Personal Health Informatics. Editorial

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Summary

Objectives: To provide an editorial introduction to the 2012 IWA Yearbook of Medical Informatics with an overview of its contents and contributors.

Methods: A brief overview of the main theme, and an outline of the purposes, contents, format, and acknowledgment of contributions for the 2012 IWA Yearbook.

Results: This 2012 issue of the IWA Yearbook highlights important developments in personal health informatics, impacting the activities in research, education and practice in this interdisciplinary field. There has been steady progress towards introducing individualization or personalization into informatics systems by taking advantage of the increasing amounts of personal information that is relevant to medical decisions and application in clinical practice. At the same time, there are serious issues about the limits of existing systems being able to effectively personalize information within both practical and ethical constraints so critical to the practice of medicine. Recent literature bearing on these questions includes the selected papers published during the past 12 months, and articles reported by IWA Working Groups on these topics.

Conclusion: Surveys of the main research sub-fields in biomedical informatics in the Yearbook provide an overview of progress and current challenges across the spectrum of the discipline, focusing on the challenges and opportunities involved in personal health informatics.

Keywords

Editorial, 2012 IWA Yearbook of Medical Informatics, surveys of biomedical informatics, reviews of biomedical informatics, history of biomedical informatics, IMA and its societies, personal health informatics

Introducing the 2012 Yearbook and its Theme on Personal Health Informatics

The Yearbook includes a number of articles focusing on the theme of Personal Health Informatics. It covers recent informatics contributions and points to future directions on how the gradual incorporation of personalization capabilities is enabling more focused and individualized approaches to patient care and the answer of patient-focused clinical and translational research questions. This theme is especially relevant given the high expectations that accompany the push into translational applications of genomic and other -omic data for healthcare at the level of the individual patient. The dissemination of health informatics methods worldwide is a major goal of IMIA, and personalization issues are at the center of the challenges facing both researchers and clinicians as they strive to bridge the divide between burgeoning -omics research, and the pressures of clinical practice. There are serious ethical and societal challenges that arise from personalization in terms of the requirements for security and confidentiality of individual data that can also impact families and others related to a patient. On the research side, there issues of data and knowledge integration and interpretation – as well as the management of massive datasets, especially when imaging and whole genome data must be analyzed concurrently.

The Keynote by Enrico Coiera argues persuasively for the need for better ways of envisioning and implementing systems that will truly help personalize the decisions made by patients as well as health care providers. He argues that the field will need to break from its predominantly biological, population-level, and generic view of diseases, treatments, and their informational content, and begin to take into account the many individual perceptual and cognitive human factors which define the clinical context involved in personal healthcare.

The 2012 IMIA Yearbook includes the following articles:

Keynote on the Theme of Personal Health Informatics – Enrico Coiera
Editorial, IMIA President Statement, Synopses and summaries of Best Paper Selections in each of the subfields of biomedical informatics.

Surveys authored in selected subfields of health informatics include:

- Christophe Gaudet-Blavignac (HCM): Serious games in health care: a survey
- Sabine Koch (HF): Critical advances in bridging personal health informatics and clinical informatics
- Bob Gann (HIS): Giving choice and control: health informatics on the patient journey
- Katarzyna Wax (SSII): Smartphone in My Pocket: From Sensor Informatics to Personal, Pervasive Health Informatics
- Tze-Yun Leong (DS): Toward Patient-Centered, Personalized and Personal Decision Support and Knowledge Management: A Survey
- Nigam Shah: Translational Bioinformatics embraces Big Data

IMIA Working Group Papers:

- Chris Paton: Five Self-Tracking and Self-Experimentation Using Social Media for Patient Empowered Self-Care
- JA Seoane: Data Integration in genomic medicine: trends and applications
- George Demiris: Smart Mobilizing Older Adults: Harnessing the Poten-
About the Yearbook of Medical Informatics

The Yearbook of Medical Informatics of the International Medical Informatics Association (IMIA) is distributed through IMIA’s Member and Corresponding Member Societies worldwide. Since its inception in 1992 it has been the single most important publication summarizing the activities of IMIA, and showcasing the best of medical informatics research for the previous year. Its original survey articles give overviews of recent developments. The Yearbook remains a non-profit publication of IMIA, jointly published with Schattauer Verlag. It is currently subscribed to by 23 of IMIA’s member societies, providing access for about 25,000 individual members.

