

4. PROGRAMME OF THE PRESENTATIONS

Monday – 14 May 2007 – Restaurant

16:00 –16:30 ***Opening Ceremony – Plenary session***

16:30 - 18:30 ***Keynote lectures – Plenary session*** (KEY)
chairmen: **Zolotarev I. & Náprstek J.**

16:30	Růžička S.: <i>Založení a první roky akciové společnosti ŽĎAS</i>
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17:30	Půst L.: <i>INTERACTION OF VIBRATING SYSTEM AND ENERGY SOURCE</i>	3
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19:00 ***D i n n e r - Restaurant***

4.1. Lecture Hall I
(Conference Room – next-door the Restaurant)

Detailed Programme

Mechanics of Solids

(SOL)

Tuesday – 15 May 2007 – Lecture Hall I

8:00 – 9:40 *Mechanics of Solids* (SOL)
 chairmen: Fiala Z. & Hora P.

8:00	Beran P., Máca J., Kott J.: <i>VAULTS AND SHELLS - COMPARISON OF NUMERICAL AND EXACT SOLUTION</i>	15
8:20	Brouček M., Kuklík P.: <i>CHANGES OF MECHANICAL PARAMETERS OF SOILS DUE TO GROUNDWATER FLOW - PROCESSES IDENTIFICATION</i>	21
8:40	Červená O., Hora P.: <i>THE INFLUENCE OF THE MINDLIN'S BOUNDARY CONDITIONS ON WAVE PROPAGATION IN THICK ANISOTROPIC PLATE</i>	29
9:00	Drahorád M., Posch M., Řeřicha P., Kukaň V.: <i>ESTIMATION OF MAXIMUM SERVICE LOADING OF ROADWAY MASONRY ARCH BRIDGES WITH EMBANKMENT</i>	41
9:20	Đuriš R., Murín J.: <i>SANDWICH COMPOSITE BAR ELEMENT FOR GEOMETRIC NONLINEAR ANALYSIS</i>	47

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Mechanics of Solids* (SOL)
 chairmen: Fiala Z. & Hora P.

10:20	Eisner I., Lizoň I., Žmindák M.: <i>NUMERICAL SIMULATION OF LOAD CAPACITY OF STRUCTURES WITH LARGE DEFORMATIONS, PLASTICITY OF MATERIALS AND MULTIBODY CONTACT IN ACCORDANCE WITH SAFETY REGULATIONS</i>	51
10:40	Fiala Z.: <i>MATRIX EXPONENTIAL AND GEOMETRICAL MEANING OF LOGARITHMIC STRAIN</i>	55
11:00	Filip P., David J., Pivokonský R.: <i>EMPIRICAL MODEL RESPECTING A LOCAL EXTREME OF A COURSE OF THE VISCOSITY FUNCTION</i>	57
11:20	Foglar M., Štemberk P.: <i>PARAMETRIC DESCRIPTION OF THE DEVELOPMENT OF SECANT MODULUS OF ELASTICITY OF CONCRETE UNDER CYCLIC LOADING</i>	63
11:40	Gabriel D., Plešek J., Kolman R., Valeš F., Okrouhlík M., Šraml M.: <i>VERIFICATION OF NUMERICAL DISPERSION ANALYSIS BY A TWO CYLINDERS IMPACT PROBLEM</i>	67

12:00 – 14:00 *L u n c h - Restaurant*

Tuesday – 15 May 2007 – Lecture Hall I

14:00 –15:40 *Mechanics of Solids* (SOL)
chairmen: Minster J. & Koudelka P.

14:00	Gajdošík J., Šejnoha M., Zeman J.: <i>STATISTICALLY EQUIVALENT PERIODIC UNIT CELL FOR JOINTED ROCK MASSES</i>	69
14:20	Hlaváček M.: <i>ARTICULAR CARTILAGE INSTANTANEOUS LOADING RESPONSE</i>	77
14:40	Hrubý Z., Plešek J.: <i>ENERGY CONJUGATE MEASURES OF STRESS AND STRAIN IN CONTINUUM MECHANICS</i>	95
15:00	Jandejsek I., Vavřík D.: <i>DIGITAL IMAGE CORRELATION</i>	103
15:20	Konečná H., Sedlák I.: <i>MODELING OF FIRING PROCESS IN A SMALL FIREARM</i>	123

15:40 –16:20 *Coffee Break – hotel lobby*

16:20 –18:00 *Mechanics of Solids* (SOL)
chairmen: Minster J. & Koudelka P.

