

Preface

Conference RCDL-2012 continues the series of annual scientific conferences "Digital Libraries: Advanced Methods and Technologies, Digital Collections". Five years later, the Conference once again takes place in Pereslavl-Zalessky in the Program Systems Institute of the Russian Academy of Sciences.

In the years since the founding of the Conference, the scope of research and developments in the field of digital libraries and systems for scientific researches support greatly expanded. Thus, the exponential growth of volumes of observational, experimental and published data revolutionizes ways of organizing research. These data become the center of research and require the creation around them of a special e-ecosystems – research data intensive infrastructures (hereinafter the "research infrastructures"). Such ecosystems must ensure the accumulation of data and knowledge generated by scientific communities, creating an environment for interdisciplinary research through the exchange of information between scientific disciplines, reducing duplication of efforts and resources, as well as providing the integration of research data with scientific publications. Reflecting trends in the e-ecosystems advance in the world, the program of RCDL-2012 is dedicated to various aspects of building research infrastructures, in which digital libraries become an important component.

The Conference is attended by employees of research institutes, educators and graduate students of universities, experts in libraries and the IT industry. Among the participants of RCDL-2012 are the representatives of different regions of Russia and Ukraine. Also well-known experts in the field of research infrastructures from Austria and Italy have been invited.

The RCDL-2012 program provides a wide range of discussions of actual methodological and applied problems of creating IT infrastructures to support research and other activities. In particular, it is supposed to discuss techniques and technologies for creating and preserving digital content, integration of heterogeneous information resources from a variety of sources, conceptual and ontological modeling of subject domain, analysis, processing and search of textual information and images, extracting information from text, the use of spatial data, methods and means of scientometrics in scientific digital libraries, information security. It is supposed to discuss also the methodology and tools to develop research infrastructures and digital collections of information resources in various areas of science, problems of the implementation of specific projects of digital archives and digital content creation.

As at the previous RCDL conferences, a significant attention in the RCDL-2012 program is paid to the discussion of research and development activities in this field carried out within projects supported by the Russian Foundation for Basic Research.

The Conference will be opened by the invited talk of Andreas Rauber (University of Technology, Vienna; he is a repeated participant of the RCDL Conferences) on the digital curation as a key component of the research infrastructure, functions of which are evolving from the preservation of data to the preservation and verification of processes. The Conference program also includes the tutorial of another guest of the Conference - Giuseppe Amato (Institute of Information Sciences and Technology, Pisa), dedicated to the problems of content-based search in very large archives of visual documents.

An important place in the RCDL-2012 program takes a discussion on technologies for Big Data storage and manipulation that represent one of the most actual directions of information technologies development in many countries. At the sessions of the Conference, devoted to Big Data, an overview of the projects performed in this area, platforms used and prospects of the development of Big Data technologies will be presented. Specialists of the world's largest software company in the area of databases and information systems – Oracle Corporation – consider in their talks the functionality of designed in the company software and hardware facilities for support and analysis of Big Data, as well as of the cloud computing. It is of great interest the report of Joint Institute for Nuclear Research (Dubna) about their experience in

practical use of grid-technologies for the storage and processing of hundreds of petabytes data for the sake of the international scientific community of specialists in the field of nuclear research. Works in this area are held at the Institute in connection with its participation in the research programs undertaken around the CERN's Large Hadron Collider.

The RCDL-2012 program, in addition to the invited talk and tutorial, contains 13 sessions, in which 33 full reports and 16 short communications will be presented.

RCDL-2012 organizers are confident that this conference will contribute to the further development of scientific research in the field of digital libraries and research infrastructures, as well as practical developments in this field and in related areas of information technologies in our country.

Chairs of the RCDL-2012 Organizing and Program Committees express their gratitude to all authors of presented at the Conference papers, to Program Committee members for the great work in the paper reviewing and selecting, as well as to the Russian Foundation for Basic Research and Nanotechnology and Information Technology Branch of the RAS for the support of the Conference. RCDL conferences Steering Committee is especially grateful to the staff of the Program Systems Institute for their responsible and laborious work on preparation and hosting of the Conference.

RCDL-2012 Organizing Committee Chair

S.M. Abramov

Program Committee Co-chairs

S.V. Znamensky, M.R. Kogalovsky

Chair of the Steering Committee of the RCDL Conferences

L.A. Kalinichenko