |
| 3. | Comparison of Methods used for the residual Stress Analysis in a Pipe made from Polypropylene Fojtík, F., Paška, Z., Kolář, P. | 3. | Improvements of VFH* Method Babine, A., Klúčik, M., Mikulová, Z. |
| 4. | The Experimental Verification of the Mechanical Properties of the Material of the Rotor Shaft of a Damaged Turbine Pástor M., Trebuňa F., Šimčák F., Buršák M. | 4. | Quality Observation of Micro Electro Mechanic Systems with the use of Virtual Instrumentation Hargaš, L., Simonová, A., Taraba, M., Uriča, T., Danko, M., Koniar, D. |
| 5. | Experimental and Numerical Determination of Riffle Barrel Properties Doubava, K., Sháněl, V., Fumfera, J., Růžička, M., Steinbauer, P. | 5. | The Problem of Cooperation of a Flat Belts with Elements of Mechatronic Systems Domek, G., Kolodziej, A., Wilczyński, M., Krawiec, P. |
| 6. | Calibration of Material Parameters during Billet Straightening Fusek, M., Halama, R., Poruba, Z. | 6. | The Proposal of Estimation Method of Mating Between Pulleys and Cogbelt Krawiec, P., Domek, G., Adamiec, J., Waluś, K., Warguła, Ł. |
| 7. | Identification of the torque strut force load Lufinka, A., Novák, O., Petrů, M. | 7. | Long-term cyclic test - analysis and monitoring Jeřábek, I., Horký, L., Weigel, K. |
| Cofee break (10:30 - 10:50) | | | |
| 10:50 - 12:30: Section I (max.10 min) | | 10:50 - 12:30: Section II - young (max.10 min) | |
| Chairman: <i>prof. Ing. František Plánička, CSc.</i> | | Chairman: <i>doc. Ing. Róbert Huňady, PhD.</i> | |
| 1. | The Vibrating Bowl Feeder Dynamic Model Sturm, M., Pešík, L. | 1. | Probabilistic Localization of Robot in Outdoor Environment Using GNSS Szabová, M., Duchoň, F., Dekan M., Chovanec, L. - young |
| 2. | Experimental analysis of welding tooling for ITk ATLAS Rachač, M., Dub, M., Janda, M., Malý, P., Kamenický, J., Berka, O., Dynybyl, V., Kubový, P., Lopot, F. | 2. | Methodology for probabilistic model creation of lidar measurement Dekan, M., Chovanec, L., Szabová, M., Babinec, A. - young |
| 3. | Inspection of Generator Shield Heat Treatment by Hole Drilling Method Weinberg, O., Hájková, P., Holý, S., Janovec, J., Václavík, J. | 3. | The Use of Geometric Mechanics Concept to Modeling of Ackerman Steered Car-like Vehicle Frankovský, P., Gmitterko, A., Dominik, L., Hroncová, D., Virgala, I., Miková, L. - |

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| | | | young |
| 4. | Influence of machining technologies on the level of residual stresses of Al₂O₃+TiC oxide cutting ceramics Němeček, J., Kuzin, V. V., Čapek, J., Ganev, N., Kolařík, K. | 4. | Determining modal parameters of mechanical system by using enhanced frequency response function Pavelka, P., Huňady, R. - young |
| 5. | Properties of Composites with Geopolymer Matrix Reinforced by Basalt Fabric Petříková, I., Marvalová, B., Hrouda, A., Paur, L. | 5. | Strain Response Determination in Notched Specimens under Multiaxial Cyclic Loading by DICM Paška, Z., Halama, R., Fojtík, F., Gajdoš, P. - young |
| 6. | Interaction Enhancement between Recycled PET Macro-fiber Reinforcement and Cement Matrix via Plasma Treatment Trejbal, J., Prošek, Z., Tesárek, P., Dejdar, L. | 6. | Destructive Testing of Cement Paste with Micronized Waste Marble Powder as Partial Replacement for Cement – Long Time Development of Mechanical Properties Prošek, Z., Topič, J., Tesárek, P. - young |
| 7. | Important Aspects of Testing Welds Brož, P., Dobiáš, D. | 7. | Water Absorption Properties of Rammed Earth Material with Montmorillonite Clay Mužíková, B., Otcovská, T., Padevět, P. - young |
| 8. | Determination of the Cause of Failure Based on Fracture Marks on Parts of a Complicated Transmission Mechanism Izrael, G., Élesztós, P., Kaločany, D. | 8. | Usage of Illite-kaolinitic Clay for Rammed Earth Manufacturing and Its Drying Rate Otcovská, T., Mužíková, B., Padevět, P. - young |
| 9. | Assessment of serviceability criteria in Eurocodes Markova, J., Holicky, M. | 9. | HMI of teleoperated robots Jurišica, L., Duchoň, F., Szabová, M., Mikulová, Z. - young |
| 10. | Reliability Assessment of Saint Joseph Church in Prague Markova, J., Sykora, M., Simunek, I. | 10. | Influence of Temperature on Selected Mechanical Properties of Geopolymer Composites Krystek, J., Laš, V., Pompe, V., Hájková, P. - young |
| 12:30 – 13:30: Lunch | | | |

