ENGOPT2010

2nd International Conference
on Engineering Optimization

Instituto Superior Técnico
Lisbon, Portugal. September 6-9, 2010

PROGRAMME

Lisbon 2010

Welcome Message

On behalf of EngOpt organizing committee we are pleased to welcome you to Lisbon for the 2nd International Conference on Engineering Optimization held at Instituto Superior Técnico of the Technical University of Lisbon.

The main goal of EngOpt conference series is to periodically bring together engineers, applied mathematicians and computer scientists working on research, development and practical application of optimization methods applied to all engineering disciplines or developing basic techniques in this field. Following the very successful Conference in Rio de Janeiro (EngOpt2008), the 2nd International Conference on Engineering Optimization (EngOpt2010) is now held in Lisbon. The purpose of this Conference is to provide opportunities for scientists and engineers to meet and to discuss current research, new concepts and ideas and establish opportunities for future collaborations in all aspects of Engineering Optimization.

We invite you to be an active participant in this Conference and to contribute to any topic, or mini-symposium, of your scientific interest. By promoting a relaxed atmosphere for discussion and exchange of ideas we expect that new paths for research are stimulated and promoted and that new collaborations can be fostered. We hope that the 2nd International Conference on Engineering Optimization will have an important impact on the research in all topics included in its programme.

We want to express our appreciation to all members of the committees involved in the preparation of this Conference, to all mini-symposia organizers who identified and promoted some of the most active topics of research in Engineering Optimization, to all the staff who are managing the different aspects of the Conference and to all the contributing authors and participants who will create the real Conference. We hope that all of you feel rewarded for your participation and contribution.

Yours Sincerely,

Hélder Rodrigues, IST (EngOpt2010 Chairman)
José Herskovits, COPPE/UFRJ (EngOpt2010 Co-Chairman)
Cristóvão Mota Soares, IST (EngOpt2010 Co-Chairman)

Contents

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- Cristóvão Mota Soares,
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- T. Lewinski, Warsaw, Poland
- J. Logo, Budapest, Hungary
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- D. Marcek, Czech Republic
- M. Masmoudi, Toulouse, France
- D. Michaels, Magdeburg, Germany
- F. Mora-Camino, France
- A. Nastase, Aachen, Gernamy
- Y. Nesterov, Louvain, Belgium
- S. Nishiwaki, Kyoto, Japan
- A. Novotny, Petropolis, Brazil
- L. Pagnotta, Italy
- P. Papalambros, Michigan, USA
- P. Pardalos, Florida, USA
- G. Parks, Cambridge, UK
- A. Raich, Easton, USA
- S. Rao, Miami, USA
- J. Roche, Nancy, France
- C. Roos, Delft, Netherlands
- B. Rousselet, Nice, France
- N. Sahinidis, Urbana, USA
- S. Selyugin, Moscow, Russia
- C. Shih, Tamkang, Taiwan
- J. Sienz, Swansea, UK
- O. Sigmund, Lyngby, Denmark
- E. Silva, São Paulo, Brazil
- L. Simoes, Coimbra, Portugal
- N. Somanath, Connecticut, USA
- V. Sonzogni, Santa Fé, Argentina
- J. Starke, Lyngby, Denmark
- M. Stolpe, Lyngby, Denmark
- A. Suleman, Victoria, Canada
- K. Svanberg, Stockholm, Sweden
- J. Taler, Cracow, Poland
- A.M. Toader, Lisboa, Portugal
- A. Tovar, Bogotá, Colombia
- F. Van Keulen, Delft, Netherlands
- Luís Nunes Vicente, Coimbra, Portugal
- M. Wang, Hong Kong
- L. Wrobel, UK
- K. Yamazaki, Kanazawa, Japan
- Y. Yuan, Beijing, China
- M. Zhou, Irvine, USA
- R. Zorgati, France

Sponsors

- FCT – Fundação para a Ciência e Tecnologia
- UTL – Universidade Técnica de Lisboa
- IST – Instituto Superior Técnico
- IDMEC – Instituto de Engenharia Mecânica
- APMTAC– Associação Portuguesa de Mecânica Teórica, Aplicada e Computacional
- ISSMO– International Society for Structural and Multidisciplinary Optimization
- MPS– Mathematical Programming Society
- CML– Camara Municipal de Lisboa
- EUROPT– The Continuous Optimization Working Group of EURO

Organizing Institutions

- IST – Instituto Superior Técnico, Technical University of Lisbon
- IDMEC/IST– Institute of Mechanical Engineering

Conference Venue

The 2nd International Conference on Engineering Optimization takes place in the Instituto Superior Técnico (IST, see next pages) Congress Center situated at the Department of Civil Engineering and Architecture (Pavilhão de Civil) with the address:

- Congress Center (Civil Engineering Building, see next page)
  Instituto Superior Técnico
  Av. Rovisco Pais 1
  1049-001 Lisboa

General Information

Registration Open Hours

- Sun. September 5, 15:00-17:30
- Mon. September 6, 08:30-18:00
- Tues. September 7, 08:30-18:00
- Wed. September 8, 08:30-18:00
- Thur., September 9, 08:30-18:00

EngOpt2010 Secretariat

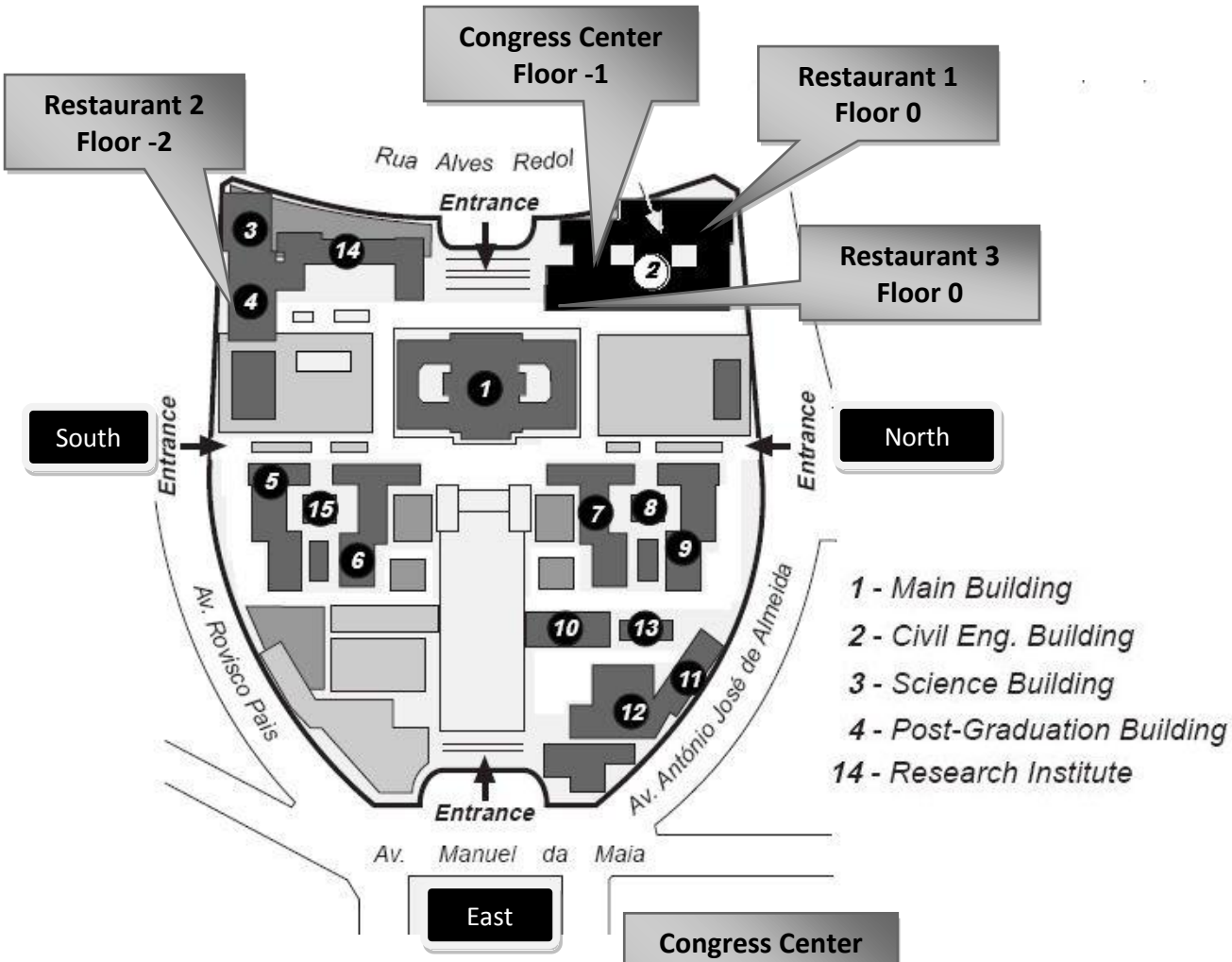
- CPM - Centre for Mechanical Design
  Instituto Superior Técnico
  Av. Rovisco Pais, 1049-001 Lisboa, Portugal
  Ph: +351 218417914
  Fax: +351 218417915 |
  Email: engopt2010@dem.ist.utl.pt
  Web: http://www.engopt2010.org/

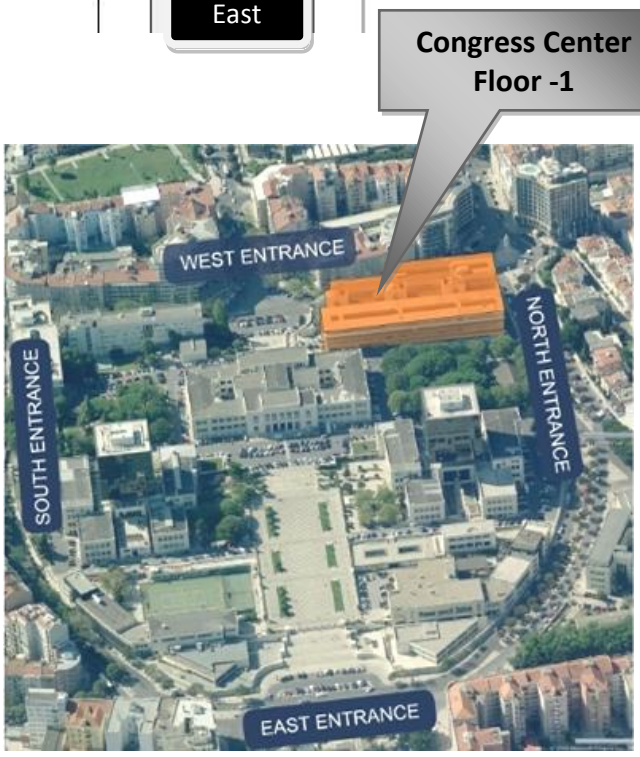
Coffee-Breaks

The coffee-breaks will take place in the halls 1 and 2 of the Conference Center (See map of conference floor plan) and will be open to all participants. Kindly wear your Conference Badge.

Lunches

The Lunch tickets included in the package received during the registration will be honored at the two restaurants marked on the map in next page. Note that Restaurant 1 is exclusively for Engopt participants. Note that the lunch tickets have different colors for the different days of the conference being valid only for the day printed in the front.


Congress Center
Floor -1
Restaurant 1
Floor 0
Restaurant 2
Floor -2
Restaurant 3
Floor 0
Rua Alves Redol
Entrance
South
Entrance
North
Entrance
Av. Rovisco Pais
Av. António José de Almeida
Entrance
Av. Manuel da Maia
East
1 - Main Building
2 - Civil Eng. Building
3 - Science Building
4 - Post-Graduation Building
14 - Research Institute


Congress Center
Floor -1
WEST ENTRANCE
SOUTH ENTRANCE
NORTH ENTRANCE
EAST ENTRANCE

Lisbon with Subway lines

Social Program

Important: Please do not forget to bring your Reception or Banquet Vouchers.

