

ISTEGIM – a MIGRATE event - October 23-25, 2019 Ettlingen, GERMANY

| Get-together: October 23, 2019 | |
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| 18:00 – 18:40 | Arrival - NTI-Hörsaal, KIT Campus South, Engesserstraße 4, 76131 Karlsruhe |
| 18:40 – 19:00 | <p style="text-align: center;">Welcome Address Martin Knapp (KIT) - Lucien Baldas (University of Toulouse)</p> |
| 19:00 – 19:40 | <p style="text-align: center;">PLENARY LECTURE 1 <i>Denis Maillet</i> LAPLACE TRANSFORM, REGULARIZED DECONVOLUTION AND VIRTUAL THERMAL SENSORS Session Chair: L. Baldas</p> |
| 19:40 – 21:00 | <p style="text-align: center;">Networking event: Buffet and Drinks</p> |

| Conference day 1: October 24, 2019 | | |
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| 08:30 – 09:30 | <p style="text-align: center;">Registration - Buhlsche Mühle Tagungszentrum Ettlingen Pforzheimer Straße 68, 76275 Ettlingen</p> | |
| 09:30 – 09:50 | <p style="text-align: center;">Opening - Welcome Address Petra Roth (KIT International Department) - Dr. Lucien Baldas (University of Toulouse) Verena Tomczyk (KIT Research Office)</p> | |
| 09:50 – 10:40 | <p style="text-align: center;">PLENARY LECTURE 2 – Room Werner von Siemens <i>Katja Haas-Santo</i> DEVELOPMENT OF A MICROCONTACTOR FOR GAS/LIQUID SEPARATION FOR μDMFC Session Chair: David Newport</p> | |
| 10:40 – 11:00 | <p style="text-align: center;">Coffee break & Discussions around posters</p> | |
| 11:00 – 12:40 | <p style="text-align: center;">Session 1 - Gas-Liquid Contacting <i>Room Werner von Siemens</i> Session chair: Aldo Frezzotti</p> | <p style="text-align: center;">Session 2 - Flow and heat transfer through micro-nano porous media <i>Room Volta/Kelvin</i> Session chair: Michel Delanaye</p> |
| 11:00 – 11:20 | <p style="text-align: center;">WETTING DYNAMICS OF A DROPLET ON A SUPERHEATED SURFACE <i>Vikash Kumar</i></p> | <p style="text-align: center;">KEYNOTE LECTURE <i>Mikhael Bechelany</i> ENGINEERING OF NANOMATERIALS AND MEMBRANES INTERFACES: DESIGN, PROPERTIES AND APPLICATIONS</p> |
| 11:20 – 11:40 | <p style="text-align: center;">MEASUREMENT OF THE INTERFACIAL TEMPERATURE JUMP DURING STEADY-STATE EVAPORATION OF A DROPLET <i>Arjan Frijns</i></p> | |
| 11:40 – 12:00 | <p style="text-align: center;">MICROTEXTURES INVERSELY DESIGNED FOR CASSIE-BAXTER WETTABILITY <i>Yongbo Deng</i></p> | <p style="text-align: center;">GAS FLOW TECHNIQUE FOR NON-DESTRUCTIVE POROUS MEDIA ANALYSIS <i>Martin-Viktor Johansson</i></p> |
| 12:00 – 12:20 | <p style="text-align: center;">COMPARATIVE STUDY OF THE EVAPORATION COEFFICIENT PREDICTING METHODS USING MOLECULAR DYNAMICS SIMULATIONS <i>Moritz Wolf</i></p> | <p style="text-align: center;">FLOW CHARACTERISTICS OF CHOKED GAS FLOW THROUGH ADIABATIC MICROTUBES <i>Kouki Nishimura</i></p> |

