



Activities of
EUROPT
EURO Working Group on Continuous Optimization
in 2005 and 2006

1 Introduction

EUROPT, Continuous Optimization Working Group of EURO (*EUROPT WG*), has been founded at IPM2000 Workshop in Budapest, Hungary, July 2000. That workshop was a satellite event of the EURO-XVII Conference. At these days, there were about 50 founding members. In the sequel of our first workshop, EUROPT had three further workshops: workshop Smooth and Nonsmooth Optimization, Theory and Applications, in Rotterdam, The Netherlands, July 2001, before EURO XVIII, then Workshop on Advances in Continuous Optimization, in Istanbul, Turkey, July 2003, before the 5th EURO/INFORMS Joint International Meeting 2003, and Workshop on Challenges of Continuous Optimization in Theory and Applications, July 2004, before EURO XX. Still in July 2004, we enjoyed EURO Summer Institute “Optimization and Data Mining” in Ankara, while in June-July 2005, we celebrated 17th EURO Mini Conference “Continuous Optimization in the Industry”. As it will be described in the following, that 17th EURO MC 2005 were a main scientific event of our previous EUROPT year 2005. What is more, we were also coorganizers of both “Workshop on Sustainable Living in Rural Areas of Turkey” and of ISPRS 2005 “Spatial Data Mining Workshop” which took place in Ankara in November 2005. Finally, in 2005, EUROPT proposed two new EURO working groups, namely, EURO WG “Operational Research for Development” and EURO WG “Computational Biology and Bioinformatics”. Both became accepted by EURO Executive Committee. Workshop on “Sustainable Living in Rural Areas of Turkey” held in March 2005, and further activities explained below complete the spectrum of our engagement. Now, in the middle of March 2006, our group EUROPT has **466 members**. Please find many interesting data, information and invitations at our EUROPT homepage <http://www.iam.metu.edu.tr/EUROPT/>.

2 Activities in 2005

In 2005, there was one big and one small highlight event which EUROPT coorganized:

- (a) 17th EURO Mini Conference “*Continuous Optimization in the Industry*”, Pécs, Hungary, June 29 - July 1, 2005;
- (b) *Workshop on “Sustainable Living in Rural Areas of Turkey”*,

Ankara, Turkey, March 7-11, 2005;

- (c) ISPRS 2005 “*Spatial Data Mining Workshop*”, Ankara, Turkey, November 24-25, 2005; and
- (d) “*Seminar on Computational Biology and Medicine*” (weekly seminar) METU, Ankara;

we gave different contributions in the organization to

- (e) SIAM Conference “*Optimization*”, Stockholm, Sweden, May 15-19, 2005;
- (f) *IFORS 2005*, Hawaii, July 11-15, 2005;
- (g) *International Symposium on Health Informatics and Bioinformatics, Turkey ‘05 (HIBIT)*, Belek – Antalya, Turkey, November 10-12, 2005;

we finalized two special issues of European Journal of Operational Research (EJOR), namely,

- (h) *EJOR Special Issue “Optimization in Data Mining”* and
- (i) *EJOR Special Issue “Challenges of Continuous Optimization in Theory and Applications”*;

and EURO Executive Committee accepted EUROPT’s proposals we made for two new EURO working groups.

- (j) *EURO WG “Operational Research for Development”* and
- (k) *EURO WG “Computational Biology and Bioinformatics”*.

As further efforts, we maintained and offered

- (l) *EUROPT Homepage* and
- (m) *EUROPT Newsletter* by E-Mails.

2.a 17th EURO Mini Conference

Since there has been no EURO Conference in the last year 2005 and, hence, no conference accompanying workshop of *EURO Working Group on Continuous Optimization (EUROPT, <http://www.iam.metu.edu.tr/EUROPT/>)*, we from EUROPT decided and applied at *Association of European Operational Research Societies (EURO, <http://www.euro-online.org/>)* for holding a mini conference, together with *Hungarian Operations Research Society (HORS, <http://www.hors.hu/>)* and with *University of Pécs (<http://english.pte.hu/htmls/index.php>)*. That EURO responded to this application so positively is a sign for confidence and a common vision. This board of organizing groups and institutions later on also *Gesellschaft für Operations Research e.V.* which is *German OR Society (GOR, <http://www.gor-ev.de/>)* joined. GOR has also been a friend and supporter of EUROPT over all the years. May this small report serve as an expression of gratitude and of hope with all its partners and, hereby, with EURO firstly!

Our special EUROPT activities' geographical focus of the last two years 2003-2004 having been more in the direction of South East Europe – in Greece (Rhodes) and Turkey (Istanbul and Ankara), now, with our 17th EURO Mini Conference (EURO MC) “*Continuous Optimization in the Industry*“, June 29 - July 1, 2005, in Pécs, Hungary (http://www.cs.elte.hu/opres/Pecs05EUROmini/h_about.html) we went into the middle of Europe, a region connected with a changeful historical characteristic and experience and promising a particular hospitality and charme. These promise became more than justified and fulfilled by the inviters! Hungary has been the host country of the millennium year 2000's EURO Conference; there, in Budapest, also the cradle of EUROPT stood. In this way, our EURO MC 2005 at the same time became the celebration of the 5th birthday of EUROPT – half a decade: a Cordial Congratulation! Since then our group grew strongly!

Those charme and impulse aim at entire Europe, especially, the countries of the East and South East of our continent. The Magyars themselves became members of the occidental culture and peoples family about 1000 years ago. Hungary is a country of Middle Europe which experienced the ups but also the downs of occupation und loss of territories. All that means a heritage today, a potential for itself and its neighbours and refers itself and us to a coming time of collaboration and community. Once Pécs with its many German settlers was also called *Fünfkirchen*. In the way the city looks today, also an Ottoman heritage can be found, for example, there is a former mosque which today serves as a Catholic church building.

The mini conference took place in the pleasant atmosphere of medieval University of Pécs which in those three days hosted guests from all over the world. The organizers were able to welcome 53 registered participants from 17 countries - from Europaen ones: Austria, Croatia, Denmark, Germany, Hungary, the Netherlands, Portugal, Romania, Spain, Turkey, and Israel and South Africa (both being EURO countries) as well as countries from overseas: Australia, Brazil, Canada, Singapore and the USA. For all these friends and for a better success of our EURO MC, in the 3/4 year before our event German OR entered the board of organizing institutions and groups – I would like to say: of the hosts! GOR became a sponsor of 17th EURO MC in Pécs. This collaboration and community became well represented and expressed by tags, by various speeches and sympathy addresses also. This sponsorship was not of a financial nature only but consisted in the membership of several GOR members in organizing committee (OC) or program committee (PC) and in the active participation of German colleagues. What is more: both national OR societies GOR and HORS at the occasion of this special events decided about and then prepared a **partnership** which is a framework for further Hungarian-German – *international* and *EUROpean* - activities in future. A compliment to GOR and HORS and to their executive committees, in particular to the presidents *Prof. Dr. Gerhard Waescher* and *Prof. Dr. László Szeidl!*

After at the evening of June 28, the eve before the conference, there was a first informal getting together with meeting again and getting to know each other, at the morning of June 29, the official part began with different speeches: of the PC and OC chairs, *Prof. Dr. Tamás Terlaky* (McMaster University, Hamilton, Canada) and *Prof. Dr. Jozsef Vörös* (University of Pécs, Hungary), and of vice coordinator of EUROPT, *Prof. Dr. Gerhard-Wilhelm Weber* (Middle East Technical University, Ankara, Turkey) as well. The following introductory lecture as given by the first invited speaker, *Prof. Dr. Aharon Ben-Tal* (Industrial Engineering and Management, Technion, Haifa, Israel), one of the early and longtime advocate of industrial-technological applications of continuous optimization in the community of OR. Professor Ben-Tal who also has worked on the field of robust optimization, talked about the treatment of nonconvex problems. By the excellent interest in participation, the large number of high level presentations accepted by the committees and besides the invited lectures, during

the three conference days there always were two parallel sessions of contributed talks from areas of *Applications*, *Stochastic Programming*, *Modelling* and *Mathematical Programming*. By this rich offer, application fields from, e.g., car industry, chemical engineering, biotechnology or production planning could be competently treated. At the conference, however, there also were more “classical“ contributions to optimization theory such as from linear and multi-objective optimization or from saddle point problems.

In his invited lecture, *Dr. Erling D. Andersen* (MOSEK APS, Copenhagen, Denmark) who with his brother is carrying on a company developing and offering a software package in continuous optimization, gave a valuable insight into practical industry applications, into their challenges and chances. By this and by a rich and illustrative review about *five years EUROPT* held by G.-W. Weber, the first conference day concluded ... but not completely: The reception in the nice and solemn atmosphere of town hall where representatives of University of Pécs honoured us and gave samples of the very good Hungarian kitchen and hospitality, will stay in the remembrance of all participants very long.

