

**Location: Edifici Centre de Postgrau i Consell Social. Campus de Riu Sec. Universitat Jaume I  
12071-Castellon de la Plana. Spain**

**All WGs. 25th October 9:30-11:00. Room: FF0008CC.**

| Title   | Authors and Affiliation   |
|---|---|
| Welcome Lecture<br>NANOUP TAKE COST ACTION EVENT#1              | J. E. Juliá<br><br>Dept. de Ingenieria Mecanica y Construccion, Universitat Jaume I, Castellon, Spain |
| Plenary Lecture<br><br>Recent Trends in Nanofluid Heat Transfer | K. V. Sharma<br><br>Jawaharlal Nehru Technological University, Hyderabad, India                       |

WG3: Storage. WG Leader: Prof. Yulong Ding, WG Vice-Leader: Prof. Carlos Nieto de Castro. 25<sup>th</sup> October 11:20-18:30. Room: FF0105AA.

| # | Title  | Authors and Affiliation   |
|---|--|---|
| 1 | Innovative solutions for geothermal heat exchangers with nanofluids  | L. R. Silviu <sup>1,2</sup> , M. T. Dorin <sup>1</sup> , P. G. Catalin <sup>1,3</sup> , C. Ionela <sup>1</sup> , B. A. Irina <sup>1</sup><br><sup>1</sup> Department of Building Services Engineering, "Gheorghe Asachi" Technical University of Iasi, 700050, Iasi, Romania<br><sup>2</sup> Department of Research, SC AIR-PROJECTS SRL IASI, 700697, Iasi, ROMANIA<br><sup>3</sup> Department of Research, SC CLIMA THERM CENTER SRL IASI, 700545, Iasi, ROMANIA  |
| 2 | Nano-PCMs characterization and modelling   | P. Bison <sup>1</sup> , S. Bobbo <sup>1</sup> , L. Fedele <sup>1,*</sup> , S. Rossi <sup>1</sup> , S. Mancin <sup>2</sup> , D. Ercole <sup>3</sup> , O. Manca <sup>3</sup><br><sup>1</sup> Istituto per le Tecnologie della Costruzione, Consiglio Nazionale delle Ricerche, 35127 Padova, Italy<br><sup>2</sup> Dept. of Management and Engineering, University of Padova, 36100, Vicenza, Italy<br><sup>3</sup> Dipartimento di Ingegneria Industriale e dell'Informazione, Seconda Università degli Studi di Napoli, 81031 Aversa, Italy |
| 3 | Graphene/PEG400 Nanostructured Materials for Thermal Energy Storage and Lubrication. Thermal Analysis and Thermophysical Profile | D. Cabaleiro <sup>1*</sup> , M. A. Marcos <sup>1</sup> , M. J. G. Guimarey <sup>2</sup> , M. J.P. Comuñas <sup>2</sup> , J. Fernández <sup>2</sup> , L. Lugo <sup>1</sup><br><sup>1</sup> Departamento de Física Aplicada, Universidade de Vigo, E-36310, Vigo, Spain<br><sup>2</sup> Laboratorio de Propiedades Termofísicas, Departamento de Física Aplicada, Universidade de Santiago de Compostela, E-15782, Santiago de Compostela, Spain  |
| 4 | Specific Heat increment of nitrate salts   | M. E. Navarro <sup>1</sup> , G. Qiao <sup>2</sup> , Y. Ding <sup>1</sup><br><sup>1</sup> Birmingham Centre of Energy Storage (BCES), School of Chemical Engineering, University of Birmingham, B152TT, Birmingham, UK<br><sup>2</sup> Global Energy Interconnection Research Institute (GEIRI), 10117, Berlin, Germany  |

WG3: Storage. WG Leader: Prof. Yulong Ding, WG Vice-Leader: Prof. Carlos Nieto de Castro. 25<sup>th</sup> October 11:20-18:30. Room: FF0105AA.

