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\* We apologize if you receive multiple copies: We use several mailing lists \*  
\* that may be overlapping \*  
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## The First Announcement and Call for Papers

### AIS-ADM-07: The International Workshop on Autonomous Intelligent Systems: Agents and Data Mining

June 3-5, 2007, St. Petersburg, Russia

<http://space.ias.spb.su/ais07>

#### Sponsors

1. European Office of Aerospace Research and Development, USA
2. Office of Naval Research Global, USA
3. Russian Foundation for Basic Research
4. U.S. Army International Technology Center – Atlantic, Research Division

#### Organizers

1. St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences (SPIIRAS)
2. St. Petersburg Scientific Center of the Russian Academy of Sciences
3. Binghamton University (State University of New York)

#### **1. Title and scope: "Autonomous Intelligent Systems: Agents and Data Mining"**

Since early 1990, multi-agent systems (MAS) and data mining and knowledge discovery (KDD) have remained areas of high interest for the research and development in intelligent information technologies. The multi-agent system technology offered powerful metaphors for information system conceptualization, a range of new architectures, techniques, and technologies specifically focused on the design and implementation of large-scale distributed intelligent systems operating in open heterogeneous environment. This technology is now approaching its industrial maturity, thus helping to cope with design, implementation, and deployment of critical industrial applications in many domains.

KDD technology also provides intelligent information technology with powerful ideas, algorithms, and software means intended for answering the main question of many Artificial Intelligence applied problems, "Where does the knowledge come from?", thus actually making modern applications intelligent and adaptive.

The evident recent trend in both science and industry is to integrate these technologies in order to use advantages of them both. The existing experience with combined application of multi-agent technology to design architectures of distributed data mining and KDD systems, and the utilization of distributed data mining and KDD to support learning tasks in multi-agent research, confirms the fact that both technologies are capable of mutual enrichment and their joint use results in information systems with emergent properties.

For instance, MAS architectures are used for distributed data mining and knowledge discovery systems, particularly, for distributed learning in data fusion systems making decisions based on many

distributed heterogeneous data and information sources. The use of multi-agent technology in very large-scale data mining and KDD tasks is another example of the same trend. In return, multi-agent systems utilize data mining and KDD as a source of innovative ideas to provide applications more intelligence and adaptability.

The emergent technology may be outlined by such key words as autonomous intelligence, distributed intelligence, learning intelligence, emergent intelligence, emergent intelligent behavior, etc. It is worth noting that a number of very specific research problems arise on the cross-boundary of multi-agent, data mining and KDD technologies. The examples are specification framework and representation structures for distributed intelligence, the new role of ontology, joint use of knowledge extracted from different heterogeneous sources, protocols for distributed data mining, etc. Rapidly developing intelligent agent-based ad-hoc networks technology in particular, operating on peer-to-peer basis, represents one more example of the topmost problems currently given increasing attention from the scientific and industrial communities. Ubiquitous computing and ubiquitous knowledge discovery forming a class of novel distributed intelligent technology is practically infeasible without integration of multi-agent and KDD technologies.

During the past years, interest in joint use of the multi-agent and KDD technologies has also been proven by several successful international conferences and workshops which were devoted to the problem in question, either fully or partially.

The success of the First International Workshop "Autonomous Intelligent Systems: Agents and Data Mining" (AIS-ADM-05) held in June 2005 in St. Petersburg, Russia (<http://space.iias.spb.su/ais05>, LNAI-3505) confirmed the world wide interest in the theoretical and applied aspects of the new technology integrating agents, data mining and knowledge discovery.

However, like any newly emergent technology, integration of multi agent and data mining and KDD within distributed intelligent systems brought forward a number of novel problems and challenges. The Second International Workshop "Autonomous Intelligent Systems: Agents and Data Mining" (AIS-ADM-07) that will be held from June 3-5, 2007, in St. Petersburg, Russia, is intended for discovery and analysis of the aforementioned problems and challenges, as well as for sharing of new ideas, scientific results, lessons learned, and the best practices within the new cross boundary area integrating multi-agent and data mining and KDD technologies.

The Workshop invites researchers from both academia and industry to jointly discuss various aspects of theory and applications, as well as new opportunities provided by integration and interaction of multi-agent and data mining and KDD.