The next – our second conference day, was encompassed by invited lectures. On the one hand, *Prof. Dr. Hans Georg Bock* (IWR, University of Heidelberg, Germany), a German colleague renowned in the theme field of our EURO MC, taught about direct optimization methods for real-time computation in optimal “closed-loop“ control and on recent applications. On the other hand, with *Prof. Dr. Dick den Hertog* (Operations Research, University of Tilburg, The Netherlands) another friend of international OR talked. Indeed, in the year 2004 he was among the organizers of “*Operational Research 2004 – International Conference*“, common annual meeting of Dutch and German OR societies (September 1-3, 2004, Tilburg, The Netherlands). His presentation on simulation, approximation and optimization revealed a wealth of modern applications also.

Having learned the city of Pécs in the days before, at that evening then we went into the countryside of Pécs, a wonderful hilly and, as one says in Hungary, Mediterranean landscape – Croatia and Adriatic Sea are not so far - and there is winegrowing. By the way, also German settlers had their earnings in introduction and cultivation of those famous grapes. Tasting the “juice of vine“ and learning the corresponding cuisine further was a main attraction at the destination of our excursion, a wine cellar. In this conference dinner with its special ambience, addresses were given which expressed what was touching everyone: gratefulness for the so carefully made preparations, attachment among the participants independently from their home countries, and a common hope! Then, it will also be possible in European family of peoples to overcome existing misunderstandings and, partially, to defuse discordances. And at this evening with a glass of red and white wine, we all were “Hungarians“.

The third and last day concluded the conference with further interesting presentations, in the parallel sessions and in the main lectures as well. Those special ones were held by the two invited speakers *Prof. Basil L. Joffe* (Aspen Technology, Inc., Houston, USA) and *Prof. Kathryn E. Stecke* (Operations Management, University of Texas at Dallas, USA). While Prof. Joffe reported about important applications of global optimization in refinery planning, Prof. Stecke draw a wide framework on mathematical modelling of modern industrial problems.

All these instructive and inspiring presentations were so valuable, and likewise were the numerous conversations about the various opportunities, also about EUROPT, the common future projects including our collaboration with EURO, with GOR and HORS. Indeed, there is a possibility and readiness for a common annual meeting of the two national OR societies of Germany and Hungary. The closer decision depends on them and their scientific calendars.

The joy of G.-W. Weber about the great potential of bilateral collaboration within of EURO became even larger when he journeyed on to Szeged and participated at valuable *13th Summer School on Image Processing* (June 30 – July 9, 2005, Szeged, Hungary; see also <http://www.inf.u-szeged.hu/~SSIP/2005/index.html>), a scientific field which in these days also feels close to continuous optimization, to OR, its European family EURO and its working groups, e.g., EUROPT, and which sees perspectives for mutual exchange with them. A very special summer school will also be our *ESI 2006, EURO Summer Institute 2006 “Optimization Challenges in Engineering: Methods, Software and Applications”* (cf. Subsection 3.c). In the town of Martin Luther, GOR, EUROPT and EURO will work together (for closer information cf. <http://wwwopt.mathematik.tu-darmstadt.de/events/esi2006/>).

Some weeks later, our application for a special issue *Continuous Optimization in the Industry* by **EJOR**, *European Journal of Operational Research*, at the occasion of our 17th EURO MC became accepted by EJOR. This is a great honour for us! Sincere thanks to EJOR, especially, to *Prof. Dr. Jacques Teghem* (Université Libre de Bruxelles, Belgium; corresponding editor-in-chief), and to the guest-editors: *Prof. Dr. Tibor Illes* (Eötvös Loránd University of Sciences, Budapest, Hungary) who served very well for the conference preparations, *Prof. Dr. Marco Lopez* (University of Alicante, Spain), *Prof. Dr. Tamás Terlaky* (McMaster University, Hamilton, Canada), *Prof. Dr. Jozsef Vörös* (University of Pécs, Hungary) together with *G.-W. Weber*. Please find the Call for Papers under [http://www.iam.metu.edu.tr/EUROPT/EURO%20MC%20-%20EJOR%20special%20issue%20\(EUROPT\).doc](http://www.iam.metu.edu.tr/EUROPT/EURO%20MC%20-%20EJOR%20special%20issue%20(EUROPT).doc). This will be our group EUROPT’s six special or feature issue.

Boards and Lists

The **Program Committee** consisted of:

- T. Terlaky (McMaster University, Hamilton, Canada; *Chair*),
- F. Bonnans (INRIA, France),
- H. Frenk (Erasmus University, Rotterdam, The Netherlands),
- F. Friedler (University of Veszprém, Veszprém, Hungary),
- F. Gianessi (Pisa, Italy),
- F. Jarre (University of Düsseldorf, Germany),
- B. Karasözen (METU, Ankara, Turkey),
- J. Kolumbán (Babes-Bolyai University, Cluj, Romania),
- M. Lopez (Alicante, Spain),
- K. Madsen (T.U. Denmark, Denmark),
- A. Nemirovski (TECHNION, Haifa, Israel),
- T. Rapcsák (MTA SZTAKI, Budapest, Hungary),
- F. Rendl (Klagenfurt, Austria),
- J.-Ph. Vial (Geneva, Switzerland).

The members of **Organizing Committee** were:

- J. Vörös (University of Pécs, Hungary; *Chair*),
- Zs. Csizmadia (Eötvös University, Budapest, Hungary),
- T. Illés (Eötvös University, Budapest, Hungary),
- S. Komlósi (University of Pécs, Hungary)
- J. Pintér (PCS Inc & Dalhousie University, Halifax, Canada),
- T. Takács (Eötvös University, Budapest, Hungary),

- T. Szántai (BME, Budapest, Hungary),
- L. Szeidl (University of Pécs, Hungary),
- G.-W. Weber (METU, Ankara, Turkey).

Our ***Invited Speakers*** were:

- E.D. Andersen (MOSEK APS, Copenhagen, Denmark),
- A. Ben-Tal (Industrial Engineering and Management, Technion, Haifa, Israel),
- H.G. Bock (IWR, University of Heidelberg, Germany),
- D. den Hertog (Operations Research, University of Tilburg, The Netherlands),
- B.L. Joffe (Aspen Technology, Inc., Houston, USA) and
- K.E. Stecke (Operations Management, University of Texas at Dallas, USA).

The ***Scientific Program*** can be found under:

http://www.cs.elte.hu/opres/Pecs05EUROmini/h_sprogram.html .

2.b Workshop on “Sustainable Living in Rural Areas of Turkey”

At the occasion of the visit by *Dr. Dorien DeTombe* (University of Amsterdam, The Netherlands) who is the Chair of *International and EURO Working Group on Complex Societal Problems* and a member of EUROPT, at Institute of Applied Mathematics of METU, was celebrated at March 7-21, 2005. This workshop took place in the line of fruitful collaboration between the two working groups. Dr. DeTombe supported us a lot in 2003 in our application for EURO Summer Institute “Optimization and Data Mining” (Ankara, July 9-25, 2004), members of both groups did common research and publication in the context of “*Balaban Valley Project*” on sustainable living, the improvement of living conditions on Turkish rural countryside, and a number of members of both groups are founding members of the group YORC, “*Young People for Operational Research in Developing Countries*”, and the new EURO Working Group “Operational Research for Development”.

The workshop’s program consisted of invited and contributed talks, of the Forum “Discussion of the Methodologies of the Workshop by all Participants”, meeting and utilization of the modern facilities of “Intelligent Class” of METU, and Expert Meeting held there, a visit of Hisarköy (a village in Balaban Valley) and meeting with actors of Balaban project.

The members of ***Organizing Committee*** were:

- D. DeTombe (University of Amsterdam, The Netherlands),
- A. Gökmen (Dept. of Chemistry, METU, Ankara, Turkey),
- I. Gökmen (Dept. of Chemistry, METU, Ankara, Turkey),
- B. Karasözen (IAM, METU Ankara, Turkey) and
- G.-W. Weber (IAM, METU, Ankara, Turkey).

The table of ***Organizing Institutions and Working Groups*** contained:

- Balaban Valley Group, METU, Ankara,
- Institute of Applied Mathematics (IAM), METU, Ankara,
- Research Group on Computational Biology and Medicine, IAM, METU, Ankara,
- EURO Working Group on Complex Societal Problems and
- EUROPT.

Our *Invited Speakers* was:

- o D. DeTombe (University of Amsterdam, The Netherlands).

The *Scientific Program* can be found under

<http://www.iam.metu.edu.tr/EUROPT/workshop-program.doc> .

The organizers and all participants, representatives of university life, village people, members of further public or private institutions and helping organizations very much hope that by *Workshop on “Sustainable Living in Rural Areas of Turkey”* we gave a valuable contribution and impulse to the life of less privileged people, and to the scientific calendar and future work in *EURO*.

