2004

San Francisco, California

Building High Performance Health Care Organizations

"Biomedical Informatics for Enhancing Health Care, Research, and Education"

11th World Congress on Medical Informatics

Tuesday, September 7 to
Saturday, September 11, 2004
Hilton San Francisco

Medinfo 2004 – Call for Participation

Building High Performance Health Care Organizations

Biomedical Informatics for Enhancing Health Care, Research, and Education

Hilton San Francisco
San Francisco, California
United States of America

Mario Stefanelli
Medinfo 2004
Scientific Program Committee Co-chair

Casimir Kulikowski
Medinfo 2004
Scientific Program Committee Co-chair

Information technology is deeply transforming the shape of organizations, the systems they use, and the knowledge they produce. Effective and efficient coordination of enterprise activities is important to the success of any organization. It is especially pressing for those in health care due to strong and ever growing demand, and the need to keep up-to-date with costly and rapidly changing technologies. Information technology is increasingly expected to help deliver economies of scale and improved productivity, balancing costs with quality of health care.

A fundamental challenge for medical informatics, then, is to develop and apply better ways of understanding how information technologies and methods can help support the best care for every patient every day given available medical knowledge and resources. It requires a rethinking of care processes management on the one hand, and of the processes of conducting and managing scientific research on the other. Better understanding of such processes through educational initiatives raises yet other opportunities for informatics research and its broader societal impact.

In order to provide the most effective health care possible, the activities of teams of health professionals have to be coordinated through well-designed processes centered around the needs of patients. For information systems to be accepted and used in such an environment, they must balance standardization based on shared medical knowledge with the flexibility required for customization to the individual patient. Such systems should foster improved recording and assessment of medical outcomes, enabling ongoing generation and integration of new medical knowledge. Developing innovative approaches to design and build evidence-based careflow management systems is essential for providing the knowledge management infrastructure of health care organizations that seeks to increase performance in delivering high quality care services by efficiently exploiting available resources. Parallel challenges arise in the organization of research at the biological and clinical levels, where the focus on systematically organizing and supporting processes of scientific inquiry by novel informatics methods and databases are in their very early stages. Scientific research has been transformed by Web-based sharing of information and by the formation of consortia and other collaborative groups that seek to balance competitive and collaborative opportunities at local, regional, national, and international levels.

As Scientific Program Committee Co-chairs of Medinfo 2004, we invite you to contribute to the base of knowledge that we will collectively draw upon in the years ahead to meet these challenges and realize opportunities.

Mario Stefanelli, Medinfo 2004 Scientific Program Committee Co-chair

Casimir Kulikowski, Medinfo 2004 Scientific Program Committee Co-chair

Medinfo 2004–Congress Overview

Main Themes

The themes listed below are intended to guide authors in focusing on the main biomedical informatics directions emphasized in this Congress, consistent with the central theme of building high performance organizations for enhancing health care, research, and education.

- *Biomedical Knowledge Management: Enabling High Performance Health Care, Research, and Educational Organizations to Promote Excellence*
- *Bioinformatics: Computation and Knowledge for the Genomic Era*
- *Clinical Informatics: Applications in Research and Clinical Care*
- *Education and Training: Creating and Enhancing Learning Through e-Learning Environments*
- *Informatics Bridging Biomedical Science, Clinical Practice, and Education*
- *Health Informatics Transforming Patients from Passive to Active Consumers of Health Care*
- *Technology Transfer: Disseminating and Generalizing Innovation Across Health Enterprises*

Dates

September 7-11, 2004

Location

Hilton San Francisco • San Francisco, California, USA

Language

English is the official language of Medinfo 2004

Participants

- Scientists, informaticians, researchers, and educators
- Physicians, nurses, pharmacists, dentists, and other health care professionals
- Health executives, administrators, and chief information officers
- Computer scientists, telecommunication specialists, and library and information professionals
- Government officials, policy makers, and public health analysts
- All others concerned with improving health care through the effective use of information and deployment of technology

Scientific Program

Opening Keynote Address, Plenary Sessions, Papers, Panels, Posters, Demonstrations, Meet the Experts Sessions, Workshops, Tutorials, and Commercial Exhibits

