

RSS 2008 Travel Kit

- 1 Some important facts about RSS 2008
- 2 Travel information
- 3 The Conference Site
- 4 The Banquet Site
- 5 Restaurants at the Conference Site
- 6 Guidelines and Equipment for Presentations
- 7 Other Useful Information
- 8 Technical Program of RSS 2008
- 9 Tutorials and Workshops

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1 Some Important Facts about RSS 2008

Conference site

RSS 2008 will be held in the HG building (= main building) of ETH's main campus in down-town Zurich (see map and travel information in Section 2).

Important dates

Tuesday, June 24 th , 2008	Welcome Drink
Wednesday, June 25 th – Friday, June 27 th , 2008	Conference
Wednesday, June 25 th – Friday, June 27 th , 2008	Lab tours during lunch break
Wednesday, June 25 th , 2008, 5 PM	Poster session, (EM SM 1)
Thursday, June 26 th , 2008, 7 PM	Banquet
Friday, June 27 th , 2008, 5 PM	Goodbye Drink
Saturday, June 28 th , 2008	Workshops & Tutorials

Opening hours of the registration desk

Tuesday, June 24 th , 2008	16.00 – 18.00
Wednesday, June 25 th , 2008	08.00 – 17.00
Thursday, June 26 th , 2008	08.00 – 17.00
Friday, June 27 th , 2008	08.00 – 17.00
Saturday, June 28 th , 2008	08.00 – 18.00

Phone, fax and e-mail at registration desk

Phone: +41 44 632 90 20

Fax: +41 44 632 90 21

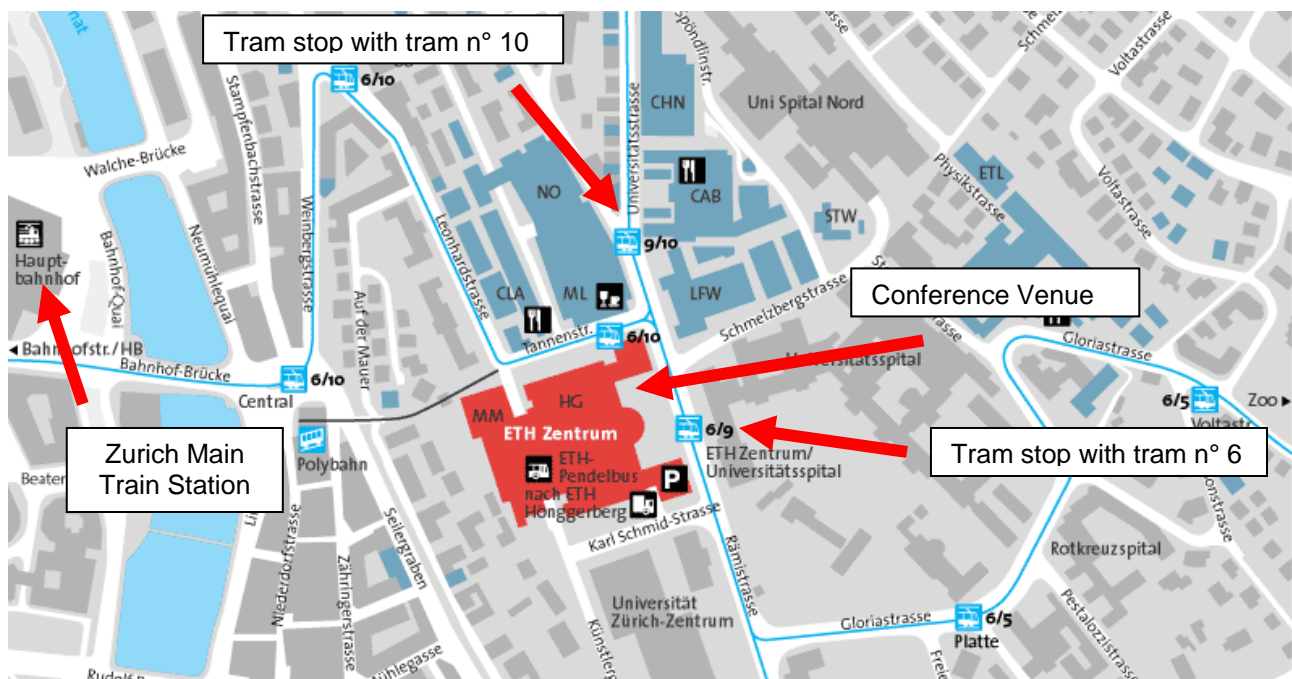
E-mail: rss08@mavt.ethz.ch

2 Travel Information

From Zurich Airport (Kloten)

After reclaiming baggage, follow the signs "Bahn/Railway" to ticket counters and machines. There are English instructions on the machines; follow them or simply press the left (red) key at the bottom where it says "Zurich City". The machine accepts coins as well as banknotes and gives change. The ticket is valid during the next hour for any train to Zurich as well as for the trams and buses in the city (streetcar / tram). Take an escalator down to the platforms 3 or 4. Trains to city centre leave approx. every 10 minutes and take about 10 minutes to reach Zurich main station (Zurich HB). You can also purchase a 24 hour ticket for all trains, trams, and buses in Zurich by making the appropriate selection on the machine. More info is available on <http://www.vbz.ch>.

You may also take a taxi directly to ETH Zentrum (the down-town campus). It costs around 50-60 sFr. However, during rush hour trains are faster and always cheaper.



From Zurich Main Station

At the main station walk to the head of the train and follow any signs to "Bahnhofplatz" (tram 10, just next to main station) and "Bahnhofstrasse" (tram 6, around 100 m down the Bahnhofstrasse). If you arrived by train and haven't yet got a tram ticket, you must now buy one from the blue ticket machine. Depending on your needs, you can buy a day ticket which is valid for 24 hours for all trams and buses in the main zone (zone 10) of the city or, if all you need is to reach the ETH, press the yellow button.

From the main station you reach ETH Campus Zentrum in six minutes with tram no. 10 (direction *Bahnhof Oerlikon* or *Irchel* at night) from tram stop Bahnhofplatz or tram no. 6 (direction *Zoo*) from tram stop Bahnhofstrasse to the stop ETH/Universitätsspital (the 3rd stop).



You may also cross the Limmat river (2-3 minutes) and take the “Polybahn” at Central.