2.c ISPRS 2005 “Spatial Data Mining Workshop”

Workshop on Spatial / Spatio-Temporal Data Mining (SDM) and Learning (with Special Emphasis on Using SDM Techniques in Remote Sensing and GIS) took place at Middle East Technical University (METU), Ankara, Turkey in November 24-25, 2005. It was organized by the *International Society for Photogrammetry and Remote Sensing (ISPRS; <http://www.isprs.org>, <http://www.isprs.org/calendar.html>)*.

Objective of the Workshop:

The objective of this workshop is to gather researchers as well as practitioners, knowledge engineers and domain experts from allied disciplines from academia and industry who are working on various research fields of spatial/spatio-temporal data mining, discuss recent developments, share hard-learned experiences, and shed light on future development of spatial/spatio-temporal data mining and explore new approaches and issues. This workshop will address many aspects of spatial/spatio-temporal data mining ranging from theories, methodologies, algorithms, to their applications. Particularly, how spatial/spatio-temporal data mining techniques can be integrated with RS – for detecting and extracting spatial information - and GIS - for analysis and management of gigantic spatial data - is emphasized to create intelligent systems for geo-related sciences. Through this workshop, we hope to produce modern solutions facilitating data collection, processing and knowledge discovery and to create synergy among different branches by means of paper presentation, panel discussion, and invited talks.

The **Topics** of the workshop

include, but are not limited to the following areas:

- o discovery of new information source,
- o information retrieval, collection, filtering and integration for data mining,
- o meta learning and meta data for spatial data mining,
- o selection, transformation, and construction of features,
- o spatial/spatio-temporal information collection,
- o spatial/spatio-temporal data mining,
- o data mining from GIS,

- o data mining in remote sensing,
- o data mining from geographic and geo-referenced data,
- o data mining in spatial/spatio-temporal DBMS spatial data mining in e-business environments and on the internet knowledge discovery from thematic maps,
- o knowledge representation as thematic maps,
- o statistical methods in spatial data mining,
- o complexity, efficiency and scalability of temporal and spatial data mining algorithms,
- o uncertainty management in spatial/spatio-temporal data mining,
- o visualization of spatial/spatio-temporal data/information, visualization of discovered knowledge,
- o user interface for data mining, interactive mining,
- o distributed spatial data mining,
- o accommodating domain knowledge in the mining process,
- o content-based search, retrieval, and discovery methods,
- o usability of mined pieces of knowledge,
- o inspection and validation of mined pieces of knowledge, success/failure stories in data mining and lessons learned.

The **Keynote Speakers** were:

- o W. Kainz, Wolfgang (Institute for Geography and Regional Research, University of Vienna, Austria),
- o K. Koperski, (Insightful Corp., Seattle, USA),
- o S. Shekhar (Institute of Technology, University of Minnesota, USA),
- o G.-W. Weber (Institute of Applied Mathematics, METU, Ankara, Turkey) and
- o A. Yazici (Computer Eng. Dept., METU, Ankara, Turkey).

The **Coorganizing Organizations** were:

- IEEE,
- International Society for Photogrammetry and Remote Sensing (ISPRS),
- EUROPT,
- Department of Geodetic and Geographic Information Technologies (GGIT), METU, Ankara, and
- Turkish Scientific and Technological Research Council (TÜBİTAK).

The **Organizing Committee** had the following members:

- o A. Selim (Dept. of Computer Engineering, Bilkent University, Ankara, Turkey),
- o Z. Akyurek (Dept. of Geodetic and Geographic Information Technologies, GGIT, METU, Turkey),
- o S. Duzgun (GGIT Dept. and IAM, METU, Turkey) and
- o L. Yaolin (School of Resource & Environmental Sciences, Wuhan University, China).

The members of **Programme Committee** were:

- o S. Aksoy (Dept. of Computer Engineering, Bilkent University, Ankara, Turkey),
- o Z. Akyurek (Dept. of Geodetic and Geographic Information Technologies, METU, Ankara, Turkey),
- o A. Bagirov (University of Ballarat, Australia),
- o N. Baykal (Institute of Informatics, METU, Ankara, Turkey),

- N. Cicekli (Computer Eng. Dept., METU, Ankara, Turkey),
- S. Duzgun (Dept. of Geodetic and Geographic Information Technologies and IAM, METU, Ankara, Turkey),
- P. Gamba (University of Pavia, Italy),
- Y. Huang (University of North Texas, USA),
- R. King (Mississippi State University, USA),
- W. Kainz (Institute for Geography and Regional Research, University of Vienna, Austria),
- K. Koperski (Insightful Corp., Seattle, USA),
- G. Köksal (Industrial Engineering Dept., METU, Ankara, Turkey),
- A. Kuba (Department of Computer Science, University of Szeged, Hungary),
- C.T. Lu (Virginia Tech, USA),
- A. Rubinov (University of Ballarat, Australia),
- P. Senkul (Computer Eng. Dept., METU, Ankara, Turkey),
- S. Shekhar (Institute of Technology, University of Minnesota, USA),
- M. Teboulle (Tel-Aviv University, Israel),
- H. Toroslu (Computer Eng. Dept., METU, Ankara, Turkey),
- G.-W. Weber, Institute of Applied Mathematics, METU, Ankara, Turkey),
- H. Xiong (Rutgers University, USA),
- L. Yaolin (Wuhan University, China),
- A.Yazici (Computer Eng. Dept., METU, Ankara, Turkey),
- P. Zhang (University of Minnesota, USA) and
- C. Zhou (University of Minnesota, USA).

2.d “Seminar on Computational Biology and Medicine”

“*Seminar on Computational Biology and Medicine*” is the weekly seminar of Research Group on Computational Biology and Medicine of *Institute of Applied Mathematics* (IAM) together *YUUP Biyotip Group “Bioinformatics”* of METU and with *EUROPT*. In fact, *EUROPT* is serving this group by various international contacts and scientific impulses, including information and encouragement for submitting papers in *European Journal of Operational Research* (EJOR); please cf., e.g., Subsections 2.h and 2.i. Reversely, *EUROPT* and entire *EURO* is getting feedback in the form of valuable ideas and proposals, as will be indicated below.

The research in our group is mainly concerned with:

- *modeling and prediction of gene expression patterns,*
- *gene networks,*
- *computational human metabolism,*
- *modeling and prediction of the pro-peptide cleavage site of fungal extracellular proteins,*
- *brain research,*
- *heart research,*
- *population dynamics,*
- *gene dynamics,*
- *gene admixture and variation,*
- *classification of populations,*
- *geometrical morphometry,*
- *modeling of proximal femur geometry*

- *and bone mineral density,*
- *sustainable development and living* and
- *control of earth warming.*

Closer information about Computational Biology and Medicine by IAM can be found under <http://www.iam.metu.edu.tr/research/groups/compbio/index.html>. Finally, our group has been active by giving *seminars* and *talks*: At *Seminar on Computational Biology and Medicine* there were **34** presentations were given by our group.

In 2005, a number of new members joined Research Group on Computational Biology and Medicine: new students and teachers likewise. Please find closer information about our seminars under <http://www.iam.metu.edu.tr/research/groups/compbio/seminars.html>.

As another very important contribution, in 2005, this group served as a germ in the process of proposing and preparing a new *EURO Working Group “Operational Research in Computational Biology and Bioinformatics”* which became approved by EURO Executive Committee in February 2006. For closer information please cf. Subsection 2.k.

2.e The 8th SIAM Conference on Optimization

SIAM’s optimization conference on optimization took place in Stockholm, Sweden, at May 15-18, 2005 (<http://www.siam.org/meetings/op05/>). Among many EUROPT members organizing, participating, speaking or presenting posters, there were two **Mini Symposia** organized by EUROPT, namely, one on *(Linear) Semi-Infinite Programming I* prepared by *Prof. Dr. Marco A. Lopez* (University of Alicante, Spain), one on *(Nonlinear) Semi-Infinite Programming II* prepared by *Prof. Dr. Jan-J. Rückmann* (Universidad de Las Americas, Puebla, Mexico) and, finally, an associated Mini Symposium *How Curly the Central Path Can Be?* organized by *Prof. Dr. Tamás Terlaky* (Mc Master University, Hamilton, Canada). We express our sincere gratitude to all these friend, also to our friends *Prof. Dr. Sven-Aake Gustafson* (University of Stavanger, Norway) who inspired us to this piece of “EURO” in Stockholm by which our “Nordic years” including our engagement on Iceland in 2006 began, and the conference organizers *Prof. Dr. Anders Forsgren* and *Prof. Dr. Henry Wolkowicz* who supported our EUROPT’s contribution!