1 – Conference Reception – Tagus River Boat Trip: September 6th, 19h00-22h00

All buses leave from IST to "Estação Fluvial de Belém", September 6th, 18h30
All Buses leave from "Estação Fluvial de Belém" to IST at 22h00, stopping at the following locations:

1. Marquês de Pombal
2. Saldanha
3. Campo Pequeno (Hotels Berna, Holiday Inn Lisbon-Continental and Zurique)
4. Entrecampos (Hotel Villa Rica Lisboa)
5. Avenida de Roma (Hotels Lutécia and Roma)
6. IST (Hotels Holiday Inn Lisboa and AS Lisboa)

2 - Banquet: Setember 8th, 20h00-23h00

Location: Restaurante Espaço Tejo – Centro de Congressos de Lisboa (Antiga FIL), Lisboa.
Buses leave the following locations for the "Restaurante Espaço Tejo" at 19h00:

- Hotel Roma (Av. Roma, 33)
- Hotel Villa Rica (Av. 5 de Outubro, 295)
- VIP Grand Lisboa Hotel & Spa (Av. 5 de Outubro, 197)
- IST
- Marques Pombal

All Buses leave from "Restaurante Espaço Tejo" to IST at 23h00, stopping at the following locations:

1. Marquês de Pombal
2. Saldanha
3. Campo Pequeno (Hotels Berna, Holiday Inn Lisbon-Continental and Zurique)
4. Entrecampos (Hotel Villa Rica Lisboa)
5. Avenida de Roma (Hotels Lutécia and Roma)
6. IST (Hotels Holiday Inn Lisboa and AS Lisboa)

General Tourist Information

Getting to Lisbon by air
Direct flights from most of European cities, North or South America and Africa land at the Portela Airport, terminal 1. A taxi ride from the airport to IST is about 4-5 km that takes 10-15 min, depending on traffic, and should cost 6-7€. To downtown the taxi ride is 7 km and should cost about 8-9€ and 1.60€ is charged for the transportation of luggage or animals. A sure option is the "Taxi Voucher" a prepaid taxi service starting at 14.61€ , on sale at the"Information Desk" in the arrival terminal. Other options are the AeroBus and the Aeroshutle (3.5€).

Getting to Lisbon by car
Drivers coming from the north use highway A1 while those coming from East and South use highway A2 entering in Lisbon through the 25 Abril Bridge or use A12 and enter by the Northeast of Lisbon through the Vasco da Gama bridge. The speed limits in Portugal are 120 km/h on highways, 90 km/h on roads and 50 km/h in urban areas, unless marked otherwise. By car the driving distance to Porto is 3h, to Algarve 3h, to Seville 5h and to Madrid 8h.

Getting to Lisbon by train
The St. Apolónia station is the terminal for trains arriving from the North of Portugal. The southbound trains depart from the Barreiro train station, across the Tagus river (a ferry must be used). Although trains from Paris, Madrid or Vigo reach Lisbon, these are not recommended, unless you are ready for a very long ride.

Moving around
Taxi:
Lisbon is served by an extensive network of public transportation that can take you anywhere in the city and to its surroundings. Taxis (black and green or beige) are cheap when comparing to most of the European countries. They can be called by phone, picked-up on taxi plazas or stopped on the street. The fare on the taxi meter should read 2.00€ (daytime pick-up) or 2.50€ (nightime). Outside the city limits, city fares are charged per kilometer (km=0,42) and 1.60€ is charged for the transportation of luggage or animals. Before taking a taxi, inquire about the fare.

Metro:
The Lisbon Metro is a very comfortable and easy way to reach most of the city, from 6:30 to 1:00. Some of the stations are worth a visit for their architectural features or for the tiles and artwork that they exhibit. The Metro lines reach most of the city being the Metro stations close to IST:

- Alameda (red and green line)
- Saldanha (red and yellow line)

Bus
The bus routes cover all Lisbon and extend to its outskirts. The tickets can be pre-paid, at the counters of Carris, the surface transportation operator for Lisbon, or bought aboard the bus, electric cars or funiculars. For IST hop off on one of the following bus stops:

Av. Manuel Maia
Av. Rovisco Pais

Metro and Bus Fares:
Reeusable card – 0.50 €
ZAPPING – add money (2.00 to 15.00 €) to your reusable card and use METRO (0.80 € – 1 zone trip) or CARRIS buses (0.81 € per trip)
One day ticket: 3.75 €

Trains
Suburban trains to Estoril and Cascais depart from the Cais do Sodré train station, to the south of the river cities from Entrecampos while to Sintra the trains depart from Rossio or Entrecampos. The ride to Sintra or to Cascais should take about 45 min, each way. The train ride from Entrecampos to south of the river is a highlight as the train will cross the 25 de Abril Bridge with magnificent views of Lisbon.

For IST the nearby train stations are:
Roma-Areeiro
Entrecampos

National emergency number: 112

Other general information

- Time zone: GMT +1 summer time (London has the same time as Lisbon)
- Electricity: 220V, 50 Hz with standard European power sockets
- Currency: Euro (€)
- Banks: working hours are 8:30 – 15:00 (Monday-Friday)
- Pharmacies: 9:00 – 19:00
- Shops: 9:00 – 19:00
- Shopping Malls: 10:00 – 23:00
- Temperature: Average high 27ºC, Average low 17ºC

Main Museums in Lisbon:

- Centro de Arte Moderna (Modern Art Museum)
- Fundação Oriente (Oriente Foundation)
- Museu Calouste Gulbenkian (Calouste Gulbenkian Museum)
- Museu dos Coches (Coach Museum)
- Museu Nacional de Arte Antiga (National Museum for Old Art)
- Colecção Berardo (The Berardo Collection)
- Museu do Azulejo (Tile Museum)

Main Monuments in Lisbon:

- Aqueduto das Águas Livres (Free Waters' Aqueduct)
- Basílica da Estrela (Estrela Churro)
- Castelo de São Jorge (Saint George's Castle)
- Mosteiro dos Jerónimos (Jerónimos Monástico)
- Sé Patriarcal (Patriarchal Cathedral)
- Torre de Belém (Belém Tower)

Accommodation

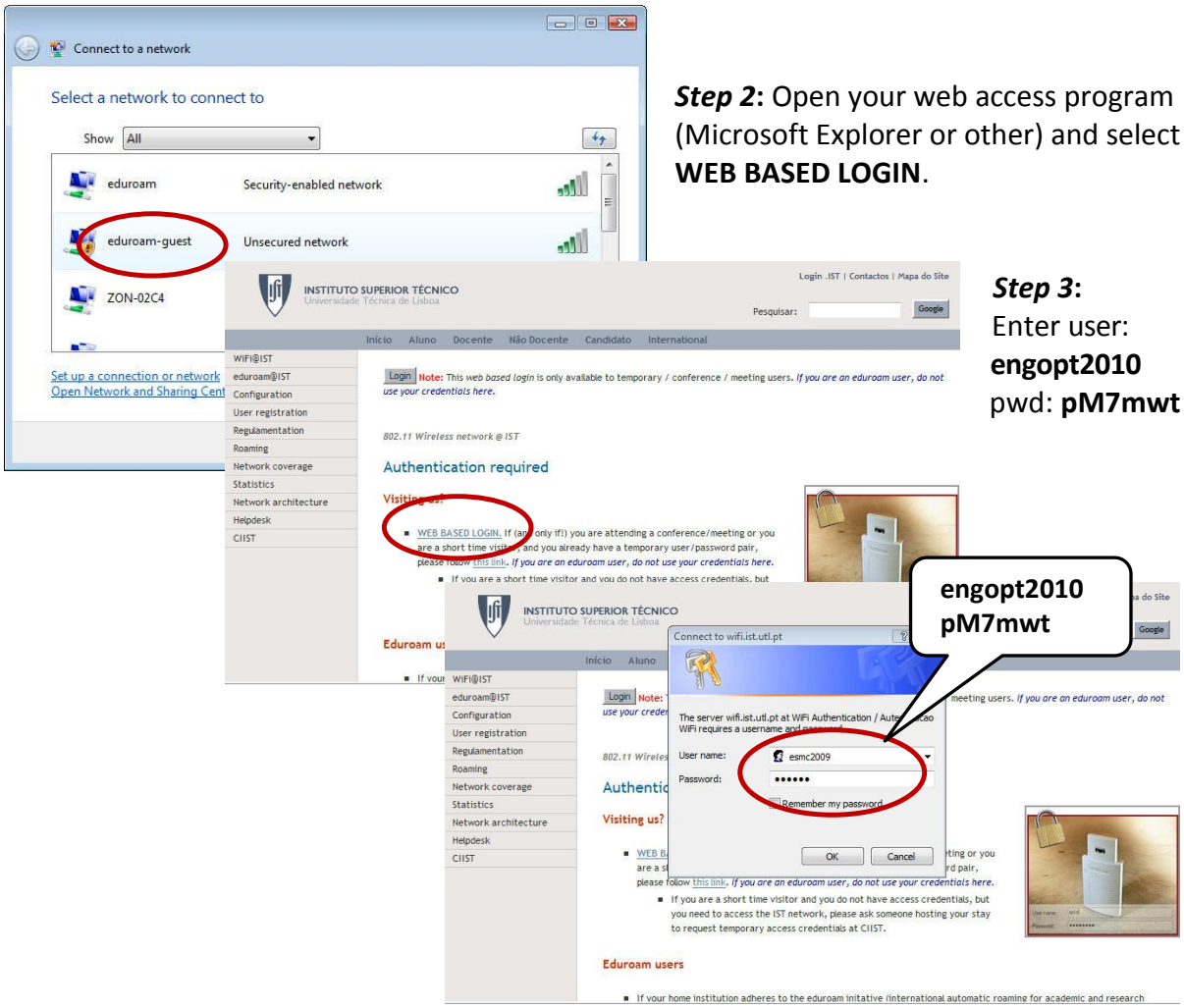
Hotels close to IST:

1. Hotel Villa Rica Lisboa
2. Hotel Holiday Inn Lisbon-Continental
3. Hotel Holiday Inn Lisbon
4. Hotel A.S. Lisboa
5. Hotel VIP Executive Zurique
6. Hotel Lutécia
7. Hotel VIP Inn Berna
8. Hotel Roma

Conference Information

Wireless Internet Access

***Step 1*:** Select the eduroam-guest network



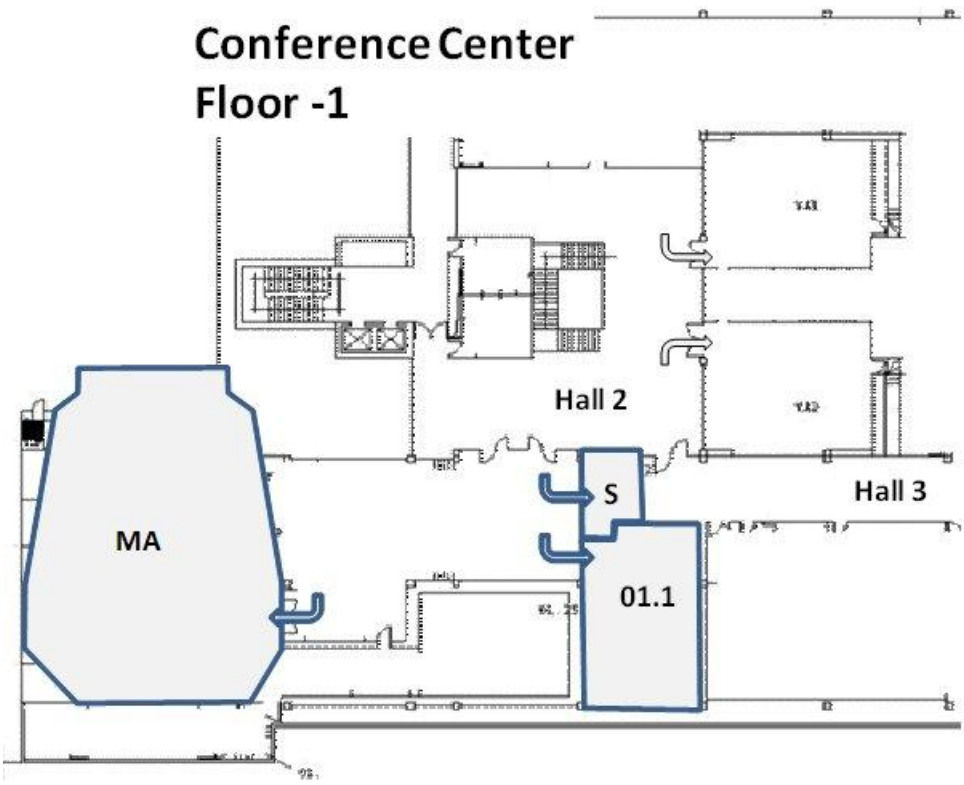
***Step 2*:** Open your web access program (Microsoft Explorer or other) and select **WEB BASED LOGIN**.