16:20	Koudelka P.: <i>SIMILARITY OF BEARING CAPACITY OF BORED PILES ACCORDING TO ČSN 73 1002</i>	125
16:40	Krejčí T., Koudelka T., Šmilauer V.: <i>ANALYSIS OF A FOUNDATION SLAB: IMPLEMENTATION OF CONTINUOUS RETARDATION MODEL FOR CONCRETE CREEP</i>	137
17:00	Kruis J., Štemberk P.: <i>MODELLING OF IMPERFECT BOND BETWEEN COMPOSITE MATRIX AND REINFORCEMENT BY THE FETI METHOD</i>	141
17:20	Lepš M.: <i>MULTI-OBJECTIVE IDENTIFICATION OF MATERIAL PARAMETERS</i>	155
17:40	Lombardo M., Zeman J., Falsone G.: <i>TOWARDS MICROSTRUCTURE-BASED RANDOM FIELD MODELS OF HETEROGENEOUS MEDIA</i>	159
18:00	Macura P., Keller M.: <i>STRESS ANALYSIS OF ALUMINIUM PART AT STATIC AND DYNAMIC TESTS</i>	165

19:00 *Dinner - Restaurant*

Wednesday – 16 May 2007 – Lecture Hall I

8:00 – 9:40 *Mechanics of Solids* (SOL)
chairmen: Náprstek J. & Macura P.

8:00	Malášek J.: <i>NON-LINEAR AFFINITY IN MOHR'S PLANE</i>	171
8:20	Malášek J.: <i>STATE OF STRESS IDENTIFICATION OF TRANSFORMED – DEFORMED PARTICULAR MATERIALS</i>	173
8:40	Minster J., Micka M., Bláhová O.: <i>MICROINDENTATION OF SOLIDS WITH VISCOELASTIC RESPONSE</i>	185
9:00	Novotný C., Španiel M.: <i>STIFFNESS DETERMINATION OF SANDWICH CONSTRUCTIONS</i>	203
9:20	Pařík P.: <i>SPARSE DIRECT SOLVER WITH FILL-IN OPTIMALIZATION</i>	211

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Mechanics of Solids* (SOL)
chairmen: Náprstek J. & Macura P.

10:20	Pekař J., Kabele P., Padevět P.: <i>ECC TENSILE TESTING METHOD</i>	217
10:40	Pivokonský R., Zatloukal M., Filip P.: <i>RHEOLOGICAL CHARACTERISATION OF LDPE MATERIALS BY MEANS OF DIFFERENTIAL CONSTITUTIVE EQUATIONS</i>	227
11:00	Posch M., Řeřicha P., Drahorád M.: <i>MODELING OF MASONRY ARCH BRIDGES- METHOD OF DETERMINATION OF LOAD CAPACITY OF MASONRY ARCH BRIDGES</i>	233
11:20	Tran T. N., Štemberk P., Kohoutková A.: <i>EXPERIMENTAL ANALYSIS AND MODELING OF HARDENING CONCRETE UNDER UNIAXIAL LOADING</i>	289
11:40	Vališ D.: <i>ONE SHOT ITEMS IMPACT ONTO SYSTEMS RELIABILITY</i>	303

12:00 – 14:00 *L u n c h - Restaurant*

Thursday – 17 May 2007 – Lecture Hall I

8:00 – 9:40 *Mechanics of Solids* (SOL)
chairmen: Petruška J. & Malášek J.

8:00	Skalka P., Janíček P., Petruška J., Maroš B.: 249 <i>NUMERICAL PREDICTION OF CENTRAL BURSTING IN AXISYMMETRIC COLD DRAWING OF BRASS BAR</i>
8:20	Sobotka J.: 253 <i>ON APPLICATIONS OF GENERALIZED FUNCTIONS TO CALCULATION OF BEAM-COLUMN DESIGN ELEMENTS</i>
8:40	Svoboda L., Patzák B.: 265 <i>UTILISATION EXTENDED BOUNDARY CONDITIONS IN FINITE ELEMENT ANALYSIS</i>
9:00	Halama R., Fusek M., Fojtík F.: 75 <i>MEASUREMENT AND EVALUATION OF 3D MOTION OF WASHING UNIT OF INDUSTRIAL WASHER-EXTRACTOR</i>
9:20	Rojíček J., Halama R.: 239 <i>NUMERICAL SIMULATIONS OF PIPELINE TESTS CONSIDERING RATCHETTING EFFECT</i>

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Mechanics of Solids* (SOL)
chairmen: Petruška J. & Malášek J.

