

Preface

Over the last few years Web Engineering has begun to gain mainstream acceptance within the software engineering, IT and related disciplines. In particular, both researchers and practitioners are increasingly recognizing the unique characteristics of Web systems, and what these characteristics imply in terms of the approaches we take to Web systems development and deployment in practice.

A scan of the publications in related conference proceedings and journals highlights the diversity of the discipline areas which contribute to both the richness and the complexity of Web Engineering.

The 5th International Conference on Web Engineering (ICWE 2005), held in Sydney, Australia, extends the traditions established by the earlier conferences in the series: ICWE 2004 in Munich, Germany; ICWE 2003 in Oviedo, Spain; ICWE 2002 in Santa Fe, Argentina; and ICWE 2001 in Cáceres, Spain. Not only have these conferences helped disseminate cutting edge research within the field of Web Engineering, but they have also helped define and shape the discipline itself. The program we have put together for ICWE 2005 continues this evolution. Indeed, we can now begin to see the maturing of the field.

For possibly the first time, there was very little debate within the Program Committee about which papers were in and out of scope, and much more debate as to the each papers contributions to the field.

We are now reaching a point where we are gaining a common understanding of the nature of our own discipline!

The ICWE 2005 conference received a total of approximately 180 submissions, with authors from 32 countries and 6 continents. It was particularly pleasing to see a much greater representation of papers from South East Asia compared with previous conferences. All submitted papers were rigorously reviewed by the excellent program committee, and 33 were eventually selected as full papers (18% acceptance), 36 as short papers (20%), and 17 posters and demos. The selected papers cover a broad spectrum, including: modelling and frameworks, architectures, content and media, testing, Web services and ontologies, security, design, querying, measurement, users and usability, and tools and environments. The conference was also host to an excellent suite of tutorials and workshops over 2 days.

To enrich the program even further, four outstanding speakers agreed to give keynotes. Virgilio Almeida provided a view from within the discipline, highlighting several key areas which must be addressed within the design of Web systems. Al Davis provided a view from outside the discipline looking in, giving considerable insight into the context which drives Web development. Craig Errey brought a fascinating commercial perspective, illustrating what we can learn from other discipline areas (in this case psychology). And Lars Rasmussen discussed issues that affect the integration of new functionality into existing systems, particularly within the context of extraordinarily 'high-load' systems.

We wish to express our gratitude to all those who contributed to making ICWE 2005 a success. We are particularly grateful to the core members of our Organizing Committee and Program Committee: Yogesh Deshpande, Steve Hansen, Ka-Kit Fung, Athula Ginige, Aditya Ghose, Daniel Schwabe, Bebo White, Emilia Mendes, Gustavo Rossi, Rafael Calvo, and Xiaoying Kong, as well as several other key contributors, particularly Rosa Tay, and Richard van de Stadt.

We would also like to thank the workshop and tutorial organizers. Particular thanks go to the Program Committee members and reviewers, who with enormous care and insight, provided reviews which helped us build an excellent program.

Finally, enormous thanks go to the authors of the papers which were submitted to the conference. It is really their work which is at the core of the ICWE conference series, and which has helped shape our discipline. Thank you!

We hope you find the papers presented in this volume useful and that they help in further advancing Web Engineering through research, education and practice.

