13th International Conference on Latent Variable Analysis and Signal Separation

February 21-23, 2017, Grenoble, France

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Ville de Grenoble · Grenoble-Alpes Métropole · La Région Auvergne-Rhône-Alpes · Aix*Marseille université

Aim

Some past LVA/ICA conferences

LVA/ICA 2010, St Malo, France
LVA/ICA 2012, Tel Aviv, Israel
LVA/ICA 2015, Liberec, Czech Republic

LVA/ICA 2017 will be the 13th in a series of international conferences which has attracted hundreds of researchers and practitioners over the years. Since its start in 1999 and under the banner of Independent Component Analysis and Blind Source Separation (ICA), the conference has continuously broadened its horizons. Today it encompasses a host of additional forms and models of general mixtures of latent variables. Theories and tools borrowing from the fields of signal processing, applied statistics, machine learning, linear and multilinear algebra, numerical analysis and optimization, and numerous application fields offer exciting interdisciplinary interactions. The conference is to be held on **February 21st-23rd, 2017 in Grenoble, France**.

The conference will be preceded by a **1-day advanced Winter School** : Advanced Data Mining Progresses. This school is sponsorized by LabEx PERSYVAL.

A special **1-day workshop on LVA and Advanced Data Mining** is scheduled to be organized on **Friday Feb. 24th**. It will be sponsorized by **LabEx PERSYVAL**. It is organized jointly with the ERC projects CHESS and DECODA

Presentation and feedback from the **6th SiSEC** (Signal Separation Evaluation Campaign 2016) competition will be presented at the conference.

The 13th International Conference on Latent Variable Analysis and Signal Separation – LVA/ICA 2017 – is organized by the GIPSA-Lab, the University of Grenoble-Alpes, and CNRS (french national research agency).

Important Dates

Full paper submission	September 22nd, 2016
Acceptance notification	November 23rd, 2016
Camera ready	December 12th, 2016

Winter School

LVA ICA Grenoble 2017

Winter School : Advanced Data Mining Progresses

Monday	Feb 20th, 2017
8:00 - 9:00	Registration / Coffee
9:00 - 9:10	Opening
9:10 - 10:40	**Plenary tutorial** Tensor decomposition : fondamentals and modern applications in machine learning (part I) Nikos SIDIROPOULOS, Univ. of Minnesota, USA
10:40 - 11:15	Coffee break
11:15 - 12:15	**Plenary tutorial** Component separation in the cosmos : precision ICA for exquisite data from out of space (part I) Jean François Cardoso , CNRS, Paris, France
12:15 - 14:00	Lunch
14:00 - 15:30	**Plenary tutorial** Tensor decomposition : fondamentals and modern applications in machine learning (part II) Nikos SIDIROPOULOS, Univ. of Minnesota, USA
15:30 - 16:00	Coffee break
16:00 - 17:00	**Plenary tutorial** Component separation in the cosmos : precision ICA for exquisite data from out of space (part II) Jean François Cardoso , CNRS, Paris, France
17:00 - 17:20	Pause
17:20 - 18:30	**Plenary tutorial** Selected flavors on Challenges in Extraction and Separation of Sources (CHESS) Christian Jutten, Univ. Grenoble Alpes, France Selected Topics on Tensor Decompositions for Data Analysis (DECODA) Pierre Comon, CNRS, France

Organized jointly with LabEx Persyval

Lecturers Biosketches

Nicholas D. Sidiropoulos received the Diploma in electrical engineering from the Aris- totelian University of Thessaloniki, Greece, and the M.S. and Ph.D. degrees in electrical engineering from the University of Maryland, College Park, USA, in 1988, 1990, and 1992, respectively. He served as Assistant Professor at the Univer- sity of Virginia (1997–1999); Associate Professor at the University of Minnesota, Minneapolis, USA(2000–2002); Professor at the Technical Uni- versity of Crete, Greece (2002–2011); and Professor at the University of Minnesota, Minneapolis (2011 to present). His current research focuses primarily on signal and tensor analytics, with applications in cognitive radio, big data, and preference measurement. Dr. Sidiropoulos received the NSF/CAREER award (1998), the IEEE Signal Processing Society (SPS) Best Paper Award (2001, 2007, 2011), and the IEEE SPS Meritorious Service Award (2010). He has served as IEEE SPS Distin- guished Lecturer (2008–2009), and Chair of the IEEE Signal Processing for Communications and Networking Technical Committee (2007–2008). He re- ceived the Distinguished Alumni Award of the Department of Electrical and Computer Engineering, University of Maryland, College Park, in 2013, and was elected EURASIP Fellow in 2014.

Jean-Francois Cardoso (born 1958) is Directeur de Recherche with the French CNRS (Centre National de la Recherche Scientifique) at the Institut d'Astrophysique de Paris. Since 1989, he has been extensively working on all aspects of blind source separation and independent component analysis. In 2001, he joined the Planck collaboration, a cosmological mission of the European Spatial Agency, for the analyis of Planck data. He developped in particular the blind component separation method which extracted a full-sky high-resolution map of the Cosmic Microwave Background out of the 9 Planck frequency channels. In 2014, he was awarded the CNRS silver medal.

