MILLIMETRE WAVE DAYS

The 6th ESA Workshop on Millimetre-Wave Technology and Applications AND The 4th Global Symposium on Millimeter Waves GSMM2011

May 23rd – May 25th, 2011
MilliLab, Espoo, Finland

CONFERENCE PROGRAM

Session Overview

Monday, May 23rd, 2011		
8:00-9:00	Registration	
9:00-9:30	Opening - Auditorium	
9:30-10:30	Plenary 1 - Auditorium	
10:30-10:50	Coffee Break	
11:00-12:20	Sessions ESA1 & GSMM1 - Auditorium	
12:20-13:20	Lunch	
13:20-14:20	Plenary 2 - Auditorium	
14:20-14:50	Coffee Break	
14:50-16:40	Session ESA2 - Auditorium	Session GSMM2 - Room 4B
17:00-19:30	Poster Session, Wine, and Snacks - Micronova	
19.45-21.30		GSMM SG Meeting

Tuesday, May 24th, 2011		
8:30-9:30	Plenary 3 - Auditorium	
9:30-10:00	Coffee Break	
10:00-11:40	Session ESA3 - Auditorium	Session GSMM3 - Room 4B
11:40-12:30	Lunch	
12:30-14:00	Plenary 4 - Auditorium	
14:00-14:40	Coffee Break	
14:40-16:20	Session ESA4 - Room 4B	Session GSMM4 - Auditorium
16:20-16:40	Coffee Break	
16:40-18:00	Session ESA5 - Room 4B	Session GSMM5 - Auditorium
18:45-22:45	Boat Cruise & Conference Dinner - Restaurant Walhalla	

Wednesday, May 25th, 2011		
8:30-10:00	Plenary 5 - Auditorium	
10:00-10:30	Coffee Break	
10:30-11:50	Session ESA6 - Room 4B	Session GSMM6 - Auditorium
11:50-12:40	Lunch	
12:40-14:00	Session ESA7 - Room 4B	Session GSMM7 - Auditorium
14:00-14:30	Best Paper Awards & Closing - Auditorium	
14:30-16:00	NEWFOCUS Meeting	

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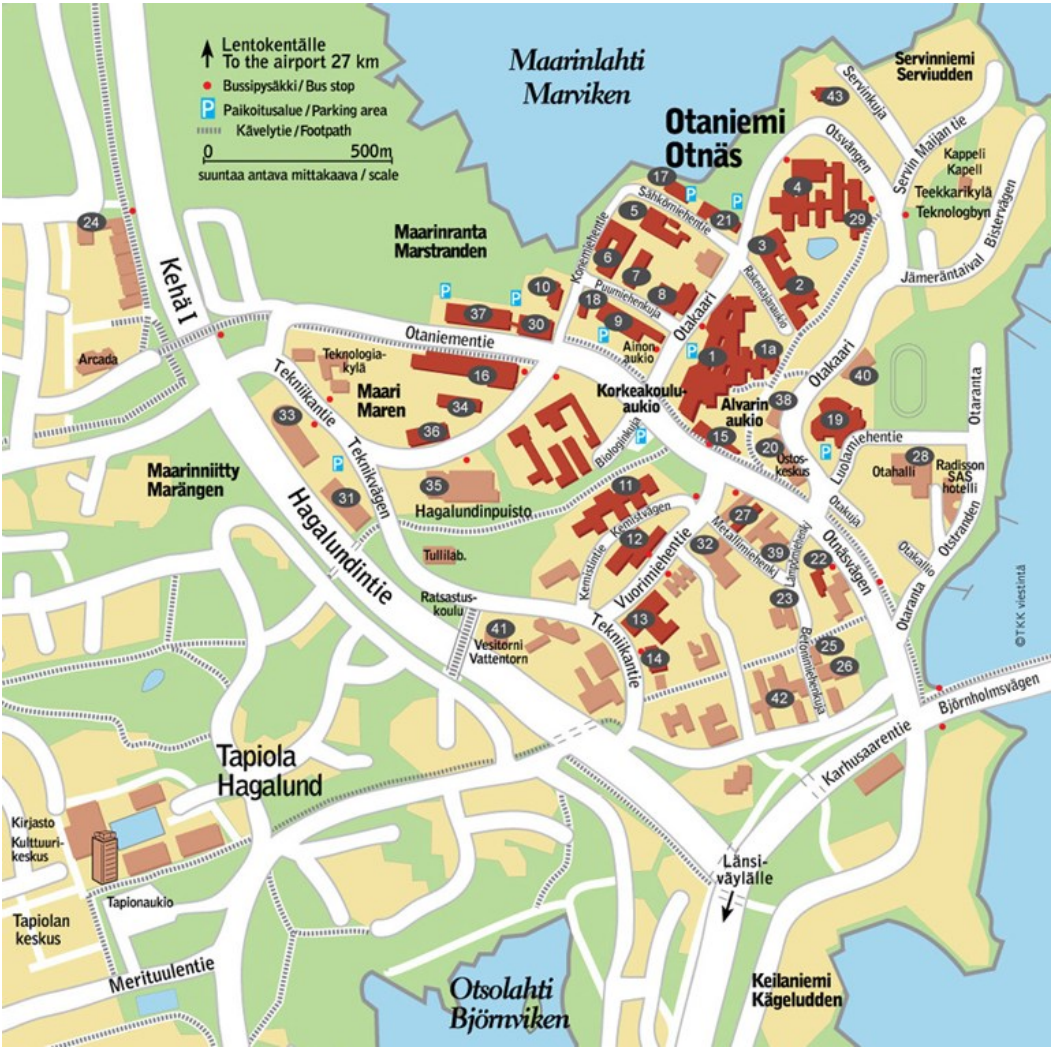
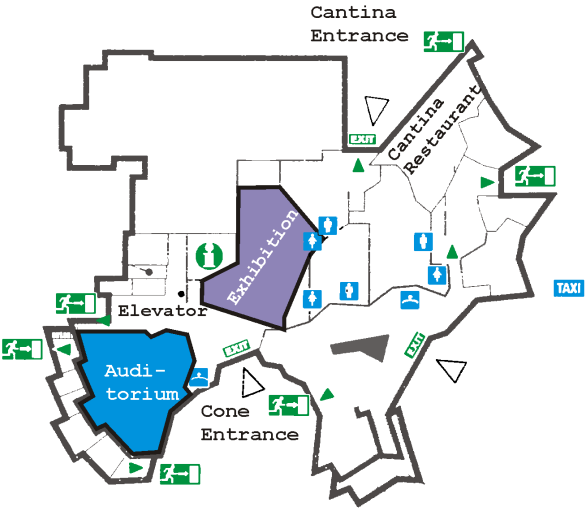
Map of Otaniemi