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| 12:20 – 12:40 | COUPLED THERMAL TRANSPORT AND MASS DIFFUSION DURING VAPOR ABSORPTION INTO SESSILE LIQUID DESICCANT DROPLETS <i>Yasuyuki Takata</i> | EFFECT OF SURFACE ROUGHNESS ON FRICTION FACTORS OF GAS FLOW THROUGH MICRO-TUBES <i>Shuhe Ueda</i> |
| 12:40 – 12:55 | POSTER SESSION - Room Werner von Siemens Session chair: Christine Barrot | |
| 12:40 - 12:45 | A FLUIDICALLY CONTROLLED BI-MATERIAL ACTUATOR FOR AUTOMATION OF PAPER-BASED ASSAYS <i>Chungpyo Hong</i> | |
| 12:45 – 12:50 | QUANTIFYING INTERFACIAL THERMAL CONDUCTANCE AT SOLID-FLUOROCARBON LIQUID INTERFACES MODIFIED WITH SELF-ASSEMBLED MONOLAYERS <i>Kenny Yu</i> | |
| 12:50 – 12:55 | GASEOUS MIXTURE WITH EFFECT OF EVAPORATION AND CONDENSATION <i>Alexey Polikarpov</i> | |
| 12:55 – 14:10 | Lunch | |
| 14:10 – 15:50 | Session 3 - Non-invasive measurement techniques <i>Room Werner von Siemens</i> Session chair: Pierre Perrier | Session 4 - Modelling & simulation of flows & heat transfer in microstructures <i>Room Volta/Kelvin</i> Session chair: Stefan Stefanov |
| 14:10 – 14:30 | KEYNOTE LECTURE <u>Matthias Rädle</u> <u>OPTICAL, MOLECULAR SENSITIVE, IMAGING MONITORING TECHNIQUES AND APPLICATIONS IN THE MICROCHANNEL</u> | FRICITION FACTOR EVALUATION OF COMPRESSIBLE MICROFLOWS USING 1D FANNO FLOW BASED NUMERICAL MODEL <i>Danish Rehman</i> |
| 14:30 – 14:50 | | NUMERICAL THERMAL ANALYSIS FOR AN IDEAL CRYOGENIC REGENERATOR <i>Natheer Almtireen</i> |
| 14:50 – 15:10 | INVESTIGATIONS ON ACETONE VAPOUR PHOTOLUMINESCENCE FOR APPLICATIONS IN MOLECULAR TAGGING TECHNIQUES <i>Venkata Yeachana</i> | KEYNOTE LECTURE <u>Alina Alexeenko</u> <u>TAMING FIRE AT MICROSCALE: MOLECULAR SIMULATIONS AND DEVICES FOR MICROCOMBUSTION</u> |
| 15:10 – 15:30 | EXPERIMENTAL EVIDENCE OF SUBSONIC CHOKING IN MICROCHANNEL SLIP FLOW <i>Richie Garg</i> | |
| 15:30 – 15:50 | SPECTRAL ANALYSIS FOR TUNING THE SLUG FLOWS IN MICROCHANNELS <i>Maide Bucolo</i> | NON-CLASSICAL HEAT TRANSFER EFFECTS ON MICRO SCALES <i>Vladimir Aristov</i> |
| 15:50 – 16:20 | Coffee break & Discussions around posters | |
| 16:20 – 17:10 | PLENARY LECTURE 2 - Room Werner von Siemens <u>Salvador Montero</u> <u>NON-INTRUSIVE DIAGNOSTICS OF MICRO-FLOWS BY RAMAN SPECTROSCOPY</u> Session Chair: Yongbo Deng | |

