CONVERGENCES '03

International Conference on the Convergence of Knowledge, Culture, Language and Information Technologies

Library of Alexandria 2-6 December 2003
Alexandria, Egypt
Conference Proceedings

International Conference on the Convergence of Knowledge, Culture, Language and Information Technologies

CONVERGENCES '03

Library of Alexandria 2-6 December 2003, Alexandria, Egypt

Edited by T. Della Senta, G. Falquet, & E. Tovar
Printed by ICOM – Alexandria - Egypt
ISBN 84-607-9579-9

All materials in this book are copyrighted and all rights reserved. No reproduction of the whole or any part of this document can be made without the authorization of editors.

Papers in this book are presented by the individual authors. Convergences03 therefore accept non liability for any error or omissions on the content of each one.

For all copying, reprint or republication permission, write to, on behalf of the UNDL Foundation, Prof. Edmundo Tovar, etovar@fi.upm.es

Copyright December, 2003 by CONVERGENCES 03.
Letter of Motivation

A major imperative of our time is to persist fostering the dialogue among civilizations as a way of building peace, development and welfare for all nations. In fact, the “universalizing” trend in contemporary History and the widespread social, economic, political and cultural conflicts in “local” environments, call for reinforcing the ethos common to Human Community, and for nurturing transcultural understanding among peoples of diverse identities. It is a compelling mission in present days, and a universal one; one that draws all the resources of human mind, from philosophical reflections to engineering pragmatics, to pave the way for dialogue and cooperation.

This line of thinking is the source of inspiration for CONVERGENCES ‘03 Conference. The theme focuses on the “convergence of knowledge, culture, language and information technologies”. This blending exercise stimulates the search for inventive means to surmount several formidable obstacles that hinder understanding among nations. How can understanding prosper, for instance, without crossing the language barriers? How can dialogue and cooperation be promoted without bridging “local” knowledges and “universal” knowledge? How can multi-diverse manifestations of culture flourish if they are not universally shared?

Our motivation is to lay down the infrastructures, using the powerful resources of modern information and communication technologies (ICTs), which can overcome these obstacles. We are pleased, therefore, to invite scholars and researchers from both the fields of the Humanities and Engineering to contribute and discuss new conceptual frameworks or functional constructs in support of reciprocal knowledge and transcultural interactions at the Bibliotheca Alexandrina, in Alexandria.

CONVERGENCES ‘03’ is jointly organized by the UNDL Foundation and the Library of Alexandria, in cooperation with UNL Arabic Language Centre of the Royal Scientific Society (Jordan), and promoted with the support of the
United Nations, UNESCO, the Arab Fund for Economic and Social Development, and a number of national governments and universities. The Conference is the third edition of a series of international conferences focusing on the same broad theme of Knowledge, Culture, Language and ICTs. The previous two were also held in countries of great civilizations, and at sites of inspiring environment: Suzhou (China 2001) and Goa (India 2002), Alexandria (Egypt), at the crossroad of civilizations, is the next fitting site for Convergences '03. In fact, for its past and its promising future, the Library of Alexandria provides a fitting environment for CONVERGENCES '03.

From our previous experiences in China and in India, we expect the environment of the Egyptian civilization to be a rewarding scholarly experience for the participants. We are also confident that you will make a valuable contribution through your insightful mind and practical expertise to foster dialogues among civilizations.

Tarcisio Della Senta, President of the UNDL Foundation
ORGANIZATION OF THE CONFERENCE

Conference Chairs

Tarcisio Della Senta, President of the UNDL Foundation
Ismail Serageldin, Director of the Bibliotheca Alexandrina

International Advisory Committee

- Abdul-Latif Al Hamad (Arab Fund for Economic and Social Development, Kuwait)
- Ashok Mishra (Director, Indian Institute of Technology, India)
- Hideo Aiso (Japan)
- Hiroshi Uchida (UNDL Foundation, Japan)
- Jean-Pierre Contzen (Belgium)
- Jose I. Vargas (Brazil)
- Justin Thorens (Switzerland)
- Kazuhiko Nishi (Japan)
- MGK Menon (India)
- Pierre Mottu (Switzerland)

