PROGRAM

AEROSOL TECHNOLOGY 2015

15 - 17 June 2015
Tampere, Finland

TAMPERE UNIVERSITY OF TECHNOLOGY

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The Finnish Association for Aerosol Research (FAAR)

Tampere University of Technology
Aerosol Physics Laboratory, Department of Physics
Tampere, Finland
Anna Kuusala, Conference Secretary

Congress Bureau Tavicon Oy Ltd.
Managing Director Karoliina Sunell
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Project Coordinator Mirja Uotila
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PREFACE

Aerosol Technology 2015 serves the needs of a forum where academic and industrial scientists can collaborate for the benefit of aerosol science and its technologically relevant applications. Aerosol science is widely applied in most common branches of technology, ranging from conventional areas such as emission control, filtration or powder technology to more recent research areas such as functional nanomaterials and coatings or novel instrumentation techniques, including aerosol nano-cluster measurements, approaching to modern mass spectrometry from gas phase.

The conference organized now in Tampere is follow-up of the AT2014 held in Karlsruhe. This year we received ca. 160 abstracts and host roughly 200 attendees. The number of abstracts allows us to arrange three parallel tracks for oral sessions including a special instrument tutorial session as a tool to promote interaction between the aerosol measurement technology and different various application fields.

AT2015 has been organized by Tampere University of Technology (TUT) and Finnish Association for Aerosol Research (FAAR), underneath the umbrella of European Aerosol Assembly (EAA). We sincerely thank these organizations as well as all the sponsors for making the conference happen.

Jyrki M. Mäkelä

Conference Chairman
Tampere, June 2015

Photo: Tampere Hall

PLENARY SPEAKERS

Susanne Hering is founder and president of Aerosol Dynamics Inc., a small research firm specializing in the development of measurement methods for fine, airborne particles. Her firm is known for development of the concepts underlying the laminar-flow, water-based condensation particle counter, and for their work in collaboration with the University of California to develop a thermal desorption gas chromatography system for on-line, hourly analysis of organic matter in atmospheric aerosols. Susanne Hering holds a doctorate in the field of low temperature physics from the University of Washington (1974), and entered the field of aerosol research at the California Institute of Technology. She is a past-president of the American Association for Aerosol Research, a founding AAAR Fellow, and a recipient of AAAR's BYH Liu Award. Currently she is an Editor for Aerosol Science and Technology.

Chris Hogan received his Bachelor's Degree from Cornell University in Biological & Environmental Engineering in 2004 and his PhD in Energy, Environmental, and Chemical Engineering from Washington University in Saint Louis in 2008, working under the supervision of Prof Pratim Biswas. From 2008-2009 he was a Postdoctoral Research Associate at Yale University working under the supervision of Prof Juan Fernandez de la Mora. He joined the faculty at the University of Minnesota in the Department of Mechanical Engineering in 2009, where his laboratory group focuses on gas phase chemical physics and aerosol physics, with a specific emphasis on collisional phenomena in aerosols. To date, he has co-authored more than 60 papers in the general area of aerosol science, and is the recipient of the Sheldon K. Friedlander Award from the AAAR in 2011, and a co-recipient of the Smoluchowski award in 2013.

Einar Kruis studied chemical engineering at the Technical University Delft, the Netherlands, where he also obtained his Ph.D. degree in 1993 under guidance of Brian Scarlett and Joop Schoonman, also collaborating with Sotiris Pratsinis during a research stay in Cincannati (US) in 1992. He then performed a two-year post-doc period as Marie Curie fellow at the LSGC in Nancy, France. In 1995 he joined the aerosol group of Heinz Fissan in Duisburg (Germany). Currently he is academic director and professor at the nanoaerosol group at the Institute for Technology of Nanostructures at the University of Duisburg-Essen. His research interests are synthesis, handling, measurement technology, applications and population dynamics of nanoparticles, co-authoring over 160 scientific publications. He received the Arnold-Eucken Award and the Smoluchowski Award.

PROGRAM OVERVIEW

MONDAY, JUNE 15th 2015

8.00	**Registration**		
	Small Auditorium		
9.45-10.00	**Opening Ceremony** Jose L. Castillo *President of the European Aerosol Assembly (EAA)* Assoc. Prof. Miikka Dal Maso *Vice President of Finnish Association for Aerosol Research (FAAR)* Jyrki M. Mäkelä *Chairman of the Aerosol Technology 2015*		
	Small Auditorium		
10.00-11.00	**Plenary Lecture 1:** Beyond Counting - Applications of Condensation Systems to Particle Collection and Charging *Prof. Susanne V. Hering, Aerosol Dynamics Inc.*		
11.00-11.30	**Coffee Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
11.30-13.10	Instrumentation 1: Calibration	Combustion 1	Thin films and coatings
13.10-14.00	**Lunch Break & Exhibition**		
	Small Auditorium	**Studio**	**Rondo**
14.00-16.00	Instrumentation 2: Sub 3 nm	Combustion 2	
16.00-16.20	**Coffee Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
16.20-18.20	Filtration	Fundamentals	Instrument Tutorial
18.20	**End of Conference Day**		
19.00-20.30	**Welcome Reception by The City of Tampere**		

TUESDAY, JUNE 16th 2015

8.00	**Registration**		
	Small Auditorium		
8.45-9.45	**Plenary Lecture 2:** Aggregate Dynamics in the Transition Regime: a two Knudsen Number Problem *Prof. Christopher J. Hogan Jr, Univ. Minnesota*		
9.45-10.15	**Coffee Break & Exhibition**	**Park Hall**	
	Park Hall		
10.15-12.15	Poster session		
12.15-13.15	**Lunch Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
13.15-15.15	Instrumentation 3: Charge and surface area	Synthesis 1: CVD and generation	Deposition and separation
15.15-15.45	**Coffee Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
15.45-17.45	Instrumentation 4: Mobility and inertia	Synthesis 2: Flame	Structural analysis
17.45	**End of Conference Day**		
19.30	**Conference Dinner**	**Vapriikki Museum Centre**	

WEDNESDAY, JUNE 17th 2015

8.30	**Registration**		
	Small Auditorium		
8.45-9.45	**Plenary Lecture 3:** Aerosol Nanoparticle Synthesis without Chemical Reactions *Prof. Einar Kruis, Univ. Duisburg*		
9.45-10.15	**Coffee Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
10.15-12.15	Development of new instruments	Detection, analysis and field measurements	BUONAPART-E
12.15-13.15	**Lunch Break & Exhibition**	**Park Hall**	
	Small Auditorium	**Studio**	**Rondo**
13.15-15.15	Particle emission and release	Instrumentation 5: Optics and fluorescence	Electrosprays
15.15	**Closing Remarks**	**Small Auditorium**	

PROGRAM

SUNDAY,
JUNE 14th 2015

Photo: Tampere Hall

17.00-19.00 Registration

18.30-20.30 Ice-breaking Party Tampere Hall (Park Hall)

Photo: Tampere Hall

PROGRAM

MONDAY,
JUNE 15th 2015

8.00	**Registration**

	Small Auditorium
9.45	Opening Ceremony Prof. Jose L. Castillo *President of the European Aerosol Assembly (EAA)* Prof. Jyrki M. Mäkelä *Chairman of the Aerosol Technology 2015* Assoc. Prof. Miikka Dal Maso *Vice President of Finnish Association for Aerosol Research (FAAR)*

	Small Auditorium
Chair:	Jorma Keskinen
10.00-11.00	**Plenary Lecture 1:** Beyond Counting-- Applications of Condensation Systems to Particle Collection and Charging *Prof. Susanne V. Hering, Aerosol Dynamics Inc.*

