Tuesday 05/06/2012		
18:00-21:30	Registration	
20:30-22:30	Reception	
Wednesday 06/06/2012		
07:45-10:00	Registration	
08:30-08:45	Welcome S. Colin, A. Frijns, D. Valougeorgis	
08:45:09:30	**Invited Lecture 1** (Room KECHRIA) R. S. Myong What makes gas micro flows so complicated: Non-classical physical laws and their morphing into gas-surface Interaction Chair: S. Colin	
09:30-10:00	Coffee	
	Session **1A** (Room KECHRIA) **Single Gas Flows: Measurements & Modeling I** Chair: L. Baldas	Session **1B** (Room LALARIA) **Specific Topics in Modeling I** Chair: Y. Zhang
10:00-10:30	31 J. H. Kim, A. J. H. Frijns, S. V. Nedea, A. A. van Steenhoven Pressure calculations in nanochannelgasflows	07 J. Meng, N. Dongari, J. M. Reese, Y. Zhang A kinetic switching criterion for hybrid modelling of multiscale gas flows
10:30-11:00	40 F. Samouda, J. J. Brandner, C. Barrot, S. Colin Velocity field measurements in gas phase internal flows by molecular tagging velocimetry	08 A. A. Jaghargh, E. Roohi, H. Niazmand, S. Stefanov Low speed/low rarefaction flow simulation in micro/nano cavity using DSMC method with small number of particle per cells
11:00-11:30	20 N. K. Kulakarni, S. K. Stefanov DSMC simulation of the gas flow through	69 V. E. Ambrus, V. Sofonea Thermal Lattice Boltzmann models

	a bend and a short microchannel	derived by Gauss quadrature using the spherical coordinate system
11:30-12:00	49 G. Dechristé, L. Mieussens Numerical simulation of micro flows with moving obstacles	
12:00-12:30	43 S. Varoutis, T. Giegerich, V. Hauer, Chr. Day TRANSFLOW: An experimental facility for vacuum gas flows	
12:30-14:00	Lunch	
14:00-14:45	**Invited Lecture 2** (Room KECHRIA) M. Bergoglio Leak rate measurements: from metrological laboratory to industry Chair: G. L. Morini	
14:45-15:15	Coffee	
	Session **2A** (Room KECHRIA) **Design & Manufacturing of Micro Devices I** Chair: J. J. Brandner	Session **2B** (Room LALARIA) **Gas – Surface Interaction** Chair: D. A. Lockerby
15:15-15:45	05 V. Leontidis, J. J. Brandner, L. Baldas, S. Colin Numerical analysis of thermal creep flow in curved channels for designing a prototype of Knudsen micropump	54 H. Yamaguchi, Y. Matsuda, T. Niimi Tangential momentum accommodation coefficient measurements for various materials and gas species
15:45-16:15	18 M. Vargas, M. Wüest, S. Stefanov Monte Carlo analysis of thermal transpiration effects in capacitance diaphragm gauges with helicoidal baffle system	58 O. Rovenskaya, G. Croce Effect of surface roughness: comparison between continuum and kinetic approaches
16:15-16:45	02 S. Misdanitis, D. Valougeorgis Design of micro distribution systems consisting of long channels with arbitrary cross sections	25 A. Dinler, I. A. Graur, R. W. Barber, D. R. Emerson, P. Perrier On the role of surface shape in a micro-scale heat conduction problem
16:45-17:15	55 Yu Matsuda, H. Yamaguchi, T. Niimi Development of pressure-sensitive channel chip for micro gas flows	59 S. Namvar, S. M. H. Karimian Detailed investigation on the effect of wall spring stiffness on velocity profile in molecular dynamics simulation