The list of **main topics** of the Workshop includes but is not limited to:

- Intelligent agents for Data Mining and KDD
- Agent-based architectures for distributed data mining and KDD
- Agent-based infrastructure for distributed data mining and KDD
- Agent-based coordination of distributed data mining and KDD
- Agent-based peer-to-peer distributed data mining and KDD
- Agent technology for ubiquitous data mining
- Agent-based service-oriented data mining infrastructure
- Agent-based mediation and management of enterprise data mining,
- Agent-based ontology mining
- Knowledge discovery via mobile agents in ubiquitous environments
- Agent security in ubiquitous environments
- Mobile agents in sensor networks: challenges, solutions, scalability.
- Protocols for agent-based distributed data mining and KDD
- Protocols for agent-based ubiquitous data mining and KDD
- Ontologies for agent-based distributed data mining and KDD
- Agent-based infrastructure and software tools for data mining and KDD
- Agent technology in collaborative Web filtering
- Agent-based context sensitive web mining and global information foraging
- Agent-based ontology-driven web mining
- Agent-based meta-knowledge discovery and representation
- Adaptation and Learning in multi-agent systems

Evolution and Individual Learning in Multi-Agent Systems  
Distributed Learning of agents of multi-agent systems  
Distributed Learning of protocol selection in cooperative multi-agent systems  
Learning of Coordination in multi-agent systems  
Challenges and benefits associated with integration of agent and data mining  
Data mining-driven self-configuration of agent-based ad-hoc networks for improvement of multi-agent communication and load balancing  
Surveys and case studies on integration of agent and data mining and KDD technologies  
Lessons learned  
Applications (intrusion detection, situational awareness, learning of situation assessment, emergency monitoring and response, agent-based data and information fusion, etc.)

## **2. Important dates**

Inclusive dates of Workshop:

June 2-6, 2007, (arrival on June 2, technical program June 3-5, departure on June 6)

For submission:

Paper drafts	January 10, 2007
Acceptance notification	February 5, 2007
Camera ready papers due	March 4, 2007

For registration:

Early registration deadline	before April 20, 2007
On site registration	June 2-5, 2007
Hotel reservation request	May 10, 2007

## **3. Paper submission**

The Workshop welcomes original, not previously published, papers from academic, government, and industry contributors on the above proposed and closed topics. All submissions will be subjected to a thorough review by at least two reviewers. Draft versions of original full papers up to 5500 words in English, including abstract (up to 300 words) and keywords (3 to 5), should be submitted by January 10, 2007 or sooner via upload through the Workshop web site at <http://space.ias.spb.su/ais07>. Only electronic submissions in PostScript or PDF formats will be accepted.

### **Guidelines for the proceedings camera-ready manuscripts of the accepted papers**

Proceedings of the Workshop are planned to be published by Springer Publishers in their "Lecture Notes in Artificial Intelligence" series (the final decision of Springer will be made to the end of reviewing process). Camera-ready manuscripts of the accepted papers should be formatted in accordance with Springer requirements (in MS Word or LATEX formats). When preparing your paper, please follow the guidance from the "Information for Authors" Springer web site and use the style files for "Proceedings and Other Multi-Author Volumes" supplied by Springer. Springer author instructions are available at:

<http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-164-2-72376-0,00.html>

The authors of accepted papers must strictly follow the aforementioned rules and templates. Camera-ready paper submission can be uploaded through the Workshop web site at <http://space.ias.spb.su/ais07/made> or, in case of problems, via e-mail [ais@mail.ias.spb.su](mailto:ais@mail.ias.spb.su).

## **4. Conference languages**

The working language of the Workshop is English. The papers and presentation materials must be in English.

## **5. Workshop Website**

All materials concerning AIS-ADM-07 preparation, program, and other arrangements can be found at the regularly updated web site <http://space.iias.spb.su/ais07>.

## **6. The Principal Invited Speakers**

We intend to invite a number of worldwide-recognized specialists in both multi-agent system and data mining and knowledge discovery areas from the USA, Europe, Asia and Australia. The list of the invited speakers will be available at the Workshop web site.

## **7. Sponsors, Organizers, and Organizing Committee**

### **Sponsors**

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### **Organizers**

St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences (SPIIRAS)  
St. Petersburg Scientific Center of the Russian Academy of Sciences  
Binghamton University (State University of New York)

### **Chairmen**

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### **Local Organizing Committee**

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<http://www-staff.it.uts.edu.au/~chengqi/>)  
Victor Skormin (Binghamton University, USA,

<http://www.ee.binghamton.edu/lasercom/vskormin/>  
Longbing Cao (University of Technology, Sydney, Australia,  
<http://www-staff.it.uts.edu.au/~lbcao/>)