| 31. 05. 2017 (Wednesday) | | | |
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| 13:30 – 15:15: Section I (max.10 min) | | 13:30 – 15:15: Section II - young (max.10 min) | |
| Chairman: <i>prof. Ing. Ján Vavro, PhD.</i> | | Chairman: <i>Ing. Karel Doubrava Ph.D.</i> | |
| 1. | Residual stress analysis after laser welding Blatnická, M., Šajgalík, M., Sága, M. | 1. | Motorcycle Suits: Uniaxial and Biaxial Tensile Tests of Leather Bońkowski, T., Šoltés, L., Kochová, P., Kottner, R., Hynčík, L. - young |
| 2. | Fatigue Behaviour of Bolted Joints without Load Transfer Kadlec, M., Mlch, I., Růžek, R. | 2. | Calculation of B-Basis Values from Composite Material Strength Parameters Obtained from Measurements of Non-identical Batches Bek L., Kottner R., Krystek J., Laš V - young |
| 3. | Modeling of friction stir welding of ferritic steels by considering phase transformations Kaločany, D., Élesztós, P., Écsi, L., Jančo, R. | 3. | Effects of Advanced Laser Processing on the Microstructure and Residual Stresses of H13 Tool Steel Trojan, K., Ocelík, V., Ganev, N., Němeček, S., Čapek, J. - young |
| 4. | Creep of Unfired Clay Mortar Based on Illitic Clay Padevět , P., Bittnar, P. | 4. | Influence of Different Admixtures on Hydration Process and Mechanical Properties of Cement Paste Topič, J., Prošek, Z., Plachý, T., Tesárek, P. - young |
| 5. | Measurement of Cyclic Creep by Digital Image Correlation Method Halama, R., Lipinová, L., Páleník, R. | 5. | Determination of group velocity of Lamb waves in unidirectional carbon-epoxy plate Lašová Z., Zemčík R. - young |
| 6. | Experimental modal analysis of a free suspended composite plate by using high speed DIC method Huňady R., Pavelka P. | 6. | The Proposal of Methodology for Finding of Proper Smoothing Parameters for Stress/Strain Analysis Performed by Digital Image Correlation Hagara M., Pástor M., Čarák P. - young |
| 7. | Experimental verification of thickness effects on fatigue crack growth in an AA 7475 plate Růžek, R., Homola, P., Kakos, M. | 7. | Cyclic Tensile Tests of Epoxy Resin and the Experimentally Obtained Data Processing Srbová, H., Kroupa, T. |
| 8. | Analysis of tensile strength in bending of plasterboard with use of optical correlation Zobal, O., Litoš, J., Antoš, J. | 8. | |
| Cofee break (15:15 – 15:30) | | | |

| 15:30 – 17:00: Section I (max.10 min) | | 15:30 – 17:00: Section II (max.10 min) | |
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| Chairman: <i>prof. Ing. Milan Růžička, CSc.</i> | | Chairman: <i>doc. Ing. Miroslav Pástor, PhD.</i> | |
| 1. | Validation of high speed impact numerical simulations on flat test panels for real structure analysis Doubrava R., Oberthor M., Bělský P. | 1. | Calibration of model for laminated glass polymer interlayer based on rheometer data Schmidt J., Janda T., Šejnoha M. |
| 2. | The Vibrating Bowl Feeder Dynamic Model Sturm M., Pešík L. | 2. | The optimization of the materials properties for the freight tyres in dependence on defect propagation Vavro J., Vavro jr. J., Kováčiková P., Hřeš J. |
| 3. | Tuning material models for nonlinear dynamic simulations by considering the exact material properties Élesztős jr. P., Máčaj J., Élesztős P. | 3. | Sensing damage in CFRP composite beam by electrical resistance measurement Schmidová N., Růžička M., Dvořák M. |
| 4. | Evaluation of Glued laminated timber beams reinforced with carbon fiber fabric for use in FEM modelling Klapálek P., Melzerová L. | 4. | Automated tool for simulation of standardized tests of cohesive interfaces Hanzlik P., Kroupa T. |
| 5. | Experimental Construction of Lamb Wave Dispersion Curves in Plates Šofer M., Ferfecki P., Šofer P. | 5. | Identification of impact force on composite textile plate for impacts with various energies Bartošek J., Laš V., Mandys T., Zemčík R. |
| 6. | Geometry influence on strength of thermal drilled threaded holes Kováčik, M., Bělík, R. | 6. | The issue of recommended hole diameters in ASTM E837-13a Halabuk D., Návrat T., Vlk M. |
| 7. | Usage of 3D CAD Software for Verification and Representation of Real Machine Measurements and Results Braier Z., Šidlof P., Klouček P. | 7. | Motion Analyses of Human Body on a New Exercise Trainer: Pilot Study Nový Z., Urbánek M., Čapek L. |
| 8. | Effective Service Life Testing of the Cam Mechanisms Hejnova M. | 8. | Problematics of Twin-disc Wear Resistance Tests for Selected Wheel Rim Materials Šmach J., Šofer M., Čepová L., Halama R. |
| 9. | Sensitivity characterization for edge crack for material DC01 Fedorko M., Urbánek M., Rund M. | 9. | Comparison of Mechanical Responses of Dental Implants Manufactured by 3D Printing and Machining Jíra A., Denk F., Denk F. |

