



The 18th ACM Conference on Information and Knowledge Management

# CIKM 2009

Hong Kong, China November 2-6, 2009

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## Welcome to the CIKM 2009 Proceedings

**Edited by: David Cheung, Il-Yeol Song, Wesley Chu, Xiaohua Hu, Jimmy Lin, Jiexun Li, and Zhiyong Peng**

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# Foreword

On behalf of the organizing committee, we wholeheartedly welcome you to the ACM Eighteenth International Conference on Information and Knowledge Management (CIKM 2009). We hope this conference proves to be interesting and beneficial.

CIKM 2009 was originally planned to be held in Beijing, China. However, due to unforeseen reasons, CIKM 2009 had to be moved to Hong Kong in early December 2009, and the organizing committee was re-invited. This late re-organization of the conference caused many troubles and much burden in terms of preparation and financial costs. Despite the shortened time period and financial problems, David Cheung, the newly invited General co-Chair, and his local team worked very diligently to carefully prepare an outstanding program for everyone.

Since its inception, the CIKM conference has provided a unique international forum for the presentation, discussion, and dissemination of research findings in data management, information retrieval, and knowledge management. The conference has been a leading forum in which experts from academia, industry, and the government gather to exchange ideas, research achievements, and technical developments in multidisciplinary research areas.

CIKM has rapidly grown to become one of the world's most recognized conferences in the field. CIKM 2009 has received a record high number of submissions in the history of CIKM, as can be seen from the following statistics:

- 1153 abstracts submitted
- 847 full papers submitted
- 123 papers accepted for presentation as full papers (14.5% acceptance rate) and an additional 171 were accepted for poster presentation

In addition to regular research tracks, CIKM 2009 features 3 keynote speakers, 4 pre-conference tutorials, 11 workshops, 18 industrial papers, 24 demo papers, and 1 panel. We are proud of our program and acknowledge the tireless efforts of people who materialized this program.

First of all, we are honored to have 3 distinguished keynote speakers: Kyu-Young Whang, Edward Chang, and Clement Yu. We deeply appreciate their time and commitment to attend our conference and share their cutting-edge research experiences and insightful comments in their research topics.

An enormous amount of effort was undertaken to materialize this program and produce the proceedings. The technical program of the conference was selected by a renowned program committee that consists of three PC co-chairs, Wesley Chu, Xiaohua (Tony) Hu, and Jimmy Lin, 22 PC Vice Chairs who managed the program's subareas, and more than 370 committee members. They were challenged in selecting quality papers from many good papers. We wish to express our deepest gratitude to the program committee members, external reviewers, and all authors who submitted their papers to CIKM 2009. We especially acknowledge the contribution of Tony Hu who monitored and managed the editing of the proceedings to meet the production schedule and create the program.

We would also like to thank: the Honorary Conference co-Chairs, Peter P. Chen, Wei Li, and Shan Wang; Organization Chair, Ben Kao; Award co-Chairs, Peter Scheuermann and Lizhu Zhou; Industry Track Chair, Mukesh Mohania; Panel Chair, Avigdor Gal; Tutorial co-Chairs, Michael Ng and Masatoshi Yoshikawa; Registration Chair, Reynold Cheng; Treasurers, Yuan An and Ada Fu; Workshop co-Chairs, Wook-Shin Han and Min Song; Local Arrangement Chair, Leong Hong Va; Web co-Chairs, Eric Lo and Christopher C. Yang; Publicity co-Chairs, Jae-Gil Lee, Qing Li, and Zhoujun Li; Sponsorship co-Chairs, Wong Kam Fai, Zaiqing

Nie, and Chang-Tien Lu; Proceedings co-Chairs: Jiexun Jason Li and Zhiyong Peng; Poster co-Chairs, Yuan An and Raymond Wong; and Demo co-Chairs, Lei Chen and Jinho Kim. Without their tireless work, this conference could not have been successful.

In addition, we would like to express our appreciation to all of our sponsors: ACM, ACM SIGIR, ACM SIGWeb, K.C. Wong Education Foundation in Hong Kong, Hong Kong Pei Hua Education Foundation, EMC<sup>2</sup>, IRF, UMBC, Microsoft *Live Labs*, Google, Yahoo! Labs, City University of Hong Kong, The Hong Kong Polytechnic University, The University of Hong Kong, Hong Kong Baptist University, Microsoft, and Yandex. Their generous sponsorships and support made this conference successful.

Last, but not least, we gratefully thank Karen Hung of Hong Kong University for her help and work by keeping track of all the minor details that made a major difference in preparing and managing the conference.

Finally, we would like to thank the CIKM Steering Committee for their vote of confidence in us. It is a great honor and pleasure to accept the responsibilities and challenges of general chairs. We are pleased to offer this excellent program. We hope that attendees find the technical program of CIKM 2009 to be interesting and productive towards their research endeavors. We hope you all take advantage of these opportunities for professional development. We further hope that the conference will be stimulating, informative, enjoyable, and a fulfilling experience to all who attend it.

Enjoy the CIKM 2009 conference and your stay in Hong Kong!

**David Cheung and Il-Yeol Song**  
*General co-Chairs*

## Message from the Program Committee Chairs

It is our great pleasure to welcome you to the 18th ACM Conference on Information and Knowledge Management (CIKM 2009) in Hong Kong. Since 1992, CIKM has been successfully bringing together leading researchers from the database, information retrieval, and knowledge management communities. The purpose of the conference is to identify challenging problems facing the development of future knowledge and information systems, and to shape future research directions through the publication of high-quality research findings, both theoretical and applied. In CIKM 2009, we continued the tradition of promoting collaboration among the general areas of databases, information retrieval, and knowledge management. Continuing the successes from CIKM 2008 in Napa Valley, California, the United States, this year's call for papers attracted almost 850 submissions from Africa, the Americas, Asia, Australia, Europe, and the Middle East. The program committee accepted 123 submissions as full papers for oral presentation (14.5%) and an additional 171 as short papers for poster presentation (20.2%).

We'd like to acknowledge everyone who made this technical program possible. First, we would like to thank the authors for providing the contents of the program: the conference would not be possible without your contributions. Our gratitude goes out to the program committee and external reviewers, who worked extremely hard in providing feedback on the submissions. The vice chairs deserve much recognition for shepherding the review process and for helping along the way. A very big "thank you" goes out to all the countless others who have contributed to making CIKM 2009 a success. Finally, we would like to thank all our corporate sponsors for their generous support.

We hope that you will find this program interesting and thought-provoking. Please enjoy the conference and the opportunity to network with friends and colleagues from around the world. Finally, see you next year in Toronto, Canada!!

**Wesley Chu**

CIKM 2009 KM Chair  
*UCLA, USA*

**Xiaohua Hu**

CIKM 2009 DB Chair  
*Drexel University, USA*

**Jimmy Lin**

CIKM 2009 IR Chair  
*University of Maryland, USA*



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