Public transportation

- You can find information about public transportation on the dedicated website: <http://www.vbz.ch/>. An English version is available (left, down).
- The following partial map shows the transportation network around the conference venue (ETH main campus)



Parking

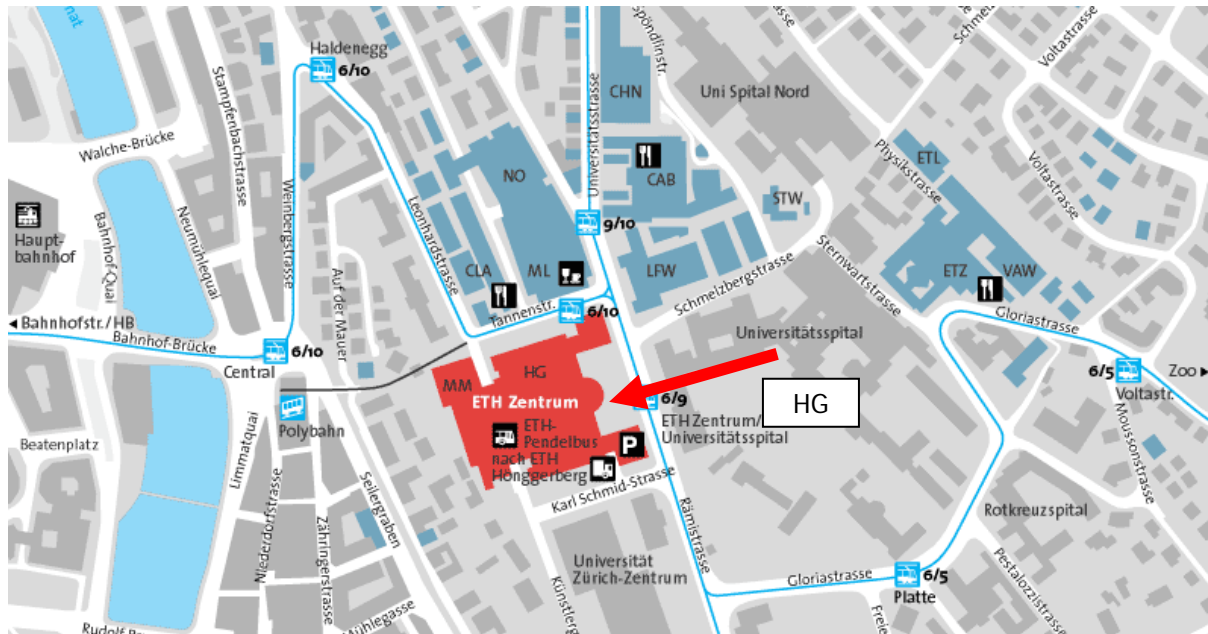
- Please note that we cannot provide any parking possibilities, so you may use public transportation!

3 The Conference Site

RSS 2008 will be held in the HG Building (Main Building) of ETH's main campus in down-town Zurich in the AudiMax (HG F30).

Workshops and Tutorials on Saturday June 28 will also take place in the Main Building. Room assignments can be found in section 9.

