TECHNISCHE UNIVERSITÄT WIEN
Vienna University of Technology

THE EUROPEAN SOCIETY FOR BIOMATERIALS

BOKU

5th Vienna Biomaterialsymposium 19.11.-21.11.2012

www.tuwien.ac.at/biomat2012

Program

Opening CD Laboratory for Photopolymers in digital and restorative dentistry
Tuesday, 20.11.2012, 3pm

Christian Doppler Forschungsgesellschaft

bmwfj
Bundesministerium für Wirtschaft, Familie und Jugend

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young.scientistsforum @ ESB

Aim: Discussing biomaterials education and training in Europe Emphasising existing and emerging career and research opportunities.

Realisation:

- Creation of "European Biomaterials and Tissue Engineering "Doctoral Award" (EBTEDA) (ESB Council and Pedro Granja)
- YSF events on annual ESB meetings including a Job Fair, a Speed Networking Event and various presentations
- Assisting in setting up various national YSF chapters

SPEED NETWORKING

young.scientistsforum @ internet

http://www.esbiomaterials.eu/index.php?cid=YSF&op=3

Your internet platform to: European PhD, Biomaterial laboratories in Europe, National Societies in Europe, …

young.scientistsforum @ info

Do you want to setup a national YSF chapter?

Any suggestions for future YSF initiatives?

Please contact us by e-mail:

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YSF Spokeperson: n.dunne@qub.ac.uk

Enjoy Science and European Networking

Program

Monday, 19.11.2012

	Young Scientists Forum (YSF) Tutorials
	Chair: Aleksandr Ovsianikov
10:00	***Dunne, Nicolas*** paper ID 166 Calcium phosphate bone substitutes for orthopaedic applications invited
10:45	***Ovsianikov, Aleksandr, TU Vienna*** paper ID 103 Engineering 3D cell-culture matrices with femtosecond laserinduced photochemistry invited
11:30	***Van Vlierberghe, Sandra*** paper ID 144 Learning from nature: Extracellular matrix mimetics as case study invited
	Lunch break
	Opening
	Chair: Regine Willumeit
13:00	Organizers
13:15	***Weinberg, Annelie-Martina*** paper ID 157 Resorbable metallic implants in orthopedic surgery in the growing skeleton invited
13:45	***Varga, Peter*** paper ID 121 Novel insigths into mineralized collagen fiber orientation in lamellar bone
14:05	***Dall'Ara, Enrico*** paper ID 159 Tissue level mechanical properties of damaged and intact human vertebral bone measured by means of microindentation
14:25	***Luczynski, Krzysztof Wojciech*** paper ID 100 MicroCT/micromechanics-based Finite Element models and quasi-static unloading tests deliver consistent values for Young's modulus of rapid-prototyped polymer-ceramic tissue engineering scaffold
14:45	***Groth, Thomas,*** paper ID 104 Polysaccharide-based biomaterials and surface modifications invited
15:15	Break

	Metallic biomaterials
	Chair: Annelie-Martina Weinberg
15:45	***Willumeit, Regine*** paper ID 105 Magnesium as Implant Material: the "do and don't" for in vitro testing invited
16:15	***Mingler, Bernhard*** paper ID 109 Magnesium alloys for temporary implants – design considerations for Mg-Zn-Ca alloys
16:35	***Fischer, Lisa*** paper ID 132 Investigations of the effect on the mineral balance during in vivo degradation of bio-resorbable Magnesium alloys used for osteo synthesis by ICP-MS
16:55	***Weiß, Barbara*** paper ID 135 Magnesium alloys and PHB as future materials for biodegradable osteosynthesis implants
17:15	***Kraus, Tanja*** paper ID 127 Biodegradation of magnesium implants ZX50 and WZ21 in a transepiphyseal rat model
17:35	End of session
19:00	**Dinner**

Tuesday, 20.11.2012

	Materials for Regenerative medicine
	Chair: Thomas Groth
8:30	***Chiari, Catharina,*** paper ID 138 Regenerative medicine and biomaterial based therapies in orthopaedic surgery invited
9:00	***Bergmeister, Helga,*** paper ID 142 Nanostructured, bioresorbable vascular substitutes
9:20	***Charwat-Pessler, Johann***, paper ID 108 Analysis of bone graft substitutes based on μ-computer tomography and Raman spectroscopy
9:40	***Danilevicius, Paulius,*** paper ID 113 Direct fs laser writing of 3D polylactide scaffolds for bone tissue engineering applications
10:00	***Li, Zhiquan,*** paper ID 143 Novel water soluble two-photon initiators for 3D scaffold microfabrication
	Break
	Biomimetics
	Chair: Neil Cameron
10:45	***Paris, Oskar,*** paper ID 160 Biological, bio-based and biomimetic materials and their relevance for biomedical applications invited
11:15	***Liebner, Falk,*** paper ID 156 Cellulose-based aerogels as promising materials in tissue engineering
11h35	***Futterknecht, Oliver,*** paper ID 118 Inspiration from functional biomaterials in honeybees and elephants: Development of miniaturized devices for navigation and water detection
12:00	Lunch break