2.f IFORS 2005

The precious and attractive event of *IFORS 2005* (<http://www.informs.org/Conf/IFORS2005/>) took place on Hawaii, at July 11-15. Besides a number of our EUROPT members actively participating there, EUROPT contribute **I session**, there related to the topic *Pricing and Transportation*. It was (co)organized by our friend *Dr. Tatiana Tchemisova* (University of Aveiro, Portugal). We are grateful to her and also to our PC members and friends *Prof. Dr. Ariela Sofa* (George Mason University, Fairfax, Washington DC, USA) who hosting and sponsored the session, and *Prof. Dr. Shuzhong Zhang* (Chinese University of Hong Kong, China), and to our friends *Prof. Dr. George Leitmann* (University of California, Berkeley, USA) and *Prof. Dr. Luca Lambertini* (University of Bologna, Italy) who encouraged us.

At IFORS 2005, Dr. Tchemisova also served as a representative of EUROPT. She participated at two official meetings and prepared a report about this: <http://www.iam.metu.edu.tr/EUROPT/IFORS%20meeting%20report%20Tatiana.pdf>.

2.g International Symposium on Health Informatics and Bioinformatics

The first **International Symposium on Health Informatics and Bioinformatics, 2005** (HIBIT 2005), will be held in Belek, Antalya, TURKEY from Tuesday 10th to Saturday 12nd November 2005. The conference will draw together researchers and developers from academia and industry across all fields of Medical Informatics and Bioinformatics. Accepted papers will be published in the conference proceedings. For closer information please visit the symposium homepage <http://hibit.ii.metu.edu.tr/>.

Finally, for the symposium, valuable *proceedings* were prepared!

The **Keynote Speakers** were:

- J. Van Der Lei (Department of Medical Informatics, Netherlands) and
- S.J. Wodak (SCMBB, Université Libre de Bruxelles, Belgium) ;

and the list of **Invited Lecturers** consisted of

- S. Eskiizmirliler (University of Paris 7, Denise Diderot, France),
- S.K. Mishra (BIOPOLIS, Singapore) and
- E. Musoglu (NAMSA, Luxembourg).

We refer to <http://hibit.ii.metu.edu.tr/committees.html> for the names of the members in

- *Organizing Committee*,
- *Advisory Board* and
- *Program Committee*.

The **Coorganizing Institutions** and **Supporting Organizations** were

- Informatics Institute, METU,
- Turkish Scientific and Technological Research Council (TÜBİTAK),
- IEEE Turkish Section and
- TurkMIA,

and also, less officially than the preceding ones, but with great appreciation by the Conference Chair, *Prof. Dr. Neşe Yalabik* (Department of Computer Engineering, METU), and of the Advisory Board,

- EUROPT,

which served by informing and advertising. What is more, at the occasion of HIBIT, EUROPT explained and invited to our of on a new *EURO Working Group on Computational Biology and Bioinformatics* which indeed became approved at the meeting (cf. Subsection 2.k). By this engagement or EUROPT many new friend and possible members of this new working group could be gained!

2.h EJOR Special Issue “Optimization and Data Mining”

During July 9-25, 2004, XXII EURO Summer Institute took place at METU, Ankara, Turkey, on the subject “*Optimization and Data Mining*”

(<http://www.iam.metu.edu.tr/esi04/index.html>). ESI XXII has been sponsored by *The Association of European Operational Research Societies* (EURO), *Turkish Scientific and Technological Research Council* (TUBITAK), and organized by EUROPT, by IAM (METU) and ORST. ESI XXII became a key events in the course of European collaboration on OR, supported and surrounded by Turkish hospitality, rich old culture and enthusiasm of its young scientific generation. Herewith, we tried to justify the great confidence and sympathy given to us by EURO and its national OR societies. The scientific atmosphere and challenge which could be felt and celebrated by our ESI XXII community during the 2-3 weeks in Ankara, based on the combination of its two parts, of two scientific research fields and traditions within of OR and EURO:

- ***data mining***, being widely accepted and appreciated today as a key application field in management sciences, natural sciences and engineering,
- ***optimization***, being a modern key technology prepared and offered by mathematics and related sciences.

The organizing committee of ESI XXII was composed of *Bülent Karasözen* (*Chairman of ESI 2004*), *Mirjam Dür*, *Tibor Illes*, *Sinan Kayalığıl*, *Stefan W. Pickl*, *Mustafa Pınar*, *Leonidas Sakalauskas* and *Gerhard-Wilhelm Weber* (*Co-Chairman of ESI 2004*). ESI XXII was highlighted by the participation of six invited speakers, our ESI teachers: *Larry Biegler* (Chemical Engineering Department of Carnegie Mellon University, USA), *Şebnem Düzgün* (Geodetic and Geographic Information Technologies, Middle East Technical University, Ankara, Turkey), *Sjur Didrik Flåm* (Economics Department, Bergen University, Norway), *Michael Kohler* (Department of Mathematics, University of Stuttgart, Germany), *Jacob Kogan* (Department of Mathematics and Statistics and Department of Computer Science and Electrical Engineering UMBC, Baltimore, USA), *Boris Polyak* (Institute of Control Science, Moscow, Russia), *Jakob Krarup* (Department of Computer Science, University of Copenhagen, Denmark), *Alexander Rubinov* (School of Information Technology and Mathematical Sciences, University of Australia) and *Georg Still* (Department of Applied Mathematics, University of Twente, The Netherlands).

The total number of young participants turned out be **23**, and with the number **9** of our invited lecturers, thus the total number of all our guests became **32**. Our ESI 2004 participants travelled to us from **20** different countries: Australia, Brazil, Chile, Denmark, France, India, Italy, Germany, Hungary, Lithuania, The Netherlands, Norway, Poland, Portugal, Russia, Spain, Switzerland, Turkey, United Kingdom and USA.

This EJOR special issue is the fourth one of our working group EUROPT which was founded in Budapest, Hungary, in 2000. Proceeding the first workshop held there, the second one held in Rotterdam, The Netherlands, in 2001, and the third one celebrated in Istanbul, Turkey, in 2003, three *EJOR special issues* were prepared and published before. In the year 2005, we have been happy to announce this fourth EJOR special issue completed.

The refereeing process consisted of the careful work of fortyone referees, specialists from all over the world. As a result of their rigor, devotion, or their very fruitful and constructive work, seventeen of the submitted papers fulfill the high standards of EJOR and reflect the recent advances and modern contributions to "*Optimization in Data Mining*" by a rich variety in state-of-the-art research and vision. We, the guest editors, very cordially thank the participating referees for their engaged efforts, and for their positive encouragement of the authors whenever needed.

We are convinced that each of these papers by content and style really fulfills the high EJOR standards and serves to represent both modern OR as an excellent host of the emerging important area of data mining and optimization theory as one of the core areas of modern OR. In editing this Special Issue / Feature Cluster of EJOR, it is our hope that the readers will appreciate the efforts of EURO as a European initiative for advanced studies and EJOR as a unique journal for scientific communication and excellence.

The *Guest Editors* were:

- *B. Karasözen*, Middle East Technical University, Ankara, Turkey,
- *A. Rubinov*, University of Ballarat, Australia,
- *J. Teghem* (EJOR, Editor), Faculté Polytechnique de Mons, Belgium, and
- *G.-W. Weber*, Middle East Technical University, Ankara, Turkey.

2.i EJOR Special Issue

“Challenges of Continuous Optimization in Theory and Applications”

On July 2-3, 2004, the *fourth annual Workshop of EURO Working Group on Continuous Optimization* (EUROPT) took place at Rhodos City, Greece, on the subject “*Challenges of Continuous Optimization in Theory and Applications*” (cf. <http://www.iam.metu.edu.tr/contopt04/index.html>). Likewise the previous annual meetings of EUROPT, this workshop was held and became celebrated in close timely neighbourhood and interaction with EURO XX Conference, Rhodes, Greece, July 4-7, 2004 (see <http://www.euro-rhodes2004.org/>). *Workshop on Challenges of Continuous Optimization in Theory and Applications* has been sponsored by *The Association of European Operational Research Societies* (EURO), *Gesellschaft für Operations Research e.V.* which is *German Operations Research Society* (GOR), and organized by EUROPT, by IAM (METU) and University of the Aegean. Together with its various contributions to EURO XX by sessions organized, a semi-plenary held, many session talks given and new EURO events initiated, *Workshop on Challenges of Continuous Optimization in Theory and Applications* became a worthwhile contribution to European collaboration on OR, surrounded by Greece long tradition in hospitality, its rich old culture, and with a happy looking forward to the future always among old and new friends who met.

