



CARPI 2012 Travel Kit

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1 Some Important Facts

Conference site

The summer school 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).

Please wear your badge visible (coffee breaks, lunch,...)

1.1 Important dates

Tuesday, 11 th September 2012 – Thursday, 13 th September 2012	CARPI Conference
Tuesday, 11 th September 2012, 18:30 . 19:30	Networking Cocktail
Wednesday, 12 th September 2012, 18.05 – ca. 23.30	Dinner on Uetliberg (Uto Kulm)
Thursday, 13 th September 2012, afternoon	Lab Tours

1.2 Registration

Monday, 10 th September 2012 (at CLA E 32)	17:00-19:00
Tuesday, 11 th September 2012(in HG (Main Building), near Entrance)	8:00 – 9:00 (and 10:55 – 11:15)

1.3 Phone, fax and e-mail of secretariat ASL

Phone: +41 44 632 39 72 / 23 29
 Fax: +41 44 632 11 81
 E-mail: carpi2012@ethz.ch

1.4 Wireless LAN (in ETH buildings)

Use the public WLAN
 Login: CARPI2012
 Password: CARPI*2012@ETH

2 Travel Information

2.1 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).

Train:

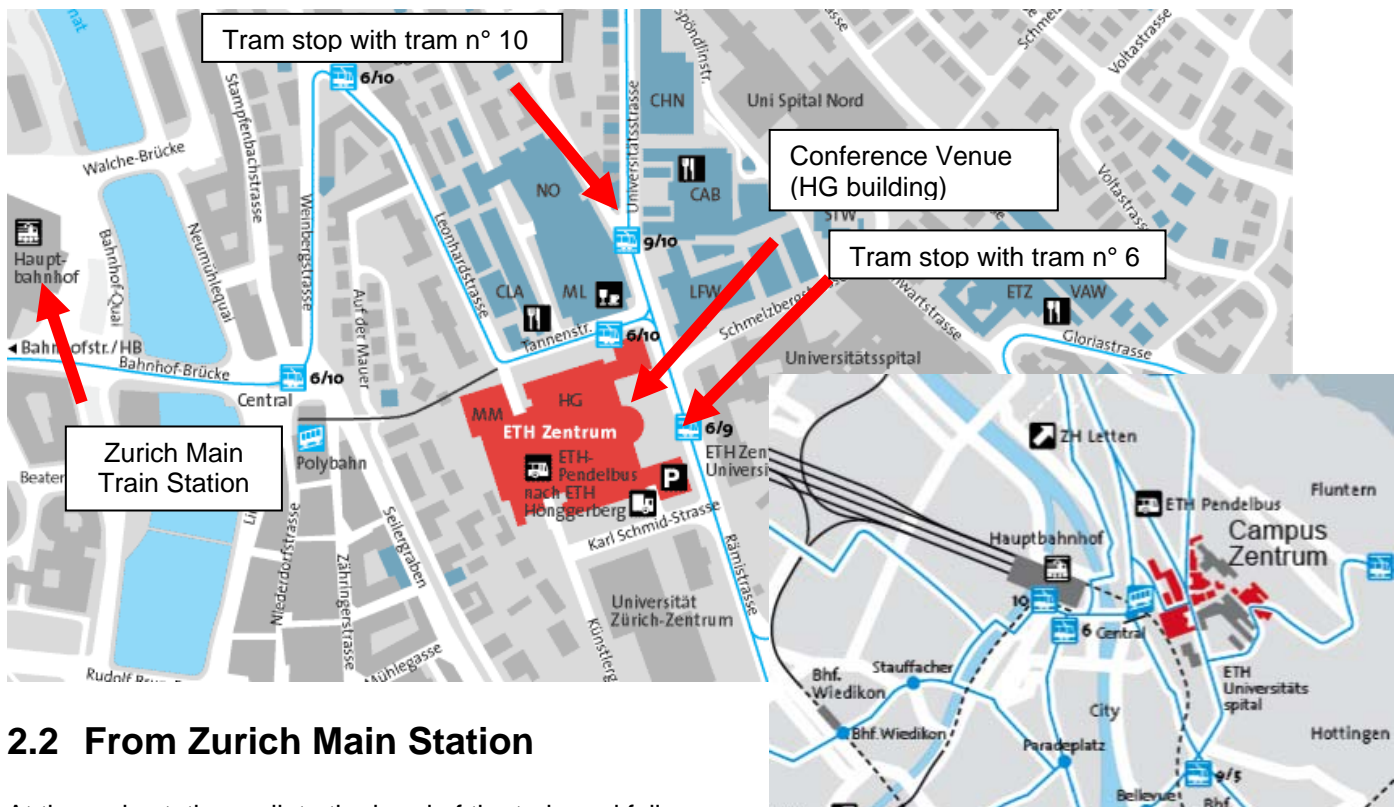
Take an escalator down to the platforms 3 or 4. Trains to city centre leave approx. every 10 minutes and take about 10 minutes to reach Zurich main station (Zurich HB). You can also purchase a 24 hour ticket for all trains, trams, and buses in Zurich by making the appropriate selection on the machine. More info is available on <http://www.vbz.ch>.

Tram:

Follow the signs to tramway "Zürich Flughafen Bahnhof". Buy a ticket for 3 zones. Depending on your needs, you can buy a day ticket valid for 24 hours for all trams and buses in the main zone. Departure with tramway No.10: From station "Zürich Flughafen, Bahnhof" to direction "Bahnhofplatz/HB" (Center). The tramway departs every 15 minutes between 6 AM and 23 PM. Exit after 31 minutes at station "ETH /Universitätsspital".

Taxi:

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.



2.2 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 *Airport* or *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.