Medinfo Awards

Medinfo "Best Paper" awards will be presented based on selection by an international jury. For further details, check the Medinfo 2004 Web site at www.medinfo2004.org

Student Paper Competition

Students who are enrolled in a degree-granting program or in an academic program such as a medical residency or a post-doctoral fellowship program are eligible to enter a paper in the Medinfo 2004 Student Paper Competition conducted in conjunction with the Congress. For further details, check the Medinfo 2004 Web site at www.medinfo2004.org

Proceedings

The *Medinfo 2004 Proceedings* will be published as both print and CD-ROM versions

Medinfo 2004–Invitation to Present

The Medinfo 2004 Congress provides presentations that contribute to the foundations, understanding, and advancement of medical informatics. As the 11th World Congress on Medical Informatics, Medinfo 2004 features presentations which collectively span the full spectrum of research and development, theory and application, and methodology and evaluation in matters pertaining to informatics in health care.

The Scientific Program Committee (SPC), made up of members from around the world, has the responsibility for the final selection of submissions for all categories of presentations. To facilitate this process, the committee is assisted by an interdisciplinary group of reviewers who initially evaluate submitted papers and proposals and judge them according to content, originality, relevance, organization, and clarity.

Submissions are due by September 15, 2003. First authors of submissions will be notified by January 15, 2004 of acceptance or rejection. A final copy of all accepted papers, proposals, and abstracts must be submitted by the first author through the Medinfo 2004 Web site within four weeks after the notification of acceptance. Failure to submit a final copy by the final copy deadline may result in exclusion of the contribution from the program and, where applicable, from the *Medinfo 2004 Proceedings*.

In some cases, authors are asked to make minor or major revisions to their paper, proposal, or abstract, and they must incorporate these changes into the final submission. The final version of all accepted papers and poster abstracts must be accompanied by a contributor's agreement signed by the first author on behalf of all authors. Authors will receive the contributor's agreement following notification of acceptance. All speakers are required to sign a form permitting presentations to be recorded for sale.

Full papers, poster submissions, and demonstration submissions that are accepted will be published in the *Medinfo 2004 Proceedings*. Proposals for tutorials, workshops, and panels will not be published in the *Proceedings*. Papers that are published in the *Proceedings* are indexed in Index Medicus and MEDLINE (posters and demonstration abstracts are not). IMIA and AMIA retain joint copyright of all works published in the *Proceedings*.

The Congress will accept six categories of contributions: papers, demonstrations, posters, panels, workshops, and tutorials.

See page 6 of this Call for Participation for submission format requirements

Papers

Three types of papers will be considered for oral presentation: scientific papers, future vision papers, and review papers. Authors of accepted papers will have 15 minutes to present their work and 5 minutes for questions and discussion. An individual may be primary author of only one paper. All accepted papers will be printed in the *Proceedings*. Papers may not be in press or under consideration for publication elsewhere.

Scientific Papers

These papers report on research, development, and leading-edge application of informatics in health care, addressing the theme of the Congress.

Future Vision Papers

These papers address the future role of information and communication technologies in supporting knowledge management and organizational learning in health care.

Review Papers

These papers highlight the current state-of-the-art of some aspect dealing with the main themes of the Congress, and present a thorough synthesis of key research and application issues.

Paper submissions must not exceed a maximum of five [8.5 x 11 inch or 21.5 x 27.8 cm] camera-ready pages and must include:

- An opening summary (abstract) of 125 to 175 words;
- The names, academic degree(s), affiliations, and locations (city, state, and country) of all authors.

Demonstrations

Demonstrations are presented during program sessions, and most often illustrate one or more aspects of a leading-edge system that is in use, under development, or in a testing or prototype stage. Each demonstration is 30 minutes long, with an additional 15 minutes for audience questions and comments. Accepted demonstration submissions will be printed in the *Proceedings*.

