8th International Summer School, AACIMP-2013

SUMMER SCHOOL – 2013

Achievements and Applications of Contemporary Informatics, Mathematics and Physics

National University of Technology of the Ukraine
Kyiv, Ukraine, August 1-17, 2013



National Technical University of Ukraine "KPI"
"Kyiv Polytechnic Institute"



Your way to success

13 Years EUROPT

EURO Working Group on Continuous Optimization

Gerhard-Wilhelm Weber

August 1-17, 2013
Kyiv, Ukraine

EUROPT

8th EUROPT Workshop
Advances in Continuous Optimization
Aveiro, Portugal,
July 9-10, 2010

July 9, 2010

Happy Birthday!

10 Years

EUROPT



Welcome to EUROPT's 10th Anniversary!

8th EUROPT Workshop on
ADVANCES IN CONTINUOUS OPTIMIZATION

July 9-10, 2010, Aveiro, Portugal

The EUROPT Workshop on "Advances in Continuous Optimization" is organized by the EURO Working Group on Continuous Optimization (EUROPT; http://www.iam.metu.edu.tr/EUROPT) as a satellite meeting before the EURO XXIV conference in Lisbon (http://www.euro2010lisbon.org/). The workshop covers all aspects of continuous optimization and will be hosted by the University of Aveiro. Aveiro is located about 60 km to the south of Porto.

PROGRAM COMMITTEE
- Marco Lopez (Chair, Universidad de Alicante, Spain)
- Domingos Cardoso (Universidade de Aveiro, Portugal)
- Emilio Carrizosa (Universidad de Sevilla, Spain)
- Joaquim Judice (Universidade de Coimbra, Portugal)
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- Florian Potra (University of Maryland Baltimore County, USA)
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- Claudia Sagastizabal (CEPEL - Research Center for Electric Energy, Brazil)
- Oliver Stein (Karlsruhe Institute of Technology, Germany)
- Georg Still (University of Twente, The Netherlands)

INVITED SPEAKERS
- Immanuel Bomze (University of Vienna, Austria)
- Mirjam Dür (University of Groningen, The Netherlands)
- Alexander Shapiro (Georgia Tech, USA)
- Tamas Terlaky (Lehigh University, USA)
- Luis Nunes Vicente (University of Coimbra, Portugal)
- Henry Wolkowicz (University of Waterloo, Canada)

IMPORTANT DEADLINES

Abstract Submission: May 10, 2010
Notification of Acceptance: May 20, 2010
Early Registration: May 31, 2010



ORGANIZING COMMITTEE
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- Tatiana Tchemisova (Co-chair, Universidade de Aveiro, Portugal)
- Miguel Anjos (University of Waterloo, Canada)
- Edite Fernandes (Universidade do Minho, Portugal)
- Vicente Nava (UNED, Spain)
- Juan Parra (Universidad Miguel Hernandez de Elche, Spain)
- Gerhard-Wilhelm Weber (Middle East Technical University, Turkey)

LOCAL COMMITTEE (University of Aveiro)
- Paula Carvalho, Joao Pedro Cruz, Jorge Sa Esteves, Carlos Luz, Agnieshka Malinovska, Enide Andrade Martins, Antonio Pereira, Paula Rama
- Secretariat: Agnieshka Malinowska (e-mail: europt2010@europt2010.com)

For all further details please refer to the workshop webpage

http://europt2010.com/

EUROPT is looking forward to welcoming you in Aveiro!

EUROPT CEOC

EUROPT

Aveiro 2010

EUROPT

History at one Glance







Tamas Terlaky



Tibor Illés

EUROPT

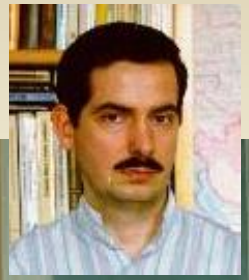
Honours











History at one Glance

- *1st EUROPT Workshop* 2000
  July 14-15, in Budapest, Hungary
  (http://www.cs.elte.hu/opres/IPM2000/workshop.html)

- *EURO XVII Conference* 2000
  July 16-19, in Budapest, Hungary
  (http://www.sztaki.hu/conferences/euro17/)

- *EURO-XVIII Meeting* July 9-11, 2001, in Rotterdam, The Netherlands
  (http://www.euro2001.org/)

- *2nd EUROPT Workshop* 2001
  July 12-13, in Rotterdam, The Netherlands
  (http://wwwhome.math.utwente.nl/%7Estillgj/snopt/index.html)






History Cont.





