ACOMEN 2022

31.08 – 02.09.2022
LIÈGE

ACOMEN 2022

The 8th international conference on Advanced COmputational Methods in ENgineering

Conference Programme

22.08.2022 - The programme may be subject to changes

Programme
Wednesday 31 August

8 H 30 — **Registrations & Welcome coffee**
Lobby of the Academic Hall | Level 0

9 H 30 — **Opening**
Academic Hall | Level 0

- Eric Delhez (Dean of the Faculty of Applied Sciences, University of Liège, BE)
- Pierre Wolper (Rector, University of Liège, BE)

10 H 00 — **Plenary Lecture** – Marcus J Grote (Universität Basel, CH)
Academic Hall | Level 0

10 H 55 — **Coffee break**
Lobby of the Academic Hall | Level 0

11 H 15 — **Oral Session 1**
Academic Hall | Level 0

- 137 - *Fast data-driven model reduction for non-linearizable dynamics*, **Axås, Joar; Cenedese, Mattia; Haller, George** [ETH Zürich, Switzerland]
- 142 - *Reduced Order Modeling of Bladed Disks with Geometric and Contact Nonlinearities*, **Delhez, Elise (1); Nyssen, Florence (1); Golinval, Jean-Claude (1); Batailly, Alain (2)** [1: University of Liège, Belgium; 2: Polytechnique Montréal, Canada]
- 195 - *Dynamics-based Model Reduction of Nonlinear Finite Element Problems via Spectral Submanifolds*, **Jain, Shobhit; Haller, George** [ETH Zurich, Switzerland]

Wittert Room | Level 0 – courtyard

- 135 - *Prediction of the low velocity impact response of plyscaled CFRP laminates*, **Anantharaju, Rajaneesh; Bruyneel, Michael** [GDTech Engineering, Belgium]

Programme
Wednesday 31 August

- 192 - *Using FEM and a crack band model with damaged induced anisotropy to predict damage on continuous fiber ceramic matrix composites*, **Tanaka Nunes, Gabriel (1,2); Papeleux, Luc (1); Boman, Romain (1); Martiny, Philippe (2); Adam, Laurent (2); Ponthot, Jean-Philippe (1)** [1: A&M department, University of Liege; 2: Manufacturing Intelligence division, Hexagon]
- 155 - *Pressure-dependent multiscale stochastic simulations using a MFH model constructed from full-field SVE realisations*, **Calleja Vazquez, Juan Manuel (1); Wu, Ling (1); Nguyen, Van-Dung (2); Noels, Ludovic (1)** [1: University of Liege, Belgium; 2: University of Oxford, United Kingdom]

Teacher's Lounge | Level 1

- 122 - *Numerical Solution of Nonlinear Conservation Laws using TVD Semi-Implicit Schemes*, **Žeravý, Michal; Frolkovič, Peter** [Slovak University of Technology, Slovak Republic]
- 125 - *Numerical solution of conservation laws using semi-implicit WENO scheme*, **Zakova, Dagmar; Frolkovic, Peter** [Slovak University of Technology, Slovak Republic]
- 114 - *A Cartesian discontinuous Galerkin solver with immersed boundaries*, **Levaux, Nayan (1); Bilocq, Amaury (1); Schrooyen, Pierre (2); Terrapon, Vincent (1); Hillewaert, Koen (1)** [1: Université de Liège, Belgium; 2: Cenaero, Belgium]

12 H 25

Lunch break

14 H 00

Plenary Lecture – Patrick Ciarlet (ENSTA Paris, Institut Polytechnique de Paris, FR)

Academic Hall | Level 0

Programme
Wednesday 31 August

14 H 55

Oral Session 2

Academic Hall | Level 0

- 105 - *Implicit Two-Derivative Time Discretization for the Discontinuous Galerkin Method*, **Zeifang, Jonas; Schütz, Jochen** [Hasselt University, Belgium]
- 107 - *Jacobian-free implicit multiderivative Runge-Kutta methods*, **Chouchoulis, Jeremy; Schütz, Jochen; Zeifang, Jonas** [Hasselt University, Belgium]
- 109 - *Space-Time Finite Element and Multigrid Methods for Coupled Hyperbolic-Parabolic Systems*, **Anselmann, Mathias (1); Bause, Markus (1); Köcher, Uwe (1); Radu, Florin A. (2)** [1: Helmut Schmidt University, Germany; 2: University of Bergen, Norway]