May 2005

David Lowe
San Murugesan
Martin Gaedke

Organization

Organizing Committee

General Chair

San Murugesan, Southern Cross University, Australia

Program Co-chairs

David Lowe, University of Technology, Sydney, Australia

Martin Gaedke, University of Karlsruhe, Germany

Local Arrangements

Steve Hansen, University of Western Sydney, Australia

Promotion

Yogesh Deshpande, University of Western Sydney, Australia

Finance

Ka-Kit Fung, University of Technology, Sydney, Australia

Additional Members

Athula Ginige, University of Western Sydney, Australia

Aditya Ghose, University of Wollongong, Australia

Core Program Committee

Program Co-chairs

David Lowe, University of Technology, Sydney, Australia

Martin Gaedke, University of Karlsruhe, Germany

Tutorials/Workshops Chair

Aditya Ghose, University of Wollongong, Australia

Panels Chair

Daniel Schwabe, PUC Rio de Janeiro, Brazil

Keynotes Chair

Bebo White, Stanford Linear Accelerator Center, USA

Posters/Demos Chair

Emilia Mendes, University of Auckland, New Zealand

Doctoral Consortium Chair

Gustavo Rossi, Universidad Nacional de la Plata, Argentina

Industry Briefing Chair

Rafael Calvo, University of Sydney, Australia

Systems

Xiaoying Kong, University of Technology, Sydney, Australia

Extended Program Committee

Jesus Aguilar-Ruiz	Universidad Pontificia de Salamanca, Spain
Grigoris Antoniou	University of Crete, Greece
Luciano Baresi	Politecnico di Milano, Italy
Michael Bieber	NJIT, USA
Christoph Bussler	Oracle Corporation, USA
Leslie Carr	University of Southampton, UK
Fabio Casati	HP Labs, USA
Sara Comai	Politecnico di Milano, Italy
Ernesto Damiani	Università di Milano, Italy
Paul Dantzig	IBM T. J. Watson Research Center, USA
Susan Dart	IT Strategy Consultant, Australia
Olga De Troyer	Vrije Universiteit Brussel, Belgium
Yogesh Deshpande	Univ. of Western Sydney, Australia
Gill Dobbie	University of Auckland, New Zealand
Asuman Dogac	Middle East T. U. Ankara, Turkey
Schahram Dustdar	Vienna University of Technology, Austria
John Eklund	Access Testing Centre P/L, Australia
Dieter Fensel	University of Innsbruck, Austria
Cameron Ferstat	IBM Systems Group, Australia
Piero Fraternali	Politecnico di Milano, Italy
Ka-Kit Fung	Univ. of Technology, Sydney, Australia
Athula Ginige	Univ. of Western Sydney, Australia
Angela Goh	NTU, Singapore
Jaime Gómez	Universidad de Alicante, Spain
Wook-Shin Han	Kyung-Pook National University, Korea
Steve Hansen	University of Western Sydney, Australia
Frank van Harmelen	Vrije Universiteit, Amsterdam, The Netherlands
Manfred Hauswirth	EPFL Lausanne, Switzerland
Geert-Jan Houben	Eindhoven University, The Netherlands
Arun Iyengar	IBM, USA
Martti Jeenicke	University of Hamburg, Germany
David Kearney	University of South Australia, Australia
Hiroyuki Kitagawa	University of Tsukuba, Japan
Carlos Delgado Kloos	Universidad Carlos III de Madrid, Spain
Nora Koch	Ludwig-Maximilians-Universität München, Germany
Nara Kulathuramaiyer	Universiti Malaysia Sarawak, Malaysia
Jose Labra	Universidad de Oviedo, Spain
Frank Leymann	IBM Software Group, Germany
Xiaoming Li	Peking University, China
Qing Li	City University of Hong Kong, China

Ee-Peng Lim	NTU, Singapore
Tok Wang Ling	National University of Singapore, Singapore
Li Liu	University of Sydney, Australia
Wei-Ying Ma	Microsoft Research Asia, China
Luis Mandel	FAST, Germany
Massimo Marchiori	W3C, USA
Maristella Matera	Politecnico di Milano, Italy
Heinrich Mayr	University of Klagenfurt, Austria
Giansalvatore Mecca	Università della Basilicata, Italy
Daniel Menasce	George Mason University, USA
Deependra Moitra	Infosys Technologies Ltd, India
San Murugesan	Southern Cross University, Australia
Moira Norrie	ETH, Switzerland
Luis Olsina	Universidad Nacional de La Pampa, Argentina
Beng Chin Ooi	NUS, Singapore
Oscar Pastor	Universidad Politécnica de Valencia, Spain
Pedro Peixoto	University of Technology, Sydney, Australia
Vicente Pelechano	Universidad Tecnica de Valencia, Spain
Mario Piattini	Castilla-La Mancha University, Spain
Krithi Ramamirtham	IIT, Bombay, India
Werner Retschitzegger	University of Linz, Austria
Antonio Ruiz Cortés	Univeridad de Sevilla, Spain
Arthur Ryman	IBM Toronto Lab, Canada
Keun Ho Ryu	Chungbuk National University, Korea
A.S.M. Sajeew	University of New England, Australia
Arno Scharl	University of Western Australia, Australia
Klaus-Dieter Schewe	Massey University, New Zealand
Wieland Schwinger	Johannes Kepler University Linz, Austria
Jianwen Su	UCSB, USA
Woojong Suh	Inha University, Korea
Kian-Lee Tan	NUS, Singapore
Katsumi Tanaka	Kyoto University, Japan
Jeff Tian	Southern Methodist University, USA
Rachatrin Tongrungrrojana	University of Technology, Sydney, Australia
Klaus Turowski	Universität Augsburg, Germany
Bhuvan Unhelkar	University of Western Sydney, Australia
Antonio Vallecillo	Universidad de Málaga, Spain
Jean Vanderdonckt	Université Catholique de Louvain, Belgium
Fabio Vitali	University of Bologna, Italy
Martin Wirsing	Ludwig-Maximilians-Universität München, Germany
Jeffrey Yu	Chinese University of Hong Kong, China
Didar Zowghi	University of Technology, Sydney, Australia