| # | Title   | Authors and Affiliation  |
|---|---|--|
| 5 | Investigation of specific heat capacity of solar salt-based nanofluids  | Y. Hu <sup>1,2</sup> , Y. He <sup>2</sup> , D. Wen <sup>1,*</sup><br><br><sup>1</sup> School of Chemical and Process Engineering, University of Leeds, LS2 9JT, Leeds, United Kingdom<br><sup>2</sup> School of Energy Science and Engineering, Harbin Institute of Technology, 150001, Harbin, China  |
| 6 | Effect of silica nanoparticles in the specific heat of Solar Salt   | R. Mondragon <sup>1</sup> , N. Navarrete <sup>1</sup> , L. Hernandez <sup>1</sup> , L. Cabedo <sup>2</sup> , R. Martinez-Cuenca <sup>1</sup> , S. Torro <sup>1</sup> , J. E. Julia <sup>1*</sup><br><br><sup>1</sup> Dept. de Ingenieria Mecanica y Construcccion, Universitat Jaume I, Castellon, Spain<br><sup>2</sup> Dept. Ingenieria de Sistemas Industriales y Diseño. Universitat Jaume I. Castellon, Spain |
| 7 | Development of novel nanofluids based on solar salt and ceramic nanoparticles for sensible thermal storage applications | B. Muñoz-Sánchez <sup>1,2</sup> , J. Nieto-Maestre <sup>1,*</sup> , A. García-Romero <sup>2</sup><br><br><sup>1</sup> Tecnalia Research and Innovation, 20009 - San Sebastián (Gipúzcoa). Spain.+34 671 729 012;<br><sup>2</sup> Department of Mining Engineering, Metallurgy and Materials Science, University of the Basque Country (UPV/EHU), 48013 - Bilbao (Vizcaya). Spain.                                  |
| 8 | Overview of nano research for thermal energy storage at the University of Lleida  | Aran Solé <sup>1</sup> , Camila Barreneche <sup>1,2</sup> , Luisa F. Cabeza <sup>1</sup><br><br><sup>1</sup> GREA Investigació Concurrent. University of Lleida, Spain<br><sup>2</sup> Department of Materials Science and Physical Chemistry. University of Barcelona. Spain  |

**WG4: Boiling, Solar and Others. WG Leader: Dr. Matthias Buschmann, WG Vice-Leader: Dr. Elisa Sani. 25<sup>th</sup> October 11:20-18:30. Room: FF0104AA.**

| # | Title   | Authors and Affiliation   |
|---|---|---|
| 1 | Experimental Analysis of Nanofluid Pool Boiling in Plain and Nanostructured Surfaces      | S. Mancin <sup>1</sup> , L. Doretto <sup>2</sup><br><br><sup>1</sup> Dept. of Management and Engineering, University of Padova, 36100, Vicenza, Italy.<br><sup>2</sup> Dipartimento Ingegneria Civile Edile ed Ambientale, Università degli Studi di Padova, 35131, Padova, Italy.  |
| 2 | Pool Boiling Heat Transfer and Critical Heat Flux of Nanofluids                           | Z. Wu, B. Sunden<br><br>Department of Energy Sciences, Lund University, SE-22100, Lund, Sweden  |
| 3 | Nanofluids Influence on the Thermal Behaviour of Loop Heat Pipes and Pulsating Heat Pipes | R. Riehl<br><br>Space Mechanics and Control Division – DMC, National Institute for Space Research - INPE<br>São José dos Campos, SP, Brazil   |
| 4 | Carbon nanohorn-based nanofluids for solar thermal harvesting applications                | S. Barison <sup>1</sup> , L. Fedele <sup>2</sup> , F. Agresti <sup>1</sup> , S. Rossi <sup>2</sup> , S. Bobbo <sup>2</sup> , C. Pagura <sup>1</sup><br><br><sup>1</sup> Istituto di Chimica della Materia Condensata e di Tecnologie per l'Energia, Consiglio Nazionale delle Ricerche, 35127 Padova, Italy<br><sup>2</sup> Istituto per le Tecnologie della Costruzione, Consiglio Nazionale delle Ricerche, 35127 Padova, Italy |
| 5 | Optical properties of nanofluids for direct solar thermal harvesting                      | E. Sani, L. Mercatelli, M. Meucci<br><br>Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche, 50125 Firenze, Italy   |

WG4: Boiling, Solar and Others. WG Leader: Dr. Matthias Buschmann, WG Vice-Leader: Dr. Elisa Sani. 25<sup>th</sup> October 11:20-18:30. Room: FF0104AA.

| # | Title   | Authors and Affiliation   |
|---|---|---|
| 6 | High stable nanofluids produced by Pulsed Laser Ablation in Liquids             | O. Torres-Mendieta <sup>1*</sup> , R. Mondragón <sup>2</sup> , E. Juliá <sup>2</sup> , O. Mendoza-Yero <sup>1</sup> , J. Lancis <sup>1</sup> , and G. Mínguez-Vega <sup>1</sup> , M. Meucci <sup>3</sup> , E. Sani <sup>3</sup><br><br><sup>1</sup> GROC, UJI, Institut de Noves Tecnologies de la Imatge (INIT), Universitat Jaume I., 12080, Castelló, Spain<br><sup>2</sup> Departamento de Ingeniería Mecánica y Construcción, Universitat Jaume I., 12071, Castelló, Spain<br><sup>3</sup> Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche, Largo Fermi 6, 50125 Firenze, Italy |
| 7 | IoNanofluids for Thermal Applications   | C. Nieto de Castro, S. M. Sohel Murshed, M. J. Lourenço, F. J. V. Santos, M. Matos Lopes, J. M. P. França, S. I. C. Vieira, F. Bioucas<br><br>Centro de Química Estrutural, Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal  |
| 8 | The Rheological properties of silver nanofluids for enhancing thermal behaviour | T. Parametthanuwat<br><br>Department of Agricultural Engineering for Industry, King Mongkut's University of Technology 129 Moo 21, Tambon Noenhom, Amphoe Mueang, Prachinburi 25230, Thailand   |
| 9 | Overview of nanofluid research at MIT   | R. Azizian<br><br>Department of Nuclear Science & Engineering<br>Massachusetts Institute of Technology, Cambridge, MA 02139, USA  |