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| 17:10 – 18:10 | Session 5 - Non-invasive measurement techniques <i>Room Werner von Siemens</i> Session chair: Yongbo Deng | Session 6 - Modelling & simulation of flows & heat transfer in microstructures <i>Room Volta/Kelvin</i> Session chair: Dimitris Valougeorgis |
| 17:10 – 17:30 | FLOW VISUALIZATION OF GAS FLOWS IN CHANNELS IN THE SLIP REGIME BY MEANS OF MOLECULAR TAGGING VELOCIMETRY <i>Marcos Rojas-Cardenas</i> | DECOMPOSITION OF GASEOUS MIXTURE INTO BALLISTIC AND COLLISION PART: MATHEMATICAL FORMULATION AND APPLICATION WITH DSMC METHOD <i>Stavros Meskos</i> |
| 17:30 – 17:50 | WALL TEMPERATURE DISTRIBUTIONS OF GASEOUS FLOWS IN MICRO-TUBES WITH CONSTANT HEAT FLUX <i>Masato Shimomura</i> | LAMINAR TO TURBULENT FLOW TRANSITION IN A RECTANGULAR DUCT WITH 1:10 ASPECT RATIO EVALUATED USING DNS AND RANS TRANSITIONAL TURBULENCE MODEL <i>Danish Rehman</i> |
| 17:50 – 18:10 | EFFECTS OF FLOW TRANSITION ON HEAT TRANSFER OF GAS FLOW IN MICRO-TUBE WITH CONSTANT WALL TEMPERATURE <i>Ryu Yamaguchi</i> | GAS FLOW IN A MICRO-CHANNEL WITH AN ELASTIC OBSTACLE <i>Emil Manoach</i> |
| 19:00 – 22:30 | Conference Dinner - Brasserie Watt's, Pforzheimer Str. 67, 76275 Ettlingen | |

| Conference day 2: October 25, 2019 | | |
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| 8:20 – 10:00 | Session 7 - Heat recovery and energy harvesting microsystems <i>Room Werner von Siemens</i> Session chair: Ryan Enright | Session 8 - Gas – Surface Interaction <i>Room Volta/Kelvin</i> Session chair: Marcos Rojas-Cardenas |
| 08:20 – 08:40 | KEYNOTE LECTURE <u>Michel Delanaye</u> <u>DEVELOPMENT OF HIGH EFFICIENCY COMPACT RECUPERATORS FOR MICRO GAS TURBINES</u> | MEASUREMENT OF HEAT TRANSFER IN HIGH KNUDSEN NUMBER FLOW FROM ANODIC OXIDE ALUMINUM FILMS <i>Hiroki Yamaguchi</i> |
| 08:40 – 09:00 | | THE INFLUENCE OF GAS-WALL INTERACTIONS ON THE ACCOMMODATION COEFFICIENTS FOR RAREFIED GASES: A MOLECULAR DYNAMICS STUDY <i>Shahin Mohammad Nejad</i> |
| 09:00 – 09:20 | A HYBRID NUMERICAL METHODOLOGY BASED ON CFD AND POROUS MEDIUM FOR THERMAL PERFORMANCE EVALUATION OF A DOUBLE LAYER GAS-TO-GAS MICRO HEAT EXCHANGER IN COCURRENT AND COUNTERFLOW CONFIGURATIONS <i>Danish Rehman</i> | SIMULATION OF ADSORPTION AND DESORPTION PHENOMENA IN A GAS CHROMATOGRAPHY MICROCOLUMN <i>Ricardo Brancher</i> |
| 09:20 – 09:40 | NUMERICAL AND EXPERIMENTAL INVESTIGATION OF HEAT EXCHANGER PERFORMANCE FOR A MICRO-CHP APPLICATION <i>Jojomon Joseph</i> | STUDY AND DEVELOPMENT OF FLUIDIC OSCILLATORS FOR HEAT REMOVAL <i>Georges Saliba</i> |
| 09:40 – 10:10 | Coffee break & Discussions around posters | |

