

Preface from the IMAT 2010 Conference Chair

Dear IMAT 2010 Delegates,

Welcome to the 3rd International Meeting of Advances in Thermofluids, IMAT 2010. It is indeed a great pleasure to host all of you here in Singapore. This is the third sequel meeting after the successful meetings in Jakarta (2009), Indonesia and Johor (2008), Malaysia. We hope this meeting would continue to have stimulating and lively discussions in the city state Singapore.

In keeping with the tradition of previous IMAT meetings, we present you with a scientific program of cutting-edge research in our fields, in the form of papers, oral sessions and more importantly the interactions at the poster presentations. We are presenting 5 awards for the papers published at IMAT 2010. A total of 36 scientific papers were peer-reviewed and accepted. Also, there are 4 invited speakers from international colleagues, namely Poland, Korea and USA.

We also would like to take this opportunity to thank our distinguish sponsors, especially Comman-Air Pte Ltd, Ozone Tech (Singapore) Pte Ltd and National Instruments for their sponsorships. Last but not least, we would like to extend our deepest gratitude to all organizing members and individuals for their direct or indirect contributions towards the successful organization of this meeting.

With Best Regards,

Kim Choon
IMAT 2010 Chairman

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International Meeting of Advances in Thermofluids

NOVEMBER 30, 2010
FURAMA RIVERFRONT HOTEL, SINGAPORE

Conference Program

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| Registration (7.30-8.20 am) Furama Riverfront Singapore, 405 Havelock Road | | |
| Opening Speech (8.20-8.25 am), Professor M. Idrus Alhamid (IMAT 2009 Founding Chair) Welcome Address (8.25-8.30 am), Professor Ng Kim Choon (IMAT 2010 Conference Chair) | | |
| Session A (8.30 -10 am) Room: Jupiter II Session chair: Prof. Christopher Yap (NUS) | | |
| 8.30-9.00 am | Invited Speaker 1: Professor Maciej Chorowski <i>Wroclaw University of Technology, Faculty of Mechanical and Power Engineering</i> <i>Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland</i> Cryogenics – State of Art, Optimization and Safe Exploitation of Cryogenic Systems | |
| 9.00-9.15 am | Paper No: IMAT 034 Desalination, Water Heating and Drying With Heat Pump: Utilization Of Solar, Ambient Energy And Waste Heat | NUS |
| 9.15-9.30 am | Paper No: IMAT 024 Preparation of Activated Carbon By Physical Activation With Rotary Autoclave | UI |
| 9.30-9.45 am | Paper No: IMAT 001 Solar Absorption Thermal Energy Storage | UTM |
| 9.45-10.00 am | Paper No: IMAT 004 Numerical Analysis of Heat Transfer in Diffuser | UTM |
| Tea Break (10-10.30 am) | | |
| Session B (10.30 am-12 noon am) Room: Jupiter II Session chair: Prof Nasrudin (UI) | | |
| 10.00-11.00 am | Invited Speaker 2: Professor Yoon Joon, Lee <i>Dep't of Energy Eng., Cheju National Univ., Korea</i> Development of Small-Scale Reactor based Multi-purpose Regional Energy System | |
| 11.00-11.15 am | Paper No: IMAT 026 Effect of Upper Heating From Heat Loss Condenser on Drying Time and Final Moisture Content At Freeze Vacuum Drying Process | UI |
| 11.15-11.30 am | Paper No: IMAT 017 Experimental Study on Thermal Performance of Helical-Grooved Heat Pipe | NUS |
| 11.30-11.45 am | Paper No: IMAT 012 Eddy-Dissipation Modeling of a Turbulent Diffusion Flame With a Reaction Rate Based on The Kolmogorov Time Scale | UTM |
| 11.45-12.00 am | Paper No: IMAT 028 Development of Gas Burner Of Biomass Gasification System In Continuous Combustion Equipment Unit | UI |



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| | Poster Session (12.00-12.30 am) | |
| | Lunch (12.30-1.30 pm) | |
| | Session C (1.30-3.00 pm) Room: Jupiter II Session chair: Prof. Mazlan Abdul Wahid (UTM) | |
| 1.30-2.00 pm | Invited Speaker 3: Professor K.C. Leong <i>School of Mechanical and Aerospace Engineering, Nanyang Technological University</i> <i>50 Nanyang Avenue, Singapore 639798, Singapore</i> Single-Phase and Two-Phase Heat Transfer in Open-Cell Graphite Foams for Electronic Cooling Applications | |
| 2.00-2.15 pm | Paper No: IMAT 009 Pressure Analysis for Internal Flow Using Les Model | UTM |
| 2.15-2.30 pm | Paper No: IMAT 025 Design and Experiment of A Methane Storage System During Adsorption And Desorption Process At Pressure 3 Mpa | UI |
| 2.30-2.45 pm | Paper No: IMAT 016 Gordon and Ng Universal Chiller Model As a Fault Detection and Diagnostic Tool | NUS |
| 2.45-3.00 pm | Paper No: IMAT 007 First- and Second-Law Analyses of a Carbon Dioxide Automobile Air-Conditioning System | UTM |
| | Tea Break (3.00-3.30 pm) | |
| | Session D (3.30-5.00 pm) Room: Jupiter II Session chair: Prof. Azhar Abdul Aziz (UTM) | |
| 3.30-4.00 pm | Invited Speaker 4: Professor Noam Lior <i>University of Pennsylvania, Department of Mechanical Engineering and Applied Mechanics</i> Recovery of Cryogenic Energy and Exergy for Power Generation and CO ₂ Capture | |
| 4.00-4.30 pm | Paper No: IMAT 021 Experimental Studies of Adsorption Kinetics For Refrigerant HFC-134a With Pitch-Based Activated Carbon Using Volumetric Method | NUS |
| 4.30-4.45 pm | Paper No: IMAT 027 Characteristics of Cascade Refrigeration System With Refrigerant Mixtures R744/R170; Simulation And Experiment | UI |
| 4.45-5.00 pm | Paper No: IMAT 006 Investigation of Friction Characteristics of Refined, Bleached, and Deodorized Palm Olein Compared With Automatic Transmission Fluid | UTM |
| 5.00-5.30 pm | Paper No: IMAT 023 Study of Exhaust Emission In-Use Motor Cycle In Jakarta | UI |
| | Closing ceremony (5.00-5.30 pm) | |
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