Welcome to the EUROSENSORS XXIV September 5 – 8, 2010 Linz, Austria

http://www.eurosensors2010.com

Hosting Organisations

Johannes Kepler University Linz (JKU), Austria
Austrian Center of Competence in Mechatronics (ACCM), Austria

General Conference Chair

Bernhard Jakoby, Johannes Kepler University Linz, Austria

Technical Program Committee Chair

Michiel J. Vellekoop, Vienna University of Technology, Austria

Local Chair

Christian G. Diskus, Johannes Kepler University Linz, A

Please note:
Guidelines for presenters (p. 8)
Tickets for public transport included (p. 13)
Parking fee € 0,50 per half an hour (p. 13)
Social events (p.11)
Farewell present (p.12)

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Program at a Glance

Sunday September 5, 2010	09:00 – 18:00 17:00 – 20:00 18:00	Eurosensors School (separate registration required) Registration & Infopoint Informal Welcome Reception
Monday September 6, 2010	08:00 – 18:00 09:00 – 11:00 11:30 – 13:00 14:30 – 16:00 16:00 – 17:30 19:30 – 22:00	Registration & Infopoint Opening and Keynote Sessions I & II Lecture Sessions Poster Sessions Lecture Sessions Official Reception in Downtown Linz
Tuesday September 7, 2010	08:00 – 16:00 09:00 – 10:00 10:00 – 13:00 14:30 – 16:00 16:00 – 17:30 19:00 – 19:30 19:30 – 22:30	Registration & Infopoint Keynote Session III Lecture Sessions Poster Sessions Lecture Sessions Boarding Ship Conference Banquet on Danube River Cruise
Wednesday September 8, 2010	08:00 – 16:00 09:00 – 12:30 14:00 – 15:30 15:30	Registration & Infopoint Lecture Sessions Poster Sessions Closing Session & Informal Farewell Reception

Technical Session Schedule

The detailed technical program is available on the website and will be part of the conference booklet. You will find a session overview on the last page of this document.

Keynote Speakers

This year, the Eurosensors conference presents three keynote speakers from **industry**.

The medium sized company Sensirion AG located near Zurich in Switzerland has grown from a start-up to 170 employees today in 12 years, amongst others developing sensors for flow, humidity, and pressure. The managing director, **Dr. Felix Mayer** will discuss innovation for commercial sensors. A1L-A, Monday, 09:30, Room 1.

From BMW in Munich, the head of the Development Mechatronics/ Driving Functions department, **Dr. Thomas Tille**, will present “Automotive Requirements for Sensors using Air-Quality Gas Sensors as an example”. A2L-A, Monday, 10:15, Room 1.

In Delfgauw, The Netherlands, the small sensor company Xensor Integration BV develops and produces client-specific integrated sensors, but also offers a series of standard silicon sensors. The managing director **Dr. Sander van Herwaarden** will talk about in-company sensor research and development, also illustrated with one or two examples. B1L-A, Tuesday, 09:10, Room 1.

Together, these three keynote presentations will give insight in the requirements and needs for sensors to become commercially successful. The talks will be of interest not only for junior and senior sensor researchers, but also for R&D- and market officers from many branches of industry.

Invited Speakers

Eight scientists have been invited to present a paper on their topic of research. They have been selected from a list that was made up of nominations from TPC members. Invited talks receive a slot of 30 min. for the presentation.

Winnie Svendsen, Technical University of Denmark (DTU), Nanotech, Lyngby, DK: "Micro and nano-platforms for biological cell analysis", A3L-B, Monday, 11:30, Room 2

Isabelle Dufour, University of Bordeaux, IMS, FR: "Unconventional uses of cantilevers for chemical sensing in gas and liquid environments", C1L-B, Wednesday, 09:00, Room 2

Thorsten Kern, Continental Automotive GmbH, DE: "Requirements and design considerations for the measurement of haptic object properties", B3L-D, Tuesday, 11:45, Room 7

Hubert Zangl, Graz University of Technology, AT: "Capacitive sensors uncovered: measurement, detection and classification in open environments", A5L-B, Monday, 16:00, Room 2

Francisco Arregui, University of Navarra, Pamplona, ES: "Optical fiber sensors based on layer-by-layer nanostructured films", C2L-A, Wednesday, 11:00, Room 1

Kofi Makinwa, Delft University of Technology, NL: "Smart temperature sensors in standard CMOS", B5L-B, Tuesday, 16:00, Room 2

Giovanni Boero, Ecole Polytechnique Fédérale de Lausanne (EPFL), SUI: "Electron spin resonance sensors", B5L-D, Tuesday, 16:00, Room 7

Srinivas Tadigadapa, Penn State University, PA, USA: "Piezoelectric MEMS - Challenges and Opportunities", B2L-A, Tuesday, 10:00, Room 1

Coffee Breaks and Lunch

Coffee and soft drinks will be available during coffee breaks in designated areas (close to registration desk). Lunch will be available in the “Mensa” on the ground floor of the Uni-Center (see also p.9). Coupons will be provided in your registration package.

Proceedings

Program booklet and conference CD have been created in cooperation with ePapers (http://www.epapers.org) and Elsevier and will be available in the delegate package. The official final proceedings will be published online by Elsevier (Procedia Engineering).