Wittert Room | Level 0 – courtyard

- 132 - *An ALE cable formulation applicable to multibody systems*, **Devigne, Olivier (1); Cosimo, Alejandro (2); Brüls, Olivier (1)** [1: University of Liège, Belgium; 2: Siemens Industry Software NV, Liège, Belgium]
- 168 - *Mechanics of Flexible Bodies in Local Orthonormal Frames*, **Sonneville, Valentin; Géradin, Michel** [Technical University of Munich, Germany]
- 204 - *Sensitivity analysis for large-amplitude motion of flexible multibody systems formulated on the Lie group SE(3)*, **Todesco, Juliano; Brüls, Olivier** [Université de Liège, Belgium]

Teacher's Lounge | Level 1

- 117 - *Numerical Optimization of the Dirichlet Boundary Condition in the Phase Field Problem*, **Wodecki, Aleš; Oberhuber, Tomáš; Strachota, Pavel; Bohatý, Michal** [Czech Technical University, Czech Republic]
- 160 - *A new semi-implicit time-discretization for the Cahn-Larché equations*, **Storvik, Erlend** [University of Bergen, Norway]

Programme
Wednesday 31 August

- 120 - *Micro-Scale Modeling of Freezing and Thawing in Porous Media*, **Beneš, Michal (1); Žák, Alexandr (1); Illangasekare, Tissa H. (2)** [1: Czech Technical University in Prague, Czech Republic; 2: Colorado School of Mines, Golden, Colorado, USA]

16 H 05

Coffee break
Lobby of the Academic Hall | Level 0

16 H 25

Oral Session 3
Academic Hall | Level 0

- 104 - *An IMEX multiderivative integration method*, **Schütz, Jochen (1); Seal, David (2); Zeifang, Jonas (1)** [1: UHasselt, Belgium; 2: United States Naval Academy, USA]
- 129 - *Moving bodies in parabolic problems*, **Slodicka, Marian** [Ghent University, Belgium]
- 171 - *Splitting Schemes for Coupled System of PDEs: Block Shur-Based Approaches & Partial Jacobi Approximations*, **Nuca, Roberto (1); Icardi, Matteo (1); Radu, Florin (2); Storvik, Erlend (2)** [1: University of Nottingham, Italy; 2: University of Bergen, Norway]

Wittert Room | Level 0 – courtyard

- 172 - *Application of the ALE formalism for modelling the cold drawing process of high-precision tubes*, **Crutzen, Yannick (1,2); Boman, Romain (2); Bruyneel, Michael (1,2); Delhomme, Myriam (3); Perrier, Malika (3); Guyon, Anaïs (3); Ponthot, Jean-Philippe (2)** [1: GDTech, Belgium; 2: University of Liège, Belgium; 3: Minitubes ZAC Technisud, France]
- 180 - *Assessment of the influence of creep transition and nitridation in the creep-life prediction of Incoloy 800H*, **Rojas-Ulloa, Carlos; Morch, Hélène; Betaieb, Ehssen; Duchêne, Laurent; Habraken, Anne Marie** [ArGEnCo department, University of Liège, Belgium]

Programme
Wednesday 31 August

Teacher's Lounge | Level 1

- 174 - *Computational Modelling of the Solid Electrolyte Interface (SEI) in Lithium-Ion Batteries and Its Impact on Long-Term Battery Aging*, **Banetta, Luca; Marcato, Agnese; Boccardo, Gianluca; Marchisio, Daniele** [Politecnico di Torino, Italy]
- 183 - *Battery cell optimisation using time and parameter adaptive reduced order models*, **Higuera, María (1); Jane, Eduardo (1); Medeiros, Ruth (1); Parra, Rubén (2); Varas, Fernando (1)** [1: Universidad Politécnica de Madrid, Spain; 2: CIDETEC, Basque Research and Technology Alliance, Spain]
- 186 - *The Validated Numerical Simulation of a Microstructure Resolved Lithium-Ion Battery Model*, **Castelli, Fabian** [Karlsruhe Institute of Technology, Germany]

