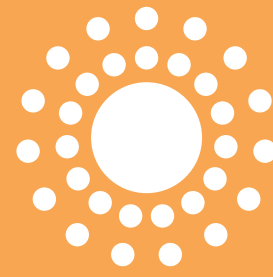




Proceedings of the International Conference on Dublin Core and Metadata Applications 2001



DC-2001 Dublin Core and Metadata Applications 2001

Proceedings of the International Conference on
Dublin Core and Metadata Applications 2001

National Institute of Informatics
October 24-26, 2001 • Tokyo, Japan



Organized by: **National Institute of Informatics (NII)**
Dublin Core Metadata Initiative (DCMI)
Japan Science and Technology Corporation (JST)
University of Library and Information Science (ULIS)
Communications Research Laboratory (CRL)
National Diet Library (NDL)

National Institute of Informatics

Organization of DC-2001 Conference

Domestic Advisory Board

| | |
|--------------------|---|
| Hajime Fukuchi | Communications Research Laboratory |
| Takashi Iida | Communications Research Laboratory |
| Haruki Nagata | University of Library and Information Science |
| Masamitsu Negishi | National Institute of Informatics |
| Noritada Otaki | National Diet Library |
| Koichi Tabata | University of Library and Information Science |
| Fujinobu Takahashi | Communications Research Laboratory |
| Kohji Utsuno | Japan Science and Technology Corporation |
| Takeo Yamamoto | National Institute of Informatics |

Organizing Committee

| | |
|--------------------------------------|--|
| (Chair) Jun Adachi | National Institute of Informatics, Japan |
| Rei Atarashi | Communications Research Laboratory, Japan |
| (Program Co-Chair) Thomas Baker | Fraunhofer-Gesellschaft, Germany |
| Makx Dekkers | Dublin Core Metadata Initiative |
| (Tutorial Chair) Erik Jul | OCLC, USA |
| Machiko Nakai | National Diet Library, Japan |
| (Local Organizing Chair) Keizo Oyama | National Institute of Informatics, Japan |
| (Program Co-Chair) Shigeo Sugimoto | University of Library and Information Science, Japan |
| Matsutoshi Wada | Japan Science and Technology Corporation, Japan |
| Stuart L. Weibel | Dublin Core Metadata Initiative |

Program Committee

| | |
|----------------------------|--|
| Leif Andresen | Danish National Library Authority, Denmark |
| Ann Apps | University of Manchester, UK |
| Rei Atarashi | Communications Research Laboratory, Japan |
| (Co-Chair) Thomas Baker | Fraunhofer-Gesellschaft, Germany |
| José Borbinha | National Library of Portugal, Portugal |
| Hsueh-hua Chen | National Taiwan University, Taiwan |
| Key-Sun Choi | Korea Advanced Institute of Science and Technology, Korea |
| Makx Dekkers | DCMI, Luxembourg |
| Hironobu Gotoda | National Institute of Informatics, Japan |
| Jane Greenberg | University of North Carolina, USA |
| Rebecca Guenther | Library of Congress, USA |
| Hachim Haddouti | BMW, Germany |
| Rachel Heery | UKOLN, University of Bath, UK |
| Diane I. Hillmann | Cornell University, USA |
| Jane Hunter | DSTC, Australia |
| Masakazu Imai | Tottori University of Environmental Studies, Japan |
| Noriko Kando | National Institute of Informatics, Japan |
| Stephen L. Katz | FAO, Italy |
| Sung Hyuk Kim | Sookmyung Women's University, Korea |
| Traugott Koch | Lund University, Sweden |
| John Kunze | University of California, USA |
| Carl Lagoze | Cornell University, USA |
| Ee-Peng Lim | Nanyang Technological University, Singapore |
| Lynn F. Marko | University of Michigan, USA |
| Jon Mason | education.au limited, Australia |
| Paul Miller | UKOLN, University of Bath, UK |
| Liddy Nevile | University of Melbourne, Australia |
| Sam G. Oh | SungKyunKwan University, Korea |
| Diann Rusch-Feja | Max Planck Institute, Germany |
| Roland Schwaenzl | University of Osnabrueck, Germany |
| Praditta Siripan | TIAC/NSTDA, Thailand |
| (Co-Chair) Shigeo Sugimoto | University of Library and Information Science, Japan |
| Stuart A. Sutton | University of Washington, USA |