We are very pleased to announce that a number of very experienced and committed colleagues have accepted the responsibilities of leading the editorial team of the IMIA Yearbook for 2013. They are Marie-Christine Jaulent (CRC – Centre de Recherche de Cordeliers) and Brigitte Seroussi (Assistance Publique-Hopitaux de Paris), France, and Christoph Lehman (Johns Hopkins), USA. We look forward to their bringing new and exciting ideas for the ongoing development of the IMIA Yearbook, while maintaining its tradition of balanced scientific and practical assessment of the research progress in our field as it evolves in future years.

Information on IMIA and on its Regional Groups

The Yearbook contains detailed information about IMIA, its Member Societies, Regional Groups, Working Groups, and Special Interest Groups. A detailed report on the activities of IMIA regions is included with the help of Regional Editors. We would like to thank Rolf Englbrecht (for EFMI), Michio Kimura (for APAMI), Ghislain Kouematchoua (for HELINA), Carol Hullin (for IMIA LAC), Ramin Moghadam (for MEAHI) and Karen Greenwood and RoseMary MacVicar-Elliot (for the North American IMIA Member Societies) for their valuable contributions.

Acknowledgements

The editors gratefully acknowledge the contributions of the referees and guest editors. They would also like to thank the authors of the invited surveys, reviews and the historical papers, and the contributors to the Research and Education Section. They are most appreciative of the considerable time, skill, and effort devoted by Christian Lovis, the Managing Editor, and by the Section Editors, Claudine Bréant, Célia Broyer, Adrien Depeursinge, Arnaud Gaudinat, Alberto Guardia, Daniel Kubias, Rodolphe Meyer, Henning Müller, Anne-Marie Rassinoux, Patrick Ruch, and Linda Yip. They especially wish to thank the Editorial Assistant, Martina Hutter, from the Medical Faculty at the University of Heidelberg, without whose untiring efforts the Yearbook would not have been completed. The editors appreciate the contributions of the Advisory Board to the planning of this Yearbook.

The referees who contributed to the selection of articles in the 2012 Yearbook of Medical Informatics were: Samantha A. Adams, The Netherlands
Kouhei Akazawa, Japan
Elske Amanenwerth, Austria
Manfredo Atzori, Switzerland
Sany A. Azer, Saudi Arabia
Fernan Gonzalez Bernaldo de Quiros, Argentina
Olivier Bodenreider, USA
Alex A.T. Bui, USA
Anita Burgun, France
Jean Charlet, France
Ronald Cornet, The Netherlands
Karen Courtney, Canada
Stefan Darmoni, France
Dina Demner Fushman, USA
John T. Donnelly, USA
Martin Dugas, Germany
Walter Gall, Austria
Dragan Gamberger, Croatia
Natalia Grabar, France
Stefan Gräber, Germany
Thierry Hamon, France
Michael Hogarth, USA
Andreas Holzinger, Austria
Dimitar Hristovski, Slovenia
Josef Ingenier, Germany
Marie-Christine Jaulent, France
Katharina Kaiser, Austria
Jeongeun Kim, Korea
Farah Magrabi, Australia
Stéphane Meystre, USA
Jeanette Murphy, United Kingdom
Toshiharu Nakai, Japan
Jean Marc Palm, Canada
Philip Payne, USA
Natalia Pletevna, Switzerland
Michael Poprat, Germany
Daniel Racoceus, Singapore
Rainer Röhrig, Germany
René Schneider, Switzerland
Lauge Soerensen, Denmark
Selma Supek, Croatia
Guy Tsafnat, Australia
Manolis Tsiknakis, Greece
Alexander Turchin, USA
Frank Uckert, Germany
Alfonso Valencia, Spain
Toru Yao, Japan
Xue Zhong Zhou, USA
Tatjana Zrimc, Australia
Pierre Zweigenbaum, France