***Step 3*:**
Enter user: **engopt2010**
pwd: **pM7mwt**

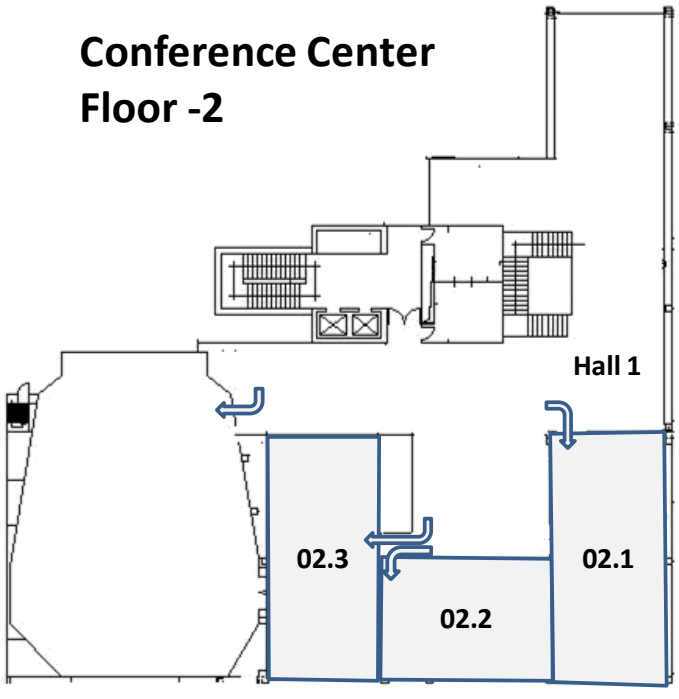
Instructions for Presenters

- Each Lecture presentation will take 20 minutes including discussion.
- The files required for the presentation (PowerPoint or PDF) must be uploaded and tested on the conference computers at least **2 hours** prior to the respective presentation session. Conference computers are Windows 7 machines with Office 2007 and Acrobat PDF reader 9.
- No presentations from personal computers are permitted
- Posters should be set on Thursday 9, in the morning period.

Conference Floor Plan



MA - Main Auditorium
S - Secretariat
01.1 – Computer Room
02.1 – Lecture Room
02.2 – Lecture Room
02.3 – Lecture Room



EngOpt 2010 Scientific Program

Notes:

Program at a glance

Topics		Mon	Tues	Wed	Thu
1	Design Optimization				
2	Optimization in Identification and Inverse Problems				
3	Numerical Optimization Techniques				
4	Efficient Analysis and Reanalysis Techniques				
5	Sensitivity Analysis				
6	Industrial Applications				
MS02	Recent Developments in Derivative-Free Methods for Engineering Optimization				
MS03	Surrogate and Knowledge-Based Optimization Procedures for Computationally Expensive Engineering Design Problems				
MS04	Continuous Optimization				
MS06	Free Material Optimization				
MS07	Recent Developments in Inverse Problems and Optimization with Applications in Petroleum Engineering				
MS08	Inverse Problems in Heat Transfer				
MS09	Mathematical Methods for Solving MINLP's Arising from Engineering				
MS10	Optimal Approaches in Electrical Engineering				
MS11	Optimization in Biomechanics and Biomedical Engineering				
Poster	Poster Session				

	Monday	Tuesday			Wednesday				Thursday		
08:40-09:00	**Registration**	Topic 1 .04	Topic 6 .04	Topic MS08 .02	Topic 5	Topic 1 .10	Topic 1 .11	Topic MS04 .02	Topic MS02 .02	Topic MS07 .02	Topic MS10 .01	Topic MS03 .01
09:00-09:20												
09:20-09:40												
09:40-10:00												
10:00-10:20	Opening Cerimony	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2
10:20-10:40	**Coffee**	**Coffee**			**Coffee**				**Coffee**		
10:40-11:00	Topic 1 .01	Topic 6 .01	Topic 3 .01	Topic 2 .01	Topic 1 .05	Topic 1 .05	Topic 3 .03	Topic 2 .03	Topic 1 .12	Topic 6 .06	Topic MS04 .03	Topic 3 .05	Topic 1 .16	Topic MS10 .02	Topic MS03 .01
11:00-11:20															
11:20-11:40															
11:40-12:00															
12:00-12:20	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2
12:20-12:40															
12:40-14:00	**Lunch**	**Lunch**			**Lunch**				**Lunch**		
14:00-14:20	Topic 1 .02	Topic 6 .02	Topic 3 .02	Topic 2 .02	Topic 1 .07	Topic 1 .08	Topic 6 .05	Topic 3 .04	Topic 1 .13	Topic 3 .06	Topic MS09	Topic MS11	Topic 1 .17	Topic MS10 .03	Topic MS03 .03
14:20-14:40															
14:40-15:00															
15:00-15:20															
15:20-15:40	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2
15:40-16:00															
16:00-16:20	**Coffee**	**Coffee**			**Coffee**				**Coffee**		
16:20-16:40	Topic 1 .03	Topic 6 .03	Topic MS08 .01	Topic 4	Topic 1 .09	Topic 6 .06	Topic MS04 .01	Topic MS02 .01	Topic 1 .14	Topic 1 .15	Topic MS07 .01	Topic MS06	**Poster Session**
16:40-17:00													
17:00-17:20													
17:20-17:40													
17:40-18:00	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Room MA	Room 02.1	Room 02.2	Room 02.3	Closing Session
	Conference Reception 19:00-21:30 "Tagus River Boat Trip"				**Banquet** 20:00.23:00 "Restaurante Espaço Tejo"							

Sunday

September 5th, 2010

15:00 - 18:00

	Room S
REGISTRATION	

Monday

September 6th, 2010

8:40 - 10:20

	Room S
REGISTRATION	

	Opening Session	Room MA
10:00-10:20	Opening Ceremony	

Monday

September 6th, 2010

10:40 - 12:40

Session 1.01		Design Optimization	Room MA
Chair		Alexandra Gomes	
	ID	**Speaker**	**Title**
10:40-11:00	1164	Roberto d'Ippolito	A Multidisciplinary Simulation Framework for Optimization of Rotorcraft Operations and Environmental Impact *Roberto d'Ippolito, Jos Stevens, Vassilios Pachidis, Antonio Berta, Ioannis Goulos, Caterina Rizzi*
11:00-11:20	1252	Luís Falcão	Multidisciplinary Design Optimisation of a Morphing Wingtip *Alexandra Gomes, Afzal Suleman, Luís Falcão*
11:20-11:40	1267	Pascal Etman	A language to specify the partitioning structure of decomposed design optimization problems *Pascal Etman, Simon Tosserams, Albert Hofkamp, Koos Rooda*
11:40-12:00	1275	Tobias Weigl	Structure-preserving differentiation of functional networks in design optimization and optimal control *Tobias Weigl*
12:00-12:20	1479	Rany Choufany	Multiphysics simulation using reduced order models in a Multidisciplinary Design Optimization context *Piotr Breitkopf, Catherine Vayssade, Rany Choufany*
12:20-12:40	1537	Pedro da Cás	Multidisciplinary Optimization of the De-boost Hybrid Motor for the Brazilian Recoverable Satellite *Pedro da Cás, Cristiano Vilanova, Carlos Veras, Manuel Barcelos*

Session 6.01		Industrial Applications	Room 02.1
Chair		Louis Durlofsky	
	ID	**Speaker**	**Title**
10:40-11:00	1116	Monia Chaabane	Study of an integred collector storage solar water heater *Monia Chaabane, Hatem Mhiri, Philippe Bournot*
11:00-11:20	1190	J. A. M. Felippe de Souza	Optimal PID Tunning Method Applied to a Sucker Rod Pump System of Petroleum Wells *Luiz Torres, Leizer Schnitman, J. A. M. Felippe de Souza*
11:20-11:40	1290	Geraldo da Costa	Optimal adjustment of continuous and discrete variables in the Optimal Reactive Power Flow problem *Edilaine Soler, Geraldo da Costa*
11:40-12:00	1351	Celina Leão	Residential Cogeneration System: A Multiobjective Optimization Design *Celina Leão, Senhorinha Teixeira, Manuel Nunes, Luis Martins, Oriane Neto* Cancelled
12:00-12:20	1355	André Costa	Thermohydraulic Analysis of Heat Exchanger Cleaning *Joana Borges, Eduardo Queiroz, Fernando Pessoa, Viviane Tavares, André Costa, Fábio Liporace, Sérgio Oliveira*
12:20-12:40	1361	Pedro Carvalheira	Optimization of the Fuel Efficiency of the M3165 Internal Combustion Engine in Transitory Operation *Pedro Carvalheira*

Session 3.01		Numerical Optimization Techniques	Room 02.2
Chair		Sergio Gutierrez	
	ID	**Speaker**	**Title**
10:40-11:00	1088	Anikó Csébfalvi	A higher order path-following method for stability-constrained optimisation of shallow trusses *Anikó Csébfalvi*
11:00-11:20	1256	Valdecir Bottega	Topology Optimization and Control for Vibration Suppression for a Cantilever Beam *Valdecir Bottega, Alexandre Molter, Jun S. O. Fonseca, Otávio A. A. Silveira*
11:20-11:40	1270	Nico Van Dijk	Critical study of design parameterization in topology optimization; the influence on local minima *Nico Van Dijk, Matthijs Langelaar, Fred Van Keulen*
11:40-12:00	1336	Boyan Lazarov	High contrast topology optimisation design by using nonlinear PDE filters *Boyan Lazarov, Ole Sigmund*
12:00-12:20	1237	Viktorija Volkova	Identification of Dynamic Model of Damaged Beam *Viktorija Volkova*

Session 2.01		Optimization in Identification and Inverse Problems	Room 02.3
Chair		Daniel Castello	
	ID	**Speaker**	**Title**
10:40-11:00	1052	Innocent Souopgui	Generalised diffusion based regularization for inverse problem in images processing *Innocent Souopgui, François-Xavier Le Dimet, Arthur Vidard*
11:00-11:20	1172	Nuno Martins	An iterative reconstruction of source functions in a potential problem using the method of fundamental solutions *Nuno Martins*
11:20-11:40	1192	Cristian Barbarosie	Optimization of a tube bundle immersed in a fluid *Anca-Maria Toader, Cristian Barbarosie, Sérgio Lopes*
11:40-12:00	1239	Tanja Binder	Estimating water-sided vertical gas concentration profiles by inverse modeling *Alexandra Herzog, Tanja Binder, Felix Friedl, Bernd Jaehne, Ekaterina Kostina*
12:00-12:20	1487	Jan Šimák	Design of an airfoil from a given pressure distribution using an approximate inverse operator *Jan Šimák, Jaroslav Pelant*
12:20-12:40	1565	Luiz Carlos Goes	Life Cycle and Gradient Based Optimization Applied to Estimation of Aircraft Aerodynamic Derivatives by the Output-Error Method *Luiz Carlos Goes, Felipe Chegury Viana*

Monday

September 6th, 2010

14:00 - 16:00

Session 1.02		Design Optimization	Room MA
Chair		Niels Olhoff	
	ID	**Speaker**	**Title**
14:00-14:20	1039	Niclas Strömberg	Topology Optimization of Two Linear Elastic Bodies in Unilateral Contact *Niclas Strömberg*
14:20-14:40	1123	Tomasz Sokol	The adaptive ground structure approach for topology optimization of large-scale trusses *Tomasz Sokol*
14:40-15:00	1207	Anton Evgrafov	Topology optimization using a discontinuous Galerkin method *Anton Evgrafov, Martin Berggren*
15:00-15:20	1232	Henry Panganiban	Topology optimization involving incompressible materials using P1-nonconforming elements *Gang-Won Jang, Henry Panganiban, Se-Myong Chang, Tae-Jin Chung*
15:20-15:40	1254	George Rozvany	Recent extensions of the Prager-Rozvany (1977) optimal layout theory *George Rozvany*
15:40-16:00	1366	Miguel Carrasco	A variance-expected compliance approach for topology optimization *Miguel Carrasco, Benjamin Ivorra, Rodrigo Lecaros*

Session 6.02		Industrial Applications	Room 02.1
Chair		Jose Herskovitts	
	ID	**Speaker**	**Title**
14:00-14:20	1106	Marisa Figueiredo	On the three-dimensional bin packing using rotations. *Ana Maria Almeida, Marisa Figueiredo*
14:20-14:40	1131	Hiroshige Dan	Shape Measurement Planning of Outdoor Constructions with Mathematical Programming *Hiroshige Dan, Nobuya Tsukamoto, Yoshihiro Yasumuro*
14:40-15:00	1137	Deedar Hussain	A Study of Textile & Clothing Supply Chain in Pakistan *Deedar Hussain, Manuel Figueiredo, Anabela Tereso, Fernando Ferreira*
15:00-15:20	1217	Sinatra Kho	Simulation-based optimization for a parameter reconstruction problem *Sinatra Kho, Joseph Maubach*
15:20-15:40	1303	Eduardo Soares	SIGLA – An Integrated System for Airline Management *Eduardo Soares*
15:40-16:00	1511	Elena Lacatus	Engineering Optimization through the qualified use of CMMS and Predictive Software *Elena Lacatus, Paul Davison*