2.3 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)



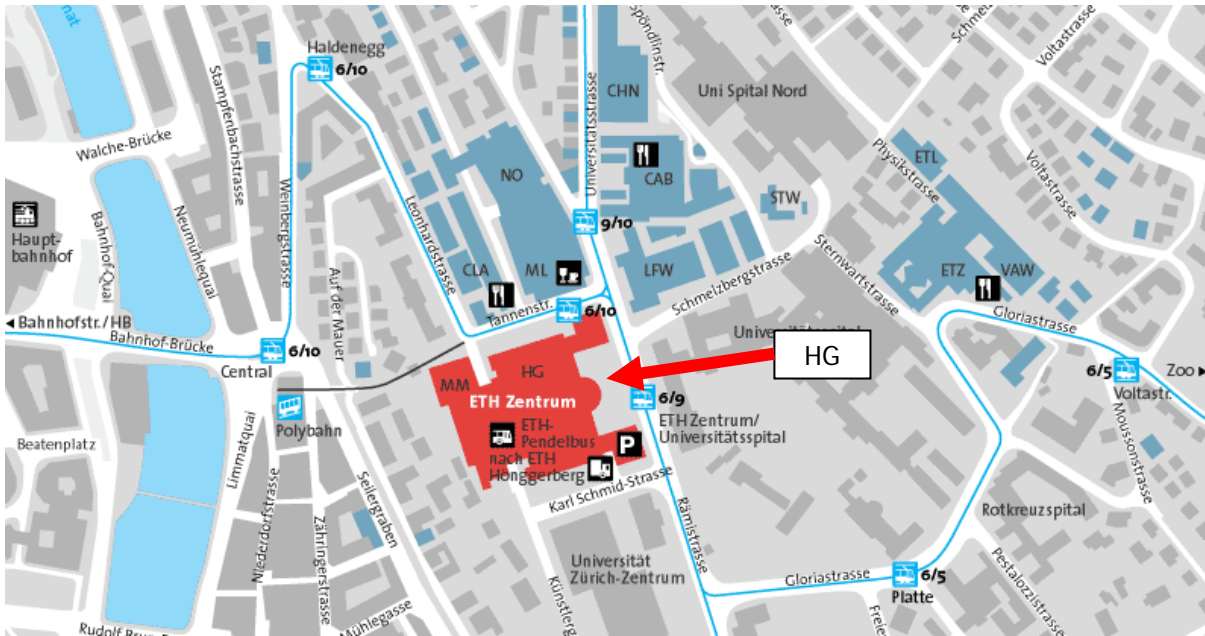
2.4 Parking

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

3 The Conference Site

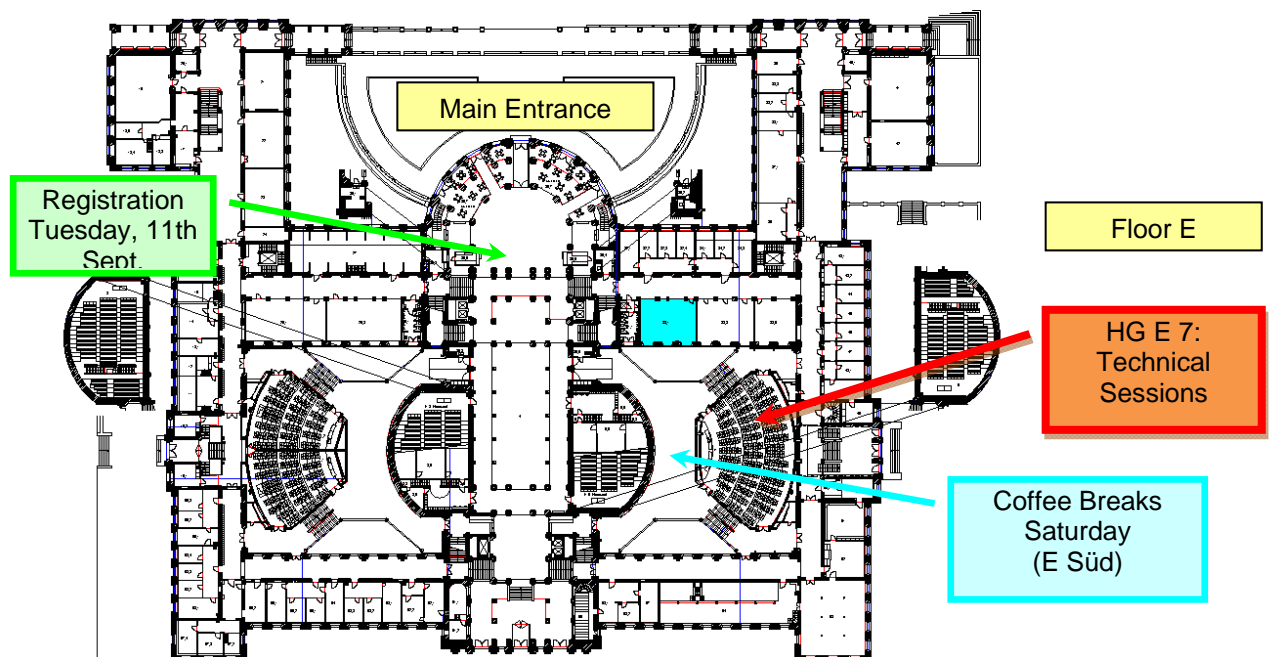
The Conference will be held in the HG Building (Main building) of ETH's main campus in down-town Zurich.

