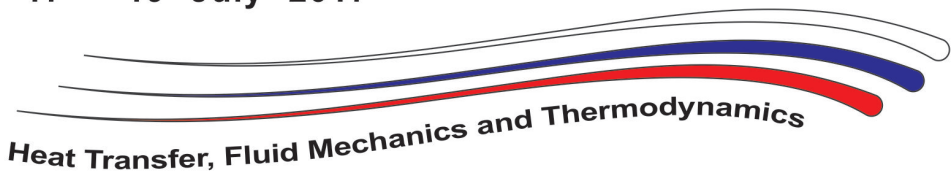


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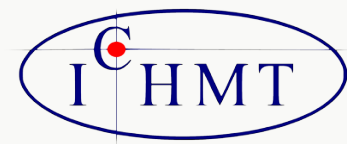
13th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics

Dates

17 to 19 July 2017

Sponsors

The conference is co-sponsored by the International Centre for Heat and Mass Transfer (ICHMT) and the American Society of Thermal and Fluids Engineers (ASTFE).



ASTFE
American Society
of Thermal and Fluids Engineers

Venue

Hotel Bernadin, Portorož, Slovenia

Purpose

The conference is broad in scope and provides a forum for specialists in heat transfer, fluid mechanics and thermodynamics from all corners of the globe to present the latest progress and developments in the field. The broad scope brings together a wide range of research areas from narrow fundamental work in nanofluids to import applications such as in the broad fields of energy, manufacturing, biomedical processes, production, education, instrumentation and control, and MEMS. This will not only allow the dissemination of the state of the art, but it will serve as a catalyst for discussions on future directions and priorities in these areas. The additional purpose of this conference is to initiate collaboration in research.

Journal articles

It is the tradition of this conference that selected papers will be published in special issues of archival journals on the ISI list.



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Abstract Submission, Deadline: 28 February 2017

Prospective authors are invited to submit an abstract online (200 to 500 words without any figures, equations, tables, photos, references, etc.). After evaluation and acceptance, successful authors will be informed and invited to submit full text papers, including tables, figures and references.

Full text papers (in PDF format only) will only be considered if submitted via the online submission system.

All submitted articles must report original, previously unpublished, research results - either experimental and/or theoretical. Articles submitted to the conference must meet these criteria and must not be under consideration for publication elsewhere.

Manuscripts must follow the style of the conference and are subject to both peer review and editing.

To submit an abstract/paper to HEFAT2017, please follow the following steps:

1. Please register the paper with your profile and e-mail address by logging on to <http://edas.info/N23201>
2. Choose a track (either an oral presentation or a poster presentations and the selection is your personal preference).
3. Insert the title of the paper in the block and use the format: The Heat Transfer in the Transitional Flow Regime of Enhanced Tubes (note the upper case letters for almost every word. (However, all letters should not be capital letters).
4. Type in the abstract (it is recommended to first type it using a word processor such as Microsoft Office Word - remembering to check your spelling - and then copy and paste it into this block). This abstract is going to be used in the Conference Abstract part so kindly make sure that it is correct (especially after submitting the final manuscript). The abstract is limited to a minimum of 200 words and a maximum of 500 words and must include the background, problem statement, purpose of study, methodology and, the results (qualitative) and conclusions.
5. Do not put any references, equations, mathematical symbols, Greek symbols, abbreviations, etc., into the abstract. It should be words only.
6. Select two (minimum) to five (maximum) topic areas most applicable to your paper. Contact the conference chair if your topic area is not listed.
7. Click the Submit button.
8. An email will be sent to your registered email address indicating the status of your submission process (in some cases it might take a few hours - also check your spam filter).

Full-length manuscript

The format in the template should be used for the full-length manuscript. Download the [template](#). The full-length manuscript MUST be submitted as a PDF file and should be limited to a maximum length of six pages. Keynote papers are limited to a maximum length of 15 pages.

Maximum number of papers

The maximum number of papers a paying author may submit is two. Between two paying authors, four papers may be submitted.

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SUBMISSION PROCEDURE OF MANUSCRIPT

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- Make sure that the authors (and order), title and abstract content registered correspond exactly to that of the manuscript to be uploaded.
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- Expect email notification (normally within 24 hours) that manuscript was received.

Modifications to this page

11 February 2017 created

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Destination - Portorož, Slovenia



Slovenia has its own coastline with a pleasant sub-Mediterranean climate and rich historical past, worthy of a sightseeing tour. The beautiful Bernardin and Historin hotels are located between the picturesque coastal cities of Portorož and Piran.



Portorož, this "world-renowned seaside resort", as it was called in the times of the Austro-Hungarian Empire, is located in a magnificent sheltered bay. It is surrounded with some of the oldest salt pans in Europe on one side and the distinctive Istrian hills with olive groves, vineyards and fruit trees on the other.

The oldest Slovenian seaside resort of Portorož has been well known from ancient times for its mild winter temperatures and gorgeous summer days. Still today the climate of Portorož is suitable for hosting events from the early spring until late autumn including the possibilities for different sea activities, including the exploration of the Slovenian Istria Region, known for its culinary heritage and summer evening events. The destination exudes a resort feel, with all major hotels within walking distance of the beach, and is the destination for those looking for, sun, fun and a creative tailor made program.



The Slovenian Coast stretches also into the hinterland, where small villages decorate each hill top and produce some of the region's best olive oil and wine, bringing to life the areas culinary heritage and adding a new dimension to any visit of Piran and Portorož.

Portorož is Slovenia's largest seaside resort town with perfect conference facilities for your events. The Slovenian coast is the ideal conference destination easily accessible by air and land with a temperate climate and great infrastructure.

Portorož is also very good logistically connected to the major sites in Slovenia as:

Ljubljana (Capital)	1h15
Lake Bled	2h00
Postojna Cave	1h00
Lipizzaner Horse Ranch	0h45
Croatian Istria	1h00

Useful information about Slovenia

Do you require a Visa?

Slovenia is in the Schengen Zone. To enter Slovenia from Croatia, a passport or ID is sufficient if your visit will not last more than three months. If you need a visa to enter Slovenia, or you do not know what goods you can bring into the country or any further visa information [CLICK HERE](#).

If you need a visa to enter Slovenia, you can obtain one at the Slovenian consular office in your country or at the consular office of any other Member State of the Schengen Zone. [CLICK HERE](#) to find the nearest consular office.

Currency

The currency used in Slovenia is Euro. Please see further details on relevant exchange rates [here](#).

Weather in July

The weather in Slovenia varies from season to season. The average temperature is above 20°C in July.

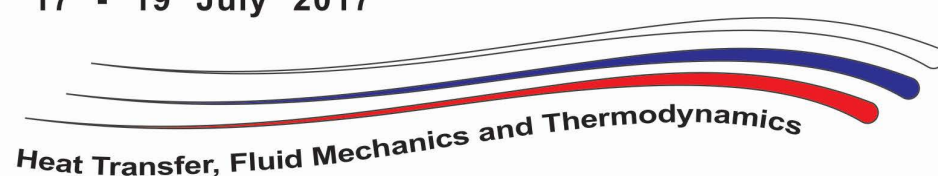
Language

The official language of the country is slovenščina. Italian and Hungarian are also official languages.

For a very useful website with further detailed information about traveling to Slovenia - please [CLICK HERE](#).

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Travel

GETTING TO SLOVENIA - BY AIR

Portorož can be easily reached from a selection of International Airports in the area. Options as follows including the approximate transfer time from the airport to either Grand Hotel Bernardin or Hotel Histrion.

Trieste	0h45 (80km)
Ljubljana	1h30 (140km)
Venice	2h00 (188km)
Treviso	2h30 (220km)
Zagreb	3h00 (260km)

GETTING TO THE HOTEL

A Taxi/Airport Transfer can be pre booked on the EDAS system; details under airport transfer rates.

Hotel address

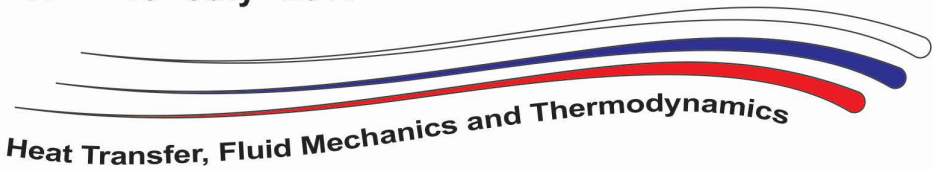
Grand Hotel Bernardin - 5*	Hotel Histrion - 4 *
St. Bernardin Resort	St. Bernadin Resort
Grand Hotel Bernardin	Hotel Histrion
Obala 2	Obala 2
6320 Portorož	6320 Portorož

AIRPORT TRANSFER RATES

Please contact Sheryl as rates depend on the number of people and the airport you will be traveling from. Should you have any questions on the airport transfers please contact Sheryl at The Inside Edge at sherylvdb@ie.co.za.

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Venue/Accommodation

The conference venue is in the conference centre of the Grand Hotel Bernardin in Slovenia.

Grand Hotel Bernardin houses Slovenia's largest congress center. It allows organizing various events in one of the most beautiful spots of the Slovenian coast. The largest hall-Europa-can accommodate up to 1,100 participants. The multipurpose design of the Bernardin Congress Center allows organizing various events: conventions, seminars, workshops, presentations, press conferences and business meetings, as well as banquets, fashion shows and gala dinners.



- 751 rooms within 3 hotel categories
- St. Bernardin Convention centre with a total of 19 multifunctional meeting rooms
- Europa convention hall seats a max of 1.100 delegates
- Casino, Spa & Wellness Centre
- All services under one roof
- Easily accessible: international airport within 45 min and flying range of 1h30min from EU main capitals
- Centre of town within walking distance
- Location between medieval and modern = cultural remix
- On site and off site event location
- Mediterranean climate and culinary delights
- Professional and passionate team

ACCOMMODATION OPTIONS

There are TWO hotel options you can choose from:

Option 1: GRAND HOTEL BERNARDIN - 5 *

The prestigious Grand Hotel Bernardin is situated in Slovenian summer resort Portorož. It is surrounded with quiet, greenery and is positioned at the sea waterfront. The hotel offers 241 modern equipped rooms with stunning views of the sea. Luxurious wellness centre Paradise is situated directly in the Grand Hotel Bernardin. Guests can use relaxation pools, saunas, both traditional and exotic wellness procedures, fitness. V blizkosti hotela je Aqua park Laguna Bernardin is situated in the proximity of the hotel and is the largest pool complex with heated water on the Slovenian seashore.



Grand Hotel Bernardin has 241 modern rooms with balconies overlooking the sea. Free Wi-Fi is available in all rooms. Units are all non-smoking units and comfortably furnished.



Double room with sea view

Room Facilities: balcony, satellite TV, radio, telephone, wireless internet access, writing desk, mini bar, air conditioning, bathroom - shower or bath, hairdryer, toiletries, bathrobe, slippers, wake-up service / alarm clock 24-hour room service.

Room size: 26 m²

Bed size: 1 double bed/Twin

There is an option of adding one additional bed in each unit.

RATES

EUR 114 per standard single room per night (1 person) including breakfast
EUR 170 per standard double/twin room per night (2 people) including breakfast

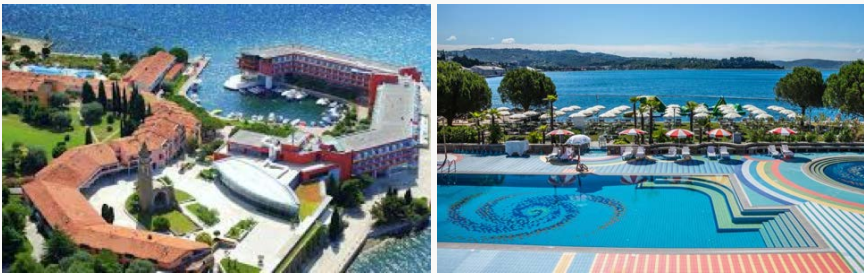
EUR 126 per standard single room per night (1 person) including breakfast and dinner
EUR 193 per standard double/twin room per night (2 people) including breakfast and dinner

Additional Costs

Tourist Tax of EUR1.50 per person per day
Hotel Registration fee of EUR1.50 per person per stay

Option 2: HOTEL HISTRION - 4 *

Hotel Histrion is located by the former church of St. Bernardin. It has comfortably furnished rooms and apartments with balconies overlooking the sea or the lagoon. The hotel has direct access to the indoor pools of the Laguna Water Park and to the wellness Laguna, which includes saunas, various massages and beauty treatments. The hotel also features the Casino Bernardin, a children's playground and a mini club.



Hotel Histrion has 276 comfortably furnished rooms. All the rooms have balconies overlooking one of the most beautiful parts of the Slovenian coast, either lagoon or sea view.



Double room with lagoon view

Room Facilities: Balcony, satellite TV, telephone, radio, mini bar, air conditioning, desk, bathroom - shower, hairdryer, pack toiletries, safe, minibar, wake-up service / alarm clock.

Room size: 19 m²

Bed size: 1 double/twin

Double room with sea view

Room Facilities: Balcony, satellite TV, telephone, radio, mini bar, air conditioning, desk, bathroom - shower, hairdryer, pack toiletries, minibar, safe, wake-up service / alarm clock.



Room size: 19 m
Bed size: 1 double/twin

RATES

EUR 97 per standard single room per night (1 person) including breakfast
EUR 145 per standard double/twin room per night (2 people) including breakfast

EUR 105 per standard single room per night (1 person) including breakfast and dinner
EUR 165 per standard double/twin room per night (2 people) including breakfast and dinner

Additional Costs

Tourist Tax of EUR1.50 per person per day
Hotel Registration fee of EUR1.50 per person per stay

For all accommodation queries please contact [Sheryl van den Berg](#) from the Inside Edge Special rates have been negotiated with the hotel for HEFAT delegates, therefore it would be best not to contact the hotel directly. Please book your accommodation on the EDAS page or contact Sheryl vd Berg.

HOTEL/CONFERENCE ADDRESS DETAILS

Grand Hotel Bernardin - 5*	Hotel Histrion - 4 *
St. Bernardin Resort	St. Bernadin Resort
Grand Hotel Bernardin	Hotel Histrion
Obala 2	Obala 2
6320 Portorož	6320 Portorož

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Activities / Excursions

There are numerous daily trips that run from Portorož. Please see full details below on each of the available options. Please note that a minimum 6 persons will be required for the tour to run.