11.00-11.30	**Coffee Break & Exhibition**	**Park Hall**

11.30-13.10	**Small Auditorium**
Instrumentation 1: calibration	
Chairs:	H.-G. Horn and J.Yli-Ojanperä
11.30-11.50 O001	Establishing SI-traceability for the measurement of particle number concentration with condensation particle counters *H.-G. Horn*
11.50-12.10 O002	Towards standardized measurements of atmospheric aerosol particle number concentration *J. Vanhanen*
12.10-12.30 O003	Comparison between two calibration routines of the Single Charged Aerosol Reference (SCAR) *K. Pihlava, J. Keskinen, J.Yli-Ojanperä*
12.30-12.50 O004	Number calibration of optical airborne particle counters for sizes ≥ 5 µm *B. Thaveua, A. Duarte, O. Brouste*
12.50-13.10 O005	Sub-3 nm particle detection with commercial TSI 3772 and Airmodus A20 condensation particle counters *J. Kangasluoma, M. Attoui, L. Ahonen, H. Vuollekoski, M. Kulmala and T. Petäjä*

11.30-13.10	**Studio**
Combustion 1	
Chairs:	L. Pirjola and I. K. Ortega
11.30-11.50 O006	Nitrogen containing exhaust emissions for consideration in the aerosol research *P. Aakko-Saksa, T. Murtonen, P. Koponen, K. Lehtoranta, P. Roslund, P. Karjalainen, T. Rönkkö, H. Timonen, S. Saarikoski, R. Hillamo*
11.50-12.10 O007	Transient particulate emissions of a modern diesel passenger car under real-world driving conditions *H. Wihersaari, P. Karjalainen, L. Pirjola, A. Malinen, J. Keskinen and T. Rönkkö*
12.10-12.30 O008	Effects of vehicle technology on real exhaust particle emissions from city buses *L. Pirjola, A. Dittrich, J. V. Niemi, S. Saarikoski, A. Malinen, H. Kuuluvainen, H. Wihersaari, H. Timonen, A. Kousa, T. Rönkkö and R. Hillamo*
12.30-12.50 O009	Structural and chemical characterization of soot particles *I. K. Ortega, B. Chazallon, Y. Carpentier, C. Irimiea, M. Ziskind, C. Pirim, F. X. Ouf, D. Delhaye, D. Gaffié, J. Yon, D. Ferry and C. Focsa*
12.50-13.10 O010	Suitability of two mini-CAST generators as laboratory surrogate sources for black carbon mass measurements in the aircraft engine exhaust *L. Durdina, P. Lobo, E. Black, M.B. Trueblood, D.E. Hagen, P. Whitefield and J. Wang*
Back-up O011	Heavy-duty diesel vehicle particle emissions during engine braking *P. Karjalainen, T. Murtonen, F. Mylläri, H. Wihersaari, J. Keskinen, T. Rönkkö*

11.30-13.10	**Rondo**
Thin films and coatings	
Chairs:	A. Tricoli and L. Mädler
11.30-11.50 O012	Robust films of graphene nanomaterials created by ultrasonic spraying *L.B. Modesto-López, M. Miettinen, T. Torvela, A. Lähde, and J. Jokiniemi*
11.50-12.10 O013	Mesoporous SiO2-coatings on glass by a novel aerosol based coating method called nFOG *M. Tuominen, M. Järn, S. Tammela*
12.10-12.30 O014	Aerosol Self-Assembly of Nanoparticle Films: Densification Mechanisms of Ultra-Fine Particles in the Diffusion Regime *N. Nasiri, T. D. Elmøe, Q. Qin, Y. Liu, A. Tricoli*
12.30-12.50 O015	High-speed fabrication of superhydrophobic nanocoating by Liquid Flame Spray *J. Haapanen, M. Aromaa, H. Teisala, M. Tuominen, M. Sillanpää, M. Stepien, J.J. Saarinen, M. Toivakka, J. Kuusipalo and J.M. Mäkelä*
12.50-13.10 O016	Thermophoretic thin film deposition of self-assembled carbon nanotubes *J.L. de La Verpilliere and A.M. Boies*
Back-up O017	Liquid Flame Spray synthesis of TiO2/CeO2 nanoparticles *M. Sorvali, J. Haapanen, J.M. Mäkelä*

13.10-14.00	**Lunch Break & Exhibition**	**Park Hall**

14.00-16.00 Small Auditorium

Instrumentation 2: Sub 3 nm

Chairs:	M. Attoui and A. Schmidt-Ott
14.00-14.20 O018	Control of Condensation onto 1/2 nm particles in Laminar Growth Tubes via Lewis Number Modulation in He/CO2 Gas Mixtures *J. M. Thomas, A. Maisser, C J. Hogan*
14.20-14.40 O019	Aerosol precursor and cluster mass spectrometry: Recent advances and future research directions *M. Sipilä and M. Ehn*
14.40-15.00 O020	Mobility calibration standards in air in the 20-80 C temperature range *M. Attoui, J. Fernández-García, J. Fernandez de la Mora*
15.00-15.20 O021	Calibrating an instrument measuring 1-3 nm aerosol paricle number size distribution *J. Vanhanen, J. Kangasluoma, M. Attoui, M. Väkevä*
15.20-15.40 O022	Generation, characterization and sizing of neutral sub 3 nm metallic clusters *J. Kangasluoma, M. Attoui, H. Junninen, K. Lehtipalo, A. Samodurov, F. Korhonen, N. Sarnela, A. Schmidt-Ott, D. Worsnop, M. Kulmala, T. Petäjä*
15.40-16.00 O023	Increasing the sampling efficiency of sub-3 nm particles measurements using the "sampling box" *A. Franchin, J. Duplissy, J. Kangasluoma, F. Korhonen, T. Petäjä*

14.00-16.00 Studio

Combustion 2

Chairs:	T. Rönkkö and A. Bologa
14.00-14.20 O024	Characteristics and formation of natural gas engine exhaust nanoparticles *J. Alanen, E. Saukko, K. Lehtoranta, H. Timonen, J. Keskinen, T. Rönkkö*
14.20-14.40 O025	Volatility of wood-burning SOA precursors: a chance for mitigating SOA production *A. Keller, J. C. Corbin, A. A. Mensah, B. Sierau, H. Burtscher*
14.40-15.00 O026	Online characterization of wood combustion emissions and their atmospheric aging *O. Sippula, P. Tiitta, M. Kortelainen, P. Yli-Pirilä, H. Czech, C. Radischat, J. Tissari, A. Leskinen, A. Hartikainen, H. Koponen, J. Leskinen, T. Torvela, M. Ihalainen, H. Lamberg, J. Grigonyte, L. Hao, T. Streibel, J. Orasche, A. Virtanen, K. Lehtinen, R. Zimmerman, J. Jokiniemi*
15.00-15.20 O027	Aerosol of silica nanoparticles generated during the combustion of a polysiloxane nanocomposite *G. Ounoughene, O. Le Bihan, C. Chivas-Joly, C. Longuet, C. Motzkus, B. Debray, A. Joubert, J-M. Lopez-Cuesta, L. Le Coq*
15.20-15.40 O028	Influence of particle concentration in the exhaust gas from wood combustion boiler on their charging and precipitation *A. Bologa, M. Ecker, H.-P. Rheinheimer, H.-R. Paur*
15.40-16.00 O086	Portable emission measurement system (PEMS) for tailpipe and exhaust plume aerosols *A. Järvinen, A. Rostedt, H. Wihersaari, M. Olin, J. Yli-Ojanperä, T. Rönkkö, J. Keskinen*