| | |
|---------------------|---|
| Anna Maria Tammaro | University of Florence, Italy |
| Hiroyuki Taya | National Diet Library, Japan |
| Mitsutoshi Wada | Japan Science and Technology Corporation, Japan |
| Stuart L. Weibel | OCLC, USA |
| Cheng-Juei Wu | Fu-Jen University, Taiwan |
| Jianzhong Wu | Shanghai Library, China |
| Vilas Wuwongse | Asian Institute of Technology, Thailand |
| Masatoshi Yoshikawa | Nara Institute of Science and Technology, Japan |

Local Organizing Committee

| | |
|---------------------|--|
| Jun Adachi | National Institute of Informatics, Japan |
| Koji Eguchi | National Institute of Informatics, Japan |
| Takehisa Fujita | Kyoritsu Women's University, Japan |
| Hironobu Gotoda | National Institute of Informatics, Japan |
| Ichiro Ide | National Institute of Informatics, Japan |
| Noriko Kando | National Institute of Informatics, Japan |
| (Chair) Keizo Oyama | National Institute of Informatics, Japan |
| Takayuki Saito | Japan Science and Technology Corporation, Japan |
| Shigeo Sugimoto | University of Library and Information Science, Japan |

Secretariat

| | |
|---------------|--|
| Yuko Miyamoto | National Institute of Informatics, Japan |
| Urara Numata | National Institute of Informatics, Japan |

(alphabetical order of names)

DC-2001

Proceedings of the International Conference on Dublin Core and Metadata Applications 2001

©2001 National Institute of Informatics

ISBN 4-924600-98-9

Published on October 24, 2001
by National Institute of Informatics (NII)
2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8430 Japan
Fax: +81-3-3556-1916
Phone: +81-3-4212-2515
国立情報学研究所
〒101-8430 東京都千代田区一ツ橋 2-1-2
Fax: (03) 3556-1916
Phone: (03) 4212-2515

Printed in Tokyo, Japan
by Nihon Printing Co.,Ltd.
6-3-3 Soto-kanda, Chiyoda-ku, Tokyo 101-0021, Japan
Phone: +81-3-3833-6971
日本印刷株式会社
〒101-0021 東京都千代田区外神田 6-3-3
Phone: (03) 3833-6971

Edited by Keizo Oyama and Hironobu Gotoda (NII)

Electronic version will be available on <http://www.nii.ac.jp/dc2001/>,

Prepared by Keizo Oyama (NII)

Message from the Organizing Chair

DC-2001, International Conference on Dublin Core and Metadata Applications 2001, is the first attempt to hold an event where researchers and practitioners can exchange new ideas and demonstrate practical aspects of metadata standardization and applications by means of technical presentations, tutorials and discussions.

Since 1995 the Dublin Core workshop series has provided a forum for international, crossdisciplinary metadata development. In this context, DC-2001 is the ninth in the series, and for the first time, includes an international technical conference for the broader metadata community.

In 2000 the Dublin Core Metadata Initiative (DCMI) asked us to hold the ninth workshop in Tokyo, 2001. It is our pleasure to hold the first expanded conference here in Japan. At the same time we wished people, in particular Japanese and Asian people, to have an opportunity to obtain the latest information on a variety of aspects of metadata standardization, applications, and practices.

Despite the tragic attacks of September 11, we have among us participants from nearly 30 countries. I really appreciate the attendance of each one of you at the conference at this terrible time. The organizing committee and I also extend our condolences to those who have suffered because of this tragedy.