Sečovelje salt regional park - Salt Spa



Our tour will offer you the opportunity to embark in Portorož on a high speed boat, enjoy a panoramic sail towards Piran and then proceed to the Salt SPA.

Description Located in the regional park of Secovlje, the Secovlje salt fields are a unique habitat, that will marvel you with their simplicity and hardworking saltmen. In the summer months you can also see how they harvest the salt. Spa Lepa Vida was opened in this unique setting; its treatments are all based on the sea with its produce: salt, mud and brine.

Included Panorama Boat sail with skipper, Aperitivo on the boat, admission to the salt SPA for 4 hours with treatments which include: salt scrub, mud wrap and a classical massage

Duration 5:00 hours

Weather Departs in all sunny weather

More information [Click here](#)

Lipica - Lipizzaner horses bread farm



Description It began in the 16th century at Lipica, where Andalusian horses were crossed with local steeds, resulting in the gracious grey-white Lipizzan which is marveled world over. Lipizzans are not actually true white horses, but this is a common misconception. A white horse is born white and has unpigmented skin. Most Lipizzans are gray. Like all gray horses, they have black skin, dark eyes, and as adult horses, a white hair coat. Gray horses, including Lipizzans, are born dark—usually bay or black—and become lighter each year as the graying process takes place, with the process being complete at between 6 and 10 years of age.

The Slovenian Stud Farm in Lipica is the very original stud farm with a stable of several hundred Lipizzan horses. There is much to see at the Lipica Stud Farm: tour of the stables; a presentation by the Classical Riding School of Lipica and horse-drawn carriage tours. After visiting Lipica you will feel refreshed by the surroundings, and satisfied to have trusted us to take you there. It will always be our pleasure.

Included Van transportation with driver, English speaking guide, entrance fee to the farm

Duration 4:30 - 5:00 hours

Weather Departs in all weather conditions
More information [Click here](#)

Postojna Cave and Predjama Castle



The Postojna caves are Slovenia's most popular natural attraction. The caves were opened to the public in the early 19th century, with the first visitor of honor being the Austrian Emperor. Our guide will use the 50 minute ride to introduce you to modern Slovenia and also to its history, culture, various peoples living here through ages. It might come as a surprise to you but small Alpine Slovenia has over ten thousand registered caves.

Description Postojna caves and Predjama castle are actually two great tours bundled into one as the castle is close by, just ten minutes away from the caves by bus. When the castle, due to its location, pops up suddenly right in front of your eyes it will leave you in awe. This is just the right place for a final photo stop to take some marvelous pictures of the castle and its surroundings before taking the ride back to your final destination.

Included Transportation, Entrance Fee to the Cave and English speaking driver
Duration 5:00 hours
Weather Departs in all weather conditions
More information [Click here](#)

ECO Winery visit with wine tasting and TRUFFLE HUNT* demonstration



The tour will take You on an exploration trip of Slovenian Istria, the contents of which are not only a panoramic drive, but a succession of feelings imprinted by the flavor and taste of the region through wine and homemade culinary delicacies.

Description Embark on a journey of senses the tour will winery visit and wine tasting along some delicious nibbles that will offer you a taste of what our land can create when taking good care and providing the needed love for nature.

This tour gives special attention to the family-run wineries, where passion and hard work produce the best wines in Slovenia. While getting acquainted with the lifestyle and philosophy behind their produce will enable the guests to see how the wines are born and deliver their unique flavor to each bottle.

Included Van transportation with driver, wine tasting in one of the local wineries and a light snack
Excluded* There will be an additional charge for the truffle hunt demonstration
Duration 5:00 hours
Weather Operates in all weather conditions
More information [Click here](#)

Historical city tour with aperitivo at Tartini Square



Description In order to capture the essence of Piran, our guide, will provide a walking tour that will visit all the major highlights of this city. The guides are local inhabitants that know the city very well and will introduce you to its most hidden gems.

Included English speaking guide and coffee at Tartini square
Duration 3:00 hours
Weather Operates in all weather conditions
More [Click here](#)

information

Slovenian Coast & Farmer's Market



This tour offers a unique setting where you will be able to feel the local vibe and meet with the locals.

Description Tour the Slovenian Coast and absorb the beautiful images you will be able to see. Green is the color of Slovenia's landscapes. Slovenia is a forest country, abundant in animal and plant life, with numerous rivers, streams and springs. The coastal hinterland consists largely of Karstic plateaus and ridges. We shall show you the tranquil beauty of the countryside and the picturesque Istrian villages on the surrounding hilltops.

Included Van transportation with driver, English speaking guide and tasting coupons

Duration 4:30 hours

Weather Departs in all weather conditions

More information [Click here](#)

Trieste & Miramare* castle sightseeing and shopping tour



Description Trieste, the largest of the Adriatic ports, is not only known for its numerous cultural and historical monuments, palaces and churches, but is also regarded as a favorite shopping destination. On our excursion to Italy, we explore the diversity of Trieste's center and visit the enchanted Miramare Castle.

There is something of interest for everyone in Trieste: the magnificent architecture, the comfortable restaurants, the Italian cafeterias, and the numerous shops with a wide offer.

Included Van transportation with driver and English speaking guide

Excluded* Entrance fee should you wish to enter Miramare castle

Duration 5:00 hours

Weather Departs in all weather conditions

More information [Click here](#)

The Best of Ljubljana



Description Ljubljana is a great little central European capital city with tradition, culture and atmosphere which has been described by many visitors as love at first glance. The Baroque old town center with its cobbled streets, the Triple bridge, Dragon bridge, Cobblers' bridge, the fountain of three rivers, the old town square, Presern square, the marketplace, the cathedral and churches - all in walking distance!

You will see: The Capital of Slovenia, open air market, Ljubljana castle and riverbanks.

Included Van transportation with driver and English speaking guide

Duration 6:00 hours

Weather Departs in all weather conditions

More information [Click here](#)

The Best of Slovenia



Visit of Ljubljana City - walking tour and lake Bled.

Description

Beyond the city of Ljubljana to the northwest lies a small but spectacularly beautiful lake right out of a Hans Christian Andersen fairy tale. Lake Bled is a destination you will remember and cherish: in the heart of the Julian Alps in lush green landscape and ever-changing color of the water from emerald green to deep blue, you will enjoy an enchanting setting so inspiring that you will immediately want to turn your one day visit into a week-long stay.

You will see: The City of Ljubljana, Lake Bled and the Alpine Region.

- Included** Van transportation with driver and English speaking guide
- Duration** 8:30 hours (full day)
- Weather** Departs in all weather conditions
- More information** [Click here](#)

Parenzana biking tour (Portorož -Izola-Portorož route)



Description

A day of biking around Slovenian coast should be on your list when visiting. Spending a carefree day with professional guides discovering the heritage behind this famous biking path. Your shore excursion starts at the pier, alongside your cruise ship and proceeds towards Portoroz, your final destination.

You will see: Parenzana biking pathway, the Slovenian coast and its lush landscape and Slovenian coastal towns

- Included** Bike rental fee, guide, technical support, helmet, bottle of water and back up vehicle
- Duration** 4:30 hours (half day)
- Weather** Departs in all weather conditions
- More information** [Click here](#)

Visit of Grožnjan, Istria Croatia sightseeing tour

- Description** Visit to Grožnjan in Istria.
- Included** Van transportation with driver and English speaking guide
- Duration** 4:30 hours (half day)
- Weather** Departs in all weather conditions
- More information** [Click here](#)

Slovenian Istria Hiking Tour



Spend a day exploring the Istrian slopes. Just a short transfer from Portoroz, you will reach your starting point. Gathered together by your guide you will be introduced to the first village on your way.

Description

You will see: The villages of Padna, Nova Vas, Sveti Peter; Ethnological museum of olive oil press; green vegetation and pristine nature

- Included** Transportation and hiking guide
- Duration** 4:30 hours (half day)
- Weather** Departs in all weather conditions
- More**

information [Click here](#)

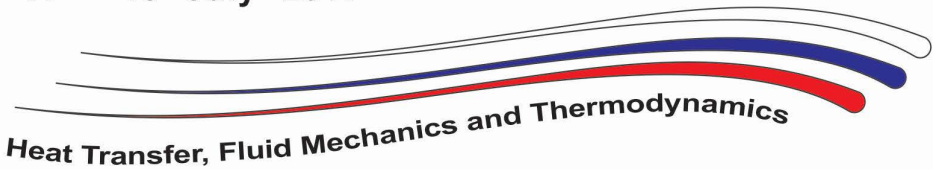
Bike rental at agency office in Portorož, Obala 55, 6320 Portorož



- Description** Rent a bicycle and explore at your leisure. It is the best way to actively discover the surrounding of Portorož and Piran.
- Included** Bike rental: per hour, per bike
- Duration** Min 2:00 hours
- Weather** Departs in all weather conditions
- More information** [Click here](#)

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Committees

Conference Chair

Prof JP Meyer, University of Pretoria, South Africa

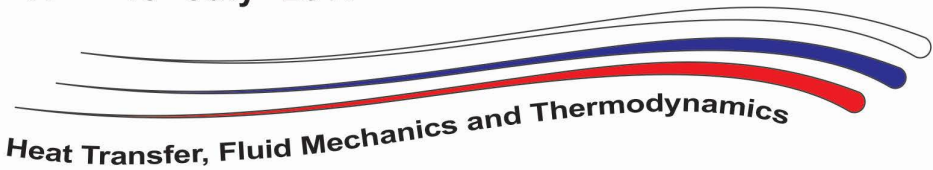
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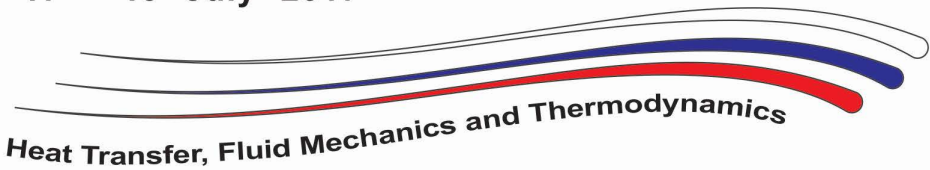
Keynotes of Previous Conferences

A list of previous keynote speakers is given below. The decision has been made in 2008 that keynote speakers that has already presented a keynote paper at HEFAT may not be considered again as keynote speakers for the following three HEFAT conferences. The previous keynote speakers were:

Name	Affiliation
HEFAT2002	1st International Conference: Kruger National Park, South Africa
Adrian Bejan	Duke University, USA
Beric Skews	University of the Witwatersrand, South Africa
Satish G Kandlikar	Rochester Institute of Technology, USA
Antony Jacobi	University of Illinois at Urbana-Champaign, USA
Jungho Kim	University of Maryland, USA
Liqiu Wang	University of Hong Kong
AAM Delil	National Aerospace Laboratory NLR, Netherlands
Detliv Kroger	University of Stellenbosch, South Africa
HEFAT2003	2nd International Conference: Victoria Falls, South Africa
Kyoji Kamemoto	Yokohama National Universirt, Japan
Dimos Poulikakos	Swiss Federal Institute of Technology, Switzerland
KN Seetharamu	USM Engineering, Malaysia
Pega Hrnjak	University of Illinois at Urbana-Champaign
HEFAT2004	3rd International Conference: Cape Town, South Africa
John R Thome	Swiss Federal Institute of Technology, Lausanne, Switzerland
Afshin Ghajar	Oklahoma State University
H Hayami	Kyushu University, Japan
Leon Liebenberg	University of Pretoria, South Africa
HEFAT2005	4th International Conference: Cairo, Egypt
VK Dhir	University of California, USA
Holger Martin	Karlsruhe University, Germany
G Hetsoni	Israel Institute of Technology, Israel
Y Tsujimoto	Osaka University, Japan
P Nithiarasu	University of Wales, Swansea, United Kingdom
AAM Delil	Advanced Aerospace Thermal Control Systems
HEFAT2007	5th International Conference: Sun City, South Africa
Yas Takata	Kyushu University, Japan
Peter Vadasz	Northern Arizona University, USA
AS Majumdar	National University of Singapore
AT Prata	Federal University of Santa Catarina, Brazil
IG Shekrladze	Georgian Technical University, Georgia
Wen-Quan Tao	Xi'an Jiaotong University, China
Bartoli Carlo	University of Pisa, Italy
John R Thome	Swiss Federal Institute of Technology, Lausanne, Switzerland
HEFAT2008	6th International Conference: University of Pretoria, South Africa
Adrian Bejan and Sylvie Lorente	Duke University, USA