16.00-16.20 Coffee Break & Exhibition Park Hall

16.20-18.20 Small Auditorium

Filtration

Chairs:	G. Kasper and N. Bardin-Monnier
16.20-16.40 O030	Numerical prediction of single fibre efficiency for nanoparticles filtration *N. Bardin-Monnier, A. Charvet, D. Thomas*
16.40-17.00 O031	Characterization of an Open-Pored Nickel Foam with Respect to Aerosol Filtration Efficiency *A. Hellmann, M. Pitz, K. Schmidt, F. Haller, S. Ripperger, S. Antonyuk*
17.00-17.20 O032	Impact of the Filtration Velocity on the Pressure Drop and Internal Liquid Transport of Fibrous Oil Mist Filters *H. E. Kolb, S. Wurster, J. Meyer, G. Kasper*
17.20-17.40 O033	Effect of mesoscale inhomogenity on fibrous filter performance - CFD investigation *A. Moskal, L. Makowski*
17.40-18.00 O034	Optimization of ultrafine particles filtration in granular beds *L. Wingert, D. Bémer, S. Pacault, A. Charvet, N. Bardin-Monnier, D. Thomas*
18.00-18.20 O035	On site air filter test system *I. Kulmala, T. Kalliohaka, A. Taipale and H. Salmela*
Back-up O036	Drop fragments generated by bursting air bubbles on oil mist filters *S. Wurster, J. Meyer, G. Kasper*

16.20-18.20 Studio

Fundamentals

Chairs:	H. Vehkamäki and I. Ford
16.20-16.40 O037	Role of lattice mismatch in heterogeneous nucleation of ice *O. H. Pakarinen, H. Vehkamäki*
16.40-17.00 O038	Molecular Dynamics Simulation on Aerosol Formation of Water *D. Suh, K. Yasuoka*
17.00-17.20 O039	Hydration and mobility of bisulfate ion-sulfuric acid-ammonia/dimethyl amine clusters from computational studies *N. T. Tsona, H. Henschel, N. Bork, H. Vehkamäki*
17.20-17.40 O040	Nucleation barrier for complex materials determined by guided molecular dynamics *I. Ford*
17.40-18.00 O041	Types of Aerosol Formed by Condensation *C. Clement*
18.00-18.20 O042	Formation of particles by radiolytical oxidation of organic iodine *T. Kärkelä, A. Auvinen, T. Kekki, P. Kotiluoto, J. Lyyränen, J. K. Jokiniemi*
Back-up O043	Surface properties for atmospheric surfactant aqueous solutions and their variation with environmental parameters observed directly with synchrotron XPS *N.L. Prisle, G. Öhrwall, J. Werner, V. Ekholm, M.-M. Walz, and O. Björneholm*

16.20-18.20 Rondo

Instrument tutorial

18.20 End of Conference Day

19.00-20.30 Welcome Reception by The City of Tampere

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	Small Auditorium
Chair:	Kaarle Hämeri
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9.45-10.15	**Coffee Break & Exhibition Park Hall**
	Park Hall
10.15-12.15	**Poster session**

POSTERS

SYNTHESIS AND GENERATION

P1	Electrospray Deposition Method for TEM sample preparation *P. Dohányosová, P. Ballorca, I. G. Loscertales and S. Lopéz-Vidal*
P2	Bimetallic platinum-palladium nanocatalysts produced by spark discharge *K. Hu, M.E.J. Stettler, S.A. Scott and A.M. Boies*
P3	Hydrogen assisted spark discharge generation of metal particles *R.T. Hallberg, K. D. Thelander, M. Magnusson, M. Messing*
P4	Role of Sulphur and Carbon Precursors on Catalyst Nanoparticle Growth and CNT Formation in a Continuous Gas Phase Process *C. Hoecker, F. Smail, M. Pick and , A.M. Boies*
P5	On the correlation of spectral emission and nanoparticle yield in a spark discharge generator *A. Kohut, G. Galbács, L. Ludvigsson, B.O. Meuller, M.E. Messing, K. Deppert, and Zs. Geretovszky*
P6	Chitosan nanoparticle generation and characterization using CARS technique *G. Mordas, V. Ulevicius, V. Dudoitis and A. Dementjev*
P7	Controlled Particle Synthesis in a Hot-Wall Reactor and Manipulation of the Aggregation Process *D. B. Rasche, L. Knobel and H.-J. Schmid*
P8	Optimization of silver particle number size distributions from a nucleation furnace by modification of heat shields and injection nozzles *J. Rosahl, A. Nowak, A. Kuntze, M. Hildebrandt, I.-C. Masthoff, G. Garnweitner and V. Ebert*
P9	Liquid Flame Spray synthesis of TiO2/CeO2 nanoparticles *M. Sorvali, J. Haapanen and J.M. Mäkelä*
P10	Aerosol synthesis, generation, and characterization for toxicological studies *A.J. Koivisto, E.M. Rydman, H. Alenius, H. Norppa, K.M. Savolainen and K.J. Hämeri*

INSTRUMENTATION & CHARGE

P11 Comparability and accuracy of personal nanoparticle exposure monitors
C. Asbach, H. Kaminski, B. Stahlmecke, C. Monz, D. Dahmann, M. Fierz, S. Clavaguera, B. Faure, N. Dziurowitz, A. Meyer-Plath, B. Dettlaff, A. S. Godinho de Fonseca, M. Viana, A. M. Todea

P12 Similar DMA aerosol size measurements with Krypton and post-DBD neutralizers
R. Mathon, N. Jidenko and J.-P. Borra

P13 Charge distribution of particles with dense and fractal structure
L. Hillemann, M. Seipenbusch, M. Stintz

P14 EUSAAR extended range mobility particle size spectrometer
F. Korhonen, P.P. Aalto, E. Siivola, H. Manninen and T. Petäjä

P15 Portable ice nuclei counter SPIN: Key specifications, principle of operation and the first experiments
K.Korhonen, A.Virtanen and M.Komppula

P16 Verification of particle mass classification using the centrifugal particle mass analyser at small particle sizes
J.S Olfert, J.P.R. Symonds

P17 Particle Number Portable Emission Measurement System
T. Reinisch, A. Bergmann, Georg Brunnhofer, Athanasios Mamakos, Martin Fierz

P18 Application of a Particle Size Magnifier under high relative humidity conditions
D. Wimmer, J. Kangasluoma, K. Lehtipalo, J. Vanhanen, A. Franchin, J. Backmann, T. Petäjä, M. Kulmala

P19 Cyclone separator sampler for combustion aerosol: modelling and laboratory experiments
F. Mylläri, A. Karvinen, P. Karjalainen, J. Maunula, P. Janhunen, H. Ahlstedt, J. Keskinen and T. Rönkkö

AEROSOL FUNDAMENTALS & CHEMISTRY

P21 Simulation of a condensing aerosol in homogeneous isotropic turbulence
A. Alshaarawi, A. Attili, and F. Bisetti

P22 Detection of highly condensable aerosol precursors from oxidation of aromatic compounds
O. Garmash, M. P. Rissanen, O. Kausiala, M. Kulmala, M. Sipilä and M. Ehn

P23 A simulation-based method for determining collision and evaporation rates from measured cluster distributions
O. Kupiainen-Määttä, H. Vehkamäki

P24 Extending the first nucleation theorem into real environments
J. Malila, R. McGraw, A. Laaksonen, and K. E. J. Lehtinen

P25 Surface properties for atmospheric surfactant aqueous solutions and their variation with environmental parameters observed directly with synchrotron XPS
N.L. Prisle, G. Öhrwall, J. Werner, V. Ekholm, M.-M. Walz, and O. Björneholm

P26 An experimental and theoretical assessment of the dissociation of ammonium nitrate aerosol
N. Talbot, V. Zdimal, J. Ondracek, J. Schwarz

P27 Monitoring the transport behaviour of toluene through protective polymer gloves using quartz crystal microbalance
M.J. Chen, L.H. Cheng and T.P. Tseng

COMBUSTION

P28 Design and characterisation of a probe for particle sampling in boilers of waste incineration plants
S. Schumacher, J. Lindermann, B. Stahlmecke, T. Zeiner, T. van der Zwaag, H. Nordsieck, R. Warnecke, C. Asbach