| 01. 06. 2017 (Thursday) | | | |
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| 09:00 – 11:30: Section I (max.10 min) | | 09:00 – 11:30: Section II (max.10 min) | |
| Chairman: <i>Dr hab. inž. Piotr Kuryło Prof. UZ</i> | | Chairman: <i>doc. Ing. Peter Frankovský, PhD.</i> | |
| 1. | Modeling of Corrosion Fatigue Damage in Steel Alloy for Steam Turbines Černý M. J. | 1. | Determination of Fracture Toughness of Human Enamel by Nanoindentation Based on Energy Release Method Hájková P., Jíra A. |
| 2. | The in Situ Application of a New Approach to Experimental Estimation of Tensile Forces in Prestressed Structural Elements by Method Based on the Magnetoelastic Principle Klier T., Míčka T., Polák M., Plachý T., Šimler M., Smeták T. | 2. | Numerical Modelling of a 3D-Printed Titanium Trabecular Structure For Use in Dental Restorations Řehounek L., Jíra A., Denk F. |
| 3. | Remark on repairs of broken pipelines Cézová E., Kanaval J., Starý F. | 3. | Drop Test of Foams used in Motorbike Protectors Šoltés L., Bońkowski T., Kottner R., Hynčík L. |
| 4. | Grain Orientation Influence on Residual Stress Distribution of Ground Surface of Blade Roots made of Inconel 713LC Čapek J., Gancarczyk K., Pitrmuc Z., Kolařík K., Málek J., Beránek L., Ganey N., Trojan K. | 4. | Influence of Distribution of Finger Joints and Timber Flaws on the Damage Evolution of Laminated Glued Timber Beams Melzerová L., Šejnoha M |
| 5. | Residual Stress Distribution in Spherical Storage Tank Butt Weld Mráz L., Hervochoes Ch., Vrána M., Mikula P., Baxa P., Bošanský J. | 5. | Tensile and Shear Tests of a Cork/Rubber Composite Kottner R., Kocáb J., Kochová P., Heczko J. |
| 6. | Some Important Experimental Details During Verification of Fatigue Durability of Railway Axles and Wheelsets Černý I., Kec J. | 6. | Absorbing materials properties in experiment and simulation Drdlová M., Popovič M., Koutný O. |
| 7. | Viscoelastic Bending of Symmetrical and Nonsymmetrical Composite Sandwich Beam Černý M. J., Šlapák P. | 7. | Finite element analysis of EPS foams used in bicycle helmets Čajka M., Bocko J., Šarloši J. |
| 11:30 – 12:30: Lunch | | | |

Posters (During the Conference)