- *3rd EUROPT Workshop* 2003
  July 4-5, in Istanbul, Turkey
  (http://www.iam.metu.edu.tr/contopt03/conf/index.htm)
- *EUROPT/INFORMS Joint International Meeting* 2003
  July 6-10, in Istanbul, Turkey
  (http://www.istanbul2003.org/)





- *4th EUROPT Workshop* 2004
  July 2-3, in Rhodes, Greece
  (http://www.iam.metu.edu.tr/contopt04/index.htm)
- *EURO XX Conference* 2004
  July 4-7, in Rhodes, Greece
  (http://www.euro-rhodes2004.org/)





- *EURO Summer Institute XXII* 2004 á h LJ ű ǎ Y ǎ Î I· ű ǎ ƨ y I· y Ř
  July 9-25, in Ankara, Turkey
  (http://www.iam.metu.edu.tr/esi04/index.htm)
- *XX EURO Summer Institute*
  á { ű ƨ Ŏ K I· ă ű ǎ Ŏ I· y Ř I Ŝ dzNJ ǎ at the Baltics, Ŝ ű K ƨ Ř ă
  June 26 – August 6, 2002, in Neringa, Lithuania (http://www.science.



History Cont.

- *8th SIAM Conference on Optimization*
  May 15-18, 2005, Stockholm, Sweden
  (http://www.siam.org/meetings/op05/)
- *IFORS* 2005, July 11-15, 2005, in Honolulu, Hawaii
  (http://www.informs.org/Conf/IFORS2005/)
- *International Symposium on Health Informatics and Bioinformatics* 2005 and 2007
  November 10-12, and April 30 - May 2, Antalya, Turkey
  (http://hibit05.ii.metu.edu.tr/index.html)
- ISPRS 2005 *Spatial Data Mining Workshop*
  November 24-25, in Ankara, Turkey
  (http://www.sdm2005.metu.edu.tr/)










History Cont.









- *17th EURO Mini Conference 2005*
  June 29July 1, in Pecs, Hungary

  (http://www.cs.elte.hu/opres/Pecs05EUROmini/h_about.html)







History Cont.

- 3 Workshops on Societal Problems, Sustainable Living and 5 Şubat 2005 – 2007, in Ankara, Turkey



(http://www.iam.metu.edu.tr/EUROPT/workshop_program.doc, http://www.iam.metu.edu.tr/EUROPT/Workshop%20on%20Complex%20Societal%20Problems.doc)

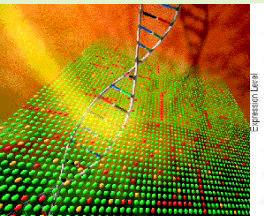
- Workshop on Geometric Morphometrics June 12-16, 2006, in Ankara, Turkey

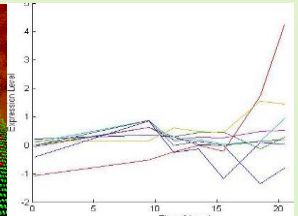
(http://www.metu.edu.tr/~aykut/)

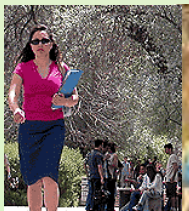
- Seminar – Her Çarşamba günü – Weekly – in the semesters, in IAM, METU, Ankara, Turkey

(http://www.iam.metu.edu.tr/research/groups/compbio/index.html)

















History Cont.







- *EURO XXI* 2006,
  July 2-5, 2006, in Reykjavik, Iceland
  (http://www.euro2006.org/)

- 5th EUROPT Workshop *Advances in Continuous Optimization*
  June 30 - July 1, 2006, in Reykjavik, Iceland
  (http://wwwhome.math.utwente.nl/~stillgj/COPT06/)

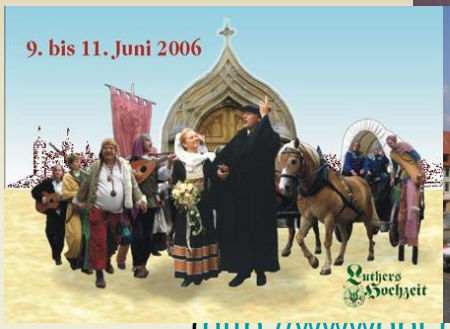






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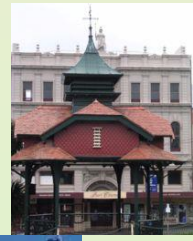




- *EUROPT Summer Institute 2006*, August 18 – September 2, 2006, in Lutherstadt Wittenberg, Germany (http://www.opt.mathematik.tu-darmstadt.de/events/esi2006/)



- *5th Ballarat Workshop on Global and Non-Smooth Optimization: Theory, Methods and Applications*, in Ballarat, Australia, November 28 – 30, 2006 (http://www.ballarat.edu.au/ard/itms/CIAO/Workshops/OTMA3.shtml)











History Cont.