P29 The MERMOSE project: Characterization of particulates emissions of a commercial aircraft engine
D. Delhaye, F.-X. Ouf, D. Ferry, C. Guin, S. Peillon, F. Salm, A. Crespin, I. Marhaba, D. Gaffie, O. Penanhoat, X. Vancassel, J.-J. Lecout, A. Vandestoc, E. Landais, C. Focsa, I.K. Ortega, J. Burguburu

P30 Differential mobility analysis of soot nuclei in a laminar C2H4/air premixed flame
F. Carbone, M. Attoui and A. Gomez

P31 Transformation of diesel vehicle exhaust, pellet boiler exhaust, and their mixture in an environmental chamber
A.Leskinen, P.Yli-Pirilä, L. Hao, J. Kim, T.Torvela, E. Asmi, D. Brus, J. Grigonyte, A. Jaatinen, E. Kari, A. Kortelainen, K. Kuuspalo, H. Lamberg, J. Leskinen, U. Makkonen, P. Miettinen, I. Nuutinen, T. Raatikainen, O. Sippula, H. Hakola, J. Jokiniemi, A. Virtanen, M. Komppula, K.E.J. Lehtinen

P32 Effective density measurements of aircraft soot particles and surrogates
F.X. Ouf, A. Bescond, D. Ferry, I. Marhaba, F. Salm, S. Peillon, J.Yon, D. Delhaye, D. Gaffie, C. Guin, J.J. Lecout, L. Ait-Ali-Yahia, A. Forthomme, B. Sagot, and A. Vandestoc

P33 Heavy-duty diesel vehicle particle emissions during engine braking
P. Karjalainen, T. Murtonen, F. Mylläri, H. Wihersaari, J. Keskinen and T. Rönkkö

AEROSOL MEASUREMENTS: OUTDOOR-INDOOR-WORKPLACE

P34 ACTRIS WP3: Improving the observations of the in-situ aerosol properties in Europe
P.P. Aalto, H. Manninen, T. Petäjä and A. Wiedensohler

P35 Characterization, Fate, and Re-suspension of Aerosol Particles (0.3–10 µm) inside University Offices: the Effects of Occupancy and Carpet
T. Hussein, L. Dada, H. Juwhari, D. Faouri

P36 Urban air quality measurements in Beijing, China, using a PPS-M sensor
M. Dal Maso, J. Gao, A. Järvinen , and T. Rönkkö

P37 A Study on carbonaceous particles over northern India: Simplifying the method of calculation of fractal dimension
S. Gautam

P38 Characteristics of emission and size fractions of fine particles (PM10, PM2.5) from stationary sources using cyclone (US EPA Method 201A) and cascade impactors
S.H. Han, H.R. Kim, K.W. Jang, D.I. Kang, K.J. Jeon and Y.W. Jung

P39 Characterization of nanoparticles at different workplaces
M. Miettinen, J. Leskinen, T. Torvela, A. Lähde, Jarkko Tissari and J. Jokiniemi

P40 Investigating the potential for secondary aerosol formation in rural area of Central Chile
S. Saarikoski, F. Reyes, Y. Vázquez, M. Tagle, M. Aurela, H. Timonen, W.H. Brune, D. Worsnop, P. Oyola and R. Hillamo

P41 Relationship of Gas Precursors and Water-soluble Ionic Species in Airborne Particulate Matter in Southern Taiwan
Jiun-Horng Tsai, Li-Peng Chang

FILTRATION & BIOAEROSOLS & RESPIRATORY AEROSOLS

P42	Calculation of deposition on fibrous filters as a function of time *S. J. Dunnett and C. F. Clement*
P43	Consecutive droplets-solid particles and solid particles-droplets filtration in fibrous filters *J.M. Gac and A. Jackiewicz*
P44	Filtration of gaseous and particulate iodine with a wet electrostatic precipitator *M. Gouëllo, T. Kärkelä, J. Hokkinen, A. Auvinen, P. Rantanen*
P45	Effect of material properties on filtration efficiency and deposits structure in fibrous filters *R. Przekop, A. Jackiewicz, M. Woźnak, L. Gradoń*
P46	Effect of humidity on the pressure drop of nanostructured deposit *Q. Ribeyre, A. Charvet, C. Vallières and D. Thomas*
P47	Set-up for Bioaerosol Exposure on Photocatalytic Surfaces *M. Luhtalampi, J. Haapanen, S. Mustalahti, T. Humppi, and J.M. Mäkelä*
P48	Inactivation of microorganisms on filter elements of Tion A air cleaners *A.S. Safatov, O.V. Pyankov, V.A. Vechkanov, V.V. Solodkii, G.A. Buryak and D.A. Trubitsyn*
P49	The Effect of Inhaled Submicron Particles of a Nanocomposite Preparation in Mice with the Acute Respiratory Distress Syndrome *V.A. Vechkanov, A.S. Safatov, L.N. Shishkina, S.L. Vedenchuk, E.I. Vereshchagin, A.V. Dushkin, L.P. Suntsova, N.A. Zhukova, T.G. Tolstikova*
P50	CARS microscopy as a tool to characterize bioaerosol *V. Ulevicius, G. Mordas and A. Dementjev*
P51	Drop fragments generated by bursting air bubbles on oil mist filters *S. Wurster, J. Meyer and G. Kasper*
P52	Small biomass boiler particle removal system *A. Laitinen, K. Janka and J. Keskinen*

12.15-13.15 Lunch Break & Exhibition Park Hall

13.15-15.15 Small Auditorium

Instrumentation 3: Charge and surface area

Chairs: T. Tritscher and D. Meier

13.15-13.35 O044	Advanced Electrospray Aerosol Generator with Integrated Soft X-ray Neutralizer *T. Tritscher, A. Avenido, A. F. Zerrath, T. Johnson, J. H.T. Scheckman, T. Krinke, F. Dahlkötter and O. F. Bischof*
13.35-13.55 O045	Bipolar Charge Analyzer (BOLAR): A new device for bipolar charge measurements *J. Yli-Ojanperä, A. Ukkonen, A. Järvinen, S. Layzell, V. Niemelä, J. Keskinen*
13.55-14.15 O046	Study of corona discharge in high pressure helium under various temperature conditions *A. Bologa, K. Woletz, H.-R. Paur*
14.15-14.35 O047	Miniature electrical nanoparticle detector for simultaneous measure ment of particle number, average size and lung-deposited surface area *D. Meier, D. Egli, P. Steigmeier, H. Burtscher, M. Fierz*
14.35-14.55 O048	Lung deposited surface area size distributions in different urban areas *H. Kuuluvainen, A. Järvinen, L. Pirjola, J. V. Niemi, R. Hillamo, J. Keskinen, T. Rönkkö*
14.55-15.15 O049	Measuring Number, Mass and Size of Diesel Exhaust Particles with the Dual Pegasor Particle Sensor *S. Amanatidis, L. Ntziachristos, M. M. Maricq, Z. Samaras, J. Tikkanen*

13.15-15.15 Studio

Synthesis 1: CVD and generation

Chairs: M. Miettinen and J. Harra

13.15-13.35 O050	Structural analysis of a new multi-layer graphene-carbon nanoflower composite *M. Miettinen, T. Torvela, C. Pfüller, J. Hokkinen, M. Ramsteiner, L. Modesto-Lopez, J. Jokiniemi, A. Lähde*
13.35-13.55 O051	Particle based Functional Materials from the Gas Phase M. Seipenbusch
13.55-14.15 O052	Nanostructured materials for efficient and inexpensive NO2 sensing using spark discharge generator *N.A. Isaac, M. Valenti, A. Schmidt-Ott, G. Biskos*
14.15-14.35 O053	Titania-silver composite nanoparticles with interesting morphology *J. Harra, P. Juuti, J. Haapanen, M. Sorvali, J. M. Mäkelä*
14.35-14.55 O054	Homogeneous coating of aerosol nano particles in a cold plasma at atmospheric pressure *P. Post, S. Dahle, W. Maus-Friedrichs and A.P. Weber*
14.55-15.15 O055	On-chip microacoustic aerosol generation *A. Winkler, S. Harazim, S. Menzel, H. Schmidt*