Journal Special Issue

Selected papers based on the conference contributions will be published in Special Volumes of *Sensors and Actuators A: Physical* and *B: Chemical* after the standard journal reviewing process. The Guide for Authors can be found on http://ees.elsevier.com/sna and http://ees.elsevier.com/snb, the submission deadline for this will be September 30, 2010.

Eurosensors School

These lectures on Sunday will be given at the graduate level and will span from the scientific basic principles to the implementation in actual devices. They are intended for PhD students and young researchers in the field, researchers who have recently entered the interdisciplinary field of sensors and actuators, and for colleagues who want to brush up their fundamental knowledge in certain fields.

Instructors and Topics

Prof. Dr. Ulrich Schmid, Vienna University of Technology:
"Introduction to Microsystems Technology"

- Introduction to MEMS-based markets and applications
- Materials for MEMS devices and their properties
- Most relevant technologies for MEMS fabrication
- Selected examples for bulk- or surface micromachined MEMS devices

Assoc. Prof. Dr. Hubert Zangl, Graz University of Technology:
"Analog Signal Processing and Conditioning for Sensor Signals"

- The lecture investigates different measurement methods, the measurement chain, measurement amplifiers, analog signal transmission and analog to digital converters regarding their impact on the signal to noise ratio, the system dynamics and the suppression of undesired influences.

Prof. Dr. Siegfried Bauer, Johannes Kepler University Linz:
"Organic Materials for Sensors and Actuators"

- Mechanical properties of polymers and elastomers
- Flexible sensors (large area interactive screens, pressure and temperature sensors)
- Flexible circuits (transistors, memories)
- Conformable electronics (displays, hemispherical photo sensors)
- Elastomer actuators and energy harvesters

Dr. Martin Brandl, Danube University Krems:
"Optical Sensors for Biomedical Applications"

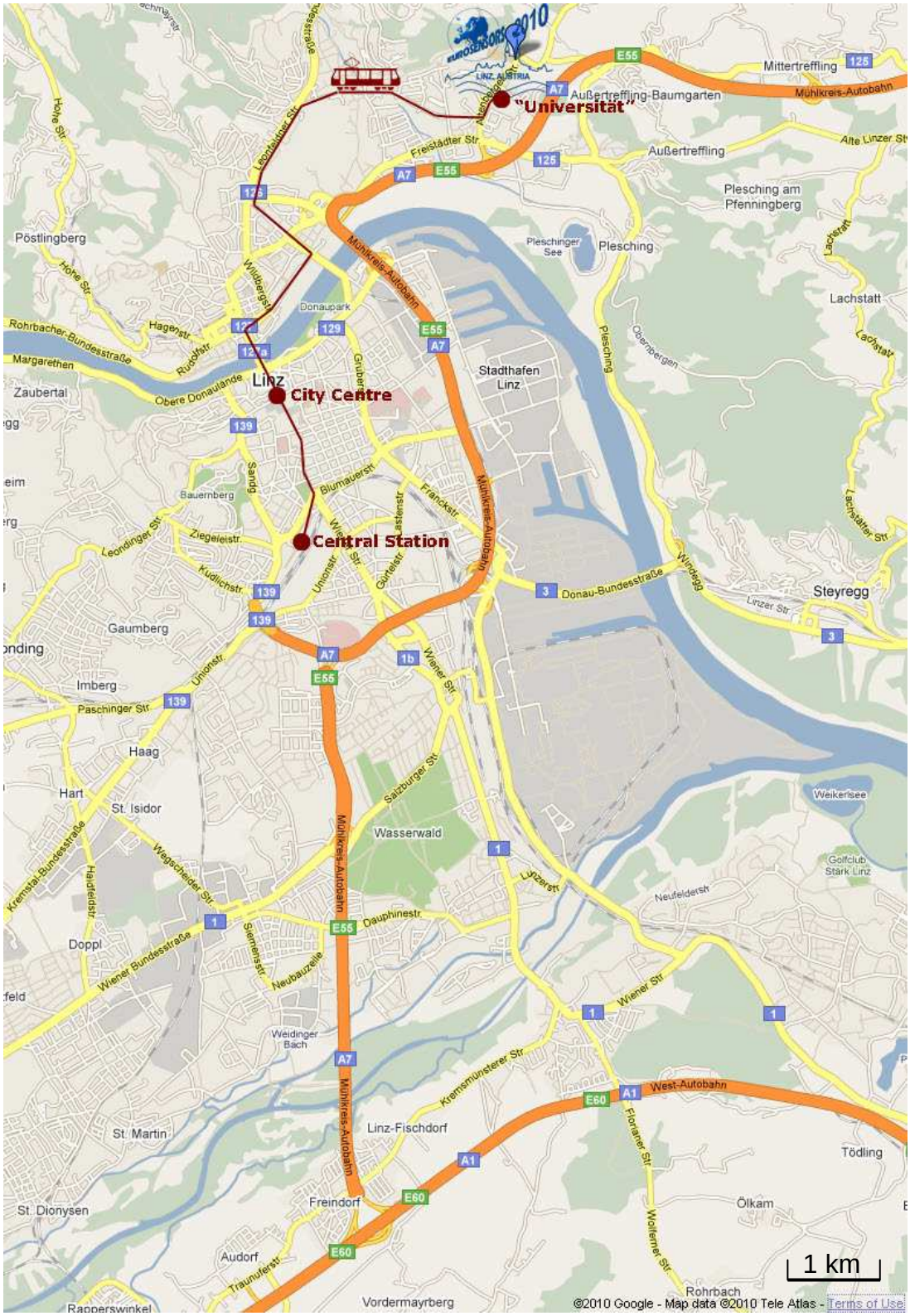
- Physical principles of optical sensors
- Applications of optical sensors in biomedicine

If you want to attend these lectures make sure to include them in your registration.