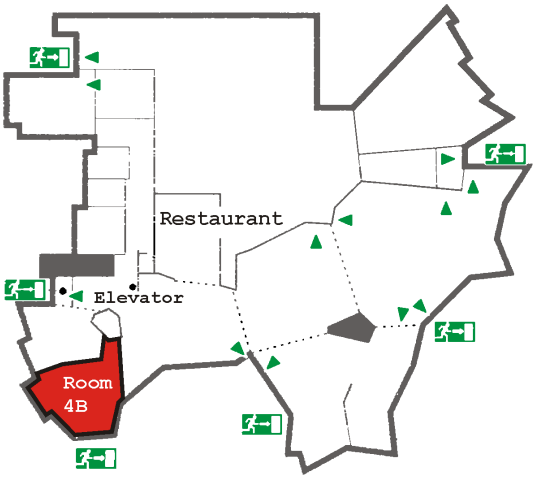
1. Main Building, Otakaari 1
4. School of Electrical Engineering, Otakaari 5 (Department Tour on Mon.)
19. Dipoli, Otakaari 24 (Conference Venue)
20. Grosery store, Pharmacy, Post Office, ATM, Grill, Otakaari 11
36. Micronova Dept. of Micro and Nanosciences, Tietotie 3
(Welcome Reception & Poster Session on Mon.)

Conference Venue

Ground Floor



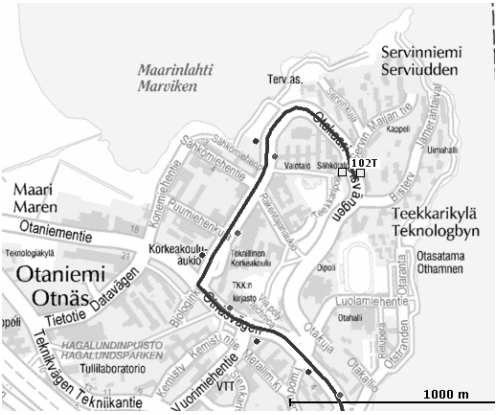
First Floor

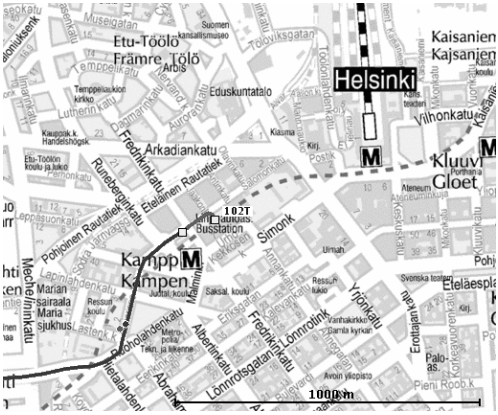


Meeting Place Emergency Exit Exit Direction

Bus Timetable

Kamppi, Platform 41, Bus 102			Otaniemi, Bus 102		
Sunday			Sunday		
12.23T	16.23T	20.23T	12.26T	16.26T	20.26T
12.53T	16.53T	20.53T	12.56T	16.56T	20.56T
13.23T	17.23T	21.23T	13.26T	17.26T	21.26T
13.53T	17.53T	21.53T	13.56T	17.56T	21.56T
14.23T	18.23T	22.25T	14.26T	18.26T	22.50T
14.53T	18.53T	23.15T	14.56T	18.56T	23.45T
15.23T	19.23T	0.10T	15.26T	19.26T	0.35T
15.53T	19.53T	1.00T	15.56T	19.56T	
102 : 20-minute travel time					
102T : 25-minute travel time					
Tickets, €			Single-charge card, €		
Single		4.00	1 day	12	
Single 2am - 4.30am		6.00	2 days	18	
			3 days	24	
			4 days	30	
			5 days	36	
			6 days	42	
			7 days	48	





Bus Timetable

Kamppi, Platform 41, Bus 102			Otaniemi, Bus 102		
Weekday			Weekday		
06.15	11.25	17.30T	05.57	12.27T	17.25
06.45	11.45	17.40T	06.17T	12.47T	17.35
07.05	12.05	17.50T	06.37T	13.07T	17.45
07.17	12.25	18.00T	06.52T	13.27T	17.53
07.26T[e]	12.45	18.10T	07.07T	13.47T	18.05T
07.35	13.05	18.25	07.22T[e]	14.07	18.15
07.41	13.25	18.40T	07.33T	14.27	18.25
07.49[e]	13.45	18.55T	07.43T	14.47	18.35T
07.56	14.03T	19.15T	07.52T[e]	15.00	18.50
08.03	14.23T	19.30T	08.04T	15.06T	19.05T
08.11	14.45T	19.50T	08.14T[e]	15.12	19.25
08.18	15.05T	20.20	08.28T	15.24[e]	19.55
08.28T	15.23T	20.45	08.35T	15.33	20.20
08.36	15.38T	21.10T	08.45T	15.43	20.45T
08.46	15.48T[e]	21.30T	08.56T	15.52	21.05T
08.55	15.58T	22.00	09.08T	15.58	21.35
09.05	16.08T	22.30	09.27T	16.04	22.00T
09.18	16.17T	22.55T	09.47T	16.13	22.30T
09.31	16.24T	23.20T	10.07T	16.19[e]	22.55
09.42	16.34T	23.45T	10.27T	16.26	23.20T
09.52	16.42T	0.10T	10.47T	16.35	23.45
10.05	16.50	0.35T	11.07T	16.45	0.10
10.25	17.00T	1.00T	11.27T	16.55	0.35T
10.45	17.12T	1.50	11.47T	17.05	1.25T
11.05	17.20T		12.07T	17.13	