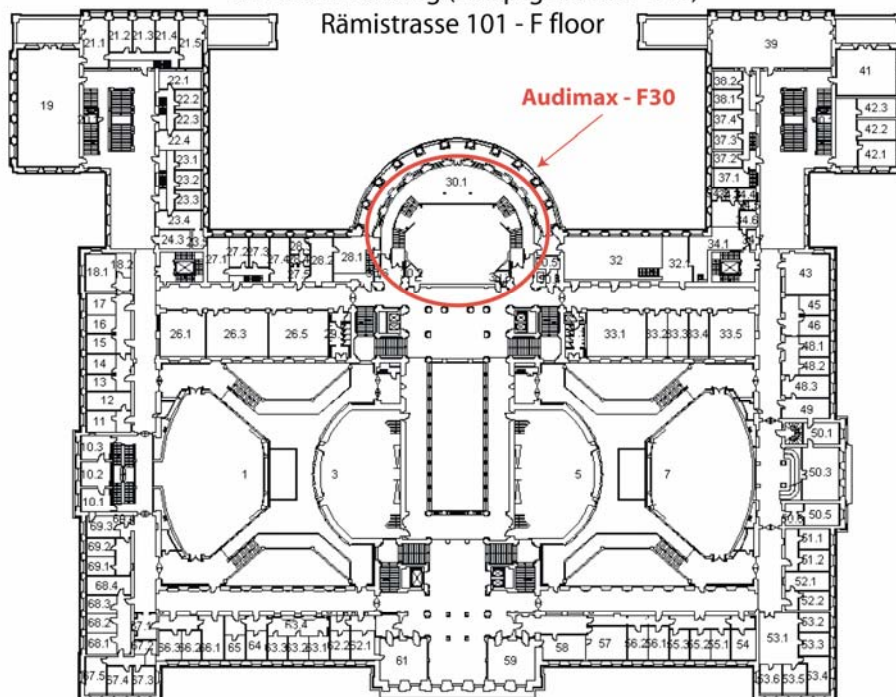
HG building



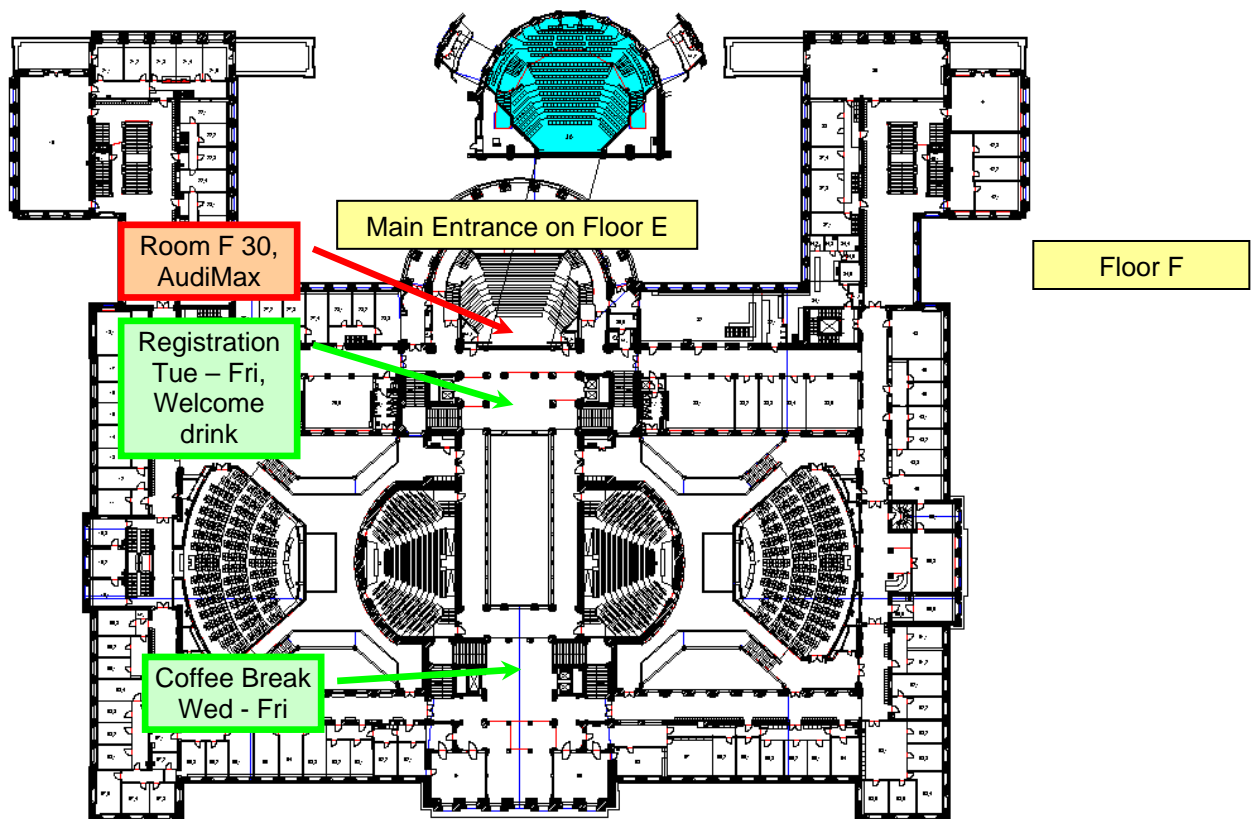
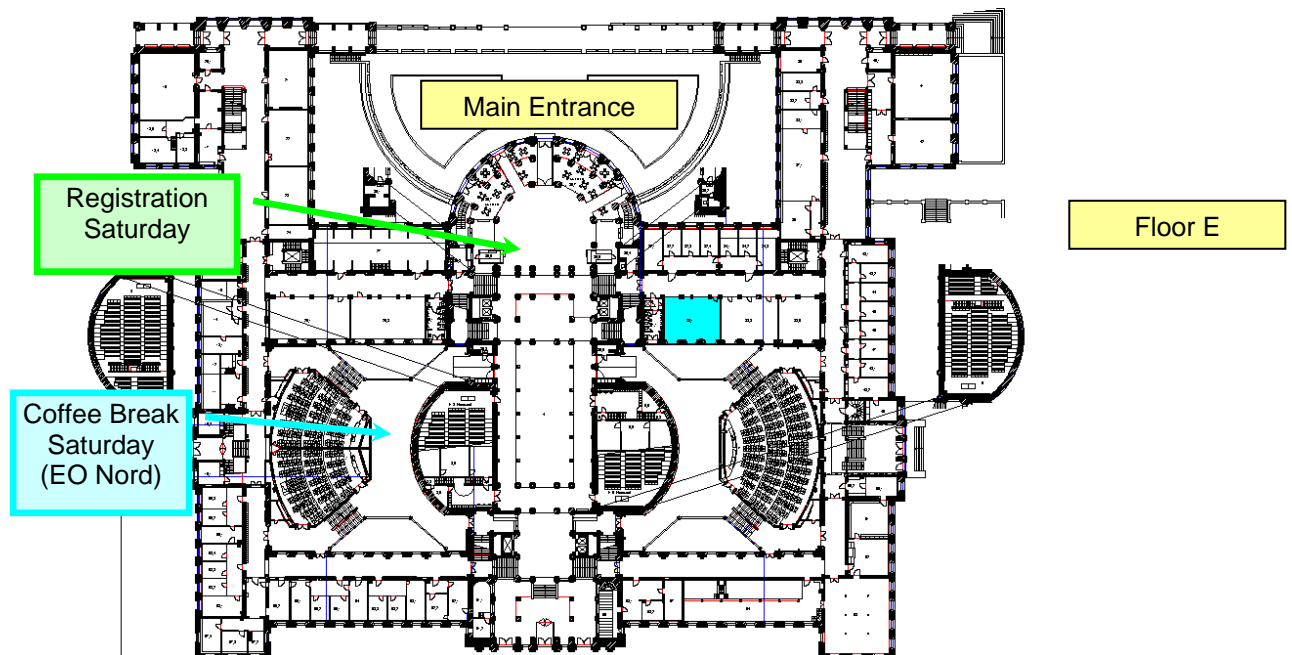
Technical Sessions

ETH Main Building (Hauptgebäude - HG)