HG Building



3.1 Technical Sessions:

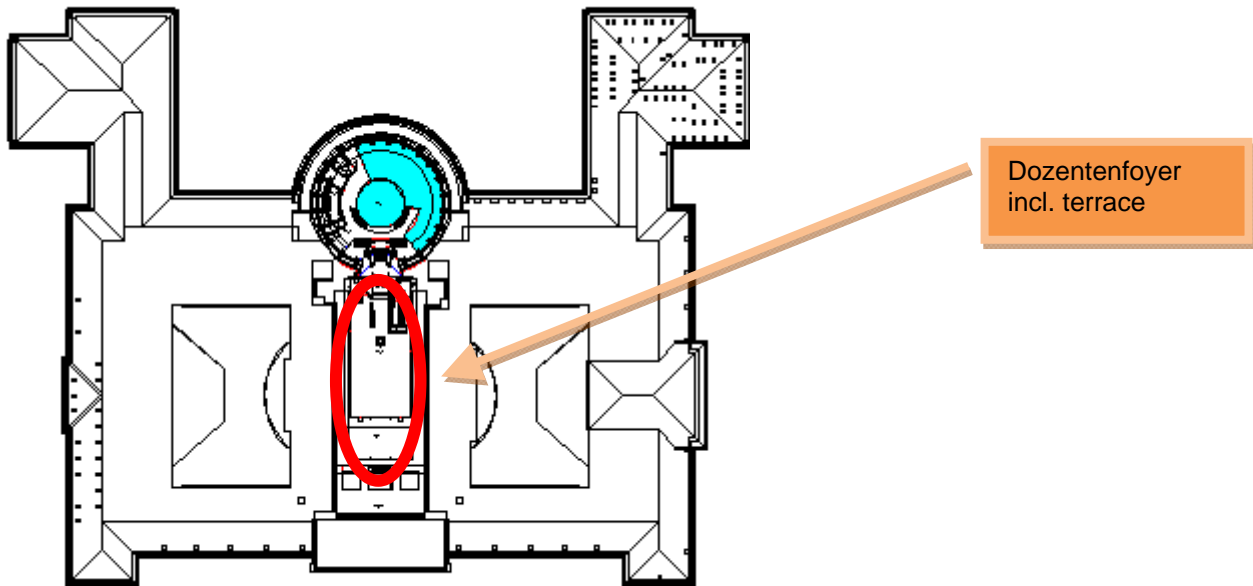
HG E 7



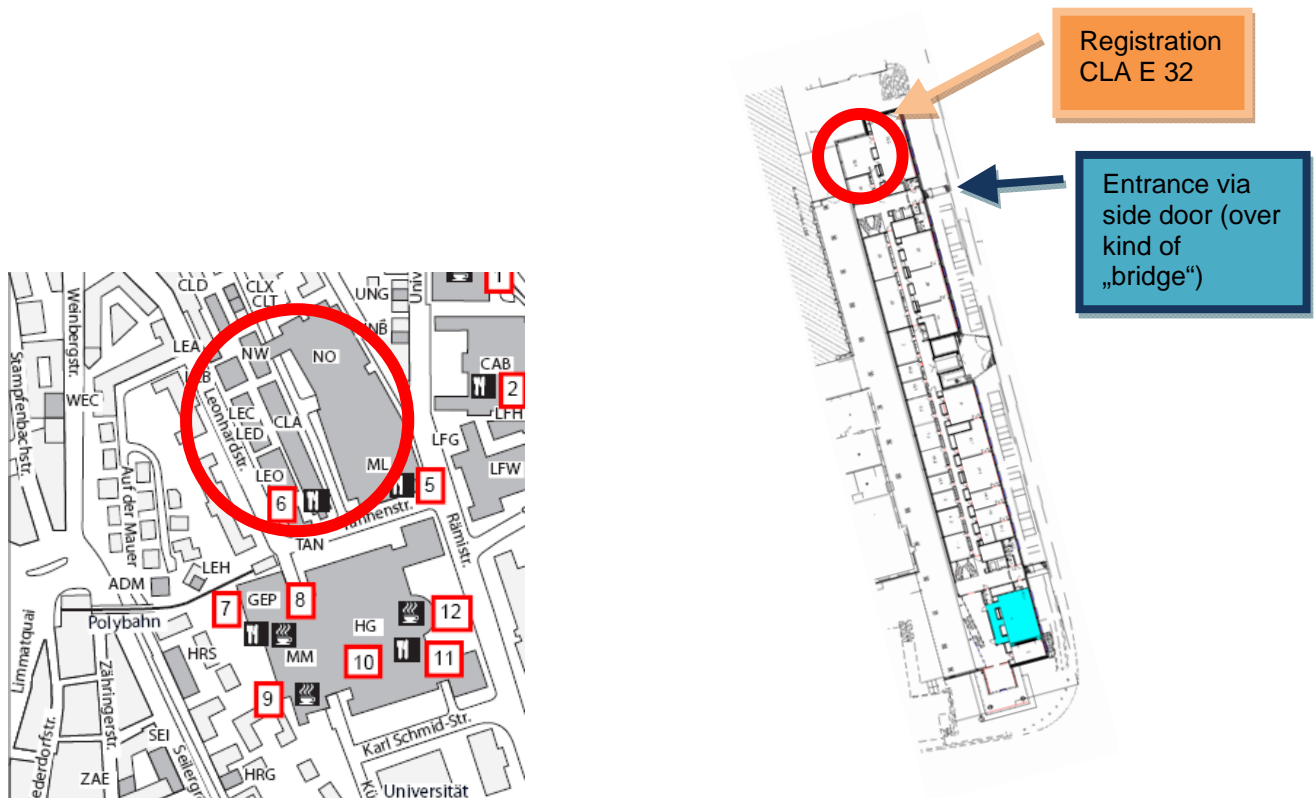
3.2 Lunch: Dozentenfoyer at K-Level

Note: Only the elevators close to the main entrance serve level K!

Please wear your badge for lunch!