10:20	Valenta R., Šejnoha M.: 301 <i>CONSTRUCTION OF STATISTICALLY EQUIVALENT PERIODIC UNIT CELL OF ASPHALT MIXTURE</i>
10:40	Vavřík D., Jakubek J., Jandejsek I.: 309 <i>RADIOGRAPHIC OBSERVATION OF STRAIN FIELD AND CONSEQUENT DAMAGE ZONE EVOLUTION</i>
11:00	Vitingerová Z., Lepš M.: 317 <i>IDENTIFICATION OF MATERIAL PARAMETERS FROM INDENTATION TEST</i>
11:20	Vorel J., Sýkora J.: 319 <i>A NUMERICAL MODEL FOR QUASI-BRITTLE MATERIALS</i>
11:40	Sýkora J., Vorel J., Novák J.: 267 <i>EXPERIMENTAL AND NUMERICAL IDENTIFICATION OF MATERIAL PARAMETERS OF MASONRY</i>

12:00 *Closing Ceremony & Lunch - Restaurant*

4.2. Lecture Hall II
(Coffee Bar)

Detailed Programme

Dynamics

(DYN)

Tuesday – 15 May 2007 – Lecture Hall II

8:00 – 9:40 *Dynamics* (DYN)
 chairmen: Kratochvíl C. & Půst L.

8:00	Balda M., Svoboda J., Fröhlich V.: <i>AN ESTIMATION OF FATIGUE LIFE UNDER GENERAL STRESS</i>	9
8:20	Dupal J.: <i>A NEW METHOD OF THE ONE CLASS ROTOR CRITICAL SPEED DETERMINATION</i>	45
8:40	Fischer C., Frýba L.: <i>DYNAMIC BEHAVIOUR OF A BEAM COUPLED WITH A PRESTRESSED STRING – INFLUENCE OF DAMPING</i>	59
9:00	Frantík P., Vořechovský M.: <i>DYNAMICAL MODEL OF A FLEXIBLE TUBE</i>	65
9:20	Hajžman M., Šašek J., Zeman V.: <i>VIBRATIONS OF ROTORS WITH FLEXIBLE DISKS</i>	73

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Dynamics* (DYN)
 chairmen: Kratochvíl C. & Půst L.

10:20	Hortel M., Škuderová A.: <i>TO THE NUMERICAL ANALYSIS OF SINGULARITIES IN RESONANCE CHARACTERISTICS OF NONLINEAR PARAMETRIC SYSTEMS WITH IMPACT EFFECTS IN GEAR MESH</i>	87
10:40	Chalupa M., Veverka J.: <i>DYNAMIC LOADING SIMULATION OF VEHICLE TRACK</i>	99
11:00	Jandora R.: <i>MODELLING OF THE RAILWAY WHEELSET MOVEMENT CONSIDERING REAL GEOMETRY</i>	105
11:20	Kellner J., Šašek J., Zeman V.: <i>FORCED VIBRATION OF BLADED DISK</i>	113
11:40	Kratochvíl C., Heriban P., Houfek L., Houfek M.: <i>SOME PROBLEMS OF COMPLEX DRIVE SYSTEM SOLUTION</i>	131

12:00 – 14:00 *L u n c h - Restaurant*

Tuesday – 15 May 2007 – Lecture Hall II

14:00 –15:40 *Dynamics* (DYN)
 chairmen: Zeman V. & Šklíba J.

14:00	Makovička D., Makovička D.: <i>SEISMIC EFFECTS OF ABOVE AND UNDERGROUND TRANSPORT ON BUILDINGS</i>	169
14:20	Musil A., Hlaváč Z.: <i>IDENTIFICATION OF PARAMETERS OF THE DYNAMIC MODEL OF THE REACTOR WWER 1000 SUPPORT CYLINDER BY SPECTRAL TUNING</i>	191
14:40	Nánási T.: <i>BOUNDARY CONDITIONS AND VIBRATION OF SLENDER BEAMS</i>	199
15:00	Náprstek J., Pospíšil S., Hračov S.: <i>RANDOM RESPONSE OF ONE-DIMENSIONAL STRUCTURE WITH NON-PROPORTIONAL DAMPING DUE TO WIND EXCITATION</i>	201
15:20	Novotný J.: <i>TERMINOLOGY FOR THE MECHANISM AND MACHINE SCIENCE</i>	205

15:40 –16:20 *Coffee Break – hotel lobby*

16:20 –18:00 *Dynamics* (DYN)
 chairmen: Zeman V. & Šklíba J.

16:20	Novotný L., Kukačka M., Rybář P.: <i>APPLICATION OF THE FLOATING PRINCIPLE ON THE HORIZONTAL MILLING CENTRE</i>	207
16:40	Novotný L., Marek J.: <i>ISSUES AT LINEAR MOTION SYSTEMS</i>	209
17:00	Polach P., Hajžman M.: <i>ADVANCED MULTIBODY MODEL OF THE ŠKODA LOW-FLOOR TROLLEYBUS</i>	231
17:20	Půst L., Šimek J., Kozánek J.: <i>MOTION OF ROTOR SUPPORTED ON AERODYNAMIC BEARINGS</i>	235
17:40	Sivčák M.: <i>DIFFERENCES IN APPLICATION OF THE WAVE OR SLEEVE SPRING TO THE VIBROISOLATION SYSTEM</i>	247
18:00	Skarolek A., Kozánek J.: <i>COMPUTATION OF DYNAMIC PROPERTIES OF AEROSTATIC JOURNAL BEARINGS</i>	251

19:00 *Dinner - Restaurant*

Wednesday – 16 May 2007 – Lecture Hall II

8:00 – 9:40 *Dynamics* (DYN)
 chairmen: Ballo I. & Zapoměl J.