Demonstration submissions must not exceed one [8.5 x 11 inch or 21.5 x 27.8 cm] camera-ready page and must include:

- A one-paragraph opening summary of 75 to 100 words, followed by a description of the specific purposes of the system, service, or project; the problems in health care practice or research that it is designed to address; and the purpose or features of the system, service, or project that make it particularly innovative;
- The names, academic degree(s), affiliations, and locations (city, state, and country) of the authors.

Medinfo 2004–Categories of Submission

Posters

Posters describe existing computer applications, report on preliminary research, survey a subject area, or otherwise contribute to the knowledge of medical informatics. If a poster presentation requires use of a computer, the presenter is responsible for bringing his or her own laptop to use in the presentation; computers cannot be provided by Congress organizers for poster presentations.

Special two-hour time slots will be dedicated to poster displays in order to allow ample time for viewing posters and discussion with authors. Poster submissions will be printed in the *Proceedings*.

Poster submissions must not exceed one [8.5 x 11 inch or 21.5 x 27.8 cm] camera-ready page and must include:

- A one paragraph opening summary of 75 to 100 words, followed by a description of the system, service, or project and the practical problem it addresses or, in the case of original research, the methodology; an evaluation of the system, service, project, or research results; and conclusions;
- The names, academic degree(s), affiliations, and locations (city, state, and country) of the authors.

Panels

Panel proposals addressing a variety of areas of strategic interest are welcome. Topics may be on a specific aspect of medical informatics theory, application, or experience, or may provide interdisciplinary viewpoints that cut across traditional tracks or themes. The Medinfo 2004 Scientific Program Committee especially welcomes groups of discussants who hold opposing views on controversial topics about important informatics subjects, or who collectively represent perspectives from a variety of international viewpoints. Panels of collaborators on a single project will be of less interest; such proposals would be better presented through a regular paper submission. Panel proposals will not be published in the *Proceedings*. 90 minutes will be dedicated to each panel, with 60 minutes for presentation and 30 minutes for follow-up discussion and questions.

Panel proposals must not exceed a maximum of three [8.5 x 11 inch or 21.5 x 27.8 cm] pages and must include:

- A one- or two-paragraph opening summary of 150 to 200 words;
- A well-defined topic, a statement of its importance to medical informatics, a description of the dimensions and scope of the topic that will be explored by the panel, and the positions or special expertise that each panel member brings to the presentation;
- The names and academic degree(s), affiliations, and locations (city, state, and country) of the panel organizer and other participants;
- A signed statement from the panel organizer that each participant has agreed to take part.

Panels will be limited to five participants. An individual may organize only one panel, and may not participate on more than two panels.

Workshops

The Scientific Program Committee invites proposals for workshops as a means of promoting informal discussion among constituents sharing common interests. Although workshops often serve as forums for individuals with similar roles and responsibilities, the Committee also encourages proposals for workshops that will bring together individuals with different roles in developing, implementing, or using information technology that changes how we pursue health science or deliver health care. Workshops may include brief presentations by organizers, but directed, informal discussion is strongly encouraged. Workshop proposals are not published in the *Proceedings*. Workshops are two hours.

Workshop submissions must not exceed a maximum of two [8.5 x 11 inch or 21.5 x 27.8 cm] pages and must include:

- An opening summary of 150 to 200 words;
- A description of the proposed workshop, how it will be conducted, educational goals, and a description of who should attend;
- The names, academic degree(s), affiliations, and locations (city, state and country, if international) of all workshop instructors/speakers.

Tutorials

Half-day and full-day tutorials are dedicated to in-depth treatment of special topics and interests in medical informatics. Half-day tutorials include three hours of instruction; full-day tutorials include six hours of instruction. The Scientific Program Committee seeks a balance between tutorials that address core informatics theory and principles, with those that address practical applications, current issues, and emerging trends and developments in informatics. Tutorials range from the general introductory level through specialized advanced treatments. Instructors should be available to give their tutorial on Sepember 6, 7, 8, or 12, and should confirm their availability on each of those days.