Session 3.02		Numerical Optimization Techniques	Room 02.2
Chair	Ann Raich		
	ID	**Speaker**	**Title**
14:00-14:20	1030	Chikhaoui Ahmed	Contribution of the New Optimization Method of a quadratic Program to the separable programming *Chikhaoui Ahmed*
14:20-14:40	1312	Anesio Zeitune	A direct method to determine the maximum loadability bifurcation point in power systems *Roberto Salgado, Anesio Zeitune*
14:40-15:00	1395	Luis Torres Guardia	Interior points methods for linear multicommodity network flow problem *Luis Torres Guardia, Gilson Lima*
15:00-15:20	1437	Mario Tanaka Fo.	A new algorithm based on feasible directions and cutting planes for nonsmooth convex inequality constrained optimization problems *Mario Tanaka Fo., José Herskovits, Alfredo Canelas*
15:20-15:40	1485	Jean-Pierre Dussault	On the asymptotic order in path following interior point methods. *Jean-Pierre Dussault*
15:40-16:00	1495	Elke Eisenschmidt	Frequent Minimally Infrequent Attribute Sets *Elke Eisenschmidt*

Session 2.02		Optimization in Identification and Inverse Problems	Room 02.3
Chair	Marcelo Jose Colaco		
	ID	**Speaker**	**Title**
14:00-14:20	1124	Daniel Castello	A Bayesian inference approach to estimate elastic and damping parameters of structures subjected to vibration tests *Daniel Castello, Manoela Lopes, Carlos Matt*
14:20-14:40	1136	Dong Vu	An efficient parameter identification approach of large-scale dynamic systems by a quasi-sequential interior-point method based on multiple data-sets *Dong Vu, Li Pu*
14:40-15:00	1196	Luis Paulo Barra	Application of a hybrid optimization method for identification of steel reinforcement in concrete by electrical impedance tomography *Franciane Peters, Luis Paulo Barra, Afonso Lemonge*
15:00-15:20	1501	Horacio Duarte	Mechanical Properties of Nanocomposite Laminated Structures by Modal Method *Horacio Duarte, Lázaro Donadon, Antônio Ávila*
15:20-15:40	1553	Cristóvão Mota Soares	Optimal design of adaptive hybrid active-passive sandwich structures *Aurelio Araujo, Cristóvão Mota Soares, Carlos Mota Soares, José Herskovits*
15:40-16:00	1557	Leonardo Santos	Robustness analysis of the parallel-hybrid method for structural damage identification *Leonardo Santos, Leonardo Chiwiacowsky, Haroldo Campos Velho*

Monday

September 6th, 2010

16:20 - 18:00

Session 1.03		Design Optimization	Room MA
Chair		Niels Perdersen	
	ID	**Speaker**	**Title**
16:20-16:40	1138	Estrella Vegueria	Topology optimization of uniformly heated actuators by ESO method *Ruben Ansola, Estrella Vegueria, Javier Canales*
16:40-17:00	1205	Cícero Lima	A methodology for microchannel heat sink design based on topology optimization *Cícero Lima, Adriano Koga, Emílio Silva*
17:00-17:20	1467	Jakob Jensen	Topology optimization of a nonlinear wave propagation problem *Jakob Jensen*
17:20-17:40	1572	Frantisek Seifrt	Shape and topology optimization in problems of electromagnetic waves propagation *Frantisek Seifrt, Gunter Leugering, Eduard Rohan*

Session 6.03		Industrial Applications	Room 02.1
Chair		Anabela Pereira Tereso	
	ID	**Speaker**	**Title**
16:20-16:40	1323	Susana Relvas	MILP models for multiproduct pipeline scheduling with inventory management: a comparative approach *Susana Relvas, Suelen Boschetto, Ana Paula Barbósa-Póvoa, Flávio Neves Jr.*
16:40-17:00	1394	Sleman Saliba	Coordination of plant wide production planning and scheduling systems *Sleman Saliba, Choajun Xu, Iiro Harjunkoski, Guido Sand*
17:00-17:20	1404	Hanieh Rasouli	Hybrid Optimization of Well Placement of Water flooding Project in an Iranian Oil Field *Hanieh Rasouli, Fariborz Rashidi, Ehsan Khamehchi*
17:20-17:40	1468	Luis Zeballos	A CP-based Approach for Scheduling in Semiconductor Manufacturing *Luis Zeballos, Pedro M. Castro, Carlos A. Méndez*
17:40-18:00	1472	Marta Cruz	A Generic Decision Model of Refueling Policies: Case Study in a Brazilian Motor Carrier *Amilton Rodrigues Junior, Marta Cruz*

Session MS08.01		MS08 — Inverse Problems in Heat Transfer	Room 02.2
Chair	Jan Taler		
	ID	**Speaker**	**Title**
16:20-16:40	1017	Jan Kołodziej	The determination temperature-dependent thermal conductivity as inverse steady heat conduction problem *Jan Kołodziej, Magdalena Mierzwiczak*
16:40-17:00	1019	Piotr Sarna	Determination of the flow rate based upon a solution of an inverse coefficient problem *Kazimierz Rup, Lukasz Malinowski, Piotr Sarna*
17:00-17:20	1020	Michal Cialkowski	Inverse problems for heat conduction equation *Michal Cialkowski, Andrzej Frackowiak, Jan Kołodziej*
17:20-17:40	1021	Tomasz Sobota	Identification of fluid transient temperature *Tomasz Sobota, Magdalena Jaremkiewicz, Dawid Taler*
17:40-18:00	1022	Jan Taler	Numerical Optimization of Steam Pipeline Heating *Jan Taler, Szczepan Lubecki*

Session 4		Efficient Analysis and Reanalysis Techniques	Room 02.3
Chair	Heitor Pina		
	ID	**Speaker**	**Title**
16:20-16:40	1163	Karin Kraft	A FEM approach to optimal control problems in vehicle dynamics *Karin Kraft, Stig Larsson, Mathias Lidberg*
16:40-17:00	1178	Jorge Francés	Interference and diffraction analysis of holographic gratings using the Finite-Difference Time-Domain method *Jorge Francés, Cristian Neipp, Manuel Pérez-Molina, Sergio Bleda, Augusto Beléndez*
17:00-17:20	1246	Evgeny Shilnikov	Flux Relaxation as an Approach to the Stability Improvement for Explicit Finite Difference Schemes *Boris Chetverushkin, Evgeny Shilnikov*
17:20-17:40	1320	Marta Oliveira	Towards a Blank Shape Optimization: Enhancement of Procedure and FE Solver *Alexandre Correia, Marta Oliveira, Luis Filipe Menezes, José Luis Alves, Padmanabhan Raguphathy*
17:40-18:00	1549	Seyed Reza Motallebi	Investigation of Influence Parameters on the Hot Rolling Process Using Finite Element Method *Seyed Reza Motallebi*

Tuesday

September 7th, 2010

8:40 - 10:20

Session 1.04		Design Optimization	Room MA
Chair		Jakob Jensen	
	ID	Speaker	Title
08:40-09:00	1046	Hector Jensen	Robust Structural Optimization of Stochastic Dynamical Systems *Hector Jensen*
09:00-09:20	1213	Diane Villanueva	Probabilistic Optimization of the Redesign Procedure of an Integrated Thermal Protection System Following Future Tests *Diane Villanueva, Raphael Haftka, Bhavani Sankar*
09:20-09:40	1273	Van Vinh Nguyen	A Distributed Agent-based Approach for Robust Optimization *Van Vinh Nguyen, Dietrich Hartmann, Matthias Baitsch, Markus König*
09:40-10:00	1354	André Carvalho	A Robust and Reliability Based Design Optimization Framework for Wing Design *Ricardo Paiva, Andre Carvalho, Afzal Suleman, Curran Crawford, Luis Félix*
10:00-10:20	1387	José Mota	Robust design and optimization of compact multi-column chromatographic processes *José Mota, Rui Rodrigues, Ricardo Silva*

Session 6.04		Industrial Applications	Room 02.1
Chair		Carl Albrecht	
	ID	Speaker	Title
08:40-09:00	1025	Miguel Ernesto Vazquez-Mendez	Optimal Strategies for Treated Sewage Discharges: Economics Vs. Environmental Protection *Miguel Ernesto Vazquez-Mendez, Lino Jose Alvarez-Vazquez, Aurea Martinez, Nestor Garcia-Chan*
09:00-09:20	1031	Maria Arns Steiner	Reconfiguring State Health Services Logistics: Pacients Flow Optimization *Maria Arns Steiner, Cassius Tadeu Scarpin, Pedro José Steiner Neto*
09:20-09:40	1090	Andrzej Leski	An algorithm of selecting a representative load sequence for a trainer *Andrzej Leski*
09:40-10:00	1186	Antonio Troisi	An Environmental Quality Index Related to Polluting Agents and its application in the framework of a GIS platform *Joseph Quartieri, Antonio Troisi, Claudio Guarnaccia, Pierpaolo D'Agostino*
10:00-10:20	1220	Nivaldo Coppini	Environment of Flexible Machining - Validating an optimization procedure by real tests realized on the shop floor *Elesandro Antonio Baptista, Ademir de Oliveira, Nivaldo Coppini*

Session MS08.02		MS08 — Inverse Problems in Heat Transfer	Room 02.2
Chair	Jan Taler		
	ID	**Speaker**	**Title**
08:40-09:00	1058	Artur Cebula	Determining Thermal Contact Resistance of the Fin-To-Tube Attachment in Plate Fin -and-Tube Tube Heat Exchangers *Artur Cebula, Dawid Taler*
09:00-09:20	1070	Piotr Wais	Fin shape optimization in tube heat exchangers by means of CFD program *Piotr Wais, Jan Taler*
09:20-09:40	1424	Marcelo Colaco	Evaluation of Bayesial Filters Applied to Heat Conduction Problems *Wellington Betencurte, Helcio Orlande, Marcelo Colaco*

Session 5		Sensitivity Analysis	Room 02.3
Chair	Cristian Barbarosie		
	ID	**Speaker**	**Title**
08:40-09:00	1073	Petr Ekel	Experimental design in constructing sensitivity and functionally oriented models for power system optimization and control *Petr Ekel, Marcio Junges, Roberta Parreiras, Fernando Schuffner Neto*
09:00-09:20	1200	Cristiane Zeferino	Analysis Sensitivity Applied to the Maximum Loading Problem *Cristiane Zeferino, Edmarcio Belati, Geraldo da Costa, Vanusa Sousa*
09:20-09:40	1255	Alexandra Gomes	Topology Optimization With Gradient-Guided Spectral Level Set Methodology *Alexandra Gomes*
09:40-10:00	1410	André Marta	Blade Shape Optimization using a RANS Discrete Adjoint Solver *André Marta, Sriram Shankaran, Alexander Stein*
10:00-10:20	1412	Daniel Materna	An exact representation of variational design sensitivity relations and improvement of classical first-order formulations *Daniel Materna, Franz-Joseph Barthold*

Tuesday

September 7th, 2010

10:40 - 12:40

Session 1.05		Design Optimization	Room MA
Chair	Claude Fleury		
	ID	**Speaker**	**Title**
10:40-11:00	1043	Sergey Peigin	An Industry-Strength Novel Optimization Tool for Constrained Multi-Objective Design *Sergey Peigin, Boris Epstein*
11:00-11:20	1102	Jose Fonseca	Four Different MILP Models to Generate Optimal Error Correcting Codes, Or How a Much Greater MILP Model is Much More Efficient *Jose Fonseca*
11:20-11:40	1229	Julien Bénabès	Accessibility in Layout Optimization *Julien Bénabès, Fouad Bennis, Emilie Poirson, Yannick Ravaut*
11:40-12:00	1297	Tom Verstraete	CADO: a Computer Aided Design and Optimization Tool for Turbomachinery Applications *Tom Verstraete*
12:00-12:20	1322	Scott Ragon	Software Optimization Framework for Algorithm Development and Application to Practical Problems *Scott Ragon, Peter Menegay*
12:20-12:40	1386	Martin Benedikt	Novel Approach for Performance Evaluation of Fast Time-Domain Non-Iterative CoSimulation *Martin Benedikt*

Session 1.06		Design Optimization	Room 02.1
Chair	Pauli Pedersen		
	ID	**Speaker**	**Title**
10:40-11:00	1005	Nickolay Banichuk	Shape Optimization in Wear Contact Problems *Nickolay Banichuk*
11:00-11:20	1028	Niels Pedersen	Optimization of Keyway Design *Niels Pedersen*
11:20-11:40	1035	Stefanie Elgeti	Design of Modular Extrusion Dies Using Numerical Shape Optimization *Stefanie Elgeti, Mike Nicolai, Marek Behr, Christian Windeck, Walter Michaeli*
11:40-12:00	1329	Kai-Uwe Bletzinger	Parameter free shape design of thin shells: Efficient and effective, parallel solution techniques for very large design problems *Kai-Uwe Bletzinger, Matthias Firl, Michael Fischer*
12:00-12:20	1524	Petr Beremlijski	Parallel solution of contact shape optimization problems with Coulomb friction based on domain decomposition *Petr Beremlijski*
12:20-12:40	1408	Daniel Tortorelli	A gradient-based, parameter-free approach to shape optimization *Chau Le, Tyler E. Bruns, Daniel Tortorelli*