13.15-15.15 Rondo

Deposition and separation

Chairs:	F. Gensdarmes and F. Haller
13.15-13.35 O056	Particle depletion in an enclosure with turbulent natural convection *J. Kalilainen, A. Dehbi, T. Lind, A. Auvinen*
13.35-13.55 O057	Dose determination in the Air-liquid interface exposure of cell cultures for in vitro toxicological studies *S. Mülhopt, T. Krebs, H.-R. Paur*
13.55-14.15 O058	Studies of particle monolayer deposits re-suspension at low pressure in a wind-tunnel *A. Rondeau, A. Roynette, J.-C. Sabroux, F. Gensdarmes, E. Chassefière*
14.15-14.35 O059	Study on nanoparticle scavenging and filter cakes in a waste incineration plant *T. Thajudeen, H. Förster, C. Funk, W. Peukert*
14.35-14.55 O060	Lift off and dispersion of fractal-like aggregates *Ł. Żywczyk, A. Moskal, R. Przekop*
14.55-15.15 O061	Experimental study and modelling of droplet growth and activation efficiency for efficient aerosol separation by heterogeneous condensation *F. Haller, B. Daumann, M. Pitz, A. Hellmann, K. Schaber, S. Antonyuk, S. Ripperger*
Back-up O062	Small biomass boiler particle removal system *A. Laitinen, K. Janka, J. Keskinen*

15.15-15.45 Coffee Break & Exhibition Park Hall

15.45-17.45 Small Auditorium

Instrumentation 4: Mobility and inertia

Chairs:	J. S. Olfert and M. Moisio
15.45-16.05 O063	A true monodisperse classifier without charge-state artefacts: Classifying nanoparticles with the Aerodynamic Aerosol Classifier *J. S. Olfert, C. Lowndes, J.P.R. Symonds, K StJ. Reavell, M. Rushton*
16.05-16.25 O064	Correction method for SMPS measured particle size distributions with high number concentrations at the upper size limit *H. Kaminski, B. Stahlmecke, C. Asbach, T.A.J. Kuhlbusch*
16.25-16.45 O065	High-resolution low-pressure cascade impactor *A. Arffman, J. Harra, J. Kalliokoski, P. Karjalainen, T. Rönkkö, J. Yli-Ojanperä, J. Keskinen*
16.45-17.05 O066	On the importance of particle density in ELPI data post-treatment *A. Charvet, S. Bau, D. Bémer, D. Thomas*
17.05-17.25 O067	High temperature sample and low particle concentration – challenge for measurements *V. Niemelä, J. Kannosto, K. Lehtoranta, T. Rönkkö, J. Alanen, A. Ukkonen*
17.25-17.45 O068	Performance test of HR-ELPI+ inversion calculation in laboratory and in various applications *S. Saari, A. Arffman, H. Wihersaari, A. Rönkkö, J. Keskinen*
Back-up O069	Cyclone separator sampler for combustion aerosol: modelling and laboratory experiments *F. Mylläri, A. Karvinen, P. Karjalainen, J. Maunula, P. Janhunen, H. Ahlstedt, J. Keskinen, T. Rönkkö*

15.45-17.45 Studio

Synthesis 2: Flame

Chairs:	K. Wegner and A. Lähde
15.45-16.05 O070	Combustion Spray Synthesis of Nanoparticles: From Single Droplets to Nanoparticles *C. D. Rosebrock, T. Wriedt, K. Wegner, L. Mädler*
16.05-16.25 O071	Aerosol Manufacturing of ZnO Nanorods for Catalytic Hydrogen Production *D. Q. Chie, K. Wegner*
16.25-16.45 O072	Characterization of trivalent doped zinc oxide nanoparticles synthesized via flame spray pyrolysis *M. Stanzel, A. Kunzmann, R. D. Costa, D. M. Guldi, W. Peukert*
16.45-17.05 O073	Scalable One-Step Synthesis of Efficient Ultra-fine Manganese Oxide Catalysts for Water Oxidation *G. Li, J. Hall, N. Nasiri, Mun Hon Cheah, and . Tricoli*
17.05-17.25 O074	Flame spray pyrolysis of Co2AlO4 catalytic nanoparticles *A. Lähde, L. Modesto, T. Karhunen, R.J. Chimentão, F. Medina, J. Jokiniemi*

15.45-17.45 Rondo

Structural analysis

Chairs:	A.P. Weber and M. Seipenbusch
15.45-16.05 O075	Continuum models for nanoparticle-wall collisions *A.P. Weber, C. Schöner, M. Gensch, A. Werner and T. Pöschel*
16.05-16.25 O076	The critical velocity of rebound determined for sub-micron silver particles *H. Kuuluvainen, A. Arffman, J. Harra, O. Vuorinen, P. Juuti, J. Yli-Ojanperä, J. M. Mäkelä, J. Keskinen*
16.25-16.45 O077	Short wavelength optical characterization of aerosol nanoparticles in a flow tube *P. S. Bauer, H. Amenitsch, H. Peterlik, P. M. Winkler*
16.45-17.05 O078	Evaluation of SMPS and ELPI methods for the on-line determination of the morphology of aggregated copper nanoparticles at different sintering stages *D. Kiesler, M. Stein, Y. Beckmann, D. Pawlak, F. E. Kruis*
17.05-17.25 O079	Electrical impedance spectroscopy for the determination of the agglomeration state of nanoparticles *R. Wernet, W. Baumann, H.-R. Paur, M. Seipenbusch*

17.45 End of Conference Day

19.30 Conference Dinner Vapriikki Museum Centre

PROGRAM

WEDNESDAY, JUNE 17th 2015

8.30 Registration

Small Auditorium

Chair: Jorma Jokiniemi

8.45-9.45 Plenary Lecture 3:

Aerosol Nanoparticle Synthesis without Chemical Reactions
Prof. Einar Kruis, Univ. Duisburg

9.45-10.15 Coffee Break & Exhibition Park Hall

10.15-12.15 Small Auditorium

Development of new instruments

Chairs: J. Duplissy and M. Dal Maso

10.15-10.35 O080	Towards a Portable NanoParticle Sizing System *G. Lewis, S. Spielman, S. V. Hering, W. Mui, R. C. Flagan*
10.35-10.55 O081	Scanning Supersaturation CPC applied as a nano-CCN counter for size-resolved analysis of the hygroscopicity and chemical composition of nanoparticles *Z. B. Wang, H. Su, X. Wang, N. Ma, A. Wiedensohler, U. Pöschl, Y. Cheng*
10.55-11.15 O082	A transportable Ice Nucleation Chamber for field measurement *J. Duplissy, Q. Nguyen, E. S. Thomson, V. Hemmilä, M. Kulmala, T. Petäjä, M. Sipilä, M. Bilde, E. Swietlicki, Z.A. Kanji*
11.15-11.35 O083	Saturation vapour pressures from evaporation rates of organic aerosol particles *E. Emanuelsson, M. Tschiskale, M. Bilde*
11.35-11.55 O084	Development of a technology for online measurement of total and water-soluble copper (Cu) in ambient PM *D. Wang, M. M. Shafer, J. J. Schauer, C. Sioutas*
11.55-12.15 O085	A mobile measurement unit to measure road traffic emissions and air quality *M. Dal Maso, H. Wihersaari, T. Rönkkö*