Workshop on Challenges of Continuous Optimization in Theory and Applications aimed to bring together researchers from smooth and nonsmooth optimization, and from related fields of discrete optimization, operations research, economy and technology. It intended to be a forum for the exchange of recent scientific developments and for the discussion of new trends. The **scope** of the conference includes all aspects of smooth, nonsmooth and discrete optimization, from fundamental research to numerical methods and applications. The workshop’s rich **topics** ranged from linear and nonlinear programming, semidefinite and semi-infinite optimization, complementarity problems, derivative-free, global and stochastic optimization and nondifferentiable analysis to optimal control, optimization of technological, bio- and social systems and financial optimization.

The organizing committee of ESI XXII was composed of *Evgenios Avgerinos* (University of the Aegean, Greece), *Nikos Ampazis* (University of the Aegean, Greece), *Mirjam Dür* (Darmstadt University of Technology, Germany), *Azize Hayfavi* (METU, Ankara, Turkey), *Kathrin Klamroth* (Friedrich-Alexander University of Erlangen-Nuremberg, Germany), *Dimitrios Konstandinidis* (University of the Aegean, Greece) and *Gerhard-Wilhelm Weber* (METU, Ankara, Turkey).

Workshop on Challenges of Continuous Optimization in Theory and Applications was highlighted by the participation of six invited speakers: *Miguel Goberna* (University of Alicante, Spain), *Kathrin Klamroth* (Friedrich-Alexander University of Erlangen-Nuremberg, Germany), *Marco A. López* (University of Alicante, Spain), *Arkadi Nemirovski* (Israel Institute of Technology, Haifa, Israel), *Moshe Sniedovich* (University of Melbourne, Australia) and *Theodore Trafalis* (University of Oklahoma, Norman, USA).

The total number of workshop participants turned out to be **33**, they travelled to Rhodes from **15** different countries: Australia, Brazil, Canada, Israel, Germany, Greece, Hungary, Lithuania, Mexico, The Netherlands, Norway, Portugal, Spain, Turkey and the USA.

This present EJOR special issue is already the fifth one of EUROPT, our working group which was founded in Budapest, Hungary, in 2000. Proceeding the first workshop held there, the second one held in Rotterdam, The Netherlands, in 2001, the third one celebrated in Istanbul, Turkey, in 2003, and EURO Summer Institute “Optimization and Data Mining” organized by us in Ankara, Turkey, 2004, four *EJOR special issues* were prepared and published already. In 2005, we are glad to announce this fifth EJOR special issue finalized, too.

For the refereeing process *sixty-six referees* served by their careful work; each paper was in average by three, sometimes even more, specialists from all over the world evaluated. As the result of their devotion, rigor, their very constructive and fruitful part, *thirteen* of the submitted papers fulfill the high standards of EJOR and display the recent contributions advances to “*challenges of continuous optimization*” by a variety in state-of-the-art research and vision. As the guest editors, we cordially thank the participating referees for their engaged efforts, for their positive encouragement and support of the authors whenever needed.

The Guest Editors were:

- *M. Dür*, Darmstadt University of Technology, Germany,
- *B. Karasözen*, Middle East Technical University, Ankara, Turkey,
- *T. Terlaky* (EUROPT deputy at EJOR), McMaster University, Hamilton, Canada,
- *J. Teghem* (EJOR, Editor), Faculté Polytechnique de Mons, Belgium, and
- *G.-W. Weber*, Middle East Technical University, Ankara, Turkey,

2.j New EURO Working Group “Operational Research for Development”

In the year 2005, EUROPT submitted to EURO a proposal for a new *EURO Working Group “Operational Research for Development”*. This proposal became approved by Executive Committee of EURO at its meeting during IFORS 2005 (Hawaii, USA, July 11-15, 2005).

The aims of this new EURO Working Group are (1) to establish an open forum of exchange, scientific life and collaboration within EURO which integrates already existing groups, impulses and individuals from European and international Operational Research towards a common learning and service, despite of their differences in academic background or in origin of country; (2) to integrate scientists and practitioners in OR from both the developed and the developing countries to serve the peoples, especially, of the developing and threshold countries, and to overcome the challenges of world globalization. Herewith, embedded into and to the best of scientific landscape and calendar of EURO and its existing working groups,

(3) this group looks for giving valuable contributions to development, friendship, freedom and peace in and among the nations and continents.

The foundation for a new EURO WG “Operational Research for Development” will be during the conference days of EURO XXI 2006 in Reykjavik, Iceland, July 2-5, 2006.

This initiative for *EURO WG “Operational Research for Development”*, in short, *EWG ORD*, or *EWG N-YORC* (according to *YORC* you will find in (ii); “N” could stand for “network” – and “new”) bases on the engagement, well understanding and common devotion of two groups:

- (i) **“OR for Developing Countries Study Group” of Operational Research Society of the United Kingdom”,**

connected also with

“African Operational Research Network” (AORN) and

- (ii) **“Young People for Operational Research in the Developing Countries” (YORC),**

connected also with

“Babalan Valley Group” of METU, Ankara.

Other groups and individuals are already close to us, and more are cordially invited and welcome to join our impulse within of EURO, to become our partners and friends. From the beginning on, now and for the next steps, EUROPT is offering some starting help and organizational “sponsorship”. Further information about the new EURO WG will be given later.

2.k New EURO Working Group “Operational Research in Computational Biology and Bioinformatics”

Furthermore, in 2005, EUROPT submitted to EURO a proposal for a new *EURO Working Group “Operational Research in Computational Biology and Bioinformatics”*. By Executive Committee of EURO at its meeting in Bruxelles (February, 2006), this proposal became approved also.

The aims of this new EURO Working Group are (1) to establish an open forum of exchange, scientific life and collaboration using modern methods of OR within EURO, integrating already existing groups, impulses and individuals from European and international Operational Research in the emerging fields of biological problems and perspectives in data management, analysis and technologies; (2) to integrate researchers and practitioners in OR to overcome the scientific challenges in medicine, pharmacy, food production, conservation of genetic wealth, alternative energy generation and of development. Herewith, embedded into and for the best of the scientific landscape and calendar of EURO and its existing working groups and chapters, (3) this group looks for giving valuable contributions to building up our countries and their friendship, to welfare, freedom and peace in and among the nations and continents.

The foundation of the new EURO WG “Operational Research in Computational Biology and Bioinformatics” will be during the conference days of EURO XXI 2006 in Reykjavik, Iceland, July 2-5, 2006.

EURO WG “Operational Research in Computational Biology and Bioinformatics”, in short, **“Operational Research in Computational Biology and Bioinformatics”** and abbreviated by, e.g., *EWG CBI*, bases on some invitation for merging of two lines of modern biological research cultures and traditions, unified by and in the house of European **Operational Research**:

- (i) **“Computational Biology”**,
which encompasses the more mathematics based and aided investigations in biology, with special emphasis on methods of modeling, dynamical systems, networks, continuous optimization, numerical analysis, statistical learning and inverse problems, and
- (ii) **“Bioinformatics”**,
by which the more computer science and informatics based and aided investigations in biology are understood, with special emphasis on methods for data bases, algorithms or heuristics, complexity, discrete optimization and, in general, various fields of combinatorial and discrete mathematics applied.

By both lines, two of the streams which classically contribute to Operational Research (*OR*) are represented: applied mathematics and computer sciences. Moreover, the central stream of OR coming from *management sciences* and *economy* is one more foundation of this new group in theory, methods and applications. In fact, OR based computational biology and bioinformatics is in a concerted way contributed by so many disciplines. Also for this new EURO WG, further information will be given later.

2.1 EUROPT Homepage

The EUROPT homepage <http://www.iam.metu.edu.tr/EUROPT/> is maintained at Institute of Applied Mathematics, METU, Ankara, since summer 2003; before it was hosted at Eötvös Loránd University in Budapest. Our webmasters are

- *Basak Akteke* (web admininstator),
- *Köksal Yücesoy* (database adminator) and
- *Aysun Tezel* (EUROPT side admin. at EURO homepage),

in collaboration with G.-W. Weber. **Cordial thanks** to the three ones for all their valuable service for our community, their efforts and devotion! This homepage collects and presents a lot of information about forthcoming scientific events, furture plans in EUROPT, developments in EURO, job announcements, reports about events, scientific years and initiatives, the list of members, etc.. This is a service for the EUROPT members, for EURO and other organizations, scientific groups and, sometimes, companies. The EUROPT homepage is a medium closely interacting with the EUROPT newsletter:

2.m EUROPT Newsletter by E-Mails

In average, once or twice in every week, EUROPT sends most recent information, announcements and invitations, sometimes reminders also. This newsletter goes out by e-mails from the address europa-l@metu.edu.tr, it mutually interacts with the EUROPT homepage and wants to inform “on-line”, to keep our members “updated” and to give valuable encouragement.