Session 3.03		Numerical Optimization Techniques	Room 0.2.2
Chair		Jaan Lellep	
	ID	**Speaker**	**Title**
10:40-11:00	1134	Elmira Kalhor	A modified search procedure for permutation-based ant colony algorithm for resource constrained scheduling *Abbas Afshar, Elmira Kalhor*
11:00-11:20	1347	Matej Leps	A Graphical Methodology for Comparison of Evolutionary Optimization Algorithms *Matej Leps, Josef Nosek*
11:20-11:40	1460	Mouadh Yagoubi	A steady-state NSGA-II algorithm for multi-objective optimization of Diesel combustion *Mouadh Yagoubi, Ludovic Thobois, Marc Schoenauer*
11:40-12:00	1466	Mohadeseh Alsadat Sadat Shirazi	Reliability-Based Multidisciplinary Design Optimization Using Metamodeling *Parviz Mohammad Zadeh, Mohadeseh Alsadat Sadat Shirazi*
12:00-12:20	1516	Saber Bayat Movahed	A hybrid metaheuristic optimization algorithm based on SFLA *Mohammadreza Farahani, Saber Bayat Movahed*
12:20-12:40	1535	João Cardoso	A Method to Improve the Calculation of the Bicriteria Pareto Frontier *João Cardoso*

Session 2.03		Optimization in Identification and Inverse Problems	Room 02.3
Chair		Matthijs Langelaar	
	ID	**Speaker**	**Title**
10:40-11:00	1185	Mariusz Kaczmarek	Identification of structural and transport parameters of soils from column tests *Mariusz Kaczmarek, Marek Marciniak*
11:00-11:20	1317	Gerardo Pizo	Reconstruction of 3D Surfaces from Cloud Points Based on Deformable Models with Experimental Verification *Jose Motta, Gerardo Pizo*
11:20-11:40	1393	Loris Vincenzi	Improving the speed performance of an Evolutionary Algorithm by a sec-ond-order cost function approximation *Loris Vincenzi, Marco Savoia*
11:40-12:00	1493	Zuzana Vitingerova	Parameter estimation for affinity hydration model of cement paste *Zuzana Vitingerova, Vít Smilauer*
12:00-12:20	1427	Jairo Faria	Electrical Impedance Tomography: a bayesian-topological approach *Jairo Faria, Roberto Nascimento, Abner Gomes Costa*

Tuesday

September 7th, 2010

14:00 - 16:00

Session 1.07		Design Optimization	Room MA
Chair		Cristovão Mota Soares	
	ID	**Speaker**	**Title**
14:00-14:20	1166	Tânia Pinto-Varela	Supply Chain Network Optimization with environmental Impacts *Tânia Pinto-Varela, Ana Paula Barbósa-Póvoa, Augusto Q. Novais*
14:20-14:40	1352	Lizandro Santos	Application of a CFD-based tool to optimize an industrial pultrusion process *Lizandro Santos, Verônica Calado, Luiz Giovanelli, Marcelle Nóbrega, Rogério Pagano, Evaristo Biscaia Jr.*
14:40-15:00	1358	Marian Marcovecchio	Global Optimal Design of Electricity and Fresh Water Plants *Sergio Mussati, Marian Marcovecchio, Pio Aguirre, Nicolás Scenna*
15:00-15:20	1364	Carla Pieragostini	Review on Process Optimization considering LCA Methodology *Carla Pieragostini, Miguel Mussati, Pio Aguirre*
15:20-15:40	1528	Carl Albrecht	Applying Computational Intelligence in the Design of Moored Floating Systems for Offshore Oil Production *Carl Albrecht, Aline de Pina, Aloísio Carlos de Pina, Carl Albrecht, Beatriz Lima, Breno Jacob*
15:40-16:00	1365	Miguel Mussati	Optimal wastewater treatment plant synthesis and design: problem solution methodology *Noelia Alasino, Miguel Mussati, Nicolás Scenna, Pio Aguirre*

Session 1.08		Design Optimization	Room 02.1
Chair		N Banichuk	
	ID	**Speaker**	**Title**
14:00-14:20	1152	Adriana Nastase	Aerodynamical, Global Optimal Design of the Shape of Aerospace Model Fadet II *Adriana Nastase*
14:20-14:40	1165	Grzegorz Nowak	Shape Optimization of Internal Passages for a Steam Cooled Airfoil *Grzegorz Nowak, Iwona Nowak*
14:40-15:00	1240	Mohammad Kouhi	Aerodynamic shape optimization using adaptive remeshing *Mohammad Kouhi, Gabriel Bugeda, Eugenio Oñate, Dongseop Lee*
15:00-15:20	1286	Alessandro de Gaspari	Combining Shape and Structural Optimization for the Design of Morphing Airfoils *Alessandro de Gaspari, Sergio Ricci*
15:20-15:40	1340	José Rodrigues	Shape Optimization of a Feet Support Using Finite Element Analysis *José Rodrigues, Pedro Carvalheira*
15:40-16:00	1411	Marzena Banaszek	Blade Shape Optimisation for Rotor - Stator Interaction in Kaplan Turbine *Marzena Banaszek*

Session 6.05		Industrial Applications	Room 02.2
Chair		E Lacatus	
	ID	**Speaker**	**Title**
14:00-14:20	1059	Maria Rudnaya	Derivative-free optimization for autofocus and astigmatism correction in electron microscopy *Maria Rudnaya, Robert Mattheij, Joseph Maubach*
14:20-14:40	1065	Benjamin Ivorra	Mathematical modeling for protein folding devices. Applications to high pressure processing and microfluidic mixers. *Benjamin Ivorra, Angel Ramos del Olmo, Juan Antonio Infante, Jose Maria Rey, Nadia Smith*
14:40-15:00	1081	Arne Aarås	Does Visual Discomfort Have an Influence on Muscle Pain for Visual Display Unit (VDU) Workers? *Arne Aarås, Gunnar Horgen, Magne Helland*
15:00-15:20	1145	Joan Solà Saracibar	Optimization of Nanocrystalline Aluminium Production using a Objective Function *Joan Solà Saracibar, Jordi Llumà, Jordi Jorba*
15:20-15:40	1513	Stoyan Stoyanov	Reduced Order Modelling for Reliability Optimisation of Advanced Micro-Systems *Stoyan Stoyanov*
15:40-16:00	1547	Ali Rezaei Abadchi	Minimizing the Connection Cost in a Real GSM Network *Ali Rezaei Abadchi, Abbas Seifi*

Session 3.04		Numerical Optimization Techniques	Room 02.3
Chair		João Barradas Cardoso	
	ID	**Speaker**	**Title**
14:00-14:20	1093	Luis Celorrio-Barragué	A study of efficiency of Reliability-Based Design Optimization Methods. *Luis Celorrio-Barragué, Eduardo Martínez-de-Pisón*
14:20-14:40	1095	Xiaoqiang Cai	Stochastic Manpower Planning by Dynamic Programming *Xiaoqiang Cai, Minghui Lai, Yongjian Li*
14:40-15:00	1159	Yoshihiro Kanno	An Implicit Smooth Reformulation of Complementarity Constraints for Application to Robust Structural Optimization *Yoshihiro Kanno*
15:00-15:20	1191	Vincent Baudoui	Robustness analytic estimation for robust design optimization *Vincent Baudoui, Jean-Baptiste Hiriart-Urruty, Sophie Jan, Patricia Klotz*
15:20-15:40	1455	Frank Pfeuffer	Lift and Project Cuts for Robust Optimization *Frank Pfeuffer*
15:40-16:00	1482	Artur Barreiros	A Monte Carlo Solution for Stochastic Programming Problems with Recourse *João Cardoso, Artur Barreiros*

Tuesday

September 7th, 2010

16:20 - 18:00

Session 1.09		Design Optimization	Room MA
Chair		Carlos Antonio	
	ID	**Speaker**	**Title**
16:20-16:40	1026	Joao Melo de Sousa	Post-optimization of a wing section for a pro-green aircraft configuration using a genetic algorithm *Joao Melo de Sousa*
16:40-17:00	1075	Catarina F. Castro	Pareto-based multi-objective hot forging optimization using a genetic algorithm *Catarina F. Castro, Carlos C. António, Luisa C. Sousa*
17:00-17:20	1180	Isaak Tsalicoglou	Design of Radial Turbine Meridional Contours using Particle Swarm Optimization *Isaak Tsalicoglou, Bent Phillipsen*
17:20-17:40	1477	Bo Wang	Design of Optimal Hygrothermally Stable Laminates with Extension-Twist Coupling by Ant Colony Optimization *Aditya P. Apte, Robert A. Haynes, Bo Wang, Erian A. Armanios*
17:40-18:00	1564	Ali Hadidi	Structural optimization using artificial bee colony algorithm *Sina Kazemzadeh Azad, Saeid Kazemzadeh Azad, Ali Hadidi*

Session 6.06		Industrial Applications	Room 02.1
Chair		Andre Marta	
	ID	**Speaker**	**Title**
16:20-16:40	1040	Naasson de Alcantara Jr.	Proposal of a Non Destructive Test Method for Steel Bar Identification in Concrete Structure, Based on Eddy Currents Inspection *Naasson de Alcantara Jr.*
16:40-17:00	1057	Katrin Martini	Shape Optimization of a Steering System Based on Fatigue Analysis *Katrin Martini, Christoph Tobias*
17:00-17:20	1379	Fabian Fuerle	Optimum Blade Design for a Novel Wind Turbine *Fabian Fuerle*
17:20-17:40	1506	Daniel Vipavc	Numerical Model of Tube Freeform Bending by Three-Roll-Push-Bending *Daniel Vipavc*
17:40-18:00	1510	Vaclav Dvorak	Shape optimization of supersonic ejectors with several primary nozzles *Vaclav Dvorak, Jan Kolar*

Session MS04.01		MS04 — Continuous Optimization	Room 02.2
Chair		Edite Fernandes	
	ID	**Speaker**	**Title**
16:20-16:40	1193	Pedro Cruz	A non-classical class of variational problems *Pedro Cruz, Delfim F. M. Torres, Alan S. I. Zinober*
16:40-17:00	1144	Agnieszka B. Malinowska	Fractional Multiobjective Variational Problems *Agnieszka B. Malinowska*
17:00-17:20	1226	Sonja Lehmann	A Feasible Sequential Convex Programming Method *Sonja Lehmann, Klaus Schittkowski, Christian Zillober*
17:20-17:40	1367	Ana Flavia Macambira	The Ellipsoid Covering problem: an Continuous Approach *Roberto Nascimento, Nelson Maculan, Ana Flavia Macambira, Lucidio Cabral*
17:40-18:00	1376	Maria de Fátima Pacheco	Algorithmic strategies for the recognition of graphs with convex quadratic stability number *Domingos Cardoso, Carlos J. Luz, Maria de Fátima Pacheco*

Session MS02.01		MS02 — Recent Developments in Derivative-Free Methods for Engineering Optimization	Room 02.3
Chair		José Aguilar	
	ID	**Speaker**	**Title**
16:20-16:40	1242	Ana Custodio	Direct-Multisearch for Multiobjective Optimization *Ana Custodio, José Madeira, Antonio Ismael F. Vaz, Luis N. Vicente*
16:40-17:00	1476	Stefan Wild	Least squares parameter fitting without derivatives *Stefan Wild, Jorge Moré*
17:00-17:20	1391	Andrew Conn	Bilevel Derivative-Free Optimization and its Application to Robust Optimization *Andrew Conn, Luis N. Vicente*
17:20-17:40	1504	Konrad Stadler	Comparison of Derivative Free Methods for Design Optimization of Industrial Devices *Jan Poland, Jasmin Smajic, Bogdan Cranganu-Cretu, Konrad Stadler*
17:40-18:00	1534	Jeff Baggett	Hybrid Optimization of Evolutionary and Approximate Gradient Search for Expensive Functions *Jeff Baggett, Brian Skahill*