10.15-12.15 Studio

Detection, analysis and field measurements

Chairs: H. E. Manninen and H. Timonen

10.15-10.35 O087	First measurements of the number size distribution of 1–2 nm particles released from manufacturing processes in a cleanroom environment *L. R. Ahonen, J. Kangasluoma, J. Lammi, K. Lehtipalo, T. Petäjä and M. Kulmala*
10.35-10.55 O088	Patterns of airborne pollen and fungal spore concentrations and their mass fraction in Hyytiälä, Finland *H. E. Manninen, S.-L. Sihto-Nissilä, J. A. Huffman, J. Bäck, A.-M. Pessi, V. Hiltunen, P. P. Aalto, P. J. Hidalgo, P. Hari, A. Saarto, M. Kulmala, and T. Petäjä*
10.55-11.15 O089	Cessna 172 light aircrafts as a platform for measuring aerosols in the lower troposphere *R. Väänänen, R. Krejci, H. E. Manninen, J. Kangasluoma, T. Nieminen, S. Mazon, J. Lampilahti, S. Schobesberger, A. Manninen, L. Ahonen, L. Zhou, T. Yli-Juuti, T. Pohja, P. P. Aalto, T. Petäjä, M. Kulmala*
11.15-11.35 O090	Effects of spatial sensitivity on particle detection with microfabricated electro-acoustic resonators *A.T. Zielinski, A. Prasad, A.A. Seshia, M. Kalberer and R.L. Jones*
11.35-11.55 O091	Measurements of aerosol composition at coastal site in Antarctica using Time-of-Flight Aerosol Chemical Speciation (ToF-ACSM) monitor *H. Timonen, M. Aurela, D. Brus, H. Lihavainen, R. Hillamo, M. Cubison, B. Nekat, R. Weller, D. Worsnop, E. Asmi*

10.15-12.15 Rondo

BUONAPART-E

Chairs: L. Ludvigsson and X. Guo

10.15-10.35 O092	Controlling the Size of Singlet Nanoparticles in Spark Ablation *J. Feng, G. Biskos and A. Schmidt-Ott*
10.35-10.55 O093	Sampling of initial stages of gold particles formed during spark discharge *L. Ludvigsson, B. O. Meuller, and M. E. Messing*
10.55-11.15 O094	Numerical and experimental study of a spark discharge used for nanoparticle production *A. Voloshko, A. Kohut, J-Ph. Colombier, G. Galbács, Zs. Geretovszky and T.E. Itina*
11.15-11.35 O095	DENSMO: A straightforward on-line quality monitor for nanoparticle manufacturing processes *P. Juuti, A. Arffman, A. Rostedt, J. Harra, J. M. Mäkelä and J. Keskinen*
11.35-11.55 O096	Toward industrial scale incorporation of nanoparticles onto catalytic membrane by aerosol route *J. Feng, C. Denonville, X. Guo, M. Fontaine, H. Fjeld, A. S. Azar and A. Schmidt-Ott*
11.55-12.15 O097	Quasi-online non-invasive structural study of spark generated aerosol nanoparticles using X-ray scattering technique *X. Guo, M. Wagner, A. Gutsche, J. Meyer, M. Seipenbusch, H. Nirschl*

12.15-13.15 Lunch Break & Exhibition Park Hall

13.15-15.15 Small Auditorium

Particle emission and release

Chairs:	A.J. Koivisto and F.Théron
13.15-13.35 O098	Testing a Near Field/Far Field model performance for prediction of particulate matter emissions in a paint factory *A.J. Koivisto, A.C.Ø. Jensen, M. Levin, K.I. Kling, M. Dal Maso, S.H. Nielsen, K.A. Jensen, I.K. Koponen*
13.35-13.55 O099	Entrainment rates and spectra of oil drops from the surface of mist filters *S. Wurster, J. Meyer and G. Kasper*
13.55-14.15 O100	Possible release of metallic nanoparticles along their life cycle *B. Stahlmecke, H. Kaminski, U. Sager, C. Asbach, M. Stein, E. Hontañon, E. Kruis, M. Stadlbauer and T.A.J. Kuhlbusch*
14.15-14.35 O101	Experimental characterization of the air flow in a ventilated duct in contribution to particle resuspension mechanism study at micro scale *F.Théron, L. Le Coq, D. Debba and C. Solliec*
14.35-14.55 O102	Aerosol concentrations and composition in an underground mine *K.Teinilä, H.Timonen, M.Aurela, S. Saarikoski, H. Hellén, H. Hakola, R. O. Salonen, A. Pennanen, M. Linnainmaa, F. Reyes, Y. Vasques, R. Hillamo*

13.15-15.15 Studio

Instrumentation 5: Optics and fluorescence

Chairs:	H. Horvath and W. Koch
13.15-13.35 O103	The Development and Application of Unified Catalogues for Real-Time Multiband Fluorescence Signatures to Discriminate between Bioaerosol Classes *M. Hernandez, A. Handorean, A. Perring, G. Kok, G. Granger and D. Baumgartner*
13.35-13.55 O104	Fluorescence based real-time bioaerosol measurements in urban environment *S. Saari, J.V. Niemi, T. Rönkkö, H. Kuuluvainen, A. Järvinen, L. Pirjola, M.Aurela, R. Hillamo and J. Keskinen*
13.55-14.15 O105	A polar nephelometer for laboratory and atmospheric aerosols *H. Horvath*
14.15-14.35 O106	Dual-wavelength light scattering measurements for composition specific, single particle differentiation *Zs. Jurányi, E. Weingartner, M. Loepfe, M. Nenkov and H. Burtscher*
14.35-14.55 O107	Aerosol analysis by absorption in the mid IR regime: Application to e-cigarettes *W. Dunkhorst, P. Lipowicz, W. Koch*
14.55-15.15 O108	Laser scattering for in situ monitoring of aerosol particles and growth of nanowires by Aerotaxy *M. H Magnusson, P. Samuelsson, Z.S. Li, W. Metaferia, B. O. Meuller and K. Deppert*

13.15-15.15 Rondo

Electrosprays

Chairs:	J. Rosell-Llompart and J. P. Borra
13.15-13.35 O109	Dynamics of the droplet formation process in periodic electric microdripping *A.J. Hijano, I.G. Loscertales, S.E. Ibáñez and F.J. Higuera*
13.35-13.55 O110	Synthesis of catalytic materials from controlled deposition of electro sprayed inks *J.L. Castillo, B. Martinez-Vazquez and P.L. Garcia-Ybarra*
13.55-14.15 O111	Multiple Electrospraying from Extractor-Free Linear-Arrays *N. Sochorakis, E. Bodnár, J. Grifoll and J. Rosell-Llompart*
14.15-14.35 O112	Electrospray Synthesis of PLGA TIPS Microspheres *S.A. Malik, W.H. Ng, J. Bowen, J. Tang, A. Gomez, A.J. Kenyon and R.M. Day*
14.35-14.55 O113	Generation of neutral calibration clusters *G. Steiner, A. Franchi, J. Kangasluoma, M. Rissanen, T. Petäjä, M. Kulmala*
14.55-15.15 O114	Generation of Water Soluble Standards Ions in the sub 2 nm range *M.Attoui*

15.15 Closing Remarks Small Auditorium

SOCIAL PROGRAM

SUNDAY JUNE 14th

Ice-breaking Party and Opening of the Exhibition

Place: Tampere Hall, Park Hall
at 18.30–20.30
Included in the registration fee for delegates and exhibitors, prior booking is required.

This informal get-together and opening of the exhibition takes place at the conference venue, Tampere Hall. A Buffet with wine will be served. Welcome to enjoy good company of your colleagues and make new friends in a relaxed atmosphere!

MONDAY JUNE 15th

Welcome Reception by the City of Tampere

Place: the Old City Hall at the Central Square, address: Keskustori 10
at 19.00–20.30, invitation needed

The City of Tampere cordially invites us for cocktails at the Old City Hall, located at the Central Square, in the midst of Tampere. This neo-renaissance building from the year 1890 is a real beauty itself – but moreover the numerous paintings and works of art that decorate the halls will delight you. It provides the ideal setting for this official welcome.