3 Forthcoming Activities in 2006

In 2006, there will be one great event which EUROPT contributes to very strongly:

- (a) *EURO XXI 2006, 21st European Conference on Operational Research*, Reykjavik, Iceland, July 2-5, 2006;

and two own events our three big and a number of small engagements

- (b) “*5th EUROPT Workshop on Advances in Continuous Optimization*”, Reykjavik, Iceland, June 30 – July 1, 2006;
- (c) *EUROPT Summer Institute “Optimization Challenges in Engineering: Methods, Software and Applications”*, Wittenberg, Germany, August 18 – September 2, 2006; and
- (d) “*Seminar on Computational Biology and Medicine*” (weekly seminar) METU, Ankara;

also we are supporting in the coorganization of

- (e) “*Workshop on Geometric Morphometry*”, Ankara, Turkey, June 12-16, 2006;

we will finalize one more special issue of European Journal of Operational Research, namely,

- (f) *EJOR Special Issue “Continuous Optimization in the Industry”*.

Furthermore, as further efforts, we maintain and give offers with

- (g) *EUROPT Homepage* and
- (h) *EUROPT Newsletter* by E-Mails.

Furthermore, we remark that in 2006

- (i) our *third EJOR Special Issue “Advances in Continuous Optimization”* will appear, and also the fourth and fifth *EJOR Special Issues* (cf. Subsections 2.h and 2.i) also.

3.a EURO XXI 2006

EURO XXI 2006, 21st European Conference on Operational Research, is going to take place Reykjavik, Iceland, at July 2-5, 2006 (<http://www.euro2006.org/>). Stronger than at any EURO conference before, EUROPT will contribute this time and, herewith, help for the the wealth of

the program and to the conference's success.

Within the conference theme “*Operational Research for Better Management of Sustainable Development*” we aim to showcase how OR can improve the management of this important topic that touches everyone in the world.

Invited Streams and Invited Papers:

EURO Working Group members and other people have taken a major role in the conference and are organising several streams; see the list of streams on the conference web site. EUROPT is by with contributing to the program by **20 Invited Streams**, by a number of *special lectures* and many further *contributed talks* given by EUROPT members.

The ***Invited Streams*** prepared by **EUROPT** jointly with **POP** (*Pacific Optimization Research Activity Group*), our contact partner in POP being EUROPT member *Prof. Dr. Alexander Rubinov* (University of Ballarat, Australia), and the corresponding *stream organizers (SOs)* are:

Invited Stream: “*Computational Biology and Bioinformatics*”:

SOs: *Prof. Dr. Jacek Blazewicz* (Poznan University of Technology, Poland),
Prof. Dr. Metin Türkay (Koç University, Turkey)

Invited Stream: “*Convex Optimization Methods*” :

SO: *Prof. Dr. Marc Teboulle* (Tel-Aviv University, Israel),

Invited Stream: “*Data Mining*” :

SOs: *Prof. Dr. Emilio Carrizosa* (Universidad de Sevilla Infanta Mercedes, Spain),
Prof. Dr. Jacob Kogan (University of Maryland, USA),

Invited Stream: “*Dynamical and Anticipatory Systems*” :

SOs: *Prof. Dr. Marat U. Akhmet* (Middle East Technical University, Turkey),
Prof. Dr. Daniel Dubois (Université de Liège, Belgium),
Prof. Dr. Hakan Öktem (Middle East Technical University, Turkey),

Invited Stream: “*Generalized Newton Methods*” :

SO : *Prof. Dr. Liqun Qi* (Hong Kong Polytechnic University, China),

Invited Stream: “*Global and Local Derivative Free Optimization*” :

SOs: *Prof. Dr. Adil Bagirov* (University of Ballarat, Australia),
Prof. Dr. Alexander Rubinov (University of Ballarat, Australia),

Invited Stream: “*Global Optimization: Deterministic and Stochastic Methods*” :

SO: *Prof. Dr. Mirjam Dür* (Darmstadt University of Technology, Germany),

Invited Stream: “*Global Optimization: Software and Applications*” :

SO: *Prof. Dr. Janos Pinter* (PCs Inc. and University of Dalhousie, Halifax, Canada),

Invited Stream: “*Industrial Application of Nonlinear Programming Algorithms*” :

SO: *Prof. Dr. Klaus Schittkowski* (University of Bayreuth, Germany),

Invited Stream: “*Electricity Markets*” :

SOs: *Prof. Dr. Edward Anderson* (Australian Graduate School of Management,

Australia),
Prof. Dr. Daniel Ralph (University of Cambridge, GB),
Prof. Dr. Heinz Stiegler (Karl Franzens University, Graz, Austria),

Invited Stream: “*Linear Optimization*” :

SO: *Prof. Dr. Petra Huhn* (Clausthal University of Technology),

Invited Stream: “*Linear Semi-Infinite Optimization*” :

SOs: *Prof. Dr. Miquel Goberna* (University of Alicante, Spain),
Prof. Dr. Marco Lopez (University of Alicante, Spain),
Prof. Dr. Maxim Todorov (Universidad de las Americas, Mexico),

Invited Stream: “*Long Term Financial Decisions*” :

SO: *Prof. Dr. Thomas Burkhardt* (University of Koblenz-Landau, Germany),

Invited Stream: “*Mathematical Programming*” :

SOs: *Prof. Dr. Mustafa Pinar* (Bilkent University, Turkey),
Prof. Dr. Raphael Hauser (University of Cambridge, USA),
Prof. Dr. Sandor Nemeth (University of Birmingham, GB),

Invited Stream: “*Multiple Objective Optimization*” :

SOs: *Prof. Dr. Kathrin Klamroth* (University of Erlangen-Nuremberg, Germany),
Prof. Dr. Jose Figueira (University of Coimbra, Portugal),

Invited Stream: “*Nonlinear Semi-Infinite Optimization*” :

SOs: *Prof. Dr. Jan J. Rückmann* (Universidad de las Americas, Mexico),
PD Dr. Oliver Stein (RWTH Aachen University, Germany),

Invited Stream: “*Optimization in Financial Mathematics*” :

SOs: *Prof. Dr. Ralf Korn* (University of Kaiserslautern, Germany),
Prof. Dr. Mustafa Pinar (Bilkent University Turkey),

Invited Stream: “*OR in Developing Countries*” :

SOs: *Fernando Crespo* (Catholic University, Santiago, Chile),
Sethuraman Janardhanan (Indian Institute of Management Calcutta, India),
Dr. Eric Soubeiga (Hall Warden, Industrial Consultant, University of Nottingham, GB),
Prof. Dr. Leroy White (University of Bristol, GB),

Invited Stream: “*Semidefinite Programming*” :

SO: *Prof. Dr. Miguel Anjos* (University of Waterloo, Canada),

Invited Stream: “*Stochastic Programming*” :

SOs: *Prof. Dr. Georg Pflug* (University of Vienna, Austria),
Prof. Dr. Werner Römisch (Humboldt-University Berlin, Germany),
Prof. Dr. Alexander Shapiro (Georgia Institute of Technology, USA),

Invited Stream: “*Systems and Game Theory*“ (with EURO WG E-CUBE):

SO: *Prof. Dr. Stefan W. Pickl* (Universitaet der Bundeswehr, München, Germany),
Prof. Dr. Ulrike Leopold Wildburger (Karl Franzens University, Graz, Austria),

For a complete list of all titles and speakers

- *Plenary* and *Semi-Plenary* Presentations,
- *Tutorials* and
- *Keynote* Lectures

we refer to the corresponding links under *Program* in <http://www.euro2006.org/>.

At EURO XXI 2006, three or more Plenaries will be given, one of them - the IFORS Distinguished Lecture – by a member of EUROPT: *Prof. Dr. Saul Gass* (University of Maryland, USA).

From the *11 Semi-Plenaries*, 3 will be given by members of EUROPT, namely, *Prof. Dr. Stefan W. Pickl* (Universitaet der Bundeswehr, Munich, Germany), *Prof. Dr. Janos Pinter* (PCS Inc. and Dalhousie University, Halifax, Canada) and *Prof. Dr. Tamás Terlaky* (McMaster University, Hamilton, Canada).

Moreover, from the *10 Tutorials*, 6 ones are proposed by streams related with EUROPT. Those tutorial presenters are: *Prof. Dr. Daniel Dubois* (HEC, University of Liege, Belgium), *Prof. Dr. Vaithilingam Jeyakumar*, University of New South Wales, Sydney, Australia), *Prof. Dr. Hubertus Th. Jongen* (RWTH Aachen, Germany), *Prof. Dr. Ralf Korn* (University of Kaiserslautern, Germany), *Prof. Dr. John-Shawe Taylor* (University of Southampton, GB) and *Prof. Dr. Yves Smeers* (Universite Catholique de Louvain, Belgium).

Furthermore, there are *5 Keynotes*, 2 of them proposed by a stream related also with EUROPT: *Prof. Dr. Ralph Steuer* (University of Georgia, Athens, Georgia, USA) and by *Prof. Dr. William Ziemba* (University of British Columbia, Canada).

