

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

Get-together: October 23, 2019	
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 <u>Denis Maillet</u> <u>LAPLACE TRANSFORM, REGULARIZED DECONVOLUTION AND VIRTUAL THERMAL SENSORS</u> Session Chair: L. Baldas</p>
19:40 – 21:00	Networking event: Buffet and Drinks

Conference day 1: October 24, 2019		
08:30 – 09:30	Registration - Buhlsche Mühle Tagungszentrum Ettlingen Pforzheimer Straße 68, 76275 Ettlingen	
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 <u>Katja Haas-Santo</u> <u>????</u></p>	
10:40 – 11:00	Coffee break & Discussions around posters	
11:00 – 12:40	Session 1 - Gas-Liquid Contacting	Session 2 - Flow and heat transfer through micro-nano porous media
11:00 – 11:20	WETTING DYNAMICS OF A DROPLET ON A SUPERHEATED SURFACE <i>Vikash Kumar</i>	<p style="text-align: center;">KEYNOTE LECTURE <u>Mikhael Bechelany</u> <u>ENGINEERING OF NANOMATERIALS AND MEMBRANES INTERFACES: DESIGN, PROPERTIES AND APPLICATIONS</u></p>
11:20 – 11:40	MEASUREMENT OF THE INTERFACIAL TEMPERATURE JUMP DURING STEADY-STATE EVAPORATION OF A DROPLET <i>Arjan Frijns</i>	
11:40 – 12:00	MICROTEXTURES INVERSELY DESIGNED FOR CASSIE-BAXTER WETTABILITY <i>Yongbo Deng</i>	
12:00 – 12:20	COMPARATIVE STUDY OF THE EVAPORATION COEFFICIENT PREDICTING METHODS USING MOLECULAR DYNAMICS SIMULATIONS <i>Moritz Wolf</i>	
		<p style="text-align: center;">GAS FLOW TECHNIQUE FOR NON-DESTRUCTIVE POROUS MEDIA ANALYSIS <i>Martin-Viktor Johansson</i></p>
		<p style="text-align: center;">FLOW CHARACTERISTICS OF CHOKED GAS FLOW THROUGH ADIABATIC MICROTUBES <i>Kouki Nishimura</i></p>

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>Shuheji Ueda</i>
12:40 – 12:55	POSTER SESSION	
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	Session 4 - Modelling & simulation of flows & heat transfer in microstructures
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>?????????</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 <u>Salvador Montero</u> <u>NON-INTRUSIVE DIAGNOSTICS OF MICRO-FLOWS BY RAMAN SPECTROSCOPY</u> Session Chair:	
17:10 – 18:10	Session 5 - Non-invasive measurement techniques	Session 6 - Modelling & simulation of flows & heat transfer in microstructures
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		
8:20 – 10:00	Session 7 - Heat recovery and energy harvesting microsystems	Session 8 - Gas – Surface Interaction
08:20 – 08:40	KEYNOTE LECTURE <i>Michel Delanaye</i> DEVELOPMENT OF HIGH EFFICIENCY COMPACT RECUPERATORS FOR MICRO GAS TURBINES	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	

10:10 – 12:10	Session 9 – Gas Sensors and Sensor integration	Session 10 – Lab-on-device systems
10:10 – 10:30	A NEW APPROACH TO THERMOCHROMIC LIQUID CRYSTALS CALIBRATION FOR MICROFLUIDIC SYSTEMS <i>Nataša Djordjević</i>	KEYNOTE LECTURE <u>Jens Anders</u> <u>IN-SITU AND IN-OPERANDO MAGNETIC RESONANCE SPECTROSCOPY</u>
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 <u>Peter Doyle</u> <u>????</u>	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 <u>Alexandre Tkatchenko</u> <u>COVALENT AND NON-COVALENT INTERACTIONS IN MOLECULAR SYSTEMS</u> Session Chair:	
14:20 – 15:00	Session 11 – Modelling & simulation of flows & heat transfer in microstructures	Session 12 – Thermally driven gas microflows
14:20 – 14:40	INVESTIGATION OF MIXED CONVECTION IN A VERTICAL MICROANNULUS: VISCOUS DISSIPATION EFFECT <i>Ayşe 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)	