Summer School Lecturers

Dr. Nick Jeffers (Bell Labs, Nokia)

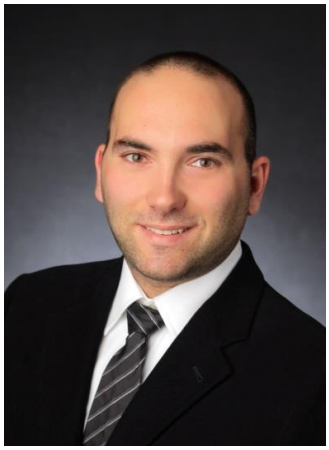
Nick Jeffers received a degree in Mechanical Engineering from Trinity College Dublin, Ireland in 2006, and subsequently achieved his PhD from the University of Limerick, Ireland in 2009 in the area of submerged liquid jets for enhanced electronics cooling. He was awarded a post-doctoral research fellowship to continue his research in fluid mechanics and heat transfer at Trinity College Dublin as part of the CTVR research center. Nick joined Bell Labs (Alcatel-Lucent) in 2011 as a member of technical staff where he now leads multiple projects in the areas of reliable active air-cooling and novel micro pumping architectures. Nick collaborates extensively in the local eco-system and co-supervises 6 PhD students. He currently has 3 granted patents, over 20 patents pending and over 10 journal publications. His work to date has been recognized by numerous awards and prizes throughout his career.

Dr. Jason Stafford (**Bell Labs, Nokia)**

Jason Stafford is a Senior Member of Technical Staff at Bell Labs, Nokia in Ireland. He has a BEng (2007) in Mechanical Engineering, and PhD (2010) on miniaturised convective air cooling from University of Limerick (UL), Ireland.

He carried out postdoctoral studies on reduced order thermal-fluid modelling of electronic systems in UL through involvement in an EU FP7 project led by Airbus. In 2012 he was awarded the Eurotherm Young Scientist award for his research in the field of Thermal Sciences. He joined Bell Labs in 2012, working on various aspects including reliable air cooling for wireless devices, particle deposition challenges in forced cooled cabinets, thermal technologies for optical packages, and design methodologies for multiphase microfluidics. He has 18 patents pending and has published 25 journal articles.

Dr. Stylianos Varoutis (Karlsruhe Institute of Technology)



Dr. Stylianos Varoutis was born in Athens, Greece, in 1980. He graduated from the Department of Mechanical Engineering, University of Thessaly, Greece, in 2004. He received the M.Sc. and Ph.D. degrees in Rarefied Gas Dynamics from the same university, in 2006, and 2009, respectively.
In 2009, as an EFDA Fusion Researcher Fellow, he moved to the Institute for Technical Physics (ITEP), at Karlsruhe Institute of Technology (KIT), Germany. Since then, he has been working at KIT as a Senior Research Scientist in the field of Vacuum Gas Dynamics. His current research interests include applications of vacuum gas dynamics for complex geometries and edge plasma physics as well as modelling of tokamak particle exhaust, by the use of stochastic and deterministic kinetic approaches.

Prof. Irina Graur (Aix Marseille University)

Prof. Irina Graur obtained M.Sc. in applied mathematics in 1984 from Moscow Lomonossov State University. She received a PhD also from Moscow State University in 1989 and the Habilitation from Provence University in France in 2008. Irina Graur was associate professor at Keldish Institute of Applied Mathematics between 1984 and 2000. She is currently professor at Aix Marseille University in France. She has made a number of contributions in the field of rarefied gases for the aerospace research. Her current research interests include the experimental and numerical characterization of the gas properties at micro and nano scales. She heads the research group “Non-equilibrium phenomena and microfluidic” in IUSTI Laboratory. She participated in the organization of a number of international conferences, workshops and summer schools. She has co-authored more than one hundred journal articles and conference papers.

Dr.-Ing. habil. Juergen J. Brandner (Karlsruhe Institute of Technology)

Dr.-Ing. habil. Juergen J. Brandner, born 1967,
Studies in Chemistry at University of Heidelberg and Electrical Engineering at Technical University of Karlsruhe. PhD in Mechanical Engineering at the Technical University of Karlsruhe. Habilitation in Micro Process Engineering at Technical University of Dresden.
Dr. Brandner was awarded with the Linde-Award 2009 of Technical University of Dresden (Best Habilitation Thesis) as well as with the NEULAND Innovation Award of KIT in 2014 and 2015. He is working in microstructure devices for about 20 years now, currently being head oft he Process Technology Department oft he Institute for Micro Process Engineering (IMVT) of Karlsruhe Institute of Technology (KIT). Currently, he provides lectures in Micro Process Engineering at Technical University of Dresden, Miniaturized Heat Exchanger Devices at Karlsruhe Institute of Technology and, as a visiting professor, in Micro Process Engineering at the Eas China University of Science and Technology, Shanghai, China. He is author or co-author of about 340 publications in international journals and international conferences as well as contributing to 12 textbooks.