Program Committee

- Alain Le Pichon (University of Sorbonne, France), Co-Chair
- Christian Boitet (Université Joseph Fourrier, France)
- Edmundo Tovar (Universidad Politécnica de Madrid, Spain), Coordinator
- Gilles Falquet (University of Geneva, Switzerland), Chair
- Gilles Serasset (Université Joseph Fourrier, France)
- Gunarso (BPP Teknologi, Indonesia)
- Igor M. Boguslavsky (Russian Academy of Sciences, Russia), Co-Chair
- Irina Prodanof (Consiglio Nazionale delle Ricerche, Italy)
- Jesús Cardeñoso (Universidad Politécnica de Madrid, Spain)
- Key-Sun Choi (Korea Advanced Institute of Science and Technology, Korea)
- Koichi Hashida (National Institute of Advanced Industrial Science and Technology, Japan, Japan), Co-Chair
- Meiying Zhu (UNDL Foundation, China/Japan)
- Palmira Marrafa (University of Lisbon, Portugal)
- Patrick Deshayes (Université Paris 7, France)
- Pushpak Bhattacharyya (Indian Institute of Technology, India)
- Riichiro Mizoguti (Kinki University, Japan)
- Rodolfo Pinto da Luz (Instituto UNDL do Brasil, Brazil)
- Ronaldo Martins (UNDL Foundation, Brazil)
- Thakur Dass (University of New Delhi, India)
- Toshio Yokoi (Tokyo University of Technology, Japan)
- Zhendong Dong (Computer & Language Information Research Centre, Chinese Academy of Sciences, China)
Organizing committee

- Alyaa Ali, Bibliotheca Alexandrina, Head of Traveling Unit
- Edmundo Tovar, Universidad Politécnica de Madrid (Co-chair)
- Gabriela Tissiani, University of Geneva, assistant to the Chair Programme Committee, webpage designer
- Hanan Abdel Razek, Bibliotheca Alexandrina, Head of Conferences and Seminars
- Mohammed Khair A Odeh (Royal Scientific Society, Jordan)
- Sirin Hasan (Royal Scientific Society, Jordan) Chair
INDEX

Chapter 1. Anthropological roots of diversity and commonality

- 031-10 Convergence at the United Nations
  Marie-Josée de Saint Robert

- 031-11 Mediterranean Identity: Lessons from comparative experiences
  Ada Lonni

- 031-12 Priorities for Acquisition and Research at Alexandria and Other Eastern Mediterranean Libraries
  Basen L Ra’ad

- 031-13 Culture and Language Teaching through Electronic Technology
  Ahmad Atawneh

- 031-15 Convergence in Higher Education: Effects and Risks
  Edmundo Tovar, Jesús Cardeñosa

Chapter 2. Convergences of ICT with language, knowledge and culture.

- 031-20 Socio-economic empowerment through education: a comparative analysis of Maharashtra and Rajasthan in India
  Krishnan Narayanan

- 031-23 How many colors should be in the rainbow? Representing color names in Knowledge Bases
  Ronaldo Martins

- 031-231 Ant Algorithms, Conceptual vectors and fuzzy UNL graphs
  Mathieu Lafourcade

- 032-234 Two steps towards self-explaining documents
  Hervé Blanchon, Christian Boitet

Chapter 3. The UNL multilingual infrastructure

- 034-31 Facilitating Communication between languages and Cultures: A computerized interface and Knowledge Base
  Claire-Lise Mottaz Jiang, Gabriela Tissiani, Gilles Falquet, Rodolfo Pinto da Luz

- 033-33 A Framework for the development of Universal Networking Language e-learning user interfaces
  Alejandro Martins, Gabriela Tissiani, Ricardo Miranda Barcia

- 032-36 Knowledge networks for development: a participatory design approach
  Charlotte Scarf, Kelly Hutchinson

- 032-37 UNL Based Analysis and Generation for Bengali Case Structure Constructs
  Kuntal Dey, Pushpak Bhattacharyya
• 033-371 Standardization of the Generation Process in a Multilingual Environment
  Jesús Cardeñosa, Carolina Gallardo, Edmundo Tovar

• 032-372 UNL Deconverter for TAMIL
  T. Dhanabalan, T.V. Geetha

• 033-373 Development of Armenian Language Module of UNL
  V. Avetisyan, V. Sahakyan, L. Petrosyan, R. Urutyran, A. Manukyan, L. Hovsepyan