Adrian Briggs	University of London, United Kingdom
VV Kulish	Nanyang Technological University, Singapore
K Sefiane	University of Edinburgh, United Kingdom
Peter Stehlik	Brno University of Technology, Czech Republic
HEFAT2010	7th International Conference: Antalya, Turkey
Zahid Ayub	Isotherm, Inc., USA
Afshin Ghajar	Oklahoma State University, USA
Thomas McKrell	MIT, USA
Pradeep Bansal	University of Auckland, New Zealand
Ranganathan Kumar	University of Central Florida, USA
Charles Ward	University of Toronto, Canada
Oleg Kabov	Universite Libre de Bruxelles, Belgium
HEFAT2011	8th International Conference: Mauritius
Dongsheng Wen	Queen Mary University of London, UK
John Thome	EPFL, Switzerland
Qiuwang Wang	Xi'an Jiaotong University, China
Michel de Paepe	Ghent University, Belgium
Gordon Mallinson	The University of Auckland
Pega Hrnjak	University of Illinois, USA
Md. Mahbub Alam	University of Pretoria, South Africa
HEFAT2012	9th International Conference: Malta
Avi Bar-Cohen	University of Maryland, USA
Brian Spalding	CHAM, UK
Tilak Chandratilleke	Curtin University, Australia
John Chai, UAE	Petroleum Institute, UAE
Tunde Bello-Ochende	University of Pretoria, South Africa
Remi Revellin	National Institute of Applied Sciences of Lyon, France
HEFAT2014	10th International Conference: Orlando
Cees van der Geld	Eindhoven University of Technology, Netherlands
Huihe Qiu	Hong Kong University of Science and Technology, Hong Kong
Zhixiong Guo	Rutgers University, USA
Christos Markides	Imperial College, UK
Ana Moita	Lisbon University, Portugal
Sebastian Volz	CNRS, France
Rick de Lange	Eindhoven University of Technology, Netherlands
Mikhail Liberman	KTH Royal Institute of Technology, Sweden
Bale Reddy	University of Ontario, Canada
Martin Oberlack	Technical University Darmstadt, Germany
Dean Vucinic	Vrije Universiteit Brussels, Belgium
HEFAT2015	11th International Conference: Kruger National Park, South Africa
Pega Hrnjak	University of Illinois at Urbana-Champaign
Alexander Yarin	University of Illinois at Chicago
Sadik Kakac	TOBB University Economics and Technology
Stephane Lips	INSA Lyon
Davide del Col	University of Padova
Patrick Oosthuizen	Queen's University
HEFAT2016	12th International Conference: Costa del Sol, Spain
Xianfan Xu	Purdue University
Koji Takahashi	Kyushu University
Andrea Cioncolini	University of Manchester
Luisa F Cabeza	University of Lleida
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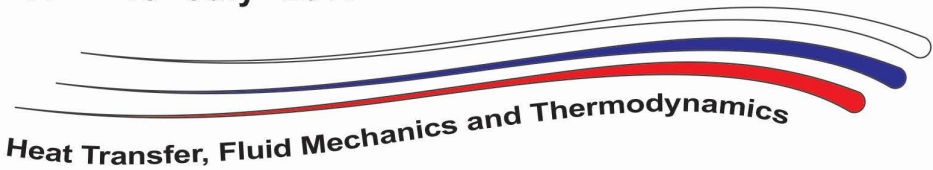
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2nd	HEFAT2003	Victoria Falls, Zambia
3rd	HEFAT2004	Cape Town, South Africa
4th	HEFAT2005	Cairo, Egypt
5th	HEFAT2007	Sun City, South Africa
6th	HEFAT2008	Pretoria, South Africa
7th	HEFAT2009	Antalya, Turkey
8th	HEFAT2010	Mauritius
9th	HEFAT2012	Malta
10th	HEFAT2014	Orlando, USA
11th	HEFAT2015	Skukuza, South Africa
12th	HEFAT2016	Costa Del Sol, Spain
13th	HEFAT2017	Portorož, Slovenia

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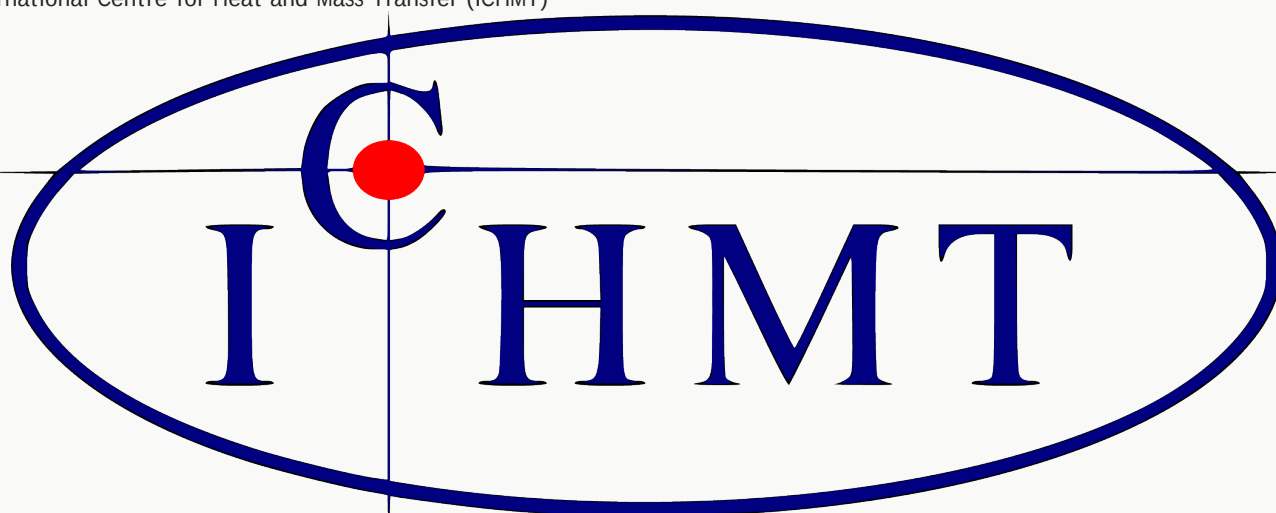


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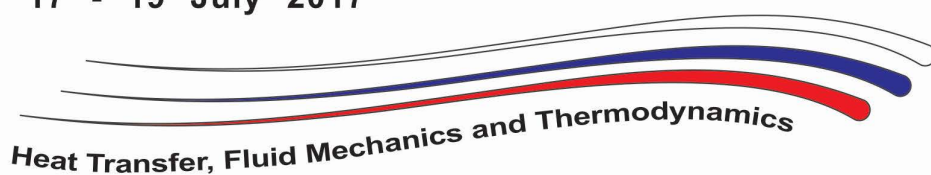
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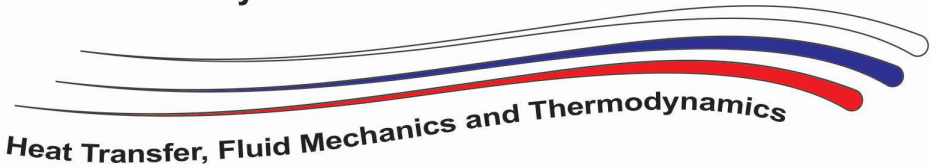
Administrative issues (Payment of registration fees, travel, accommodation, welcome, banquet, etc.)

The Inside Edge
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For every paper that is accepted and published in the conference proceedings, at least one of the authors must pay the fee. One of the authors must present the paper in person at the conference.

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Retired academic:	€650
Accompanying person:	€140 (partner/friend or child to also attend the Welcome and Banquet; but not the conference)

Registration (after 1 May 2017 and not later than 21 May 2017)

Delegate:	€800
Student:	€750
Retired academic:	€750
Accompanying person:	€150 (partner or child to also attend the Welcome and Banquet; but not the conference)

Registration fee includes:

- Welcome pack (delegate badge and accreditation, programme, and conference proceedings on a USB flash drive). Take note that the proceedings will be available only electronically. Only a programme booklet will be made available on paper.
- Tea/Coffee breaks
- Light lunch
- Welcome
- Awards ceremony and conference banquet.

Registration fee for accompanying persons includes:

- Welcome function

- Awards ceremony and conference banquet.

Welcome function (Sunday, 16 July 2017, 18:00-19:00)

Awards ceremony and conference banquet (Wednesday, 19 July 2017, 20:30-23:30)

Certificate awards will be given to the best paper of every session.

CANCELLATION POLICY

Registration fee

Any cancellation received will be subject to the following refund policy:

- 75% of the amount paid if written cancellation is received prior to 15 May 2017
- No refund if written cancellation is received after 15 May 2017

Grand Hotel Bernardin and Hotel Historian accommodation

- 25% cancellation fee for any cancellation prior to 08 May 2017
- 50% cancellation fee if cancelled from 9 to 25 May 2017
- no refund if cancelled after 25 May 2017

TERMS, CONDITIONS AND RATES

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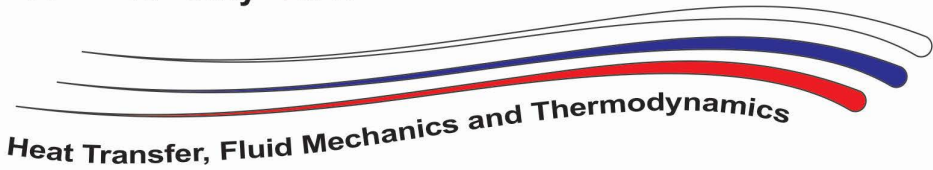
Corrections and changes

Created: 16 December 2016

Correction of banquet day and time: 7 June 2017

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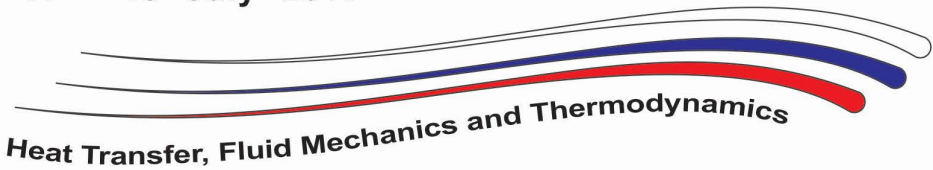
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[Validation of a Procedure for Dimensioning a Cyclone Separator for Circulating Fluidized Bed Gasifier](#)

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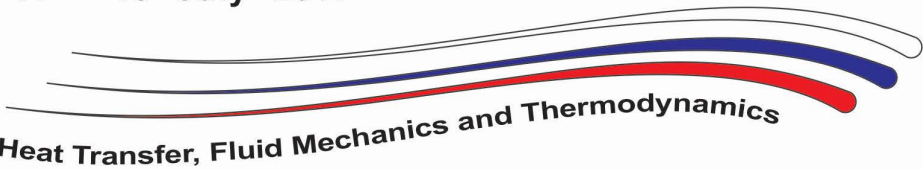
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Sunday, July 16				
13:00-16:00	Registration			
18:00-19:00	Welcome			
Monday, July 17				
07:30-08:40	Registration	Opening by Conference Chair: Prof Josua Meyer (University of Pretoria)		
08:40-09:00		Keynotes 1 and 2		
09:00-10:20				
10:20-10:40	Tea/Coffee			
10:40-12:40		Aerodynamics 1	Air conditioning and refrigeration	Two-phase flow 1
12:40-13:40	Lunch			
13:40-15:20		Multiphase flow 1	Condensation	Gas turbines
15:20-15:40	Tea/Coffee			
15:40-17:00		Conduction	Energy storage	Cooling, Cryogenics and Electronic cooling
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Tuesday, July 18				
08:00-08:20	Registration	Keynotes 3 - 5		
08:20-10:20				
10:20-10:40	Tea/Coffee			
10:40-12:00	Posters 1	Duct and channel flow	Boiling	Convection heat transfer 1
12:00-12:40				
12:40-13:00	Lunch			
13:00-13:40				
13:40-15:20		Multiphase flow 2	Energy and environmental systems 1	Thermal management

15:20-15:40	Tea/Coffee			
15:40-17:20		Two-phase flow 2	Nanofluids	Heat exchanger 1
Wednesday, July 19				
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09:00-10:20				
10:20-10:40	Tea/Coffee			
10:40-12:00	Posters 2			
12:00-12:20		Heat transfer enhancement	Convection heat transfer 2	Renewable energy
12:20-12:40				
12:40-13:40	Lunch			
13:40-15:20		Solar energy	Aerodynamics 2	Computational Fluid Dynamics
15:20-15:40	Tea/Coffee			
15:40-17:20		Energy and environmental systems 2	Energy systems	Other (not to be presented but in proceedings)
20:30-23:30	Banquet dinner			

Sunday, July 16

Sunday, July 16 13:00 - 16:00

Registration

Convention Centre Foyer
Room: Foyer area/Other area

Sunday, July 16 18:00 - 19:00

Welcome

Coktail lounge & Grand Garden, Grand Hotel Bernardin
Room: Foyer area/Other area
Monday, July 17

Monday, July 17 7:30 - 10:20

Registration

Room: Foyer area/Other area

Monday, July 17 8:40 - 9:00

Opening by Conference Chair: Prof Josua Meyer (University of Pretoria)

Conference Centre of Grand Hotel Bernardin
Room: Emerald II

Monday, July 17 9:00 - 10:20

Keynotes 1 and 2

Room: Emerald II
Chairs: Yasuyuki Takata (Kyushu University, Japan), Catherine Colin (University of Toulouse & Institute of Fluid Mechanics of Toulouse, France)

9:00 **Numerical and Experimental Modeling of Lyophilization of Lactose and Mannitol Water Solutions in Vials**
Matej Zadavec, Matjaz Ramsak, Jure Ravnik and Jurij Iljaz (University of Maribor, Faculty of Mechanical Engineering, Slovenia); Matej Avanzo (Lek Pharmaceuticals, Slovenia); Klemen Kocevar (Leading Scientist, Slovenia); Spela Irman (Lek

Pharmaceuticals, Slovenia); Mateja Cegnar (Researcher Expert, Slovenia); Iztok Golobic (University of Ljubljana, Faculty of Mechanical Engineering, Slovenia); Anze Sitar (FBK, Italy); Matjaž Hriberšek (University of Maribor, Faculty of Mechanical Engineering, Slovenia)

9:40 Latest R&D in Thermodynamic Cycles and Heat Transfer in Nuclear and Thermal Power Industries

Igor Pioro (University of Ontario Institute of Technology & Editor of ASME J. of Nuclear Engineering & Radiation Science, Canada)

Monday, July 17 10:20 - 10:40

Tea/Coffee

Room: Foyer area/Other area

Monday, July 17 10:40 - 12:40

Air conditioning and refrigeration

Room: Mediterranean I

Chairs: Carlos Eduardo Leme Nobrega (CEFET-Rio, Brazil), Tetsuaki Takeda (University of Yamanashi, Japan)

10:40 Single-phase Heat Transfer and Pressure Drop Performance in a Horizontal Internal Helically-finned Tube

Yonghui Wang, Jili Zhang and Zhixian Ma (Dalian University of Technology, China)

11:00 Heat Transfer in the Laminar and Transitional Flow Regimes of Smooth Vertical Tube for Upflow Direction

Abubakar Idris Bashir and Josua P Meyer (University of Pretoria, South Africa)

11:20 Performance of a Single Effect LiBr-water Absorption Chiller Operating with a Membrane-Based Microchannel Absorber

Mercedes de Vega, Néstor García-Hernando and Maria Venegas (Universidad Carlos III de Madrid, Spain)

11:40 Ecological and ECOP Performances of an Irreversible Two-stage Absorption Refrigeration Cycle

Xiaoyong Qin, Kai Zhang, Lingen Chen and Wenhua Wang (Naval University of Engineering, China)

12:00 Thermodynamic and Economic Evaluation of Trigeration Systems in Energy-Intensive Buildings

Maria Anna Chatzopoulou (Imperial College London & Cundall, United Kingdom (Great Britain)); Salvador Acha Izquierdo, Oyenyi A. Oyewunmi and Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

12:20 An Experimental Study on Adsorption Characteristics of R134a and R404a onto Silicagel Adsorbents

Muhsin Kılıç (Uludağ University, Turkey); Ersan Gonul (Uludağ Üniversitesi, Turkey)