8:00	Soukup J., Volek J.: <i>TRANSIENT VIBRATION OF THIN RECTANGULAR VISCOELASTIC ORTHOTROPIC PLATE UNDER TRANSVERSE IMPULS LOADING</i>	257
8:20	Soukup J., Volek J.: <i>VERTICAL VIBRATION OF THE VEHICLE CROSSING OVER A SYSTEM OF THE ROAD SURFACE BUMPS</i>	259
8:40	Stein G. J., Zahoranský R.: <i>DRY FRICTION INFLUENCE IN AN OSCILLATORY SYSTEM EXPOSED TO LOW INTENSITY RANDOM EXCITATION</i>	261
9:00	Pečínka L.: <i>ASSESSMENT OF THE RELIABILITY OF PIPING SYSTEMS USING COMPUTER CODE PRAISE</i>	215
9:20	Šklíba J.: <i>ABOUT A POSSIBILITY OF A GYROSCOPIC STABILISATION OF THE VIBROISOLATION SYSTEM</i>	275

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Dynamics* (DYN)
 chairmen: Ballo I. & Zapoměl J.

10:20	Švígler J., Siegl J.: <i>CONTRIBUTION TO MODELLING OF CONTACT BETWEEN WHEEL SET AND CURVED RAILWAY</i>	285
10:40	Tůma J.: <i>ANALYSIS OF ANGULAR VIBRATION MEASUREMENT ERRORS</i>	293
11:00	Turek M., Březina T.: <i>CONTROL DESIGN OF ACTIVE MAGNETIC BEARING BY GENETIC ALGORITHMS</i>	295
11:20	Zapoměl J.: <i>A NUMERICAL PROCEDURE FOR INVESTIGATION OF IMPACTS OF ROTORS SUPPORTED BY CAVITATED LONG FLUID FILM BEARINGS AGAINST THE STATIONARY PART</i>	323
11:40	Zeman V., Hlaváč Z., Byrtus M.: <i>MODELLING AND MODAL PROPERTIES OF A RAILWAY VEHICLE WHEELSET DRIVE WITH A HOLLOW SHAFT</i>	325

12:00 – 14:00 *L u n c h - Restaurant*

4.3. Lecture Hall III
(TV Club)

Detailed Programme

Fracture Mechanics

(FRA)

Tuesday – 15 May 2007 – Lecture Hall III

8:00 – 9:40 *Fracture Mechanics* (FRA)
 chairmen: Kruis J. & Ferfecki P.

8:00	Brož J., Kruis J.: <i>MODELLING OF GRADUAL CONSTRUCTION OF ROAD BRIDGE AND ITS CREEP</i>	23
8:20	Ferfecki P.: <i>NUMERICAL SIMULATION OF TRANSVERSE FATIGUE CRACK IN THE ROTOR SYSTEM SUPPORTED BY RADIAL ACTIVE MAGNETIC BEARINGS</i>	53
8:40	Hutař P., Náhlík L.: <i>THE INFLUENCE OF CORNER POINT SINGULARITY ON CRACK BEHAVIOUR</i>	97
9:00	Jurenka J., Španiel M., Kuželka J.: <i>IMPLEMENTATION OF K-T TWO PARAMETER APPROACH INTO NUMERICAL MODEL OF FATIGUE CRACK PROPAGATION</i>	111
9:20	Kučerová A., Brancherie D., Ibrahimbegović A.: <i>IDENTIFICATION OF DAMAGE MODEL WITH CRACKS FROM RESULTS OF THREE-POINT BENDING TEST</i>	147

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Fracture Mechanics* (FRA)
 chairmen: Kruis J. & Ferfecki P.

10:20	Lehký D., Novák D., Frantík P.: <i>DAMAGE IDENTIFICATION OF DYNAMICALLY LOADED STRUCTURES: METHODOLOGY AND MODAL PROPERTIES STUDY</i>	153
10:40	Majer Z., Hutař P., Náhlík L., Knésl Z.: <i>ESTIMATION OF CRITICAL VALUES FOR CRACK PROPAGATION FROM SHARP V-NOTCH</i>	167
11:00	Matesová D., Vořechovský M.: <i>MODELING OF REINFORCEMENT CORROSION IN CONCRETE</i>	179
11:20	Morávka Š.: <i>APPLICATION OF THE IMPACT-ECHO DIAGNOSTIC METHOD FOR THE DETECTION OF LARGE CAVITIES IN THICK-WALLED CONCRETE STRUCTURES OF NUCLEAR POWER PLANTS</i>	187
11:40	Nad' M.: <i>MODAL PROPERTIES OF A CRACKED BEAM</i>	195

12:00 – 14:00 *L u n c h - Restaurant*

Tuesday – 15 May 2007 – Lecture Hall III

14:00 –15:40 *Fracture Mechanics* (FRA)
chairmen: Kruis J. & Náhlík L.

