Thursday 12 December 2013

09:30 – 11:00  Registration / Keynote Address
Keynote Address
Chair: M Moatamedi, Narvik University College, Norway

Multiphysics, Composites and Aerospace
Costas Soutis, The University of Manchester, UK

11:00-11:30  Coffee Break

11:30-13:00  Session 1.2
Heat Transfer and Thermodynamics
Chair : B Alzahabi, Kettering University, USA

Continuous Hot Dip Galvanizing Modelling and Simulation of significant physical phenomena using zinc based alloys based on ANSYS FLUENT

Theoretical Analysis for a Multilayer Thermoelastic Contact Problem
Essam A. Al-Bahkali, Mechanical Engineering Department, King Saud University, Saudi Arabia

Modelling Phase Change in a 3D Thermal Transient Analysis
P. R. Hampson, E. E. U. Haque, University of Salford, UK

A 1D thermo- fluid dynamic model of wood particle gasification- and combustion processes
Gernot Boiger and Christoph Meier; ICP Institute of Computational Physics, School of Engineering, Zurich University of Applied Sciences, Switzerland

Towards to the numerical investigation of natural convection and radiation in a tilted cavity using an MRT-Lattice Boltzmann method combined with finite volume and discrete ordinates methods
A. Mezrhab, Département de Physique Facultés des Sciences d'Oujda, Maroc , H. Naji Laboratoire Génie Civil & géo-Environnement, Université Lille, France

13:00-14:00  Lunch

14:00-15:30  Session 1.3
Advanced Modelling Techniques
Chair: T. Watanabe, National Fisheries University, Japan

On the design of SPH schemes for hypervelocity impacts into laminates
Iason Zisis, Bas van der Linden and Christina Giannopapa, Eindhoven University of Technology, The Netherlands

Fully Coupled Computational Simulations of Closed-Cell Cellular Materials with Gaseous Pore Filler under Multiaxial Dynamic Loading
Matej Vesenjak and Zoran Ren, Faculty of Mechanical Engineering, University of Maribor, Slovenia

Random Vibration and Fatigue Analysis Using Modal Analysis
Essam Al-Bahkali, Hisham Elkenani, Saudi Arabia and Mhamed Souli, France

On the accurate numerical solutions of the radial Schroedinger equation
A.F. Polupanov, Kotel’nikov Institute of Radio-Engineering and Electronics of the Russian Academy of Sciences, Russia

Numerical investigation of cavitation effects in nuclear power plant pipes
Ramzi Messahel (Univ. Lille France), Mhamed Souli (Univ. Lille France), Bernard Cohen (EDF France), Moji Moatamedi (Univ. Narvik Norway)

15:30-16:00  Coffee Break

16:00-17:30  Session 1.4
Development in Multiphysics (Sponsored by CD-Adapco)
Chair: M. Souli, University of Lille, France

STAR-CCM+ a Multi-discipline Finite Volume Code: Introduction
Ashkan Davoodi, CD-Adapco

STAR-CCM+ a Multi-discipline Finite Volume Code: Live Demonstration
Ashkan Davoodi, CD-Adapco

19:30  Conference Banquette
Friday 13 December 2013

09:30-11:00  Session 2.1
Aerospace & Multiphysics (Sponsored by Association of Aerospace Universities)
Chair: C. Soutis, The University of Manchester, UK

Automotive Wind Noise using Computational Fluid Dynamics
Basem Alzahabi, Kettering University, USA

Numerical modeling of Coanda effect in a Novel Propulsive System
Shyam S. Das, M. Abdullahzadeh, Jose C. Pascoa, Technology University of Beira, Portugal, A. Dumas, M. Trancoss, l'Ingegneria Universita di Modena e Reggio Emilia, Italy

Analysis of Failure Mechanisms in Fatigue Test of Reinforced Concrete Beam Utilizing Acoustic Emission
N. Muhamad Bunnori, S. Abdul Kudus, N. Md Nor, T.K. Goh, Malaysia

11:00-11:30  Coffee Break

11:30-13:00  Session 2.2
Impacts & Explosions
Chair: Z. Ren, University of Maribor, Slovenia

Pre-processing Technology Using Shock Loading for Marine Products Freeze-drying

Effects to Underwater shock wave by Improvement of Current characteristics of Spark discharge
Osamu Higa, Takumi Matsui, Saichiro Hanashiro, Katsuya Higa, Shigeru Itoh, Okinawa National College of Technology, Japan

A Computational Prediction of Fragment Behavior due to Underground Explosion
Yoshikazu HIGA, Okinawa National College of Technology, Hirofumi IYAMA, Kumamoto National College of Technology and Shigeru ITOH, Okinawa National College of Technology, Japan