Two-phase flow 1

Room: Mediterranean II

Chairs: Hae-Man Choi (Korea Research Institute of Standards and Science, Korea (South)), Yulong Ding (University of Birmingham, United Kingdom (Great Britain))

10:40 Bödewadt Flow of a Fluid-particle Suspension with Strong Suction

Muhammad Rahman (Norwegian University of Science and Technology, Norway); Helge Andersson (NTNU, Norway)

11:00 Effect of a DC Electric Field on the Liquid-Vapor Interface in a Grooved Flat Heat Pipe

Nicolas Cardin (National Institut of Applied Sciences of Lyon, France); Mostafa Brik (INSA of Lyon, France); Stephane Lips (INSA Lyon & CNRS, University of Lyon, France); Samuel Siedel (Grenoble Institute of Technology, France); Jocelyn Bonjour (INSA Lyon France, France); Laurent Davoust (Grenoble Institute of Technology, France)

11:20 Entrainment of Air Driven by Rotational Field Inside Viscous Liquids

Mihir Prajapati and Parmod Kumar (Indian Institute of Technology Roorkee, India); Arup Das (IIT Roorkee, India); Sushanta Mitra (Lassonde School of Engineering, York University, Toronto, Canada)

11:40 Simulations of Air-Water Two-Phase Flow in an Inclined Pipe

Khalil Elahee, Diksha Juggurnath, Muhammad Dauhoo and Abdel Khoudaruth (University of Mauritius, Mauritius); Adekunle Adelaja (University of Lagos & University of Pretoria, Nigeria); Olabode T Olakoyejo (University of Lagos, Nigeria)

12:00 Filmwise Condensation on Micro-fin Surfaces Produced by Selective Laser Melting

Jin Yao Ho and Kai Choong Leong (Nanyang Technological University, Singapore)

12:20 Modeling of Dropwise Condensation on Flat Surfaces

Riccardo Parin, Andrea Penazzato, Stefano Bortolin and Davide Del Col (University of Padova, Italy)

Aerodynamics 1

Room: Emerald II

Chairs: Özer Bağcı (Ghent University, Belgium), Ronald Barron (University of Windsor, Canada)

10:40 Simulation and Experimental Analysis of Hovering and Flight of a Quadrotor

Rohitha Weerasinghe and Miguel Monasor (University of the West of England, United Kingdom (Great Britain))

11:00 *Three-Dimensional Numerical Investigations on Lift and Drag Characteristics of Bird Wing Performing Flapping Motion*

Amit Soni (IIT Madras, India); Harikrishnan S (Indian Institute of Technology Madras, India); Shaligram Tiwari (IIT Madras, India)

11:20 *A CFD Study of Air Entrance's Influence on the Air Resistance of Ahmed Reference Body*

Yuan Ji, Jiangang Cheng, Jiaqi Xing, Yuqi Huang, Jinxing Chen and Yue Yang (Zhejiang University, China)

11:40 *Effect of Free Stream Turbulence on Fluid Flow and Heat Transfer from Square Cylinder*

Pritanshu Ranjan (BITS Pilani, India); Anupam Dewan and Sandip Kumar (Indian Institute of Technology Delhi, India)

12:00 *Labyrinth Seals Flow Field Evaluation Using Optical Methods*

Artur Szymański and Włodzimir Wróblewski (Silisian University of Technology, Poland); Sławomir Dykas (Silesian University of Technology, Poland); Mirosław Majkut (Silisian University of Technology, Poland); Krzysztof Marugi (Avio Aero, Poland)

12:20 *Impacts of the Gap Size Between Two Bluff Bodies on the Flow Field Within the Gap*

Terrance Priestley Charles, Yiling Lu and Zhiyin Yang (University of Derby, United Kingdom (Great Britain))

Monday, July 17 12:40 - 13:40

Lunch

Bernardin Restaurant

Room: Foyer area/Other area

Monday, July 17 13:40 - 15:40

Condensation

Room: Mediterranean I

Chairs: Md Didarul Islam (The Petroleum Institute, United Arab Emirates), Dolaana Khovalyg (University of Illinois at Urbana-Champaign, Denmark)

13:40 *Falling Film Mode Transition in an Array of Horizontal Tubes: Effect of Two Dimensional and Three Dimensional Fins*

Zhixian Ma, Jingdong Chen and Jili Zhang (Dalian University of Technology, China)

14:00 *Comparison of Numerical Phase Change Models in Two-Phase Heat Transfer Problem*

Jong Hyeon Son, Ho Lee and Il Seouk Park (Kyungpook National University, Korea (South))

14:20 *Experimental Analysis of the Effect of a Wettability Gradient on Condensation Heat Transfer Coefficient*

Felipe Mancio Reis, Pascal Lavieille and Marc Miscevic (University of Toulouse, France)

14:40 *Condensation Heat Transfer of Non-Azeotropic Mixtures Inside Channels*

Marco Azzolin, Arianna Berto, Stefano Bortolin and Davide Del Col (University of Padova, Italy)

15:00 *Energy Analysis of Condensate Growth on Superhydrophobic Surfaces with Hierarchical Roughness*

Jiangtao Cheng (Virginia Polytechnic Institute and State University, USA)

15:20 *New Flow Condensation Heat Transfer Model for Methane and Ethane*

Gaofer Chen, Maoqiong Gong, Xiaoru Zhuang and Qinglu Song (Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China)

Monday, July 17 13:40 - 15:20

Gas turbines

Room: Mediterranean II

Chairs: Zhongjie Huan (Tshwane University of Technology, South Africa), Hyo Tae Kim (Korea Institute of Ceramic Engineering and Technology, Korea (South))

13:40 *Numerical Simulation of Pressure Swirl Atomizer for Small Scale Gas Turbine Combustion Chamber*

Saurabh Dikshit (S. & S. S. Ghandhy Govenment Engineerning College, Surat, India); Digvijay Kulshreshtha (C K Pithawala College of Engineering and Technology, India); Salim Abbasbhai Channiwala (Sardar Vallabhbhai Natonal Institute Of Technology, Ichchhanath, Surat, Gujarat, India)

14:00 *Flow and Heat Transfer Characteristics of a Self Entraining Ejector Conical Diffuser with and Without Slot Guidance*

Lakhvinder Singh (Indian Institute of Technology Delhi, India); Sidh Nath Singh (Indian Institute of Technology Delhi); Sawan Sinha (Indian Institute of Technology Delhi, India)

14:20 *Influence of Inlet Flow Condition on Turbine Blade Showerhead Film Cooling*

Nafiz Chowdhury, Shamsul Qureshi, Mingjie Zhang and Je-Chin Han (Texas A&M University, USA)

14:40 *The Influence of the Relative Number of Impingement and Effusion Cooling Holes on Gas Turbine Combustor Wall Heat Transfer*

Gordon Andrews (University of Leeds, United Kingdom (Great Britain))

15:00 *Experimental Study of Heat Transfer and Pressure Loss in Channels with V Rib-Dimple Hybrid Structure*

Yu Rao and Peng Zhang (Shanghai Jiao Tong University, China)

Multiphase flow 1

Room: Emerald II

Chairs: Gabor Farkas (Mentor Graphics, Hungary), Kalvala Srinivas Reddy (Indian Institute of Technology Madras & Heat Transfer and Thermal Power Laboratory, India)

13:40 *Chaotic Oscillations of a Single Cavitating Bubble Immersed in a Maxwell Liquid*

Jorge Naude (Universidad Nacional Autonoma de Mexico, Mexico); Federico Mendez (Facultad de Ingeniería, Universidad Nacional Autónoma de México, Mexico); Cesar Yepes and Margarita Navarrete (Universidad Nacional Autónoma de México, Mexico)

14:00 *Design and Performance of Single Loop PHP Capable of Working in Horizontal Position*

Himanshu Poonia (Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India); Arup Das (IIT Roorkee, India); Prasanta Das (Indian Institute of Technology Kharagpur, India)

14:20 *Effect of Cattaneo-Christov Heat Flux on MHD Casson Flow over Various Geometries with Thermophoresis and Brownian Moment*

J. Prakash (University of Botswana, Botswana); Sandeep N (VIT University, India)

14:40 *CFD-PBM Modelling of Gas-Liquid Two-Phase Flow in Bubble Column Reactors with an Improved Breakup Kernel Accounting for Bubble Shape Variations*

Weibin Shi (The University of Nottingham Ningbo China, China); Guang Li (The University of Nottingham Ningbo, China); Jie Yang (The University of Nottingham Ningbo China, China); Yuan Zong (East China University of Science and Technology, China); Xiaogang Yang (The University of Nottingham Ningbo, China)

15:00 *Role of Electric Actuation in Electro-Capillary Driven Coalescence of Sessile Droplets*

Saikat Datta (Indian Institute of Technology Kharagpur, India); Arup Das (IIT Roorkee, India); Prasanta Das (Indian Institute of Technology Kharagpur, India)

Monday, July 17 15:20 - 15:40

Tea/Coffee

Room: Foyer area/Other area

Monday, July 17 15:40 - 17:00

Energy storage

Room: Mediterranea I

Chairs: Zhixian Ma (Dalian University of Technology, China), Samo Mahnič-Kalamiza (University of Ljubljana, Slovenia)

15:40 *Transient Numerical Study on Enhancement of Phase Change Material Thermal Storage with Angled Parallel Fins*

Chenzhen Ji, Zhen Qin, Zheng Hua Low, Swapnil Dubey, Fook Hoong Choo and Fei Duan (Nanyang Technological University, Singapore)

16:00 *On the Design and Advantages of a Vapor Chamber for Battery Packs and the Discrepancy in Vertical Channel Boiling Correlations at Small Gap Spacing*

Ilya T'Jollyn (Ghent University - UGent, Belgium); Jasper Nonneman (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

16:20 *Analytical Thermal Modeling and Calibration Method for Lithium-ion Batteries*

Masahiro Fukui and Keiji Kato (Ritsumeikan University, Japan); Shuji Tsukiyama (Chuo University, Japan); Isao Shirakawa (University of Hyogo, Japan)

16:40 *Comparison of Sizing Calculations Based on Exergy and Electric Power Production for Molten Salt Thermal Energy Storage Systems*

Christian Odenthal and Freerk Klasing (Deutsches Zentrum für Luft- und Raumfahrt (DLR), Germany); Thomas Bauer (Deutsches Zentrum für Luft- und Raumfahrt (DLR) German Aerospace Center & Institute of Engineering Thermodynamics (TT), Germany)

Monday, July 17 15:40 - 17:20

Cooling, Cryogenics and Electronic cooling

Room: Mediterranea II

Chairs: Christos N. Markides (Imperial College London, United Kingdom (Great Britain)), Marko Matkovič (Jožef Stefan Institute,

Slovenia)

15:40 *Charging of a Thermal Battery Composed of Open-Cell Metal Foam and Phase Change Material for Use in Pharmaceuticals Transport*

Özer Bağcı (Ghent University, Belgium); Michiel Corryn and Wim Beyne (Ghent University, Belgium); Lenka Bokisova and Michel De Paepe (Ghent University - UGent, Belgium)

16:00 *Field Test of the Size and Velocity Distribution of the Raindrops in the Rain Zone of the Cooling Tower*

Dongqiang Lyu and Fengzhong Sun (Shandong University, China); Xiang Yu Zhang (School of Energy and Power Engineering Shandong University, China)

16:20 *Dynamic Simulation Study on Effect of LNG Temperature on Jetty Boil-Off Gas Generation at LNG Exporting Terminals*

Yogesh M Kurle, Qiang Xu and Srinivas Palanki (Lamar University, USA)

16:40 *Microstructure and Thermal Properties of ZTA Ceramics with Boron Nitride Nanotubes*

Hyo Tae Kim, Chi Heon Kim and Eun Byul Go (Korea Institute of Ceramic Engineering and Technology, Korea (South))

17:00 *Experimentally Validated Coupled Modelling of the Heat Transfer Processes of Electromagnetically Driven Flow Within a Cold-Crucible Induction Furnace*

Jacek Smolka (Silesian University of Technology, Poland)

Conduction

Room: Emerald II

Chairs: Mostafa Brik (INSA of Lyon, France), Digvijay Kulshreshtha (C K Pithawala College of Engineering and Technology, India)

15:40 *Analysis of Pin Fins with Radiation*

Tyler Vincent, Joseph Schetz and Todd Lowe (Virginia Tech, USA)

16:00 *Non-destructive Structural Analysis of the Heat Conducting Path in Power Electronics and Solid State Lighting by Thermal Transient Testing*

Gabor Farkas, Zoltan Sarkany and Attila Szel (Mentor Graphics, Hungary); Marta Rencz (Budapest University of Technology and Economics & Mentor, a Siemens Business, Hungary)

16:20 *Performance Evaluation of Control Panel Heat Exchanger*

Tatsuya Kozuka and Tetsuaki Takeda (University of Yamanashi, Japan); Isao Masuda (Nihon Kagaku Sangyo Co., LTD., Japan); Shumpei Funatani (University of Yamanashi, Japan)

16:40 *Heat Transfer Capability of Functionalized Graphene Nanoplatelet Dispersions in Propylene Glycol + Water, 30:70 Wt.%*

Javier P. Vallejo, Julián Pérez-Tavernier, David Cabaleiro, José Fernández-Seara and Luis Lugo (University of Vigo, Spain)

Tuesday, July 18

Tuesday, July 18 8:00 - 10:20

Registration

Room: Foyer area/Other area

Tuesday, July 18 8:20 - 10:20

Keynotes 3 - 5

Room: Emerald II

Chairs: Mohamed Farid (The University of Auckland, New Zealand), Matej Zadavec (University of Maribor, Faculty of Mechanical Engineering, Slovenia)

8:20 *Critical Heat Flux Enhancement Using Honeycomb Porous Plate in a Saturated Pool Boiling of Water-based Nanofluid*

Shoji Mori and Kunito Okuyama (Yokohama National University, Japan)

9:00 *Flow Boiling in Tube in Microgravity*

Catherine Colin (University of Toulouse & Institute of Fluid Mechanics of Toulouse, France); Marine Narcy (INSA Lyon, France)

9:40 *Advanced Diagnostics to Resolve Long-Lasting Controversies in Boiling Heat Transfer*

Matteo Bucci (Massachusetts Institute of Technology, USA)

Tuesday, July 18 10:20 - 10:40

Tea/Coffee

Room: Foyer area/Other area

Tuesday, July 18 10:40 - 12:40

Boiling

Room: Mediterranea I

Chairs: Muhsin Kılıç (Uludağ University, Turkey), Srinivas Palanki (Lamar University, USA)