17 H 35 — **Break**

18 H 10 — **Group walk to the Welcome Reception**
Lobby of the Academic Hall | Level 0

18 H 30 — **Welcome Reception**
Musée Grand Curtius | end at 20.00 hrs

Programme
Thursday 1 September

09 H 15

Plenary Lecture – Weihong Zhang (Northwestern Polytechnical University, CN)
Academic Hall | Level 0

10 H 10

Coffee break
Lobby of the Academic Hall | Level 0

10 H 30

Oral Session 4
Academic Hall | Level 0

- 201 - *Inner product preconditioned trust-region methods for frequency-domain full waveform inversion*, **Adriaens, Xavier (1); Métivier, Ludovic (2); Geuzaine, Christophe (1)** [1: University of Liège, Belgium; 2: Univ. Grenoble Alpes, France]
- 110 - *Transmission operators for the non-overlapping Schwarz method for solving Helmholtz problems in cavities*, **Marsic, Nicolas (1); Geuzaine, Christophe (2); De Gersem, Herbert (1)** [1: Technische Universität Darmstadt, Germany; 2: University of Liège, Belgium]
- 181 - *A new method for two-dimensional time-independent Schrödinger problems*, **Baeyens, Toon; Van Daele, Marnix** [Ghent University, Belgium]

Wittert Room | Level 0 – courtyard

- 205 - *An embedded finite element technique to solve the fluid interacting with a flexible structure*, **Cruchaga, Marcela Andrea (1); Pablo, Ancamil (1); Diego, Celentano (2)** [1: Universidad de Santiago de Chile, Chile; 2: Pontificia Universidad Católica de Chile, Chile]

Programme
Thursday 1 September

- 144 - *Numerical continuation methods for marine ice-sheet systems with various friction laws*, **Gregov, Thomas (1,2); Pattyn, Frank (2); Arnst, Maarten (1)** [1: Aérospatiale et Mécanique, Université de Liège, Belgium; 2: Laboratoire de Glaciologie, Université libre de Bruxelles, Belgium]
- 148 - *Thermoelastic problem in the setting of dual-phase-lag heat conduction: existence and uniqueness of a weak solution*, **Maes, Frederick; Van Bockstal, Karel** [Ghent University, Belgium]
- 157 - *Zone-by-zone non-conformal remeshing strategy applied to 2D and 3D thermal additive manufacturing FE simulations*, **Laruelle, Cedric; Boman, Romain; Papeleux, Luc; Ponthot, Jean-Philippe** [University of Liege, Belgium]

Teacher's Lounge | Level 1

- 187 - *Modelling silicon-graphite composite negative electrodes in lithium-ion batteries*, **Sanadhya, Sanskar G. (1); Ratynski, Maciej (2); Hamankiewicz, Bartosz (2); Widanage, W. Dhammika (1)** [1: University of Warwick, United Kingdom; 2: University of Warsaw, Poland]
- 189 - *Lattice Boltzmann Methods for Reactive Flows with Focus on Simulations of Transport Processes in Lithium Ion Batteries*, **Mödl, Johanna** [Karlsruher Institute of Technology, Germany]
- 194 - *Analytical solution of single particle model for lithium ion cells*, **Piruzjam, Javid (1); Rubacek, Lukas (1); Carraro, Thomas (2)** [1: Mercedes-Benz AG; 2: Helmut Schmidt University / University of the Federal Armed Forces Hamburg, Germany]
- 196 - *Analysis of Kinetic Dependencies of Catalyst Deactivation Based on the Three-Factor Kinetic Equation*, **Gromotka, Zoë (1); Yablonsky, Gregory (2); Constales, Denis (1)** [1: Ghent University, Belgium; 2: Washington University in St. Louis, USA]

Programme
Thursday 1 September

12 H 00 Lunch break

13 H 35 **Plenary Lecture** – Anna Pandolfi (Politecnico Milano, IT)
Academic Hall | Level 0

14 H 30 **Oral Session 5**
Academic Hall | Level 0

- 108 - *Physically Agnostic Dispersive Quasi Normal Mode Expansion*, **Nicolet, André (1); Demésy, Guillaume (1); Zolla, Frédéric (1); Campos, Carmen (2); Roman, Jose (3); Geuzaine, Christophe (4)** [1: Aix-Marseille Université, France; 2: Universitat de València; 3: Universitat Politècnica de València; 4: University of Liège]
- 115 - *Explicit P1 finite element solution of Maxwell's equations with absorbing conditions and constant permittivity in a boundary neighborhood*, **Beilina, Larisa (1); Ruas, Vitoriano (2)** [1: Chalmers University of Technology, Sweden; 2: Sorbonne Université, France]
- 130 - *A space-time discretization for the mixed variational formulation of an electromagnetic problem with a moving non-magnetic conductor*, **Le, Van Chien; Slodicka, Marian; Van Bockstal, Karel** [Ghent University, Belgium]