Conference Venue

Johannes Kepler University
Altenberger Straße 69
4040 Linz
AUSTRIA

http://www.jku.at



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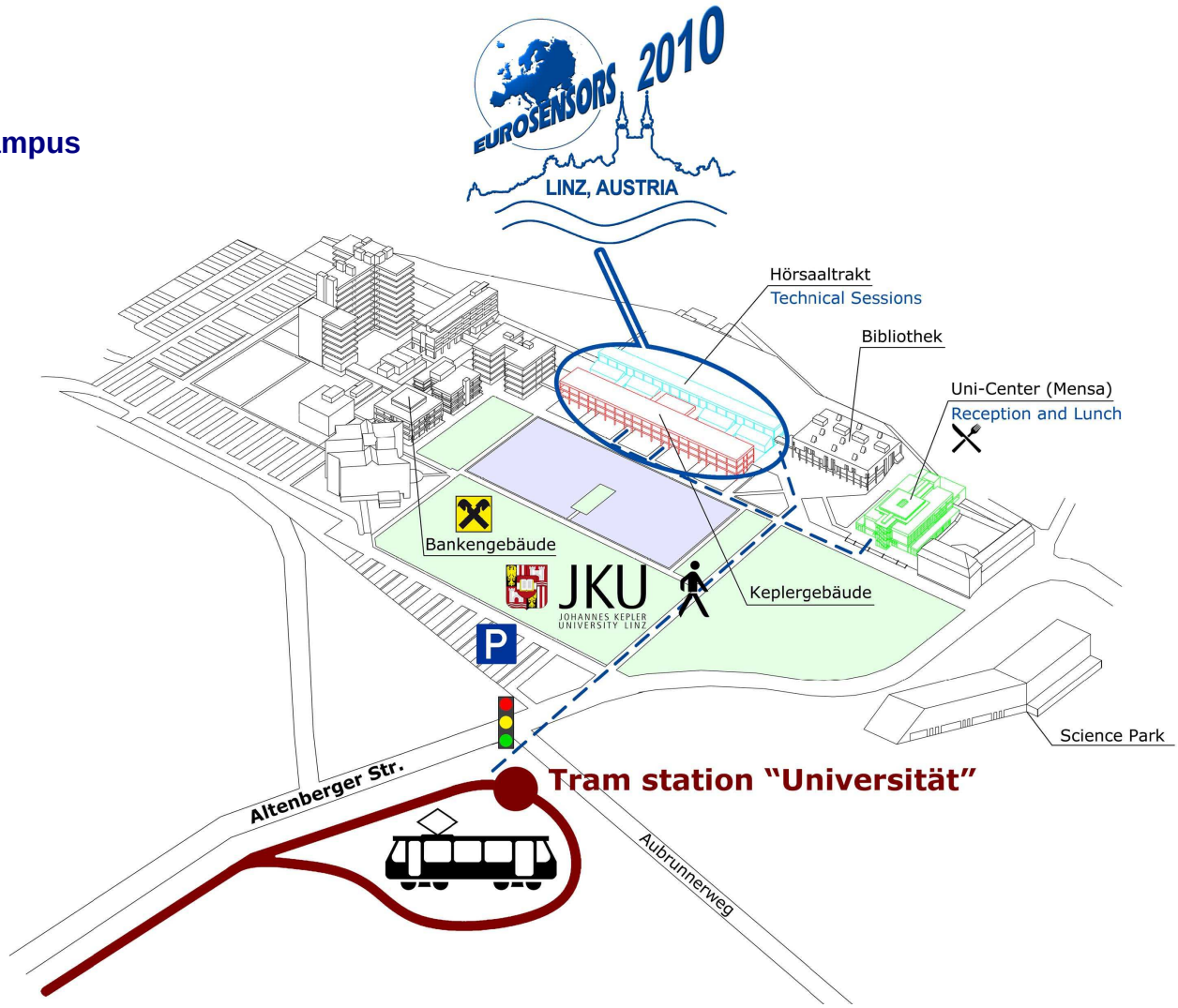
Campus



Reception and lunch will take place at the **Uni-Center (Mensa)** of the Johannes Kepler University Linz. The technical sessions as well as the poster sessions will take place in the lecture halls and lounges (situated in **Hörsaaltrakt** and **Keplergebäude**). No smoking indoors.

Exhibition

During the conference the exhibition will be open:

Monday:	8:00 – 16:00
Tuesday:	8:00 – 16:00
Wednesday:	8:00 – 15:30

The following sponsors will display material in booths located in the lounges:

ACCM

Agilent Technologies

COMSOL Multiphysics GmbH

E+E Elektronik GmbH

Elsevier Publishing

Heidelberg Instruments Mikrotechnik GmbH

IEEE Sensors Council

IMA Integrated Microsystems Austria GmbH

Infineon Technologies Austria AG

IoP Institute of Physics Publishing

John Wiley & Sons Ltd.