Rämistrasse 101 - F floor



Location of Registration Desk and Coffee Breaks



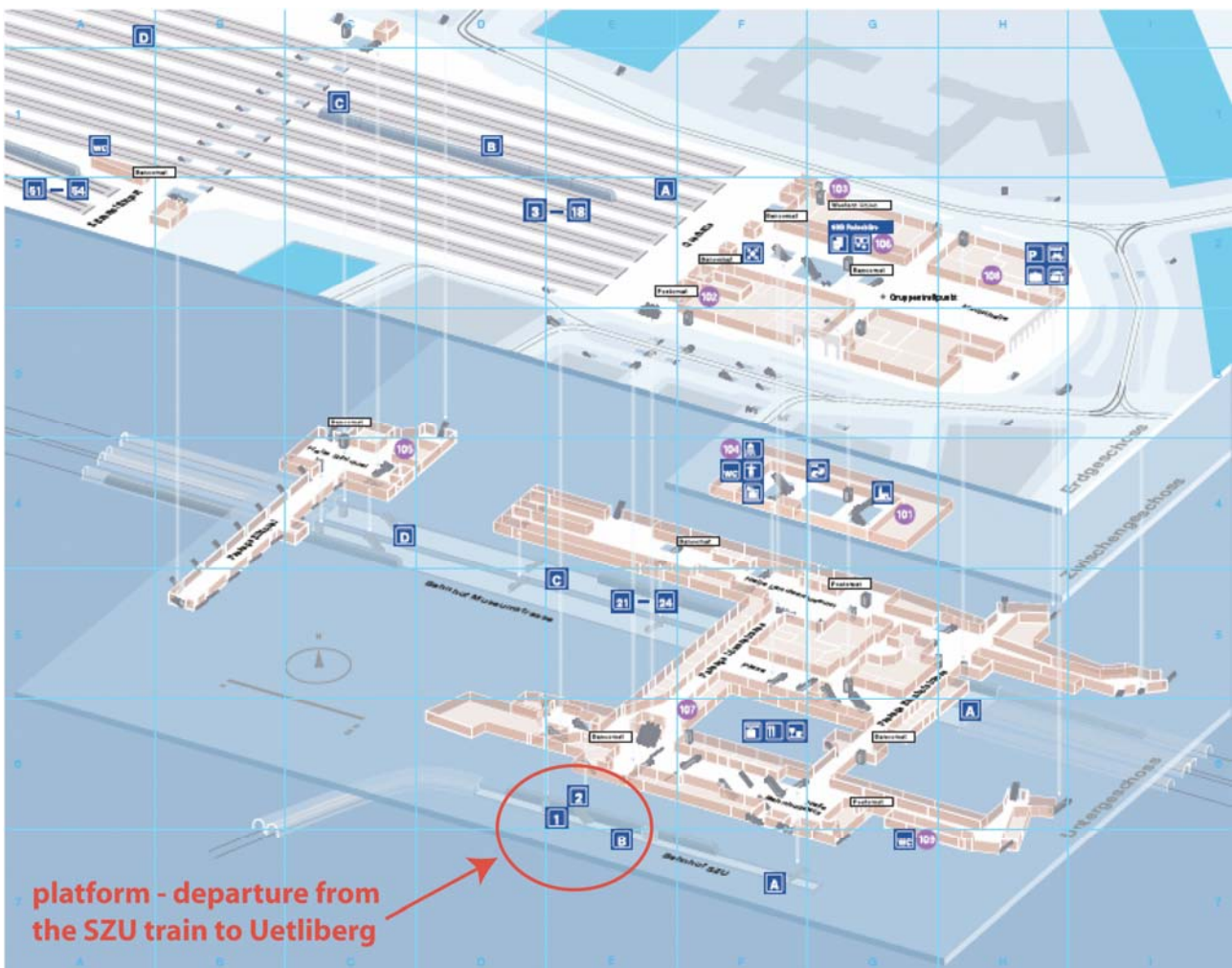
4 The Banquet Site

The banquet will be held on Thursday, June 26th, at hotel Uto Kulm, which is located on a small mountain called Uetliberg offering a panoramic view of the entire city of Zürich including the Lake.

How to get there

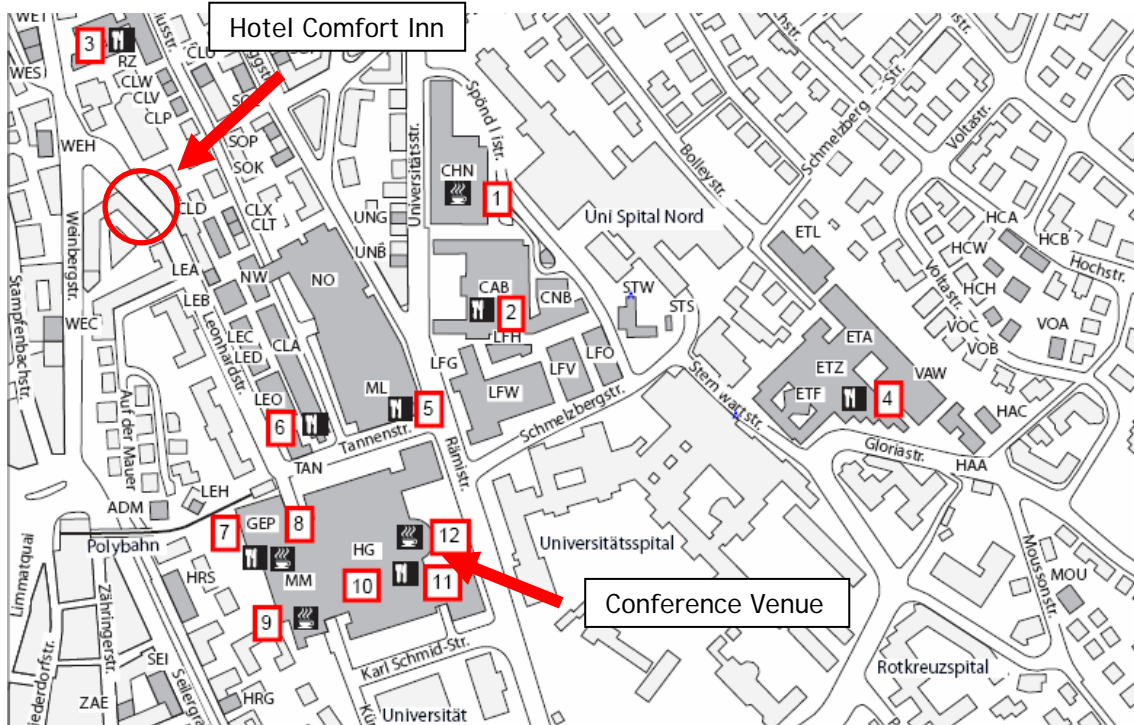
To reach the banquet location, you have to take a train from Zürich main station (Hauptbahnhof). You will get the train ticket at the registration desk with the rest of the material or – depending on the delivery of the tickets – it will be given to you at the train station. This train is the **S10** from the special Sihltal – Zürich – Uetliberg (SZU) train line. It leaves from platform 2, which is located on the lower level of the main station at the southern edge of the area (see map below). A special train booked exclusively for RSS conference participants will leave the station at **19:16**. If unfortunately you would miss this train, regular trains are scheduled every half-hour (every 06 and 36 from 9:00 to 22:00) and take about 20 minutes to reach the final station: Uetliberg. To get back to Zürich after the banquet, you can take the same train, which leaves Uetliberg every 07 and 37 until 23:00 (last departure: 23:37, don't miss it!).

If – for any reasons – you don't have a ticket, don't enter the trains without, but get a return-ticket to "Uetliberg". Otherwise the penalty fees are up to 100 CHF.



5 Restaurants at the Conference Site

There are various restaurants and snack bars on ETH Zentrum campus. The menu of the day costs around 11 sFr. Restaurants and snack bars are listed below and are indicated on the map. You can find more information on the following website: <http://www.gastro.ethz.ch/>.



Nr	Name	Building	Open
1	CHN Bistro	CHN	Mo – Fr 8.00 – 16.45
2	Restaurant foodLAB	CAB	Mo – Fr 8.00 – 16.00
11	Polysnack	HG F	Mo – Fr 7.30 – 17.00
12	CafeBar	HG Entrance	Mo – Fr 7.00 – 19.00 Sa 7.30 – 14.30
8	Cafeteria Polyterrasse	MM C	17.30 – 19.15
7	Mensa Polyterrasse	MM B	Mo – Fr 11.15 – 13.30, 17.30 – 19.30
6	Clausiusbar	CLA	Mo – Fr 8.00 – 16.00
4	Gloriabar	ETZ	Mo – Fr 7.30 – 16.30
3	Informatikbar	IFW	Holidays
5	Tannenbar	ML	Mo – Fr 07.00 - 17.00
9	bQm	MM C	Mo – Th 11.30 – 22.00; Fr – 20.00
10	Dozentenfoyer, faculty club	HG J	Mo – Fr 9.00 – 16.00



6 Guidelines and Equipment for Presentations

- **Please contact your chairman before the start of your session.**
- Each presentation is scheduled according to the program. Please prepare your presentation accordingly.
- The presentation room will be equipped with an overhead projector and a beamer for presenting from your own laptop. If you need specific equipment, please inform us well in advance (dellacasa@mavt.ethz.ch).
- We will have an AIM staff member (red T-shirt) to help you with all technical and organizational issues.
- Please inform us as soon as possible if you have any problem with your presentation time.

7 Other Useful Information

European Soccer Championship (EM 2008)

- Zurich is one of the cities hosting EM 2008. During the RSS week the final games take place. Even though the games are played in other cities, there is public viewing and a lot of partying in Zürich. For 25th June a possibility to watch the semi-final at the faculty club is planned.