	Biopolymers
	Chair: Helga Lichtenegger
13:00	***Cameron, Neil,*** paper ID 107 Emulsion-templated scaffolds for tissue engineering and 3D cell culture invited
13:30	***Soltysiak, Elzbieta Maria,*** paper ID 122 Surface properties of PCL-based nanocomposites modified with bioactive ceramic nanoparticles
13:50	***Laska, Anna Barbara,*** paper ID 119 Studies of the in-vivo use on the physical and mechanical properties of conventional and crosslinked UHMWPE
14:10	***Lee, Seunghwan,*** paper ID 110 Injectable lubricants as a novel means to improve the tribological and biocompatibility properties of orthopaedic implants
14:30	Break
	Opening CD Laboratory
	Chair: Jürgen Stampfl, Robert Liska
15:00	***Seidler, Sabine,*** Rector, TU Wien
	Fröhlich, Johannes, Vice-Rector, TU Wien
	Kögerler, Reinhart, President Christian Doppler Forschungsgesellschaft
15:30	***Rheinberger, Volker,*** Ivoclar Vivadent AG Research at Ivoclar Vivadent
15:45	***Moszner, Norbert,*** paper ID 145 Advanced photopolymers for restorative dentistry invited
16:15	***Liska, Robert,*** paper ID 161 Future perspectives of photopolymerization
16:35	***Stampfl, Jürgen,*** paper ID 165 Ceramic materials for digital dentistry
16:55	End of session
17:00	**Buffet + Poster session**

Wednesday, 21.11.2012

	Materials for Tissue Engineering
	Chair: Dieter Bosshardt
8:30	***Bulgin, Dmitry,*** paper ID 141 Autologous bone marrow derived mononuclear cells combined with synthetic bone void fillers in dental applications: Practical tools for bone regeneration
8:50	***Hruschka, Veronika***, paper ID 139 3D differentiation of C2C12 cells and human Adipose-derived Stem Cells in a thermoresponsive poly-caprolactone scaffold
9:10	***Agis, Hermann,*** paper ID 116 Bone substitute materials loaded with prolyl hydroxylase inhibitors enhance the pro-angiogenic capacity of periodontal cells
9:30	***Neunzehn, Jörg,*** paper ID 133 Development of a putamen ovi- and hyaluronan- based bone-regenerative-material
9:50	***Weber, Viktoria,*** paper ID 130 Monitoring of endothelial activation induced by inflammation with in vitro cell culture models
10:10	Break
	Chair: Aleksandr Ovsianikov
10:45	***Bosshardt, Dieter,*** paper ID 158 Bone healing with bone grafts and bone substitute materials invited
11:15	***Müller, Marc,*** 155 Improved hemocompatibility analysis for vascular grafts
11:35	***Lindner, Christina,*** 147 Different coatings of PTFE vascular grafts for endothelial cell adhesion
11:55	***Marchetti-Deschmann, Martina,*** 102 MALDI-TOF mass spectrometry imaging – A tool to investigate time-dependent biomolecule adsorption in correlation to induced polymer changes on UHMW-PE hip joints
12:15	***Holnthoner, Wolfgang,*** 101 Fibrin as a scaffold for prevascularization strategies
12:35	***Fuchs, Christiane,*** 151 Engineering skeletal muscle using C2C12 cells in a strained fibrin scaffold
12:55	**Closing remarks**

Posterpresentations

106 ***Human Amniotic Membrane: A Promising Natural Biomaterial for Tissue Engineering***

Lindenmair, Andrea; Wolbank, Susanne; Stadler, Gudio; Meinl, Alexandra; Hackl, Christa; Peterbauer-Scherb, Anja; Gabriel, Christian; Eibl, Johann; van Griensven, Martijn; Redl, Heinz

111 ***Mucins for multifunctional biomimetic coatings in biomedical applications***

Pakkanen, Kirsi; Madsen, Jan; Røn, Troels; Zappone, Bruno; Sotres, Javier; Hachem, Maher; Svensson, Birte; Lee, Seunghwan