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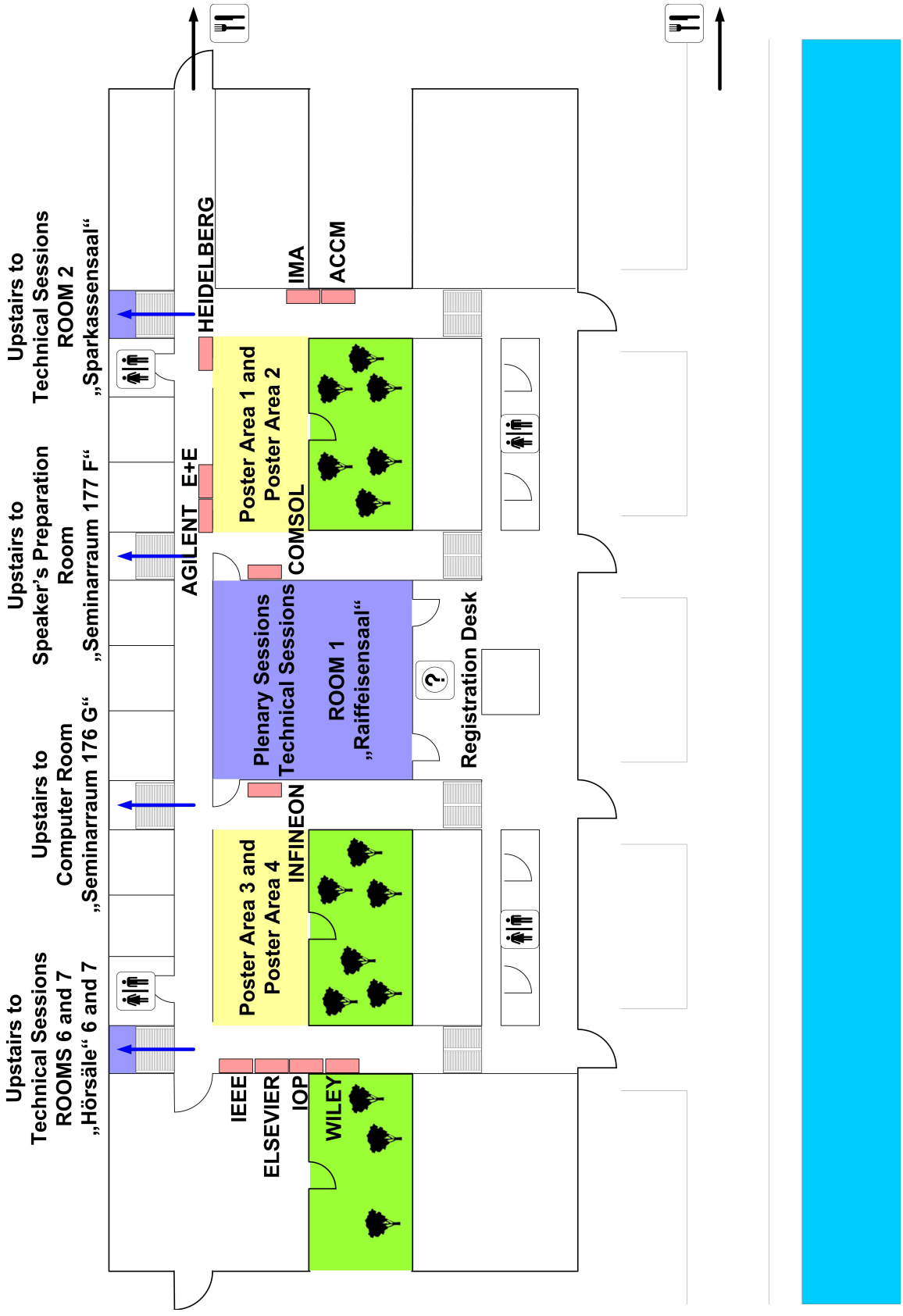
Floor Plan


Upstairs to Technical Sessions ROOM 2 „Sparkassensaal“
Upstairs to Speaker's Preparation Room „Seminarraum 177 F“
Upstairs to Computer Room „Seminarraum 176 G“
Upstairs to Technical Sessions ROOMS 6 and 7 „Hörsäle“ 6 and 7
HEIDELBERG
IMA
ACCM
AGILENT
E+E
Poster Area 1 and Poster Area 2
COMSOL
Plenary Sessions Technical Sessions
ROOM 1 „Raiffeisensaal“
Registration Desk
Poster Area 3 and Poster Area 4
INFINEON
IEEE
ELSEVIER
IOP
WILEY

Registration Desk

On Sunday evening the registration desk will be set up at the Uni-Center (green coloured building on the campus map, see p. 6) and will be open 17:00–20:00. You are invited to join colleagues in an informal Welcome Reception in the mensa on the ground floor of the same building.

During the conference from Monday to Wednesday, the registration and information desk will be situated in the Keplergebäude (red coloured building on the campus map p. 6) in front of the main auditorium (Raiffeisensaal) and will be open 8:00–16:00, see also p.7.

Lecture Presentation Information

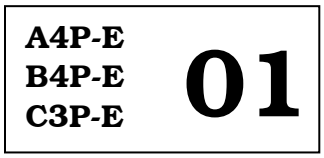
The duration of a presentation slot is 15 minutes. You will have 12 minutes for the presentation itself and 3 minutes for questions from the audience.

An LCD projector and a computer (Windows XP, MS Powerpoint, Adobe Acrobat Reader) will be available in every session room for regular presentations. Note that neither Overhead projector, 35mm slides projectors nor VHS videotape player will be available.