Tutorial proposals must not exceed a maximum of four [8.5 x 11 inch or 21.5 x 27.8 cm] pages and must include:

- An opening summary of 250 to 300 words, followed by the body of the proposal that includes:
- A general description of the content of the tutorial;
- An outline of topics to be covered;
- Specific educational goals that attendees can expect to achieve;
- A description of who should attend;
- An indication of the level or combination of levels of the content (percentage of basic, intermediate, and advanced material covered);
- A description of prerequisites, if any;
- A list of the same or other tutorials, courses, or workshops of similar duration presented by the instructor at a major informatics or other conference;
- The names, academic degree(s), affiliations, and locations (city, state, and country) of all instructors.

Submission Format and Presentation

Though the submission process will be on-line, your submission will need to conform to certain requirements, some of which are reminiscent of print format and presentation requirements. Certain categories of submissions will in fact appear in a print version of the *Proceedings*, and adherence throughout all categories of submissions ensures a consistency that facilitates the review process and preparation of both electronic and print publications.

All submissions – all papers, all proposals, and all poster and demonstration submissions – attached to the on-line submission form must conform to the requirements outlined below as well as to those enumerated for the specific submission categories in this *Call for Participation*.

The official language of Medinfo 2004 is English. All submissions must be in English.

- Attach your submission as a Word (Windows or Mac) file or as an Adobe Acrobat pdf. If your submission exceeds 200KB in length, please submit it as a zipped file.
- Be certain to adhere to the page length restrictions stated in the category descriptions.
- Use 8.5 x 11 inch (21.5 x 27.8 cm) paper size with one inch (2.54 cm) margins left, right, top, and bottom.

Those accustomed to A4 paper size should be certain to submit their paper or proposal using a 8.5 x 11 inch page size. If authors do not have an 8.5 x 11 inch option and must submit A4, they may do so, but **must** submit their paper or proposal in Word, not in Adobe Acrobat pdf, and their content must still be limited to a length that will fit within 5 pages when converted to 8.5 x 11 inches.

- Place the title in 14 point Times Roman typeface, single-column, bolded, centered, upper and lower case using initial capitals for each word in the title other than articles and prepositions.
- Below the title, place the names, credentials, institutions, and locations of the author(s) or panelists, exactly as they are to appear in the on-line and print programs and the *Proceedings*, using 12 point Times Roman typeface, single-column, bolded, centered, upper and lower case using appropriate capitals.

While forms of credentials and other author information are subject to minor revision by the AMIA office for the purpose of consistency or correction of obvious errors, it is the responsibility of the primary author of each submission to provide full and accurate information about all authors named.

- Include the main text of the submission single-spaced in 10 point Times Roman typeface, justified, two-column format with 0.5 (1.25 cm) inch between columns.
- Do not number individual pages.
- For references, use the following format: Cite all references in the text, tables, or figure legends. In the text, use 8 point superscript if possible to indicate reference numbers; if not possible, use 10 point numbers in brackets. Under a centered heading "References" at the end of the submission, provide a list of references cited, in order of occurrence in the manuscript, and with titles using initial capital only. List all authors of any cited work when there are six or fewer authors; if more than six, list only the first three followed by or, "et.al." Follow the Vancouver Style (for further details, see http://www.icmje.org/).

Submission Instructions

All submissions must be made via the Medinfo 2004 Web site. Submissions will be accepted at the Medinfo 2004 Web site from July 23, 2003 through September 15, 2003. Final copy of accepted contributions must be submitted between January 15, 2004 and February 12, 2004.

- Go to the Medinfo 2004 Web site at: http//www.medinfo2004.org
- From the Medinfo 2004 Web site main page, select the link for author submissions. The Medinfo 2004 on-line submission instructions and form will be displayed.
- Complete the on-line submission form as instructed and attach your submission according to the directions provided. Please note that authors will be asked to select a category and a number of keywords that best describe their submission that are mainly used for the author/reviewer match.

