$$curl\ \mathbf{H} = \mathbf{J} + \frac{\partial \mathbf{D}}{\partial t}$$

$$curl\ \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$$

$$W_T = \int_0^T \left(\int_S (\mathbf{E} \times \mathbf{H}) \cdot \mathbf{n}\ dS \right) dt$$

$$div\ \mathbf{B} = 0$$

$$W_T = \int_0^T \left(\int_S (\mathbf{E} \times \mathbf{H}) \cdot \mathbf{n}\ dS \right) dt$$

$$curl\ \mathbf{H} = \mathbf{J} + \frac{\partial \mathbf{D}}{\partial t}$$

PROGRAM AND BOOK OF ABSTRACTS

www.**eurocon2011**.it.pt

IST CONGRESS CENTRE
LISBON · PORTUGAL

APRIL · 27 · 28 · 29

EUROCON · 2011

INTERNATIONAL CONFERENCE ON COMPUTER AS A TOOL

joint with

conf tele 2011

◆IEEE

INSTITUTO SUPERIOR TÉCNICO

it instituto de telecomunicações

$curl\ \mathbb{E} = -\dfrac{\partial \mathbb{B}}{\partial t}$

> MESSAGE FROM EUROCON.CONFTELE 2011 GENERAL AND TPC CHAIRMEN

On behalf of the Organizing Committee, we would like to welcome all colleague participants at the EUROCON / ConfTele 2011 Lisbon, Portugal. Thanks to all authors (we have initially received over 450 papers with more than 1050 authors), to the 14 TPC Co-Chairs and the 317 reviewers, we have been able to organize a diversified but consistent technical program with a significant number papers on all main proposed topics. Since this year's edition of Eurocon is organized jointly with the Conftele, run in Portugal every other year by Instituto de Telecomunicações since 1997, the topics with more papers are those common to previous Conftele's: Telecommunication and Multimedia Systems (119 papers), Circuits and Systems (77 papers), and Information Technologies and Intelligent Systems (21 papers). These 3 Topics are concentrated on the first two days. The Topic of Power Systems and Renewable Resources, marginal in previous Conftele's editions, is usually a strong topic on Eurocon. This year is not an exception (50 papers). Almost a full day (last day) is devoted to this important topic for today's Electrical and Computer Engineers. Finally, the other two topics are horizontal topics, with interest for all EEC community: Education (26 papers) and Engineering Management (8 papers). Additional to these high technical/scientific papers we have two keynote speakers at the opening session presenting topics of general interest to all community: Innovation & Entrepreneurship (University/Industry Role); and International Cooperation on the Information Society and Media (e-Infrastructure - EU approach) Closing the 3 days event we have organized a Panel discussion on Renewable Energies and Smart Grids.

www.**eurocon2011**.it.pt

$div\ \mathbb{B} = 0$

GENERAL CHAIR EUROCON.CONFTELE 2011
João Costa Freire
Instituto de Telecomunicações/Instituto Superior Técnico
Portugal

TPC CHAIR EUROCON.CONFTELE 2011
José Carlos Pedro
Instituto de Telecomunicações/Universidade de Aveiro
Portugal

The IEEE Region 8 Student Paper Contest, organized by the IEEE Region 8 Committee, will be part of the program on the afternoon of the first day with the oral presentation of 5 selected papers. The winner will be announced at the Conference Banquet on Thursday April 28. A special social program was prepared, where the traditional Portuguese cuisine, with influences from East and West, and the Portuguese and world folk and classic music was not forgotten.

It was from Lisbon that in the XV century the Portuguese started the Discoveries Era to meet and exchange cultures and technology with other nations from all corners of the world namely Africa, western and eastern coast, Asia, from Gulf Area till Japan, and South America. Accordingly, in the XXI century, Lisbon constitutes a nice spot for experts in electro-technology and computers to share their experiences and know-how.

Having Lisbon and its surroundings as background - with a lot of monuments mainly from medieval (Romanesque and Gothic) till Baroque and modern periods and nice sceneries (small mountains and sea shore with nice sandy beaches and gorgeous cliffs - will help us make Eurocon 2011 a memorable meeting of highly skilled Electrical and Electronics Engineers.

All the organizing committee team and supporting institutions (IEEE Region 8 and Portugal Section, Instituto Superior Técnico and Instituto de Telecomunicações) hope all you enjoy the Conference.