Preparation of visuals: please note that all presenters of oral contributions must either bring their own laptop computer (with the appropriate presentation software loaded) or bring a USB memory stick containing their presentation (preferred). Files can be uploaded to the local PCs in the lecture rooms during the breaks between the sessions. To avoid software compatibility problems (MS Powerpoint), speakers are advised to save their Powerpoint presentation with the Package for CD feature AND bring a backup PDF-version of their presentation. For preparing your talk and for final checking the compatibility of your laptop computer and the beamer please visit the speaker's preparation room (see floor plan on p.6).

Speakers should arrive in their session room at least 15 minutes BEFORE the start of their session to report to the chair person.

Poster Presentation Information



It is essential that your poster is put up before the session and removed after it has ended. The placement of your poster will be marked on the panel, where it will be presented with the number of your poster contribution: e.g. A4P-E (A = first day, 4 = the time slot, P = poster session, E = room E) plus an individual number. **Check your number in the conference program booklet and display your poster on the scheduled day on the board labelled with your number.** You can look up the code of your poster via the author index on pages 59–71 of the booklet.

Poster Areas 1 and 2 (corresponding to room codes E and F) are situated in the lounge next to room 1 ("Raiffeisensaal") on one side, Poster Areas 3 and 4 (codes G and H) on the other side.

Please attach your poster to the panel with pins, which are available in the poster area. If you need more pins, please contact the information. After you have removed your poster, please leave the pins on the board.

WLAN Web Connectivity

The Johannes Kepler University is member of EDUROAM. In case you have an account of your university and your university is also member of EDUROAM, you can use the WLAN the usual way.

Settings:
SSID: eduroam
Authentification: 802.1X - PEAP - MSCHAPv2
No certificate

Alternatively, guest accounts are available at the registration desk, where (conforming to current legislation) you are asked for a signature in order to receive a personal account and a password.

Settings:
SSID: JKU
No WEP (no Wireless Encryption Protocol)
TCP/IP configuration using DHCP (retrieve IP-address and DNS server automacally)
Turn off proxy-server
Protocols: DNS, DHCP, HTTPS und HTTP
IP-address of WLAN-gateway (140.78.164.1) must be accessible

If you have no computer at hand you can use equipment made available in the computer room (see floor plan on page 7).

Lunch

Lunch is included with your registration, vouchers will be provided in the delegate package. The canteen (“Mensa”) can in principle easily host all participants, however, queues can be expected right after the beginning of our lunch break. To avoid queuing you may want to take a walk around the pond and go to the canteen later.

The lunch vouchers are valid for complete menus (“CLASSIC #1” or “CLASSIC #2”) or for meals up to € 7 in the buffet area (“CHOICE”, see also below). If you choose the menus CLASSIC #1 or #2, the vouchers will be exchanged for tokens directly at the turnstiles in front of the associated food counter.

Instead of choosing menu CLASSIC #1 or #2 you can help yourself in the buffet area “CHOICE”. If you get your meal in the buffet area, please turn in your voucher at the cashier and € 7 will be deduced from your bill (if it exceeds € 7; any costs >7€ have to be carried by yourself).

	CLASSIC #1	CLASSIC #2
06.09.2010 **Monday**	Bouillon with sliced pancakes **Spaghetti pomodoro** with basil, grated parmesan and salad	Bouillon with sliced pancakes **Roasted chicken breast** mushroom sauce, vegetables, croquettes and salad
07.09.2010 **Tuesday**	Cream of carrot-celery soup **Vegetarian potato-goulash** with roll and salad	Cream of carrot-celery soup **Chopped veal scallop**s glazed baby-carrots, mashed potatoes and salad
08.09.2010 **Wednesday**	Vegetable bouillon with semolina dumplings **Fresh vegetable-wok "Shanghai"** with basmati rice and salad	Vegetable bouillon with semolina dumplings **Baked coalfish** with sauce tartar and potato salad a la chef

Every menu includes one non-alcoholic drink of your choice.

Restaurants

The culinary selection in Linz-Danube contains everything from typical Upper Austrian regional cuisine to a 2-star restaurant. Linz has plenty of pleasant garden restaurants and traditional coffee houses for a well-earned break.

There are a few restaurants in close vicinity to the campus, namely
Einstein Trattoria, Altenberger Straße 70
Pizzeria Bella-Casa, Aubrunner Weg 1/A
China-Restaurant Jade Garten, Aubrunner Weg 11

A wider choice of restaurants offering various kinds of specialities can be found in downtown Linz. A culinary guide in German can be found on the web at
http://www.linz.at/images/LinzGeniessen.pdf

Social Program

(included in every registration, please travel on your own, e.g., by tram)