Wednesday

September 8th, 2010

8:40 - 10:20

Session 1.10		Design Optimization	Room MA
Chair		Catarina F Castro	
	ID	**Speaker**	**Title**
08:40-09:00	1099	Neida Volpi	Particle Swarm Optimization and the Efficiency Frontier for the Problem of Expansion of an Electrical Network *Neida Volpi, Bernadete Brandão*
09:00-09:20	1143	Bruno Monteiro	Application of the Particle Swarm Optimization Method on the Optimization of Mooring Systems for Offshore Oil Exploitation *Bruno Monteiro, Carl Albrecht, Breno Jacob*
09:20-09:40	1181	Thomas Nygårds	Pareto optimization of a washing machine suspension system *Thomas Nygårds, Viktor Berbyuk*
09:40-10:00	1243	Anabela Tereso	On Resource Complementarity in Activity Networks - Further Results *Anabela Tereso, Helder Silva, José António Oliveira*
10:00-10:20	1304	Carlos C. António	Evolutionary search based on aged structured population and selfish gene theory *Carlos C. António*

Session 1.11		Design Optimization	Room 02.1
Chair		Hector Jensen	
	ID	**Speaker**	**Title**
08:40-09:00	1221	Carlos Riascos	Design and optimization of diabatic single and double feed distillation columns with sequential heat exchangers *Diego F. Mendoza, Carlos A. M. Riascos* **Cancelled**
09:00-09:20	1283	Neena Imam	Optimized Systems Engineering Approach for the Design of Large Array Infrared Photodetectors *Neena Imam, Jacob Barhen*
09:20-09:40	1287	Gregor Papa	Optimization of cooling appliance control parameters *Gregor Papa, Peter Mrak*
09:40-10:00	1425	Irene Ferreira	An Integrated Quantitative Framework for supporting the design of injection moulds *Irene Ferreira, José Cabral, Pedro Saraiva*
10:00-10:20	1503	Tulio Salazar Alvarez	Sheet Metal Stretch Forming Simulation & Optimization for Springback *Tulio Salazar Alvarez*

Session MS04.02		MS04 — Continuous Optimization	Room 02.2
Chair		Gerhard-Wilhelm Weber	
	ID	**Speaker**	**Title**
08:40-09:00	1092	Alex Bandeira	Numerical Simulation of Contact Problems Under Large 3D Elastoplastic Deformation *Alex Bandeira, Alberto Borges Vieira Júnior, Armando Sá Ribeiro Júnior, Paulo de Mattos Pimenta*
09:00-09:20	1141	Jorge Esteves	A Tricriterion Load Sharing Approach for a Multidimensional Erlang-C System *Jorge Esteves*
09:20-09:40	1169	M. Fernanda P. Costa	Assessment of a hybrid multi-objective pattern search filter method *A. Gaspar-Cunha, M. Fernanda P. Costa*
09:40-10:00	1197	Cecília Vale	Application of a maintenance model for optimizing tamping on ballasted tracks: the influence of model constraints *Cecília Vale, Isabel Ribeiro, Rui Calçada*
10:00-10:20	1271	Ana Rocha	Embedding a Competitive Ranking Method in the Artificial Fish Swarm Algorithm for Global Optimization *Ana Rocha, Edite Fernandes*

Session MS02.02		MS02 — Recent Developments in Derivative-Free Methods for Engineering Optimization	Room 02.3
Chair		Ana Custódio	
	ID	**Speaker**	**Title**
08:40-09:00	1434	Jayachandran Peethambaran	Stochastic optimization of electromechanical coupling in ferroelectric materials *Jayachandran Peethambaran, Jose Guedes, Helder Rodrigues*
09:00-09:20	1556	M. Shakeri	Using of neural network and genetic algorithm in multiobjective optimization of collapsible energy absorbers *Mostafa Mirzaei, M. Shakeri, M. Seddighi, Seyed Ebrahim Seyedi*
09:20-09:40	1342	Fabio Pereira	A multi-objective optimization approach in a job-shop scheduling rules simulation *Fabio Pereira, Marilda Fátima, Edna Barbosa, Michele Gonçalves, Felipe Calarge*
09:40-10:00	1512	José António Oliveira	Solving the Job Shop Problem with a random keys genetic algorithm with instance parameters *José António Oliveira, Luis Dias, Guilherme Pereira*
10:00-10:20	1284	Helio Barbosa	A genetic algorithm for topology optimization of dome structures *Afonso Lemonge, Helio Barbosa, Leonardo Fonseca, Alvaro Coutinho*

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10:40 - 12:40

Session 1.12		Design Optimization	Room MA
Chair		Andres Tovar	
	ID	**Speaker**	**Title**
10:40-11:00	1042	Surya Patnaik	Reliability based design for a raked wing tip of an airframe *Surya Patnaik, Shantaram Pai, Rula Coroneos*
11:00-11:20	1072	José Vale	Development of Camber Morphing Capability in a Telescopic Morphing Wing *José Vale, Afzal Suleman, Fernando Lau*
11:20-11:40	1129	Pedro Santos	Design Optimization of a Variable-Span Morphing Wing *Pedro Gamboa, João Mestrinho, João Felício, Pedro Santos*
11:40-12:00	1146	Paolo Macelloni	Design optimization of a multistage axial turbine using a response surface based strategy *Paolo Macelloni, Carlo Cravero* Cancelled
12:00-12:20	1384	Alexandre Leite	Mass, power and static stability optimization of a 4-wheeled planetary exploration rover *Alexandre Leite, Bernd Schäfer*

Session 6.07		Industrial Applications	Room 02.1
Chair		Sergey Peigin	
	ID	**Speaker**	**Title**
10:40-11:00	1015	Abolfazl Khalkhali	Modeling and Multi-Objective Optimization of 4-Digit NACA Airfoils using Genetic Algorithms *Abolfazl Khalkhali, Hamed Safikhani, Ahmad Nourbakhsh, Nader Nariman-Zadeh*
11:00-11:20	1089	Dmitrij Sheshok	Global optimization of grillage type foundations using stohastic algorithms and GRID computing *Rimantas Belevicius, Dmitrij Sheshok, Jonas Mockus*
11:20-11:40	1231	Mikel Abasolo	A Methodology for the Optimization of Bolting Sequences for Wind Generator Flanges *Mikel Abasolo, Josu Aguirrebeitia, Rafael Aviles, Igor Fernández de Bustos*
11:40-12:00	1259	Simone Manzato	Optimization of a full-scale multibody model of a wind turbine using experimental data *Simone Manzato, Bart Peeters, Alessandro Toso, Richard Osgood, Yves Lemmens*
12:00-12:20	1276	Selim Datoussaid	Multicriteria Optimal Design of Multibody Systems by Using Genetic Algorithms *Selim Datoussaid, Olivier Verlinden, Calogero Conti*
12:20-12:40	1332	Jose Medina	Application of the mathematical model of optimization for MIXED PROJECTS in MemoryCorp S.A. *Jose Medina*

Session MS04.03		MS04 — Continuous Optimization	Room 02.2
Chair		Edite Fernandes	
	ID	**Speaker**	**Title**
10:40-11:00	1177	Björn Sachsenberg	An SQP Interior Point algorithm for solving large scale nonlinear optimization problems *Björn Sachsenberg*
11:00-11:20	1198	Florbela Fernandes	A Deterministic-Stochastic Method for Non-convex MINLP Problems *Florbela Fernandes, Edite Fernandes, M. Fernanda P. Costa*
11:20-11:40	1280	Ana Pereira	Comparative Study of Penalty Simulated Annealing Methods for Multi-local Programming *Ana Pereira, Edite Fernandes*
11:40-12:00	1195	Lino Costa	Hybridization of a Genetic Algorithm with a Pattern Search Augmented Lagrangian Method *Roman Denysiuk, Lino Costa, Isabel A. C. P. Espírito Santo, Edite Fernandes*
12:00-12:20	1445	Miguel Aroztegui	A feasible direction interior point algorithm for nonlinear semidefinite programming *Miguel Aroztegui, Jean Roche, José Herskovits*
12:20-12:40	1446	Gerhard Wilhelm Weber	On the ellipsoidal core for cooperative games under ellipsoidal uncertainty *R. Branzei, S.Z. Alparslan Gök, Gerhard Wilhelm Weber*

Session 3.05		Numerical Optimization Techniques	Room 02.3
Chair		Geoge Rozvany	
	ID	**Speaker**	**Title**
10:40-11:00	1076	João Oliveira	Stress- and strain-based multifreedom constraints for periodic media optimisation *João Oliveira, Joaquim Pinho-da-Cruz, António Andrade-Campos, Filipe Teixeira-Dias*
11:00-11:20	1110	Sergio Gutiérrez	Using full homogenization to optimize the nonlinear behavior of concrete reinforced structures *Sergio Gutiérrez, Juan Pablo Herranz, Hernán Santa María*
11:20-11:40	1334	Anis Ben Abdessalem	Optimization of tube hydroforming process under uncertainty *Anis Ben Abdessalem, Abdelkhlak El Hami, Abel Cherouat*
11:40-12:00	1444	Esther Andrés Pérez	Comparison Between Two Cad-Based Aerodynamic Shape Optimization Approaches using Adjoint Methods for Fast Gradient Computation *Esther Andrés Pérez, Mario Burgos, Markus Widhalm*
12:00-12:20	1492	Abebe Geletu	Efficient Solution of Chance-Constrained nonlinear Dynamic Process Optimization Problems with non-Gaussian Uncertainties *Abebe Geletu, Michael Klöppel, Li Pu, Armin Hoffmann*
12:20-12:40	1497	Andrey Fedorov	Critical and constructive analysis of the experimental schemes for evaluation of adhesive strength *Andrey Fedorov, Valeriy Matveenko, Natalya Sevodina*

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14:00 - 16:00

Session 1.13		Design Optimization	Room MA
Chair		Kai-Uwe Bletzinger	
	ID	**Speaker**	**Title**
14:00-14:20	1027	Pauli Pedersen	Uniform energy density as a design objective for forced support displacements *Pauli Pedersen, Niels Pedersen*
14:20-14:40	1179	Luigi Palizzolo	P-Delta effect in structural optimization *Luigi Palizzolo*
14:40-15:00	1244	Igor Fernández de Bustos	Optimum synthesis of mechanisms with apparent stiffness restrictions *Josu Aguirrebeitia, Rafael Aviles, David Lopez Montaña, Igor Fernández de Bustos*
15:00-15:20	1264	Cristian Neipp	Analysis of Reinforced concrete structures by using the Capacity Spectrum Method *Cristian Neipp, Jorge Francés, Sergio Molina, Sergio Rosa, Juan José Galiana, Julio Rosa*
15:20-15:40	1269	Jaan Lellep	Optimization of structural elements with cracks *Jaan Lellep, Tiina Kraav*
15:40-16:00	1279	Anne Raich	Reliability Based Design Optimization Methodology for the Conceptual Design of Roof Trusses *Anne Raich, Martin Tjioe*

Session 3.06		Numerical Optimization Techniques	Room 02.1
Chair		João Melo e Sousa	
	ID	**Speaker**	**Title**
14:00-14:20	1044	Wim van Ackooij	Joint Chance Constrained Programming for Hydro Reservoir Management *Wim van Ackooij, Riadh Zorgati, René Henrion, Andris Möller*
14:20-14:40	1105	Cecilia Pola	Integer Solutions to Cutting Stock Problems *Cecilia Pola, Luis Alberto Fernandez, Laura Fernandez*
14:40-15:00	1272	Matthijs Langelaar	Investigation of Instabilities Arising in Element Connectivity Parameterization *Matthijs Langelaar, Kurt Maute, Nico Van Dijk, Fred Van Keulen*
15:00-15:20	1293	David López Montaña	Optimization of k-ε turbulence models for incompressible flow around airfoils *David López Montaña, Igor Fernández de Bustos, Carlos Angulo, Rafael Aviles*
15:20-15:40	1498	Luciana Assis	An immunological aproach to solve the LSP Allocation Problem in MPLS Networks *Alessandro Vivas, Luciano de Errico, Luciana Assis, Vinicius Morais*
15:40-16:00	1561	Guillaume Riflet	Developing a shallow-waters finite-differences numerical model to study convectively dominated flows near the boundaries *Guillaume Riflet*