3.3 Registration on Monday: CLA E 32



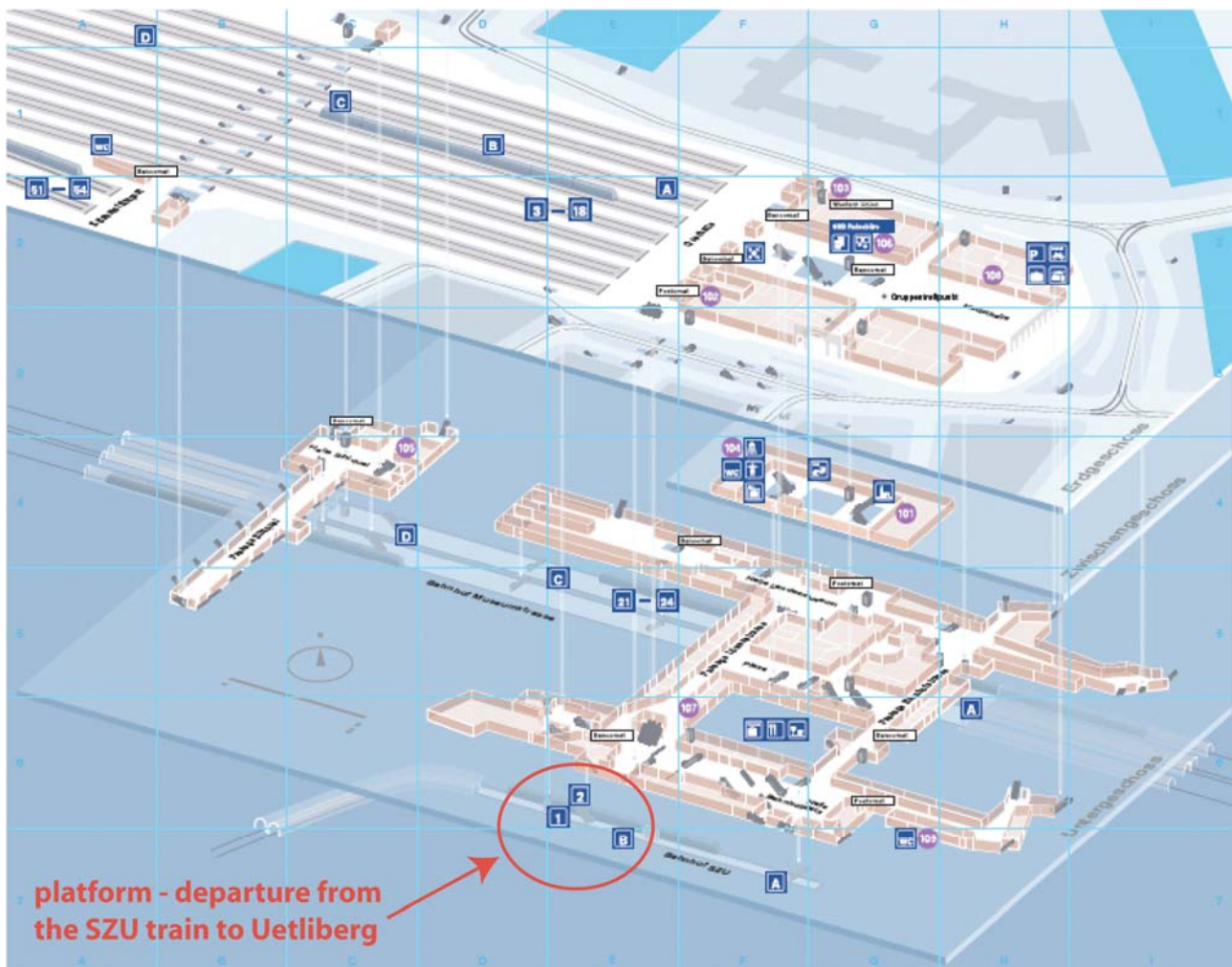
4 The Banquet Site

The banquet will be held on Wednesday, September 12th, 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). The first train will leave the station at **18:05, it's rushhour, so pls hurry up to have a seat**. If unfortunately you would miss this train, next regular train departs at **18:35** and trains are scheduled every half-hour (every 05 and 35 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 06 and 36 until 23:00 (**last departure: 23:36**, 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.

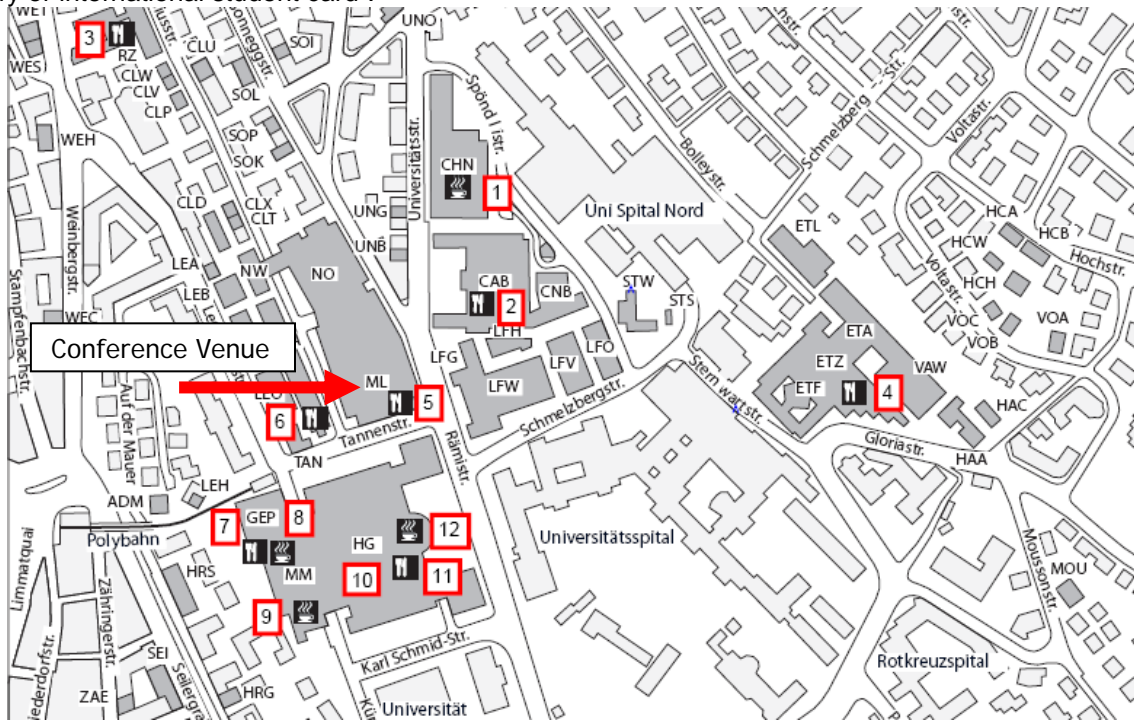


5 Restaurants at the Conference Site

Lunch is included in the conference, but if you like to eat somewhere else:

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/>.

International students: You should get the “Reduced price for internal members” showing your “original country or international student card”.