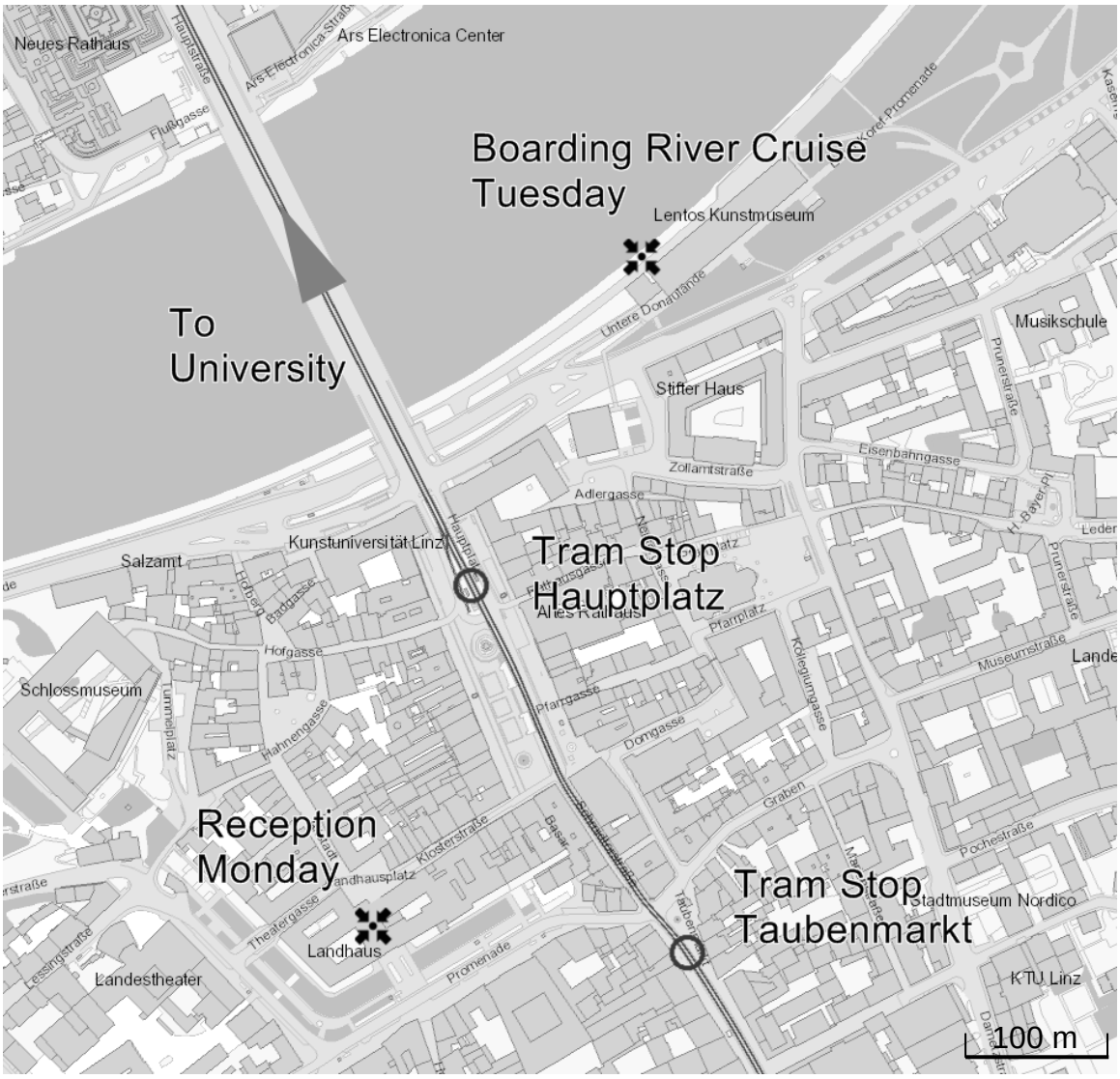
September 5, 2010, 18:00:
Informal welcome reception at JKU Campus, Uni Center

September 6, 2010, 19:30
Official reception by the state of Upper Austria and the City of Linz in downtown Linz
Location: Steinerner Saal, Landhaus Linz, Klosterstraße 11 / Promenade 24
Closest tram stops (lines 1 and 2): Taubenmarkt, Hauptplatz

September 7, 2010: 19:30
Conference banquet on Danube river cruise
Boarding 19:00: Lentos Museum, Ernst Koref Promenade 1
Closest tram stop (lines 1 and 2): Hauptplatz

September 8, 2010, 15:30
Informal farewell reception at JKU Campus, Uni Center

Downtown Linz



Farewell Reception

Right after the closing session on Wednesday afternoon in the main auditorium “Raiffeisensaal” we kindly invite you to a farewell reception taking place in the Uni Center. As a farewell present you will receive a bottle of genuine Austrian Most.

“Most” is a general term for pressed fruit juice, which is often fermented and, e.g., represents the first step in winemaking in case of grapes. In Upper Austria and the western part of Lower Austria, the term is commonly used exclusively for fermented apple and/or pear juice with alcohol content in the order of 5%. As with wine, there’s a wide variety of tastes. The “most” in this bottle by one of the most prestigious “most” producers (farmers) has been carefully selected by the Local Eurosensors 2010 Committee and we hope that you enjoy the taste and think about the Linz conference when you are back home!

Blossoming of apple trees

Equipment for the production of most, Most-Museum St. Marienkirchen/Polsenz

Travel to and in Linz

Train:

Participants arriving at the Central Station (Hauptbahnhof) by train can use tram lines 1 or 2 towards *Universität* and get off at the final stop *Universität* to get to the conference site directly. The tram stop and the ticket machine at the central station are located downstairs, a one way ticket ("Midi") takes you to the university (Note that you will get a 4-day ticket upon registration thus once you have picked up your delegate package you don't need any more tickets! See also below.) Train schedule ÖBB: http://www.oebb.at/en/index.jsp

City Traffic: Linz AG

Tickets can be bought at a ticket machine at the stop or at news stands (Trafiken), no tickets are sold in the cars (neither tram nor bus). **IMPORTANT:** Upon registration **participants (including accompanying persons) of the conference will receive a badge that includes all public transport**, i.e. bus and tram lines (except for Pöstlingbergbahn) during the conference!

