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# INFORMATION INTERACTION in CONTEXT SYMPOSIUM • 2012

**Proceedings 4th Information Interaction in Context Symposium**

Nijmegen, the Netherlands, August 21-24, 2012

Editors: Jaap Kamps, Wessel Kraaij and Norbert Fuhr

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**INFORMATION INTERACTION in CONTEXT SYMPOSIUM • 2012**

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Program Chair: Norbert Fuhr

# Program and General Chairs' Welcome

It is our pleasure to welcome you to the *fourth Information Interaction in conteXt Symposium IIiX'12* in Nijmegen. The conference has been organized by the Radboud University Nijmegen, in cooperation with the University of Amsterdam and TNO. This symposium follows three prior IIiX symposia in Copenhagen ('06), London ('08) and New Brunswick ('10). These proceedings contain the refereed papers presented at the conference. The IIiX symposium explores the relationships between and within the contexts that affect information retrieval (IR) and information seeking, how these contexts impact information behavior, and how knowledge of information contexts and behaviors improves the design of interactive information systems.

The intention of IIiX is to foster an integrated approach to information access by bringing together members of the research communities in information seeking behavior (Behavior Track), user interface design for IR systems (Interface Track), interactive IR (Interaction Track), and IR system design (System Track). From the 40 papers submitted to the conference, 13 belonged to the behavior track, 14 to the interaction track, 8 to the interface track and only 5 to the systems track. This distribution shows a clear focus on behavior and interaction, the 'core' areas of IIiX, while we do not yet fully reach out to the other two areas which are also highly relevant in this context. The PC selected 25 papers to be presented at the conference. The review and selection process was coordinated by four area chairs: Elaine Toms (behavior), Interaction (Kalervo Järvelin), Interface (Max Wilson and Systems (Paul Thomas). In addition, 33 poster papers were submitted, of which 20 were accepted. Poster chair was Stefan Rüger. For the accompanying doctoral consortium, organized by Hideo Joho and Birger Larsen, 9 students applied, and 7 were accepted. The program also includes keynote talks Peter Ingwersen, Diane Kelly and Daniel Russell. We thank all authors for their submissions and the PC members and respective chairs for their efforts to create this balanced and varied program for IIiX2012. We are very pleased that IIiX'12 is followed by the co-located EuroHCIR workshop, organized by Tony Russell-Rose, Max L. Wilson, James Kalbach and Birger Larsen. IIiX'12 and EuroHCIR are followed by the second EU Intensive Programme 'Information Foraging', organized by Radboud University Nijmegen in cooperation with many lecturers from within the IIiX community.

We want to thank Suzan Verberne (local organization chair, webmaster) and Max Hinne (proceedings chair) for their substantial efforts to make this conference happen. In addition we would like to thank the other members of the local organization committee: Florian Kunneman, Nicole Messink and Maya Sappelli. Special thanks go to Nathan Kotecki for adapting the IIiX'10 logo to accommodate a fourth theme (interfaces).

We thank the Institute of Computing and Information Sciences, Radboud University Nijmegen, for supporting the conference at the university campus. We also thank our sponsors (NWO, Google, Textkernel, Bibliotheek.nl, OCLC, Spinque, SIKS, WGI, TNO, Netherlands Institute for Sound and Vision, Gridline, Yandex, University of Amsterdam) for their generous financial contributions. Finally, we thank ACM and ACM SIGIR for their support and cooperation.

We hope that you enjoy the conference proceedings.

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# Citations and references as keys to relevance ranking in interactive IR

Peter Ingwersen
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For some time now, the general goal of information retrieval (IR) has been to present a user with an optimally ranked set of results as quickly as possible. At first glance, things seem to be working well: users often find what they need on the first search results page, they do not have to create their own queries or read through multiple pages of text, and soon they may not even have to think of their own information needs. Researchers document success by showing reductions in time and amount of interaction, and increased user satisfaction, but do these measures really allow researchers to understand the impact of search?

In this talk, I will explore the cognitive consequences of search. I will discuss the controversial idea that search systems condition us to behave in ways that do not necessarily lead to deep learning and retention by encouraging and exploiting many of our cognitive biases, including overconfidence and anchoring. I will further explore the idea that our desire for cognitive ease means that we are usually satisfied with search the way it is, even if we do not learn anything. Finally, I will discuss the use of persuasion (á la persuasive technologies) as one potential way to think about changing people's search behaviors and expectations. The ultimate goal is to create search technology that transforms the user from a dependent and passive information receiver into an independent, active and discerning information seeker.

