

Preface

This book contains the selected research papers presented at ISIP 2016, the 11th International Workshop on Information Search, Integration and Personalization. After being organized in France, Japan, Thailand, Malaysia, and USA (North Dakota), this year the workshop was held again in France, reflecting the goal of alternating places while widening the audience. More precisely, the workshop took place in 2016 at the University Claude Bernard Lyon 1, November 3–4.

Two keynote speeches (whose abstracts are included here) were given during the workshop:

- Professor Jun Adachi (National Institute of Informatics, Japan), “*Social CPS: Its Concept and Practical Experience Acquired in the Demonstrative Experiment*”
- Professor Paolo Papotti (Arizona State University, USA), “*Detecting Data Errors: Where Are We and What Needs to Be Done?*”

There were 30 presentations of scientific papers, of which 13 were submitted to the post-workshop peer review. The international Program Committee selected eight papers to be included in the proceedings.

The themes of the presented and/or submitted papers reflected today’s diversity of research topics as well as the rapid development of interdisciplinary research. With increasingly sophisticated research in science and technology, there is a growing need for interdisciplinary and international availability, distribution, and exchange of the latest research results, in organic forms, including not only research papers and multimedia documents, but also various tools developed for measurement, analysis, inference, design, planning, simulation, and production as well as the related large data sets. Similar needs are also growing for the interdisciplinary and international availability, distribution, and exchange of ideas and works among artists, musicians, designers, architects, directors, and producers. These contents, including multimedia documents, application tools, and services are being accumulated on the Web, as well as in local and global databases, at a remarkable speed that we have never experienced with other kinds of publishing media. Large amounts of content are now already on the Web, waiting for their advanced personal and/or public reuse. We need new theories and technologies for the advanced information search, integration through interoperability, and personalization of Web content as well as database content.

The ISIP 2016 workshop was organized to offer a forum for presenting original work and stimulating discussions and exchanges of ideas around these themes, focusing on the following topics.

- Data Quality
- Social Cyber-Physical Systems
- Information search in large data sets (databases, digital libraries, data warehouses)
- Comparison of different information search technologies, approaches, and algorithms

- Novel approaches to information search
- Personalized information retrieval and personalized Web search
- Data Analytics (Data Mining, Data Warehousing)
- Integration of Web services, Knowledge bases, Digital libraries
- Federation of Smart Objects

ISIP started as a series of Franco-Japanese workshops in 2003, and its first edition took place under the auspices of the French embassy in Tokyo, which provided the financial support along with JSPS (Japanese Society for the Promotion of Science). Up until 2012, the workshops alternated between Japan and France, and attracted increasing interest from both countries. Then, motivated by the success of the first editions of the workshop, participants from countries other than France or Japan volunteered to organize it in their home country.

The history of past ISIP workshops is as follows:

- 2003: First ISIP in Sapporo (June 30 to July 2, Meme Media Lab, Hokkaido University, Japan)
- 2005: Second ISIP in Lyon (May 9–11, University Claude Bernard Lyon 1, France)
- 2007: Third ISIP in Sapporo (June 27–30, Meme Media Laboratory, Hokkaido University, Japan)
- 2008: 4th ISIP in Paris (October 6–8, Tour Montparnasse, Paris, France)
- 2009: 5th ISIP in Sapporo (July 6–8, Meme Media Laboratory, Hokkaido University, Japan)
- 2010: 6th ISIP in Lyon (October 11–13, University Claude Bernard Lyon 1, France)
- 2012: 7th ISIP in Sapporo (October 11–13, Meme Media Laboratory, Hokkaido University, Japan)
- 2013: 8th ISIP in Bangkok (September 16–18, Centara Grand and Bangkok Convention Centre Central World Bangkok, Thailand).
- 2014: 9th ISIP in Kuala Lumpur (October 9–10, HELP University, Kuala Lumpur, Malaysia).
- 2015: 10th ISIP in Grand Forks (October 1–2, University of North Dakota, Grand Forks, North Dakota, USA)

Originally, the workshops were intended for a Franco-Japanese audience, with the occasional invitation of researchers from other countries as keynote speakers. The proceedings of each workshop were published informally, as a technical report of the hosting institution. One exception was the 2005 workshop, selected papers of which were published by the *Journal of Intelligent Information Systems* in its special issue for ISIP 2005 (Vol. 31, Number 2, October 2008). The original goal of the ISIP workshop series was to create close synergies between a selected group of researchers from the two countries; and indeed, several collaborations, joint publications, joint student supervisions, and research projects originated from participants of the workshop.

After the first six workshops, the organizers concluded that the workshop series had reached a mature state with an increasing number of researchers participating every year. As a result, the organizers decided to open up the workshop to a larger audience by inviting speakers from over ten countries at ISIP 2012, ISIP 2013, ISIP 2014, as well as at ISIP 2015. The effort to attract an even larger international audience led to the

workshop being organized in countries other than France and Japan. This will continue in the years to come. During the past four years in particular, an extensive effort was made to include in the Program Committee academics coming from around the globe, giving the workshop an even more international character and disseminating its information and results globally. We expect this to have an important effect in the participation of the workshop in the years to come.

The selected papers contained in this book are grouped into three major topics, namely, “Exploratory Analytics”, “Mobility and Location Data Analytics”, and “Large Graph Management”; they span major topics in information management research both modern and traditional.

We would like to express our appreciation to all the staff members of the organizing institution for the help, kindness, and support before during and after the workshop. Of course we also would like to cordially thank all speakers and participants of ISIP 2016 for their intensive discussions and exchange of new ideas. This book is an outcome of those discussions and exchanged ideas. Our thanks also go to the Program Committee members whose work was undoubtedly essential for the selection of the papers contained in this book.

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Jean-Marc Petit
Nicolas Spyratos
Yuzuru Tanaka

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