14:00	Náhlík L., Hutař P.: <i>INFLUENCE OF BI-MATERIAL INTERFACE AND PLASTICITY INDUCED CRACK CLOSURE ON THRESHOLD VALUES</i>	197
14:20	Seitl S., Klusák J., Keršner Z., Knésl Z.: <i>EVALUATION OF NOTCH GEOMETRY EFFECT ON BEHAVIOUR OF FRACTURE TOUGHNESS TESTING SPECIMEN</i>	243
14:40	Šestáková L., Náhlík L., Hutař P.: <i>INFLUENCE OF BI-MATERIAL INTERFACE ON CRACK PROPAGATION DIRECTION IN MULTILAYER COMPOSITE</i>	269
15:00	Ševěček O., Profant T., Kotoul M.: <i>CRACK PROPAGATION CRITERIA FOR THE CRACK TERMINATING ON THE INTERFACE OF A THIN ORTHOTROPIC LAYER AND AN ORTHOTROPIC SUBSTRATE</i>	271
15:20	Veselý V., Keršner Z., Řoutil L.: <i>FRACTURE ENERGY OF QUASI-BRITTLE MATERIALS: VARIANTS OF ITS EXPRESSION AND DETERMINATION, AND RELATED EFFECTS</i>	315

15:40 –16:20 *Coffee Break – hotel lobby*

16:20 –18:00 *Reliability* (REL)
chairmen:

16:20	
16:40	

19:00 *D i n n e r - Restaurant*

4.4. Lecture Hall IV
(Wine Cellar)

Detailed Programme

Mechatronics

(MCT)

Biomechanics

(BIO)

Tuesday – 15 May 2007 – Lecture Hall IV

8:00 – 9:40 *Mechatronics* (MCT)
 chairmen: Valášek M. & Vampola T.

8:00	Blekta J., Mevald J.: <i>SELECTED PROBLEMS OF MULTIBODY SIMULATIONS</i>	17
8:20	Drobný V.: <i>REFERENCE MODEL FOR VEHICLE DYNAMICS CONTROL</i>	43
8:40	Hadaš Z., Singule V., Ondrůšek Č.: <i>SIMULATION MODELLING OF ELECTROMAGNETIC VIBRATION POWER GENERATOR</i>	71
9:00	Klečka R.: <i>VIRTUAL VEHICLE MODEL</i>	117
9:20	Krček P., Dvořák J.: <i>MOBILE ROBOT PATH PLANNING BY MEANS OF GENETIC ALGORITHMS</i>	133

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Mechatronics* (MCT)
 chairmen: Valášek M. & Vampola T.

10:20	Křepela J., Singule V.: <i>MATHEMATIC MODEL OF C-AXIS DRIVE FOR IDENTIFICATION OF DYNAMIC BEHAVIOUR HORIZONTAL MULTIFUNCTION TURNING CENTER</i>	143
10:40	Kubela T., Pochylý A.: <i>SIMULATION MODELING OF MOBILE ROBOT UNDERCARRIAGE EQUIPPED WITH OMNIDIRECTIONAL WHEELS</i>	145
11:00	Mazůrek I., Pražák F., Dvořáček P.: <i>USING NETWORK CAN-BUS FOR ASSESSMENT TRANSMISSION LOAD OF VEHICLE</i>	181
11:20	Mudrik J.: <i>ENGINE DRIVE WITH LOCKING MECHANISMS</i>	189
11:40	Petríková I.: <i>CAM CURVE DESIGN USING POLYNOMIAL FUNCTION</i>	219

12:00 – 14:00 *L u n c h - Restaurant*

Tuesday – 15 May 2007 – Lecture Hall IV

14:00 –15:40 *Mechatronics* (MCT)
chairmen: Mudrik J. & Šika Z.

14:00	Škuta J., Babiuch M., Tůma J.: <i>DESIGN OF HARDWARE OF INERCIAL NAVIGATION SYSTEMS</i>	277
14:20	Švéda J., Šika Z., Valášek M.: <i>ACCELERATION SIGNAL AS INPUT OF VELOCITY LOOP IN MACHINE TOOL CASCADE CONTROL LOOP</i>	283
14:40	Valášek M., Víšek M., Vampola T.: <i>SIMULATION OF HUMAN GAIT OVER THE ELASTIC BRIDGE</i>	299
15:00	Vampola T., Valášek M., Šika Z., Gráf S.: <i>RECONSTRUCTION OF THE ELASTIC MODEL OF 3D STRUCTURES FROM REDUNDANT MEASUREMENTS</i>	307
15:20		

15:40 –16:20 *Coffee Break – hotel lobby*

16:20 –18:00 *Biomechanics* (BIO)
chairmen: Horáček J. & Čulík J.