WHO HAD NEVER IN LISBON BEEN HAD NEVER A NICER R8 SPOT SEEN

› ORGANIZATION AND TECHNICAL SPONSORS

IEEE REGION 8 AND PORTUGAL SECTION

www.ieee.org
ewh.ieee.org/reg/8
www.ieee-pt.org

INSTITUTO SUPERIOR TÉCNICO

www.ist.utl.pt/en
www.ist.utl.pt

INSTITUTO DE TELECOMUNICAÇÕES

www.it.pt

› CONFERENCE INFORMATION

REGISTRATION DESK

Registration desk is located on Level 01, and is open daily from 08:30h to 17:30h, to distribute the Conference materials to all registered participants, and also for on-site registration. Printed receipts can be obtained on demand. Additional social program tickets may also be purchased there.

INTERNET ROOM

Participants can ask for credentials to use Conference's Wi-Fi access for his own laptop computer. All conference area is covered.

SPEAKER'S PREPARATION

Speaker's preparation room is located on level 02 at room 02.3 (please, consult the Congress Centre plant). Before each oral session, all presenters MUST upload and test their presentation files in a dedicated computer placed at the speaker's preparation room (room 02.3). Presentations should be compatible for reading in Adobe Acrobat Reader or MS PPoint. An authorized assistant will later upload these files to the correspondent session room laptop computer, as presenters cannot connect and use their personal computers for presentation. Make sure to use compatible software and check for the appropriate video co-decs, before starting your session.

POSTER SESSIONS

Poster boards are stand at the coffee break lobby, located in level 02. Poster boards are numbered. Look for the exact position of your poster in a list conveniently displayed for each session. Appropriate fixing items are available. Refrain from use your own fixing materials and specially do not use any type of tape. Make sure to display your poster soon enough before your session, and remove it just after the end of the session.

$$curl\ \mathbb{E} = -\frac{\partial \mathbb{B}}{\partial t}$$

CONFERENCE LUNCHES

During conference days, complimentary buffet lunches, included in the registration fee, will be served to all participants. The lunches will be held at Level 00 of the Conference north side of the building (please, consult indicative signs). Please contact the Registration desk for special dietary requirements.

WELCOME RECEPTION

A Welcome Reception will be hosted by the Conference Board, on Wednesday, the 27th of April, at 19:00h. The Reception will take place at Level 00 lobby, near the Civil Engineering Museum area (please, consult indicative signs).

CONFERENCE BANQUET

The conference banquet will be held at "Quinta Pau da Bandeira" in a panoramic tent situated in the sanctuary of Cristo Rei (Almada) with breathtaking views over Lisbon and the Tagus River.

Buses will be provided to all the banquet participants, and will leave the IST Campus by 19h00. The banquet, a tasteful sample of Portuguese cuisine, will be preceded by a welcome drink outside the restaurant (if the weather conditions allow). After the banquet the Best Student Paper award ceremony will take place.

Banquet tickets (not included in the student/retired and accompanying person registrations) can be purchased (80 Euro) at the registration desk, subject to availability.

10

$$diw\ \mathbb{B} = 0$$

MAP OF DOWNTOWN LISBON

SUBWAY NETWORK MAP

Odivelas | 🚇 ♿

Senhor Roubado | 🚌 🚇 ♿

Ameixoeira | 🚇 ♿

Lumiar | 🚇 ♿

Quinta das Conchas | 🚇 ♿

Campo Grande | 🚇 🚌

Telheiras | 🚇 ♿

Cidade Universitária

Entre Campos

Campo Pequeno

Saldanha | 🚇 ♿

S. Sebastião | 🚇 ♿

Parque

Picoas

Marquês de Pombal

Rato | 🚇

Restauradores

Amadora Este | 🚌 🚇 ♿

Alfornelos | 🚌 🚇 ♿

Pontinha | 🚇 ♿

Carnide | 🚇 ♿

Colégio Militar /Luz

Alto dos Moinhos

Laranjeiras

Jardim Zoológico | 🚇

Praça de Espanha | 🚇

Alvalade | 🚇 ♿

Roma | ♿

Areeiro | 🚌

Alameda | 🚇 ♿

Arroios

Anjos

Intendente

Martim Moniz

Rossio | 🚇 ♿

Baixa–Chiado

Cais do Sodré | 🚇 ♿

Terreiro do Paço | 🚇 ♿

Oriente

Cabo Ruivo | ♿

Olivais | 🚇 ♿

Chelas | 🚇 ♿

Bela Vista | ♿

Olaias | 🚇 ♿

Santa Apolónia | 🚇 ♿

metro M

🚌 Autocarro suburbano / Suburban bus
⚓ Barco / Boat
🚊 Comboio / Railways
🚇 Elevador de acesso à estação / Station access lift
Gabinete do Cliente / Customer Service Office
♿ Mobilidade reduzida / Step free
Perdidos e achados / Lost property
Polícia / Police

linha Azul / Blue line
linha Amarela / Yellow line
linha Verde / Green line
linha Vermelha / Red line