Improvement juice extraction of pumpkin oil by underwater shock wave
Ken Shimojima, Eisuke Kuraya, Osamu Higa, Katsuya Higa, Yoshikazu Higa, Ayumi Takemoto, Shigeru Itoh, Japan; Matej Vesenjak, Zoran Ren, Slovenia

Continuous operation of milling flour system by underwater shock wave and fixed quantity evaluation
Ken Shimojima, Osamu Higa, Katsuya Higa, Yoshikazu Higa, Ayumi Takemoto, Shigeru Itoh, Japan

13:00-14:00  Lunch

14:00-15:30  Session 2.3
Materials & Nano-Technology
Chair: E A Al-Bahkali, King Saud University, Saudi Arabia

Rashba spin-orbit coupling effects in low dimensional nanostructures
R.V.N. Melnik and S. Prabhakar, M2NeT Lab, Wilfrid Laurier University, Waterloo, ON, Canada

An experimental and computational prediction for material characteristics of Jahgal Soil
Hirofumi IYAMA, Yoshikazu HIGA, Ken SHIMOJIMA, Shigeru TANAKA, Hirofumi MAEHARA and Shigeru ITOH, Japan

Characterization of defect sizing in aluminum alloys by eddy current technique
Benoudsal, Laboratory of Aircrafts, University of Saad Dahlab, Blida, Algeria

Some elastic parameters of zinc blende ZnS
E. Guler, M. Guler, E. Aldirmaz, Turkey

A comparative study for cubic elastic constants of fcc Ag, Au and Cu
M. Guler, E. Guler, H. Gungunus and U. Alp, Hittit University, Department of Physics, Turkey

15:30-16:00  Coffee Break
Friday 13 December 2013

16:00-17:30  Session 2.4

Posters

A mathematical model for RTM process simulations in geometries with irregular shapes

Cavitation Inception in Fuel Injector Nozzle: A CFD based Parametric Analysis
M. Mustafa Kamal, Department of Engineering, University of Cambridge, UK

Drying of Ceramic Hollow Bricks in an Industrial Tunnel Drier: A Finite volume Analysis
Francisca Valdeiza de Souza Tavares, Severino Rodrigues de Farias Neto, Enivaldo Santos Barbosa, Antonio Gilson Barbosa de Lima, Brazil

Effect of Reversible Hydrogen Trapping on Crack Propagation in the API SCT P110 Steel: A Numerical Simulation
J. P. Carrasco, E. T. da Silva, D. D. S. Diniz, A. A. Silva, J. M. A. Barbosa, Brazil

Evaluation of the contact switch materials in high voltage power supply for generate of underwater shockwave by electrical discharge
Katsuya Higa, Takumi Matsui, Soichiro Hanashiro, Osamu Higa, Shigeru Itoh, Japan

Evaluation of the effect of mechanical vibration on the levels of residual stresses in steel welded joints using an Interface Matlab based on Norm API 579
Rodrigues, Rmulo do Nascimento; Silva, Antonio Almeida; Maciel, Theophilo Moura; UFCG, Brazil

Multiphysics Investigation of Composite Shell Structures Subjected to Water Shock Wave Impact in Petroleum Industry
H. Khawaja and M. Moatamedi, Narvik University College, Norway

Nanoindentation and AFM Imaging of RuSr2RECu2O8 (RE = Eu, Gd and Ho) Superconductors
U.Alp, U.Kulemen, M. Guler, H.Gunguneu and F. Yilmaz, Turkey

Numerical evaluation of multipass welding temperature field in API 5L X80 steel welded joints
Jailson Alves da Nbreja; Diego David Silva Diniz; Bruno Allison Araja; Theophilo Moura Maciel; Antonio Almeida Silva; Neilor Cesar dos Santos; UFCG, Brazil

Operation Control of Fluids Pumping in Curved Pipes during Annular Flow: A Numerical Evaluation
Tony Herbert Freire de Andrade, Severino Rodrigues de Farias Neto, Antonio Gilson Barbosa de Lima, Brazil

Solution of the time-dependent Schrodinger equation for coupled harmonic oscillator and geometric phase
Hacene Bekkar Ferhat Abbas University setif1 and Salim Medjber, Algeria

Study Of The Dynamic Of Rotors And Control Of Vibration Levels In Rotating Unbalance
Richard Senko, Antonio Almeida Silva, Jader Morais Borges, Brazil

Three-phase flow (water, oil and gas) in vertical circular cylindrical duct with leaks: A theoretical study by CFD
Wanessa Raphaella Gomes dos Santos, Enivaldo Santos Barbosa, Severino Rodrigues de Farias Neto, Antonio Gilson Barbosa de Lima, Brazil

17:30  End of Conference