16:20	Čulík J.: <i>BIOMECHANICS OF HAND</i>	33
16:40	Dlouhá O., Novák A., Vokřál J.: <i>SPEECH AUDIOMETRY</i>	39
17:00	Dušek D.: <i>INFLUENCE OF EXTERNAL EAR CANAL ABSORPTION ON MECHANICS OF HEARING</i>	49
17:20	Fišerová L., Raudenská L.: <i>SYSTEM AND PROCES OPTIMIZATION BY SWARM BASED OPTIMIZATION</i>	61
17:40	Horáček J., Laukkanen A.-M., Šidlof P.: <i>COMPUTER MODELLING OF RELATIONS BETWEEN GLOTTAL AREA VARIATION AND SOUND PRESSURE LEVEL AT THE VIBRATING VOCAL FOLDS</i>	81

19:00 *Dinner - Restaurant*

Wednesday – 16 May 2007 – Lecture Hall IV

8:00 – 9:40 *Biomechanics* (BIO)
chairmen: Horáček J. & Čulík J.

8:00	Houška P., Houfek M., Věchet S., Ondroušek V.: <i>POSSIBILITIES OF CONTROL EXPERIMENTAL TESTING DEVICES FOR BIOMECHANICS</i>	93
8:20	Jiroušek O., Brichtová E., Jírová J.: <i>FINITE ELEMENT RECONSTRUCTION OF CRANIOCEREBRAL INJURY</i>	107
8:40	Kunecký J., Jiroušek O., Jírová J.: <i>PARAMETRIC STUDY OF MATERIAL PROPERTIES OF PROTECTIVE LINER OF SKI HELMET</i>	149
9:00	Kytýř D., Jírová J., Vyčichl J., Jíra J.: <i>MUSCLE UNBALANCE INFLUENCE TO HIP IMPLANT MIGRATION</i>	151
9:20	Radolf V., Vampola T.: <i>THE POSSIBILITIES OF TUNING AND OPTIMISATION OF ACOUSTIC RESONANCE PROPERTIES OF THE HUMAN VOCAL TRACT</i>	237

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Biomechanics* (BIO)
chairmen: Horáček J. & Čulík J.

10:20	Vampola T., Horáček J., Klepáček I.: <i>MODELLING OF THE VIBRATION PROPERTIES OF THE HUMAN VOCAL FOLDS</i>	305
10:40	Zemánek M., Burša J.: <i>IDENTIFICATION OF PARAMETERS OF CONSTITUTIVE MODELS FOR SOFT TISSUES FROM BIAXIAL TENSION TESTS</i>	327
11:00		

12:00 – 14:00 *L u n c h - Restaurant*

4.5. Lecture Hall V (Fitness Centre)

Detailed Programme

Thermodynamics (TER)

Fluid Mechanics (FLU)

Tuesday – 15 May 2007 – Lecture Hall V

8:00 – 9:40 *Thermodynamics* (TER)
 chairmen: Trávníček Z. & Šifner O.

8:00	Bayer Z.: <i>AN ALTERNATIVE THERMODYNAMIC ANALYSIS OF IDEAL THERMAL CYCLES OF PISTON COMBUSTION ENGINES. THE FORMULATION AND DERIVATION OF FUNDAMENTAL COMBINED OPTIMALS AND THE REAL EFFECT OF THE POISSONS CONSTANT</i>	11
8:20	Čorňák Š., Skolil J., Rybianský M., Balík R., Barták J.: <i>SELECTED PROBLEMS OF BRAKE FLUID DEVICES EXPERTISE</i>	31
8:40	Dančová P., Trávníček Z., Vít T.: <i>SYNTHETIC JET</i>	35
9:00	Hnízdil M., Boháček J.: <i>IMAGE ANALYSIS OF WATER JET</i>	79
9:20	Horák A., Bellerová H.: <i>INFLUENCE OF COOLANT TYPE ON COOLING SPRAY INTENSITY</i>	83

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Thermodynamics* (TER)
 chairmen: Trávníček Z. & Šifner O.

10:20	Horák A., Boháček J.: <i>HIGH-SPEED DROPLET IMPACT DURING HYDRAULIC DESCALING PROCESS</i>	85
10:40	Pohanka M.: <i>LIMITATION OF THERMAL INVERSE ALGORITHM AND BOUNDARY CONDITIONS RECONSTRUCTION FOR VERY FAST CHANGES ON BOUNDARY</i>	229
11:00	Šifner O.: <i>NEW EQUATIONS OF STATE FOR INDUSTRIAL APPLICATION</i>	273
11:20	Šmilauer V., Krejčí T., Koudelka T.: <i>ANALYSIS OF CONCRETE FOUNDATION - HEAT CONDUCTION MULTISCALE MODELING</i>	279
11:40	Trávníček Z.: <i>THERMOACOUSTICS</i>	291

12:00 – 14:00 *L u n c h - Restaurant*

Tuesday – 15 May 2007 – Lecture Hall V

14:00 –15:40 *Thermodynamics* **(TER)**
 chairmen: Trávníček Z. & Šifner O.