Most important are tram lines 1 and 2 connecting the conference site (tram stop "Universität") with downtown Linz (tram stop "Hauptplatz") and the main railway station (tram stop "Hauptbahnhof").
Network route map: http://www.linzag.at/efa/plan/plmain.html and p. 14

Timetable: http://www.linzag.at/linz/index_en.htm
Departure Town/District: Linz, Stop: Hauptbahnhof
Arrival Town/District: Linz, Stop: Universitaet

Arrival by Air

Blue Danube Airport Linz: http://www.flughafen-linz.at/www/cm/en/index.html

Participants arriving by plane can take the Blue Danube Airport Lines bus (airport bus No. 601 departing in front of the arrival hall) until its final stop at the railway station, and proceed by taking the tram. The bus to the city only operates on working days and runs every hour, last departure is 7 pm. On Sunday there is no bus to the city. Journey time: approximately 20 minutes.
http://www.flughafen-linz.at/www/cm/en/passengers/approach/bus.html

Alternatively, taxis are waiting for you directly in front of the Arrivals Terminal. The taxi fares to the railway station of Linz are approx. Euro 30.00 and to the center EUR 35,00.

Arrival by Car

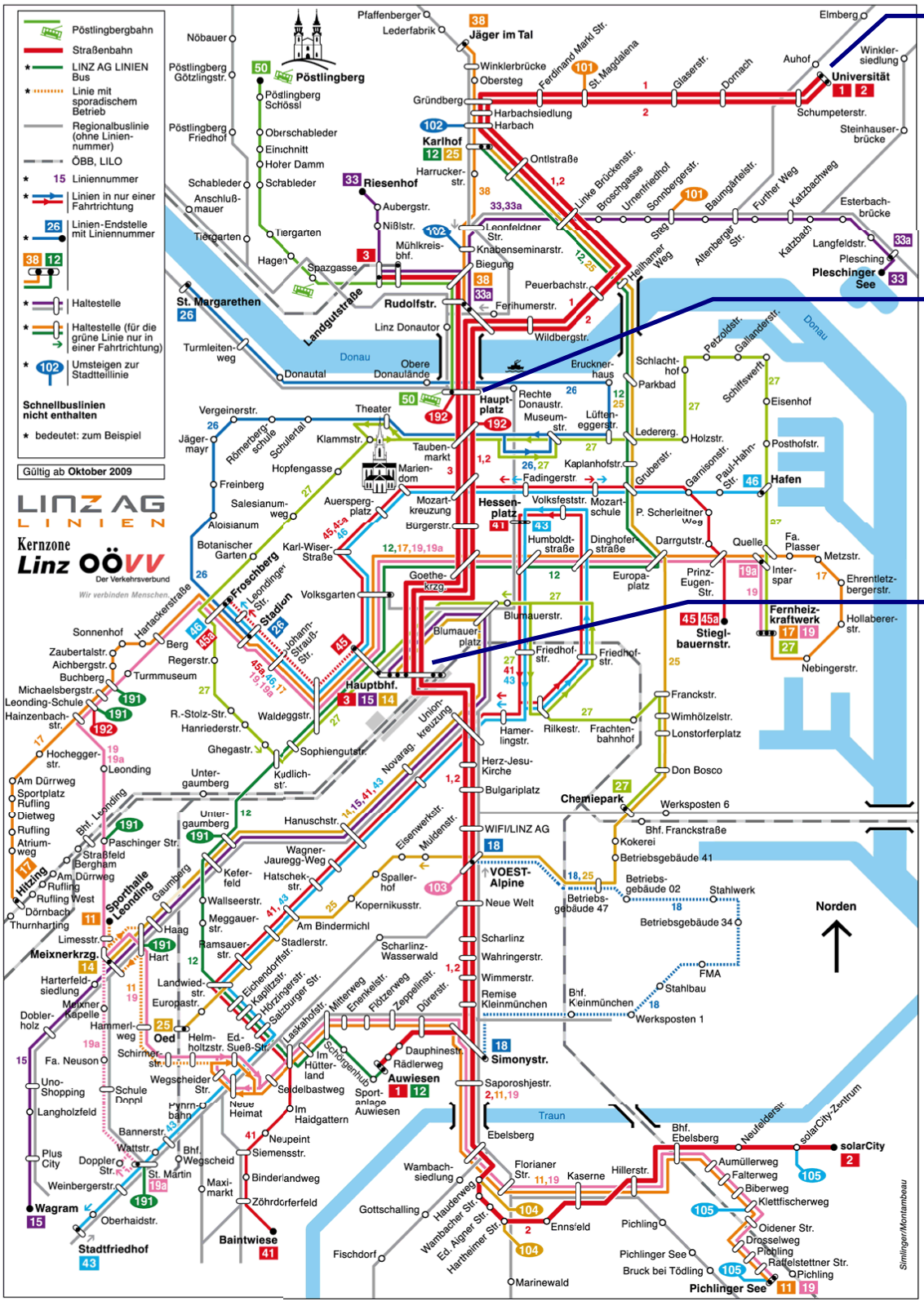
Follow motorway A1 to exit **Linz**, follow A7 in the direction of Praha, Freistadt; take the second exit after the bridge crossing the Danube, **Dornach/Auhof**, at the first set of traffic lights go straight ahead (Altenberger Straße), shortly after the loop of the tram you will find the entrance of the car park of the university at the left, take a ticket at the gate. Upon leaving, please pay parking fee (**€ 0,50 per ½ h, no day passes!**) at a ticket machine.