For further information:

- General information: <http://euro.zuerich.com/en.cfm/>

- Map: <http://www.zuerich.com/files/get.cfm?id=9811>

Climate

- The climate in Switzerland is usually pretty nice and warm in the end of June with little rain and already summer. You should expect temperatures around 25° C during the day and around 15° C at night. However, it can also be 10°C during day and raining. So be prepared for surprises. Juni is a good season for hiking, sightseeing and other outdoor activities. With a little luck, you will even be able to enjoy swimming in the Limmat river (e.g., at the Flussbad Oberer Letten) or the lake of Zurich.

Sightseeing in Zürich and Switzerland

- Zürich offers various attractions and museums and has a nice down-town shopping area. Here are some highlights:
 - Kunsthaus – Switzerland's most important art gallery contains a collection from all the important periods of European art – from the Middle Ages through to the present.
 - Rietberg Museum – the museum houses non-European art, particularly from India, China and Africa.
 - Bahnhofstrasse – the mile-long street of banks featuring exclusive fashion boutiques is the place to go shopping.
 - Zurich Zoo – Tram 6 will take you uphill to get a beautiful view of Zürich City, with the possibility to take a very nice walk to the impressive Zurich Zoo.
 - Old town – full of art galleries, antique and book shops, roaming in the old town is a pleasant way to discover the historical side of Zurich.
 - Niederdorf - during the day this is a pedestrian zone and a shopper's paradise with lots of boutiques hidden away in a patchwork of alleys. At night the many bars, restaurants and street artists turn the Niederdorf into an exciting and colorful center of entertainment.
- Finally, June is a good season for hiking and Zürich can be considered as the gateway to the Alps. For more information please have a look to the tourist office web site: <http://www.zuerich.com>. Further information will also be available at the registration desk or at your hotel.

Power Plugs

- Be aware that Switzerland has an own power plug system. So please bring your international plug with you.

8 Technical Program of RSS 2008

Tuesday June 24, 2008

16.00	Registration Desk	open
18.00	Welcome drink	at Registration Desk

Wednesday June 25, 2008

8.30	Opening Session	
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Session W1 Chairperson: Jose Neira

9.00	Invited Talk	Armin Gruen, Positioning, Modeling and Navigation with Photogrammetric Techniques
9.55	Oral	P1: A. Huang, D. Moore, M. Antone, E. Olson, S. Teller, Multi-Sensor Lane Finding in Urban Road Networks
10.20	break	

Session W2 Chairperson: Hugh Durrant-Whyte

10.45	Oral	P2: B. Douillard, D. Fox, F. Ramos, Laser and Vision Based Outdoor Object Mapping
11.10	Oral	P3: I. Posner, M. Cummins, P. Newman, Fast Probabilistic Labeling of City Maps
11.35	Oral	P4: P. Giguere, G. Dudek, Clustering Sensor Data for Terrain Identification using a Windowless Algorithm
12:00	Lunch, Lab tours	Lab tours at 12.10. and 12.50; starting at Reg. desk

Session W3 Chairperson: Fabio Ramos

13.30	Invited Talk	Miguel Nicolelis, Computing with Neural Ensembles
14.25	Oral	P5: S. Funiak, P. Pillai, M. Ashley-Rollman, J. Campbell, S. Goldstein, Distributed Localization of Modular Robot Ensembles
14.50	Poster Spotlights	Posters P7-16
15.15	break	

Session W4 Chairperson: Kevin Lynch

15.40	Oral	P6: N. Michael, V. Kumar, Controlling Shapes of Ensembles of Robots of Finite Size with Nonholonomic Constraints
16.05	Poster Spotlights	Poster P17-P26
17.00	Poster Session	at the Faculty Club
	Food and Drinks	at the Faculty Club
20.30	European Soccer Championship – Semi Final 1	at the Faculty Club

Poster session will have Drinks, Finger-Food, Videos (Faculty Club).

P7	L. Odhner, H. Asada, Stochastic Recruitment: <i>A Limited-Feedback Control Policy for Large Ensemble Systems</i>
P8	C. Vallespi-Gonzalez, T. Stentz, <i>Prior Data and Kernel Conditional Random Fields for Obstacle Detection</i>
P9	H. Kurniawati, D. Hsu, W. Lee, SARSOP: <i>Efficient Point-Based POMDP Planning by Approximating Optimally Reachable Belief Spaces</i>
P10	D. Dolgov, S. Thrun, <i>Detection of Principle Directions in Unknown Environments for Autonomous Navigation</i>
P11	S. Bhattacharya, S. Hutchinson, <i>Approximation Schemes for two-player pursuit evasion games with visibility constraints</i>
P12	K. Yamane, Y. Nakamura, <i>A Numerically Robust LCP Solver for Simulating Articulated Rigid Bodies in Contact</i>
P13	J. Lien, <i>Hybrid Motion Planning Using Minkowski Sums</i>
P14	S. Schmidt-Rohr, S. Knoop, M. Lsch, R. Dillmann, <i>Bridging the gap of abstraction for probabilistic decision making on a multi-modal service robot</i>
P15	J. Sturm, C. Plagemann, W. Burgard, <i>Adaptive Body Scheme Models for Robust Robotic Manipulation</i>
P16	N. Moshtagh, N. Michael, A. Jadbabaie, K. Daniilidis, <i>Bearing-Only Control Laws For Balanced Circular Formations of Ground Robots</i>
P17	K. Seo, S. Chung, J. Slotine, <i>CPG-based Control of a Turtle-like Underwater Vehicle</i>
P18	B. Lavis, T. Furukawa, <i>HyPE: Hybrid Particle-Element Approach for Recursive Bayesian Searching and Tracking</i>
P19	P. Cheng, J. Fink, V. Kumar, <i>Abstractions and Algorithms for Cooperative Multiple Robot Planar Manipulation</i>
P20	F. Kanehiro, F. Lamiroux, O. Kanoun, E. Yoshida, J. Laumond, <i>A Local Collision Avoidance Method for Non-strictly Convex Objects</i>
P21	R. Diankov, N. Ratliff, D. Ferguson, S. Srinivasa, J. Kuffner, <i>BiSpace Planning: Concurrent Multi-Space Exploration</i>
P22	R. Pearce, M. Morales, N. Amato, <i>Structural Improvement Filtering Strategy for PRM</i>
P23	A. Petrovskaya, S. Thrun, <i>Model Based Vehicle Tracking for Autonomous Driving in Urban Environments</i>
P24	P. Gemeiner, A. Davison, M. Vincze, <i>Improving Localization Robustness in Monocular SLAM Using a High-Speed Camera</i>
P25	L. Han, L. Rudolph, <i>Simplex-Tree Based Kinematics of Multibody Systems Involving Loops: A Case Study of Foldable Objects</i>
P26	N. Yu, C. Hollnagel, A. Blickenstorfer, S. Kollias, R. Riener, <i>fMRI-Compatible Robotic Interfaces with Fluidic Actuation</i>