- A *Joint EUROPT-OMS Meeting*
  2nd Conference on Optimization Methods & Software and
  6th EUROPT Workshop "Advances in Continuous Optimization"
  4-7, 2007, in Prague, Czech Republic
  (http://cio.umh.es/europt-oms/)

- *EURO XXII 2007*
  July 8-11, in Prague, Czech Republic
  (http://euro2007.vse.cz/)







History Cont.



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April 23-24, 2007, in Ankara, Turkey

(http://korezlioglu.iam.metu.edu.tr/korezlioglu/index.php/Previous_Workshop_Seminar_Series)



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April 25-26, 2008, in Ankara, Turkey

(http://korezlioglu.iam.metu.edu.tr/korezlioglu/index.php/Main_Page)









History Cont.







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Sustainable Living and Ŝ Ø Ŝ ť ƨ LJ Y Ŝ y ú
May 13-16, 2008, in Ankara, Turkey

(http://www.iam.metu.edu.tr/EUROPT/poster%20Workshop%20Complex%20Societal%20Problems,%20Sustainable%20Living%20and%20Development.pdf)

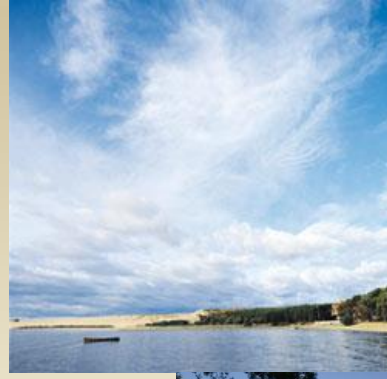


ω *International Workshop on Hybrid Systems: Modelling, Simulation and Optimization;*
May 14-17, 2008, in Istanbul, Turkey
(http://portal.ku.edu.tr/~systemslab/hs)





History Cont.





- *EURO Mini Conference*
  "Continuous Optimization and Knowledge-Based Technologies"

  May 11-16, 2008, in Neringa, Lithuania
  (http://www.mii.lt/Europt-2008)







History Cont.




- *EngOpt 2008 – International Conference on Engineering Optimization*, June 1 – 5, 2008, in Rio de Janeiro, Brazil

  (http://www.engopt.org/)






- *International Conference on Power Control Optimization;* July 18 – 20, 2008, in Chiang Mai, Thailand

  (http://www.engedu2.net/)






- *Mini EURO Conference on Computational Bioinformatics and Biology, Medicine*, September 15 – 17, 2008, in Rome, Italy

  (http://www.iasi.cnr.it/iasi/RomeConference/index.php)






History Cont.





- *"Achievements and Applications of Contemporary Informatics, Mathematics and Physics"* (ACIMP-2008), August 11-24, 2008, in Kyiv, Ukraine (http://summerschool.ssa.org.ua/index.php?option=com_frontpage&Itemid=1)



- *IFORS 2008, 18th Triennial Conference of the International Federation of Operational Research Societies*, July 13-18, 2007, in Sandton, South Africa (http://www.orssa.org.za)



- *IFIP TC8/WG8.3 Working Conference*
  July 1-4, 2008, in Toulouse, France (http://www.irit.fr/CDM08/)



- *The Kerkenes Dag Project*, October 12, 2008, in Yozgat, Turkey (http://www.iam.metu.edu.tr/EUROPT/08kerk18octprog.doc)

- *Workshop on Game Theory*, January 30, 2009 in Ankara, Turkey (http://www.iam.metu.edu.tr/EUROPT/Workshop.pdf)



History Cont.













- *EURO XXIII 2009*,
  July 5-8, 2009,
  Bonn, Germany
  (http://www.euro-2009.de/)
- *7th EUROPT Workshop*
  Advances in Continuous Optimization,
  July 3-4, 2009, Remagen, Germany
  (http://www.rheinahrcampus.de/Home.europt2009.0.html)
- A EURO ORD Workshop on
  OR for Developing Countries,
  Young Researchers and PhD Symposium,
  July 4, 2009, Remagen, Germany

(http://www2.ing.puc.cl/~fcrespo/eurofdv/Bonnconference/homepage.htm)



History Cont.