Prof. Stéphane Colin (INSA Toulouse)

Stéphane Colin is a Professor in the Mechanical Engineering Department of the National Institute of Applied Sciences (INSA) in the Université de Toulouse, France, since 2002. He obtained an Engineer degree from ENSEEIHT in 1987 and received his PhD in Fluid Mechanics from the Polytechnic National Institute of Toulouse in 1992. He created in 1999 the Microfluidics Group of the Hydrotechnic Society of France. Stéphane Colin initiated and co-chaired the three Microfluidics French Conferences and the four Microfluidics European Conferences (µFLU'06 to µFlu'14). His current research is mainly focused on gas microflows, with a particular interest in the experimental analysis of rarefied flows. He was the coordinator of the GASMEMS European Initial Training Network aimed at training young researchers in the field of rarefied gas flows in MEMS. He is the author of more than 120 scientific papers in international journals or conference proceedings and the editor or co-author of four text books.

Prof. Gian Luca Morin (University of Bologna)

Professor Gian Luca Morini is Professor of Applied Thermal Engineering at Alma Mater Studiorum Università di Bologna since 2002; he is chair of the Applied Thermal Engineering & Microfluidics Laboratory of the Department of Industrial Engineering of the University of Bologna. His main research interests lie in microscale heat transfer, forced convection, energy efficient buildings and renewable energy sources. He is author of more than 150 technical papers in the areas of heat transfer, micro heat exchangers, heating and cooling systems.

He is member of many international scientific organizations like UIT (Italian Union of Thermal Fluid-dynamics), the EUROTHERM Committee, the Scientific Committee of the Société Hydrotechnique de France (SHF), the Scientific Council of International Center of Heat and Mass Transfer (ICHMT) and the Assembly of the World Conference (AWC) on Experimental Heat Transfer, Fluid Mechanics, and Thermodynamics.

Prof. Jason Reese (University of Edinburgh)

Jason Reese is Regius Professor of Engineering in the University of Edinburgh. His first degree was in Physics from Imperial College London, and his doctoral research was in Applied Mathematics at Oxford University. Following research positions in the Technische Universitaet Berlin and Cambridge University, in 1996 he became a Lecturer in Aberdeen University, and then Lecturer and ExxonMobil Engineering Fellow in King's College London. He moved to the University of Strathclyde, Glasgow, as Weir Professor of Thermodynamics & Fluid Mechanics, and was latterly Head of the Department of Mechanical & Aerospace Engineering. In 2013 he was appointed to the Regius Chair in Edinburgh University, the ninth incumbent since its establishment by Queen Victoria in 1868. In addition to his engineering science research on non-continuum flows (particularly at the micro and nano scales), he is involved in the industrial application of fluid mechanics. He co-founded Brinker Technology Ltd in 2002 to commercialise novel leak detection and sealing systems for oil/gas pipelines and wellheads. A winner of the Philip Leverhulme Prize for Engineering (Leverhulme Trust), the Lord Kelvin Medal (Royal Society of Edinburgh), and a MacRobert Award finalist (Royal Academy of Engineering), Jason Reese is a Fellow of the Royal Academy of Engineering, and of the Royal Society of Edinburgh.

Prof. Stefan K. Stefanov (Institute of Mechanics, Bulgarian Academy of Sciences)

Stefan K. Stefanov is a Professor in Mathematical modelling and application of mathematics at the Institute of Mechanics, Bulgarian Academy of Sciences. He received his PhD in Fluid mechanics in 1987 and second scientific degree Doctor of Sciences in Mathematical modelling and applications of mathematics in 2011. Since 2000 to 2010 he is a head of department for modelling of complex and multiphase flows. Currently is a deputy head of the department Mathematical Modelling and Numerical Simulations. His research contributions are in the field of the Direct Simulation Monte Carlo method and its applications to rarefied gas dynamics and microfluidic problems.

Dr. Pierre Perrier (Aix-Marseille University)

Since 1999, Pierre Perrier is a Research Engineer at the Institut Universitaire des Systèmes Thermiques Industriels (IUSTI, UMR 7343), which is a research laboratory from Aix-Marseille University and the CNRS (National Center for Scientific Research) in Marseille, France. He obtained a Master's Degree in Physics, a Ph.D. degree in Energy and Mechanics and the accreditation to supervise research (HDR) from Aix-Marseille University in 1993, 1998 and 2008, respectively. His research interest concern microfluidic flows at low and high speed, thermal creep flows, imaging & measuring techniques in fluid mechanics, mass spectrometry & ion process, bio-mechanics and fluid structure.