Wittert Room | Level 0 – courtyard

- 123 - *The reconstruction of a time-dependent heat source in thermoelasticity*, **Van Bockstal, Karel (1); Marin, Liviu (2)** [1: Ghent University, Belgium; 2: University of Bucharest, Romania]

Programme
Thursday 1 September

- 111 - *Comparison of different numerical methods for braiding process simulation*, **Bruyneel, Michael (1,2); Altemirov, Aimourza (1); Haeseleer, Maurice (1)** [1: GDTech Engineering, Belgium; 2: University of Liège]
- 162 - *Robust splitting schemes for poromechanics*, **Radu, Florin Adrian** [University of Bergen, Norway]
- 161 - *X-MESH: An eXtreme Mesh deformation method to follow sharp physical interfaces*, **Remacle, Jean-François; Moes, Nicolas** [Université catholique de Louvain, Belgium]

Teacher's Lounge | Level 1

- 154 - *Simulative Comparison of Chemo-Mechanically Coupled Contact Problems for Battery Active Particles*, **Schoof, Raphael ; Castelli, Fabian ; Dörfler, Willy** [Karlsruhe Institute of Technology, Germany]
- 159 - *Battery Modelling and Simulation on the Particle Scale*, **Wiedemann, Johannes (1,2); Hein, Simon (1,2); Danner, Timo (1,2); Latz, Arnulf (1,2,3)** [1: Institute of Engineering Thermodynamics, Germany; 2: Helmholtz Institute Ulm for Electrochemical Energy Storage, Germany; 3: Ulm University, Germany]
- 173 - *Multiscale modelling of chemo-mechanical processes in heterogeneous materials for energy storage*, **Poluektov, Mikhail; Figiel, Lukasz** [University of Warwick, United Kingdom]
- 164 - *Modelling and simulation of fluid flow through open-cell gas evolving foam electrodes*, **Georgiadis, Christos; Proost, Joris** [Université catholique de Louvain, Belgium]

16 H 00

Coffee break

Lobby of the Academic Hall | Level 0

Programme
Thursday 1 September

16 H 20

Oral Session 6

Academic Hall | Level 0

- 200 - *Mixed Finite Element Formulations for Systems with Superconductors and Ferromagnetic Materials*, **Dular, Julien; Geuzaine, Christophe; Vanderheyden, Benoît** [University of Liège, Belgium]
- 199 - *A Homogenized Material Law Based on Neural Networks for the Accurate Prediction of Losses in Electrical Machines*, **Purnode, Florent; Henrotte, François; Louppe, Gilles; Geuzaine, Christophe** [University of Liège, Belgium]
- 138 - *Development of a Hybridized Discontinuous Galerkin Solver for Inductively Coupled Plasma*, **Corthouts, Nicolas (1); May, Georg (2); Hillewaert, Koen (1)** [1: Université de Liège, Belgium; 2: von Karman Institute for Fluid Dynamics, Belgium]

Wittert Room | Level 0 – courtyard

- 203 - *X-ray focal spot estimation from a single image of a tungsten sphere*, **Leblanc, Christophe; Béchet, Eric; Libertiaux, Vincent** [University of Liège, Belgium]
- 145 - *FEM-compliant meshing for massively parallel geophysics simulations*, **Badri, Mohd Afeef; Bourcier, Christophe; Foerster, Evelyne** [Université Paris-Saclay, France]
- 167 - *Towards 3D Cross Fields Suitable for Hexahedral Meshing*, **Couplet, Mattéo; Remacle, Jean-François** [UCLouvain, Belgium]
- 166 - *Multiphase Flows: The X-Mesh method*, **Quiriny, Antoine (1); Remacle, Jean-François (1); Lambrechts, Jonathan (1); Moës, Nicolas (2,3)** [1: UCLouvain, iMMC, Belgium; 2: Nantes Université, France; 3: Institut Universitaire de France, France]