Also the other plenaries, semi-plenaries, tutorials keynotes and panels will be close to our group EUROPT's interests.

Finally, there will be several *Panels* – 1 of them organized by a member of EUROPT: *Prof. Dr. Janos Pinter* (PCS Inc. and Dalhousie University, Halifax, Canada).

Discussion sessions:

One of the streams consists of discussion sessions with contributed and invited presentations. All accepted discussion presentations may be candidates for the Best Poster Award. Among the Discussion Presentations, one is prepared by friends and members of EUROPT.

Programme Committee:

- T. Kinnunen (Finland Post Corp., *Chair*),
- G.-W. Weber (METU Ankara, Turkey, *Plenary chair*),
- R. Bisdorff (University of Luxembourg),
- J.-P. Brans (Vrije Universiteit Brussel, VUB, Belgium),
- U. Leopold-Wildburger (Karl-Franzens Universitat Graz, Austria),
- S. Olafsson (University of Iceland),
- M. Shutler (London School of Economics, United Kingdom),
- M. Widmer (University of Fribourg, Switzerland) and
- M. Zachariasen (University of Copenhagen, Denmark).

Organizing Committee:

- S. Olafsson (University of Iceland, Chair),
- G. Barbarosoğlu (Vice-President 1 of EURO),
- M.M. Halldorsson (University of Iceland),
- I. Hannibalsson (University of Iceland),
- T. Helgason (National Energy Authority),
- P. Jensson (University of Iceland),
- T. Kinnunen (Finland Post Corp.),
- I. Hannibalsson (University of Iceland),
- B.P. Kristinsdottir (Alcan Iceland),
- B. Kristjansson (Maximal Software),
- J. Krarup (University of Copenhagen) and
- H. Stefansson (Imperial College London).

Special Journal Issue:

Selected papers presented at the conference will be considered for publication in a special conference issue of the *European Journal of Operational Research (EJOR)* on “*OR for Better Management of Sustainable Development*”. Full texts must be submitted by November 1, 2006. Please find the Call for Papers under [http://www.iam.metu.edu.tr/EUROPT/EJOR%20special%20issue%20\(EURO%20XXI%202006\).pdf](http://www.iam.metu.edu.tr/EUROPT/EJOR%20special%20issue%20(EURO%20XXI%202006).pdf).

New EURO Working Groups

During the days of EURO XXI 2006, also two new working groups of EURO will be founded, namely *EURO Working Group “Operational Research for Development”* (cf. Subsection 2.j) and *EURO Working Group “Operational Research in Computational Biology and Bioinformatics”* (cf. Subsection 2.k).

3.b “5th EUROPT Workshop on Advances in Continuous Optimization”

This international *5th EUROPT Workshop on Advances in Continuous Optimization* is organized by EUROPT; (<http://www.iam.metu.edu.tr/EUROPT/>) directly before the EURO XXI 2006 meeting. It continues in the line of EUROPT workshops held: 2000 in Budapest, 2001 in Rotterdam, 2003 in Istanbul and 2004 in Rhodes; EURO Summer Institutes and Mini Conferences, and our engagement during EURO conferences complete the spectrum of our group’s meetings.

The workshop aims to bring together researchers from continuous optimization and from related fields of discrete optimization, operations research, economy and technology. It intends to be a forum for the exchange of recent scientific developments and for the discussion of new trends. The scope of the workshop includes all aspects of smooth, nonsmooth and discrete optimization from fundamental research to numerical methods and applications.

Iceland with its unique nature, our attractive workshop and the wealth of streams and presentations in Continuous Optimization and entire OR prepared at the following conference

EURO XXI 2006 (<http://www.euro2006.org/>) invites friends from all over the world to join and spend a precious, unforgettable time.

Topics

include but are not limited to:

- linear and nonlinear programming,
- semidefinite and semi-infinite optimization,
- complementarity problems,
- derivative-free optimization,
- global and stochastic optimization,
- non-smooth analysis and optimization,
- optimal control,
- optimization of technological, bio- and social systems,
- financial optimization and
- a Special Topic: Applications in the Energy Sector.

Due to the paper submissions done by colleagues from all over the world until middle of March 2006 already, we may expect a very good participation at the workshop and allow *parallel sessions* of contributed talks.

Our ***Invited Speakers*** are

- Adil Bagirov (University of Ballarat, Australia),
- Petra Huhn (University of Clausthal, Germany),
- Liqun Qi (Hong Kong Polytechnic University, China),
- Klaus Schittkowski (University of Bayreuth, Germany),
- Marc Teboulle (Tel-Aviv University, Israel),
- Michel Thera (University of Limoges, France) and
- Henry Wolkowicz (University of Waterloo, Canada).

The ***Coorganizing Institution*** and ***Groups*** are:

- University of Iceland,
- EUROPT (EURO Working Group on Continuous Optimization),
- Middle East Technical University, Ankara,
- University of Twente, Enschede, Netherlands.

The following ***Sponsors*** are supporting us (and further ones may join):

- EURO,
- EUROPT,

- MAXIMAL Software, London, GB, and
- Pinter Consulting Services, Halifax, Canada.

The **Organizing Committee** has the following members:

- B. Karasözen (Middle East Technical University, METU, Ankara, Turkey),
- B. Kristjansson (Maximal Software, London, GB),
- S. Olafsson (University of Iceland, Reykjavik, Iceland),
- J. Pinter (Dalhousie University, Halifax, Canada),
- O. Stein (Technical University Aachen, Germany),
- G. Still (University of Twente, Enschede, The Netherlands),
- G.-W. Weber (Middle East Technical University, METU, Ankara, Turkey)

and our local representative and contact

- P. Jensson (University of Iceland).

The **Programme Committee** has the following members:

- E.J. Anderson (University of New South Wales, Sydney, Australia),
- A. Bagirov (University of Ballarat, Australia),
- A. Ben-Tal (Technion, Haifa, Israel),
- I. Bomze (University of Vienna, Austria),
- V. Demyanov (State University, St. Petersburg, Russia),
- S. Didrik Flam (University of Bergen, Norway),
- O. Ghattas (Carnegie Mellon University),
- M. Goberna (University of Alicante, Spain),
- D. den Hertog (University of Tilburg, The Netherlands),
- T. Illes (Eotvos Lorand University of Sciences, Budapest, Hungary),
- J. Jahn (University of Erlangen-Nuremberg, Germany),
- F. Jarre (University of Düsseldorf, Germany),
- A. Jofre (Universidad de Chile, Santiago, Chile),
- H. Th. Jongen (Technical University Aachen, Germany),
- G. Leitmann (University of California, Berkeley, USA),
- M. Lopez (University of Alicante, Spain),
- A. Nemirovski (Technion, Haifa, Israel),
- D. Pallaschke (University of Karlsruhe, Germany),
- M. Pinar (Bilkent University, Ankara, Turkey),

- G. Pflug (University of Vienna, Austria),
- B. Polyak (Institute for Control Science, Moscow, Russia),
- D. Ralph (University of Cambridge, UK),
- R.T. Rockafellar (University of Washington, Seattle, USA),
- W. Römisch (Humbold University, Berlin, Germany),
- K. Roos (Technical University Delft, The Netherlands),
- A. Rubinov (University of Ballarat, Australia),
- J.J. Rückmann (Universidad de las Americas, Puebla, Mexico),
- E. Sachs (University of Trier, Germany),
- L. Sakalauskas (University of Vilnius, Lithuania),
- A. Shapiro (Georgia Institute of Technology, Atlanta, USA),
- S. Smale (University of California, Berkeley, USA),
- A. Sofer (George Mason University, Fairfax, Washington DC, USA),
- M. Teboulle (Tel-Aviv University, Israel),
- T. Terlaky (McMaster University, Hamilton, Canada),
- R. Tichatschke (University of Trier, Germany),
- M. Todorov (Universidad de las Americas, Puebla, Mexico),
- L. Vandenberghe (University of California, Los Angeles, USA),
- L.N. Vicente (University of Coimbra, Portugal),
- R. Wets (University of California, Davis, USA),
- H. Wolkowicz (University of Waterloo, Canada) and
- S. Zhang (The Chinese University of Hong Kong, China).

3.c EUROPT Summer Institute **“Optimization Challenges in Engineering: Methods, Software and Applications”**

EURO Summer Institute “Optimization Challenges in Engineering: Methods, Software, and Applications” in Wittenberg, Germany, August 18 – September 2, 2006, proposed by *EUROPT* together with *GOR* (German Operations Research Society) and *Darmstadt University of Technology*, Germany, is the second ESI (after ESI 2004, Ankara, Turkey) which *EUROPT* got accepted by *EURO*, and the third one which we are serving as supporters (there was ESI 2004 in Neringa, Lithuania, also).