Nr	Name	Building	Open
1	CHN Bistro	CHN	Mo – Fr 08.00 – 16.00
2	Restaurant foodLAB	CAB	Mo – Fr 08.30 – 15.30
3	Informatikbar	IFW	Mo – Fr 08.00 – 16.30
4	Gloriabar	ETZ	Mo – Fr 07.30 – 16.30
5	Tannenbar	ML	Mo – Fr 07.00 - 17.00
6	Clausiusbar	CLA	Mo – Fr 07.30 – 16.00
7	Mensa Polyterrasse (main canteen)	MM B	Mo – Fr 11.15 – 13.30,
8	Cafeteria Polyterrasse (for dinner)	MM C	Mo – Fr 06.45 – 19.45
9	bQm	MM C	Mo – Th 11.30 – 22.00; Fr – 20.00
10	Dozentenfoyer, faculty club (restricted access)	HG J	Mo – Fr 09.00 – 16.30
11	Polysnack	HG F	Mo – Fr 07.30 – 17.00
12	CafeBar	HG Entrance Hall	Mo – Fr 07.00 – 19.00

As usual, no responsibility is taken for the correctness of the details provided.

6 Other Useful Information

6.1 Climate

- The climate in Switzerland can still be nicely warm in September, 15°C -20°C are realistic temperatures for a sunny day. Rain is also possible; then it may drop to 10°C. So be prepared for T-shirt and light sweater and have an umbrella with you.

6.2 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.
 - The lakeside – During summertime a popular place to be for strolling, swimming, playing outdoor games or just relax in a sunny place.
- Events and parties at night can be checked on <http://zuerich.usgang.ch>
- Cinemas (most are in English) on <http://www.cineman.ch/kinoprogramm/process.php?day=&radius=city&city=Z%FCrich>
- Travelling by train in and around the country: <http://www.sbb.ch/en/home.html>
- Finally, 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.

CARPI 2012 -- Technical Program

Overview

Monday 10

Tuesday 11 September

Wednesday 12

Thursday 13

08:00 Registration

09:00 Opening Words

09:15 Robotic Crawlers 1:40

10:55 Networking break

11:15 Power Plant Maintenance 1:30

12:45 Lunch

DozentenFoyer

14:00 Keynote 2: Duncan Campbell

The Flight Assist System 1:00

15:00 Short break

15:10 Unmanned Aerial Vehicles 1 1:30

16:40 Networking break

17:00 Power Line Inspection 1 1:30

18:30 Networking Cocktail

19:30

08:00 Registration

08:30 Keynote 1: Roland Moser
On Mechanical Engineering Design for Power Plant Service

09:30 Short break 1:00

09:45 Power Line and Substations 1:20

11:05 Networking break

11:25 Power Line Inspection 2 1:20

12:45 Lunch

DozentenFoyer

14:00 Robotics for Nuclear Power Plants 1 1:00

15:00 Short break

15:10 Robotics for Nuclear Power Plants 2 1:00

16:10 Networking break

16:30 Power Line Inspection 3 0:50

17:20

18:05 Train to Uetliberg (each 30')

18:25 arrival Uetliberg

Apero

19:30 Banquet

...

23:36 Last train coming back

09:00 Unmanned Aerial Vehicles 2 1:30

10:30 Networking break

10:50 Robotics for Inspection 1:40

12:30 Closing Words

12:45 Lunch

DozentenFoyer

Demonstrations at the

ASL Lab

17:00 Registration

and small

Apero

19:00

Content List of 2nd International Conference on Applied Robotics for the Power Industry

Technical Program for Tuesday September 11, 2012

Tu1A	HG E7
Robotic Crawlers (Regular Session)	
09:15-09:35	Tu1A.1
<i>Wall Following for Autonomous Robot Navigation</i> , pp. 1-4. Imhof, Agnes (Bern Univ. of Applied Sciences), Oetiker, Moritz (ALSTOM Inspection Robotics Ltd), Jensen, Bjoern (Bern Univ. of Applied Sciences)	
09:35-09:55	Tu1A.2
<i>Automated Boiler Wall Cleaning and Inspection</i> , pp. 5-9. Zesch, Wolfgang (Alstom Inspection Robotics Ltd.), Roth, Philipp (Waterjet Tech. AG), Honold, Simon (Alstom Switzerland Ltd.), de Vries, Vera (Alstom Switzerland Ltd.)	
09:55-10:15	Tu1A.3
<i>Climbing Robot for Corrosion Monitoring of Reinforced Concrete Structures</i> , pp. 10-15. Leibbrandt, Alexis (ETH Zurich), Caprari, Gilles (ETH Zurich), Angst, Ueli (ETH Zurich), Siegwart, Roland (ETH Zurich), Flatt, Robert (ETH Zurich), Elsener, Bernhard (ETH Zurich)	
10:15-10:35	Tu1A.4
<i>Noise Characterization of Depth Sensors for Surface Inspections</i> , pp. 16-21. Pomerleau, Francois (ETH Zurich), Breitenmoser, Andreas (ETH Zurich), Liu, Ming (ETH Zurich), Colas, Francis (ETH Zurich), Siegwart, Roland (ETH Zurich)	
10:35-10:55	Tu1A.5
<i>Surface Reconstruction and Path Planning for Industrial Inspection with a Climbing Robot</i> , pp. 22-27. Breitenmoser, Andreas (ETH Zurich), Siegwart, Roland (ETH Zurich)	
Tu2A	HG E7
Power Plant Maintenance (Regular Session)	
Chair: de Vries, Vera Alstom Switzerland Ltd.	
11:15-11:35	Tu2A.1
<i>Automated Abrasive Water Jet Pin Cutting System – Mark II</i> , pp. 28-32. Honold, Simon (Alstom Switzerland Ltd), Roth, Philipp (Waterjet Tech. AG), de Vries, Vera (Alstom Switzerland Ltd.)	
11:35-11:55	Tu2A.2
<i>Robotic Refurbishment of a Spherical Valve</i> , pp. 33-38. Hazel, Bruce (Inst. de Recherche d'Hydro-Quebec), Bedwani, Jean-Luc (IREQ, Hydro-Québec, Varennes, Canada), Laroche, Yvan (Inst. de Recherche d'Hydro-Quebec), Mongenot, Patrick (Inst. de Recherche d'Hydro-Quebec), Lavallée, Éric (Inst. de Recherche d'Hydro-Quebec), Bédard, Laurie (Énergie Électrique, Rio Tinto Alcan, Saguenay, Canada), Lavoie, Luc (Énergie Électrique, Rio Tinto Alcan, Saguenay, Canada), Gagné, Jean-Louis (Énergie Électrique, Rio Tinto Alcan, Saguenay, Canada)	
11:55-12:15	Tu2A.3
<i>Development of an Automated System for Cavitation Repairing in Rotors of Large Hydroelectric Plants</i> , pp. 39-44. Simas, Henrique (Univ. Federal de Santa Catarina), Golin, Julio Feller (IFSC - Campus Geraldo Werninghaus), De Pieri, Edson Roberto (Univ. Federal de Santa Catarina), Martins, Daniel (Univ. Federal de Santa Catarina)	
12:15-12:35	Tu2A.4
<i>Support of Power Plant Telemaintenance with Robots by Augmented Reality Methods</i> , pp. 45-49.	