102 : 20-minute travel time

102T : 25-minute travel time

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Antti Räisänen, MilliLab, Aalto University, Finland
Markku Sipilä, VTT , Finland
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Qun Wu, Harbin Insitute of Technology, China
Yong-Zhong Xiong, IME, Singapore

ESA Workshop & GSMM2011 Conference Secretary

Aleksi Tamminen, MilliLab, Aalto University, Finland

Monday Morning — ESA Workshop

8.00-9.00	Registration
Opening; Auditorium; *Chairmen: W. Hong, A. Luukanen*	
9.00-9.05	"Welcome Address", *A. Luukanen, MilliLab, VTT Technical Research Centre of Finland*
9.05-9.10	"Millimetre Wave Days Practical Matters", *A. Tamminen, MilliLab, Aalto University Department of Radio Science and Engineering, Finland*
9.10-9.30	"Welcome Address", *ESA Workshop & GSMM2011 representatives*
Plenary 1: THz-imaging; Auditorium; *Chairmen: W. Hong, A. Luukanen*	
9.30-10.00	"Current State of The Art of The THz Imager Radar Being Developed at JPL", *N. Llombart, Universidad Complutense de Madrid, Spain*
10.00-10.30	"Terahertz wave generation and detection properties of polycrystalline GaAs layers irradiated by ultra-short laser pulse", *M. C. Paek, Electronics and Telecommunications Research Institute (ETRI), Korea*
Coffee Break & CST - Computer Simulation Technology Presentation	
Session ESA1: THz-imaging; Auditorium; *Chairmen: D. C. Park, J. Stake*	
11.00-11.20	"THz medical imaging", *Z. D. Taylor[1], R. S. Singh[2,3], D. B. Bennett[4], P. Tewari[1], N. Bajwa[1], C. P. Kealey[3], J. P. Hubschman[5], E. R. Brown[6,7], M. O. Culjat[2,3], and W. S. Grundfest[1,2,8], [1]Department of Bioengineering, UCLA, USA, [2]Department of Electrical and Computational Engineering, University of California, Santa Barbara UCSB, USA, [3]Department of Surgery, [4]Electrical Engineering, [5]Ophthalmology, and [8]Mechanical Engineering, UCLA, USA, [6]Department of Physics and [7]Electrical Engineering, Wright State University, USA*
11.20-11.40	"Modulation transfer function measurements of terahertz camera", *M. Grönholm[1], M.M. Leivo[1], A. Rautiainen[1], and A. Luukanen[2], [1]VTT Technical Research Centre of Finland, [2]Millimetrewave Laboratory of Finland-Millilab*
11.40-12.00	"A high resolution high-sensitivity standoff imaging system at 350 GHz", *D. T. Becker[1], J. Beall[1], H. M. Cho[1], W. Duncan[1], C. Gentry[1], G. Hilton[1], K. Irwin[1], P. Lowell[1], M. Niemack[1], N. Paulter[1], C. Reintsema[1], F. Schima[1], R. Schwall[1], P. Ade[2], C. Tucker[2], M. Halpern[3], and S. Dicker[4], [1]National Institute for Standards and Technology, Boulder, USA, [2]Cardiff University, UK, [3]University of British Columbia, Canada, [4]University of Pennsylvania, USA*
12.00-12.20	"Passive submillimetre-wave video imaging: implementation of a practical instrument", *E. Heinz, T. May, D. Born, G. Zieger, S. Anders, V. Zakosarenko, M. Schubert, T. Krause, A. Krueger, and H.-G. Meyer*
Lunch; Dipoli Buffet Restaurant	

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Lunch; Dipoli Buffet Restaurant	

Monday Afternoon — ESA Workshop

Plenary 2: Space science and radio astronomy instruments; Auditorium; *Chairmen: J. K. Rhee, A. Räisänen*	
13.20-13.50	"Herschel and Planck - Ground breaking THz Technology in Space", *D. Doyle and P. de Maagt, ESTEC, European Space Agency, The Netherlands*
13.50-14.20	"THz superconducting mixers and astronomical applications", *S. Shi, Purple Mountain Observatory, Chinese Academy of Sciences, China*
Coffee Break	
Session ESA2: Remote sensing instruments; Auditorium; *Chairmen: D. Doyle, J. X. Chen*	
14.50-15.10	"THz interferometers in geosynchronous orbit - status and results", *A. Emrich[1], E. Ryman[1], J. Embretsén[1], A. Carlström[2], J. Christensen[2] and J. Riesbeck[1], [1]Omnisys Instruments AB*, Västra Frölunda, Sweden, [2]RUAG Space AB, Göteborg, Sweden*
15.10-15.30	"Polarimetric modeling, calibration and active imaging at 91 GHz", *M. Canavero, A. Murk, Institute of Applied Physics, Switzerland*
15.40-16.00	"A low VSWR 340 GHz 2SB Schottky receiver for Earth observation applications", *P. J. Sobis[1, 2, 3], V. Drakinskiy[1,2], J.Stake[1,2], A. Emrich[1,3], [1]Gigahertz Centre and [2]Terahertz and Millimeterwave Laboratory, Chalmers University of Technology, Sweden, [3]Omnisys Instruments AB, Sweden*
16.00-16.20	"ALMA WVR final report", *M. Wannerbratt, T. Ekebrand, A. Emrich, P.Sobis, U. Krus, S. Back-Andersson, D. Runesson, and M. Krus Omnisys Instruments AB*, Sweden*
16.20-16.40	"STEAMR - 340 GHz array detector", *A. Emrich, P.Sobis, J. Embretsén, and K. Kempe, Omnisys Instruments AB*, Västra Frölunda, Sweden*
17.00-18.30	Poster Session, See Next Page