Programme
Thursday 1 September

Teacher's Lounge | Level 1

- 116 - *Experimental Validation of Multiphase Particle-in-Cell Simulations of Fluidization in a Bubbling Fluidized Bed Combustor*, **Strachota, Pavel; Beneš, Michal; Eichler, Pavel; Hrdlička, Jan; Klinkovský, Jakub; Kolář, Miroslav; Smejkal, Tomáš; Skopec, Pavel; Solovský, Jakub; Žák, Alexandr** [Czech Technical University in Prague, Czech Republic]
- 113 - *Particle Finite Element Method (PFEM) for 2D/3D Fluid-Structure Interactions, including Contact Interactions*, **Lacroix, Martin (1); Février, Simon (1); Boman, Romain (1); Remacle, Jean-Francois (2); Ponthot, Jean-Philippe (1)** [1: University of Liège, Belgium; 2: University of Louvain, Belgium]
- 124 - *Review and Preliminary Results of MP-PIC Simulations of Combustion in a Bubbling Fluidized Bed Boiler*, **Kolar, Miroslav; Beneš, Michal; Eichler, Pavel; Hrdlička, Jan; Klinkovský, Jakub; Smejkal, Tomáš; Skopec, Pavel; Solovský, Jakub; Strachota, Pavel; Žák, Alexandr** [Czech Technical University in Prague, Czech Republic]
- 147 - *2D modelling of the fluid surge and film thinning above symmetrical bodies crossing the free surface at constant velocity, and comparison with simulations using the Particle Finite Element Method (PFEM)*, **Falla, Romain (1); Vincent, Lionel (2); Scheid, Benoit (2); Dorbolo, Stéphane (1); Ponthot, Jean-Philippe (1); Terrapon, Vincent E. (1)** [1: Université de Liège, Belgium; 2: Université Libre de Bruxelles, Belgium]

17 H 50 — Break

19 H 00 — **Gala dinner**
Société littéraire | Place de la République française 5

Programme
Friday 2 September

09 H 15

Plenary Lecture – Julien Yvonnet (Université Gustave Eiffel, FR)

Academic Hall | Level 0

10 H 10

Coffee break

Lobby of the Academic Hall | Level 0

10 H 30

Oral Session 7

Academic Hall | Level 0

- 112 - *Electric Field Calculation at the Modeled Terminations of the Strip Lines*, **Raicevic, Nebojsa (1); Peric, Mirjana (1); Vuckovic, Ana (1); Raicevic, Svetlana (2)** [1: University of Nis, Serbia; 2: Information and communications technologies, Post of Serbia, Serbia]
- 178 - *A Quantized Tensor Train preconditioner for EFIE equation of electromagnetism*, **Baray, Matthias (1,2); Levadoux, David (1); Poirier, Jean-René (2)** [1: ONERA, France; 2: Université de Toulouse, France]
- 140 - *Shape Memory Effects in Polymer Composites by Temperature Control Through Electromagnetic Induction Heating by Employing a Weakly Coupled Multi-Physics Multi-Timescale Model*, **Gholap, Vinayak; Noels, Ludovic; Geuzaine, Christophe** [University of Liege, Belgium]

Wittert Room | Level 0 – courtyard

- 126 - *Advances in the development of the Particle Finite Element Method for manufacturing problems*, **Carbonell, Josep Maria (1,3); Bakhshan, Hadi (3); Rodríguez, Juan Manuel (2); Oñate, Eugenio (3)** [1: UVic-UCC, Spain; 2: EAFIT, Colombia; 3: CIMNE, Spain]

Programme
Friday 2 September

- 163 - *Treatment of mass conservation issues in the Particle Finite Element Method*, **Leyssens, Thomas; Remacle, Jean-François** [UCLouvain - IMMC, Belgium]
- 185 - *Towards a PFEM-based unified thermo-fluid solid simulation tool for phase change problems*, **Bobach, Billy-Joe (1); Boman, Romain (1); Celentano, Diego (2); Terrapon, Vincent E. (1); Ponthot, Jean-Philippe (1)** [1: Uliège, Belgium; 2: Pontificia Universidad Católica, Chile]
- 188 - *Particle Finite Element Method for simulations of Selective Laser Melting with vaporization*, **Février, Simon; Boman, Romain; Ponthot, Jean-Philippe** [ULiège, Belgium]