10:40 *CFD-FE Simulation for the Optimization of a Cylinder Pressure Sensor Application in a Large Gas Engine*

Martin Kober (LEC GmbH & TU Graz, Austria); Claudia Schubert-Zallinger (TU Graz, Austria); Andreas Wimmer (LEC GmbH, Austria); Igor Milosevic (Montanuniversität Leoben, Austria)

11:00 *The Reserch of Two Phase Heat Transfer for R50, R170 and R50/R170 Binary Mixtures*

Maoqiong Gong, Gaofei Chen, Xiaoru Zhuang, Yuan Yao, Zhiqiang Yang, Qinglu Song and Hanzhi Chen (Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China)

11:20 *Review of Numerical Studies of Boiling Two-Phase Flow in Smooth Tubes*

Emmanuel A Osowade (University of Lagos, Nigeria); Diksha Juggurnath (University of Mauritius, Mauritius); Olabode T Olakoyejo (University of Lagos, Nigeria); Khalil Elahee (University of Mauritius, Mauritius); Surajudeen Obayopo (Obafemi Awolowo University, Nigeria); Muhammad Dauhoo (University of Mauritius, Mauritius); Adekunle Adelaja (University of Lagos & University of Pretoria, Nigeria); Abdel Khoudaruth (University of Mauritius, Mauritius)

11:40 *Experimental Investigation on the Heat Transfer and Heat Sink Characteristics of the Kerosene-Water Emulsion in a Rectangular Channel*

Hui Pan and Qincheng Bi (Xi'an Jiaotong University, China); Zhaohui Liu (Xi'an Jiaotong University); Song Feng (Xi'an Jiaotong University, China); Yajun Guo (Xi'an University of Architecture and Technology, China)

12:00 *Experimental Investigation and Modelling of Flow Boiling Heat Transfer of C3F8/C2F6 Blends*

Vaclav Vacek (Czech Technical University in Prague & Unicorn College in Prague 3, Czech Republic); Martin Doubek, Michal Haubner and David Houska (CTU Prague, Czech Republic); Michele Battistin (CERN, Switzerland); G. Hallewell (Centre de Physique de Particules de Marseille/IN2P3-CNRS, France); Sergei Katunin (Nuclear Physics Institute (PNPI), St. Petersburg, Russia); Dave Robinson (University of Cambridge, Czech Republic)

12:20 *Enhanced Boiling Surface with Hydrophobic Circle Spots for Evaporator of Looped Thermosiphon*

Hongbin He, Masayuki Yamada, Sumitomo Hidaka, Masamichi Kohno, Koji Takahashi and Yasuyuki Takata (Kyushu University, Japan)

Convection heat transfer 1

Room: Mediterranea II

Chairs: Patrick H Oosthuizen (Queen's University, Canada), Christian Odenthal (Deutsches Zentrum für Luft- und Raumfahrt (DLR), Germany)

10:40 *Natural Convection Within Nanofluid-filled Hemispherical Enclosure Containing a Cubic Electronic Device*

Abderrahmane Baïri (University of Paris LTIE-GTE); Oriana Haddad (Université de Paris LTIE-GTE, France); Nacim Alilat (Université de Paris - LTIE-GTE, France); Jean-Gabriel Bauzin (Université de Paris LTIE-GTE, France); Najib Laraqi (Université de Paris LTIE_GTE)

11:00 *New Friction Factor and Heat Transfer Coefficient Equations for Forced Laminar Convection of Liquid with Variable Properties in Straight Tubes*

Houjian Zhao (Tsinghua University, China); Xiaowei Li and Xinxin Wu (Tsinghua Universtiy, China)

11:20 *Analysis of Free Convection in Heatsinks Using Design of Experiments*

Bruno Anselmo and Vitor Fernandez (Universidade Federal Itajubá, Brazil); Sandro Metrevelle Lima e Silva (Universidade Federal de Itajubá & Instituto de Engenharia Mecânica, Brazil)

11:40 *Evaporation of DMF Sessile Drops on Stationary and Vibrating Substrates*

Seyed Amin Rahimzadeh and Morteza Eslamian (Shanghai Jiao Tong University, China)

12:00 *Jet Impingement Heat Transfer of Moving Metal Sheet*

Gaurav Kulkarni and Eckehard Specht (Otto von Guericke University Magdeburg, Germany)

12:20 *Local Heat Transfer Analysis During Intensive Cooling with Water Sprays and Jets*

Yuan Fang (Otto-von-Guericke-Universität Magdeburg, Germany); Eckehard Specht (Otto von Guericke University Magdeburg, Germany)

Tuesday, July 18 10:40 - 12:00

Posters 1

Room: Foyer area/Other area

Chairs: Michel De Paepe (Ghent University - UGent, Belgium), Seyyed Mohammad Ali Noori Rahim Abadi (University of Pretoria, South Africa)

10:40 *Contactless Method of Specific Heat Capacity Determination*

Ivo Špička, Pavel Košťál, Zora Košťálová Jančíková, Ondřej Zimný and Milan Heger (VŠB-Technical University of

Ostrava, Czech Republic)

10:45 *Artificial Neural Networks Application in Thermography*

Zora Košťálová Jančíková, Pavel Košťál, Ondřej Zimný, Milan Heger and Ivo Špička (VŠB-Technical University of Ostrava, Czech Republic)

10:51 *Composite Thermal Walls for Low Energy Brazilian Homes*

Juliana Avila (UNICAMP - Universidade Estadual de Campinas & WIKA DO BRASIL Indústria e Comércio Ltda., Brazil); Kamal Ismail (Unicamp, Brazil)

10:57 *Study of Natural Convection in the Presence of Magnetic Filed Cylindric Enclosure*

Mohamed Kherief nacereddine (Normal High School of Technology Education ENSET Skikda, Algeria); Talbi Kamel (University Mentouri Constantine, Algeria)

11:02 *Effect of Variation in Length of the Conventional Heat Pipe on the Thermal Performance*

Young Min Seo, Yong Gap Park and Man Yeong Ha (Pusan National University, Korea (South))

11:08 *Numerical Simulation on the Two-Phase Flow Pattern in the Loop Heat Pipe with R-134a*

Seong Hyun Park (Pusan National University, Korea (South))

11:14 *Recent Research and Prospects of Thermal Expansion Studies. Standard Materials*

Tatiana Kompan (D. I. MENDELEEV INSTITUTE FOR METROLOGY, Russia); Sergey Kondratiev and Nikolay Pukhov (D. I. Mendelev Institute for Metrology, Russia)

11:19 *Surface Design for Dropwise Condensation: A Theoretical and Experimental Study*

Marieke Ahlers (University of Kaiserslautern, Germany); Marcus Koch (INM - Leibniz Institute for New Materials, Germany); Bert Laegel (Kaiserslautern University of Technology, Germany); Steffen Klingel (University of Kaiserslautern, Germany); Dennis Schlehuber, Ilka Gehrke and Christina Eloo (Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Germany); Hans-Jörg Bart (University of Kaiserslautern, Germany)

11:25 *Dynamic Characteristics of Flowmeters for Fuel Consumption Measurement in Ships*

Hae-Man Choi (Korea Research Institute of Standards and Science, Korea (South)); Byung-Ro Yoon (KRISS, Korea (South)); Seok Hwan Lee and Woong Kang (Korea Research Institute of Standards and Science, Korea (South))

11:31 *Parallel Plate Channels for Latent Heat Thermal Energy Storages*

Assunta Andreozzi (Università degli Studi di Napoli Federico II, Italy); Bernardo Buonomo, Davide Ercole and Oronzio Manca (Università degli Studi della Campania Luigi Vanvitelli)

11:37 *Analytical Modeling and Numerical Solution of a Simple Solar Still*

Ana Carolina Oliveira de Paula, Kamal Ismail and Carlos Salinas Sedano (University of Campinas)

11:42 *Validation of a Procedure for Dimensioning a Cyclone Separator for Circulating Fluidized Bed Gasifier*

Ana Carolina Oliveira de Paula (University of Campinas); Jorge Henriquez Guerrero and Flávio Augusto Bueno Figueiredo (Federal University of Pernambuco)

11:48 *A Performance Test of Adsorption Refrigeration System Applying Superabsorbent Polymeric Adsorbent*

Young Soo Chang and Tae Hyun Kim (Kookmin University, Korea (South)); Dae-Young Lee (KIST, Korea (South)); Byung Ha Kang (Kookmin University, Korea (South))

11:54 *Alternative Design of Hybrid Desiccant Cooling Systems*

Carlos Eduardo Leme Nobrega (CEFET-Rio, Brazil); Nisio Brum (COPPE-UFRJ, Brazil)

Tuesday, July 18 10:40 - 13:00

Duct and channel flow

Room: Emerald II

Chairs: Md Didarul Islam (The Petroleum Institute, United Arab Emirates), Kai Choong Leong (Nanyang Technological University, Singapore)

10:40 *Thermochemical Reactions in Partially Exposed Nuclear Fuel*

Ezra Elias, Dov Hasan and Yuri Nekhamkin (Technion - Israel Institute of Technology, Israel)

11:00 *Performance Analysis of Finned Pipe in Air Sampling Smoke Detection System at Refrigerated Warehouse*

Ji Tae Kim (Chung-Ang University, Korea (South)); Jaesung Oh (Chung Ang University, Korea (South)); Youngman Lee (AlliliteLife, Korea (South)); Jaiyoung Ryu and Hongsun Ryu (Chung Ang University, Korea (South))

11:20 *Subgrid-scale Modeling of Turbulent Heat Transport in Forced Convection at High Molecular Prandtl Numbers*

Christoph Irrenfried and Helfried Steiner (Graz University of Technology, Austria)

11:40 *CFD Modelling and Validation of Pipe Bifurcations*

Kasturi Sukhupure, Alan Burns and Tariq Mahmud (University of Leeds, United Kingdom (Great Britain)); Jake Spooner (Mott MacDonald, United Kingdom (Great Britain))

12:00 *Near-wall Modelling of the Turbulent Prandtl Number Based on Experiments, Numerical Simulation, and Theoretical Analysis*

Helfried Steiner, Christoph Irrenfried and Günter Brenn (Graz University of Technology, Austria)

12:20 *Wall-layer Model for Large Eddy Simulation (LES) of Suspended Sediment Transport (SST) in a Lab-Scale Turbulent Open Channel Flow*

Mahmoud Jourabian and Vincenzo Armenio (University of Trieste, Italy)

12:40 *Role of Entropy Generation and Field Synergy on Heat Transfer from Confined Wavy Wall*

Harikrishnan S (Indian Institute of Technology Madras, India); Shaligram Tiwari (IIT Madras, India)

Tuesday, July 18 12:40 - 13:40

Lunch

Room: Foyer area/Other area

Tuesday, July 18 13:40 - 15:20

Energy and environmental systems 1

Room: Mediterranean I

Chairs: Donghoon Shin (Kookmin University, Korea (South)), Matej Zadavec (University of Maribor, Faculty of Mechanical Engineering, Slovenia)

13:40 *Schlieren Visualizations of Non-Ideal Compressible Fluid Flows*

Camilla Conti, Andrea Spinelli, Giorgia Cammi, Marta Zocca, Alberto Guardone and Fabio Cozzi (Politecnico di Milano, Italy)

14:00 *Simultaneous Optimal Control and Optimal Cleaning Scheduling of Small Heat Exchanger Networks Subject to Fouling*

Sandro Macchietto (Imperial College London & Hexxcell Limited, United Kingdom (Great Britain)); Federico Lozano Santamaria (Imperial College of London, United Kingdom (Great Britain))

14:20 *Method for Analysing the Heat Recovery Potential of Thermoprocessing Equipment*

Dirk H. Hübner (Saarbrücken University of Applied Sciences, Germany); Harald Ortwig (Trier University of Applied Sciences, Germany); Michelle Paulus and Daniel Wild (AG der Dillinger Hüttenwerke, Germany)

14:40 *Exploring Optimal Working Fluids and Cycle Architectures for Organic Rankine Cycle Systems Using Advanced Computer-Aided Molecular Design Methodologies*

Martin White, Oyeniya A. Oyewunmi, Andrew Haslam and Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

15:00 *Hygroscopic Inertia Influence on Indoor Environments: Moisture Buffering*

Iñaki Gomez Arriaran, Isabel Sellens-Fernández, Moises Odriozola Maritorena and Estibaliz Pérez Iribarren (ENEDI Research Group, Spain); Abderrahmane Baïri (Université de Paris, France)

Thermal management

Room: Mediterranean II

Chairs: Ilango Thiagalingam (Institute of Fluid Mechanics of Toulouse, France), Rohitha Weerasinghe (University of the West of England, United Kingdom (Great Britain))

13:40 *Density Measurements of Endothermic Hydrocarbon Fuels at Temperatures from 235 K to 353 K and Pressures Up to 4.09 MPa*

Song Feng and Qincheng Bi (Xi'an Jiaotong University, China); Hui Pan (Xi'an Jiaotong University); Zhaohui Liu (University of Xi'an Jiaotong, China); Yajun Guo (Xi'an University of Architecture and Technology, China)

14:00 *A Study on Heat Transfer Characteristics of Fibonacci Spiral Microchannel Heat Sink*

Cheng Hsing Hsu, Chin Jui Jiang and Son Hung Dang (Chung Yuan Christian University, Taiwan); Chuan Ching Chang (Army Academy R. O. C., Taiwan); Tuyet Thi Anh Nguyen (Chung Yuan Christian University, Taiwan)

14:20 *Conjugate Jet Impingement Heat Transfer Investigation*

Gus Nasif, Ronald Barron and Ram Balachandar (University of Windsor, Canada)

14:40 *Thermogravimetric Determination of Thermal Conductivity of Lumpy Limestones*

Purna Chandra Gourisankar Sandaka (Otto von Guericke University, Germany)

15:00 *Analysis of the Energetics and Stability of Liquid Droplets on Textured Surfaces with Square Micropillars*

Md. A Rahman and Anjan Goswami (Bangladesh University of Engineering and Technology (BUET), Bangladesh)

Multiphase flow 2

Room: Emerald II

Chairs: Haifa El-sadi (Wentworth Institute of Technology, USA), Chiara Spaccapaniccia (Von Karman Institute for Fluid Dynamics, Belgium)

13:40 *Experimental Studies on Steam Condensation in Horizontal and Vertical Microtubes*