Monday Afternoon — GSMM2011

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13.30-14.00	"THz superconducting mixers and astronomical applications", *S. Shi, Purple Mountain Observatory, Chinese Academy of Sciences, China*
Coffee Break	
Session GSMM2: Millimetre-wave MMICs; Room 4B; *Chairmen: W. Dou, P. Pursula*	
14.50-15.10	"LTCC platform for millimeter wave modules", *T. Vähä-Heikkilä and M. Lahti, VTT Technical Research Centre of Finland*
15.10-15.30	"On the package design used for material characterization of LTCC in millimetre-waves", *V. Kondratyev, K. Kautio, and M. Lahti, VTT Technical Research Centre of Finland*
15.40-16.00	"Low noise amplifiers for G-band radiometers", *M. Kantanen[1], M. Kärkkäinen[2], S. Caujolle-Bert[2], M. Varonen[2], R. Weber[3], M. Seelmann-Eggebert3, A. Leuther3,*
16.00-16.20	"A broadband low-noise D-band amplifier module in 30nm mHEMT technology", *E. Weissbrodt, I. Kallfass, A.Tessmann, H. Massler, A. Leuther, M. Schlechtweg, O. Ambacher, Fraunhofer Institute for Applied Solid-State Physics (IAF), Germany*
16.20-16.40	"W-band power amplifier in 65-nm CMOS", *D. Sandström[1], B. Martineau[2], M. Varonen[1], M. Kärkkäinen[1], A. Cathelin[2], and K. A. I. Halonen[1], [1]Aalto University, Department of Micro and Nanosciences/SMARAD-2, Finland, [2]STMicroelectronics, France*
17.00-18.30	Poster Session, See Next Page

Monday Poster Session

Poster Session with Wine and Snacks; Micronova; *Chairmen: A. Timofeev, J. Ala-Laurinaho*	
17.00-18.30	"A high-efficiency synthesis method for wide-band phased array antennas", *C. Song[1], Q. Wu[1], Z. Lub[2], [1]Department of Microwave Engineering, Harbin Institute of Technology, China, [2]The 54th Research Institute of CETC, China*
	"A new algorithm for generating coefficients of Taylor series expansion of nonlinear components with time harmonic excitation", *H. Wang and J. Qiu, Harbin Institute of Technology, China*
	"A waveguide to differential stripline transition for planar mm wave antenna measurements", *S. Methfessel and L.-P. Schmidt, Chair for Microwave Engineering and High Frequency Technology, University of Erlangen-Nuremberg, Germany*
	"Amplification enhancement of Gunn effect based active transmission lines", *M. Pokorný and Z. Raida, Department of Radio Electronics, Brno University of Technology, Czech Republic*
	"Application of Gaussian beam modes and ABCD matrices in the design of compact array systems", *J. A. Murphy[1], M. Whale[2], A. Murk[2], and M. Renker[2], [1]National University of Ireland Maynooth, Ireland, [2]Institute of Applied Physics, University of Bern, Switzerland*
	"Characterization of Cylindrical Cloak by Unequal Multi-Layer Homogeneous Isotropic Materials", *J. Mei[1,2], Q. Wu[1,3], [1]School of Electronics and Information Engineering, Harbin Institute of Technology, China, [2]School of Applied Science, Harbin University of Science and Technology, China, [3]State Key Laboratory of Millimeter Wave, Southeast University, China*
	"Design of band-pass filter using gap waveguide technology", *A. Uz. Zaman, A. Algaba Brazález, and P.-S. Kildal, Department of Signals and Systems, Chalmers University of Technology, Sweden*
	"Development of a compact 557 GHz heterodyne receiver", *J. Stake*
	"Development of planar Schottky diodes", *V. Drakinskiy[1], P. Sobis[1,2], A.-Y. Tang[1], T. Bryllert[1,3], and J. Stake[1,3], [1]Chalmers University of Technology, Sweden, [2]Omnisys Instruments AB, Sweden, [3]Wasa Millimeter Wave AB, Sweden*
	"Development of a waveguide integrated sub-millimetre wave spatially power combined HBV multiplier", *R. Dahlbäck, J. Vukusic, and J. Stake, Department of Microtechnology and Nanoscience, Chalmers University of Technology, Sweden*
	"Beam steering with MEMS-based HIS on a lossy sillicon substrate at 80 GHz", *Z. Du, D. Chicherin, A. V. Räisänen, Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, MilliLab/SMARAD Centre of Excellence, Finland*
	"Optimal printed antenna for 60 GHz short range impulse communication systems", *R. Abdaoui[1], M. Villegas[1], G. Baudoin[1], A. Diet[2], [1]Université Paris-Est, ESYCOM, ESIEE Paris, France, [2]L2S-DRE UMR8506 (Université Paris Sud-11CNRS, Supélec,), France*

Monday Poster Session

Poster Session with Wine and Snacks; Micronova; *Chairmen: A. Timofeev, J. Ala-Laurinaho*	
17.00-18.30	"Ultrasensitive superconducting transition edge sensors based on electron-phonon decoupling", *N. Jethava [1,2], J. Chervenak [1], A.-D. Brown [1,3], D. Benford [1], G. Kletetschka [1], V. Mikula [1,4], K. U-yen [1], [1] NASA Goddard Space Flight Center, USA, [2] Global Science and Technology, USA, [3] MEI Technologies Inc., USA, [4] Department of Physics, Catholic University of America, USA*
	"Effects of finite substrate size of membrane structure on antenna performance at terahertz frequency", *T. K. Nguyen [1], H. Han [2], and I. Park [1], [1] School of Electrical and Computer Engineering, Ajou University, Korea, [2] Department of Electrical and Computer Engineering, POSTECH, Korea*
	"Electromagnetic radiation form carbon nanotube at terahertz frequency", *Y. Wang [1,2], Q. Wu [1,3], J. Y. Dong [2], M. H. Chen [2], and J. H. Yin [2], [1] Department Science and Technology, Harbin Institute of Technology, China, [2] School of Electronics and Information Engineering, China, [3] State Key Laboratory of Millimeter Wave, Southeast University, China*
	"Folded-dipole-driven quasi-Yagi antenna for 60-GHz wireless applications", *S. X. Ta, B. Kim, and I. Park, School of Electrical and Computer Engineering, Ajou University, Korea*
	"Gap-coupled circular microstrip patch antenna for 60 GHz millimeter wave applications", *P. Kumar, Department of Electronics and Communication Engineering Jaypee University of Information Technology, India*
	"High permittivity rectangular dielectric rod waveguide for 110-325 GHz", *J. P. Pousi, D. V. Lioubtchenko, and A. V. Räisänen, Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, MilliLab/SMARAD Centre of Excellence, Finland*
	"Mixer test jig for millimeter wave Schottky diodes", *K. Dahlberg, T. Kiuru, J. Mallat, A. V. Räisänen, and T. Närhi, Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, MilliLab/SMARAD Centre of Excellence, Finland*
	"MMIC subharmonic mixer for 94 GHz", *T. Kiuru [1], A. González [2], and T. Närhi [3], [1] Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, MilliLab, SMARAD Centre of Excellence, Finland, [2] National Astronomical Observatory of Japan, [3] European Space Agency RF Payload Systems Division, The Netherlands*
Tour in Micronova and ELEC Facilities	
18.30-19.30	
GSMM Steering Group Meeting	
19.45-21.30	

