



INSTITUTE OF INFORMATION AND
COMMUNICATION TECHNOLOGIES
BULGARIAN ACADEMY OF SCIENCE



1869

WP 5 - Dissemination

Gennady Agre – WP5 Leader

An excerpt from Project Description of Work:

1. To support the project Web-site and to update it timely with all relevant information
2. To partly support the organization of 3 scientific events in order to disseminate the AComIn achievements in the three project topics (advance computing, smart interfaces, optimization and intelligent control)
3. To organize regular cycles of Technology Transfer seminars for User Communities...To involve visiting partners as well as incoming experience researchers in the business-oriented know-how transfer.
4. To publish promotional materials, leaflets, project descriptions both in Bulgarian and English...



AcomIn Web site

<http://iict.bas.bg/acomin/index.html>

Team area

Public area

- The 1st National Workshop *“Information and Communication Technologies for Human Health and Quality of Life”* (ICT-HuHeQuL2013)
- The 9th International Conference *“Large-Scale Scientific Computations”* (LSCC 2013)
- The 9th International Conference *“Recent Advances in Natural Language processing”* (RANLP 2013)

The 1st National Workshop “Information and Communication Technologies for Human Health and Quality of Life” (ICT-HuHeQuL 2013) was held on May 15-17 2013 in Stara Zagora Mineral Baths, Bulgaria.

Short Description	Participants
<p>The discussed topics ranged from theoretical considerations of modelling and simulation approaches to demonstration of application prototypes that can be used in healthcare decision making, ambient assisted living, orthopaedic surgery, quality preservation of foods etc.</p> <p>4 extended AComIn-related papers will be publish in in the Journal Cybernetics and Information Technologies (CIT),)4, 2013.</p>	<p>From IICT: 16 researchers</p> <p>Bulgarian participants outside IICT: 18 researchers (6 – invited)</p> <p>Participants from local municipal and health structures: 8</p>

The support, provided by AComIn to ICT-HuHeQuL’13 enabled:

- to cover the travel expenses and accommodation of 6 keynote speakers
- to support all participants from IICT

Project leaflets were given to all Workshop participants as event materials. The AComIn logo is shown in the ICT-HuHeQuL’13 Program and in all conference materials.



The 9th International Conference “Large-Scale Scientific Computations” (LSCC 2013) was held on June 3-7, 2013 in Sozopol, Bulgaria.

Short Description	Participants
<p>The meeting provides a forum for exchange of ideas between scientists, who develop and study numerical methods and algorithms, and researchers, who apply them for solving real life problems.</p> <p>Major scientific topics, all related to the AComIn project:</p> <ul style="list-style-type: none"> ➤ Hierarchical, adaptive, domain decomposition and local refinement methods; ➤ Robust preconditioning algorithms; ➤ Monte Carlo methods and algorithms; Numerical linear algebra; ➤ Control systems; Large-scale computations of environmental biomedical and engineering problems; ➤ High-performance algorithms for engineering problems; ➤ Parallel algorithms and performance analysis. 	<p>From IICT: 25, 23 of them researchers</p> <p>Bulgarian participants outside IICT: 19 researchers</p> <p>Foreign participants: 110, including 5 Plenary Invited Speakers</p> <p>Invited participants: 9, 2 of them supported by AComIn</p>

10 AComIn-related papers (to be published in LNCS)

- P. Schwaha, M. Nedjalkov, S. Selberherr, J.M. Sellier, I. Dimov, R. Georgieva, Stochastic Formulation of Newton's Acceleration
- J. M. Sellier, M. Nedjalkov, I. Dimov, S. Selberherr, The Role of Annihilation in a Wigner Monte Carlo approach
- P. Koprinkova-Hristova, Adaptive Critic Design and Heuristic Search for Optimization
- O. Roeva, S. Fidanova, V. Atanassova, Hybrid ACO-GA for Parameter Identification of an E. coli Cultivation Process Model
- S. Margenov, S. Stoykov, Y. Vutov, Numerical Homogenization of Heterogeneous Anisotropic Linear Elastic Materials
- S. Stoykov, S. Margenov, Nonlinear Forced Vibration Analysis of Elastic Structures by Using Parallel Solvers for Large-Scale Systems
- E. Atanassov, D. Georgiev, T. Gurov, A. Karaivanova, and Y. Nikolova, Distributed system for query processing with Grid authentication
- R. Hristova, S. Ivanovska, and M. Durchova, Performance Analysis of the Regional Grid Resources for an Environmental Modeling Application
- M. Lymbery, Robust Balanced Semi-Coarsening Multilevel Preconditioning of Bicubic FEM Systems
- T. Tashev, V. Monov, Large-Scale Simulation of Non-Uniform Load Traffic in Studying the Throughput of a Crossbar Packed Switch.