Pierre Comon graduated in 1982, and received the Doctorate degree in 1985, both from the University of Grenoble, France. He later received the Habilitation to Lead Researches in 1995, from the University of Nice, France. He has been for nearly 13 years in industry, first with Crouzet-Sextant, Valence, France, between 1982 and 1985, and then with Thomson Marconi, Sophia Antipolis, France, between 1988 and 1997. He spent 1987 with the ISL laboratory, Stanford University, CA. He joined in 1997 the Eurecom Institute, Sophia Antipolis, France. He is research director with CNRS since 1998, first at laboratory I3S, Sophia Antipolis, France, until 2012, and then at Gipsa- Lab, Grenoble, France. His research interests include High-Order Statistics (HOS), Blind techniques, Statistical Signal and Array Processing, Tensor decompositions, Multi-Way Factor Analysis, Data Mining and its applications to biomedical end environment. Dr. Comon was Associate Editor of the IEEE Transactions on Signal Processing from 1995 to 1998, and a member of the French National Committee of Scientific Research from 1995 to 2000. He was the coordinator of the European Basic Research Working Group on HOS, ATHOS, from 1992 to 1995. Between 1992 and 1998, he was a member of the Technical and Scientific Council of the Thomson Group. Between 2001 and 2004 he acted as launching Associate Editor with the IEEE Transactions on Circuits and Systems I, in the area of Blind Techniques. He has also been a member of the editorial board of the Elsevier journal Signal Processing from 2006 to 2011, and member of several IEEE TC. He is presently in the editorial board of SIAM Journal on Matrix Analysis and Applications.

Christian Jutten received the Ph.D. and Doctor ès Sciences degrees in signal processing from the Grenoble Institute of Technology (GIT), France, in 1981 and 1987, respec- tively. In 1982, he became an Associate Professor at the GIT, and since 1989 he is a Full Professor at the Joseph Fourier University in Grenoble. For more than 30 years, his research interests have been machine learning and source separation, including theory (separability, source separation in nonlinear mixtures, sparsity, multimodality) and applications (brain and hyperspectral imaging, chemical sensor arrays, speech). He is author and co-author of more than 90 papers in international journals, 4 books, 25 keynote plenary talks, and about 200 publications in international conferences. He has been a visiting professor at the Swiss Federal Polytechnic Institute (Lausanne, Switzerland, 1989), at Riken labs (Japan, 1996) and at Campinas University (Brazil, 2010). He has served as director and deputy director of his lab from 1993 to 2010, including head of the signal processing department (120 people) and deputy director of GIPSA-lab (300 people) in 2007–2010. He served as a scientific advisor for signal and images processing at the French Ministry of Research (1996–1998) and for the French National Research Center (CNRS) (2003–2006). From May 2012 to September 2014, he was deputy di- rector at the Institute for Information Sciences (INS2I) at the CNRS, in charge of signal and image processing. Christian Jutten was organizer or program chair of many international con- ferences, including the first International Conference on Blind Signal Separa- tion and Independent Component Analysis in 1999. He has been a member of a number of IEEE Technical Committees, and is currently a member of the "Signal Processing Theory and Methods" Technical Committee of the IEEE Signal Processing society. He is the recipient of EURASIP (1992) and IEEE GRSS (2012) best paper awards, and Blondel Medal (1997) from the French Electrical Engineering Society for his contributions in source separation and in- dependent component analysis. He is a EURASIP fellow (2013). He is a Senior Member of the Institut Universitaire de France since 2008, a position renewed in 2013 for another five years. He is the recipient of a 2012 ERC Advanced Grant for a project on challenges in extraction and separation of sources (CHESS).

ERC

LVA ICA Grenoble 2017

A special 1-day Workshop was scheduled on Friday Feb. 24th,
organized jointly with ERC (European Research Council) projects DECODA and CHESS.

Friday Feb 24th, 2017 : ERC days

8:30 - 9:00	Introducing CHESS/DECODA
9:00 - 10:30	**CHESS/DECODA** Scientific communications (part I) 1 - R. Cabral Farias (DECODA) «Tensor flexible coupling» 2 - B. Rivet (CHESS) «Fetal ECG processing from multimodal data: a joint PCG & ECG extraction» 3 - K. Usevich (DECODA) «Convergence of algorithms for tensor approximation» 4 - Marco Congedo (CHESS) «A fixed point algorithm for the estimation of power means on the manifold of symmetric positive-definite matrices »
10:30 - 11:00	Coffee break
11:00 - 12:30	**CHESS/DECODA** Scientific communications (part II) 5 - S. Chlaily (CHESS & DECODA) «Information-Estimation relationship in Mismatched Gaussian channels» 6 - F. Raimondi (DECODA) «Tensor antenna processing» 7 - C. Jutten (CHESS) «Dynamical Spectral Unmixing of Multitemporal Hyperspectral Images»
12:30	Lunch

Committees

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Local Organisation

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Antoine Liutkus France

BioMed signal competition
Bertrand Rivet
Reza Sameni

Multimodal & Hyperspectral competition
Mauro Dalla Mura

Finance Chair

Akila Mokhtari	GIPSA-Lab, Grenoble, France

Communication

Lucia Bouffard-Tocat	GIPSA-Lab, Grenoble, France

Location

The conference has been held in the new Building of GreEn-ER (Grenoble Energie-Enseignement Recherche).

GreEn-ER
21 Avenue des Martyrs
38000 Grenoble