112 ***Gellan gum hydrogel as a matrix for antibioticloaded polymeric nanoparticles for the treatmentof bone infections***

Posadowska, Urszula; Pamula, Elzbieta

114 ***Processing of 45S5 Bioglass® by lithography-based additive manufacturing***

Pastrama, Maria-Ioana; Tesavibul, Passakorn; Boccaccini, Aldo; Stampfl, Jürgen

115 ***The role of cystines in the feather keratin – an Xray diffraction study***

Pabisch, Silvia; Weiss, Ingrid M.; Kirchner, Helmut O. K.; Puchegger, Stephan; Peterlik, Herwig

117 ***Mechanical Properties of Fibreglass Reinforced Biopolymers***

Gmeiner, Robert; Mautner, Andreas; Liska, Robert; Stampfl, Jürgen

120 ***Histological evaluation of critical-size defects in rabbit femora treated with surface modified resorbable scaffolds***

Rumian, Lucja Dobromila; Menaszek, Elzbieta; Orzelski, Maciej; Pamula, Elzbieta

123 ***Comparison of specific resin composites developed for core build-up and conventional restorative materials***

Cvikl, Barbara; Dangl, Viktoria; Franz, Alexander; Moritz, Andreas

124 ***Preparation and characterization of hydrogels from alginic acid salts: mechanical properties nand cell compatibility***

Lis, Anna; Szarek, Dariusz; Marycz, Krzysztof; Jarmundowicz, Włodzimierz; Laska, Jadwiga

125 ***Correlating UHMW-PE degradation and modification with biomolecular adsorption by means of MALDI imaging mass spectrometry***

Fröhlich, Sophie; Kennedy, Matthew; Archodoulaki, Vasiliki-Maria; Allmaier, Günter; Marchetti-Deschmann, Martina

126 ***Locked Elastic Stable Intramedullary Nailing in Ovine Tibia***

Berger, Leopold; Weiß, Barbara; Fischerauer, Stefan; Castellani, Christoph; Weinberg, Annelie-Martina; Tschegg, Elmar

128 ***Development of Biocompatible 3D Hydrogels Scaffolds: From Synthesis to Two-photon Polymerization***

Qin, Xiao-Hua; Li, Zhi-Quan; Torgersen, Jan; Ovsianikov, Aleksandr; Mühleder, Severin; Holnthoner, Wolfgang; Stampfl, Jürgen; Liska, Robert

131 ***Evaluation of Biocompatibility of Silica Nanoparticles in vitro using Bioreactors***

Neumann, Anne; Christel, Anne; Williams, Sina; Behrens, Peter; Kasper, Cornelia

134 ***Biomimetic methods to create new transparent and emotion-responsive biomaterials and their use in Architecture and Design.***

Hirhager, Nicole; Crawford, Alys; Gebeshuber, Ille

136 ***Investigation of the in vitro Magnesium degradation mechanism - A dynamic test setup for standardised studies***

Evertz, Florian; Krolitzki, Benjamin; Müller, Marc; Glasmacher, Birgit

137 ***Hierarchically porous polymers from divinyladipate and thiols via emulsion templating***

Sušec, Maja; Liska, Robert; Ligon, Samuel Clark; Krajnc, Peter

140 ***A new model of Angiogenesis to test the angiogenic potential of matrix delivered factors.***

Slezak, Paul; Hartinger, Joachim; Slezak, Cyrill; Hruschka, Veronika; Teuschl, Andreas; Redl, Heinz; Mittermayr, Rainer

146 ***A simple method for preparation of hydroxyapatite containing silver nanoparticles with antibacterial activity for bone application***

Cavadas S Andrade, Flavio Augusto; Rigo, Eliana; Cristina da Silva; Vercik, Luci Cristina de Oliveira; Vercik, Andres; Miranda, Elaine Toscano; Fontana, Carla Raquel; Paris, Elaine Cristina

149 ***3D scaffolds from low toxic vinyl carbonates***

Husár, Branislav; Mautner, Andreas; Heller, Christian; Schwentenwein, Martin; Varga, Franz; Koch, Thomas; MacFelda, Karin; Russmüller, Günter; Stampfl, Jürgen; Liska, Robert

150 ***Laser microfabrication of elastic 3D scaffolds***

Höller, Franz; Ovsianikov, Aleksandr; Torgersen, Jan; Koch, Thomas; Nürnberger, Sylvia; Dado, Dekel; Levenberg, Shulamit; Redl, Heinz; Liska, Robert; Stampfl, Jürgen