Thursday 07/06/2012		
08:45:09:30	**Invited Lecture 3** (Room KECHRIA) Chr. Day What large vacuum systems can learn from micro gas flows – and vice versa Chair: D. Valougeorgis	
09:30-10:00	Coffee	
	Session **3A** (Room KECHRIA) **Single Gas Flows:** **Measurements & Modeling II** Chair: D. Newport	Session **3B** (Room LALARIA) **Micro Heat Transfer** Chair: J. C. Lötters
10:00-10:30	10 N. Dongari, R. W. Barber, D. R. Emerson, Y. Zhang, J. M. Reese Velocity inversion in cylindrical Couettegas flows	44 H. Chalabi, O. Buchina, L. Saraceno, M. Lorenzini, D. Valougeorgis, G. L. Morini Experimental analysis of heat transfer between a heated wire and a rarefied gas in an annular gap with high diameter ratio
10:30-11:00	61 T. Veltzke, J. Thoming The contribution of diffusion to gas micro flow	53 A. Rana, M. Torrilhon, H. Struchtrup Heat transfer in micro devices packaged in partial vacuum
11:00-11:30	51 Y. Li, S. Joseph, S. Colin, L. Baldas, C. Barrot, S. Orieux, D. Newport, J.J. Brandner Quantitative measurement of gas pressure drop along T-shaped micro channels by interferometry	21 O. Buchina, D. Valougeorgis Oscillatory heating in a microchannel at arbitrary oscillation frequency in the whole range of the Knudsen number
11:30-12:00	24 C. White, M. K. Borg, T. J. Scanlon, J. M. Reese Accounting for rotational non-equilibrium effects in subsonic DSMC boundary conditions	34 C. Hong, Y. Asako, S. Matsushita, I. Ueno Flow and heat transfer characteristics of turbulent gas flow in microtube with constant heat flux
12:00-12:30	60 E. Arlemark, G. Markelov, S. Nedea Rebuilding of Rothe's nozzle measurements with OpenFOAM software	16 A. V. Sudarev, B. V. Sudarev, A. A. Suryaninov Hydraulic resistance and convective heat transfer within independent power generation micro sources (IPM) channels
12:30-14:00	Lunch	

14:00-14:45	**Invited Lecture 4** (Room KECHRIA) J. C. Lötters Integrated systems for the accurate measurement, control and analysis of micro liquid and gas flows Chair: A. Frijns	
14:45-15:15	Coffee	
	Session **4A** (Room KECHRIA) **Design & Manufacturing II** Chair: C. Barrot	Session **4B** (Room LALARIA) **Specific Topics in Modeling II** Chair: L. Mieussens
15:15-15:45	32 A. Vittoriosi, J. J. Brandner, R. Dittmeyer Integrated temperature microsensors for the characterization of gas heat transfer	71 D. A. Lockerby, C. A. Duque-Daza, M. K. Borg, J. M. Reese Efficient time-step coupling for hybrid continuum/molecular modelling of unsteady micro-scale gas flows
15:45-16:15	37 S. Naris, E. Koutandou, D. Valougeorgis Design and optimization of a Holweck pump vialinear kinetic theory	09 O. Ejtehadi, J. A. Esfahani, E. Roohi Compressibility and rarefaction effects on entropy and entropy generation in micro/nanoCouette flow using DSMC
16:15-16:45	27 D. Mantzalis, N. Asproulis, D. Drikakis Characterization of CO2 flow through charged carbon nanotubes	14 J. W. Shim Uniform polynomial equationsprovidinghigher-order multi-dimensional models in Lattice Boltzmann theory
16:45-17:15	36 Y. Yang, J. J. Brandner, G. L. Morini Hydraulic and thermal design of a gas microchannel heat exchanger	48 S. M. H. Karimian, S. Namvar Implementation of SMC averaging method in a channeled molecular flow of liquids and gases
20:30	Conference dinner	
Friday 08/06/2012		
08:45:09:30	**Invited Lecture 5** (Room KECHRIA) V. V. Aristov Possibilities of direct methods for solving kinetic equations in the study of microflows Chair: I. Graur	
09:30-10:00	Coffee	
	Session **5A** (Room KECHRIA) **Single Gas Flows: Measurements & Modeling III** Chair: Chr. Day	Session **5B**(Room LALARIA) **Binary gas flows** Chair: S. Stefanov

10:00-10:30	52 M. Stifter, M. Sachse, T. Sauter, W. Hortschitz, F. Keplinger Pressure dependence of the quality factor of a micromachined cantilever in rarefied gases	26 D. Mantzalis, N. Asproulis, D. Drikakis Carbondioxide transport in carbonnanopores
10:30-11:00	50 F. Bao, X. Yu, J. Lin Simulation of gas flows in micro/nano systems using the Burnett equations	67 H. Gorji, P. Jenny A kinetic model for gas mixtures based on a Fokker-Planck equation
11:00-11:30	38 M. Hadj-Nacer, P. Perrier, J. G. Méolans, I. Graur, M. Wüest Experimental study of the gas flows through channels with circular cross sections	06 C. Tantos, S. Naris, D. Valougeorgis Rarefied gas mixture flow between plates of arbitrary length due to small pressure difference
11:30-12:00	72 H. Akhlaghi , E. Roohi Thermal-Pressure-Driven Gas Flows through Micro Channels	
12:00-12:30	Conference closing (Room KECHRIA)	
12:30-14:00	Lunch	
14:00-16:00	**GASMEMS General Assembly** (Room KECHRIA)	