Leutert, Florian (Univ. Wuerzburg), Schilling, Klaus (Univ. Wuerzburg)	
12:35-12:45	Tu2A.5
<i>Robotic Polishing of Turbine Runners</i> , pp. 50-51. Sabourin, Michel (Alstom Hydro Canada), Paquet, Francois (Alstom Hydro Canada), Hazel, Bruce (Inst. de Recherche d'Hydro-Quebec), Cote, Jean (Inst. de Recherche d'Hydro-Quebec), Mongenot, Patrick (Inst. de Recherche d'Hydro-Quebec)	
Tu3A	HG E7
Unmanned Aerial Vehicles 1 (Regular Session)	
Chair: Pradalier, Cedric ETH Zürich	
15:10-15:30	Tu3A.1
<i>Real-Time Power Line Extraction from Unmanned Aerial System Video Images</i> , pp. 52-57. Liu, Yuee (Queensland Univ. of Tech.), Mejias, Luis (Queensland Univ. of Tech.)	
15:30-15:50	Tu3A.2
<i>An Embedded Module for Robotized Inspection of Power Lines by Using Thermographic and Visual Images</i> , pp. 58-63. Fetter Lages, Walter (Federal Univ. of Rio Grande do Sul), Scheeren, Vinicius (Federal Univ. of Rio Grande do Sul)	
15:50-16:10	Tu3A.3
<i>Aerial Service Robotics: The AIRobots Perspective</i> , pp. 64-69. Marconi, Lorenzo (Univ. of Bologna), Basile, Francesco (Univ. of Salerno), Caprari, Gilles (ETH Zurich), Carloni, Raffaella (Univ. of Twente), Chiacchio, Pasquale (Univ. di Salerno), Huerzeler, Christoph (ETH Zurich), Lippiello, Vincenzo (Univ. di Napoli Federico II), Naldi, Roberto (CASY-DEIS Univ. of Bologna), Nikolic, Janosch (ETH), Siciliano, Bruno (Univ. di Napoli Federico II), Stramigioli, Stefano (Univ. of Twente), Zwicker, Ekkehard (ALSTOM Inspection Robotics)	
16:10-16:30	Tu3A.4
<i>Aerial Service Robots for Visual Inspection of Thermal Power Plant Boiler Systems</i> , pp. 70-75. Burri, Michael (ETH Zurich), Nikolic, Janosch (ETH Zurich), Huerzeler, Christoph (ETH Zurich), Caprari, Gilles (ETH Zurich), Siegwart, Roland (ETH Zurich)	
16:30-16:40	Tu3A.5
<i>Aerial Service Robots: An Overview of the AIRobots Activity</i> , pp. 76-77. Marconi, Lorenzo (DEIS-Univ. of Bologna), Naldi, Roberto (CASY-DEIS Univ. of Bologna), Torre, Alessio (Univ. of Bologna), Nikolic, Janosch (ETH), Huerzeler, Christoph (ETH Zurich), Caprari, Gilles (ETH Zurich), Zwicker, Ekkehard (ALSTOM Inspection Robotics), Siciliano, Bruno (Univ. di Napoli Federico II), Lippiello, Vincenzo (Univ. di Napoli Federico II), Carloni, Raffaella (Univ. of Twente), Stramigioli, Stefano (Univ. of Twente)	
Tu4A	HG E7
Power Line Inspection 1 (Regular Session)	
Chair: Montambault, Serge Hydro-Quebec	
17:00-17:20	Tu4A.1
<i>A Survey of Applied Robotics for the Power Industry in Brazil</i> , pp. 78-82. Fetter Lages, Walter (Federal Univ. of Rio Grande do Sul), Oliveira, Vinicius (Federal Univ. of Rio Grande)	
17:20-17:40	Tu4A.2

Robot for Inspection of Transmission Lines, pp. 83-87.

Fonseca Ribeiro, Alisson (Eletrobras Furnas), Abdo, Ricardo
Fraga (Eletrobras Furnas), Alberto de Oliveira, João
(Eletrobras Furnas)

17:40-18:00 Tu4A.3

Obstacle Avoidance for a Power Line Inspection Robot, pp.
88-93.

Rowell, Timothy (Univ. of KwaZulu-Natal), Boje, Edward (Univ.
of KwaZulu-Natal)

18:00-18:20 Tu4A.4

Pole Type Robot for Distribution Power Line Inspection, pp.
94-99.

Finotto, Vitor Cores (CTU, Prague), Hirakawa, Andre Riyuiti
(Univ. of São Paulo), Chamas Filho, Alexandre (CPFL -
Companhia Paulista de Força e Luz), Oswald, Horikawa
(Univ. of São Paulo)

18:20-18:30 Tu4A.5

*Autonomous Overhead Transmission Line Inspection
Robot (TI) Development and Demonstration*, pp. 100-101.

Phillips, Andrew (Electric Power Res. Inst.), McGuire, Drew
(Southern Company), Engdahl, Eric (American Electric Power),
Major, Mark (Southwest Res. Inst.), Bartlett, Glynn (Southwest
Res. Inst.)

Technical Program for Wednesday September 12, 2012

We1A HG E7
Power Line and Substations (Regular Session)

Chair: Pouliot, Nicolas Hydro-Quebec Res. -IREQ

09:45-10:05 We1A.1

The Application of Image Based Vision Servo System for SmartGuard, pp. 102-106.