14:00	Veselý S.: <i>METHODS OF ABATEMENT OF EMISSIONS IN COMBUSTION CHAMBERS OF GAS TURBINES</i>	313
14:20	Zima P., Maršík F., Sedlář M.: <i>CAVITATION AND BUBBLE NUCLEATION IN WATER WITH ADMIXTURES</i>	329
14:40		

15:40 –16:20 *Coffee Break – hotel lobby*

16:20 –18:00 *Fluid Mechanics* **(FLU)**
 chairmen: Uruba V. & Chára Z.

16:20	Bednář L., Tajč L.: <i>CONTROL VALVES FOR TURBINES WITH SUPERCRITICAL PARAMETERS OF STEAM</i>	13
16:40	Dániel V., Košuth S.: <i>FLUID-STRUCTURE INTERACTION IN LOUDSPEAKER SYSTEM</i>	37
17:00	Hoření B., Horák V.: <i>COMPUTATIONAL GLAZE ICE ACCRETION PREDICTION</i>	89
17:20	Hoření B., Chára Z.: <i>HIGH ORDER GEOMETRICAL AND FUNCTIONAL DISCRETIZATION FOR THE NAVIER -STOKES EQUATIONS</i>	91
17:40	Chára Z., Hoření B.: <i>NUMERICAL SIMULATION AND EXPERIMENTAL INVESTIGATION OF PULSATING FLOW</i>	101

19:00 *D i n n e r - Restaurant*

Wednesday – 16 May 2007 – Lecture Hall V

8:00 – 9:40 *Fluid Mechanics* (FLU)
chairmen: Vlasak P. & Jonáš P.

8:00	Jonáš P.: <i>ON THE TURBULENT SPOT AND CALMED REGION</i>	109
8:20	Kharlamov A., Kvurt Yu, Chara Z., Vlasak P.: <i>INVESTIGATION OF DRAG FORCE AND DRAG MOMENT OF ROTATING TRANSLATIONALLY MOVING SPHERE IN CALM WATER</i>	115
8:40	Kolář V.: <i>VORTICITY DECOMPOSITION: METHODS AND PHYSICAL ASPECTS</i>	121
9:00	Král J.: <i>DYNAMIC RESPONSE OF A HIGH BUILDING IN STRONG WIND</i>	127
9:20	Král R., Pospíšil S., Náprstek J.: <i>ASSESSMENT OF HANGARS FOR CIVIL AIRPLANES UNDER WIND FLOW WITH RESPECT TO RESISTANCE AND STRUCTURE STABILITY</i>	129

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Fluid Mechanics* (FLU)
chairmen: Vlasak P. & Jonáš P.

10:20	Lobovský L., Křen J.: <i>FULLY MESH-FREE LAGRANGIAN SIMULATIONS USING SPH METHOD</i>	157
10:40	Losík V.: <i>SIMULATION OF FLUTTER USING CFD-FEM COUPLED MODEL</i>	161
11:00	Lukerchenko N., Piatsevich S., Chara Z., Vlasak P.: <i>NUMERICAL MODEL OF THE SPHERICAL PARTICLE SALTATION IN CHANNEL WITH TRANSVERSE TILTED ROUGH BED</i>	163
11:20	Mík V., Kořenář J., Myška J.: <i>EFFECT OF SURFACTANT/COUNTER ION RATIO ON DURABILITY AND DRAG REDUCTION EFFECTIVENESS OF MICELLAR SOLUTIONS</i>	183
11:40		

12:00 – 14:00 *L u n c h - Restaurant*

Thursday – 17 May 2007 – Lecture Hall V

8:00 – 9:40 *Fluid Mechanics* (FLU)
chairmen: Křen J. & Tajč L.

8:00	Nabergoj R., Tondl A.: <i>SUPPRESSION OF THE SELF-EXCITED VIBRATION OF THE PENDULUM SYSTEM INDUCED BY FLOW</i>	193
8:20	Pirner M., Fischer O., Urushadze Sh.: <i>AEROELASTIC MODEL WITH AND WITHOUT THE FROUDE NUMBER</i>	221
8:40	Pivokonský M., Pivokonská L., Švec M.: <i>THE INFLUENCE OF THE AGITATION INTENSITY ON FILTRATION RUNS DURING WATER TREATMENT</i>	225
9:00	Rozehnal D.: <i>NONSTACIONARY MEASUREMENT OF THE AIRFOIL AERODYNAMIC CHARACTERISTICS</i>	241
9:20	Shakirova D., Křen J.: <i>INTERACTION PROBLEM FOR A BLOOD VESSEL</i>	245

9:40 – 10:20 *Coffee Break – hotel lobby*

10:20 – 12:00 *Fluid Mechanics* (FLU)
chairmen: Křen J. & Tajč L.