LSSC 2013 Added-Value for AComIn Objectives



The support provided by AComIn to LSSC'13 enabled:

- To cover the local expenses of several worldwide known scientists giving top level plenary and key note invited talks.
- To support a part (10 from 25) of the participants from IICT.

The conference materials included the AComIn flyer informing the participants about the objectives and specific activities of the project.

The AComIn support is acknowledged in the LSSC'13 Book of Abstracts as well as at the conference website.



The 9th International Conference “Recent Advances in Natural Language processing”
(RANLP 2013) was held on September 7-13, 2013 in Hissar, Bulgaria.

Short Description	Participants
<p><i>RANLP-2013 consisted of:</i></p> <ul style="list-style-type: none">➤ 4 tutorials given in 2 days (7-8 September 2013)➤ Main conference (9-11 September 2013) with 6 invited talks, 60 oral presentations, 39 poster presentations, and a parallel Student Research Workshop with 4 oral presentations and 21 poster presentations;➤ 3 Workshops held on 12-13 September 2013, where 4 invited talks and 21 papers were presented	<p>From IICT: 5 researchers</p> <p>Bulgarian participants outside IICT: 13 researchers</p> <p>Foreign participants: 141 including 9 invited speakers</p> <p>Invited participants: 9, 6 of them supported by AComIn</p>

5 AComIn-related papers published in the RANLP-2013 Conference and Workshops Proceedings

- ✓ Nikolova, I., I. Temnikova and G. Angelova.
Enriching Patent Search with External Keywords: a Feasibility Study.
- ✓ Temnikova, I., N. Hailu, G. Angelova and K. B. Cohen.
Measuring Closure Properties of Patent Sublanguages.
- ✓ Temnikova, I., I. Nikolova, W. A. Baumgartner, G. Angelova and K. B. Cohen. *Closure Properties of Bulgarian Clinical Text.*
- ✓ Zhikov, V., G. Georgiev, K. Simov and P. Osenova.
Combining POS Tagging, Dependency Parsing and Co-referential Resolution for Bulgarian.
- ✓ Simov, K. *Towards a System for Dynamic Language Resources in LOD.*