• 032-374 Remaining issues that could prevent UNL to be accepted as a Standard
  Gilles Sérasset, Étienne Blanc

• 033-39 Interactive enconversion by means of the ETAP-3 system
  Igor, M. Boguslavsky, Leonid L. Iomdin, Victor G. Sizov

• 032-391 A “pivot” XML-based architecture for
  multilingual, multiversion documents: parallel monolingual documents aligned
  through a central correspondence descriptor and possible use of UNL
  Najeh Hajlaoui, Christian Boitet

• 032-392 Voice UNL: a proposal to represent speech control mechanisms within
  the Universal Networking Digital Language
  Mutsuko Tomokiyo, Gérard Chollet

• 033-393 HERMETO: A NL-UNL enconverting environment
  Ronaldo Martins, Ricardo Hasegawa, M. Graças V. Nunnes

• 032-394 Using semantic information to improve case retrieval in case-based
  reasoning systems
  J. Ashay Iyer, Pushpak Bhattacharyya

• 033-395 A web platform using UNL: Celta’s showcase
  Lumar Bértoli jr., Rodolfo Pinto da Luz, Rogério Cid Bastos

• 035-396 Universal Networking Language – A tool for language-independent
  semantics?
  Amitabha Mukerjee, Achla M. Raina, Kumar Kapil, Pankaj Goyal, Pushpaj Shukla

### Chapter 4. Linguistic resource engineering

• 032-53 Automatic generation of multilingual lexicon by using wordnet
  Nitin Verma, Pushpak Bhattacharyya

• 034-531 Concept capability of Sanskrit word-net: for convergence of Knowledge-
  Base
  S. Mohanty. K.P. Das Adhikary, P.K. Santi, G.P. Rout

• 031-532 The representation of complex telic predicates in wordnets. The case of
  lexical-conceptual structure deficietary verbs
  Palmira Marrafa

• 031-533 Using wordnet for linking uw’s to the UNL uw system
  Luis Iraola
List of Authors

- A. Manukyan 033-373
- Achla M. Raina 035-396
- Ada Lonn 031-11
- Ahmad Atawneh 031-13
- Alejandro Martins 033-33
- Amitabha Mukerjee 035-396
- Basen L Ra’ad 031-12
- Carolina Gallardo 033-371
- Charlotte Scarf 032-36
- Christian Boitet 032-234, 032-391
- Claire-Lise Mottaz Jiang 034-31
- Edmundo Tovar 031-15, 033-371
- Étienne Blanc 032-374
- G.P. Rout 034-531
- Gabriela Tissiani 033-33, 034-31
- Gérard Chollet 032-392
- Gilles Falquet 034-31
- Gilles Sérasset 032-374
- Hervé Blanchon 032-234
- Igor, M. Boguslavsky 033-39
- J. Ashay Iyer 032-394
- Jesús Cardeñoso 031-15, 033-371
- K.P. Das Adhikary 034-531
- Kelly Hutchinson 032-36
- Krishnan Narayanan 031-20
- Kumar Kapil 035-396
- Kuntal Dey 032-37
- L. Hovsepyan 033-373
- L. Petrosyan 033-373
- Leonid L. Iomdin 033-39
- Luis Iraola 031-533
- Lumar Bértoli jr. 033-395
- M. Graças V. Nunnes 033-393
- Marie-Josée de Saint Robert 031-10
- Mathieu Lafourcade 031-231
- Mutsuko Tomokiyo 032-392
- Najeh Hajlaoui 032-391
- Nitin Verma 032-53
- P.K. Santi 034-531
- Palmira Marrafa 031-532
- Pankaj Goyal 035-396
- Pushpaj Shukla 035-396
- Pushpak Bhattacharyya 032-37, 032-394, 032-53
- R. Urutyan 033-373
- Ricardo Hasegawa 033-393
- Ricardo Miranda Barcia 033-33
- Rodolfo Pinto da Luz 033-395, 034-31
- Rogério Cid Bastos 033-395
- Ronaldo Martins 031-23, 033-393
- S. Mohanty 034-531
- T. Dhanabalan 032-372
- T.V. Geetha 032-372
- V. Avetisyan 033-373
- V. Sahakyan 033-373
- Víctor G. Sizov 033-39