Tuesday Morning — ESA Workshop

Plenary 3: Millimetre-wave technologies and antennas; Auditorium; *Chairmen: Q. Wu, T. Närhi*	
8.30-9.00	"Planar, Volumetric and Integrated Millimetre-Wave Antennas", *R. Sauleau, Institute of Electronics and Telecommunications, University of Rennes, France*
9.00-9.30	"Graphene millimeter wave electronics", *J. Stake, Chalmers University of Technology, Sweden*
Coffee Break	
Session ESA 3: Millimetre-wave/THz technologies and applications I; Auditorium; *Chairmen: Z. Taylor, P. Piironen*	
10.00-10.20	"A 77 GHz waveguide VCO for automotive application", *D.-S. Ko, S.-J. Lee, S.-G. Choi, M. Han, T.-J. Baek, Y.-S. Chae, and J.-K. Rhee, Millimeter-wave Innovation Technology Research Center, MINT, Korea*
10.20-10.40	"Label-free investigation of microgravity influenced cell growth in capillary tubes sensed by THz", *V. Matvejev [1], C. De Tandt [1], W. Ranson [1], R. Willaert [2], J. Stiens [1], [1] Laboratory of Micro- and Photoelectronics, LAMI-ETRO, [2] Laboratory of Structural Biology, Vrije Universiteit Brussel, Belgium*
10.40-11.00	"Waveguide packaging technology for THz components and systems", *V. Desmaris, D. Dochev, D. Meledin, A. Pavolotsky, and V. Belitsky, Group for Advanced Receiver Development, Department of Earth and Space Sciences, Chalmers University of Technology, Sweden*
11.00-11.20	"Low cost high gain antenna arrays for 60 GHz millimetre wave identification (MMID)", *J. Säily [1], A. Lamminen [1], J. Francey [2], [1] VTT Technical Research Centre of Finland, [2] Taconic International Ltd., Ireland*
11.20-11.40	"Novel automotive radar applications", *P. Pursula and V. Viikari, MilliLab / VTT Technical Research Centre of Finland*
Lunch in Dipoli Buffet Restaurant	

Tuesday Morning — GSMM2011

Plenary 3: Millimetre-wave technologies and antennas; Auditorium; *Chairmen: Q. Wu, T. Närhi*	
8.30-9.00	"Planar, Volumetric and Integrated Millimetre-Wave Antennas", *R. Sauleau, Institute of Electronics and Telecommunications, University of Rennes, France*
9.00-9.30	"Graphene millimeter wave electronics", *J. Stake, Chalmers University of Technology, Sweden*
Coffee Break	
Session GSMM 3: Millimetre-wave antennas; Room 4B; *Chairmen: Y.-S. Lin, A. Tamminen*	
10.00-10.20	"Millimetre wave frequency scanning probe for imaging applications", *C. Vázquez Antuña, S. Ver Hoeye, R. Camblor Díaz, G. Hotopan, M. Fernández García, F. Las Heras Andrés, Area of Signal Theory and Communications, University of Oviedo, Spain*
10.20-10.40	"Antenna array synthesis by non-uniform element positions using cross-entropy method", *L. Bian and Q. Wu, School of Electronic and Information Engineering, Harbin Institute of Technology, China*
10.40-11.00	"A millimetre-wave 8-element double slot array antenna for high gain beam-forming", *Y. Sato, K. Fujita, H. Sawada, H. Nakase, and S. Kato, Research Institute of Electrical Communication, Tohoku University, Japan*
11.00-11.20	"Multilayer PCB technology for antenna-in-package solution at millimetre-wave frequencies", *A. Enayati [1,2,2], G. A. E. Vandenbosch [1], W. De Raedt [2], and A. V. Räisänen [3], [1] TELEMIC group, Electrical Engineering Department, KU Leuven, Belgium, [2] RFCDM Group, IMEC, Belgium, [3] SMARAD/MilliLab, School of Electrical Engineering, Aalto University, Finland*
11.20-11.40	"Active Log-Periodic Antennas for Spatial and Quasi-Optical Microwave Power Combining", *V. E. Lyubchenko, V. I. Kalinin, V. D. Kotov, S. A. Telegin, E. O. Yunevich, Institute of Radioengineering and Electronics, Russian Academy of Sciences*
Lunch in Dipoli Buffet Restaurant	

Tuesday Afternoon — ESA Workshop

Plenary 4: Millimetre-wave/THz systems, circuits, and metrology; Auditorium; *Chairmen: S. Kato, J. Murphy*	
12.30-13.00	"Metrology For THz Electronics", *E. Grossman, National Institute of Standards and Technology, USA*
13.00-13.30	"Silicon based millimeter wave circuits", *J. X. Chen, State Key Laboratory of MMWs, Southeast University, China*
13.30-14.00	"Small-cell challenges for mobile networks' wireless backhaul", *J. Putkonen, Nokia Siemens Networks, Finland*
Coffee Break	
Session ESA 4: Millimetre-wave/Terahertz systems and sub-systems; Room 4B; *Chairmen: T. Bertrand, J. Putkonen*	
14.40-15.00	"Quasi-optical monopulse antenna/feed at THz band", *C. Hu and W. Dou, State Key Laboratory of Millimeter Waves, Southeast University, China*
15.00-15.20	"Design and characterization of CPW to stripline transition in LTCC for mm-wave applications", *A. Stefanescu [1], M.Lahti [2], A.C.Bunea [1], D.Neculoiu [1], T.Vähä-Heikkilä [2], [1] IMT-Bucharest, Romania, [2] VTT Technical Research Centre, Finland*
15.20-15.40	"Novel RF power sensor on Si rod waveguide", *A. A. Generalov, D.V. Lioubtchenko, J. Mallat, V. Ovchinnikov, Y. Li, and A.V. Räisänen, Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, SMARAD/MilliLab, Finland*
15.40-16.00	"Progress on the performance improvement of sub-millimetre wave sub-harmonically pumped image-rejection Schottky mixers", *S. P. Rea [1], B. Alderman [1], M. Henry [1], D. N. Matheson [1], and Y. Munro [2], [1] Millimetre Technology Group, STFC RAL Space, United Kingdom, [2] Astrium Ltd., United Kingdom*
Coffee Break	