Session MS09		MS09 — Mathematical Methods for Solving MINLP's Arising from Engineering	Room 02.2
Chair		Dennis Michaels	
	ID	**Speaker**	**Title**
14:00-14:20	1066	Sebastian Engell	Design optimization of reactive distillation columns by memetic algorithms *Maren Urselmann, Sebastian Engell*
14:20-14:40	1098	Ganesh Paramasivan	Decentralized control system design using mixed integer optimization *Ganesh Paramasivan, Achim Kienle*
14:40-15:00	1085	Thomas Lehmann	Solving Mixed-Integer Nonlinear Programs Arising in Petroleum Industry *Thomas Lehmann, Klaus Schittkowski, Oliver Exler*
15:00-15:20	1056	Martin Ballerstein	From infeasibility certificates towards global optimization of chromatographic processes *Martin Ballerstein, Dennis Michaels, Andreas Seidel-Morgenstern, Robert Weismantel*
15:20-15:40	1360	Armin Fügenschuh	Mixed-Integer Nonlinear Problems in Transportation Applications *Armin Fügenschuh, Stefan Vigerske, Henning Homfeld, Hanno Schülldorf*
15:40-16:00	1060	Christoph Buchheim	Periodic Filtered Approximation by Quadratic Integer Programming *Christoph Buchheim, Alberto Caprara, Andrea Lodi*

Session MS11		MS11 — Optimization in Biomechanics and Biomedical Engineering	Room 02.3
Chair		Paulo Fernandes	
	ID	**Speaker**	**Title**
14:00-14:20	1061	Markus Probst	Shape Optimization in Support of the Design of Heart Assist Devices *Markus Probst*
14:20-14:40	1258	Luisa C. Sousa	Shape optimization of an artificial bypass graft using genetic algorithms *Catarina F. Castro, Luisa C. Sousa, Carlos C. António*
14:40-15:00	1374	Rui Ruben	Shape Optimization of Cemented Hip Implants *Rui Ruben, João Folgado, Paulo Fernandes*
15:00-15:20	1458	Jorge Belinha	Bone Remodelling Optimization using the Natural Neighbour Radial Point Interpolator Method *Jorge Belinha, Lucia Dinis, Renato Natal Jorge*
15:20-15:40	1390	Carlos Quental	Inverse dynamic analysis of the upper limb *Carlos Quental, João Folgado, Jorge Ambrósio*

Wednesday

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16:20 - 18:00

Session 1.14		Design Optimization	Room MA
Chair	A Nastase		
	ID	**Speaker**	**Title**
16:20-16:40	1084	Takeshi Sugimoto	Designing the optimum regulator for the bounding flight *Takeshi Sugimoto*
16:40-17:00	1100	Alexander Plakhov	Mathematical models of absolutely streamlining and retroreflecting bodies *Alexander Plakhov*
17:00-17:20	1274	Manuel Soler	Comparative Analysis of Commercial Aircraft Trajectory Performance *Manuel Soler, Alberto Olivares, Ernesto Staffetti, Daniel Zapata, Jesús Cegarra*
17:20-17:40	1436	Ludovic Martin	Exact Hessian for CFD optimization *Ludovic Martin*
17:40-18:00	1471	Jan Kolar	Aerodynamic Optimization of Supersonic Nozzle Exploiting Dynamic Meshes and Sensitivity Analysis *Jan Kolar, Vaclav Dvorak*

Session 1.15		Design Optimization	Room 02.1
Chair	Anton Evgrafov		
	ID	**Speaker**	**Title**
16:20-16:40	1051	Jose Vasconcellos	Multi-Objective Optimization using Genetic Algorithm or Nonlinear Goal Programming *Jose Vasconcellos*
16:40-17:00	1230	Chiuh-Cheng Chyu	Parallel Population Evolutionary Algorithms for the Time-Cost Trade-Off Relation Project Scheduling Problem *Chiuh-Cheng Chyu, Zhi-Jie Chen*
17:00-17:20	1321	Edna da Silva	Metamodeling for Global Optimization using Radial Basis Functions with Cross-Validation Adjustment of the Shape Parameter *Edna da Silva, Nelson Manzanares, Ramiro Ramirez*
17:20-17:40	1519	Gustavo Silva Semaan	A Parallel Approach to Resource-Constrained Task Scheduling Problem *Bruno Dembogurski, Edelberto Silva, Gustavo Silva Semaan*
17:40-18:00	1442	Gerhard Wilhelm Weber	Parameter Estimation for Semiparametric Models with CMARS and its Applications *Pakize Taylan, Fatma Yerlikaya-Özkurt, Gerhard Wilhelm Weber*

Session MS07.01		MS07 — Recent Developments in Inverse Problems and Optimization with Applications in Petroleum Engineering	Room 02.2
Chair		Andrew Conn	
	ID	**Speaker**	**Title**
16:20-16:40	1037	Albert Reynolds	SPSA and Other Non-Adjoint-Based Optimization Algorithms *Albert Reynolds, Gaoming Li*
16:40-17:00	1101	Mehdi Arjmand	Flash Zone Optimization of Benzene-Toluene-Xylene Fractionation Unit *Mehdi Arjmand*
17:00-17:20	1133	Bjarne Foss	Benefits and challenges of value chain optimization and dual control in the petroleum industries *Bjarne Foss*
17:20-17:40	1155	Louis Durlofsky	Use of Linearized Reduced-order Modeling and Pattern Search Methods for Optimization of Oil Production *Louis Durlofsky, Jincong He*
17:40-18:00	1509	Ulisses Mello	Production Optimization: Some Approaches and Challenges *Ulisses Mello*

Session MS06		MS06 — Free Material Optimization	Room 02.3
Chair		Anca-Maria Toader	
	ID	**Speaker**	**Title**
16:20-16:40	1055	Grzegorz Dzierzanowski	Optimal orientation of anisotropic material with given Kelvin moduli in FMO problems for plates and shells *Grzegorz Dzierzanowski, Tomasz Lewinski*
16:40-17:00	1122	Paulo Vieira	Finding the elastic coefficients of a damaged zone in a concrete dam using material optimization to fit measured modal parameters *Anca-Maria Toader, Sérgio Oliveira, Paulo Vieira*
17:00-17:20	1199	Sérgio Lopes	Properties of cost functionals in free material design *Cristian Barbarosie, Sérgio Lopes*
17:20-17:40	1527	José Herskovits	Solving minimum weight problems for 2D structures with thickness and material design variables *Miguel Aroztegui, José Herskovits*
17:40-18:00	1130	Frederique Trivaudey	Effect of frictional sliding on the unilateral damaged behaviour for Laminate Composite *Frederique Trivaudey, Violaine Guicheret -Retel, Mohamed Lamine Boubakar*

Thursday

September 9th, 2010

8:40 - 10:20

Session MS07.02		MS07 — Recent Developments in Inverse Problems and Optimization with Applications in Petroleum Engineering	Room MA
Chair		Andrew Conn	
	ID	**Speaker**	**Title**
08:40-09:00	1068	Bernardo Horowitz	Using Control Cycle Switching Times as Design Variables in Optimum Waterflooding Managament *Bernardo Horowitz, Silvana Maria Afonso, Carlos Mendonça*
09:00-09:20	1069	Silvana Maria Afonso	Water Flooding Management Through the Combination of Global and Local Optimization Strategies *Silvana Maria Afonso, Bernardo Horowitz, Leonardo Oliveira*
09:20-09:40	1113	Juliana Baioco	Application of Optimization Algorithms in Perforating Procedures of Oil Wells *Juliana Baioco, Carolina Seckler, Carl Albrecht, Beatriz Lima, Breno Jacob, Antônio Cláudio Soares*
09:40-10:00	1540	Lisbeth Torres	Kinematic Modeling of sedimentary basins in 2D using the Spectral Projected Gradient Method *Lisbeth Torres*

Session MS10.01		MS10 — Optimal approaches in electrical engineering	Room 02.1
Chair		Nadia Maizi	
	ID	**Speaker**	**Title**
08:40-09:00	1118	Vincent Mazauric	Dissipative processes in electrical engineering: a multi-scale approach *Vincent Mazauric, Nadia Maïzi*
09:00-09:20	1187	Zoran Andjelic	Controlled Optimization of Dielectric Problems in Electrical Engineering Design *Zoran Andjelic*
09:20-09:40	1475	Tan Pham	Brushless Permanent Magnet Motor Losses Minimization with Constraints in Perspective of a Life Cycle Assessment *Tan Pham*
09:40-10:00	1278	José París	Structural optimization of high tension towers *José París, Santiago Martínez, Fermín Navarrina, Ignasi Colominas, Manuel Casteleiro*
10:00-10:20	1268	Emin Fuad Kent	A New Equivalent Circuit Based FSS Design Method by using Genetic Optimization Algorithm *Emin Fuad Kent, Bora Doken, Mesut Kartal*

Session MS03.01	MS03 — Surrogate-and Knowledge-Based Optimization Procedures for Computationally Expensive Engineering Design Problems		Room 02.2
Chair	Slawomir Koziel		
	ID	**Speaker**	**Title**
08:40-09:00	1494	Victor Picheny	Noisy Expected Improvement and On-line Computation Time Allocation for the Optimization of Simulators with Tunable Fidelity *Victor Picheny, David Ginsbourger, Yann Richet*
09:00-09:20	1308	Lukas Haarhoff	The effect of more appropriate correlation function choices when creating Kriging surfaces for mathematical optimization *Lukas Haarhoff, Nico Wilke, Schalk Kok*
09:20-09:40	1008	Leifur Leifsson	Multi-Fidelity High-Lift Aerodynamic Optimization of Single-Element Airfoils *Slawomir Koziel, Leifur Leifsson*
09:40-10:00	1518	Adam Martowicz	Design optimization of multibody model of rail vehicle supported by Response Surface Method *Adam Martowicz, Piotr Kurowski, Tadeusz Uhl, Grzegorz Lasko*

Thursday

September 9th, 2010

10:40 - 12:40

Session 1.16		Design Optimization	Room MA
Chair		Silvana Afonso	
	ID	Speaker	Title
10:40-11:00	1121	Rafael Ferreira	Structural Optimization of a Composite Plate subjected to a Small Mass Impact *Rafael Ferreira, Maurício Vicente Donadon, José Antônio Hernandes*
11:00-11:20	1249	Michael Bruyneel	New developments in material parameterization for optimal fibers orientations in composite structures *Michael Bruyneel, Delphine Deltour, Pierre Duysinx, Tong Gao, Thibaut Schoonjans, Claude Fleury*
11:20-11:40	1294	Dimitri Bettebghor	Surrogate based bilevl optimization for laminated composite stiffened panels *Dimitri Bettebghor, Stéphane Grihon, Manuel Samuelides, Nathalie Bartoli, Joseph Morlier* Cancelled
11:40-12:00	1343	José Antônio Hernandes	A Two-Step Approach to Multi Spar Composite Vertical Empennage Structure Optimization *José Antônio Hernandes, Thiago Guimarães, Saullo Castro*
12:00-12:20	1566	Ildiko Merta	Cost Optimization of Reinforced Concrete Plates *Ildiko Merta, Stojan Kravanja*
12:20-12:40	1571	Romana Piat	Application of the micromechanical models for estimation of the optimal design of metal-ceramic composites. *Romana Piat*

Session MS10.02		MS10 — Optimal approaches in electrical engineering	Room 02.1
Chair		Arnaud Renaud	
	ID	Speaker	Title
10:40-11:00	1328	Marc Bordier	Optimal operation and sizing of a set of cogenerations *Nadia Maïzi, Marc Bordier, Ahmadou Thiam*
11:00-11:20	1388	Paolo Lazzeroni	Multi-objective study of a food-industry tri-generation system *Paolo Lazzeroni, Maurizio Repetto, Fabio Freschi, Luca Giaccone*
11:20-11:40	1407	Trong Bien Hoang	Comparison of two optimal approaches for the energy management of a thermodynamic solar micro plant *David Gualino, Trong Bien Hoang*
11:40-12:00	1413	Thang Vu	Distributed Storage for Rural Electrification by Micro-Grid *Thang Vu, Xavier Le Pivert, Christian Schaeffer*
12:00-12:20	1097	Michael Poss	Transmission Expansion Planning with Re-design *Michael Poss, Claudia Sagastizabal, Luciano S. Moulin*
12:20-12:40	1330	Mathilde Drouineau	Optimization of future power systems focusing on reliability of supply *Nadia Maïzi, Mathilde Drouineau, Vincent Mazauric*

Session MS03.02	MS03 — Surrogate-and Knowledge-Based Optimization Procedures for Computationally Expensive Engineering Design Problems		Room 02.2
Chair	Slawomir Koziel		
	ID	**Speaker**	**Title**
10:40-11:00	1048	Feruccio Bilich	Engineering Optimization Modelling *Feruccio Bilich*
11:00-11:20	1050	Mikhail Ignatyev	The Adaptational Maximum Phenomenon in Complex Systems *Mikhail Ignatyev*
11:20-11:40	1083	Yoshiaki Shimizu	An Integrated Systems Approach for Formulating Engineering Optimization Problems *Yoshiaki Shimizu*
11:40-12:00	1107	Stephan Pannier	Tailored metamodels for fuzzy reliability based optimization tasks *Stephan Pannier, Jan-Uwe Sickert, Wolfgang Graf, Michael Kaliske*
12:00-12:20	1507	Nils Hornung	Multi-objective optimization using surrogate functions *Nils Hornung, Lialia Nikitina, Tanja Clees*
12:20-12:40	1533	James Parr	Review of Efficient Surrogate Infill Sampling Criteria with Constraint Handling *Alexander Forrester, James Parr, Andy Keane, Carren Holden*