152 ***Lectin-mediated adhesion of cells to silk fibroin scaffolds***

Teuschl, Andreas; Neutsch, Lukas; van Griensven, Martijn; Gabor, Franz; Redl, Heinz

153 ***Static and dynamic compliance measurements in very small blood vessels and vascular grafts***

Stoiber, Martin Helmut; Grasl, Christian; Gschlad, Verena; Messner, Barbara; Bergmeister, Helga; Schima, Heinrich

154 ***Mechanical properties of collagen-hydroxyapatite based natural biomaterials as assessed by combined scanning acoustic and backscatter electron microscopy***

Blouin, Stéphane; Puchegger, Stephan; Klaushofer, Klaus; Roschger, Paul

162 ***RAFT-generated amphiphilic block copolymers as multifunctional micelles***

Benedikt, Stephan; Schachner, Maria; Dworak, Claudia

163 ***Prolyl hydroxylase inhibitors: A new tool for endodontic therapy?***

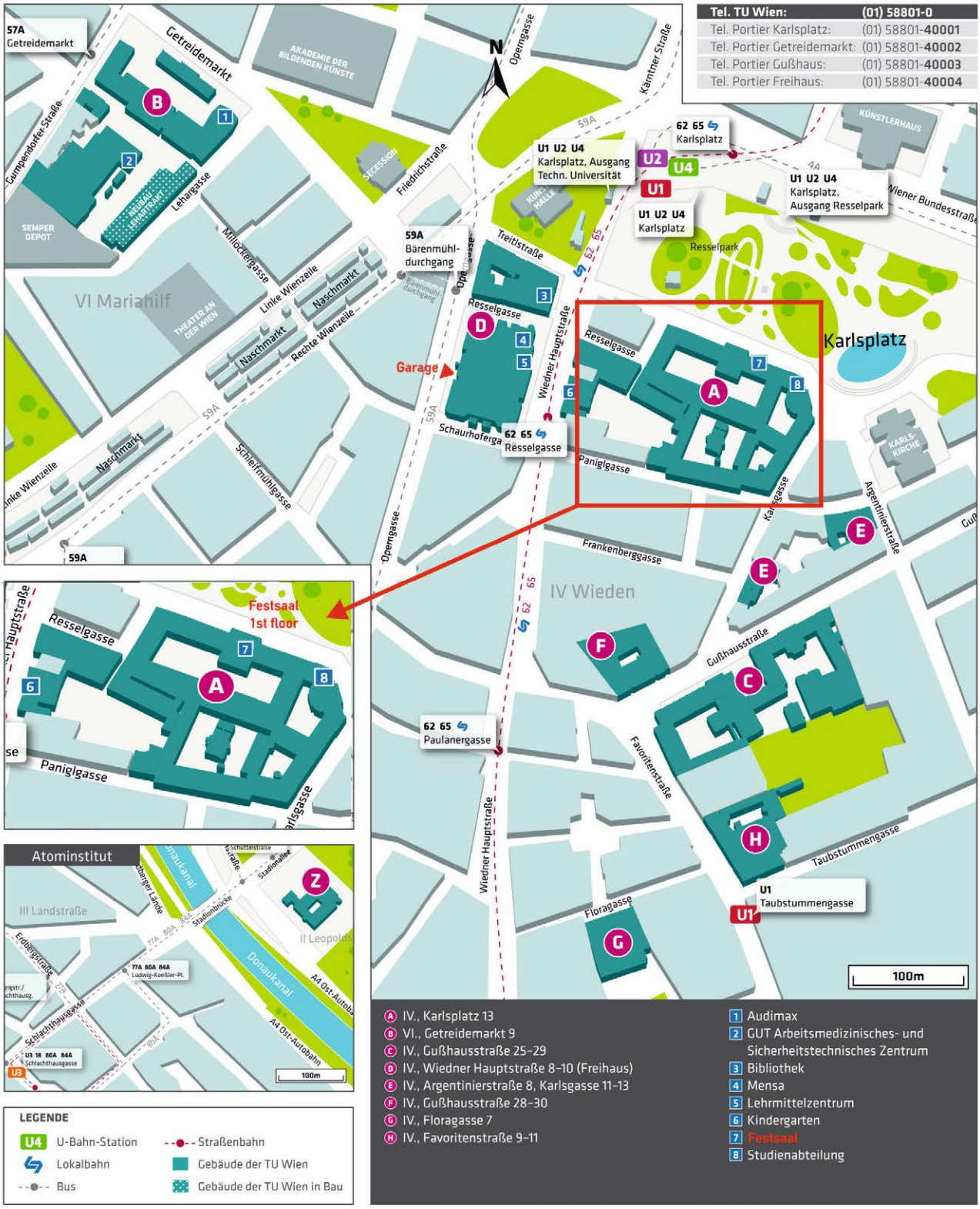
Müller, Heinz-Dieter; Watzek, Georg; Cvikl, Barbara; Gruber, Reinhard; Agis, Hermann