Tuesday Afternoon — GSMM2011

Plenary 4: Millimetre-wave/THz systems, circuits, and metrology; Auditorium; *Chairmen: S. Kato, J. Murphy*	
12.30-13.00	"Metrology For THz Electronics", *E. Grossman, National Institute of Standards and Technology, USA*
13.00-13.30	"Silicon based millimeter wave circuits", *J. X. Chen, State Key Laboratory of MMWs, Southeast University, China*
13.30-14.00	"Small-cell challenges for mobile networks' wireless backhaul", *J. Putkonen, Nokia Siemens Networks, Finland*
Coffee Break	
Session GSMM 4: NEWFOCUS; Auditorium; *Chairmen: A. Boriskin, R. Sauleau*	
14.40-15.00	"Newfocus research networking program", *R. Sauleau, O. Biro, J. Stiens, Z. Sipus, A. V. Räisänen, L.-P. Schmidt, C. A. Fernandes, J. Mosig, V. Fusco, S. Maci, A. Neto, A. I. Nosich, and A. V. Boriskin, several affiliations, see: www.esf-newfocus.org*
15.00-15.20	"Low-reflection millimetre-wave composite lens", *P. Alitalo, C. A. Valagiannopoulos, and S. A. Tretyakov, Department of Radio Science and Engineering, Aalto University School of Electrical Engineering, Finland*
15.20-15.40	"Optimized design of a double-shell integrated lens antenna", *J. R. Costa [1,2], E. B. Lima [1], and C. A. Fernandes [1], [1] Instituto de Telecomunicações, IST, Portugal, [2] ISCTE-IUL, DCTI, Portugal*
15.40-16.00	"An overview of millimetre wave beam steering utilising a photo-injected Fresnel zone plate antenna", *T. Gallacher, D. A. Robertson, G. M. Smith, School of Physics and Astronomy, University of St Andrews, United Kingdom*
Coffee Break	

Tuesday Afternoon — ESA Workshop

Session ESA 5: Steerable antennas and tunable components; Room 4B;
Chairmen: N. Llombart, D. Lioubtchenko

16.40-17.00	"Beam-steerable flat reflector via transformation electromagnetics", *R. Yang[1,2], W. X. Tang[1], and Y. Hao[1], [1]School of Electronic Engineering and Computer Science, Queen Mary University of London, United Kingdom, [2]National Laboratory of Antennas and Microwave Technology, Xidian University, China*
17.00-17.20	"A 60 GHz tunable bandpass filter based on polymer cap deflection", *S. Seok, J. Kim, N. Rolland, and P. A. Rolland, Institute of Electronics, Microelectronics and Nanotechnology, EMN/CNRS, France*
17.20-17.40	"Millimetre-wave Vivaldi antenna with liquid crystal phase shifter for electronic beam steering", *M. Hoefle, M. Koeberle, A. Penirschke, and R. Jakoby, Institute of Microwave Engineering and Photonics, Technische Universität Darmstadt, Germany*
17.40-18.00	"Reflectarray design for 120-GHz MMID application: simulation results", *A. Tamminen[1], J. Ala-Laurinaho[1], J. Häkli[2], P. Koivisto[2], J. Säily[2], A. Luukanen[2], and A. V. Räisänen[1], [1]MilliLab, Aalto University Department of Radio Science and Engineering, Finland, [2]MilliLab, VTT Technical Research Centre of Finland*
18.45-22.00	Conference Dinner, See Next Page

Tuesday Afternoon — GSMM2011

Session GSMM 5: Millimetre-wave measurements; Auditorium; *Chairmen: E. Grossman, J. Säily*	
16.40-17.00	"Millimetre-wave linearity measurements: sensitivities and uncertainties", *J. Martens, K. Noujeim, and T. Roberts, Anritsu Company, USA*
17.00-17.20	"Permittivity and permeability extraction of magnetically loaded absorbing materials", *I.Zivkovic and A.Murk, Institute of Applied Physics, University of Bern, Switzerland*
17.20-17.40	"3D radiation pattern measurement of LTCC antennas at 60 GHz", *D. Titz[1], A. Lamminen[2], M. Kyrö[3], F. Ferrero[1], C. Luxey[1], J. Säily[2], G. Jacquemod[1], and P. Vainikainen[3], [1]LEAT-CREMANT-CNRS University of Nice-Sophia-Antipolis, France, [2]VTT Technical Research Centre of Finland, [3]Aalto University, SMARAD/Department of Radio Science and Engineering, Finland*
17.40-18.00	"Frequency Extenders for 75 – 1,100GHz", *T. W. Crowe, J. L. Hesler, Virginia Diodes, Inc., USA*
18.45-22.00	Conference Dinner, See Next Page

Tuesday Dinner

Conference Dinner in restaurant Walhalla at Suomenlinna	
18.45-19.45	Boat cruise to the fortress island Suomenlinna from Otaniemi
19.45-22.45	Conference Dinner in restaurant Walhalla
22.00-	The evening continues on mainland
2.00	The last boat leaves from Suomenlinna, be onboard

Tuesday Dinner

Dinner Program

Boat Cruise to Suomenlinna with a Welcome Toast by Espoo City

Dinner at Restaurant Walhalla

Menu

Smoked salmon tartar served with lemon sorbet

Kustaanmiekka Chateaubriand

Goat's milk cheese risotto with grilled asparagus (V)