WG4: Boiling, Solar and Others. WG Leader: Dr. Matthias Buschmann, WG Vice-Leader: Dr. Elisa Sani. 25<sup>th</sup> October 11:20-18:30. Room: FF0104AA.

| #  | Title  | Authors and Affiliation   |
|----|--|---|
| 10 | Development of numerical methods for simulations of flow and heat transfer by nanofluids           | J. Ravnik, J. Tibaut, L. Skerget<br><br>Faculty of Mechanical Engineering, University of Maribor, SI-2000 Maribor, Slovenia   |
| 11 | Laser pyrolysis synthesis of Fe-Si-C nanoparticles and their evaluation for water-based nanofluids | I. Morjan <sup>1</sup> , F. Dumitrache <sup>1</sup> , C. Fleaca <sup>1</sup> , G. Humnic <sup>2</sup> , A. Humnic <sup>2</sup><br><br><sup>1</sup> National Institute for Laser, Plasma and Radiation Physics, PO Box MG-36, 077125, Magurele, Bucharest, Romania<br><br><sup>2</sup> Mechanical Engineering Department, Transilvania University of Brasov, 500036, Brasov, Romania |

WG1: Heating. WG Leader: Prof. Oronzio Manca, WG Vice-Leader: Prof. Luis Lugo. 26<sup>th</sup> October 8:30-13:00. Room: FF0105AA.

| # | Title   | Authors and Affiliation   |
|---|---|---|
| 1 | Experimental heat transfer coefficients and pressure drop of functionalized graphene nanoplatelets/water nanofluids                     | R. Agromayor <sup>1</sup> , J. P. Vallejo <sup>1,2</sup> , D. Cabaleiro <sup>2</sup> , A. A. Pardiñas <sup>1</sup> , J. Fernandez-Seara <sup>1</sup> , L. Lugo <sup>2*</sup><br><br><sup>1</sup> Área de Máquinas y Motores Térmicos, Universidade de Vigo, 36310, Vigo, Spain<br><sup>2</sup> Departamento de Física Aplicada, Facultade de Ciencias, Universidade de Vigo, 36310, Vigo, Spain   |
| 2 | Nanofluids characterization for HVACR and heat exchange applications  | S. Barison <sup>1</sup> , L. Fedele <sup>2</sup> , F. Agresti <sup>1</sup> , V. Zin <sup>1</sup> , S. Rossi <sup>2</sup> , S. Bobbo <sup>2</sup> , M. Fabrizio <sup>1</sup><br><br><sup>1</sup> Istituto di Chimica della Materia Condensata e di Tecnologie per l'Energia, Consiglio Nazionale delle Ricerche, 35127 Padova, Italy<br><sup>2</sup> Istituto per le Tecnologie della Costruzione, Consiglio Nazionale delle Ricerche, 35127 Padova, Italy |
| 3 | Hybrid nanofluids behavior in turbulent flow: numerical techniques applied to studied fluids  | A. A. Minea <sup>1</sup> , O. Manca <sup>2</sup> , M. G. Moldoveanu <sup>1</sup> , S. Bacaïta <sup>1</sup> , J. E. Julia <sup>3</sup><br><br><sup>1</sup> Technical University "Gheorghe Asachi" from Iasi, Faculty of Materials Science and Engineering, 700050, Iasi, Romania<br><sup>2</sup> Seconda Università degli Studi di Napoli, 81031 Aversa (CE), Italy<br><sup>3</sup> Universitat Jaume I, 12071 Castellon de la Plana, Spain                |
| 4 | Mixed convection boundary layer flow past a vertical flat plate embedded in a porous medium saturated by a nanofluid: Darcy-Ergun model | N. C. Roşca <sup>1</sup> , A. V. Roşca <sup>2</sup> , T. Groşan <sup>1</sup> , I. Pop <sup>1</sup><br><br><sup>1</sup> Department of Mathematics, Faculty of Mathematics and Computer Science, Babeş-Bolyai University, 400084 Cluj-Napoca, Romania<br><sup>2</sup> Department of Statistics-Forecasts-Mathematics, Faculty of Economics and Business Administration, Babeş-Bolyai University, 400084 Cluj-Napoca, Romania                                |