IMPORTANT: No free parking is available in the vicinity of the campus (limited parking zone)! It is highly recommended to use public transport.

Public Transport: Linz AG

PDF-Dokument zum Drucken und Speichern

Verkehrslinienplan



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Further Information

Tourist Information

Old City Hall (Altes Rathaus), Hauptplatz 1, tourist.info@linz.at,
Tel. +43 732 7070 2009
Opening hours: Monday to Saturday: 9:00 – 19:00, Sunday/Holiday: 10:00 – 19:00.
http://www.linz.at/english/

Credit Cards / Cash Machines

Major credit cards are accepted by hotels, upmarket shops and restaurants. Cash machines are located throughout the city.

Mains Supply

The power supply voltage in Austria is 230 volts / 50 Hz. Foreign appliances could require an adapter.

Local currency

The Euro (€) is the valid Austrian currency.

Tips

Service is usually included in the bill in bars and restaurants, but tips up to 10% are welcome.

Conference Sponsors

City of Linz	
State of Upper Austria	
Austrian Electrotechnical Association (OVE)	
Elsevier publishing	Booth in Poster Area 4
IEEE Sensors Council	Booth in Poster Area 4
Carinthian Tech Research AG (CTR)	

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Siemens VAI Metals Technologies GmbH	
Raiffeisenlandesbank Oberösterreich AG	
Integrated Microsystems Austria GmbH	Booth in Poster Area 1
ARGE Sensorik	
Infineon Technologies Austria AG	Booth in Poster Area 3
IOP Publishing	Booth in Poster Area 4
E+E Elektronik GmbH	Booth in Poster Area 2
COMSOL Multiphysics GmbH	Booth in Poster Area 2 and two presentations
Agilent Technologies	Booth in Poster Area 2
Institute for Microelectronics and Microsensors	
Heidelberg Instruments Mikrotechnik GmbH	Booth in Poster Area 1
Wiley-Blackwell	Booth in Poster Area 4

AUSTRIAN CENTER OF COMPETENCE IN MECHATRONICS

Lecture Session Schedule

Time	Room 1 "Raiffeisensaal"	Room 2 "Sparkassensaal"	Room 6 "Hörsaal 6"	Room 7 "Hörsaal 7"
Sunday, September 5th, 2010				
09:00 – 18:00		Eurosensors School		
Monday, September 6th, 2010				
09:00 – 09:30	Opening Session			
09:30 – 10:15	A1L-A KEYNOTE I			
10:15 – 11:00	A2L-A KEYNOTE II			
11:30 – 13:00	A3L-A Gas sensors	A3L-B Cell manipulation and analysis	A3L-C Sensor electronics	A3L-D Modelling & simulation
13:05 – 13:35				COMSOL Presentation
14:30 – 16:00 Poster Sessions ↓				
16:00 – 17:30	A5L-A Selective surface modifications	A5L-B Capacitive sensors	A5L-C Optical devices	A5L-D Microfluidic systems
19:30 – 22:00	Official reception by the state of Upper Austria and the City of Linz in downtown Linz: Steinerner Saal, Landhaus Linz, Klosterstraße 11 / Promenade 24			
Tuesday, September 7th, 2010				
09:10 – 10:00	B1L-A KEYNOTE III			
10:00 – 11:15	B2L-A Resonant devices I	B2L-B Biomedical systems	B2L-C Sensor signal processing	B2L-D Flow sensor
11:45 – 13:00	B3L-A Electrochemical sensors	B3L-B Thermal transducers	B3L-C Wireless biomedical systems	B3L-D Systems design & optimisation
13:45 – 14:15				COMSOL Presentation
14:30 – 16:00 Poster Sessions ↓				
16:00 – 17:30	B5L-A Label-free biosensors	B5L-B Thermal devices	B5L-C On-chip analysis devices	B5L-D Ultrasensitive magnetic probes
19:00 – 19:30	Boarding Ship: Lentos Museum, Ernst Koref Promenade 1			
19:30 – 22:30	Conference banquet on Danube river cruise			
Wednesday, September 8th, 2010				
09:00 – 10:30	C1L-A Optical chemical sensors	C1L-B Cantilever based sensors	C1L-C Nanomaterials	C1L-D Acceleration sensors
11:00 – 12:30	C2L-A Optical fiber sensors	C2L-B Nanaosensors & NEMS	C2L-C Thin films	C2L-D Micropower generation
14:00 – 15:30 Poster Sessions ↓				
15:30	Closing Session & Farewell Reception			

Poster Session Schedule

Time	Poster Area 1	Poster Area 2	Poster Area 3	Poster Area 4
Monday 14:30 – 16:00	A4P-E Solid-state gas sensors	A4P-F Interfaces & sensor networks	A4P-G Applications	A4P-H Materials, technology & packaging
Tuesday 14:30 – 16:00	B4P-E Physical and optical sensors & MEMS	B4P-F Micropower generation II	B4P-G Biosensors	B4P-H Materials and technology
Wednesday 14:00 – 15:30	C3P-E Chemical Sensors	C3P-F Modeling & theory	C3P-G Microfluidics & labs-on-a-chip	C3P-H Physical sensors, actuators & MEMS

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