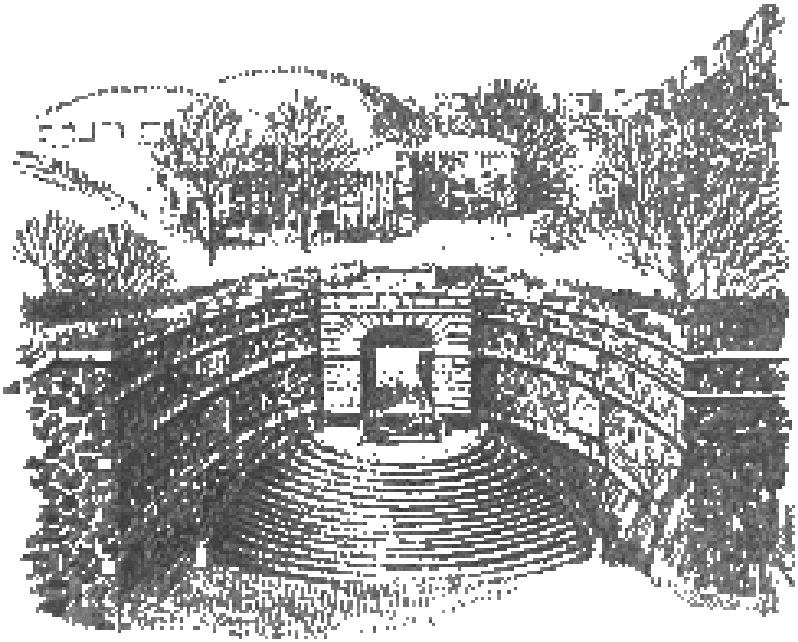
Chocolate mousse with raspberry sorbet

Sancerre Blanc, Bourgogne Pinot Noir

Coffee, Tea

Music: Stefan Stanciu (pan flute) & Patrick Vena (guitar)

Boat Trip Back to Mainland



Wednesday Morning — ESA Workshop

Plenary 5: Millimeter-wave/THz technologies for space; Auditorium; *Chairmen: P. De Maagt, I. Park*	
8.30-9.00	"Antenna Coupled Microwave Kinetic Inductance Detectors for astronomy from Space and Ground", *A. Baryshev, Netherlands Institute for Space Research, SRON*
9.00-9.30	"Metop Second Generation Millimetre-Wave Instruments and Technology Needs", *V. Kangas, ESTEC, European Space Agency, The Netherlands*
9.30-10.00	"Silicon-based components for pro-active safety systems like car-radar", *F. Dielacher, Infineon Technologies AG, Austria*
Coffee Break	
Session ESA 6: Bolometric detectors; Room 4B; *Chairmen: A. Baryshev, J. Mallat*	
10.30-10.50	"Low loss superconducting terahertz metamaterial", *B. B. Jin, J. B. Wu, C. H. Zhang, H. Dai, and P. H. Wu, Research Institute of Superconductor Electronics (RISE), School of Electronic Science and Engineering, China*
10.50-11.10	"Ultra-thin submillimeter wave absorbers for bolometric applications", *S. A. Kuznetsov[1], A. G. Paulish[2], A. V. Gelfand[2], P. A. Lazorskiy[2], A. V. Arzhannikov[1], and V. N. Fedorinin[2], [1]Novosibirsk State University & Budker Institute of Nuclear Physics SB RAS, Russia, [2]Institute of Semiconductor Physics SB RAS, Novosibirsk Branch "TDIAM", Russia*
11.10-11.30	"Tunnel junction bolometers for passive THz-imaging at 4 K", *A. Timofeev, L. Grönberg, P. Helistö, A. Luukanen, H. Seppä, and J. Hassel VTT Technical Research Center of Finland*
11.30-11.50	"Wideband THz detectors based on YBCO thin films", *S. Cherednichenko, A. Hammar, S. Bevilacqua, V. Drakinskiy, and J. Stake, Terahertz and Millimetre Wave Laboratory, Chalmers University of Technology, Sweden*
Lunch in Dipoli Buffet Restaurant	

Wednesday Morning — GSMM2011

Plenary 5: Millimeter-wave/THz technologies for space; Auditorium; *Chairmen: P. De Maagt, I. Park*	
8.30-9.00	"Antenna Coupled Microwave Kinetic Inductance Detectors for astronomy from Space and Ground", *A. Baryshev, Netherlands Institute for Space Research, SRON*
9.00-9.30	"Metop Second Generation Millimetre-Wave Instruments and Technology Needs", *V. Kangas, ESTEC, European Space Agency, The Netherlands*
9.30-10.00	"Silicon-based components for pro-active safety systems like car-radar", *F. Dielacher, Infineon Technologies AG, Austria*
Coffee Break	
Session GSMM 6: Device and circuit technologies; Auditorium; *Chairmen: B.-B. Jin, F. Dielacher*	
10.30-10.50	"Silicon nitride passivation-induced degredation in the DC and RF characteristics of 0.1-um metamorphic high-electron-mobility transistors", *S.-H. Jung, J.-H. Oh, S.-W. Moon, M. Han, J.-K. Rhee, and S.-D. Kim, Division of electronics and electrical engineering, Dongguk University, Korea*
10.50-11.10	"HBV MMIC frequency tripler and quintupler for high power THz applications", *J. Hanning[1], T. Bryllert[1,2], J. Vukusic[1,2], Ø. Olsen[1], and J. Stake[1,2], [1]Wasa Millimeter Wave AB, Sweden, [2]Department of Microtechnology and Nanoscience, Chalmers University of Technology, Sweden*
11.10-11.30	"A novel 325 GHz planar integrated frequency doubler", *M. Henry[1], B. Alderman[1], H. Sanghera[1], S. P. Rea[1], D. N. Matheson[1], and P. de. Maagt[2], [1]Millimetre Technology Group, STFC RAL Space,United Kingdom, [2]Antenna and Submillimetre Wave Section, European Space Agency, The Netherlands*
11.30-11.50	"Sub-MMW substrate integrate waveguide filter on silicon substrate", *H. J. Tang, W. Hong, G. Q. Yang, and J. X. Chen, State Key Lab of Millimeter Wave, Southeast University, China*
Lunch in Dipoli Buffet Restaurant	

