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# The Outreach of Digital Libraries: A Globalized Resource Network

14th International Conference  
on Asia-Pacific Digital Libraries, ICADL 2012  
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Proceedings

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# Preface

The International Conference on Asian Digital Libraries (ICADL) was initiated in 1998 with the major goal of providing a platform for researchers and professionals from various disciplines in the Asia-Pacific region, and from around the world, to share their experiences related to digital library research and development. In the past 13 years, ICADLs were held in 13 different Asia-Pacific cities: Hong Kong (1998), Taipei (1999), Seoul (2000), Bangalore (2001), Singapore (2002), Kuala Lumpur (2003), Shanghai (2004), Bangkok (2005), Kyoto, (2006), Hanoi (2007), Bali (2008), Gold Coast (2010), and Beijing (2011). This year the 14th ICADL returned to Taipei and to the National Taiwan University for the second time.

In the past few decades, research and development in digital libraries proliferated with the advent of the Internet, Web, and mobile technologies. Researchers, scholars, and professionals have come to recognize the importance of digital libraries and the benefits that they bring to society. As resource sharing becomes common, the focus of digital libraries is shifting from the needs of the academics to major issues that involve both the general public and professionals of diverse disciplines. With the creation and the significant increase in the use of digital content, digital libraries have become essential not only in preserving cultural heritage but also in educating society.

The theme of the ICADL conference in 2012—The Outreach of Digital Libraries: A Globalized Resource Network—reflects the *raison d'être* of a global digital library. By pooling the knowledge and experience around the world, it is genuinely hoped that a good network of digital libraries will come to fruition in this global era. This year, we received 93 submissions from 25 countries. Each submission was reviewed by at least three Program Committee members. After rigorous discussions, 27, 17, and 13 submissions were selected as full papers, short papers, and posters, respectively. The acceptance rates for full and short papers are 29% and 18%, respectively. The accepted papers cover diverse topics such as cultural heritage preservation, retrieval and browsing in digital library, bibliometrics, metadata and cataloguing, mobile and cloud computing, human factors in digital libraries, preservation systems and algorithms, social media, digital library algorithms and systems, recommendation applications, digital library construction, and social networks.

We would like to thank all the authors who contributed their papers to ICADL 2012. We would like to express our thanks to all the Program Committee members for their excellent review work, and also to the members of the

Publication Committee for their excellent editorial support. We are very thankful to Der-Tsai Lee, Ingrid Parent, and Wei-Ying Ma for giving excellent keynote speeches at ICADL 2012. Finally, we would like to thank the Chair and all the members of the Organizing Committee of ICADL 2012. Without them, we would not have had a successful conference.

November 2012

Hsin-Hsi Chen  
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# Libraries as a Force for Change in the Digital Age

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**Abstract.** Not since the invention of block printing and movable type has the world seen such advances in the democratization of access to information as it has in the present day. The evolution of telecommunications, digital and Internet tools in recent years have exponentially increased these advances, including of course in Asia-Pacific nations. Never before has so much information been made available to so many people so easily in so many parts of the world.

There is little doubt that libraries, in the digital age, have become a key player in managing the explosion of information content and access. They are also becoming community destinations - as centres of learning, as centres of social activity and action, and as centres of inclusion and democratic values.

As President of the International Federation of Library Associations and Institutions (IFLA) and as the University Librarian at the University of British Columbia, Dr. Ingrid Parent will offer her unique perspective on the role of libraries as a force for change in the digital age.

Among the concerns and initiatives she will cover are: copyright legislation, open access, digital access and preservation, media and information literacy, and community outreach.

She will discuss these issues in the context of the promises and perils all libraries face in a world of continuing economic challenge and constantly changing communications and digital technologies.

# From Institutes to General Public: TELDAP's ICT-Enabled Digitization Project and Open Data Movement

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**Abstract.** In the past decades, tremendous progress has been made in producing digital cultural objects around the world. Taiwan was one of the pioneers that initiated a national project to have its major cultural institutions digitize their collections and make the digital content, reflecting its cultural heritage, available online. Over the course of ten years, TELDAP of Taiwan has collectively produced more than four million digital objects. Riding the tidal waves of Google and Facebook in this Internet age, the Berkman Center for Internet & Society, at Harvard University has launched, with the support of the government, cultural institutions and nonprofit organizations, an initiative to open a Digital Public Library of America <http://dp.lain> April 2013. In the meantime the Europeana Foundation in Europe has collected more than 22 millions of digital objects with more than 2200 organizations, including British Museum, Van Gogh Museum, and Louvre Museum, in 33 participating European nations. Digitization of national cultural heritage has become an integral part of national infrastructure for cultural exchange among nations, and for promoting social, academic and educational development; even value-added economic development in creative industry and tourism.

In this talk we will focus on TELDAP, which stands for Taiwan e-Learning and Digital Archives Program, and give an account of how this project was conceived, and eventually evolved into what it stands today. The upshot is that TELDAP not only preserves Chinese culture, but also showcases Taiwan's cultural, socio- and bio-diversity. It represents a national effort, led by Academia Sinica, involving many government institutions, the general public, as well as many content experts and software engineers. A variety of databases, metadata standards for various types of digital content, and special technologies for Chinese character processing, multimedia processing, information retrieval in spatial and time domains, etc. have been developed. These databases were distributed at institutions but were organized into a unified framework for public access. We will demonstrate the project, present the lessons learned, and show how this project brings our culture heritage from institutes to the general public, integrating it into their daily lives. We hope TELDAP will sustain itself as an evidence of national effort towards open data movement.

# From Information Organization to Knowledge Construction: Toward Semantic and Knowledge-Based Search

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**Abstract.** Search engines have been developed based on a paradigm that is rooted in library card catalogs that have been used for centuries to organize information. While this paradigm continues to have its own value, it has started to show many limitations given the rapid evolution of the Web. The Web today contains not only static documents but also dynamic information about real world entities. It is becoming a digital copy of the world, capturing data from people, products, services, locations, and even objects. This new Web requires a new paradigm that can directly fulfill people's information needs and empower them with knowledge. There is a need to develop infrastructure and algorithms for the deep mining of big data aggregated from all kinds of information sources and to construct knowledge graphs that understand intent and enable semantic matching and task completion. In this talk, I will introduce some of our latest projects at Microsoft Research that are helping to take Web search to a new level.

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