After the reception you will easily find a nice restaurant in the city centre for dinner or continue the evening in one of the various bars or clubs of Tampere.

TUESDAY JUNE 16th

Conference Dinner

Place: Vapriikki Museum Centre, address: Alaverstaanraitti 5
at 19.30–23.00, possibility to visit the museum exhibitions at 18.00–19.30
Fee: EUR 55 delegates, Students EUR 30, prior booking required; a green dot on your badge is your entrance ticket to the Museum and Dinner.

The Conference Dinner is held in the Museum Centre Vapriikki, the old engineering works of Tampella Ltd on the banks of the Tammerkoski Rapids. In the 1990's the factory was converted into a museum centre hosting several exhibitions. Inside, you can still sense the feeling of the past...

A buffet Dinner with wine will be served. Music entertainment by "TUT Prof Experience".

Before the Dinner, you have the possibility to visit two Museum Exhibitions:

The Tammerkoski Rapids and the Story of Tampere, and Innovations. The Tammerkoski Rapids exhibition tells the story of how a small village grew into an industrial city; Innovations is an exhibition and research project focusing on the past and present of local technical know-how.

The Museum Centre is located within a short walking distance from the conference venue and the hotels. Student assistants will walk you from hotels to the Dinner venue (note: not from Scandic Hotels). Meeting in the hotel lobby at 19.00. You can also walk there on your own. On the map on the next page you will find the venue.

Hotels

- Sokos Hotel Villa
- Solo Sokos Hotel Torni Tampere
- Scandic Tampere City
- Scandic Tampere Station
- Dream Hostel Tampere
- Cumulus Koskikatu
- Cumulus Rautatienkatu

Conference

- Tampere Hall

Social Program

- Tampere City Hall
- Vapriikki (Conference Dinner)

- Central Railway Station
- Bus station
- Bus station for local buses

SCIENTIFIC INFORMATION

Abstracts All abstracts will be published on the conference website www.tut.fi/at2015

Posters are displayed in the poster area in Park Hall.
Poster Session: Tuesday 16th June at 10:15–12:15. Presenting authors are asked to attend their poster during the poster session.
Posters are to be mounted on Monday morning and left on display till Wednesday afternoon. Please remove your poster by this time.

Instructions for Oral Presentations
Oral presenters are requested to report to the session chair at least 10 minutes prior to the start of their session. Speakers may use either the PC installed in the meeting room or their own computer.

Speakers' service desk is located in the main lobby. Speakers are asked to bring their slides/PowerPoint presentations at the speakers' service desk at least 3–4 hours before the time of their presentation; preferably the day before.

When you intend to use your own PC in the meeting room, please check the technique during the break before your session. Technical support is provided by the conference staff in each meeting room.

Please note that the presentation time is 20 minutes in total, i.e. 15 minutes for the talk and 5 min for discussion.

Instructions for Back-up Presentations
Back-up presentations are poster presentations that will also be offered a slot for oral presentation if a vacancy becomes available. Presenters should check with chairs at the start of relevant oral session.

GENERAL INFORMATION

Conference venue
Tampere Hall (address: Yliopistonkatu 55), tel. +358 3 2434 111.

Registration and service desk is in the main entrance hall of the Tampere Hall. The desk is open on Sunday at 17.00–19.00, Monday 8.00–18.30, Tuesday 8.00–18.00, Wednesday 8.30–15.30. The personnel will be happy to help you, if you have questions concerning, for example, registration & payment, hotel bookings and social events. Registration desk's international telephone number is +358 40 770 5035.

Registration fee includes:
- Scientific program
- Lunch and refreshments Mon-Wed
- Ice-breaking party on Sun 14 June
- Welcome Reception by the City of Tampere on Mon 15 June
- Conference material and name badge
- Admission to all scientific sessions
- Admission to the exhibition

Badges and Tickets Please wear your name badge at all times; it is your entrance ticket to all sessions, lunches, coffees and exhibition area. No badge, no entry! If you have lost your badge or left it at your hotel, please contact the registration desk.

Assistants Voluntary conference assistants (students) will be happy to help you with practical matters. They will assist the speakers and chairpersons in the lecture rooms and will be at your service at the registration desk, too. The assistants can easily be recognized from the "All Bright Tampere" T-shirts.

Coffee breaks Coffee/tea is included in the conference fee for conference participants twice a day at times given in the program. Please show your badge, which is your coffee ticket. Coffee is served in the exhibition area in the Park Hall.

Conference rooms Keynote lectures are held in the Small Auditorium. Other sessions are held in Studio and Rondo. Please follow the electric Tampere Hall signs. A map of the conference venue/rooms is available at the registration desk.

Currency exchange Forex Tampere Branch, at Rautatienkatu 14 b is open Mon-Fri 8.30–19, at Stockmann's Department Store (2nd floor) Hämeenkatu 4, Mon-Fri 9.00–20, Sat 9–18, Sun 12–18.

Lunch is served in the Park Hall during the hours stated in the program. Please show your delegate badge, which is your lunch ticket.

Café Soolo on level 1 is open on Sunday 15.00–18.30, Monday 9.00–18.00 Tuesday-Wednesday 8.30–18.00. Coffee, refreshments, snacks, wine & beer are available. Smoking is allowed in the Café's outdoor terrace.

WiFi There is a free WiFi in Tampere Hall: network: TampereHall, password: customer2012

First Aid and Pharmacy There is a first aid room in Tampere Hall for urgent situations. If you need help, please contact any of the conference assistants or Tampere Hall personnel. In case you need a doctor consult the registration desk to contact local health care services or hospitals. The nearest pharmacy (in Finnish 'APTEEKKI') is located at Tullintori Shopping Mall (2nd floor), only a few minute walk from Tampere Hall. Open Mon-Fri at 8.00–18.00, Saturday 10.00–14.00. Yliopiston Apteekki -pharmacy at Hämeenkatu 16 is open every day 7–24.

How to get to Tampere-Pirkkala Airport? Tampere-Pirkkala Airport is situated 15 kms from Tampere city centre. The Bus line # 1L runs between the city center (for example Railway Station and the Airport). Timetables: http://aikataulut.tampere.fi/?lang=en

You can also call for an Airport Taxi. The one-way fare is 19 €/person. You need to book the Airport Taxi well in advance. Make sure you book the ride from city center to the airport in good time and while booking, state the departure time of your flight. The dispatcher will tell you the pick-up time. To call an airport taxi dial 0100 4131 (+358 100 4131). The cost of a normal taxi from the city center to the airport will be about 35-45 €.

Taxi There are several taxi points around Tampere, one just near the entrance of Tampere Hall. To call a taxi dial 0100 4131 (+358 100 4131). We recommend making a prebooking for an early morning pick-up. The prebooking must be made at least 60 minutes prior to the pick-up. For an advance booking, the customer is charged an extra fee of 7.10 €.

ATM Cash points The nearest cash point to Tampere Hall is situated in Tullintori shopping mall.

Luggage store at Tampere Hall is in the cloakroom in the main entrance hall. There are also luggage lockers operated with a 1 € deposit in the main entrance hall.

Mobile phones must be switched off during sessions.

Photocopying service is available at Tampere Hall at your own cost. For details and prices contact the registration and info desk.

Shopping Department stores are open Mon-Fri 9–21, Sat 9–18, Sun 12–21. Shops at Koskikeskus shopping mall are open Mon-Fri 10–19, Sat 10–17, Sun 12–17 (not all shops).

Smoking is prohibited inside Tampere Hall. Ashtrays are located outdoors, for example, in front of Café Soolo and Park Hall.

Toilets There are toilets on the ground, 1st and 2nd floors of the Tampere Hall's Main Building. There is a disabled toilet on the first floor beside the Cloakroom. There is a baby care room on the ground floor.