Thursday June 26, 2008

Session Th1

Chairperson: Nick Roy

9.00	Invited Talk	Jean-Louis Deneubourg, Shared Decision Making in Mixed Societies of Animals and Robots
9.55	Oral	P27: G. Hollinger, S. Singh, A. Krause, Proofs and Experiments in Scalable, Near-Optimal Search by Multiple Robots
10.20	Oral	P28: M. Likhachev, D. Ferguson, Planning Long Dynamically-Feasible Maneuvers For Autonomous Vehicles
10.45	break	

Session Th2

Chairperson: Jeff Trinkle

11.00	Oral	P29: T. Vose, P. Umbanhowar, K. Lynch, Friction-Induced Velocity Fields for Point Parts Sliding on a Rigid Oscillated Plate
11.25	Oral	P30: K. Byl, R. Tedrake, Metastable Walking on Stochastically Rough Terrain
11.50	Oral	P31: R. Ghrist, Y. Baryshnikov, Target enumeration via integration over planar sensor networks
12.15	Lunch, Lab tours	Lab tours at 12.15. and 12.50; starting at Reg. desk

Session Th3

Chairperson: Atsushi Konno

13.45	Invited Talk	Kevin O'Regan, How to Build Consciousness into a Robot: the Sensorimotor Approach
14.40	Oral	P32: A. Thomas, V. Ferrari, B. Leibe, T. Tuytelaars, L. van Gool, Using Recognition to Guide a Robot's Attention
15.05	Oral	P33: D. Katz, Y. Pyuro, O. Brock, Grounding Relational Reinforcement Learning for Manipulation in Unstructured Environments
15.30	break	

Session Th4

Chairperson: Nicola Simeon

15.55	Oral	P34: D. Silver, J. Bagnell, A. Stentz, High Performance Outdoor Navigation from Overhead Data using Imitation Learning
16.20	Oral	P35: M. Luber, K. Arras, C. Plagemann, W. Burgard, Tracking and Classification of Dynamic Objects: An Unsupervised Learning Approach
16.45	Oral	P36: J. Glover, D. Rus, N. Roy, Manipulation using Inference of Scene Geometry
19.00	Banquet	Train at 19.16h to "Uetliberg"
20.30	Invited Talk	Luis von Ahn, Human Computation
23.30	End of Banquet	

Friday June 27, 2008

Session F1

Chairperson: Brad Nelson

9.00	Invited Talk	Howard Berg, Motile Behavior of E. Coli, a Remarkable Robot
9.55	Oral	P37: S. Floyd, C. Pawashe, M. Sitti, Dynamic Modeling of an Untethered Magnetic Micro-Robot
10.20	break	

Session F2

Chairperson: Roland Siegwart

10.45	Early Career Spotlight	Eric Klavins (U Washington)
11.25	Early Career Spotlight	Rob Wood (Harvard)
12:05	Lunch, Lab tours	Lab tours at 12.10. and 12.50; starting at Reg. desk

Session F3

Chairperson: Metin Sitti

13.35	Invited Talk	Toshio Yanagida, Mechanism Involved in Utilizing Thermal Fluctuations by Muscle Molecular Motor
14.30	Oral	P38: T. Noda, T. Miyashita, H. Ishiguro, N. Hagita, Self-organizing Super-Flexible Skin Sensors Embedded on the Whole Body, Self-Organizing Based on Haptic Interactions
14.55	break	

Session F4

Chairperson: Vijay Kumar

15.20	Oral	P39: X. Liu, K. Kim, Y. Zhang, Y. Sun, NanoNewton Force Sensing and Control in Microrobotic Cell Manipulation
15.45	Oral	P40: C. Stachniss, C. Plagemann, A. Lilienthal, W. Burgard, Gas Distribution Modeling using Sparse Gaussian Process Mixture Models
16.10	break

Session F5

Chairpersons: Jeff Trinkle and Oliver Brock

16.25	Best student paper award	
16.30	Participant feedback	
17.00	Goodbye Drinks	at the Faculty Club

9 Tutorials and Workshops

Saturday June 28, 2008

Tutorials

Skills Capture and Transfer	HALF DAY morning	HG E3	Carlo Alberto Avizzano, Emanuele Ruffaldi
Tutorial on Integration of Vision and Inertial Sensors	HALF DAY morning	HG E1.1	Jorge Dias, Jorge Lobo