Wednesday Afternoon — ESA Workshop

Session ESA 7: Millimetre-wave/THz technologies and applications II; Room 4B; *Chairmen: T. Crowe, A. Emrich*	
12.40-13.00	"MMIC Schottky based receiver technology for the submillimetre wave instrument - SWI-onboard EJSM/Laplace", *B.Thomas [1,2], H. Gibson [1], P. Hartogh [3], I. Mehdi [2], A. Maestrini [4], M. Philipp [1], M. Brandt [1], O. Cojocari [5], C. Lee [2], J. Gill [2], J. Siles [2], A. Walber [1], and S. Gulkis [2], [1] Radiometer Physics GmbH, Germany, [2] NASA- Jet Propulsion Laboratory, California Institute of Technology, USA, [3] Max-Planck-Institut fur Sonnensystemforschung, Germany, [4] Observatoire de Paris, LERMA, France, [5] ACST, Darmstadt, Germany*
13.00-13.20	"Integrated Schottky structures for THz-applications", *O. Cojocari [1], I. Oprea [1], A. Walber [2], H. Gibson [2], [1] ACST GmbH, Darmstadt, Germany, [2] RPG Radiometer Physics GmbH, Germany*
13.20-13.40	"Analysis of a spatial power combining structure at Ka band", *M. Y. Chen and W.B. Dou, State Key Lab of MMW, Southeast University, China*
13.40-14.00	"Miniature Q-band GaAs bandpass filters in heterodyne receiver for radio astronomy", *Y.-S. Lin, W.-H. Liao, and Y.-S. Hsieh, Department of Electrical Engineering, National Central University Taiwan, R.O.C.*
Closing; Auditorium; *Chairmen: V. Lioubtchenko, V. Viikari*	
14.00-14.10	Best Paper Awards, *V. Viikari, MilliLab, VTT Technical Research Centre of Finland*
14.10-14.20	Welcome to GSMM2012, *Q. Wu*
14.20-14.30	Closing Words, *A. Luukanen, MilliLab, VTT Technical Research Centre of Finland*

Wednesday Afternoon — GSMM2011

Session GSMM 7: Millimetre-wave lens antennas; Auditorium; *Chairmen: V. Lioubtchenko, V. Viikari*	
12.40-13.00	"Enhanced bow tie feeds for dielectric lens antennas", *A. Neto[1], N. Llombart[2], [1]Delft University of Technology, Telecom Department, The Netherlands, [2]Optics Department of Universidad Complutense de Madrid, Spain*
13.00-13.20	"Reduction of internal reflections in low permittivity integrated lens antennas", *A. Karttunen[1], J. Ala-Laurinaho[1], R. Sauleau[2], A. V. Räisänen[1], [1]Aalto University School of Electrical Engineering, Department of Radio Science and Engineering, SMARAD/MilliLab, Finland, [2]Groupe Antennes et Hyperfréquences, Institut d'Electronique et de Télécommunications de Rennes (IETR),UMR CNRS 6164, Université de Rennes, France*
13.20-13.40	"Generation of nondiffracting beams in millimetre wave band by diffractive elements", *H. Meng and W. Dou, State Key Laboratory of Millimeter Waves, Southeast University, China*
13.40-14.00	"Hybrid-type integrated lens antenna with improved gain and aperture efficiency in Ka-band", *A. Rolland, M. Ettorre, A. V. Boriskin, L. Le Coq, and R. Sauleau, Institute of Electronics and Telecommunications of Rennes (IETR), UMR CNRS 6164, University of Rennes, France*
Closing; Auditorium; *Chairmen: V. Lioubtchenko, V. Viikari*	
14.00-14.10	Best Paper Awards, *V. Viikari, MilliLab, VTT Technical Research Centre of Finland*
14.10-14.20	Welcome to GSMM2012, *Q. Wu*
14.20-14.30	Closing Words, *A. Luukanen, MilliLab, VTT Technical Research Centre of Finland*
NEWFOCUS Meeting; Room 4B	
14.30-16.00	

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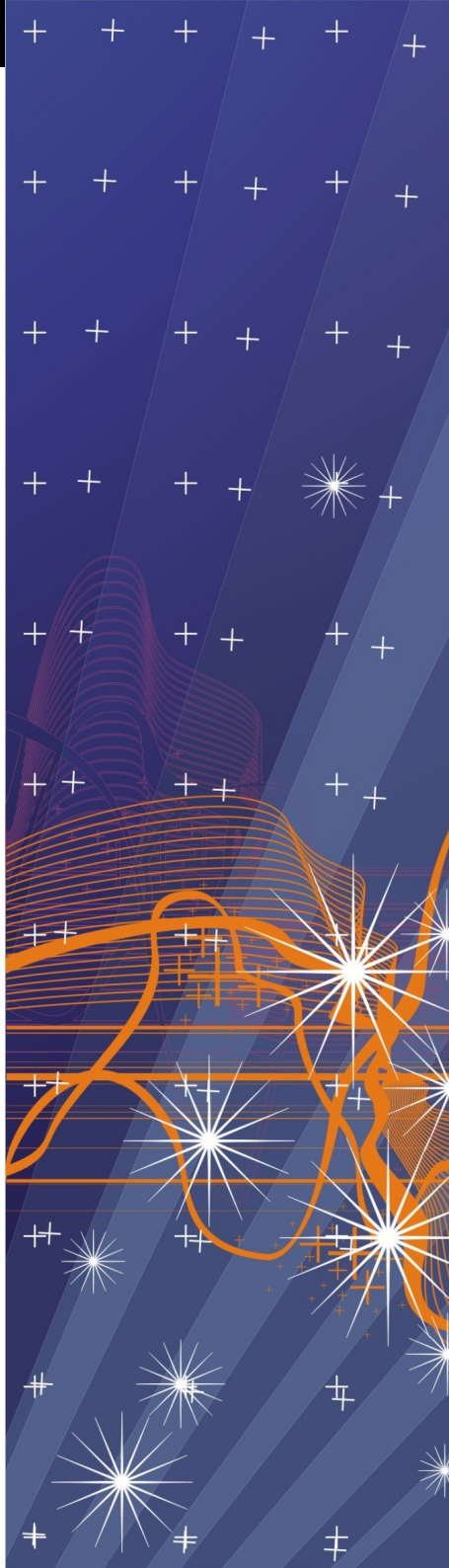
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