Dr. Marcos Rojas-Cardenas (INSA Toulouse)

Since 2014, Marcos Rojas-Cardenas is an Assistant Professor at the Institut National des Sciences Appliquées (INSA) de Toulouse, and pursues his research activities in the Clément Ader Institute of the University of Toulouse. From 2013 until 2014 he was working as a Post-Doc in the Laboratories of Thermophysics at the Federal University of Santa Catarina, Brazil. In 2012 he obtained a PhD title from the Aix-Marseille University, where his main research was focused on "Thermally Driven Rarefied Gas Flows". His thesis was financed by a Marie-Curie Fellowship Grant (Seventh Framework Programme) within GASMEMS an European Initial Training Network. Marcos obtained his Master and Bachelor degrees from the University of Genoa, Italy.

Prof. Dimitris Valougeorgis (University of Thessaly)

Dimitris Valougeorgis is a professor in the Department of Mechanical Engineering of the University of Thessaly in Volos, Greece. He obtained a diploma in mechanical engineering from the Aristotelion University of Thessaloniki, Greece in 1980 and M.S. and Ph.D. degrees in mechanical engineering from the Virginia Polytechnic Institute and State University, U.S.A. in 1982 and 1985, respectively. His research is in kinetic theory of gases, rarefied gas dynamics and non-equilibrium transport phenomena. He has published about 70 articles in journals and more than 100 articles in conference proceedings. He has delivered more than 20 invited lectures in European universities and research centers and he has been in the organization and scientific committees of several conferences and workshops as wells as the Associate Editor of Special Issues in gas microflows and vacuum gas dynamics.

Dr. Arjan J. H. Frijns (Eindhoven University of Technology)

Dr. Arjan J. H. Frijns received the master's degree in mechanical engineering and the Ph.D. degree in applied mathematics. Since 2002 he has been appointed at the sub department of Energy Technology of the Eindhoven University of Technology in the field of microchannel-cooling. His main research interests include fundamental research on heat transfer at the micro-scales, multi-scale modeling (MD, DSMC, hybrid MD-DSMC and CFD) as well as experimental validation (micro-PIV, 3D micro-PTV).

Dr. David Newport (University of Limerick)

Dr. David Newport is currently a Senior Lecturer at the University of Limerick, with a background in thermofluids centred on thermal management of electronic systems and natural convection heat transfer. At present David's research is focussed on Process and Biomedical applications for microfluidics. He was Co-Chair of the 4th European Conference on Microfluidics. His research team is studying the fluid mechanics of Arterio-Venous Access, the Lymphatic System and the transport of particles in microfluidic channels. He has a long standing interest in the development of optical metrology techniques for microfluidic flows, in particular interferometry which is also been applied to the flow with suspended biological cells. David's activities in the MIGRATE ITN are associated with VOC detection using PID and optical approaches.

Dr. Christine Barrot Lattes (University of Toulouse)

Christine Barrot Lattes is assistant professor at the Institut Clement Ader, Université de Toulouse, France. She obtained a Master's Degree in mechanical engineering from Supaero, France in 2003 and Ph.D. degrees in mechanical engineering from INSA Toulouse, France in 2007. Her research interest mainly concerns the development of experimental techniques to characterize microfluidic flows: velocimetry and thermometry, imaging, instrumentation.

Dr. Uwe Köhler (Karlsruhe Institute of Technology)

Uwe Köhler studied physics at the Technical University Darmstadt. At the Institute for Semiconductor Technologies in Darmstadt he completed his studies in 1989 with a diploma thesis about Reactive Ion Etching of Polysilicon. Since 1990 he works as a scientific assistant at the Institute for Microstructure Technology (IMT) at the Karlsruhe Institute of Technology (KIT). In 1995 he received his doctorate degree with a thesis about plasmaless and laser induced silicon etching with the fluorine, chlorine and bromine halogens and intermediate compounds. Since 1999 Uwe Köhler is head of the group "Microtechnology" and responsible for the main cleanroom of the IMT.

Norbert Cléry (Clery Consulting)

Engineer (1975) Ecole Centrale Lyon - France & MBA (1977) Wharton School - University of Pennsylvania USA

1978 - 2012 Held various management positions at Eli Lilly and company in France, Italy, Switzerland, UK and USA, mostly in the financial function.

2012 till now: management consultant coaching start-up founders and small company leaders - leading entrepreneurship training sessions for PHD candidates and other management consulting missions.