Abdolali Khalili Sadaghiani, Ahmad reza Motezakker and Ali Kosar (Sabanci University, Turkey)

14:00 *Numerical Investigation of Condensation Inside an Inclined Smooth Tube*

Seyyed Mohammad Ali Noori Rahim Abadi, Josua P Meyer and Jaco Dirker (University of Pretoria, South Africa)

14:20 *A Thermokinetic Model for Dropwise Condensation on a Planar Substrate with Conical Pores*

Sanat Singha, Prasanta Das and Biswajit Maiti (Indian Institute of Technology Kharagpur, India)

14:40 *Effect of Thin Film Truncation Thickness on the Heat Transfer Underestimation from an Evaporating Droplet on a Partial Wetting Surface*

Abbasali Abouei Mehrizi and Hao Wang (Peking University, China)

15:00 *Rheological Properties of Extracted Oil from Sludge*

Haifa El-sadi (Wentworth Institute of Technology, USA)

Tuesday, July 18 15:20 - 15:40

Tea/Coffee

Room: Foyer area/Other area

Tuesday, July 18 15:40 - 17:20

Nanofluids

Room: Mediterranean I

Chairs: Amir Amini (Spirax Sacro Ltd. & CEng FIMechE, United Kingdom (Great Britain)), Gordon Andrews (University of Leeds, United Kingdom (Great Britain))

15:40 *Thermophysical Properties of a Nanofluid Based on a Eutectic Mixture of Diphenyl and Diphenyl Oxide and Carbon Black Nanoparticles*

Alexandra Gimeno-Furio, Nuria Navarrete, Rosa Mondragon, Estefania Cervantes and Leonor Hernandez (Universitat Jaume I, Spain); Raul Martinez Cuenca (Universidad Jaume I, Spain); Luis Cabedo and J. Enrique Julia (Universitat Jaume I, Spain)

16:00 *Thermodynamics Implied by Reducing the Phonon and the Cattaneo Heat Conduction Theories to the Fourier Theory*

Miroslav Grmela (Ecole Polytechnique de Montreal, Canada)

16:20 *Influence of Ethylene Glycol-Water Mixture Ratio on SiO2 Nanofluid Turbulent Forced Convection Heat Transfer Characteristics*

Korada Viswanatha Sharma (Jawaharlal Nehru Technological University Hyderabad, India); Seshu Kumar Vandurangi (Universiti Teknologi Petronas, Malaysia); Srinivasa Rao Pedapati (Universiti Teknologi PETRONAS, Malaysia)

16:40 *Entropy Generation of Nanofluid Flow over a Convectively-Heated Stretching Sheet with Stagnation Point Having Nimonio 80a Nanoparticles: Buongiorno Model*

Shirley Abelman (University of the Witwatersrand, Johannesburg, South Africa); Aurang Zaib (Federal Urdu University of Arts, Science & Technology, Pakistan)

17:00 *On the Use of Colored Sand for Volumetric Solar Radiation Absorption for Concentrated Solar Power Applications*

Alexandra Gimeno-Furio and Leonor Hernandez (Universitat Jaume I, Spain); Raul Martinez Cuenca (Universidad Jaume I, Spain); Luis Cabedo (Universitat Jaume I, Spain); Camila Barreneche (Universitat de Lleida, Spain); J. Enrique Julia (Universitat Jaume I, Spain); Luisa F. Cabeza (University of Lleida, Spain)

Heat exchanger 1

Room: Mediterranean II

Chairs: Vincenzo Armenio (University of Trieste, Italy), Şefik Bilir (Selcuk University, Turkey)

15:40 *Steady State Modeling of a Fire Tube Boiler*

Wim Beyne (Ghent University, Belgium); Dieter Daenens and Bernd Ameel (Ghent University - UGent, Belgium); Marnix Van Belleghem (Deconinck-Wanson, Belgium); Steven Lecompte (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

16:00 *Channel-to-Channel Heat Flux Variation in Compact Minichannel Heat Exchangers Due to the Effect of Louvered Fins*

Dolaana Khovalyg (University of Illinois at Urbana-Champaign, Denmark); Anthony Jacobi (University of Illinois at Urbana-Champaign, USA); Pega Hrnjak (University of Illinois, CTS, USA)

16:20 *Experimental Study of Heat Transfer Enhancement with Winglets Inside a Tube*

Md Didarul Islam and Kharoua Nabil (The Petroleum Institute, United Arab Emirates); Guangda Liang (Petroleum Institute, United Arab Emirates)

16:40 *Process Intensification for the Small Footprint Compact Heat Transfer Device*

Jogender Singh (Sardar Vallabhbhai National Institute of Technology Surat & Indian Institute of Technology Delhi, India); Rishabh Aggarwal (National Institute of Technology Hamirpur, India); Dhananjay Kumar Pal (National Institute of Technology, Hamirpur, India); Sandeep Kumar, Sarvesh Palwal, Kanika Meena and Ankush Jindal (National Institute of Technology Hamirpur, India)

17:00 *Influence of Free Convection on the Heat Transfer Characteristics of Developing and Fully Developed Flow in the*

Transitional Flow Regime

Marilize Everts and Josua P Meyer (University of Pretoria, South Africa)

Two-phase flow 2

Room: Emerald II

Chairs: Jacek Smolka (Silesian University of Technology, Poland), Matevž Zupancic (University of Ljubljana, Faculty of Mechanical Engineering, Slovenia)

15:40 Modelling of the Overall Volumetric Mass Transfer Coefficient Measured by the Dynamic Method in Gas-liquid-liquid Systems

Godfrey Kabungo Gakingo and Tobias Muller Louw (Stellenbosch University, South Africa); Kim G Clarke (Stellenbosch University & DST - NRF Centre of Excellence in Catalysis (c*change), South Africa)

16:00 Thermodynamic Analysis of Water Boiling in Presence of a Non-Condensable Gas, the Carbon Dioxide (CO2): Application to Geothermal Flows in Wellbores

Ilango Thiagalingam, Wladimir Bergez and Catherine Colin (Institute of Fluid Mechanics of Toulouse, France)

16:20 The Distribution over an Impacting T-Junction of Two-Phase R32 Under Heat Pump Conditions

Marijn Billiet, Yves Bastien, Marija Lazova, Alihan Kaya and Steven Lecompte (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

16:40 Thermo-hydraulic Modelling of Direct Steam Generation in a Solar Parabolic Trough Collector System

Bohra Nitin Kumar (IIT Madras, India); Kalvala Srinivas Reddy (Indian Institute of Technology Madras & Heat Transfer and Thermal Power Laboratory, India)

17:00 Transport of Sessile Droplet in Porous Medium with Evaporation and Chemical Reaction

Homayun Navaz (Kettering University, USA)

Wednesday, July 19

Wednesday, July 19 8:00 - 10:20

Registration

Room: Foyer area/Other area

Wednesday, July 19 9:00 - 10:20

Keynotes 6 and 7

Room: Emerald II

Chairs: Michel De Paepe (Ghent University - UGent, Belgium), Igor Pioro (University of Ontario Institute of Technology & Editor of ASME J. of Nuclear Engineering & Radiation Science, Canada)

9:00 Multiphase Transport Phenomena in Composite Phase Change Materials for Thermal Energy Storage

Yulong Ding, Chuan Li and Guanghui Leng (University of Birmingham, United Kingdom (Great Britain)); Yelong Zhang (Nanjing Jinhe Energy Materials Co Ltd, China); Baoguo Tao (Changshu Burner Factory Ltd, China)

9:40 Mathematical Modelling of Heat and Mass Transfer in Food Processing

Mohamed Farid (The University of Auckland, New Zealand)

Wednesday, July 19 10:20 - 10:40

Tea/Coffee

Room: Foyer area/Other area

Wednesday, July 19 10:40 - 12:40

Convection heat transfer 2

Room: Mediterranean I

Chairs: Catherine Colin (University of Toulouse & Institute of Fluid Mechanics of Toulouse, France), Haifa El-sadi (Wentworth Institute of Technology, USA)

10:40 A Detailed Modeling, Analysis and Simulation of an Out-In Configuration Vacuum Membrane Distillation (VMD) Process

Young-Deuk Kim and Woo-Seung Kim (Hanyang University, Korea (South))

11:00 Natural Convective Heat Transfer from Upward Facing Recessed and Protruding Heated Horizontal Isothermal Circular Elements with Isothermal Vertical Side Surfaces

Patrick H Oosthuizen (Queen's University, Canada); Abdulrahim Kalendar (College of Technological Studies-PAAET,

Kuwait)

11:20 *A Study of the Effect of Triangular and Rectangular Surface Waves on the Natural Convective Heat Transfer from A Circular Upward Facing Heated Horizontal Isothermal Surface*

Patrick H Oosthuizen (Queen's University, Canada)

11:40 *Parametric Study of A Triangular Cross Corrugated Plate*

Asal Sharif (Ghent University - UGent, Belgium); Özer Bağcı (Ghent University, Belgium); Bernd Ameel, Michel De Paepe and Lenka Bokisova (Ghent University - UGent, Belgium)

12:00 *Transient Conjugated Forced Convection Heat Transfer in Thick Walled Pipes and Minipipes with Time Periodically Changing Convective Boundary Condition*

Havva Demirpolat, Saim Koçak, Ali Ateş and Şefik Bilir (Selcuk University, Turkey)

12:20 *Heat and Mass Transport at Unsteady Sublimation of Single Metal-organic Particles in the Gas-carrier Flow*

Vladimir Lukashov and Maksim Makarov (Kutateladze Institute of Thermophysics Siberian Branch of RAS, Russia); Igor Igumenov (Nikolaev Institute of Inorganic Chemistry, Siberian Branch of the RAS, Russia); Sofja Makarova and Rifat Abdrakhmanov (Kutateladze Institute of Thermophysics Siberian Branch of RAS, Russia)

Wednesday, July 19 10:40 - 12:20

Renewable energy

Room: Mediterranean II

Chairs: Gerald Muller (University of Southampton, United Kingdom (Great Britain)), J. Prakash (University of Botswana, Botswana)

10:40 *An Advance Adsorbent Coated Adsorption Cycle Performance*

Muhammad Shahzad (King Abdullah University of Science & Technology, Saudi Arabia); Li Ang (MEDAD Technologies Pte Ltd, Singapore); Muhammad Burhan and Kim Ng (King Abdullah University of Science & Technology, Saudi Arabia)

11:00 *Liquid Cooling of a Microprocessor: Experimentation and Simulation of a Sub-Millimeter Channel Heat Exchanger*

Fontaine Julien and Gonzalez Charles (University of Toulouse, France); Prashant Kumar (IUSTI-CNRS, Aix-Marseille Université, France); Francois Pigache and Pascal Lavieille (University of Toulouse, France); Frederic Topin (Aix-Marseille University, France); Marc Miscevic (University of Toulouse, France)

11:20 *Heat Transfer Intensification and Flow Rate Control in Dynamic Micro-Heat Exchanger*

Prashant Kumar (IUSTI-CNRS, Aix-Marseille Université, France); Fontaine Julien, Gonzalez Charles, Francois Pigache and Pascal Lavieille (University of Toulouse, France); Frederic Topin (Aix-Marseille University, France); Marc Miscevic (University of Toulouse, France)

11:40 *An Inverse Problem Methodology for Estimating Heat and Desiccant Wheels off Design Parameters*

Carlos Eduardo Leme Nobrega (CEFET-Rio, Brazil); Helcio Orlando (Federal University of Rio de Janeiro, UFRJ, Brazil)

12:00 *The Optimum Position of Water Heat Transfer Coils Downstream of a Radial Swirler in a 20kW Heater*

Gordon Andrews (University of Leeds, United Kingdom (Great Britain))

Wednesday, July 19 10:40 - 12:00

Posters 2

Room: Foyer area/Other area

Chairs: Mostafa Brik (INSA of Lyon, France), Helfried Steiner (Graz University of Technology, Austria)

10:40 *Constructal Design of Cavities for Intensified Cooling Performance on Heat Generating Volumes*

Tao Dong (University of Southeast Norway); Per Kristian Bolstad (University College of Southeast Norway, Norway); Tuan Tran (Høgskolen i Sørøst-Norge, Norway); Zhongyuan Shi (University of Oslo)

10:46 *Chemical & Calcium Looping Systems: Heat Integration Analysis for Improvement the Energy Efficiency of Various Industrial Processes*

Calin-Cristian Cormos and Letitia Petrescu (Babes-Bolyai University, Romania); Ana-Maria Cormos (Univesitatea Babes-Bolyai, Romania)

10:52 *Study the Effect of Pressure on Airflow Field in Vortex Spinning Nozzle by Numerical Simulation*

Shanshan Shang, Chongwen Yu and Jianping Yang (Donghua University, China)

10:58 *Study of the EOR Agents' Oil Displacing Properties Based on the Results of Filtration Experiments*

Azhar Mankhanova, Uzak Zhapbasbayev and Karlygash Soltanbekova (Kazakh-British Technical University, Kazakhstan); Birzhan Zhappasbayev (Kazakh National Research Technical University, Kazakhstan)

11:04 *Entropy Generation Analysis of a Gas Cooler for Transcritical CO2 Systems*

Mihir Hazarika (IIT KHARAGPUR, India)

11:11 *Optimal Process Durations of Expansion of a Heated Gas with Linear Phenomenological Transfer Law*

Hanjiang Song and Chenyang Ao (Marine Development and Research Center, China); Lingen Chen and Xiaoyong Qin (Naval University of Engineering, China)

