Call for Papers: Special issue on Precision Medicine Informatics

Guest Editors (in alphabetical order)
- Elmer V. Bernstam (The University of Texas Health Science Center at Houston, USA)
- Joshua C. Denny (Vanderbilt University, USA)
- Lewis Frey (Medical University of South Carolina, USA)

Description of the Special Issue
President Obama’s Precision Medicine Initiative will seek to collect data from large populations and integrate biomedical research with healthcare. Precision medicine implies treating patients as individuals with specific characteristics at every level of the biological spectrum, ranging from molecules to population, with the ultimate goal of providing better care to individuals. An individual patient has a unique genome, proteome, etc. and also a unique history of exposures, social history and personal preferences. As a result, precision medicine poses multiple information challenges in biomedical discovery (e.g., identifying molecular drivers of cancer), knowledge representation and management, clinical decision support and others. Although treating a single individual may be practical using current methods, providing precision care routinely for all patients requires new informatics approaches and possible redefinition of disease.

Realization of the vision of precision medicine will require collaboration among individuals with different backgrounds including biomedical scientists, clinicians and informaticians. Bio-, translational-, clinical- and public health informaticians have important roles to play in precision medicine. The goal of this special issue of the Journal of American Medical Informatics Association is to provide a forum for authors to describe innovative methodologies, tools and algorithms that enable precision medicine and its routine practice.

Topics of Interest
Possible topics for research papers include, but are not limited to:
- Analysis pipelines for identifying actionable molecular aberrations in clinical samples
- Analysis of existing information resources (e.g., biomedical literature, clinical trial documents, web sites) to extract information and knowledge for precision medicine (e.g., drugs that target a particular molecular aberration)
- Representation, storage, communication and maintenance of information and knowledge for precision medicine
- Decision support for precision medicine
- Methods to identify more detailed phenotypes relevant to precision medicine
- Methods for matching patients to clinical trials of targeted therapy
- Pharmacogenomics implementation and challenges for genomic decision support
- Mining EHR data to associate omic data with disease, disease subtype, and drug response
- Risk prediction using “traditional” clinical data, -omic data and their combination
- Integration of molecular data into EHRs and clinical workflows
- Ethical, legal and social challenges to precision medicine
- Standards for representing clinically-actionable molecular data, information and knowledge
- Patient involvement in precision medicine
- Strategies for facilitating aggregating or collecting the very large populations required for precision medicine and exploration of rare variants, outcomes, and diseases
- Strategies for addressing and recruiting diverse ancestries

Authors should make sure to place their work in the context of biomedical research or healthcare, and to carefully review the relevant literature. Open-source software code and data should be submitted as appropriate.

**Important Dates**

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<tr>
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<tr>
<td>August 31, 2015</td>
<td>Manuscript submission deadline</td>
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<tr>
<td>October 31, 2015</td>
<td>Initial decisions sent to authors</td>
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<td>December 31, 2016 (expected)</td>
<td>Revisions manuscript submission deadline</td>
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<td>February 29, 2016 (expected)</td>
<td>Final decisions sent to authors</td>
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**Submission and Peer Review Process**

To ensure consideration in the special issue, authors should note in a cover letter that their submission is for the “Special Issue on Precision Medicine Informatics”. Detailed information for online submission to JAMIA is available via [http://jamia.oxfordjournals.org](http://jamia.oxfordjournals.org).

All manuscripts will be subject to the JAMIA peer-review process. Manuscripts that are considered within scope and meet quality expectations will be reviewed by experts for scientific merit. Assistance of a technical editor for consistency of grammar and style is highly recommended. Only the best, most relevant articles to the topic will be published in the Precision Medicine focus issue.

Authors should format and structure their manuscripts according to the guidelines specified at: [http://jamia.oxfordjournals.org/for_authors/index.html](http://jamia.oxfordjournals.org/for_authors/index.html). Accepted articles may appear in print or in an online JAMIA issue.

**Questions Regarding the Issue**

Please direct any questions regarding the special issue or submissions to [jamia-pmi-issue@googlegroups.com](mailto:jamia-pmi-issue@googlegroups.com)