# Personal Health Informatics. Editorial

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## Summary

*Objectives*: To provide an editorial introduction to the 2012 IMIA 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 IMIA Yearbook.

*Results*: This 2012 issue of the IMIA 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 IMIA 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 IMIA Yearbook of Medical Informatics, surveys of biomedical informatics, reviews of biomedical informatics, history of biomedical informatics, IMIA and its societies, personal health informatics

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## 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 health care 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 are 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 Coeira 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:

- Michael Rigby (PHI/CI): Personal Health, Person-centred Health and Personalised Medicine - Concepts, Consumers, Confusion and Challenges in the Informatics World
- 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-

tial of Smart Home Technologies
- Shashi B Gogia: Personal Handheld Computing Devices for Personalizing Healthcare
- Elizabeth Borycki: Empowering Patients: Making Health Information and Systems Safer for Patients and the Public
- Simon de Lusignan: Key concepts to assess the readiness of data for International research: Data quality, lineage and provenance, extraction and processing errors, traceability, and curation

Research & Education:
- Arie Hasman: IMIA accreditation of Health Informatics programs
- Portia Grace Fernandez-Marcelo: Emerging eHealth Directions in the Philippines

History of Medical Informatics:
- Marius Fieschi: The development of AI in medicine and the research environment of the SPHINX project at the start of the 1980s
- Valerio Yácubsohn: A Short History of the Beginnings of Hospital Information Systems in Argentina

## 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 Engelbrecht (for EFMI), Michio Kimura (for APAMI), Ghislain Kouematchoua (for HELINA), Carol Hullin (for IMIA LAC), Ramin Moghaddam (for MEAHI) and Karen Greenwood and RoseMary MacVicar-Elliot (for the North American IMIA Member Societies) for their valuable contributions.

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