Thursday

September 9th, 2010

14:00 - 16:00

Session 1.17		Design Optimization	Room MA
Chair		B Horowitz	
	ID	**Speaker**	**Title**
14:00-14:20	1406	Claude Fleury	Buckling optimization of composite stiffened panels: some important issues *Michael Bruyneel, Claude Fleury, Benoit Colson, Alain Remouchamps*
14:20-14:40	1119	Christoph Tobias	Durability-based Structural Optimization with Reduced Elastic Multibody Systems *Christoph Tobias, Joerg Fehr, Peter Eberhard*
14:40-15:00	1132	Saartje Arnout	An optimal barrel vault design in the conceptual design stage *Saartje Arnout, Geert Lombaert, Geert Degrande, Guido de Roeck*
15:00-15:20	1380	Andres Tovar	Uniqueness in linear and nonlinear topology optimization and approximate solutions *Andres Tovar, Kapil Khandelwal*
15:20-15:40	1544	Jan Heczko	Optimization of linear and non-linear one-dimensional visco-elastic isolators for passive vibration control *Zuzana Dimitrovová, Jan Heczko, Helder Rodrigues*
15:40-16:00	1570	Victor Yepes	CO2 Optimization of Reinforced Concrete Cantilever Retaining Walls *Victor Yepes*

Session MS10.03		MS10 — Optimal approaches in electrical engineering	Room 02.1
Chair		Vicent Mazauric	
	ID	**Speaker**	**Title**
14:00-14:20	1525	Scheila Biehl	A new approach for power system load flow by trust region and filter multidimensional techniques. *Scheila Biehl, Geraldo da Costa*
14:20-14:40	1486	Hernando Durán	A Cooperative Game Theory Approach to the Allocation of Firm Energy of Hydro Plants *Federico Jaramillo Montoya, Hernando Durán, Angela Cadena, Fredy Martinez*
14:40-15:00	1450	Henrique Santos	Inclusion of Environmental Costs on a Long-Term Expansion Model of Hydrothermal Generation Systems *Henrique Santos, Luiz Fernando Legey*
15:00-15:20	1529	Juliana Lima	A MIP and a Randomized Approaches for computation of the Leastcore Allocation of Firm Energy Rights *Juliana Lima, Marcia Fampa, Sérgio Granville, Luiz Barroso, Mario Veiga*
15:20-15:40	1526	Arnaud Renaud	Decision-helping tools for long term investment in energy storage systems *Nicolas Omont, Florent Cadoux, Nicolas Bonnard, Arnaud Renaud*
15:40-16:00	1348	Nadia Maïzi	Power generation under post Copenhagen emission reduction pledges *Nadia Maïzi, Sandrine Selosse, Edi Assoumou*

Session MS03.03	MS03 — Surrogate-and Knowledge-Based Optimization Procedures for Computationally Expensive Engineering Design Problems		Room 02.2
Chair	Leifur Leifsson		
	ID	**Speaker**	**Title**
14:00-14:20	1009	Slawomir Koziel	Computationally efficient simulation-driven design optimization of microwave structures *Slawomir Koziel, Stanislav Ogurtsov, Leifur Leifsson*
14:20-14:40	1062	Malte Prieß	Surrogate-based Optimization of Biogeochemical Transport Models *Malte Prieß*
14:40-15:00	1091	Marcus Meyer	Fast forced response prediction using surrogate models *Marcus Meyer, Roland Parchem*
15:00-15:20	1227	Magnus Hofwing	Design of Experiments - A- D- I- S-optimality *Magnus Hofwing*
15:20-15:40	1250	David Lisk	Optimisation of Supersonic Projectiles using Adaptive Sampling of the Pareto Front *David Lisk, Theresa Robinson, Des Robinson*

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September 9th, 2010

16:20 - 18:00

Poster Session			
	ID	**Speaker**	**Title**
16:20-18:00	1007	Nickolay Banichuk	Optimal Punch Shape Under Probabilistic Data Concerning External Loading *Nickolay Banichuk, Svetlana Ivanova, Evgeniy Makeev, Francesco Ragnedda, Mauro Serra*
16:20-18:00	1023	Luiz Carlos Goes	Experimental Optimazation of Control Techniques to Design a Flexible Satellite Attitude Controler *Luiz Carlos Souza*
16:20-18:00	1032	Maria Arns Steiner	Performance Analysis of an Ant-Based Clustering Algorithm *Maria Arns Steiner, Rosangela Villwock, Pedro José Steiner Neto*
16:20-18:00	1049	Jan Taler	A New Procedure for Optimum Heating of Pressure Components with Complex Shape *Jan Taler, Piotr Dzierwa*
16:20-18:00	1078	João Oliveira	Asymptotic expansion homogenisation of topology optimisation unit-cells *João Oliveira, Joaquim Pinho-da-Cruz, Filipe Teixeira-Dias*
16:20-18:00	1087	Dawid Taler	Control of outlet fluid temperature in plate fin-and-tube heat exchangers *Dawid Taler*
16:20-18:00	1103	Jose Fonseca	Solving Any Nonlinear Problem with a Linear MILP Model *Jose Fonseca*
16:20-18:00	1104	Yoshiaki Shimizu	Multi-objective Analysis for Mixed-model Assembly Line Using Elite-induced PSA *Yoshiaki Shimizu, Akihiro Ohishi, Theerayoth Pralomkarn*
16:20-18:00	1111	Jan Taler	Computer System for On-Line Monitoring of Slagging and Fouling and Optimization of Sootblowing in Steam Boilers *Jan Taler, Marcin Trojan*
16:20-18:00	1142	Paolo Macelloni	Turbine blade profile optimization using soft-computing techniques *Paolo Macelloni, Carlo Cravedo, Giuseppe Briasco* Cancelled
16:20-18:00	1148	Bohdan Weglowski	Optimization of loads and geometry of thick-walled pipeline elements operating in creep conditions *Przemyslaw Osocha, Bohdan Weglowski*
16:20-18:00	1171	Victor Yepes	CO2 Optimization of Reinforced Concrete Cantilever Retaining Walls *Pere Villalba, Julian Alcala, Victor Yepes, Fernando Gonzalez-Vidosa*
16:20-18:00	1173	Anabela Tereso	A Multicriteria Decision Aid Software Application for selecting MCDA Software using AHP *Anabela Tereso, Cristina Seixedo*

Poster Session			
	ID	**Speaker**	**Title**
16:20-18:00	1211	Anabela Tereso	On the Multi-Mode, Multi-Skill Resource Constrained Project Scheduling Problem (MRCPSP-MS) *Anabela Tereso, Salah Elmaghraby, Mónica Santos*
16:20-18:00	1218	Nivaldo Coppini	Simulated Annealing Applied to Minimize the Idleness and Maximize the Contribution Margin for Generic Flexible Machining Cells *Nivaldo Coppini, Aparecida de Fátima Castello Rosa, André Felipe Henriques Librantz, Alexandre Augusto Martins Carvalho*
16:20-18:00	1233	Mahmoud Shakeri	Stacking Sequence Optimization of Laminated Cylindrical Shells for Buckling and Free Vibration Using Genetic Algorithm and Neural Networks *Ahmad Gharib, Mahmoud Shakeri*
16:20-18:00	1281	Anabela Tereso	Multiple Resources Allocation under Stochastic Conditions in Projects with Multimodal Activities *Anabela Tereso, Rui Moutinho, Salah Elmaghraby*
16:20-18:00	1285	Patrícia Paulo	Lamb-wave Damage Detection in an Aircraft Panel with Topology Optimization of Sensor Layout *Alexandra Gomes, Patrícia Paulo, Amol M. Khatkhate*
16:20-18:00	1324	Lizandro Santos	Bidirectional Wavelet-Based Adaptive Mesh Generation for Dynamic Optimization *Lizandro Santos, Argimiro Secchi, Evaristo Biscaia Jr.*
16:20-18:00	1338	Nivaldo Coppini	Bootstrapping Neural Network Regression Model for Milling Process Optimization in Industrial Environment *Fabio Pereira, Daniel Rosa, Nivaldo Coppini, Elesandro Antonio Baptista, Ademir de Oliveira*
16:20-18:00	1339	Anis Ben Abdessalem	Multi-objective optimization of tube hydroforming process by genetic algorithms *Anis Ben Abdessalem, Abdelkhlak El Hami, Abel Cherouat*
16:20-18:00	1344	José Antônio Hernandes	Comparison of free stacking sequence approach versus a predefined 0/+45/-45/90 sequence in a typical aircraft wing optimization *José Antônio Hernandes, Saullo Castro, Thiago Guimarães*
16:20-18:00	1345	Fabio Pereira	Population Diversity Control in Metaheuristic Techniques Using the Discrete Wavelet Transform *Fabio Pereira, Elenice Lopes*
16:20-18:00	1356	Sergio Mussati	Optimization Mathematical Model of the Cooling Process in Hard Candies *Sergio Mussati, Maria Reinheimer, Nicolás Scenna*
16:20-18:00	1357	Valdecir Bottega	Muscle Control Model for Postural Stabilization Based on State-Dependent Riccati Equation *Rejane Pergher, Valdecir Bottega, Alexandre Molter*
16:20-18:00	1359	Sergio Mussati	Equilibrium Stage Mathematical Model for the Optimization of Chemical Absorption of Carbon Dioxide into Monoethanolamine (MEA) Aqueous Solution *Sergio Mussati, Patricia Mores, Nicolas Scenna*

Thursday

September 9th, 2010

16:20 - 18:00

Poster Session			
	ID	**Speaker**	**Title**
16:20-18:00	1371	Juan Medina	Optimum design of viscoelastic structures subject to transient loads *Juan Medina, Andres Tovar, John Renaud*
16:20-18:00	1375	Lino Costa	A Global Optimization Stochastic Algorithm for Head Motion Stabilization during Quadruped Robot Locomotion *Lino Costa, Ana Rocha, Cristina P. Santos, Miguel Oliveira*
16:20-18:00	1385	Valeri Markine	Design Optimization using Approximations Based on High- and Low-Fidelity Models *Valeri Markine*
16:20-18:00	1400	Ramiro Gustavo Camacho	Optimization of the Rotors axial hydraulic turbines *Ramiro Gustavo Camacho, Eric Peres Peres*
16:20-18:00	1409	Daniel Tortorelli	Material Microstructure Optimization for Macroscopic Dynamic Response *Chau Le, Tyler E. Bruns, Daniel Tortorelli*
16:20-18:00	1428	Bo Wang	Efficient Eigensolution Reanalysis using sensitivity data *Bo Wang, Chandrashekhar Patadia*
16:20-18:00	1454	Asim Egemen Yilmaz	Chaos Particle Swarm Optimized PID Controller for the Inverted Pendulum System *Asim Egemen Yilmaz, O. Tolga Altinoz, Gerhard Wilhelm Weber*
16:20-18:00	1491	Chiuh-Cheng Chyu	Archived Simulated Annealing with Two-Phase Matching Improvement for Unrelated Parallel Machine Scheduling to Minimize Fuzzy Makespan and Average Tardiness *Chiuh-Cheng Chyu, Wei-Shung Chang, Ruei-Chi Li*
16:20-18:00	1499	Luciana Assis	Immune Algorithm Applied to the Vehicle Routing Problem with Simultaneous Pickup and Delivery *Vinicius Morais, Luciana Assis, Alessandro Vivas, André Luiz Maravilha*
16:20-18:00	1515	Mohadeseh Alsadat Sadat Shirazi	Multidisciplinary Design Optimization Space Launch Vehicle Using Particle Swarm Optimization *Parviz Moahammad Zadeh, Mojteba Hashemi, Hussain Darabi, Mohadeseh Alsadat Sadat Shirazi*
16:20-18:00	1522	Jorge Pérez Zerpa	Arterial mechanical properties characterization with an interior point algorithm *Jorge Pérez Zerpa, José Herskovits, Raul Antonio Feijóo, Pablo Javier Blanco*
16:20-18:00	1536	Sergio Mussati	Design of Combined Heat and Power Plant using MINLP model *Sergio Mussati, Juan Manassaldi, Nicolás Scenna*
16:20-18:00	1545	Elena Lacatus	Engineering Self-Assembly through Modeling Nanostructures *Elena Lacatus*

	Closing Session	MA
18:00	**Closing Session**	

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