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| 1. | Influence of Penetrated Roving Surface Treatment on the Crack Width Using Pull-out Test Vlach, T., Laiblová, L., Řepka, J., Ženíšek, M., Hájek, P. - young | 15. | Study of Bending Properties of Thin Walled Carbon and Flax Composite Rods Winded of Prepreg Fibers Kulhavý, P., Lepšík, P. |
| 2. | Numerical Investigation of 3-D Strain Constraint in Lab Test Specimens Šedek, J. - young | 16. | Fabric Thickness Measurement under Tensile Forces Penava, Š. D., Penava, Ž., Knezić, Ž. |
| 3. | The Thickness Influence of Fibre-reinforced Slabs on Extreme Load Resistance Lovichová, R., Fornůsek, J., Mára, M., Kheml, P. - young | 17. | Modal Analysis of Composite Ram Tančin, M., Limberg, L. |
| 4. | Experimental Analysis of Shearing Power During Chain Production Berka, O., Lopot, F., Dub, M., Hoštička, V. - young | 18. | The Shrinkage of Fine Recycled Aggregate Concrete Šefflová, M. |
| 5. | Resistance Welding Simulation Dub, M., Lopot, F., Berka, O., Sýkora, M. - young | 19. | Strain Gauge Measurement on the Oilseed Screw Press Malý, P., Starý, F., Dynybyl, V., Hoidekr, J. |
| 6. | Analysis of Axially Compressed Cylindrical Shells Influenced by Geometrical Imperfections Using Finite Element Method Kula, T., Bocko, J., Kostka, J., Frankovský, P. - young | 20. | Construction Machinery Life Estimation - Machine Load Parameters Monitoring Weigel, K., Jeřábek, I., Horký, L. |
| 7. | Failure Mechanism of Compressed Masonry Column Maroušková, A. | 21. | Thermal FEM Analysis of Hybrid Structure Limberg, L., Tančin, M. |
| 8. | Determining the Strength Properties of Castellated Girders by Experimental and Numerical Modeling Sivák, P., Delyová, I., Kaluja, T. | 22. | Experimental Analysis of Efficiency of Profiled Dimpled Membranes in Terms of Wall Moisture Reduction Hájková, E. |
| 9. | The Analysis of Acoustic Emission Signals Generated in Cement-based Composites During the Cyclic Loading Test Topolář, L., Kocáb, D., Misák, P., Pazdera, L., Hoduláková, M., Kucharczyková, B. | 23. | Impact of the Heat Load of Concrete on the Propagation of Ultrasound Waves Pazdera, L., Topolář, L., Hoduláková, M., Mikulášek, K., Smutný, J. |
| 10. | Influence of the Body Wheel Shape on the Teeth Stiffness Medvecká-Beňová, S., Trebuňa, F., Frankovský, P., Kottfer, D. | 24. | Rotary Table Machine Accuracy Verification Richter, A., Klouček, P. |
| 11. | Modelling of the flow of streams of cohesionless and cohesive bulk materials in a conveyor discharge point of a flat conveyor belt Cyganiuk, J., Kuryło, P. | 25. | Effect of Poly(vinyl-alcohol) Amount on Flexural Strength of Cement Mortars with Micronized Recycled Concrete Tesárek, P., Prošek, Z., Fládr, J. |
| 12. | Strain Gauge Measurement on Clinched Joints Specimens Malý, P., Lopot, F., Starý, F., Sojka, J. | 26. | Runtime Testing of Casehardened Gears Petr, K. |
| 13. | The reliability analyses of gear and centrifugal pumps at different rotational speeds Qazizada E. M., Pivarčiová, E. | 27. | Experimental Verification of the Demountable Structure Prototype Polák, A. |
| 14. | Comparison of ESPI and DIC Strain Contours Measurements under Three Loading Cases Halama, R., Hornáček, L., Šmiraus, J. | 28. | Synergy Related Issues In Multi-Criterial Designing Of Technological Processes Kuryło, P., Cyganiuk, J. |

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| 29. | Monitoring of damage of the composite leaf spring using methods of acoustic emission Papacz, W., Frankovský, P., Kostka, J., Kottfer, D. | 35. | Testing and Numerical Analysis of Mechanical Stress Mobile Flood Barriers Petrů, M., Srb, P., Ševčík, L., Lufinka, A. |
| 30. | Optimization of Hexacopter Stability Control with Disturbances in its Stochastic State Space Dynamics Model Ibrahim I. N., Al Akkad M. A., Sosnovich E. B. | 36. | Diagnostics Brushless DC Motors Abramov, I., Božek, P., Abramov, A., Sosnovich, E., Nikitin, Y. |
| 31. | Comparison of Fans' Behavior and Grandstand Dynamic Response during Two Hockey Matches Between the Same Teams Verner, M., Polák, M., Plachý, T. | 37. | Mathematical Setting Equations of Linear Contact of the Spiral Rope – Phylum VARRINGTON Kalentev E., Tarasov V., Korshunov A. |
| 32. | Determination of condition of concrete samples of different mixture degraded by high temperatures by acoustic non-destructive method Impact-echo Dvořák, R., Hoduláková, M., Topolář, L. | 38. | Contribution to multiaxial fatigue analysis of aluminium alloy EN AW 6063.T66 Sága, M., Uhrčík, M., Vaško, M. |
| 33. | Based Reliability Assessment Method Applied to the Model of Structural Element Kesl, P., Plánička, F. | 39. | Qualitative Analysis of Different Lamb Wave Excitation Methods Šofer P., Šofer M., Fernecki P., Marek M. |
| 34. | Bond Graph Methodology for Modeling of Dynamical Systems Frankovský P., Gmitterko A., Hroncová D., Kelemen M., Ostertag O., Dominik L. | | |