164 ***PEG-DA scaffolds fabricated by holographic lithography***

Stankevicius, Evaldas; Balciunas, Evaldas; Baltriukiene, Daiva; Bukelskiene, Virginija; Malinauskas, Mangirdas; Raciukaitis, Gediminas

Map Vienna University of Technology

7 Festsaal, Karlsplatz 13, first floor



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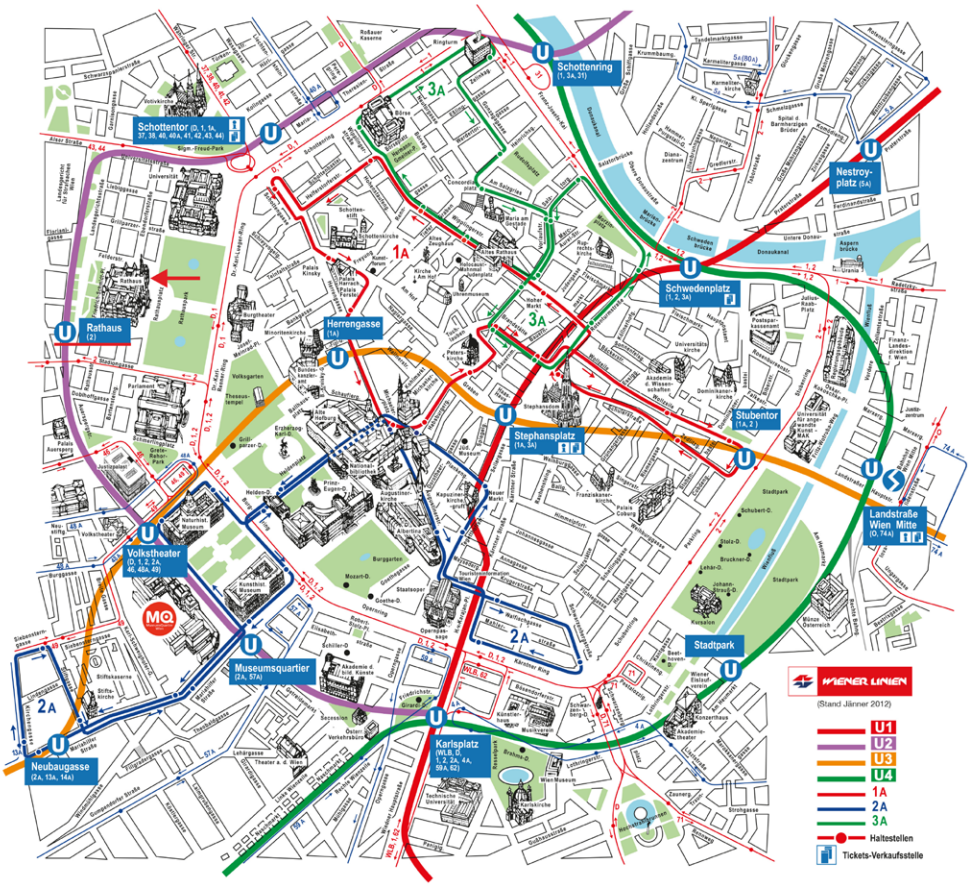
Getting to the Rathauskeller
1010 Wien, Rathausplatz 1

U2 Station Karlsplatz to Rathaus, stairs to Lichtenfelsgasse



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TU Vienna, Festsaal, Karlsplatz 13, 1040 Vienna

Program Overview

Monday	19.11.2012	Tuesday	20.11.2012	Wednesday	21.11.2012
09:30	Registration	08:30	Materials for Regenerative medicine	08:30	Materials for Tissue Engineering
10:00	ESB Symposium (tutorials)				
12:00	Lunch break	10:20	Break	10:10	Break
13:00	Opening	10:45	Biomimetics	10:45	Materials for Tissue Engineering
15:45	Metallic biomaterials	12:00	Lunch break		
17:35	End of Session	13:00	Biopolymers	12:55	Closing remarks
19:00	Dinner at Wiener Rathauskeller	14:30	Break		
		15:00	Opening CD Laboratory		
		17:00	Poster Session & Buffet		

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