RANLP 2013 Added-Value for AComIn Objectives

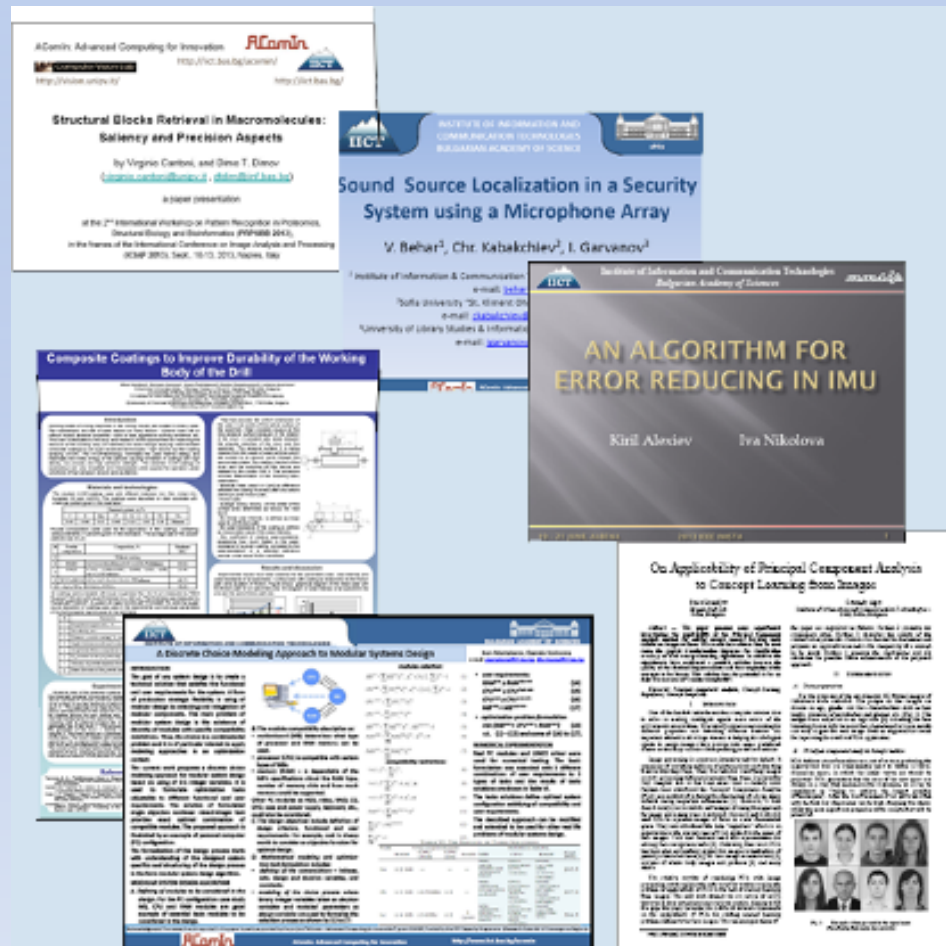


The support provided by AComIn to LSSC'13 enabled:

- To cover the travel expenses of numerous renowned keynote speakers and tutorial lecturers. The participation of six keynote speakers at the conference was very important for the IICT seniors because in this way it became possible to listen to state-of-the-art presentations and establish fruitful contacts for further developments;
- To introduce the notion of “reduced fees” for conference participants from countries with lower standard. In this way many young people from the neighbouring countries, as well as from countries from Middle East and North Africa, attended the conference. They might be future postdocs in AComIn and other IICT projects, and thus supporting their participation will repay in later years.

All RANLP-2013 participants were informed about AComIn, its objectives and results, and the possibility to apply for postdoctoral positions in the project. This improves the image of IICT as a regional Centre of Excellence in language and semantic technologies.

- 14 journal papers
- 38 papers in conference proceedings
- 2 invited talks
- 16 publications in print

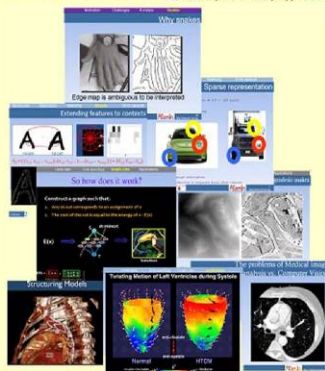


The 1st AComIn Technology Transfer Seminar on Computational Vision Applied to Medical Diagnosis

Lecturer: **Prof. Petia Radeva** – University of Barcelona, Spain



Dr. Petia Radeva is a Senior Researcher and Associate Professor at the Universitat de Barcelona. She is Head of Barcelona Perceptual Computing Laboratory at the University of Barcelona and head of MiLab of Computer Vision Center (www.cvc.uab.es). Her present research interests are on development of learning-based approaches (in particular, statistical methods) for computer vision and image processing. She has led or leads more than 15 projects (European, international and national projects), and 19 technology transfer projects with Spanish, American and Israeli companies. She has 15 patents in the field of computer vision, image processing and medical imaging. Some of the projects she is currently heading are: Machine learning tools for large scale object recognition, Audience measurements by Computer Vision, Evaluation of Intestinal Motility by Endoluminal Image Analysis, Sponsored Research Agreement on Automatic Stent Detection in IVUS, Study for the development of a polyp detection algorithm under a Polyp Detection, etc.



The Seminar Programme:

July 24th: 14.00 – 18.00 h:

Introduction: Computer Vision in Barcelona University;

Segmentation techniques:

- Snakes and level sets;
- Graph-cuts.

July 25th: 10.00 – 13.00 h:

Image context analysis:

- Shape context;
- Active shape models and Active appearance models;
- Bayesian context modeling.

July 25th: 14.00 – 18.00 h:

Applications to medical diagnosis and treatment – two real clinical projects:

- Introduction to Medical imaging;
- Arteriosclerotic plaque analysis in intravascular ultrasound images of coronary vessels;
- Stent detection.

July 26th: 10.00 – 13.00 h:

Neuroimaging;

Intestinal motility analysis in wireless endoscopic images

The seminar was held from 24 to 26 July 2013 as a 14-hours' course and brought together 33 participants from four private companies (MMSolutions AD, 3PS-SIMULIA, AVIQ Bulgaria Ltd., and Vitronic GmbH), two Bulgarian universities (Technical University of Sofia and Technical University of Veliko Tarnovo), seventeen participants from IICT-BAS, as well as representatives from six other institutes of the Bulgarian Academy of Sciences. The presentations of the lectures are freely accessible at the AComIn project site (<http://iict.bas.bg/acomin/news.html>).