Li, Li (Electric Power Robotics Lab. Shandong Electric Power Res.), Wang, Binhai (Electric Power Robotics Lab. Shandong Electric Power Res.), Li, Beidou (Shandong Luneng Intelligence Tech. Co., Ltd.), Wang, Zhenli (Shandong Luneng Intelligence Tech. Co., Ltd.), Wang, Wanguo (Electric Power Robotics Lab. Electric Power Res.)

10:05-10:25 We1A.2

Status Recognition of Isolator Based on SmartGuard, pp. 107-111.

Wang, Wanguo (Electric Power Robotics Lab. Electric Power Res.), Wang, Binhai (Electric Power Robotics Laboratory, Shandong Electric Power Res.), Wang, Zhenli (Electric Power Robotics Laboratory, Shandong Electric Power Res.), Li, Li (Electric Power Robotics Laboratory, Shandong Electric Power Res.), Zhang, Jingjing (Electric Power Robotics Laboratory, Shandong Electric Power Res.), Li, Hongyu (Electric Power Robotics Laboratory, Shandong Electric Power Res.)

10:25-10:45 We1A.3

Design of a Laser Navigation System for Substation Inspection Robot, pp. 112-116.

Xiao, Peng (Shandong Electric Power Res. Inst.), Guo, Rui (Shandong Electric Power Res. Inst.), Wang, Shirong (Dali Power Supply Bureau, Yunnan Power Grid Corp.), Luan, Yiqing (Shandong Electric Power Res. Inst.), Wang, Mingrui (Shandong Electric Power Res. Inst.)

10:45-11:05 We1A.4

AApe-D: A Novel Power Transmission Line Maintenance Robot for Broken Strand Repair, pp. 117-122.

Song, Yifeng (Shenyang Inst. of Automation and Graduate School of Chinese), Wang, Hongguang (Shenyang Inst. of Automation, Chinese Acad. of Sciences), Jiang, Yong (Shenyang Inst. of Automation, Chinese Acad. of Sciences), Ling, Lie (Shenyang Inst. of Automation, Chinese Acad. of Sciences)

We2A HG E7
Power Line Inspection 2 (Regular Session)

Chair: Allan, Jean-Francois Hydro-Quebec Res. Inst.

11:25-11:45 We2A.1

Intelligent On-Line Monitoring System Based on Elastic Wave for Damage Inspection on Overhead Transmission Lines, pp. 123-127.

Chen, Hongtang (Shandong Electric Power Research Inst.), Guo, Rui (Shandong Electric Power Res. Inst.), Zhao, Jinlong (Electric Power Robotic Lab. Shandong Electric Power Research), Zhang, Feng (Shandong Electric Power Res. Inst.), Zhong, Liang (Shandong Electric Power Res. Inst.)

11:45-12:05 We2A.2

Extended Applications of LineROver Technology, pp. 128-131.

Zhang, Feng (Shandong Electric Power Res. Inst.), Cao, Lei (Shandong Electric Power Res. Inst.), Guo, Rui (Shandong Electric Power Res. Inst.), Zhong, Liang (Shandong Electric Power Res. Inst.), Jia, Juan (Shandong Electric Power Res. Inst.), Jia, Yonggang (Shandong Electric Power Res. Inst.), Chi, Xiaoming (Shandong Electric Power Res. Inst.)

12:05-12:25 We2A.3

A Mobile Robot Prototype for Inspection of Overhead Bundled Conductors, pp. 132-135.

Guo, Rui (Shandong Electric Power Res. Inst.), Zhang, Feng (Shandong Electric Power Res. Inst.), Cao, Lei (Shandong Electric Power Res. Inst.), Zhong, Liang (Shandong Electric Power Res. Inst.)

12:25-12:45 We2A.4

A Simple Robot Manipulator Able to Negotiate Power Line Hardware, pp. 136-141.

Lorimer, Trevor (Univ. of KwaZulu-Natal), Boje, Ed (Univ. of KwaZulu-Natal)

We3A HG E7
Robotics for Nuclear Power Plants 1 (Regular Session)

Chair: Garrec, Philippe CEA

14:00-14:20 We3A.1

Mini-invasive Robotic Diagnostics for Fusion Machines, pp. 142-146.

Gargiulo, Laurent (CEA)

14:20-14:40 We3A.2

An Adaptable and Self-Calibrating Service Robotic Scanner for Ultrasonic Inspection of Nuclear Nozzle-Vessel Welds, pp. 147-152.

Papadimitriou, Vasileios (Innora S.A.), Roditis, Ioannis (Innora S.A.), Chatzakos, Panagiotis (Innora S.A.), Liaptsis, Dimosthenis (TWI NDT Validation Centre)

14:40-15:00 We3A.3

Use of Robotic Equipment in a Canadian Used Nuclear Fuel Packing Plant, pp. 153-158.

Marinceu, Dimitrie (NWMO), Murchison, Alan (NWMO), Hatton, Chris (NWMO)

We4A HG E7
Robotics for Nuclear Power Plants 2 (Regular Session)

15:10-15:30 We4A.1

Flexible Multibody Dynamics and Control of a Novel Hydraulically Driven Hybrid Redundant Robot Machine, pp. 159-164.

Al-Saedi, Mazin (Lappeenranta Univ. of Tech.), Handroos, Heikki (Lappeenranta Univ. of Tech.), Wu, Huapeng (Lappeenranta Univ. of Tech.)

15:30-15:50 We4A.2

Robotics for Nuclear Power Plants – Challenges and Future Perspectives, pp. 165-170.

Iqbal, Jamshed (COMSATS Inst. of Information Tech. Islamabad), Tahir, Ahmad Mahmood (Lahore Univ. of Management Sciences, Lahore), Raza, UI Islam (COMSATS Inst. of Information Tech. Islamabad), Riaz-un-Nabi, Syed (Italian Inst. of Tech. (IIT), Genova)

15:50-16:10 We4A.3

Results of a Testing Campaign of the Telerobotic System MT200-TAO in AREVA La Hague's Hot-Cells, pp. 171-176.