Eurocon 2011 nearest subway stations

Saldanha, in the Yellow Line

Alameda, in the Green Line

HOTEL AND DINNER ADRESSES

dinner restaurants

1 Dragão D'Ouro
2 Fogo de Chão
3 The Big Apple
4 Charrua do Lavrador
5 Costini
6 Osaka
7 Portugália

hotels

8 Holiday Inn
9 Turim Alameda
10 A.S. Lisboa
11 Ibis Lisboa Saldanha
12 Zeenit Lisboa
13 Sheraton Lisboa
14 Alif

IST CAMPUS MAP

legend

1. Main building
2. **Congress centre and civil engineering**
3. North garden pavilion
4. Mechanical engineering I
5. North tower
6. Electrical engineering
7. Informatics II
8. Mechanical engineering IV
9. Informatics I
10. Informatics III
11. Mechanical engineering II
12. Mechanical engineering III
13. Canteen
14. IST student association
15. Sports courts
16. Swimming pool
17. Social assistance
18. IST Press
19. Mining engineering
20. South tower
21. Chemical engineering
22. South garden pavilion
23. Kindergarten
24. Mathematics
25. Physics
26. Multidisciplinary building

Bank Agency

www.**eurocon2011**.it.pt
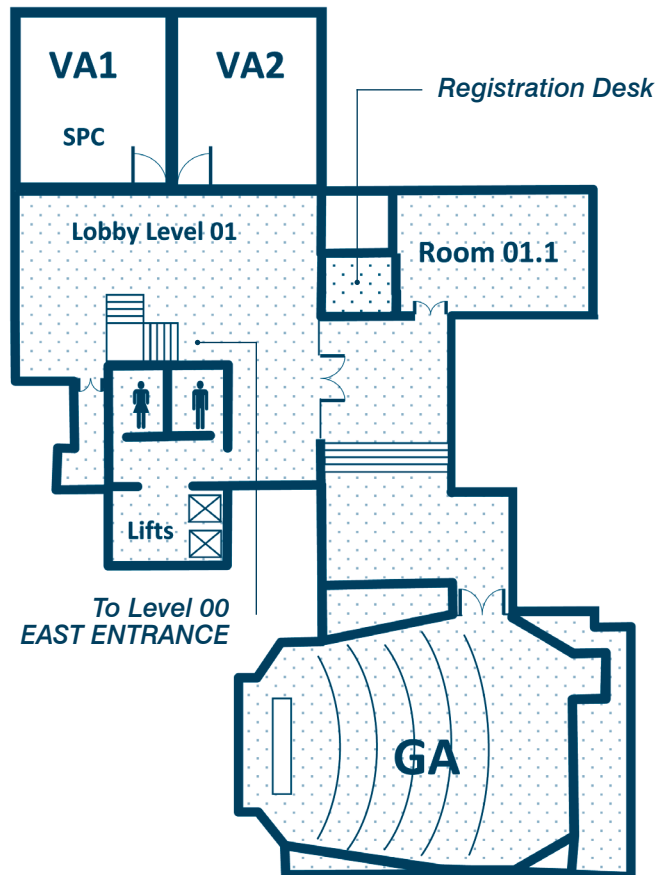
To Saldanha
Subway Station