### **Program Committee members**

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Pericles Mitkas (Aristotle University of Thessaloniki, Greece)  
Joerg Mueller (Technische Universität Clausthal, German)  
Steve Munroe (University of Southampton, UK)  
Mircea Negoita (Pertronic Industries Ltd., New Zealand)  
Hung Son Nguyen (Inst. of Decision Support, Poland)  
Ngoc Thanh Nguyen (Wroclaw University of Technology, Poland)  
Eugenio Oliveira (University of Porto, Portugal)  
Leonid Perlovsky (AFRL/IFGA, USA)  
Zbigniew Ras (University of North Carolina, USA)  
Michele Sebag (CNRS - Université Paris-Sud Orsay, France)  
Andrzej Skowron (Warsaw University, Poland)  
Zhong Zhi Shi (Inst. for Computer Technology, China)  
Alexander Smirnov (SPIIRAS, Russia)  
Katia Sycara (Carnegie Mellon University, USA)  
Andreas Symeonidis (Aristotle University of Thessaloniki, Greece)  
Boleslaw Szymanski (Rensselaer Polytech. Institute, USA)  
Huaglori Tianfield (Glasgow Caledonian University., UK)  
Santtu Toivonen (VTT Tech. Res. Centre, Finland)  
Ran Wolff (Haifa University, Israel)  
Philipp Yu (IBM Thomas J. Watson Research Center, USA)  
Nikolay Zagoruiko (Inst. for Mathematics, Russia)  
Yanqing Zhang (Georgia State University, USA)

Wen-Ran Zhang (Georgia Southern University, USA)  
Zili Zhang (Deakin University, Australia)  
Ning Zhong (Maebashi Inst. of Technology, Japan)  
Hai Zhuge (Inst. for Computer Technology, China)

## **9. Location of the Meeting, Accommodation, Cultural Program**

According to the preliminary agreement, the AIS-ADM-07 Workshop will take place in the historical building "Palace of Grand Prince Vladimir Romanov," now "House of Scientists," located in the heart of St. Petersburg, address: 26, Dvortsovaya emb., St. Petersburg, 191186, Russia. This venue allows the conference organizers to arrange for the Workshop itself, as well as for the associated events (informal discussions, reception, breaks, etc.)

All participants are expected to arrive to St. Petersburg directly. Workshop organizers intend to arrange for transportation upon arrival and departure and to/from Workshop venue/other hotel upon a separate request of participants.

The following assistance in housing could be provided by local organizers. We intend to engage a Destination Management Company "Monomax" to assist participants in housing and cultural programs (<http://monomax.ru/langeng>). It is possible to make reservations at reasonable prices in hotels in the St. Petersburg downtown area from \$120 per night (single room), and from \$130 per night (double room). Also, reservations in better and more expensive hotels at \$150 - \$600 per night are available (hotels like Astoria, Europe, Radisson SAS, etc.). For students, the hostel from about \$50 may be organized on special request.

## **10. Visa Issues**

All foreign participants of the Workshop should obtain an entry visa to the Russian Federation.

Workshop Service Agency Monomax Meetings & Incentives will provide participants with the visa support papers (invitation & hotel voucher).

Monomax Meetings & Incentives has reference number of the Russian Ministry for Foreign Affairs. Supporting documents will be made based on your personal information submitted on-line at the Visa Support section according to the period of hotel accommodation you have booked.

In order to obtain Russian Tourist Visa please contact the nearest Russian Consulate or Embassy in your home country for the further information.

Monomax Meetings & Incentives will send the visa supporting documents to the participant **ONLY after receiving hotel accommodation one night pre-payment!**

**PLEASE NOTE:** In most of cases fax copy of visa support documents is enough. In some countries Russian Consulate requires originals of visa support to be presented. The fee for post courier delivery is charged separately.

The procedure of visa application varies from country to country and could take more than 2 weeks. We recommend you to start it as soon as you know about your participation in the conference.

### **IMPORTANT GUIDELINES TO FILL OUT YOUR VISA APPLICATION FORM PROPERLY**

Purpose of visit: Tourism (please do not state any other purpose of visit).

This will help you to avoid difficulties with your Russian Tourist Visa obtaining, and will help us to shorten and simplify the procedure of invitation letter issue and your registration upon arrival to Saint-Petersburg.

**Tourist Visa can not be extended.**

Please note that in order to obtain the visa your passport must be valid for at least 3 months after the proposed date.

### **Migration card**

All foreign citizens arriving in Russia have to complete a migration card given at the customs. Please, fill it in carefully and keep safe until you leave the country.

If you have any questions or need our assistance please do not hesitate to contact us at Natalia.Zakharova@monomax.org.

## **11. Contact us**

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