AComIn
Advanced Computing for
Innovation
FP7-REGPOT-2012-2013
Grant Agreement: 315087

<http://iict.bas.bg/acomin/index.html>

Project Coordinator: Prof. Galia Angelova
Institute of Information and Communication
Technologies, Bulgarian Academy of Sciences
Acad. G. Bonchev St., Block 2, Sofia 1113, Bulgaria
tel. +3592 979 6607
e-mail: acomin@bas.bg



The 1st AComIn Technology Transfer Seminar on Applying Advance 3D Technologies in the Textile Industry and Fashion

Lecturer: **Dr. Petar Gulev** - the London School of Fashion, University of the Arts, London, UK

Dr. Gulev is a computer scientist, who graduated from the Technical University in Sofia. He holds a PhD degree from the Imperial College in London, UK and has gained scientific experience in the London School of Fashion in the University of the Arts – London. The seminar took place in IICT-BAS in the period September 2 – 5, 2013. The event was organised with the help and support of:

- **The British Council**, which policy includes continuous wide-ranging support for carrying out lectures in Bulgaria by specialists, who have obtained scientific degrees in Great Britain, and
- **The Ministry of Education and Science** of the Republic of Bulgaria, which provides facilities and competent technical support for conducting cutting edge technology trainings in Bulgaria.

Dr. Petar Gulev made the participants familiar with the current scientific and technological advancements in the



textile industry and fashion during a course, named: "Applying advanced 3D computer technologies in the textile industry and fashion". The focus fell on approaches for user opinion research, scanning and creating 3D models of the human body, 3D design of cloths and accessories, as well as using 3D models in electronic trade in the fashion industry. Dr. Gulev also presented an innovative concept, developed together with Lisa Stead - "Computer Aided Emotional fashion", a real time platform termed AffectiveWare, creating clothing that is personalised by the emotions of the individual. The list of attendees included company owners and managers from the textile industry, fashion designers, university professors and teachers in specialised secondary schools.

Leading Bulgarian companies in the field of 3D technologies were involved in the seminar upon the speaker's invitation: 3D Print – Bulgaria (<http://www.3dprint-bg.com>) demonstrated the creation of 3D objects in real time using MakerBotReplicator2 and environmentally clean com pre-products, and Team Ltd (Team OOD, <http://www.team.bg>) provided software for a manual 3D scanner ZScanner 800 for scanning textile objects and human shapes in real time. The seminar gathered 22 participants.



AComIn
Advanced Computing for
Innovation
FP7-REGPOT-2012-2013
Grant Agreement: 315087

<http://iict.bas.bg/acomin/index.html>

Project Coordinator: Prof. Galia Angelova
Institute of Information and Communication
Technologies, Bulgarian Academy of Sciences
Acad. G. Bonchev St., Block 2, Sofia 1113, Bulgaria
tel. +3592 979 6607
e-mail: acomin@bas.bg



User Communities are dynamically-growing expert groups that disseminate AComIn results to innovation-absorbing Bulgarian companies.

The members of these Communities will be included in intensive industrial training seminars, hands-on experiments with the Smart Lab devices and exchange of best industrial practices.

- Management of Digital Content
- Image Processing
- 3D Technologies
- Industrial Mathematics

The objective of the MDC User Group is to transfer innovations in the area of semantic and linguistic technologies applied to digital content management to Bulgaria.

The creation of the group was initiated by:

- Prof. Galia Angelova and Prof. Gennady Agre – IICT-BAS
- Prof. Darina Dichev and Prof. Christo Dichev - Winston Salem State University, USA
- Prof. Milena Dobрева - University of Malta



The main efforts are focused on:

- Transferring the best world practices in creation and management of educational digital content to the Bulgarian K12 e-learning education
- Transferring innovative applications of digital cultural heritage repositories adapted to educational context

The MDC User Group was created after organizing a series of lectures attended mainly by K-12 teachers, members of the academic, education and administrative communities as well as individual meetings with potential active members of the projected user group :

- Prof. Darina Dicheva. *Finding Open Educational Resources in Computer Science* (26 June 2013)
- Prof. Darina Dicheva. *Current practice trends and challenges in K-12 online learning* (26 June 2013)
- Prof. Christo Dichev. *Do we need K-12 on-line learning in Bulgaria ?* (27 June 2013)
- Prof. Milena Dobрева. *Methods of Studying Users of Digital Libraries* (July 1 2013)
- Prof. Milena Dobрева. *End Users and Digital Preservation: Challenges and Perspectives* (8 July 2013)



Meetings of Prof. Milena Dobрева with the Director of Bansko Museum Complex and PhD students from the Department of Library and Information Studies of the Philosophical Faculty of Sofia University (13 and 16 July 2013)

The results up to now:

- Development of methodology for studying, analyzing and assessing of the needs and readiness for online learning in Bulgarian K-12 education system based on large scale data.
- Development of a survey questionnaire covering questions on the knowledge and skills of potential teachers, perceived barriers and facilitators, training needs as well as questions on the current state of information\ and communication technology in schools and its use.
- Creation of an initial core group, whose near term goals include popularizing and providing a community support for the planned user studies.