Rua Alves Redol

From Holiday Inn
and Alif Hotels

EUROCON › 2011

Avenida Rovisco Pais

Rua António José de Almeida

from Alameda
Turim Hotel

From A.S.
Lisboa Hotel

Avenida Manuel da Maia

To Alameda
Subway Station

$$\text{curl } \mathbb{E} = -\frac{\partial \mathbb{B}}{\partial t}$$

$$W_T = \int_0 \left(\int_S (\mathbf{E} \times \mathbf{H}) \cdot n \, ds \right) dt$$
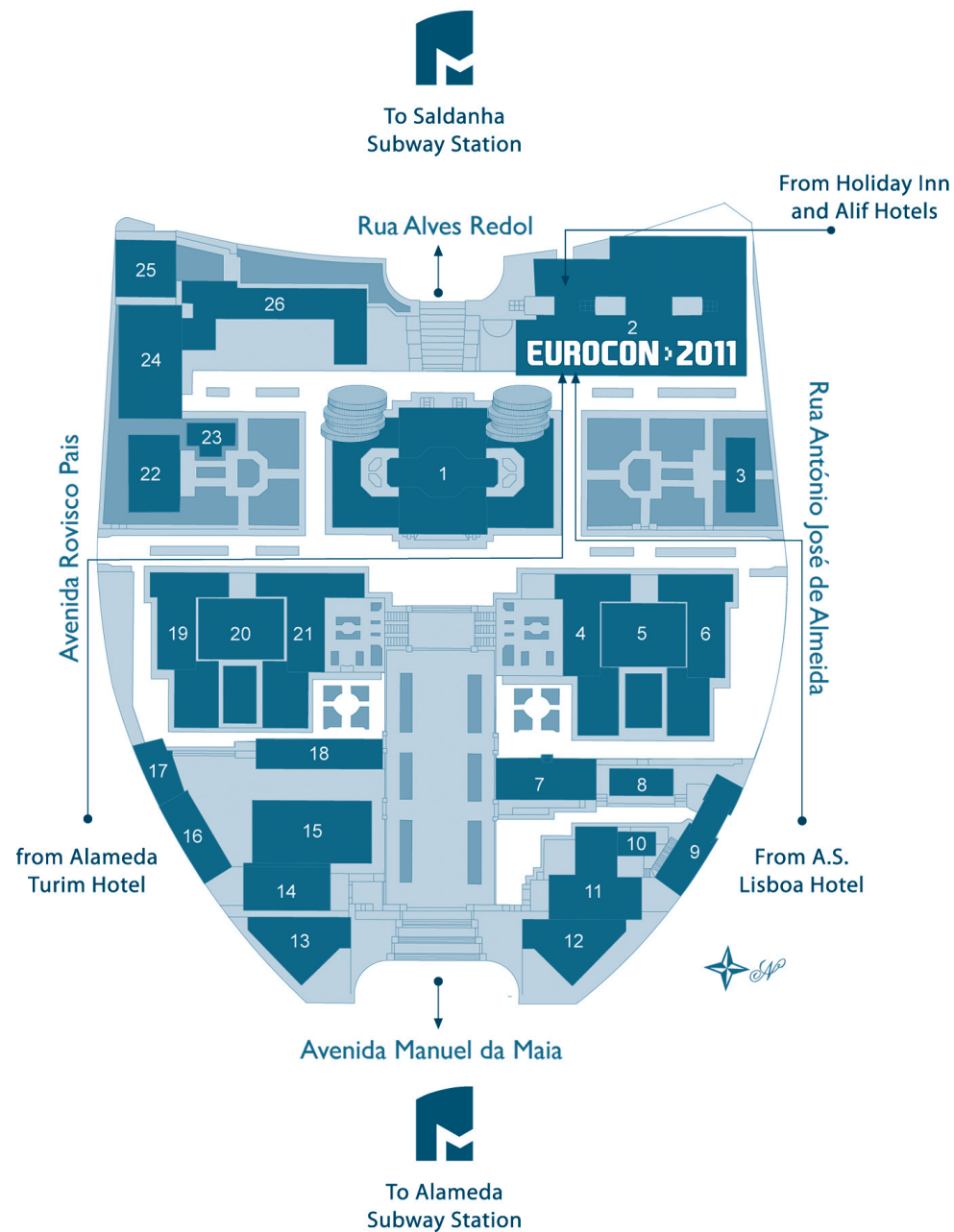
CONGRESS CENTRE LAYOUT

LEVEL 01

LEVEL 02

LEVEL 01

VA1

VA2

SPC

Registration Desk

Lobby Level 01

Room 01.1

Lifts

To Level 00
EAST ENTRANCE

GA

LEVEL 02

Conference
WEST ENTRANCE

Lobby Level 02

Room 02.1

Room 02.2

Lifts

Room 02.3
Authors room

GA

$$\text{div } \mathbb{B} = 0$$