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AComIn: Advanced Computing for Innovation

**FP7 Capacity Programme
Research Potential of Convergence Regions**

EVENT ORGANISATION REPORT

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Summary: Report for the organisation of the *International Workshop on Information Fusion* (IWIF) - 25 September 2015

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Report about an AComin Organised and Supported Event

Name and type of the event:

International Workshop on Information Fusion. It was organized as a dissemination activity within ACOMIN project in order to spread out the project results and the IICT excellence at regional, national and international level.

Place, dates: Sofia, 25A Acad. G. Bonchev Str. IICT-BAS Hall 2 25 September 2015

Organisation committee:

Assoc. Prof. Kiril Alexiev, General Chair of the workshop
Assoc. Prof. Albena Tchamova, Program chair of the workshop

Participants /number, types/ :

from IICT -13 researchers
Bulgarian participants outside IICT - 5 researchers
foreign participants - 6 researchers
invited participants - 4 researchers

Short description:

The workshop consisted of four sessions in one working day. The scientific program included a plenary invited talk given by the President elect of the International Society of Information Fusion (ISIF), Dr. Jean Dezert, ONERA, France and the three invited talks, given by Dr. Dimiter Prodanov, IMEC, Belgium, Prof. Prokopenko, National Aviation University, Ukraine, and Prof. Lukin, O.Ya. Usikov IRE, NAS of Ukraine, all of them internationally established researchers. There were 9 papers presented during the morning and afternoon sessions by researchers from IICT and from the universities in Bulgaria.

The workshop was aimed to address new challenges, share solutions, and discuss future research directions in Information Fusion, relating mainly signal processing application. The given presentations were concerning data association (Dezert, Tchamova), radar technologies (Lukin, Prokopenko, Kudriashov, Lazarov), image analysis (Prodanov, Nikolov), signal estimation (Chyrka, Alexiev), neuro-fuzzy clustering (Koprinkova), biometrics (Minchev).

The second goal was to produce proceeding of the workshop, including summaries of the plenary talk, invited lectures and ordinary presentations. Our hope was to produce a special issue of the Cybernetics and Information Technologies Journal abstracted/indexed in many scientific data bases.

The International Workshop on Information Fusion was a team effort. I would like to thank all the participants of the workshop for their contribution. Many thanks also to the President elect of the International Society of Information Fusion (ISIF), Dr. Jean Dezert, who find time to come in Bulgaria. My special thanks to invited lecturers Prof. Lukin, Prof. Prokopenko and Dr. Prodanov. I am grateful to my colleagues who

greatly helped me in whole organization of this workshop, in particular Assoc. Prof. Tchamova. Many thanks to Assist. Prof. Bogdanova for handling the publication of the proceeding and Mrs. Shtereva as technical support coordinator.

SCIENTIFIC WORKSHOP PROGRAMME

9.00-9.30 Registration

9.30-10.30 **Plenary invited lecture: Jean Dezert ONERA, France, President elect ISIF**

Information Fusion with Belief Functions: A DSMT Perspective

10.30–11.00 **Invited lecture: Dimiter Prodanov, IMEC, Belgium**

Scale Spaces in Microscopic Image Analysis, *Dimiter Prodanov, Tomasz Konopczynski and Maciej Trojnar*

11.00-11.30 Coffee break

11.30-11.50 Multichannel modified covariance estimator of a single-tone frequency, **Iurii D. Chyrka, I. P. Omelchuk**

11.50-12.10 The Impact of the Quality Estimation of Optimal Assignment for Data Association in a Multitarget Tracking Context, *Dezert, J., A. Tchamova, P. Konstantinova*

12.10-12.30 Two-dimensional L1 norm minimization in SAR Image Reconstruction, **Andon Lazarov**

12.30-13.30 Lunch

13.30-14.00 **Invited lecture: I. G. Prokopenko, National Aviation University, Ukraine**

Statistical Synthesis of the Robust Signal Detection Algorithms in the Conditions of Aprioristic Uncertainty

14.00-14.30 **Invited lecture: K. Lukin, O.Ya. Usikov IRE, NAS of Ukraine**

Microwave 2D and 3D Imaging Technique using MIMO Active and Passive Noise Radar., *Konstantin Lukin & LNDES Team*

14.30-14.50 Fusion of images generated by radiometric and active noise SAR, **Volodymyr V. Kudriashov, Artem Yu. Garbar, Konstantin A. Lukin, Lukasz Maslikowski, Piotr Samczynski, Krzysztof S. Kulpa**

14.50-15.20 Coffee break

15.30-15.50 3D visualization of sound fields perceived by acoustic antenna, *Popova, N., Shishkov, G., **Koprinkova-Hristova, P., Alexiev, K.***

15.50-16.10 2D Video Stabilization for Industrial High-Speed Cameras, *Dimov D., **A. Nikolov***

16.10-16.30 Multiple Human Biometrics Fusion in Support of Cyberthreats Identification, ***Z. Minchev***

16.30-16.50 Human activity registration using multisensor data fusion ***K. Alexiev, G. Shishkov, N. Popova***

16.50-17.00 Closing

AComIn-related papers presented at the event and published after peer review:

All presentations are submitted in Cybernetics and Information Technologies Journal to be published.

Assessment of the added-value of the event to the AComIn dissemination objectives:

More than ten years have passed since the last organized in Bulgaria event devoted on Information Fusion technologies - NATO ASI "Multisensor Data and Information Processing for Rapid and Robust Situation and Threat Assessment". Often we have talked and have exchanged mails that it is necessary to repeat and organized again data fusion forum. At the end such a forum, albeit modest in scale was organized again. One official day of work and one unofficial, discussions on presentations, talks on the coffee breaks and informal meeting in the restaurant - all this leave deep and unforgettable impressions in every participant of the workshop.

Changes in the financial planning of the AComIn support spending:

One of invited lecturers didn't succeed to assure his travel expenses and thanks to the financial support of Bulgarian Chapter of IEEE the problem was resolved. This did not concern the planned expenses from ACOMIN project.

30.09.2015

Event organiser: Kiril Alexiev