The user group social site is:

<https://www.facebook.com/eUchitel>

Електронното Обучение в България

Целта на този въпросник е да събере информация за това до каква степен електронното и смесеното обучение са налице в българското средно училище и какво е отношението на учителите към тях.

При електронното (онлайн) обучение учителът и ученикът се намират на различни места и използват Интернет и специализирана уеб-база за провеждане на обучението. При този тип обучение ученикът може да избира времето, мястото и скоростта на обучение, а помощта и последователността на представяне на учебното съдържание.

Смесеното обучение е комбинация от електронно обучение с традиционното обучение, провеждано в училище (при което учителът и ученикът се намират на едно и също място).

Въпросникът е разработен от екипа на проекта ACorn (Advanced Computing for Innovation). Въпросникът е анонимен, но ако имате желание да споделите с участниците в проекта допълнителна информация или имате въпроси, можете да пишете на escom@bas.bg

За попълването на въпросника са необходими около 10-15 минути.

Благодарим Ви за участието!

ЕЛЕКТРОННОТО ОБУЧЕНИЕ У НАС

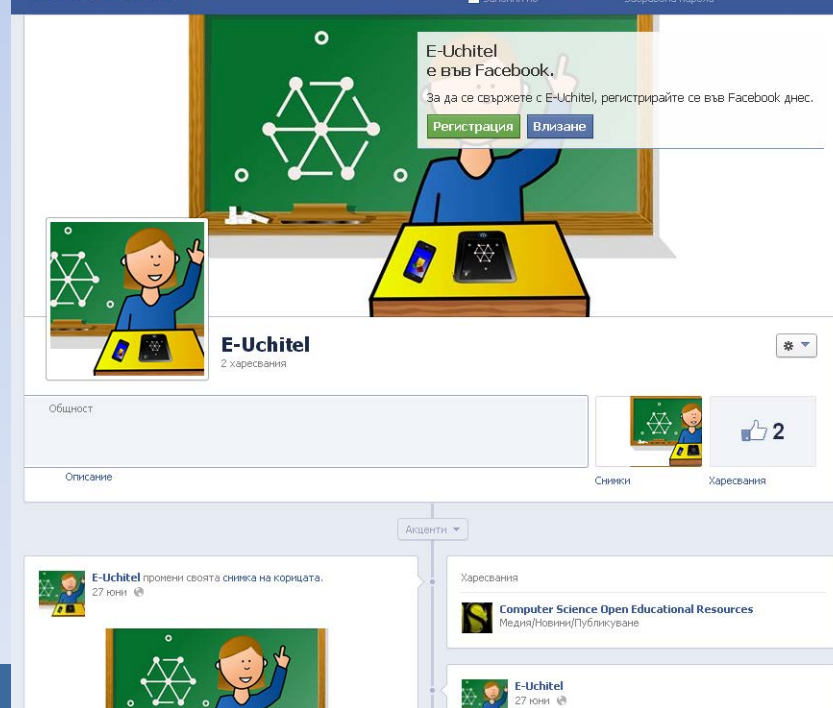
1. В каква степен сте запознати със състоянието на електронното обучение в България?

- ☐ Много висока
- ☐ Висока
- ☐ Средна
- ☐ Слаба
- ☐ Не мога да преценя

2. С какво електронното обучение е/би било най-полезно за учителите според вас? (може да се дават всички възможни отговори)

- ☐ Спестява време за подготовка на уроци
- ☐ Предоставя повече варианти за обучение
- ☐ Давя възможност да се изберат по-добри учебни материали
- ☐ Позволява да се създаде портфолио за всеки ученик
- ☐ Дават възможност за индивидуално обучение

facebook



The image shows a Facebook page for 'E-Uchitel'. At the top, there is a cover photo featuring a teacher at a desk with a greenboard and a student. A text overlay on the cover photo reads: 'E-Uchitel е във Facebook. За да се свържете с E-Uchitel, регистрирайте се във Facebook днес.' Below this are buttons for 'Регистрация' and 'Влизане'. The page name 'E-Uchitel' is displayed with '2 харесвания'. The page layout includes sections for 'Общност', 'Описание', 'Снимки', and 'Харесвания'. A post from 'E-Uchitel' is visible, dated '27 юни', with a photo of a teacher and student. Below the post, there are more posts, including one from 'Computer Science Open Educational Resources' and another from 'E-Uchitel' dated '27 юни'.

Thank you for your attention!

Questions?