

9th INTERNATIONAL SEMINAR ON THERMODYNAMIC ENGINEERING OF FLUIDS

Tarragona (Spain), July 25th-26th, 2019



Organized by
Universitat Rovira i Virgili

In collaboration with
Universidad de Valladolid and Universidad de Santiago de Compostela

PROGRAM

Thursday, July 25th 2019

9:00	Welcome and Opening Alberto Coronas, Responsible of the Group of Research on Applied Thermal Engineering- CREVER, Universitat Rovira i Virgili (Spain)
Session 1: Properties of Fluids of Industrial Interest Chairperson: Daniel Salavera	
9:10	Solvation of ammonia in a protic ionic liquid: bulk and interfacial properties Luis Miguel Varela, Universidade de Santiago de Compostela (Spain)
9:40	Thermodynamic Investigation of a CO ₂ based Working Fluid for Refrigeration Systems Yohann Coulier, Université Clermont Auvergne (France)
10:00	Selection of suitable absorbents for CO ₂ for use in compression/resorption refrigeration systems Gisselle E. Ramirez, Universitat Rovira i Virgili (Spain)
10:20	Fundamentals and predictive models of the mutual diffusion coefficient in the binary mixture water + 1-(2-Hydroxyethyl)-3-methylimidazolium tetrafluoroborate Ronny Rives, Universitat Rovira i Virgili (Spain)
10:40	Spectroscopic analysis of H-bonds interaction between the ammonia molecules and the 1-(2-hydroxyethyl)-3-methylimidazolium tetrafluoroborate ionic liquid M^a Soledad Larrechi, Universitat Rovira i Virgili (Spain)
Coffee Break	
Session 2: Energy Efficiency and Integration of Energy Systems Chairperson: Juan Prieto	
11:10	Minimizing Transportation Energy: The Case of Urban Platooning Peter H. Bauer, University of Notre Dame (EEUU)
11:40	Work and Perspectives on Powertrain Systems for Hybrid Vehicles Pedro Maroto, IDIADA (Spain)
12:00	Solar evaporation for the treatment of agro-industrial waste water Joel Nadal, Universitat Rovira i Virgili (Spain)
12:20	A double-bundle heat exchanger for cold recovery from LNG-regasification with utilization of natural heat transfer fluids Antonio Atienza, Universitat Rovira i Virgili (Spain)
12:40	Integrated Absorption Refrigeration-Membrane Distillation System for Cooling, Power Generation and Seawater Desalination Applications Dereje S. Ayou, Universitat Rovira i Virgili (Spain)
13:00	Overview of fault detection and diagnostics methods for domestic heat pumps Iván Bellanco. IREC (Spain)
Lunch	
Session 3: Absorption Systems for Refrigeration, Power and Heat Pumps Chairpersons: Alberto Coronas and Dereje S. Ayou	
15:00	Modeling of a small-capacity NH ₃ -LiNO ₃ absorption chiller using thermal and mass efficiencies of the exchangers Amin Altamirano, Université Savoie Mont-Blanc (France)
15:20	Preliminary results of the characterization of the desorption process of the CO ₂ /acetone mixture in a plate exchanger Paúl S. Dávila, Universitat Rovira i Virgili (Spain)
15:40	Performance Comparison of Compression/Resorption Refrigeration System with Different CO ₂ based Mixtures Raul J. Moreira, Universitat Rovira i Virgili (Spain)
16:00	Mathematical model for ammonia-water bubble absorbers in a plate heat exchanger for compression/resorption heat pumps Maycon C. Figueira, Universitat Rovira i Virgili (Spain)
16:20	Integration of heat pumps in District Heating and Cooling Networks. Jimmy Barco, Universitat Rovira i Virgili (Spain)
16:40	Performance analysis of photovoltaic/thermal collectors and visualizing their potential applications for buildings in different climate conditions Khaled Ramadan, Universitat Rovira i Virgili (Spain)
17:00	Monitoring and analysis of a Renewable Energy Polygeneration Plant in a Rural Hotel. Teodor Pulido, Universitat Rovira i Virgili (Spain)

Seminar Picture and visit to the laboratories of the CREVER group

Location: Campus Sescelades. Universitat Rovira i Virgili, Avda. Països Catalans, 26, 43007, Tarragona. **Sala de Graus ETSEQ i ETSE**

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Session 4: Defense of the Master Thesis of the Master in Thermodynamic Engineering of Fluids Master Thesis Commission: Alberto Coronas, Daniel Salavera, Juan Prieto, M ^a Soledad Larrechi	
8:15	Equilibrio líquido-vapor de mezclas de amoniaco/nitrato de etilamonio y amoniaco/nitrato de propilamonio para aplicación en sistemas de refrigeración por absorción Santiago Alexander Capelo Avilés
8:45	Análisis cuantitativo de la hidratación de nitrato de etilamonio mediante técnicas espectroscópicas María Sulianny Rodríguez Barrios
9:15	Implementación de un método basado en espectroscopia de infrarrojo cercano (NIR) para la determinación de la composición de agua en mezclas con líquidos iónicos Clara Ortíz
Break	
10:00	Sistema de cogeneración y movilidad sostenible aplicado a una instalación industrial del sector del cartón Alexandre Cumbreiras Maza
10:30	Solar Thermal/Photovoltaic System Contribution in a Standard One Family House: Modeling and Analysis Martín Solorzano
11:00	Evaluación energética y económica de un sistema de almacenamiento termoquímico para el desescarche en una bomba de calor aerotérmica de uso residencial Martín Álvarez
Break	
11:45	Sistemas de bomba de calor por absorción en base a LiBr/H ₂ O: Análisis, modelado, configuración y su integración Richard Emmanuel Cabrera Jiménez
12:15	Estudio energético de un sistema solar térmico - fotovoltaico para la elaboración de prácticas de laboratorio universitario Christian Velasquez Quisbert
12:45	Diseño y análisis económico de una instalación independiente para la incubación de huevos mediante un sistema fotovoltaico Alejandra Torres
13:15	Closing and Picture
Lunch	

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