WG1: Heating. WG Leader: Prof. Oronzio Manca, WG Vice-Leader: Prof. Luis Lugo. 26<sup>th</sup> October 8:30-13:00. Room: FF0105AA.

| # | Title   | Authors and Affiliation   |
|---|---|---|
| 5 | Semi-analytical solution for the flow of a nanofluid over a permeable stretching/shrinking sheet with velocity slip using Buongiorno's mathematical model | N. C. Roşca <sup>1*</sup> , I. Pop <sup>1</sup> , E. H. Aly <sup>2,3</sup><br><br><sup>1</sup> Department of Mathematics, Babeş–Bolyai University, 400084 Cluj–Napoca, Romania<br><sup>2</sup> Department of Mathematics, University of Jeddah, Jeddah 21589, Saudi Arabia<br><sup>3</sup> Department of Mathematics, Ain Shams University, Roxy 11757, Egypt |
| 6 | Modeling and 3 ω ω ω hot wire measurement of effective thermophysical properties of inhomogeneous media   | M. Chirtoc, J-F. Henry, N. Horny<br><br>GRESPI Lab., Université de Reims Champagne Ardenne URCA, 51687, Reims, France   |
| 7 | Development of a heat exchanger with nanofluids by application of CFD   | S. Bikic<br><br>Faculty of Technical Sciences, University of Novi Sad, 21000 Novi Sad, Serbia   |



WG2: Cooling. WG Leader: Prof. Sohel Murshed, WG Vice-Leader: Prof. Bengt Sundén. 26<sup>th</sup> October 8:30-13:00. Room: FF0104AA.

| # | Title   | Authors and Affiliation  |
|---|---|--|
| 1 | Application of Nanofluids in Heat Exchangers: Performance and Challenges  | Bengt Sunden<br>Department of Energy Sciences, Lund University, SE-22100, Lund, Sweden   |
| 2 | Numerical study of the heat transfer characteristics in double tube helical heat exchangers using hybrid nanofluids | G. Humnic <sup>1</sup> , A. Humnic <sup>1</sup> , F. Dumitrache <sup>2</sup> , C. Fleaca <sup>2</sup> , I. Morjan <sup>2</sup><br><sup>1</sup> Mechanical Engineering Department, Transilvania University of Brasov, 500036, Brasov, Romania<br><sup>2</sup> National Institute for Laser, Plasma and Radiation Physics, PO Box MG-36, 077125, Magurele, Bucharest, Romania                          |
| 3 | Characterization of the wettability of complex nanofluids using 3D Laser Scanning Confocal Fluorescence Microscopy  | V. Silvério <sup>1</sup> , A. S. Moita <sup>1</sup> , A. L. N. Moreira <sup>1,*</sup> , R. Lima <sup>2</sup> , N. Pereira <sup>1</sup><br><sup>1</sup> Instituto Superior Técnico, University of Lisbon, Center on Innovation, Technology and Policy Research, 1049 – 001 Lisboa, Portugal<br><sup>2</sup> University of Minho, Department of Mechanical Engineering, 4804 – 533 Guimarães, Portugal |
| 4 | Transformer oil based magnetic fluid for effective cooling medium in power transformers                             | M. Timko <sup>1</sup> , P. Kopcansk <sup>1</sup> , M. Rajnak <sup>1</sup> , M. Molcan <sup>1</sup> , B. Dolnik <sup>2</sup> , J. Kurimsky <sup>2</sup><br><sup>1</sup> Institute of Experimental Physics, Slovak Academy of Sciences, 040 01 Kosice, Slovakia<br><sup>2</sup> Faculty of Electrical Engineering and Informatics, TU in Košice, Letna 9, 040 01 Kosice, Slovakia                      |
| 5 | Thermophysical properties of ethylene glycol based yttrium aluminum garnet (Y3Al5O12–EG) nanofluids                 | Gawel Żyła<br>Department of Physics and Medical Engineering, Rzeszow University of Technology, Rzeszow, 35-905, Poland   |

WG2: Cooling. WG Leader: Prof. Sohel Murshed, WG Vice-Leader: Prof. Bengt Sundén. 26<sup>th</sup> October 8:30-13:00. Room: FF0104AA.

| # | Title   | Authors and Affiliation  |
|---|---|--|
| 6 | Carbon nanotubes nanofluids:<br>Thermophysical properties and applications to heat exchange | P. Estellé<br><br>Laboratoire de Génie Civil et Génie Mécanique, Matériaux et Thermo-Rhéologie, Université<br>Rennes 1, 35704 Rennes, France |