Six organizations, the National Institute of Informatics (NII), the National Diet Library (NDL), Japan Science and Technology Corporation (JST), the University of Library and Information Science (ULIS), the Communication Research Laboratory (CRL), and the Dublin Core Metadata Initiative (DCMI) jointly organize DC-2001. I would like to express our special thanks to these six organizations for their financial support of our activities through the domestic advisory board.

Many people have worked tirelessly to organize this conference, and, in particular, I mention Dr. Keizo Oyama, the local organizing chair, Dr. Hironobu Gotoda, Dr. Noriko Kando, Dr. Koji Eguchi, Dr. Ichiro Ide, Ms Yuko Miyamoto and Ms Urara Numata for their endeavors to make this conference successful. I also express our deepest gratitude to the Dublin Core Advisory Committee members who gave us advice.

On behalf of the organizing committee, I would like to express our heartfelt thanks to all attending DC-2001.

Professor Jun Adachi
DC-2001 Organizing Committee Chair
Director, Research Center for Information Resources
National Institute of Informatics

Message from Dublin Core Metadata Initiative

The Dublin Core Metadata Initiative has helped to create a community of people united in the common purpose of promoting cross-disciplinary resource discovery. This community, comprised of practitioners and theoreticians from many domains and sectors, is global in orientation and diverse in perspective.

DC-2001 is the first annual Dublin Core meeting in Asia, recognizing the growth of activities in the Asian metadata community as well as the growing contributions and importance of metadata developments in this region.

DC-2001 also marks the first Dublin Core meeting that includes a conference track and a tutorial track in addition to the workshop track. This broadening of scope recognizes the complementary roles of research and practice as well as the need to provide educational opportunities for new adopters.

These proceedings capture some of the vitality and diversity of the Dublin Core community—the DC 2001 Program committee received submissions from more than 20 countries. Even as the world struggles to regain its equilibrium in the face of turmoil and strife, registrants from nearly thirty countries will be in Tokyo for DC-2001 to share their ideas, work, and expectations for making information easier to find on the Internet.

The DC-2001 Program Committee, Local Organizing Committee, NII staff, and DCMI welcome participants in the hope that our collective efforts will advance the metadata agenda in particular, and the goal of better access to knowledge in general.

With sincere wishes for a productive conference,

Stuart Weibel
Executive Director
Dublin Core Metadata Initiative

Message from the Program Co-chairs

The International Conference on Dublin Core and Metadata Applications 2001 (DC-2001) is, in one respect, the ninth in a series of metadata workshops that began six years ago in Dublin, Ohio, USA. These workshops have focused on the technologies, policies, semantics, and use of Dublin Core as an emerging metadata standard.

Over the past few years, however, issues related to the broader context for Dublin Core have come to the fore, such as XML and, since 1997, the Resource Description Framework, now part of a Semantic Web Activity; harvesting approaches such as Open Archives Initiative; domain-specific metadata standards and their relation to a “core”; and the constructs and policies necessary for managing namespaces and “application profiles” for automatic processing by machines.

DC-2001 has acknowledged this broadening of scope and interest by following the traditional workshop, focused on Dublin Core working groups, with a conference on metadata in general. Within the Dublin Core series, moreover, this is the such event to be held in Asia.

The conference program includes a keynote by Dr. Makoto Nagao, President of Kyoto University, leader of academic societies in computer and information sciences, and President of the Japan Library Association, who is widely known for his distinguished work in digital libraries.

As program co-chairs, we have sought to organize this conference as a forum for the exchange the ideas and experiences within the broader global metadata community. We solicited not just research papers but also implementation reports. The submissions have come from over twenty countries on five continents, on topics ranging from application profiles for various fields and reports on metadata developments in specialized areas such as government and education to advanced technologies and metadata models. Some of these topics are the focus of special sessions with invited papers.

We are particularly grateful to Dr. Jun Adachi and his colleagues at the National Institute of Informatics (NII) for hosting this event at their beautiful new facilities in central Tokyo. Our thanks, as well, to the dedicated work of a program committee of experts from fifteen countries, and to Stuart Weibel and Makx Dekkers of the Dublin Core Metadata Initiative.

Shigeo Sugimoto
Thomas Baker