Teacher's Lounge | Level 1

- 106 - *A Split-Explicit second order Runge-Kutta method for solving 3D hydrodynamic equations in SLIM*, **Ishimwe, Ange Pacifique; Lambrechts, Jonathan; Deleersnijder, Eric; Legat, Vincent** [Uclouvain, Belgium]
- 121 - *Efficient numerical methods for models of evolving interfaces enhanced with a small curvature term*, **Lacková, Katarína; Frolkovič, Peter** [Slovak University of Technology, Slovak Republic]
- 128 - *Assessment of geometrical variability effects through a viscous through-flow model: sensitivity analysis of the manufacturing tolerance effects on performance of modern axial-flow compressor blades*, **Budo, Arnaud (1); Terrapon, Vincent (1); Arnst, Maarten (1); Hillewaert, Koen (1); Bartholet, Jules (2)** [1: University of Liège, Belgium; 2: Safran Aero Booster, Belgium]
- 131 - *Hybridisation of discontinuous galerkin methods for shock capturing in scale resolving simulations*, **Bilocq, Amaury; Levaux, Nayan; Terrapon, Vincent E.; Hillewaert, Koen** [University of Liege, Belgium]

Programme
Friday 2 September

12 H 00

Lunch break

13 H 35

Oral Session 8

Academic Hall | Level 0

- 158 - *Efficient Asymptotic Models for 3D Linear Ferromagnetic Materials in Eddy Current Problems*, **Abou El Nasser El Yafi, Dima (1); Péron, Victor (1); Perrussel, Ronan (2); Krähenbühl, Laurent (3)** [1: Université de Pau et des pays de l'Adour, France; 2: Université de Toulouse, France; 3: Université de Lyon, France]
- 175 - *Sensitivity Analysis of Geometrical and Material Uncertainties on RL Parameters of Wound Inductors*, **Lossa, Geoffrey; Deblecker, Olivier; De Grève, Zacharie** [UMONS, Belgium]
- 202 - *Shamo: A tool for stochastic electromagnetic modeling of the head*, **Grignard, Martin; Geuzaine, Christophe; Phillips, Christophe** [University of Liège, Belgium]
- 191 - *Fast calculation of the transient electromagnetic response in non-linear ferromagnetic media using a hybrid spectral-numerical formulation*, **Skarlatos, Anastassios; Reboud, Christophe** [Université Paris-Saclay, France]

Wittert Room | Level 0 – courtyard

- 127 - *TNL: Numerical library for modern parallel architectures*, **Oberhuber, Tomáš; Klinkovský, Jakub; Fučík, Radek** [Czech Technical University in Prague, Czech Republic]
- 198 - *GmshFEM & GmshDDM: Efficient finite element and domain decomposition libraries based on Gmsh*, **Royer, Anthony; Béchet, Eric; Geuzaine, Christophe** [University of Liege, Belgium]

Programme
Friday 2 September

- 197 - *GMSH/DG: A GPU-accelerated Discontinuous Galerkin solver targeting exascale machines*, **Cicuttin, Matteo (1); Royer, Anthony (1); Binde, Peter (2); Geuzaine, Christophe (1)** [1: University of Liège, Belgium; 2: Dr. Binde Ingenieure Design & Engineering]
- 118 - *Lattice Boltzmann Method–Based GPU Simulator for Vapor Transport in the Boundary Layer Over a Moist Soil*, **Klinkovský, Jakub (1); Trautz, Andrew (2); Fučík, Radek (1); Illangasekare, Tissa (3)** [1: Czech Technical University in Prague, Czech Republic; 2: US Army Engineer Research and Development Center, US; 3: Colorado School of Mines, US]