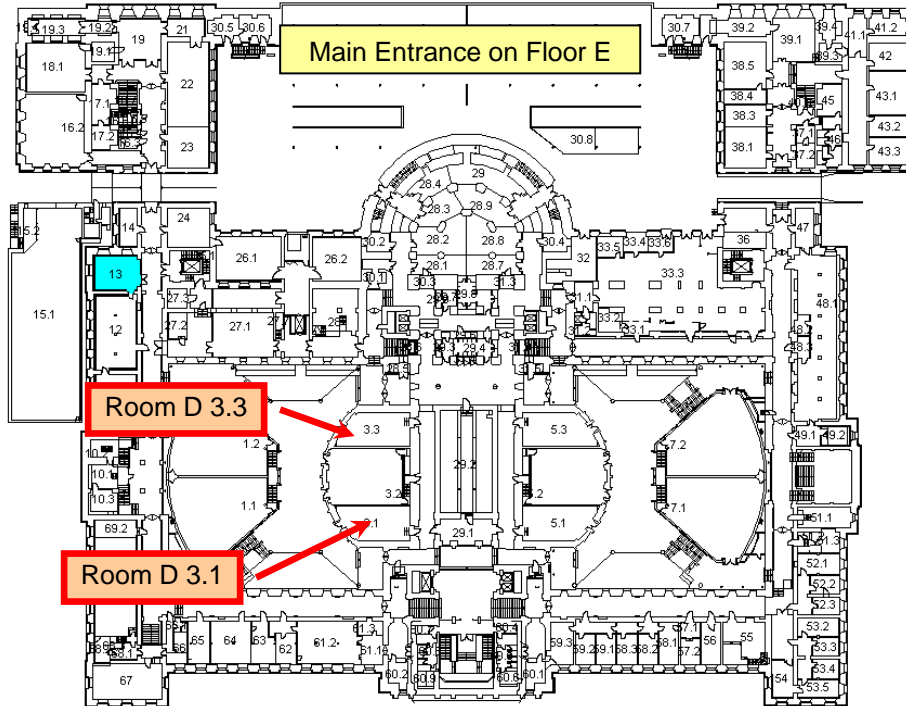
Workshops

Control of Locomotion: From Animals to Robots	FULL DAY	HG E1.2	Auke Ijspeert, Paolo Dario, Sten Grillner
Underwater Robotics at the Microscale	FULL DAY	HG E1.1	Brad Nelson, Vijay Kumar, Sylvain Martel, Metin Sitti, Lixin Dong
Topology and Minimalism in Robotics and Sensor Networks	FULL DAY	HG F26.1	Robert Ghrist, Steve LaValle, George J. Pappas
Teaching with Robots	FULL DAY	HG E21	Chris Rogers, Pedro Lima, Roland Siegwart, Illah Nourbakhsh, Aaron Dollar
Design and Control of Variable Impedance Actuators for Physical Interaction of Robots with Humans and their Environment	HALF DAY morning	HG F26.3	Antonio Bicchi, Alin Albu Schaeffer, Bram Vanderborght
Robot Manipulation: Intelligence in Human Environments	FULL DAY	HG E3	Robert Platt, Sami Haddadin, Charlie Kemp, Lorenzo Natale, Neo Ee Sian
Interactive Robot Learning	FULL DAY	HG F26.5	Andrea Thomaz, Geert-Jan M. Kruijff, Henrik Jacobsson, Danijel Skocaj
Inside Data Association	FULL DAY	HG E41	Udo Frese, Jose Neira, Diedrich Wolter, Jorg Kurlbaum
Quantitative Performance Evaluation of Navigation Solutions for Mobile Robots	HALF DAY morning	HG E22	Raj Madhavan, Chris Scrapper, Alex Kleiner
Experimental Methodology and Benchmarking in Robotics Research	HALF DAY afternoon	HG E22	Fabio Bonsignorio, John Hallam, Angel P. del Pobil
Advances in Simulation of Robot and Task Dynamics	HALF DAY afternoon	HG F26.3	Evan Drumwright, Kurt Anderson, Roy Featherstone
Grand Challenges in Microrobotics and Microassembly	FULL DAY	HG G26.1	Pierre Lambert, Stephane Regnier, Metin Sitti

- Schedules according to workshop and tutorial programs (see <http://www.roboticsconference.org/workshops.shtml> and <http://www.roboticsconference.org/tutorials.shtml>)
- The location of the rooms is indicated above
- **The room numbers can be subject to change; thus get informed at the reception desk on Saturday. The reception desk is for the workshops situated close to the main entrance.**
- Coffee breaks take place in the EO-Nord (E floor, north patio; see maps).
- Please contact directly the workshop-/ tutorials organizers for participation