10:20	Stodola J.: <i>NEW RECOGNITION TECHNOLOGY FOR FLUID SYSTEMS CONTAMINATION</i>	263
10:40	Tajč L., Šiková I.: <i>EXPERIMENTAL INVESTIGATION OF BLADE GRIDS AND TURBINE STAGES DESIGNED BY CFD</i>	287
11:00	Uruba V., Knob M., Popelka L.: <i>A BOUNDARY LAYER SEPARATION DYNAMICS</i>	297
11:20		

12:00 *Closing Ceremony & Lunch - Restaurant*

4.6. Class Rooms

(basement of the hotel ŽĎAS living part)

Poster Session

(POS)

Note:

All of the posters exhibited at the Conference will be accepted into the competition for the **Prize of the Managing Director of the ŽĎAS Company**. The special committee – under chairmanship of **Mr. Ivan Trajtel', MSc.**, technical director of the ŽĎAS company – will conclude the assessment of the posters exhibited on **Wednesday at 13.30**.

15 – 16 May 2007 – Class Rooms

Poster Session: Tuesday 8.00 - Wednesday 18.00 (POS)
chairmen: Dobiáš I. & Formánek M.

1	Antoš P.: <i>CORRECT INTERPRETATION OF THE CTA MEASUREMENTS AT LOW OVERHEATS</i>	7
2	Bořkovec J., Petruška J.: <i>COMPUTER SIMULATION OF MATERIAL SEPARATION PROCESSES</i>	19
3	Čečrdle J.: <i>OPTIMIZATION OF THE COMMUTER AIRCRAFT WING STIFFNESS CHARACTERISTICS CONSIDERING REQUIREMENT OF AEROELASTIC STABILITY AT THE CERTIFICATION SPEED</i>	25
4	Čech V., Jevický J.: <i>THE DEVELOPMENT OF ALGORITHMS FOR RANGE CHANNEL OF THE PASSIVE OPTOELECTRONIC RANGEFINDER</i>	27
5	Knob M., Uruba V., Antoš P., Popelka L., Šafařík P., Adamec J.: <i>UNSTEADY CHARACTERISTICS OF A PLANE JET IMPINGING INTO A BLIND TROUGH CAVITY</i>	119
6	Krejčí P., Hrubý J., Ždímal V., Trávníček Z.: <i>DEW POINT OF FLUE GASES: THEORETICAL MODELING AND PRELIMINARY EXPERIMENTS</i>	135
7	Krejjsa J., Věchet S., Ondroušek V.: <i>HIGH LEVEL SOFTWARE FOR AUTONOMOUS RACING ROBOT</i>	139
8	Marada T.: <i>THE 3D LASER RANGE FINDER FOR AUTONOMOUS MOBILE ROBOTS: DESIGN AND CONSTRUCTION</i>	175
9	Markov P., Svoboda V.: <i>FINITE ELEMENT ANALYSIS DYNAMICAL MODEL OF VVER 1000 NUCLEAR REACTOR CONTROL ROD DRIVE</i>	177
10	Pásek M., Šimurda J.: <i>USE OF QUANTITATIVE MODEL TO ASSESS THE FRACTIONAL AREA OF T-TUBULAR MEMBRANE IN VENTRICULAR CARDIOMYOCYTE</i>	213
11	Pivokonský M., Kysela B., Chára Z.: <i>THE INFLUENCE OF THE VELOCITY GRADIENT ON MORFOLOGICAL PROPERTIES OF AGGREGATES</i>	223
12	Somolová A., Zeman J.: <i>NUMERICAL HOMOGENIZATION OF PLATE STRUCTURES</i>	255

15 – 16 May 2007 – Class Rooms

Poster Session: Tuesday 8.00 - Wednesday 18.00 (POS)
chairmen: Dobiáš I. & Formánek M.

13	Španiel M., Jurenka J., Růžička M., Papuga J., Hrubý Z.: <i>COMPUTATIONAL FATIGUE STRENGTH PREDICTION OF TURBINE BLADE PIN JOINT</i>	281
14	Věchet S., Krejsa J., Ondroušek V.: <i>DETERMINATION OF PROBABILISTIC MODEL OF ROBOT MOTION</i>	311
15	Vyčichl J., Kytýř D., Jírová J., Jíra J.: <i>INTERACTION BETWEEN PELVIC BONE AND ACETABULAR COMPONENT WITH NON-UNIFORM CEMENT LAYER</i>	321