Our *Scientific Committee* consists of:

- M. Dür (Darmstadt University of Technology, Germany),
- H.W. Hamacher (University of Kaiserslautern, Germany),
- P. Huhn (Clausthal University of Technology, Germany),
- F. Jarre (University of Düsseldorf, Germany),
- K. Klamroth (University of Erlangen-Nuremberg, Germany),
- M. Kočvara (Academy of Sciences of the Czech Republic, Prague, Czech Republic),
- C. Lemaréchal (INRIA, France),
- Y. Nesterov (Universite Catholique de Louvain, Belgium) and
- T. Terlaky (McMaster University, Hamilton, Canada).

The members of the *Organising Committee* are:

Local:

- M. Dür (Darmstadt University of Technology, Germany, *Chair*),
- P. Huhn (Clausthal University of Technology, Germany, *Co-Chair*),
- K. Klamroth (University of Erlangen-Nuremberg, Germany, *Co-Chair*) and
- Ch. Tammer (Martin Luther University Halle-Wittenberg, Germany, *Co-Chair*).

External:

- U. Leopold-Wildburger (Karl-Franzens University Graz, Austria),
- B. Karasözen (METU, Ankara, Turkey),
- G. Leugering (University of Erlangen-Nuremberg, Germany) and
- G.-W. Weber (METU, Ankara, Turkey).

Aims and Scope:

- Spanning the bridge between optimization theory and industrial applications is one of the big challenges for the operations research community.
- Continuous optimization and modern software implementations have become an indispensable resource in engineering sciences.
- This high demand in interdisciplinary collaboration is, however, not adequately covered in most of the current curricula programs in applied mathematics or engineering.
- Aim of this EURO Summer Institute is to fill this gap and bring together young scientists with academic experts *and* professionals in engineering and software development.
- Based on two minicourses on continuous optimization methods and their algorithmic realizations, this ESI will combine tutorial lectures, short surveys and software presentations with student contributions and scientific discussions.
- It offers a unique opportunity for young scientists to acquaint themselves with state of the art optimization methodology and software, to enter the scientific community and to share their experience with young colleagues from all over Europe.
- Both students and lecturers will benefit from an international and interdisciplinary atmosphere in the beautiful and inspiring environment of the Renaissance city Wittenberg with its old university “Leucorea” where Martin Luther taught and made public his 95 theses.
- Planned excursions include trips to the German capital Berlin, the “Florence of the Elbe river” Dresden with the Semper Opera and the Church of our Lady (Frauenkirche), the national park of Saxon Switzerland with its romantic rocky

landscape of Elb sandstone mountains, the flourishing city of Leipzig where Johann Sebastian Bach composed most of his famous work, and Halle, the cultural capital of Saxony-Anhalt.

Our *Invited Speakers* are:

- E. Anderson (Mosek, Denmark),
- H.-G. Bock (University of Heidelberg, Germany),
- A. Conn (IBM Research, USA),
- A. Griewank (Humboldt University, Berlin, Germany),
- M. Kočvara (Academy of Sciences of the Czech Republic, Prague, Czech Republic),
- A. Sartenauer (University of Namur, Belgium),
- T. Terlaky (McMaster University, Hamilton, Canada),
- L. Vandenberghe (UCLA, USA),
- A. Walther (Dresden University of Technology, Germany).

Funds are given by:

- EURO,
- EUROPT,
- GOR (German Operations Research Society),
- ILOG,
- Leucorea Foundation and the state of Saxony-Anhalt,
- Darmstadt University of Technology and
- Siemens.

Integration with other Activities:

From a scientific viewpoint, the ESI will ideally complement the EURO Mini Conference “Continuous Optimization in Industry” in Pécs, Hungary, in 2005 and the projected EUROPT workshop preceding EURO XXI in Reykjavik, Iceland, 2006.

In addition, the ESI is scheduled right before the annual meeting of the German Operations Research Society (GOR) in Karlsruhe (September 6 - 8, 2006, most likely preceded by a tutorial on September 5) which will help decreasing costs by using synergy effects. GOR has offered free student registration for ESI participants.

3.d “Seminar on Computational Biology and Medicine”

Please cf. Subsection 2.d.

3.e “Workshop on Geometric Morphometrics”

Morphometrics is the study of shape variation in organisms and its covariation with other variables. During the last 15 years there have been great advances in development of the methods used for description and statistical analysis of shape variation. The aim of this workshop is to provide comprehensive introduction to both theory and methods in the shape analysis and its practical aspects. Traditional morphometric analyses are based on the measurements that generate sets of distances among objects being studied, while geometric

morphometrics utilizes landmark coordinates to extract the shape of the objects. The main objective of the workshop is to equip the students with knowledge to analyze shapes of the organisms in their study and carry out the statistical analyses of their data. The workshop will be presented in a lecture and laboratory format where lectures are followed by practical sessions in data acquisition, use of shape analysis software, statistical analysis. Geometric morphometrics is used in describing and comparing shapes of organisms or the shapes of particular structures. This method is applicable in studying geographical, developmental, genetic, and environmental variation in shape of the organisms. Thus it can be used by a broad category of students in the fields of ecology, evolution, systematics, genetics, medicine, etc.. Since it is applicable to many areas in biology, medicine, and anthropology, it is very useful in interdisciplinary research areas.

Closer information about the workshop is given on the homepage <http://www.metu.edu.tr/~aykut/>.

The workshop is limited to 20 students. Participants are expected to work on their own example (small) data sets to facilitate understanding of the application of geometric morphometric methods, and each student is expected to present a brief summary of the analysis of her/his own data.

The Organizing and Supporting Institutions of this workshop are

- Department of Biology, METU,
- Scientific and Technical Research Council of Turkey,
- METU and
- EUROPT.

The *Invited Speakers* are

- D.C. Adams (Iowa State University, USA),
- F.J. Rohlf (SUNY Stony Brook, USA) and
- D.E. Slice (University of Vienna, Austria).

3.f EJOR Special Issue “Continuous Optimization in the Industry”

The European Journal of Operational Research will publish a special issue on *Continuous Optimization in the Industry*. One of the most important concerns of our societies is the ensuring and continuous improvement of living standard which is impossible without fast development in all aspects of life, technology and science. Nowadays, optimization is an enabling technology in innovation. To exchange and paper submission we welcome practitioners of operations research from industry and economic practice together with researchers, software developers and those operations researchers who are doing consultancy for companies. Our EJOR special issue focuses on recent advances in large scale continuous optimization and their applications in industry. High performance optimization software and novel applications are reviewed as well. Contributions of more a theoretical kind are welcome to our optimization issue also.

This special issue is initiated by *EUROPT*, EURO Working Group on Continuous Optimization (www.iam.metu.edu.tr/EUROPT/), in close correspondence with *EJOR* and *EURO*. It aims at demonstrating the state-of-the-art of this exciting research field, to reflect its

challenges and to invite to future research and collaboration among the countries of EURO and in the world. Furthermore, this special issue will provide a destination for papers presented during our 17th EURO MC which was organized by EUROPT, Hungarian OR Society, University of Pécs, and supported by EURO and German OR Society (please see http://www.cs.elte.hu/opres/Pecs05EUROmini/h_about.html).

The Guest Editors are:

- *Tibor Illes*, Eötvös Loránd University of Sciences, Budapest, Hungary,
- *Marco Lopez*, University of Alicante, Spain,
- *Jacques Teghem* (EJOR, Editor), Université Libre de Bruxelles, Belgium,
- *Tamás Terlaky*, McMaster University, Hamilton, Canada, and
- *Gerhard-Wilhelm Weber*, METU, Ankara, Turkey.

3.g EUROPT Homepage

Please see Subsection 2.g.

3.h EUROPT Newsletter by E-Mails

Please see Subsection 2.h.

As a small addition we note:

3.i Three EJOR Special Issues Going to Appear

Our *third EJOR Special Issue* “Advances in Continuous Optimization” will appear in this new year 2006. It was prepared at the occasion of 3rd EUROPT Workshop “*Advances in Continuous Optimization*”, Istanbul, Turkey, July 4-5, 2003; it will be a Feature Cluster of EJOR, Volume 169, Issue 3, 16 March 2006. The guest editors are *B. Karasözen* (METU, Ankara), *M. Pinar* (Bilkent University, Ankara), *T. Terlaky* (McMaster University, Hamilton, Canada) and *G.-W. Weber* (METU, Ankara).

Also our fourth and fifth *EJOR Special Issues* will be published (cf. Subsections 2.h and 2.i).

To all friends who served so devotedly for our activities in 2005 and go on collaborating in our group’s activities, we - EUROPT – is sending heartfelt thanks. With you we are going on serving for our peoples, their wealth, piece and friendship!

With best wishes, cordially yours,

Florian Jarre
Coordinator of EUROPT

Gerhard-Wilhelm Weber
Vice Coordinator of EUROPT

March 27, 2006