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| 10:10 – 12:10 | Session 9 – Gas Sensors and Sensor integration <i>Room Werner von Siemens</i> Session chair: Gian Luca Morini | Session 10 – Lab-on-device systems <i>Room Volta/Kelvin</i> Session chair: Katja Haas-Santo |
| 10:10 – 10:30 | A NEW APPROACH TO THERMOCHROMIC LIQUID CRYSTALS CALIBRATION FOR MICROFLUIDIC SYSTEMS <i>Nataša Djordjević</i> | KEYNOTE LECTURE Jens Anders IN-SITU AND IN-OPERANDO MAGNETIC RESONANCE SPECTROSCOPY |
| 10:30 – 10:50 | PHOTOMULTIPLIER TUBES FOR APPLICATION OF TOLUENE DETECTION USING DEEP-UV ABSORPTION SPECTROPHOTOMETRY <i>Sulaiman Khan</i> | |
| 10:50 – 11:10 | KEYNOTE LECTURE Peter Doyle ACTPHAST – TOWARDS A PHOTONICS INNOVATION HUB FOR THE DIGITAL TRANSFORMATION OF EUROPEAN INDUSTRY | MICROFLUIDIC SENSING OF AIRBORNE FORMALDEHYDE: TOWARDS ON-CHIP INTEGRATION <i>Daniel Mariuta</i> |
| 11:10 – 11:30 | | FEMTOSECOND LASER-MICROMACHINING OF GLASS MICROCHIP FOR HIGH ORDER HARMONIC GENERATION IN GASES <i>Anna Ciriolo</i> |
| 11:30 – 11:50 | MICROFLUIDIC PHOTOIONIZATION DETECTOR: CHANNEL GEOMETRY AND SIGNAL EVALUATION <i>Gustavo Coelho Rezende</i> | LOW-COST MICRO-MACHINED PRECONCENTRATOR FOR PPT DETECTION OF BTEX <i>Alberto Rodríguez-Cuevas</i> |
| 11:50 – 12:10 | CHARACTERIZATION OF A WIRELESS VACUUM SENSOR PROTOTYPE BASED ON THE SAW PIRANI PRINCIPLE <i>Sofia Toto</i> | IMPROVING THE MANUFACTURING PROCESS OF MULTI-LEVEL MICROFLUIDIC DEVICES BASED ON THE LAMINATION OF SUCCESSIVE DRY FILM PHOTORESIST LAYERS <i>Guillermo Lopez Quesada</i> |
| 12:10 – 13:30 | Lunch | |
| 13:30 – 14:20 | PLENARY LECTURE 3 - Room Werner von Siemens Alexandre Tkatchenko COVALENT AND NON-COVALENT INTERACTIONS IN MOLECULAR SYSTEMS Session Chair: Arjan Frijns | |
| 14:20 – 15:00 | Session 11 – Modelling & simulation of flows & heat transfer in microstructures <i>Room Werner von Siemens</i> Session Chair: Arjan Frijns | Session 12 – Thermally driven gas microflows <i>Room Volta/Kelvin</i> Session Chair: Erik Arlemark |
| 14:20 – 14:40 | INVESTIGATION OF MIXED CONVECTION IN A VERTICAL MICROANNULUS: VISCOUS DISSIPATION EFFECT <i>Ayse Nur Altunkaya</i> | LARGE KNUDSEN THERMALLY-DRIVEN GAS FLOWS OVER BACKWARD FACING STEPS <i>Avshalom Manela</i> |
| 14:40 – 15:00 | EFFECTS OF INLET MANIFOLD GEOMETRY ON THE LAMINAR TO TURBULENT TRANSITION OF GAS MICROFLOWS IN ADIABATIC RECTANGULAR MICROCHANNELS <i>Danish Rehman</i> | RAREFIED GAS FLOWS THROUGH POROUS MEDIA DRIVEN BY PRESSURE AND TEMPERATURE GRADIENTS <i>Giorgos Tatsios</i> |
| 15:00 – 15:15 | Closing Address Juergen J. Brandner (KIT) | |

We are keen to receive your feedback regarding the conference. To start the survey, please use the link or the QR code below:

<https://www.soscisurvey.de/ISTEGIM2019/>