- *State of the Art Workshop: Mutual Session of Special Researchers of several EURO Working Groups, OR and Development, Ethics, Decision Making, Methodology of Societal Complexity and Others*; July 5, 2009, in Remagen, Germany (http://www.euro-2009.de/workshops.php)





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- Å *ICCAM 2009 ï 14th International Congress on Computational and Applied Mathematics*; September 29 ï October 2, 2009, in Antalya, Turkey (http://www.iccam2009.net/)

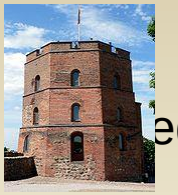





History Cont.

- *Mini EURO Conference*

  Knowledge-Based Technologies and OR Methodologies for Decisions of Sustainable Development (K-2KSD); September 30 – October 3, 2009, in Vilnius, Lithuania
  (http://www.mii.lt/korsd-2009)



- *3rd Global Conference on Power and Optimization*, February 2 – 4, 2010, in Gold Coast, Australia
  (http://www.engedu2.net/)





- *ALIO/INFORMS Joint International Meeting*, Buenos Aires, Argentina, June 6 – 9, 2010
  (http://meetings2.informs.org/BuenosAires2010/)






- *Mini EURO Conference EurOPT 2010*

  Continuous Continuous and Information-Based Technologies in the Financial Sector, June 23 – July 26, 2010, in Izmir, Turkey
  (http://cs.ieu.edu.tr/europt-2010/)









History Cont.



- *EURO XXIV 2010*
  - 2010, in Lisbon, Portugal

  (http://euro2010lisbon.org/) and *3 Satellites*

- *8th EUROPT Workshop* *10 Years EUROPT*
  - July 9-10, 2010, in Aveiro, Portugal

  (http://europt2010.com/)



- *9th EUROPT Workshop*
  - July 8-9, 2011, in Ballarat, Australia



(http://guerin.ballarat.edu.au/ard/itms/CIAO/Workshops/EUROPT2011/index.shtml)

- *IFORS 2011*, July 10-15, 2011,
  - Melbourne, Australia (http://www.ifors2011.org/)



History Cont.








- *EngOpt 2010 – International Conference on Engineering Optimization;*
  Lisbon, Portugal, September 6 – 9, 2010 (http://www.engopt2010.org/)

- *4th and 5th Global Conference on Power and Optimization;*
  Sarawak, Borneo, Malaysia, December 2 – 4, 2010
  Dubai, UAE, June 30 – 1 July, 2011 (http://www.pcoglobal.com/)

- *The 10th EUROPT Workshop on Advances in Continuous Optimization*
  Šiauliai, Lithuania, July 5 – 7, 2012

- *EURO XXX 2012;*
  Vilnius, Lithuania, July 8 – 11, 2012
  (http://www.euro-2012.lt/)











History Cont.





Recent and Future Events



CALL FOR PAPER WWW.PCOGLOBAL.COM

The Seventh Global Conference on Power Control & Optimization PCO 2013

Organizing Committee

Nader Barsoum, Australia
Pandian Vasant, Malaysia
Ivan Zelinka, Czech Republic
Zeya Oo, Myanmar
Kenneth Teo Tze, Malaysia
Roman Senkerik

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Pho Kaung, Myanmar
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Khin Mar Kyu, Myanmar
Thet Naing, Myanmar
Hla Toe, Myanmar
Than Than Win, Myanmar
Win Kyaw, Myanmar
Aye Aye Thant, Myanmar

Welcome to PCO 2013

It is our great pleasure to announce the seventh Global Conference on Power Control and Optimization PCO 2013, which will be held in three different cities with different dates. Prague, Czech Republic 25-27 August, Kota Kinabalu (KK), Malaysia 7-9 October, and Yangon, Myanmar 2-5 December 2013. The conference is technically sponsored by Springer, Elsevier, Inderscience and AIP, and organized by the PCO Corporation (IPO285080), Malaysia 2008 with Charles University, University Malaysia Sabah, and Yangon University. The scope of the conference is contemporary and original research and educational development in the area of electrical power, control systems, computation, nanoscience, communications, biomedicine, and methods of optimization. The Topics of the conference include, but are not limited to, the following:

- Hybrid energy saving and biotechnology
- Future energy planning and the environment
- Power systems, protection and reliability
- Scheduling, distribution and chaos
- Micro-grids, bond graph theory and stability
- Controllers, drives and machine design
- Smart systems, mechatronics and robotics
- Nano physics, NEMS and MEMS
- Simulators and software engineering
- Soft computing and computational intelligence
- Fuzzy and hybrid optimization
- Healthcare, bioinformatics, signal processing
- Body sensors, monitoring and medical devices
- Artificial immune systems and neural networks
- Game theory and continuous optimization
- Evolutionary algorithms and economics
- Operational research and management
- Industrial Informatics and planning
- Production design and rough sets
- Line searches, pattern and decision making
- Mobile and wireless communications
- Cloud networks and real-world energy efficient
- Scheduling and assignment problems
- Engineering education, teaching and learning
- Cams, gears and valve optimization
- Civil structures and micro-transportation

Prospective authors from universities or institutes and industries are invited to submit an abstract and paper by email before the deadline. Papers should be submitted electronically, formatted in MS-Word, as per the PCO guidelines. All papers submitted before the deadline will be peer reviewed by independent specialists following guidelines similar to AIP. The PCO-13 proceeding will be published online by American Institute of Physics. Selected papers will be published by Elsevier, Springer, InderScience, Taylor Frances or GJTO.

Tutorial/Special Sessions/Workshop

Proposal for holding tutorials/special sessions, and workshop are invited from prospective authors, industrial bodies and academicians and should be sent to the conference Chair. The program committee is currently looking for financial sponsors from academia, industry, publishers, and professional bodies.

Important Dates

Submission of abstract:	Prague 31/3, KK 5/7, Yangon 5/9
Notification of abstract acceptance:	Prague 13/4, KK 20/7, Yangon 20/9
Submission of full Paper:	Prague 28/4, KK 5/8, Yangon 5/10
Notification of full paper acceptance:	Prague 31/5, KK 20/8, Yangon 20/10
Camera-ready Paper:	**Prague 23/6, KK 5/9, Yangon 31/10**
Early Registration with Full Payment:	**Prague 5/7, KK 5/9, Yangon 31/10**

Conference Fee

The early registration fee is 350 Euro for Prague, 350 US dollar for KK, and 300 US dollar for Yangon, for all participants, while late registration is 150 more in related currency. This includes attendance for the three days of the Conference, a program booklet, CD proceedings, lunches, tea breaks, and banquet dinner. The fee is discounted by 150 of the same currency for students or those accompanying a participant. The registration form must be submitted before the deadline to: **pcoglobal@gmail.com.** Each accepted abstract or paper must be presented by one of the authors after paying the necessary fee.

Technical Sponsors

AIP INDERSCIENCE PUBLISHERS SpringerLink EUROPT

Tel: 605 3711416, 6085 443821, Email: pcoglobal@gmail.com, Website: www.pcoglobal.com



VIII Summer School
"Achievements and Applications of Contemporary Informatics, Mathematics and Physics"
(AACIMP – 2013)

August 1—17, 2013, Kyiv (Ukraine)

http://summerschool.ssa.org.ua

Summer School "Achievements and applications of contemporary informatics, mathematics and physics"(AACIMP-2013) is a unique scientific-educational project, which has been successfully carried out for 8 years by Student Science Association of National Technical University of Ukraine "Kyiv Polytechnic Institute".

➢ Educational program of AACIMP-2013. The Educational program of the School is presented with 3 streams "Operational Research", "Applied Computer Science" and "Neuroscience":

- **Operational Research.** Participants of the stream will learn how Operational Research specialists use mathematical models to provide better decision making in real problems of business, government and society.
- **Applied Computer Science.** Being a participant, you will learn about the most effective machine learning and artificial intelligence techniques and acquire practical know-how needed to quickly and powerfully apply those techniques to solve new problems.
- **Neuroscience.** The stream includes broad range of topics from subcellular level to cognition and social behaviour considered mainly from computational point of view. It provides all required information to understand biological bases of modelled processes.

➢ Tutors of AACIMP-2013 are the scientists from universities of Germany, USA, UK, France, Italy, Turkey, Japan, Sweden, Ukraine, Russia, Hungary, Czech Republic, Estonia and the leading specialists of the world largest companies. The participants of the Summer School have the possibility to find out today what the rest of the world will know only tomorrow.