Tourist Information – Visit Tampere
Hämeenkatu 14 B
Mon-Fri 10.00–18.00, Sat-Sun 10–15
Tel. 03 5656 6800
visittampere@visittampere.fi
http://www.visittampere.fi

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TAMPERE
FINLAND

Photo: Tampere Hall

EXHIBITORS' COMPANY PROFILES

Aerosol Devices Inc.
Fort Collins, CO, USA

info@aerosoldevices.com
http://aerosoldevices.com

Aerosol Devices Inc. revolutionizing the science of collecting airborne particle samples for chemical and biological analysis.

Product: The SPOT SAMPLER™ is a fully-integrated aerosol instrument for the efficient, concentrated collection of nanometer and micrometer-sized particles. Collection may be either wet or dry. Sequential aerosol samples may be collected as dry, 1-mm diameter "spots" within the individual wells of a multi-well plate. Alternatively, particles can be collected as a concentrated suspension in a small, liquid-filled vial. These Spot Samples are 'ready to analyze', without user extraction or manipulation. The inherent pre-concentration of the collection method saves labor, improves analysis sensitivity and enhances data quality. Its enabling technology is a moderated condensational growth that enlarges particles into water droplets without temperature extremes or steam. Once grown particles that were as small as a few nanometers are easily captured by gentle impaction. This approach excels at collecting challenging materials such as nanoparticles, bioaerosols, and semi-volatile particles where other collection methods fail.

About Us: Aerosol Devices Inc. was founded in 2014 by two professional women in aerosol science: Ms. Pat Keady and Dr. Susanne Hering. The core patented technology is exclusively licensed from Aerosol Dynamics Inc. (Berkeley, California).

Airmodus Oy
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Airmodus technologies are filling the gap between aerosol particle size distribution measurements and gas phase monitoring. Nucleation researchers can observe clusters of molecules and the nucleated particles when they are as small as 1 nm. And, further learn about the growth of the particles using the activation spectra of 1–3 nm particles.
Airmodus offers Particle Size Magnifier systems that allow you to detect particles as small as 1 nm in diameter; easy to use Condensation Particle Counters with a cut-off size fit for your measurement needs; and special mass spectrometer inlets for the detection of challenging gaseous compounds (e.g. sulfuric acid, ammonia, amines).

Cambustion
Cambridge, United Kingdom

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Established in Cambridge, UK in 1987, Cambustion designs and manufactures aerosol instrumentation and gas analysers.

The Centrifugal Particle Mass Analyser (CPMA) classifies aerosol particles by their mass to charge ratio using opposing centrifugal and electrical forces. It is a standalone bench-top analyser with built-in touch-screen, fixed-resolution scanning, and is capable of directly interfacing with a wide range of detectors. Applications include particle density determination, and traceable calibration of mass-based analysers, e.g. those used for black carbon measurement.

Cambustion produces a unipolar diffusion charger (the UDAC), capable of placing a high level of charge on aerosols. Combining a UDAC, a CPMA and an aerosol electrometer forms an aerosol mass concentration standard.

The DMS500 MkII offers the fastest real-time electrical-mobility size/number spectra available. It couples both a fast data rate of 10Hz with a fast response time of just 200 ms to resolve a change in particle concentration of 10–90 %, which no other mobility analyser can match. It has a wide size range from 5nm – 1.0µm/2.5µm, with unrivalled sensitivity. With fully integrated sampling and dilution, the DMS is used for both ambient applications and direct sampling of high concentration aerosol sources.

We continue to innovate; sponsoring aerosol research and the annual Cambridge Particle Meeting, while our large R&D team undertakes collaborative projects with researchers from around the world.

Dekati Ltd.
Kangasala, Finland

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Dekati Ltd. has provided high quality instrumentation for fine particle measurements successfully for over 20 years. Our measurement solutions include complete fine particle measurement setups including both sample conditioning and particle detection for <10µm particles. All Dekati® instruments are developed, manufactured and calibrated in Finland with strict quality requirements and provided with a standard two year warranty. Dekati® Instruments are used for example in the following application areas:

- Combustion Process Emission Measurements
- Environmental Ambient Aerosol Research and Monitoring
- Occupational Health and Safety Measurements
- Pharmaceutical Drug Screening and Inhalator R&D
- Nanotechnology and Material Processing

The highlights of our product line include the ELPI+™ product family that enables real-time measurement of particle size distribution 6nm-10µm and post-measurement chemical analysis of the size classified, collected samples. The High Temperature version of the ELPI+™ additionally allows direct measurement of up to 180°C aerosol sample without the need to cool the sample. The latest addition to the ELPI+™ product family is the High Resolution ELPI+™ that gives particle size distribution in up to 500 size classes making it a superior tool for detailed particle size distribution analysis. In addition to the ELPI+™ instruments, Dekati® Product Line includes several other instruments for both particle detection and aerosol sample conditioning and dilution.

Magee Scientific
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Kamniska 41, SI-1000 Ljubljana, Slovenia
www.aerosol.eu

Magee Scientific Aethalometer®, instrument for measurement of Black Carbon, is manufactured at "Aerosol d.o.o." in Ljubljana, Slovenia. The Aethalometer® provide an on-line measurement of aerosol absorption on up to 7 wavelengths: 370, 470, 520, 590, 660, 880, 950 nm. Black Carbon is the second most important climate forcer and highly correlated with detrimental health effects of air pollution. Measurements by the Aethalometer® of aerosol absorption at different wavelengths of light provide information specific to sources and enable discrimination between biomass and fossil fuel combustion aerosols by ambient measurements, and detection of mineral.

The'Next Generation' Aethalometer®, Model AE33, incorporates scientific and technical advances designed to offer improved measurement performance, user features, communications and interface, and the ability to perform routine performance tests to verify correct operation. Most importantly, the new instrument incorporates the patented DualSpot™ measurement method. This provides two significant advantages: elimination of the changes in response due to 'aerosol loading' effects; and a real-time calculation of the 'loading compensation' parameter, which offers insights into aerosol optical properties.

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We are a spin-off company of the institute for aerosol and sensor technology of the university of applied sciences northwestern Switzerland, and build on a decade of experience in nanoparticle instrumentation development. Our philosophy is to keep things simple - in engineering, simple automatically means robust. We strive to build instruments that are simpler to use and need less maintenance than traditional nanoparticle detectors. Beside our standard aerosol dosimeter called partector, we also have a new product, the partectorTEM which is an ultra-portable nanoparticle surface area dosimeter with integrated TEM sampling for workplace and exposure monitoring. It is also suitable for environmental monitoring or airborne measurements. For more information visit our website www.naneos.ch

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Sympatec develops, manufactures, sells, services and supports an innovative range of best instruments for particle size and shape analysis in laboratory and process for customers worldwide.

With continuous innovations in the technological fields of laser diffraction, dynamic image analysis, ultrasonic extinction and photon cross-correlation spectroscopy (PCCS), Sympatec makes a prominent contribution to the development, production and quality control of most challenging particulate systems.

Typical applications cover dry powders and granules, fibres, suspensions, emulsions, gels, sprays and inhalants within a size range from 0.5 nm to 34,000 µm. Modular instruments show great versatility and can be adapted to the specific task within your laboratory. The proven measurement technologies are also available for integration into your process. Moreover, all instruments reliably deliver most accurate, reproducible and comparable results at shortest measuring times.

Sympatec – The Particle People.

TSI GmbH
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During Aerosol Technology 2015 Conference, the TSI Team, together with its Channel Partner Teknocalor, will present:

- The new Electrospray Aerosol Generator with Soft-X-Ray neutralizer which generates high concentrations of particles in the 2 to >150 nm size range. A combination with the SMPS allows sizing of nanoparticles or macromolecules.
- The recently introduced "Nanoparticle Emission Tester (NPET)", a portable, easy to use, cost effective instrument dedicated to engine exhaust and combustion emissions.

Stop by at our booth and learn more about our products!

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