Teacher's Lounge | Level 1

- 146 - *Development of high order Discontinuos Galerkin fluid solver for argon plasma flows*, **Gangemi, Giuseppe Matteo (1,2); Bilocq, Amaury (1); Levaux, Nayan (1); Hillewaert, Koen (1); Magin, Thierry (2)** [1: Université de Liège, Belgium; 2: von Karman Institute for Fluid Dynamics]
- 149 - *Pseudo-unsteady quasi-simultaneous two-dimensional interactive boundary layer methodology for preliminary aircraft design*, **Dechamps, Paul; Bilocq, Amaury; Crovato, Adrien; Dimitriadis, Grigorios; Terrapon, Vincent E.** [Université de Liège, Belgium]
- 153 - *Validation of data-driven wall models on the upper and lower walls of the two-dimensional periodic hill*, **Boxho, Margaux (1,4); Rasquin, Michel (1); Toulorge, Thomas (1); Dergham, Grégory (2); Winckelmans, Grégoire (3); Hillewaert, Koen (4)** [1: Cenaero, Belgium; 2: Safran Tech, France; 3: UCLouvain, Belgium; 4: ULiège, Belgium]

15 H 05

Coffee break

Lobby of the Academic Hall | Level 0

Programme
Friday 2 September

15 H 25

Oral Session 9

Academic Hall | Level 0

- 165 - *Numerical methods for segmentation of Natura 2000 habitats by Sentinel-2 satellite images in NaturaSat software*, **Kollár, Michal (1); Ambroz, Martin (1); Ožvat, Aneta A. (1); Mikula, Karol (1); Čahojová, Lucia (2); Jarolímek, Ivan (2); Šibík, Jozef (2); Šibíková, Mária (2)** [1: Slovak University of Technology in Bratislava, Slovak Republic; 2: Slovak Academy of Sciences, Slovak Republic]
- 169 - *Natural numerical network as a tool for classification Natura 2000 habitats based on remote sensing*, **Mikula, Karol (1); Kollár, Michal (1); Ambroz, Martin (1); Ožvat, Aneta A. (1); Šibíková, Mária (2); Šibík, Jozef (2)** [1: Slovak University of Technology, Slovak Republic; 2: Slovak Academy of Sciences, Slovak Republic]
- 176 - *Atlas based 3D medical image segmentation algorithm*, **Okock, Polycarp (1,2); Urban, Jozef (1); Mikula, Karol (2)** [1: TatraMed Softwares s.r.o; 2: Slovak University of Technology]
- 136 - *Improvement and handling of the segmentation model with an inflation term*, **Okock, Polycarp (1,2); Urban, Jozef (1); Mikula, Karol (2)** [1: TatraMed Softwares s.r.o; 2: Slovak University of Technology]

Wittert Room | Level 0 – courtyard

- 133 - *Finite volume method for regularized eikonal equation with Soner boundary condition on polyhedral meshes*, **Hahn, Jooyoung; Mikula, Karol; Frolkovič, Peter** [Slovak University of Technology in Bratislava, Slovak Republic]
- 143 - *Numerical Solution of Forest Fire Spread Problem in Conjugate Setting*, **Perminov, Valeriy; Belkova, Tatiana** [Tomsk Polytechnic University, Russian Federation]

Programme
Friday 2 September

- 119 - *Numerical study of Air Flow through the Distributor Plate in a Laboratory-Scale Fluidized Bed Boiler using Lattice Boltzmann Method*, **Eichler, Pavel (1); Beneš, Michal (1); Fučík, Radek (1); Hrdlička, Jan (1); Klinkovský, Jakub (1); Kolář, Miroslav (1); Smejkal, Tomáš (1); Skopec, Pavel (1); Solovský, Jakub (1); Strachota, Pavel (1); Straka, Robert (1,2); Žák, Alexandr (1)** [1: Czech Technical University in Prague, Czech Republic; 2: AGH University and Technology, Poland]
- 141 - *Mathematical Modeling and Optimization of the Pathogenic Mechanisms of the Destruction of Myelin Sheaths In Multiple Sclerosis*, **Chaudhry, Qasim Ali (1); Sharqa, Shazmeera (1); Zia, Mushal (2)** [1: University of Engineering and Technology, Lahore, Pakistan; 2: Michigan State University, East Lansing, Michigan, United States of America]

Teacher's Lounge | Level 1

- 190 - *Multi-scale model for the study of the viscoelastic properties of a suspension*, **Henry, Michel Wolfgang ; Legat, Vincent ; Lambrechts, Jonathan** [UCLouvain, Belgium]
- 193 - *Direct numerical simulations of Elasto-Inertial Turbulence (EIT)*, **Terrapon, Vincent E. (1); Dubief, Yves (2)** [1: University of Liege, Belgium; 2: University of Vermont, USA]