- 11:17 *Hydro-thermal Effects on Ice Formation of Dissolved Water in Aviation Jet Fuel***
Chanhee Moon (Pusan National University, Korea (South)); Hyunduk Seo (Pusan National University, School of Mechanical Engineering, Korea (South)); Sang Youl Yoon and Kyung Chun Kim (Pusan National University, Korea (South))
- 11:23 *Impact of Ohmic Heating on Mass Transfer in Electroporated Plant Tissue - Insights from Numerical Modelling***
Samo Mahnič-Kalamiza and Nataša Poklar Ulrih (University of Ljubljana, Slovenia); Eugene Vorobiev (Université de Technologie de Compiègne, France); Damijan Miklavcic (University of Ljubljana, Slovenia)
- 11:29 *Numerical and Experimental Analysis of the Thermal Behavior of Dry-Type Transformer Supplying Nonlinear Loads***
Rafael Gonçalves Mafra and Bruno Anselmo (Universidade Federal Itajubá, Brazil); Fernando Belchior (Universidade Federal de Goiás, Brazil); Sandro Metrevelle Lima e Silva (Universidade Federal de Itajubá & Instituto de Engenharia Mecânica, Brazil)
- 11:35 *Combustion Characteristics by Reversed Air Injection as a Flameless Combustion***
Donghoon Shin (Kookmin University, Korea (South))
- 11:42 *Model of Heat Transfer in Circulating Fluidized Beds Applied for CO2 Capture by Calcium-looping Process***
Ana-Maria Cormos (Univesitatea Babes-Bolyai, Romania); Dora-Andreea Chisalita (Uninvestitatea Babes-Bolyai, Romania); Hannelore Lisei and Liliana Bizo (Univesitatea Babes-Bolyai, Romania); Calin-Cristian Cormos (Univesitatea Babes-Bolyai)
- 11:48 *Thermophysical Properties of Functionalized Graphene Nanoplatelet Dispersions for Improving Efficiency in a Wind Turbine Cooling System***
Javier P. Vallejo, Eva Álvarez-Regueiro, David Cabaleiro and José Fernández-Seara (University of Vigo, Spain); Josefa Fernández (University of Santiago de Compostela, Spain); Luis Lugo (University of Vigo, Spain)
- 11:54 *Pseudo-three Dimensional Theoretical Prediction of Local Temperatures in an Interior Permanent Magnet Motor Using a Lumped Parameter Heat Transfer Model***
Jonghyo Lee, Namkwon Lee and Sukkee Um (Hanyang University, Korea (South)); Moon Suk Choi (Higen Motor Company, Korea (South))

Wednesday, July 19 10:40 - 12:40

Heat transfer enhancement

Room: Emerald II
Chairs: Matteo Bucci (Massachusetts Institute of Technology, USA), Dongqiang Lyu (Shandong University, China)

- 10:40 *Experimental Investigation of a Forced Convection Heat Transfer at Supercritical Pressures of the Organic Fluid R-125 Under Organic Rankine Cycle Conditions***
Marija Lazova, Alihan Kaya, Marijn Billiet and Steven Lecompte (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)
- 11:00 *Clutch Transient Heat Transfer Simulation for Hill Start Vehicle Test Condition***
Tolga Çakmak (Valeo Automotive Industry and Trade Co, Turkey); Muhsin Kılıç (Uludağ University, Turkey)
- 11:20 *Heat Transfer Study of 3-D Printed Air-Cooled Heat Sinks***
Yao Song See and Kai Choong Leong (Nanyang Technological University, Singapore)
- 11:40 *Enhanced Thermal Performance of a Water-Cooled Cold Plate with Porous Inserts Fabricated by Selective Laser Melting***
Jin Yao Ho and Kai Choong Leong (Nanyang Technological University, Singapore)
- 12:00 *Polymer Hollow Fibre Shell and Tube Heat Exchanger for Liquid-Liquid Applications***
Amir Amini (Spirax Sacro Ltd. & CEng FIMechE, United Kingdom (Great Britain)); Tereza Brozova (Heat Transfer and Fluid Flow Laboratory & Brno University of Technology, Czech Republic); Miroslav Raudensky (Brno University of Technology, Czech Republic); Jeremy Miller (Spirax Sarco Ltd, United Kingdom (Great Britain))
- 12:20 *Heat Transfer and Flow Characteristics of Air-Water Heat Exchanger Inserting Porous Material with High Porosity***
Kazuki Hitomi and Tetsuaki Takeda (University of Yamanashi, Japan)

Wednesday, July 19 12:40 - 13:40

Lunch

Room: Foyer area/Other area
Wednesday, July 19 13:40 - 15:20

Aerodynamics 2

Room: Mediterranean I
Chairs: Shirley Abelman (University of the Witwatersrand, Johannesburg, South Africa), Jorge Naude (Universidad Nacional Autonoma de Mexico, Mexico)

13:40 Aerodynamics Analysis of a Formula SAE Car

Sahil Gupta and Kishal Saxena (Indian Institute of Technology Madras, India)

14:00 Axisymmetric and Three-Dimensional Flow Simulation of a Mixed Compression Supersonic Air Intake

Mohammad Reza Soltani (Sharif University of Technology, Iran); Mahdi Abedi (Sharif University of Technology, Iran); Rasoul Askari (Sharif University of Technology, Iran); Javad Sepahi Younsi (Ferdowsi University of Mashhad (FUM), Iran)

14:20 Thermodynamic Modeling and Performance Optimization for Simple-Cycle Gas Turbine with Air Cooling

Wenhua Wang, Lingen Chen and Zemin Ding (Naval University of Engineering, China)

14:40 Influence of Crosswind on Heller Natural Draft Dry Cooling Tower and Improvement Measures

Xiang Yu Zhang (Shandong University); Fengzhong Sun, Yuanbin Zhao and Yan Li (Shandong University, China)

15:00 Analysis on the Influence of Gap Flow Around a Tractor-Trailer

Yue Yang, Jinxing Chen, Yuqi Huang, Jiangang Cheng and Yuan Ji (Zhejiang University, China)

Computational Fluid Dynamics

Room: Mediterranean II

Chairs: Masahiro Fukui (Ritsumeikan University, Japan), Shoji Mori (Yokohama National University, Japan)

13:40 A Coupled Lattice-Boltzmann - Immersed Boundary Method to Model the Behaviour of Thin Flexible Structures in Fluids

Mathieu Specklin (Dynfluid Laboratory, Arts et Métiers ParisTech & Dublin City University, France); Abdulaleem Albadawi (Dublin City University & Sulzer Pump Solutions Ireland Ltd., Ireland); Robert Connolly (Sulzer Pump Solutions Ireland & Dublin City University, Ireland); Ben Breen (Sulzer Pump Solutions Ireland, Ireland); Yan Delauré (Dublin City University, Ireland)

14:00 Filtering in Microchannel Heat Sink Topology Optimization

Paul Lacko, Maarten Blommaert, Wouter Dekeyser and Martine Baelmans (KU Leuven, Belgium)

14:20 An Experimental and Numerical Investigation into Flow Phenomena Leading to Wastewater Centrifugal Pump Blockage

Robert Connolly (Sulzer Pump Solutions Ireland & Dublin City University, Ireland); Ben Breen (Sulzer Pump Solutions Ireland, Ireland); Yan Delauré (Dublin City University, Ireland)

14:40 What We Can Learn from DNS of Turbulence in Porous Media: Modeling Turbulent Flow in Composite Porous/Fluid Domains

Andrey Kuznetsov (North Carolina State University, USA)

15:00 Numerical Study of the Resultant Sediment Transport near the Port of Ngqura Due to the Blockage of a Sand Bypass System

Jeffrey Baloyi (Council for Scientific and Industrial Research & University of Pretoria, South Africa); Christopher Mahlathi, Gert Wessels, Onno Ubbink and Kobie Smit (Council for Scientific and Industrial Research, South Africa)

Solar energy

Room: Emerald II

Chairs: Fei Duan (Nanyang Technological University, Singapore), Mohamed Farid (The University of Auckland, New Zealand)

13:40 Experimental Performance Analysis of an Ammonia-Water Diffusion Absorption Refrigeration Cycle System

Ahmad Najjaran, James Freeman, Alba Ramos and Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

14:00 Plastic Helical Coil Heat Exchanger as an Alternative for a Domestic Water Storage Tank

Lenka Bokisova (Ghent University - UGent, Belgium); Özer Bağcı (Ghent University, Belgium); Asal Sharif and Dieter Daenens (Ghent University - UGent, Belgium); Wim Beyne (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

14:20 A Novel Optical Technique for Accurate Planar Measurements of Film-thickness and Velocity in Annular Flows

Alexandros Charogiannis, Jae An and Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

14:40 Energetic and Economic Optimisation of a Novel Hybrid PV-Thermal System for Domestic Combined Heating and Power

Maria Herrando, James Freeman and Alba Ramos (Imperial College London, United Kingdom (Great Britain)); Ignacio Zabalza (University of Zaragoza-CIRCE Institute, Spain); Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

15:00 Systematic Solar-Collector Testing in Steady-State and Dynamic Conditions

Ilaria Guarracino, James Freeman and Alba Ramos (Imperial College London, United Kingdom (Great Britain)); Soteris Kalogirou (Cyprus University of Technology, Cyprus); Nicholas Ekins-Daukes and Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

Wednesday, July 19 15:20 - 15:40

Tea/Coffee

Room: Foyer area/Other area

Wednesday, July 19 15:40 - 17:20

Energy systems

Room: Mediterranean I

Chairs: Je-Chin Han (Texas A&M University, USA), Dirk H. Hübner (Saarbrücken University of Applied Sciences, Germany)

15:40 *Building a Unique Test Section for Local Critical Heat Flux Studies in Light Water Reactor - Like Accident Conditions*

Marko Matkovič, Leon Cizelj, Ivo Kljenak, Boštjan Končar, Blaž Mikuž, Andrej Sušnik, Iztok Tiselj and Boštjan Zajec (Jožef Stefan Institute, Slovenia)

16:00 *Stratification Mitigation in the Upper Tank of a Natural Convection Loop*

Chiara Spaccapaniccia (Von Karman Institute for Fluid Dynamics, Belgium); Philippe Planquart (Von Karman Institute for Fluid Dynamics, Italy); Jean-Marie Buchlin (von Karman Institute for Fluid Dynamics, Belgium)

16:20 *Performance Analysis and Optimization of Multi-stage Combined Thermoelectric Generators*

Fankai Meng, Lingen Chen, Yuanli Feng, Xiaowei Liu, Tianchi Zhao and Xiaoyong Qin (Naval University of Engineering, China)

16:40 *Heating Load and COP Optimization of an Irreversible Quantum Brayton Heat Pump Working with Spin-1/2 Systems*

Xiaowei Liu, Lingen Chen, Wenhua Wang, Fankai Meng and Zemin Ding (Naval University of Engineering, China)

17:00 *A Numerical Analysis for the Dynamic Performance of a Multi-Purpose Solar Thermal System for Residential Applications*

Rigardt Coetzee (Tshwane University of Technology, South Africa); Aggrey Mwesigye (University of the Witwatersrand, South Africa); Zhongjie Huan (Tshwane University of Technology, South Africa)

Other (not to be presented but in proceedings)

Room: Mediterranean II

Colburn j-Factor in the Transitional Flow Regime in a Plain Circular Tube with Twisted Tape Insert and Square-Edge Entry

Sogo M Abolarin and Josua P Meyer (University of Pretoria, South Africa)

Area Goodness Factor of Flow in a Plain Circular Tube with Twisted Tape Insert and Square-Edge Entry in the Transitional Flow Regime

Sogo M Abolarin and Josua P Meyer (University of Pretoria, South Africa)

Thermal Conductivity and Viscosity of Mango Bark/water Nanofluids

Mohsen Sharifpur, Brusly Solomon and Josua P Meyer (University of Pretoria, South Africa); Barki Immanuel (Federal University of Agriculture, Nigeria); J s Ibrahim (Federal University of Agriculture, South Africa)

Convection Heat Transfer with Water Based Mango Bark Nanofluids

Brusly Solomon, Mohsen Sharifpur and Josua P Meyer (University of Pretoria, South Africa); J s Ibrahim (Federal University of Agriculture, South Africa); Emmanuel Barki (Benue State Polytechnic, Ugbokolo, South Africa)

Pressure Drop in the Transitional Flow Regime of Annuli Associated with Mixed Convection

Dickson D. Ndenguma, Jaco Dirker and Josua P Meyer (University of Pretoria, South Africa)

Nanofluid Pool Boiling and Deposition on a Cylinder

Mostafa Mahdavi, Mohsen Sharifpur and Josua P Meyer (University of Pretoria, South Africa)

Energy and environmental systems 2

Room: Emerald II

Chairs: Miroslav Grmela (Ecole Polytechnique de Montreal, Canada), Alberto Guardone (Politecnico di Milano, Italy)

15:40 *Thermodynamic Performance Maps of Reciprocating-Piston Expanders for Operation at Off-Design and Part-Load Conditions*

Michael Simpson, Giuseppe Rotolo and Paul Sapin (Imperial College London, United Kingdom (Great Britain)); Pietro De Palma (Politecnico di Bari, Italy); Alexander J. White (University of Cambridge, United Kingdom (Great Britain)); Christos N. Markides (Imperial College London, United Kingdom (Great Britain))

16:00 *The Condensing Cycle for Heat Engines with Operating Temperatures from 50 to 100°C*

Gerald Muller (University of Southampton, United Kingdom (Great Britain))

16:20 *Solar Collectors for Northern Countries*

Ilze Pelece, Imants Ziemelis and Henriks Putans (Latvia University of Agriculture, Latvia)

16:40 *Design of an Experimental Set-up to Determine the Influence of Corrosion on Heat Transfer*

Willem Faes and Steven Lecompte (Ghent University, Belgium); Johan Van Bael and Robbe Salenbien (VITO, Belgium); Marijn Billiet (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

17:00 *Potential of Organic Rankine Cycles (ORC) for Waste Heat Recovery on an Electric Arc Furnace (EAF)*

Steven Lecompte (Ghent University, Belgium); Oyeniyi A. Oyewunmi and Christos N. Markides (Imperial College London, United Kingdom (Great Britain)); Marija Lazova and Alihan Kaya (Ghent University, Belgium); Bernd Ameel (Ghent University - UGent, Belgium); Martijn van den Broek (Ghent University, Belgium); Michel De Paepe (Ghent University - UGent, Belgium)

Wednesday, July 19 20:30 - 23:30

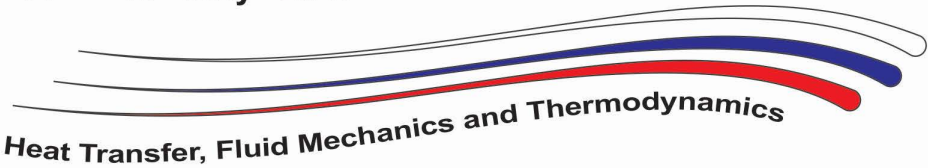
Banquet dinner

Room: Foyer area/Other area

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HEFAT2017

Portorož, Slovenia
17 - 19 July 2017



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The following [list of papers](#) were identified by the session chair and/or co-chair as the best papers of each session.