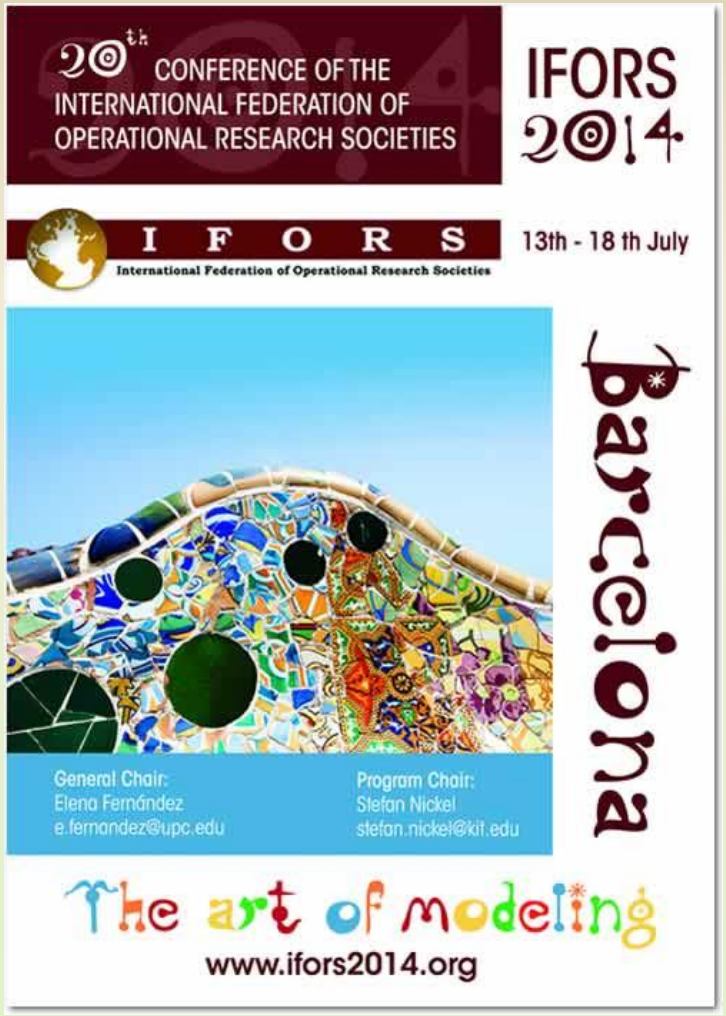
➢ Social program of AACIMP-2013 involves a wide range of social activities to provide additional opportunities for out-of-school discussions. What is more, participating in the AACIMP social events, you will find out more about Ukrainian traditions, culture and history. Be sure, your staying in Kyiv during AACIMP will be fascinating and grant you unforgettable memories.

➢ Registration. To participate you have to fill in an application form on the AACIMP-2013 website (summerschool.ssa.org.ua).

- Early registration – **until May 1.**
- Late registration – **until June 1.**

Recent and Future Events





The 11th EUROPT Workshop on Continuous Optimization; Florence, Italy, June 26-28, 2013

Recent and Future Events



EURO
The Association of European Operational Research Societies

CIDMA

EUROPT

dmat

and various further events!

Collaborators

small selection



EURO WG on Complex Societal Problems

EURO WG ñOR in Comput. Biology and Bioinform

EURO WG ñOR for Development

The Pacific Optimization Research Activity Group

METU Department of Industrial Engineering

METU SFL Department of Modern Languages

Members

- International
- Interdisciplinary
- Young

ω *More than* 1100 *members*

ω *from* 62 *countries*

ω EUROPT has members from almost all *European* countries including:

Austria, Armenia Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Israel, Italy, Lithuania, Moldava, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, TRNC, the United Kingdom and Ukraine

Trans-continental members are from

Algeria, Australia, Brazil, Cameroon, Canada, Chile, China, Colombia, Cuba, Gambia, India, Iran, Japan, Jordan, Kazakhstan, Malaysia, Mexico, Morocco, New Caledonia, New Zealand, Nigeria, Oman, Singapore, South Africa, Sudan, the USA and Vietnam.

2 New EURO WGs prepared

ω *EURO Working Group*
ǿOR in Computational Biology Bioinformatics and Medicineɛ́

ω *EURO Working Group*
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since EURO XXI 2006

in Reykjavik, Iceland

Numerous Special Issues





- *EJOR*
- *CEJOR*
- *MMOR*
- *Optimization*
- *OMS*
- *TOP*
- *INFORMATICA*
- *ISI Proceedings*
- *and others*

INFORMATICA