## About Peter Ingwersen

Professor Emeritus, Royal School of Library and Information Science, Denmark. Ph.D. in 1991 from Copenhagen Business School. D.Ph., h. c. from Tampere University, Finland, 2010. Full Professor at the Royal School of LIS 2001-2010. Visiting scholar at the European Space Agency, Italy, 1980-84. Affiliate Professor at Rutgers University, USA, 1987 and the Dept. of Information Studies, Tampere University, Finland, 1999-2002 and Åbo Akademi University from 1998.

Research areas: Interactive IR; Evaluation methods for work task-based IR; Informetrics-Scientometrics & Webometrics.

He has published several well-known research monographs, and more than 120 journal articles and conference papers, in addition to editing work. Among his academic awards are: the Jason Farradane Award, UK (1993); the ASIS&T Distinguished Research Award (2003), the ASIST Best Teacher Award of Information Science (2007) and the Los Angeles ASIST Chapter's CISTA Award for continued contributions to Information Science (2009). In 2005 he received the distinguished Derek de Solla Price Medal for his informetric and webometric research by the International Society of Scientometrics and Informetrics. He is member of the editorial boards of five internationally leading journals in IR and Bibliometrics and organized the ACM_SIGIR (1992), CoLIS 2 (1996), IIiX (2006) and ISSI2011 conferences (as co-organizer) and has served as Program Chair at the ISSI, CoLIS, ACM-SIGIR and ProLISSA Conferences on several occasions.

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# Cognitive Consequences of Search

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For some time now, the general goal of information retrieval (IR) has been to present a user with an optimally ranked set of results as quickly as possible. At first glance, things seem to be working well: users often find what they need on the first search results page, they do not have to create their own queries or read through multiple pages of text, and soon they may not even have to think of their own information needs. Researchers document success by showing reductions in time and amount of interaction, and increased user satisfaction, but do these measures really allow researchers to understand the impact of search?

In this talk, I will explore the cognitive consequences of search. I will discuss the controversial idea that search systems condition us to behave in ways that do not necessarily lead to deep learning and retention by encouraging and exploiting many of our cognitive biases, including overconfidence and anchoring. I will further explore the idea that our desire for cognitive ease means that we are usually satisfied with search the way it is, even if we do not learn anything. Finally, I will discuss the use of persuasion (á la persuasive technologies) as one potential way to think about changing people's search behaviors and expectations. The ultimate goal is to create search technology that transforms the user from a dependent and passive information receiver into an independent, active and discerning information seeker.

## About Diane Kelly

Diane Kelly is an Associate Professor at the School of Information and Library Science at the University of North Carolina, Chapel Hill, USA. Her research interests are in interactive information search and retrieval, information search behavior and evaluation methods and metrics. Her research has been published in several conferences and journals including ACM SIGIR, ACM CHI, CIKM, IIiX, JCDL, Transactions on Information Systems, Information Processing and Management, JASIST, IEEE Computer and CACM. She teaches undergraduate and graduate courses on research design, interactive information retrieval and foundations of information science. She is the recipient of two teaching awards: the 2009 ASIST/Thomson Reuters Outstanding Information Science Teacher Award and the 2007 SILS Outstanding Teacher of the Year Award. She has served on the UNC Behavioral Institutional Review Board (IRB) since 2005. She received a Ph.D. in Information Science and a Graduate Certificate in Cognitive Science from Rutgers University and an undergraduate degree in Psychology from the University of Alabama.

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# What does it mean to be literate in the age of Google?

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What does it mean to be literate at a time when you can search over billions of texts in less than 300 milliseconds? Although you might think that "literacy" is one of the great constants that transcends the ages, the skills of a literate person have changed substantially over time as texts and technology allow for new kinds of reading and understanding. Knowing how to read is just the beginning of it–knowing how to frame a question, pose a query, how to interpret the texts that you find, understand the information in context, how to organize and use the information you discover, how to understand your metacognition–these are all critical parts of being literate as well. In this talk I'll review what literacy is today, in the age of Google, and show how some very surprising and unexpected skills will turn out to be critical in the years ahead.

## About Daniel Russell

Daniel Russell is the Uber Tech Lead for Search Quality and User Happiness in Mountain View. He earned his PhD in computer science, specializing in Artificial Intelligence until he realized that magnifying and understanding human intelligence was his real passion. Twenty years ago he foreswore AI in favor of HI, and enjoys teaching, learning, running and music, preferably all in one day. He has worked at Xerox PARC before it was PARC.com, was in the Advanced Technology Group at Apple where he wrote the first 100 web pages for www.Apple.com using SimpleText. He has also worked at IBM and briefly at a startup that developed tablet computers before the iPad.

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