Plenary Key Speakers

WOJCIECH CELLARY received the M.Sc. (1974), Ph.D. (1977) and Dr.Hab. (1981) degrees all from the Technical University of Poznan. In 1989 he received the title of Professor. From 1974 to 1992 he was with the Technical University of Poznan from 1987 to 1991 serving as the scientific director of the Institute of Computing Science. From 1992 to 1996 he served as the vice-president responsible for research of the Franco-Polish School of New Information and Communication Technologies. In 1996 he joined the Poznan University of Economics. Currently he is the head of the Department of Information Technology.

He has been a visiting professor at the following universities in France and Italy: University of Nancy I, University of Nancy II, University of Paris-Sud, University of Paris-Dauphine, University of Genova, and University of Ancona. He has been a leader of numerous research and industrial projects on the development of hardware and software of computer systems and their applications in telecommunications, the computer industry, the electric power industry, education and administration. The projects were supported by Polish, French and American industry, as well as 4th, 5th, and 6th EU Framework Programme. He served as a consultant to the Polish Ministry of Science and Higher Education, Ministry of Administration and Digitalization, Ministry of Telecommunications, Ministry of Regional Development, Ministry of Economy, Polish Parliament, and several research institutes and governmental projects.

He has been involved in organization of 38 scientific national and international conferences and he has been a member of the program committees of an additional 360 conferences. He is an author or co-author of numerous publications: 11 books, 21 chapters in books, and over 155 articles in journals and conference proceedings. Beside research and teaching his professional activity encompasses consulting, membership in numerous professional organizations, editorial boards of scientific journals, think tanks, committees, councils, and various associations. He is a recipient of many awards for achievements in research and teaching. He supervised 17 PhD Theses, 4 of them received distinction, 1 of them received two awards in the national contests for outstanding PhD Thesis organized by two professional societies. In 2002 he was a representative of Poland at the General Assembly of United Nations devoted to "ICT for Development".

He teaches courses on Electronic Business both in Polish and English attended by over 700 students annually at the Poznan University of Economics.

Research interests:
- Development of e-Economy and Global Information Society
- Technologies of electronic business and electronic government
- Internet technologies: web search, negotiations and cooperation via Internet
- Database modeling of virtual reality
- Object-oriented, distributed and heterogeneous databases
- Database management: concurrency control, version and configuration management

CHALLENGES OF ECONOMY 4.0

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Abstract. *Economy 4.0 encompasses long list of innovative technologies as internet of things, cloud computing, big data, mobility, 5G, sensor technology, geo-spatial technology, robotics, cobotics, additive manufacturing, virtual reality augmented reality, and others. They are integrated in cyber-physical systems, than smart factories, and then Industry 4.0, as well as smart environments as smart grid, transportation, health-care, home, buildings and again – many others. The breakthrough innovation of Economy 4.0 is provision of mutually cooperating cyber-physical systems deployed in different areas with decision-making autonomy. This speech is devoted to three challenges of Economy 4.0 that go beyond technical issues. First, a challenge to future employees requiring new educational methods. Second, a challenge to fixing errors in complex software and training datasets. Third, a challenge to responsibility of complex software designers, developers and integrators. These challenges may be considered as directions of future research on Economy 4.0.*