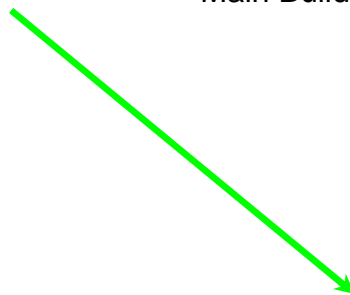
Workshops and Tutorials

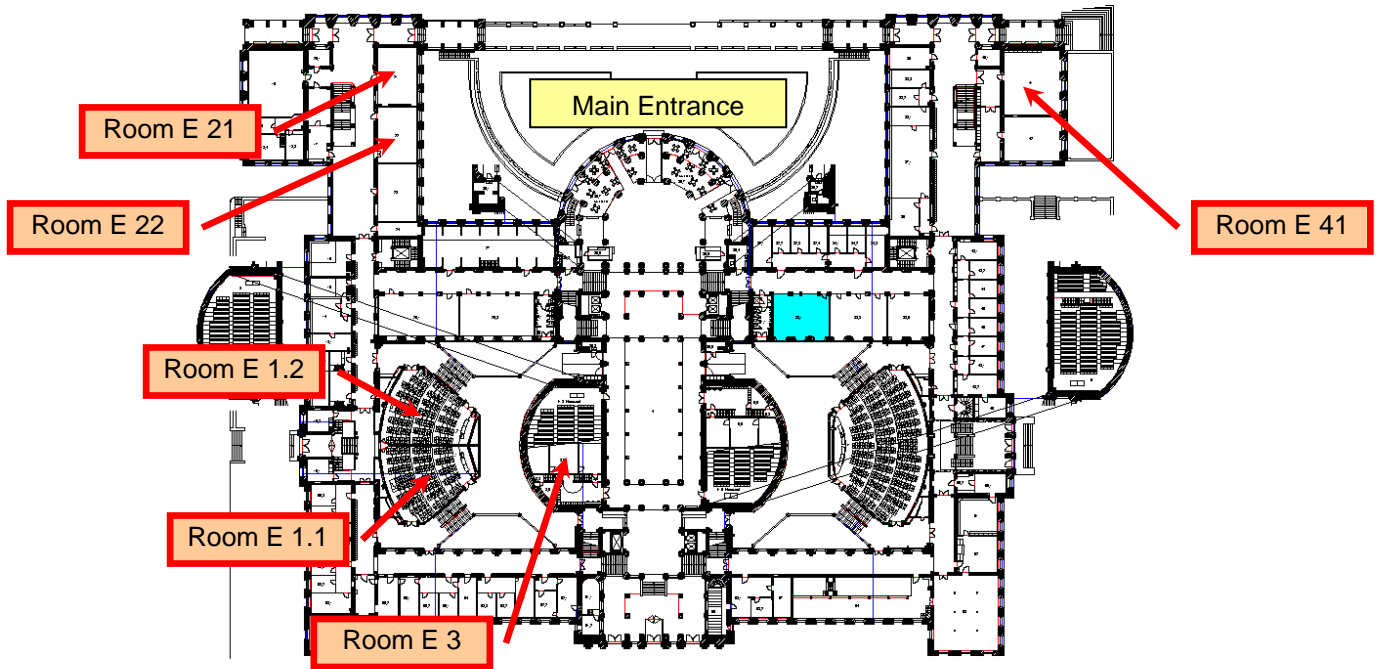
Main Building HG, Floor D



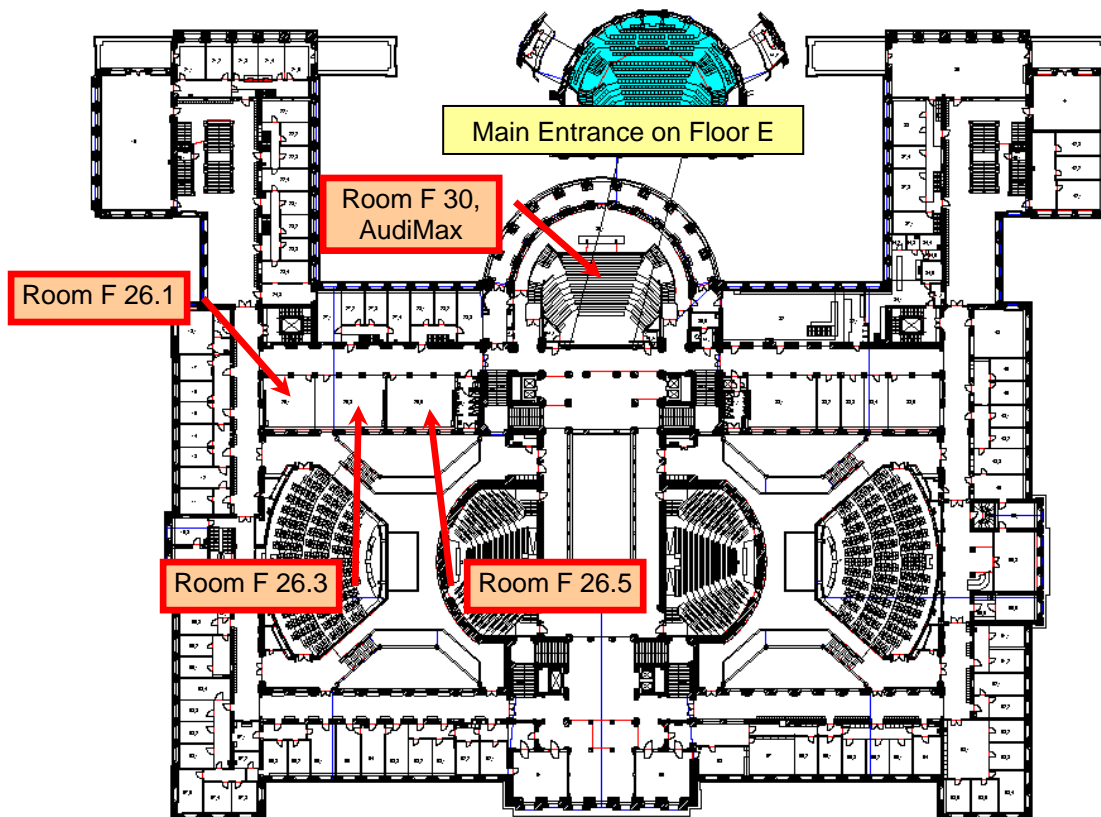
Registration
Saturday

Main Building HG, Floor E

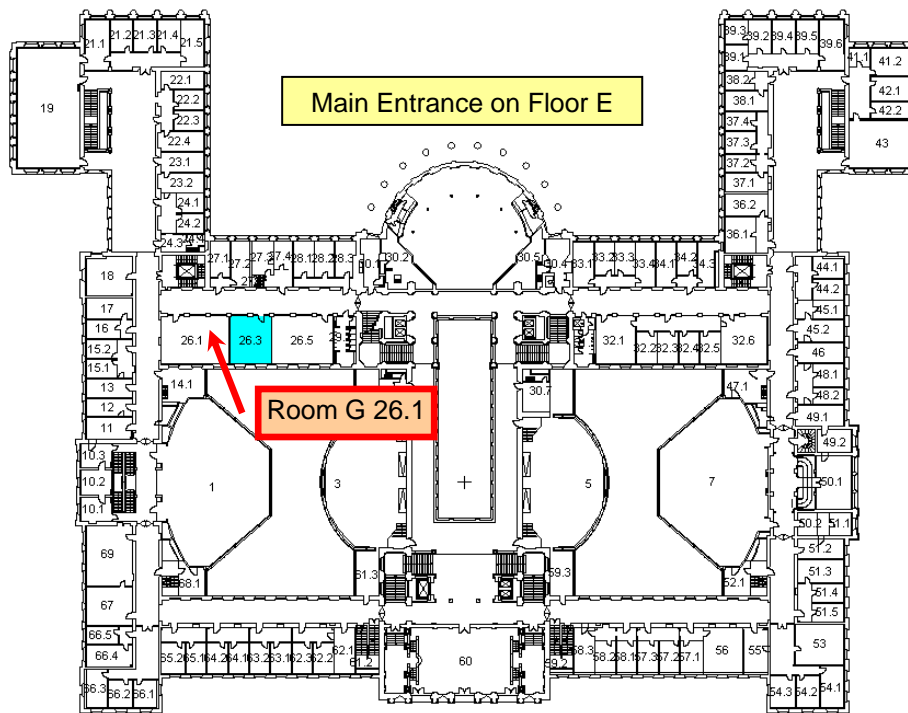




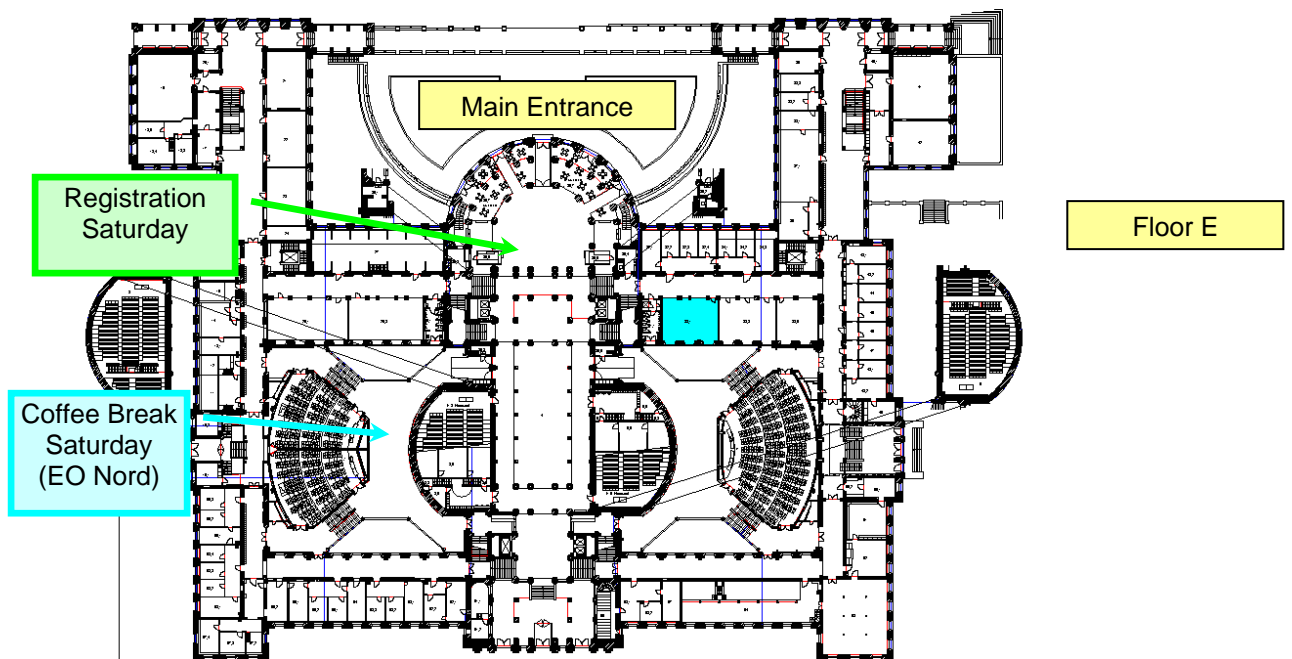
Main Building HG, Floor F



Main Building HG, Floor G



Location of Registration Desk and Coffee Breaks



Lunch on Saturday