Garrec, Philippe (CEA), Geffard, Franck (CEA), Piolain, Gérard (AREVA, La Hague), Freudenreich, Anne-Gaëlle (AREVA, La Hague), Monthel, Pierre (AREVA, La Hague), Brudieu, Marie-Anne (AREVA, La Defense)

We5A HG E7
Power Line Inspection 3 (Regular Session)

Chair: Fetter Lages, Walter Federal Univ. of Rio Grande do Sul

16:30-16:50 We5A.1

Robotics for Distribution Power Lines: Overview of the Last Decade, pp. 177-182.

Allan, Jean-Francois (Hydro-Quebec Res. Inst.)

16:50-17:10 We5A.2

A Task Analysis and a Controller System Design for a Power Distribution Line Maintenance Robot, pp. 183-188.

Hida, Minoru (Meijo Univ.), He, Yingxin (Meijo Univ.), Yamamoto, Yusuke (Meijo Univ.), Maekawa, Naoki (Meijo Univ.), Tatsuno, Kyoichi (Meijo Univ.), Kunii, Yasuyuki (Chubu Electric Power Co.,Inc.)

17:10-17:20 We5A.3

On the Latest Field Deployments of LineScout Technology on Live Transmission Networks, pp. 189-190.

Montambault, Serge (Hydro-Quebec), Pouliot, Nicolas (Hydro-Quebec), Lepage, Marco (Hydro-Québec)

Technical Program for Thursday September 13, 2012

Th1A	HG E7
Unmanned Aerial Vehicles 2 (Regular Session)	
Chair: Alexis, Konstantinos ETH Zurich	
09:00-09:20	Th1A.1
<i>Planning Efficient and Robust Behaviors for Model-Based Power Tower Inspection</i> , pp. 191-194.	
Wu, Hua (North China Electric Power Univ.), Lv, Min (North China Electric Power Univ.), Liu, Chang-An (North China Electric Power Univ.), Liu, Chun-Yang (North China Electric Power Univ.)	
09:20-09:40	Th1A.2
<i>Applying Aerial Robotics for Inspections of Power and Petrochemical Facilities</i> , pp. 195-200.	
Huerzeler, Christoph (ETH Zurich), Zwicker, Ekkehard (ALSTOM Inspection Robotics), Caprari, Gilles (ETH Zurich), Marconi, Lorenzo (Univ. of Bologna)	
09:40-10:00	Th1A.3
<i>AiSR - Aerial Intelligent Surveillance Robot for Power Line Inspection</i> , pp. 201-205.	
Khoo, Chin Peng Ivan (Abacus Global Tech. Pte Ltd), Li, De Li (Abacus Global Tech. Pte Ltd), Yin, Hsiang Ting (Abacus Global Tech. Pte Ltd)	
10:00-10:20	Th1A.4
<i>The Design and Application of SmartCopter: An Unmanned Helicopter Based Robot for Transmission Line Inspection</i> , pp. 206-211.	
Wang, Binhai (Shandong Electric Power Res. Inst.), Wang, Qian (Shandong Electric Power Res. Inst.), Liu, Liang (Shandong Electric Power Res. Inst.), Tian, Gangyin (Beijing Tuoyunhai Tech. Co., Ltd.), Zheng, Tianru (Shandong Electric Power Res. Inst.), Zhang, Jingjing (Shandong Electric Power Res. Inst.), Chen, Xiguang (Shandong Electric Power Res. Inst.)	
10:20-10:30	Th1A.5
<i>Inspecting Transmission Lines with an Unmanned Fixed-Wings Aircraft</i> , pp. 212-213.	
Dong, Gang (Shandong Electric Power Corp.), Chen, Xiguang (Shandong Electric PowerResearch Inst.), Wang, Binhai (Shandong Electric PowerResearch Inst.), Zhang, Jingjing (Electric Power Robotics Lab. Shandong Electric PowerResearch), Liu, Liang (Electric Power Robotics Lab. Shandong Electric PowerResearch), Wang, Qian (Electric Power Robotics Lab. Shandong Electric PowerResearch), Wei, Chuanhu (Electric Power Robotics Lab. Shandong ElectricPowerResear)	

Th2A	HG E7
Robotics for Inspection (Regular Session)	
Chair: Hazel, Bruce Inst. de Recherche d'Hydro-Quebec	
10:50-11:10	Th2A.1
<i>Redesign of a Scanner for EC and UT-Measurements in the Central Bores of Large Rotors in Power Plants – with Focus on an Electromechanically Actuated Leg-Unit for Passing Steps in Bottle-Bores without Using Pneumatic Actuation</i> , pp. 214-219.	
Fischer, Wolfgang (Alstom Inspection Robotics), Loosli, Dominik (Alstom Inspection Robotics), Udell, Chris (Alstom Power)	
11:10-11:30	Th2A.2
<i>Design and Field Validation of a Large-Volume Reference System for Inspecting Underwater Hydroelectric Structures</i> , pp. 220-225.	
François, Mirallès (Hydro-Quebec Res. Inst.), Guillaume, Boivin	

(Hydro-Quebec Res. Inst.)	
11:30-11:50	Th2A.3
<i>Prototyping and Evaluation of a Telerobot for Remote Inspection of Offshore Wind Farms</i> , pp. 226-231.	
Netland, Øyvind (Norwegian Univ. of Science and Tech.), Skavhaug, Amund (Norwegian Univ. of Science and Tech.)	
11:50-12:10	Th2A.4
<i>The 'DIRIS' Class of In-Situ Generator Inspection Systems</i> , pp. 232-235.	
Fischer, Reinhard (Alstom Switzerland Ltd), Fischer, Wolfgang (Alstom Inspection Robotics), Honold, Simon (Alstom Switzerland Ltd), Loosli, Dominik (Alstom Inspection Robotics)	
12:10-12:30	Th2A.5
<i>Localization and Archiving of Inspection Data Collected on Power Lines Using LineScout Technology</i> , pp. 236-241.	
Pouliot, Nicolas (Hydro-Quebec Res. -IREQ), Mussard, Didier (Hydro-Québec Res. Inst. – IREQ), Montambault, Serge (Hydro-Quebec)	

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