Participants of the 2015 Workshop on Matrices and Operators

For further information about the workshop, see `http://cklixx.people.wm.edu/mao2015.html`. The 2016 workshop will take place at Jeju National University, Korea, July 3–7, 2016.

International Conference on Matrix Analysis and Its Applications - MatTriad 2015
Coimbra, Portugal, September 7–11, 2015

Report by Natália Bebiano and Tomasz Szulc

The 2015 edition of MAT-TRIAD, sixth in a series of international conferences on Matrix Analysis and Its Applications, was held at the Department of Mathematics, University of Coimbra, Portugal, from the 7th to the 11th of September 2015. Following the tradition of its predecessors, this meeting gathered researchers around topics in matrix theory and its profound role in theoretical and numerical linear algebra, numerical and functional analysis, and statistics. Invited talks were presented by

- Peter Benner (Germany), "Numerical solution of matrix equations arising in control of bilinear and stochastic systems";
- Marija Dodig (Portugal), "Matrix pencils completions, combinatorics, and integer partitions";
- Froilán M. Dopico (Spain), "The inverse eigenstructure problems for matrix polynomials";
- Moshe Goldberg (Israel), "Radii of elements in finite-dimensional power-associative algebras";
- Christian Mehl (Germany), "Generic low rank perturbations of structured matrices";
- Dietrich von Rosen (Sweden), "The likelihood ratio test in bilinear models";
- Roman Zmyślony (Poland), "Inference in linear mixed models and Jordan algebra"; and
- Karol Życzkowski (Poland), "Joint numerical range and numerical shadow."

The winners of the Young Scientists Awards of MAT-TRIAD 2013, Jaroslav Horáček (Czech Republic) and Maja Nedović (Serbia) presented the invited talks entitled "Computational complexity and interval Linear Algebra" and "H-matrix theory and applications" respectively. As before, the work of the conference included two lectures in matrix theory, especially dedicated to young participants, given by distinguished experts in the field: Friedrich Pukelshiem (Germany) on "Matrices and the European parliament" and Peter Šemrl (Slovenia) on "Adjacency preservers."

The program included a Special Session in memory of our dearest colleague Glória Cravo about eigenvalues, multiplicities and graphs, with speaker Charles Johnson (USA).

Nine invited minisymposia were included in the program:

- Linearizations and ℓ-ifications of matrix polynomials: theory and applications. Organizers: Maribel Isabel Bueno (USA), Froilán Dopico (Spain) and Susana Furtado (Portugal);

- Spectral graph theory. Organizer: Domingos Moreira Cardoso (Portugal);
- Algebraic methods in operator theory. Organizer: M. Cristina Câmara (Portugal);
- Coding theory. Organizers: Raquel Pinto (Portugal) and Diego Napp (Portugal);
- Matrix theory, applications and engineering. Organizer: Marko Stošić (Portugal);
- Functions of matrices. Organizers: Pedro Freitas (Portugal) and Sónia Carvalho (Portugal);
- Linear preserver problems. Organizers: Henrique F. da Cruz (Portugal) and Rosário Fernandes (Portugal);
- Statistical inference, numerical and combinatorial methods. Organizers: Luís Miguel Grilo (Portugal) and Fernando Lucas Carapau (Portugal);
- Statistical models with matrix structure. Organizer: Miguel Fonseca (Portugal).

To end the five-day conference, a talk on "Linear Algebra in Portugal" was delivered by J. Vitória (Portugal). A special issue dedicated to MAT-TRIAD 2015 with selected papers of participants will be published by Springer Verlag after a refereeing procedure in a volume entitled *Applied and Computational Matrix Analysis* in the series *Proceedings of Mathematics & Statistics*.

Apart from the successful scientific work and professional interchange, participants especially enjoyed the beauties of the Forest and Royal Palace of Bussaco, and the classical music concert played by the group "Quarteto Santa Cruz de Coimbra" and "Joana Neto." At the closing ceremony of the conference, two young scientists received the 2015 awards: Ernest Šanca (Serbia) for the talk "A wider convergence area for the MSTMAOR iteration methods for LCP" and Jolanta Pielaszkiewicz (Sweden) for the talk "Test for covariance matrix with use of spectral moments." They are invited to present talks at the 7th MAT-TRIAD conference planned to be held in 2017 in Braunschweig, Germany.

The conference dinner included a celebration in honour of Simo Puntanen's 70th birthday, with speaker Alexander Kovačec. The conference ended with a visit to the "Paço das Escolas" of the University of Coimbra (UNESCO World Heritage Site).

The conference was sponsored by the International Linear Algebra Society (ILAS), Department of Mathematics, University of Coimbra (DMUC), Center for Mathematics, University of Coimbra (CMUC), Center for R&D in Mathematics and Applications (CIDMA), Center for Mathematical Analysis, Geometry and Dynamical Systems (CAMGSD), Center for Functional Analysis, Linear Structures and Applications (CEAFEL), Polytechnic Institute of Tomar, Portugal (IPT), Fundação para a Ciência e a Tecnologia (FCT), Programa Operacional Factores de Competitividade (COMPETE), Quadro de Referência Estratégica Regional (QREN), Fundo Europeu de Desenvolvimento Regional - União Europeia.

The conference scientific committee consisted of Tomasz Szulc (Poland) - Chair, Natália Bebiano (Portugal), Ljiljana Cvetković (Serbia), Heike Faßbender (Germany) and Simo Puntanen (Finland), and its organising committee was Natália Bebiano (Portugal), Francisco Carvalho (Portugal), Susana Furtado (Portugal), Celeste Gouveia (Portugal), Rute Lemos (Portugal) and Ana Nata (Portugal).

More details about the program and the book of abstracts can be found at `http://www.mattriad.ipt.pt`.

A total of 170 participants from 39 countries attended the conference.

Participants of the MAT-TRIAD 2015 conference