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HEFAT2017

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OUTSTANDING PAPER AWARD

BEST PAPER IN THE SESSION ON “AERODYNAMICS 1”

Presented to:

***Numerical Study and Experimental Validation of the Water
Films and the Detachment of Drops on Drift Eliminators***

**Javier López, María Blanco, Antonio Kaiser, Blas Zamora,
Antonio Consuegro, Manuel Lucas, Javier Ruíz and
Antonio Viedma-Robles**

**Presented and published in
Proceedings of the 13th International Conference on Heat Transfer,
Fluid Mechanics and Thermodynamics,
17 - 19 July 2017, Slovenia**

**PROF JP MEYER
CHAIR: HEFAT2017**

HEFAT2017

Portorož, Slovenia
17 - 19 July 2017



OUTSTANDING PAPER AWARD

**BEST PAPER IN THE SESSION ON
“AERODYNAMICS 2”**

Presented to:

Aerodynamics Analysis of a Formula SAE Car

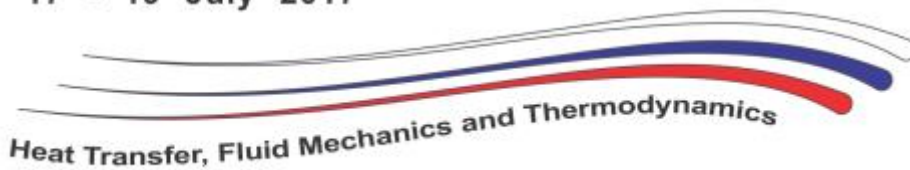
Sahil Gupta and Kishal Saxena

**Presented and published in
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17 - 19 July 2017, Slovenia**

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Portorož, Slovenia
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OUTSTANDING PAPER AWARD

**BEST PAPER IN THE SESSION ON
“AIR-CONDITIONING AND REFRIGERATION”**

Presented to:

***Heat Transfer in the Laminar and Transitional Flow
Regimes of Smooth Vertical Tube for Upflow Direction***

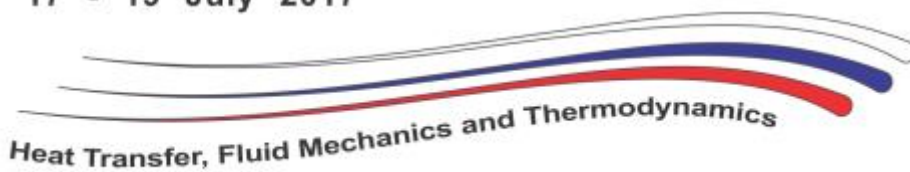
Abubakar Idris Bashir and Josua P Meyer

**Presented and published in
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17 - 19 July 2017, Slovenia**

**PROF JP MEYER
CHAIR: HEFAT2017**

HEFAT2017

Portorož, Slovenia
17 - 19 July 2017



OUTSTANDING PAPER AWARD

BEST PAPER IN THE SESSION ON “BOILING”

Presented to:

***Enhanced Boiling Surface with Hydrophobic Circle Spots
for Evaporator of Looped Thermosiphon***

**Hongbin He, Masayuki Yamada, Sumitomo Hidaka,
Masamichi Kohno, Koji Takahashi and Yasuyuki Takata**

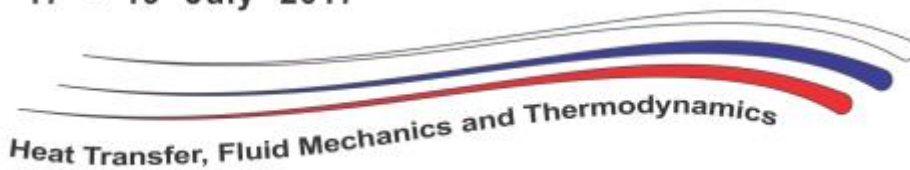
**Presented and published in
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**PROF. JP MEYER
CHAIR: HEFAT2017**

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Portorož, Slovenia
17 - 19 July 2017



OUTSTANDING PAPER AWARD

BEST PAPER IN THE SESSION ON “COMPUTATIONAL FLUID DYNAMICS”

Presented to:

***Numerical Study and Experimental Validation of the Water
Films and the Detachment of Drops on Drift Eliminators***

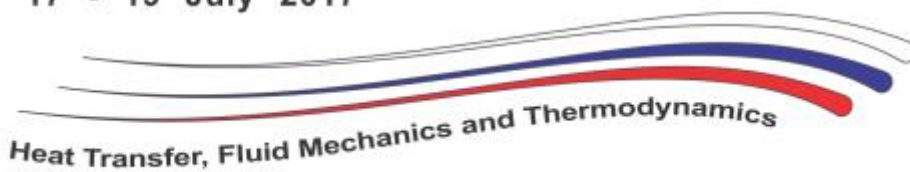
**Javier López, María Blanco, Antonio Kaiser, Blas Zamora,
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HEFAT2017

Portorož, Slovenia
17 - 19 July 2017



OUTSTANDING PAPER AWARD

**BEST PAPER IN THE SESSION ON
“CONDENSATION”**

Presented to:

***Energy Analysis of Condensate Growth on
Superhydrophobic Surfaces with Hierarchical Roughness***

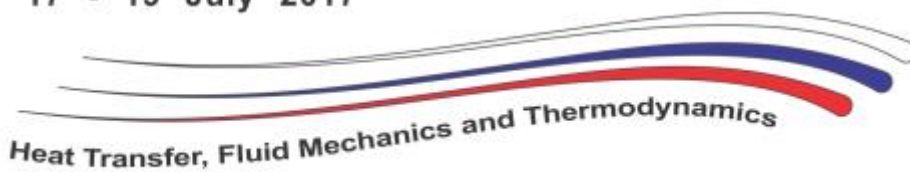
Jiangtao Cheng

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Portorož, Slovenia
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OUTSTANDING PAPER AWARD

BEST PAPER IN THE SESSION ON “CONDUCTION”

Presented to:

***Numerical Study and Experimental Validation of the Water
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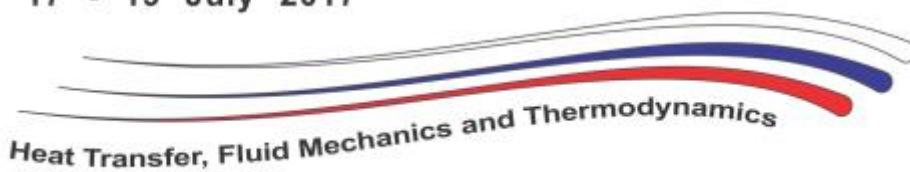
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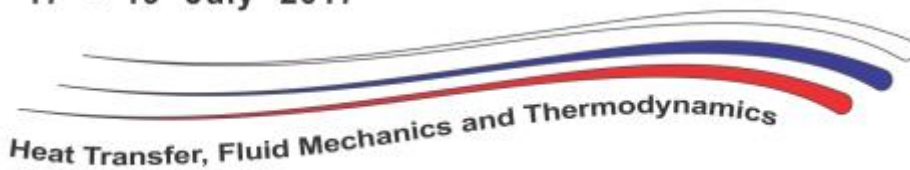
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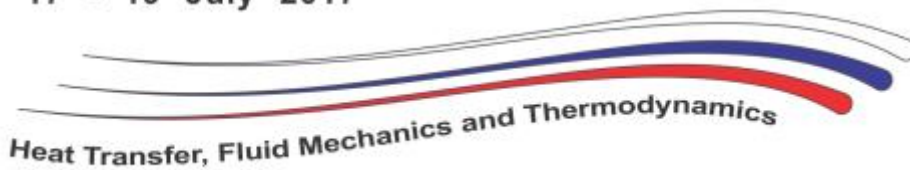
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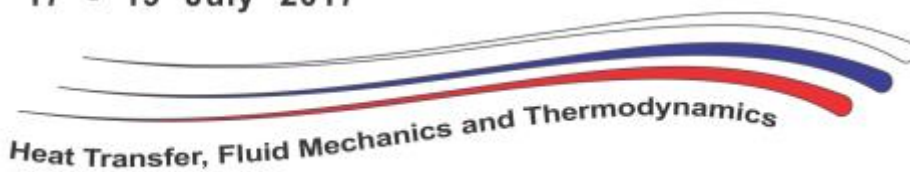
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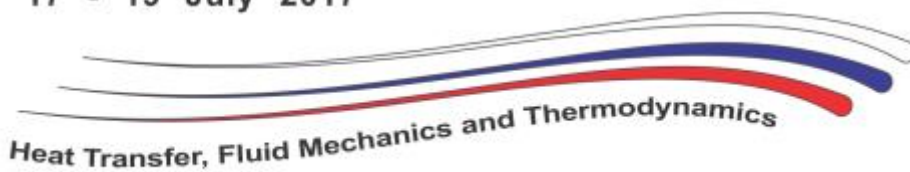
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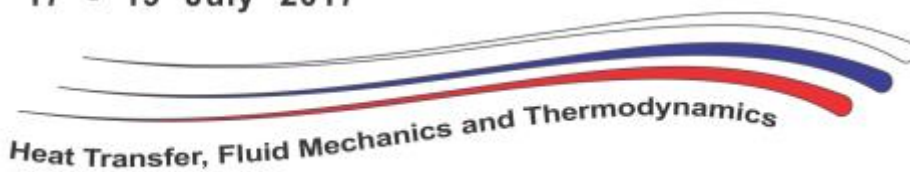
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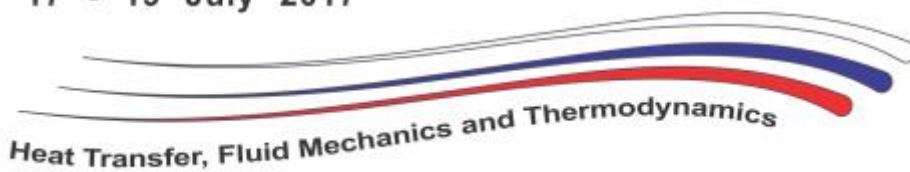
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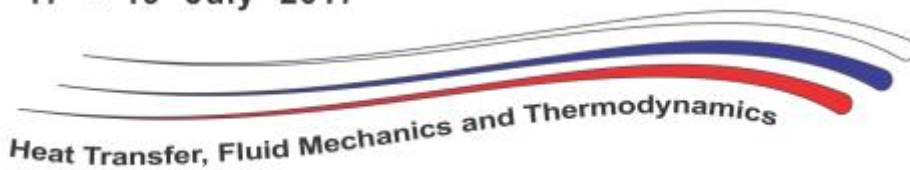
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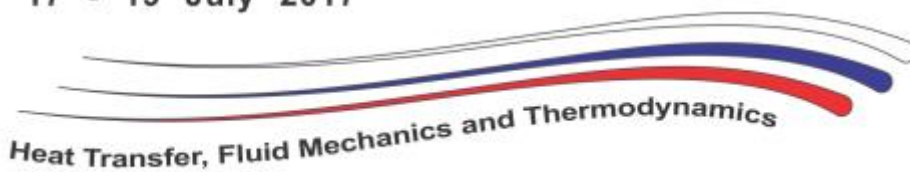
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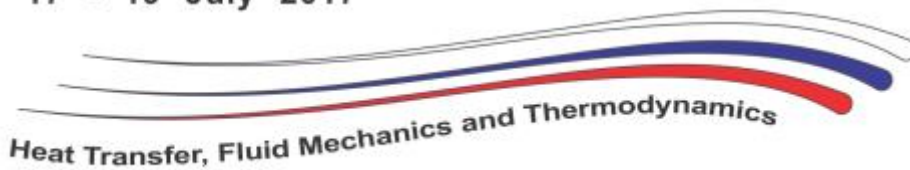
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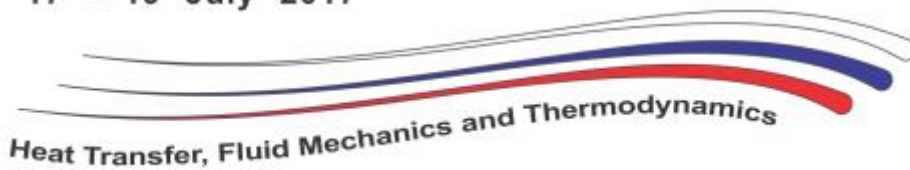
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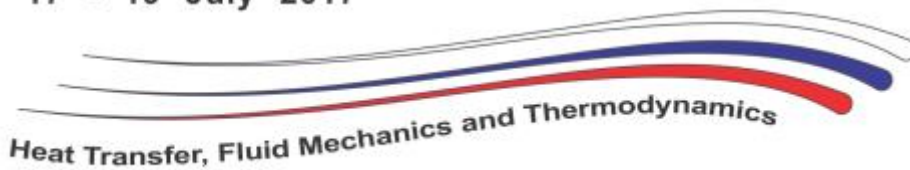
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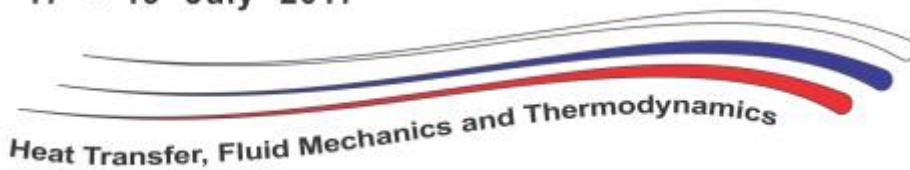
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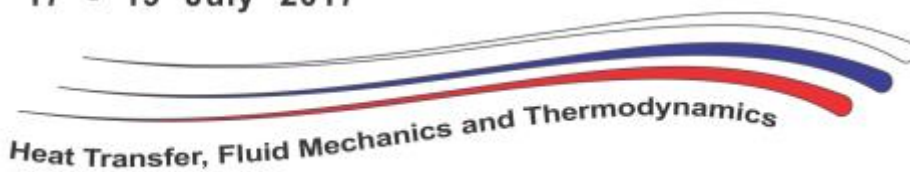
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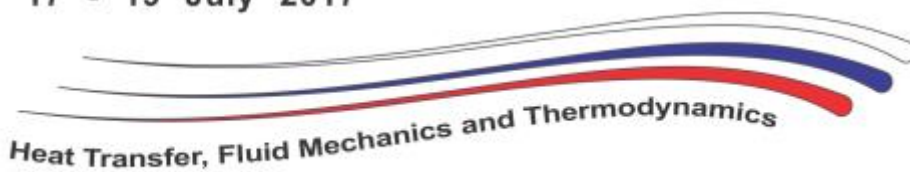
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