Questions About Submission

The Medinfo 2004 Scientific Program Committee is the final authority in all questions regarding selection of papers and proposals for presentation at the Congress. The processing and handling of all submissions is carried out by the office of the American Medical Informatics Association, host of Medinfo 2004, using the Association's submission and review software and conference management system. Questions regarding submission should be directed to **medinfo@mail.amia.org.**

Categorizing Your Submission

When submitting through the Medinfo 2004 Web site, one of the questions you will be asked is where your submission fits best within an outline of the major areas in biomedical and health informatics. This outline is shown on the opposite page and will be available on the Web site submission pages as well. You will also be asked to select up to three key concepts from this list that best match the content of your submission. The three key concepts may all be under one major heading, or under different headings. Your careful selection will enable the Scientific Program Committee to ensure that submissions are refereed by the most qualified expert reviewers, and that accepted presentations can be grouped within sessions of the program that will have the maximum appeal both to the authors of the paper and to the conference attendees. The SPC reserves the right to reassign a submission to a different category if, in its judgment, the submission seems to fit there better.

Categorizing Your Submission

Bioinformatics

1. Biological structure informatics
2. Computational biology
3. Expression profiling and microarrays
4. Genomic ontologies
5. Genomics
6. Linking the genotype and the phenotype
7. Neuroinformatics
8. Pharmacogenomics
9. Proteomics

Clinical Informatics

10. Barriers to clinical system implementation
11. Clinical systems in ambulatory care
12. Clinical systems in high intensity care
13. Careflow and process improvement systems
14. Disease management
15. E-health and clinical communication
16. Evaluation of health information systems
17. Health data warehousing
18. Health information systems
19. Integrated health and financial systems

Education and Training

20. Computer-assisted medical education
21. Consumer health information
22. E-learning or distance learning
23. Education and training
24. Library information systems
25. Medical informatics teaching
26. Patient education and self-care
27. Professional education

Human Information Processing and Organizational Behavior

28. Cognitive models and problem solving
29. Data visualization
30. Natural language understanding and text generation
31. Human factors and usability
32. Human factors and user interfaces
33. Human-computer interaction
34. Models of social and organizational behavior
35. Natural language processing

Imaging and Signal Analysis

36. Image processing and transmission
37. Image recognition, registration, and segmentation methods
38. Imaging and signal standards
39. Knowledge representation and ontologies for imaging
40. Model-based imaging
41. Signal processing and transmission
42. Virtual reality and active vision methods and applications

Innovative Technologies in Health Care

43. Computer-communication infrastructures
44. Internet applications
45. Mobile computing and communication
46. Portable patient records
47. Security and data protection
48. Software agents and distributed systems
49. Telemedicine
50. Virtual reality
51. Wireless applications and handheld devices

Knowledge Management

52. Automated learning and discovery
53. Clinical guidelines and protocols
54. Controlled terminology, vocabularies, and ontologies
55. Intelligent data analysis and data mining
56. Decision support systems
57. Knowledge management
58. Knowledge representation
59. Neural network techniques
60. Pattern recognition/classification

Nursing Informatics

61. Nursing informatics
62. Nursing care systems
63. Nursing vocabulary and terminology
64. Nursing education/Curriculum in nursing informatics
65. Nursing documentation

Organizational Issues

66. Careflow management systems
67. Care delivery systems
68. Cooperative design and development
69. Economics of care
70. Ethical and legal issues
71. Health services evaluation: performance and quality
72. Organizational impact of information systems
73. Quality assessment and improvement
74. System implementation and management issues
75. Technology assessment

Patient Record

76. Cryptography, database security, and anonymization
77. Database access and delivery
78. Database design and construction
79. Data standards and enterprise data sharing
80. Patient record management
81. Privacy, confidentiality, and information protection
82. Standard medical vocabularies
83. Standards for coding
84. Standards for data transfer

Public Health Informatics

85. Administrative/financial systems
86. Biosurveillance
87. Consumer health informatics
88. Emergency and disaster response
89. Genetic epidemiology
90. Health intervention systems
91. Health promotion systems
92. Health outcomes assessment
93. Patient self-care and patient-provider interaction

Important Note

Due to the heavy volume of traffic expected on the final submission day, September 15 we urge authors to submit prior to this last day. Authors who wait until September 15, will find the Medinfo 2004 submissions server busy and response time slow.

Medinfo 2004 Organizing Committee

Scientific Program Committee

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Patricia Abbott, USA
James Brinkley, USA
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