COE-SEMINAR
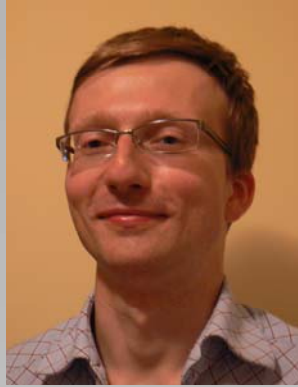### (in English)

Modern Open Distributed Systems: Research Challenges and Applications

Dr. Adam Wierzbicki

The talk will be devoted to Open Distributed Systems (ODS) that are a key component of the modern Knowledge Economy. Examples of ODS include: the Internet, telecommunication networks, P2P overlay networks, ad-hoc networks, Grid systems, online auctions, and Web-Services systems used for business processes in modern companies. The talk will discuss open research and technological issues of ODS, such as design of ODS for high scalability and performance, providing fairness and managing trust in ODS. The problems will be illustrated with working examples of research and development of ODS, such as using Peer-to-Peer computing to develop a Massive Multiplayer Online Game. This project demonstrates the need for providing fairness and managing trust in Peer-to-Peer systems. The talk will also give a broad overview of Peer-to-Peer technology and of current open research problems in the area. The subject of trust management will be developed further on the examples of e-commerce, where reputation systems are widely used in online auctions. The talk will present a new reputation algorithm for online auctions and discuss issues of fairness in such systems.

Among new applications of ODS, an interesting area are knowledge management and decision support. A new, challenging research direction is application of ODS for computerized creativity support. The talk will describe a prototype Creative Environment called SCI-Blog, and discuss promising applications of Semantic Web technology in creativity support.

Plan of the talk:
1. Modern Open Distributed Systems
   a. Examples of Open Distributed Systems (ODS)
   b. Role of ODS in the Knowledge Economy
   c. Research and Technological Challenges of ODS
2. Peer-to-Peer Computing and its Applications
   a. P2P Computing: Where are we now?
   b. P2P Massive Multiplayer Online Games
   c. P2P Computing: A look ahead
3. Trust Management
   a. What is trust and trust management?
   b. Trust management in e-commerce
4. Computerized Creativity Support
   a. SCI-Blog: a prototype Creative Environment
   b. Semantic Web technology in Creative Environments
5. Conclusion

Title: *Modern Open Distributed Systems: Research Challenges and Applications*

Main Speaker: **Dr. Adam Wierzbicki**, Vice-Dean of the Department of Informatics, Polish-Japanese Institute of Information Technology (PJIIT)

Date and Time: April 11, Wednesday, 15:00 -- 17:00

Place: Collaboration Room, 6th Floor, KS 3rd Building

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