Sponsorship

Primary Organizing Sponsor



University of Technology, Sydney

Additional Organizing Sponsors



Industry Silver Sponsor



Endorsement



IW³C²
Endorsed
Conference

Workshops

Web Information Systems Modelling

Flavius Frasincar

Eindhoven University of Technology, The Netherlands

Geert-Jan Houben

Eindhoven University of Technology, The Netherlands

Richard Vdovjak

Eindhoven University of Technology, The Netherlands

Agent-Based Web Engineering

Aneesh Krishna

University of Wollongong, Australia

Chattrakul Sambattheera

Maharakham University, Thailand, and

University of Wollongong, Australia

Web Metrics and Measurement

Emilia Mendes

The University of Auckland, New Zealand

Luciano Baresi

Politecnico di Milano, Italy

Sandro Morasca

Università degli Studi dell'Insubria, Italy

Model-Driven Web Engineering

Nora Koch

Institut für Informatik, Ludwig-Maximilians-Universität München, and
FAST GmbH, Germany

Gustavo Rossi

LIFIA, Facultad de Informática Universidad Nacional de La Plata, Argentina

Antonio Vallecillo

ETSI Informática, University of Málaga, Spain

Device Independent Web Engineering

Markus Lauff

SAP AG - SAP Research, Germany

Thomas Ziegert

SAP AG - SAP Research, Germany

Tutorials

Semantic Web Services

Christoph Bussler

National University of Ireland

Liliana Cabral

The Open University, United Kingdom

John Dominique

The Open University, United Kingdom

Matthew Moran

National University of Ireland

Dumitru Roman

Leopold-Franzens Universität Innsbruck, Austria

Michael Stollberg

Leopold-Franzens Universität Innsbruck, Austria

Michal Zaremba

National University of Ireland

Measuring and Evaluating Web Quality

Luis Antonio Olsina

National University of La Pampa, Argentina

Web Cost Estimation

Emilia Mendes

University of Auckland, New Zealand

Pragmatic Reuse: Building Web App Product Lines

Stanislaw Jarzabek

National University of Singapore

Damith Chatura Rajapakse

National University of Singapore

Web Engineering: Managing Complexity

Athula Ginige

University of Western Sydney, Australia

Jeewani Anupama Ginige

University of Western Sydney, Australia

Engineering Web Information Systems

Klaus-Dieter Schewe

Massey University, New Zealand

Bernhard Thalheim

Christian Albrechts University Kiel, Germany

Referees

Juan Jose Garcia Adeva
 Bugrahan Akcay
 Veli Bicer
 David Benavides
 Veli Bicer
 Razvan Stefan Bot
 Sven Casteleyn
 Vicente Luque Centeno
 Paolo Ceravolo
 Raquel M. Crespo
 Amador Durán
 Pablo Fernández
 Norberto Fernández-García
 Jesus Arias Fisteus
 Cristiano Fugazza
 Gabriel Pui Cheong Fung
 Irene Garrigos
 Cagdas Evren Gerece
 Nicola Gessa
 Michael Grossniklaus
 Yavuz Gurcan
 Armin Haller
 Jan Henke
 Kathleen M. Higginbotham
 Il Im
 Angelo Di Iorio
 Yoshiharu Ishikawa
 Roland Kaschek
 Markus Kirchberg
 Sebastian Kloeckner
 Xiaoying Kong
 Jacek Kopecky
 Reto Krummenacher
 Holger Lausen
 Michael Lee
 Xiang Li
 Maria de los Angeles Martin

Andrea Maurino
 Johannes Meinecke
 Santiago Meliá
 Matthew Moran
 Nathalie Moreno
 Javier Muñoz
 Tuncay Namli
 Nkechi Nnadi
 Martin Nussbaumer
 Alper Okcan
 Mehmet Olduz
 Eyal Oren
 Mario Munoz Organero
 Janaka Pitadeniya
 Peter Plessers
 Maria Plummer
 Robin Privman
 Antonia Reina
 Manuel Resinas
 Gonzalo Rojas
 Brahmananda Sapkota
 Roshan Sembacuttiaratchy
 Zenga Z. Shan
 Zhongnan Shen
 Norihide Shinagawa
 Gleb Skolbetsyn
 Puay Siew Tan
 Bernhard Thalheim
 Giovanni Toffetti
 Ioan Toma
 Alexei Tretiakov
 Pablo Trinidad
 Albert Weichselbraun
 Paul Y. Yang
 Norazlin Yusop
 Anna V. Zhdanova