

OPBG (1869-2009) and e-Health:
Health-e-Child's contribution to diagnostics in paediatrics
and the scientific potential of the Virtual Physiological Human approach.

HEALTH-E-CHILD CONFERENCE

140
1869
2009
Vite che aiutano la vita



Comune di Roma



 Health
Better Healthcare for Europe

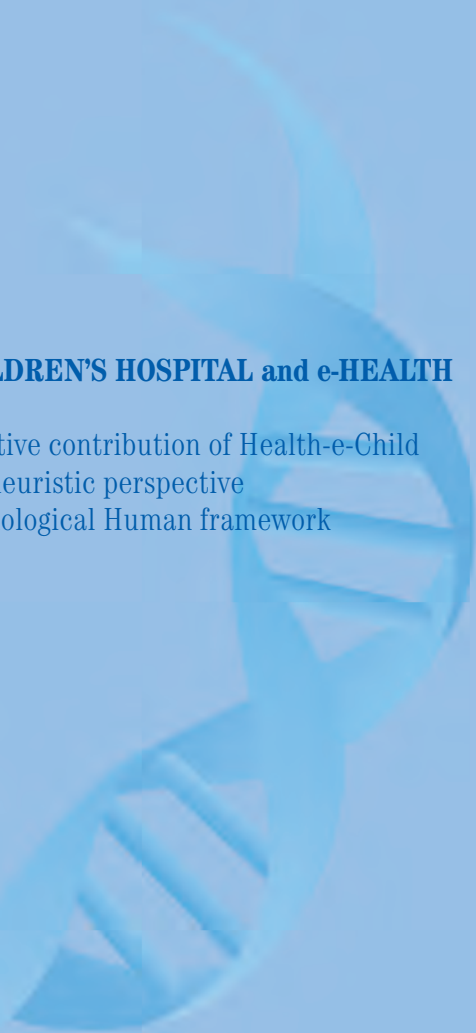
 Information Society
Technologies



Bambino Gesù
OSPEDALE PEDIATRICO

THE BAMBINO GESÙ CHILDREN'S HOSPITAL and e-HEALTH

The diagnostic and predictive contribution of Health-e-Child
within the heuristic perspective
of the Virtual Physiological Human framework



Founded in 1869, the Bambino Gesù paediatric hospital (OPBG) celebrates its 140th anniversary this year. In marking the occasion, it was decided to focus on future-oriented scientific activities and cooperation underway at the European level, highlighting in particular the highly demanding Health-e-Child project undertaken with 14 partners and the subsequent developments in terms of international cooperation, not least with the United States, as well as the launching of a digital library of paediatric imaging for cardiology.

Health-e-Child, an integrated ICT for Health project aimed at combining the best in clinical skills and technological developments, was accepted by the European Commission as one of those for the last phase of the EU's 6th framework programme with allocated funding in excess of €12 million.

The project's aims can be summarized as follows: gathering together all the clinical data of paediatric patients; reading and interpreting them through new information systems powered by the revolutionary GRID system of distributed computing; linking European centres of paediatric excellence and gradually expanding the network and the system as a whole to encompass all European paediatric hospitals; creating a new-generation system of diagnosis and providing researchers with an essential tool to foster new discoveries at the same time.

The integrated Health-e-Child project seeks to develop a computerized system of clinical support for paediatric diagnosis and research based on the vertical integration of biomedical data and knowledge ranging from case histories, genetics and epidemiology, all the way to image-based diagnostics and clinical practice, through the modelling of pathologies and activation of automatic systems of knowledge discovery.

The HeC project has received important recognition. Classified by the European Commission on its first annual assessment as meriting high visibility and a project of particular interest, it was selected for three consecutive years as Project of the Month for presentation in the Commission's eHealth publications and made a focal point of the VPH Concertation Day and the '08 ICT-BIO Conference of last October. In addition to the two awards received in 2007 at the Enabling Grids for E. Science (EGEE) Conference in Budapest and the Finalist Corporate Responsibility Award from Siemens AG, the numerous accolades received in 2008 include Best Demo Award at the EGEE Forum in Clermont Ferrand, Best Poster and Demo Award at the HealthGrid Conference in Chicago, Best Poster Award at the European Conference of Medical Information in Gothenburg, and the Best Exhibit Award (€10,000) at the '08 ICT Conference in Lyon.

The project is globally coordinated by Siemens AG (Germany) and its partners include the Gaslini Foundation and Institute, paediatric hospitals such as the Necker Enfants Malades in Paris, the Great Ormond Street Hospital in London and the Bambino Gesù in Rome, the European Genetic Foundation in Bologna, the computer science departments of three universities (Athens, Bristol and Genoa), the INRIA (French National Institute for Research in Computer Science and Control), the CERN in Geneva, Maat Gknowledge of Spain, Asper Biotech Aktiaselts of Estonia, and Lynkeus of Rome for project management.

Johns Hopkins of Baltimore, United States, has also decided to join the HeC project and will take part together with the American College of Cardiology and the OPBG, under the overall supervision of Siemens, in the construction of a Grid-based portal enabling large-scale simulation of the use of tools for the personalized modelling of children's hearts and associated support for diagnosis and predictive evaluation of the effects of suggested forms of treatment.

The objective of the strategy implemented, which also envisages work with numerous other paediatric hospitals on building up a digital library of clinically annotated cardiological images permitting searches for similarities with patient under examination, is in fact to ensure the gradual involvement of other paediatric hospitals and expand the field of action to other pathologies in addition to those initially selected for the Health-e-Child project (cardiology, oncology and rheumatology). This initial eHealth platform will thus provide European paediatricians with access to a system of diagnostic assistance based on the most advanced technologies and the knowledge acquired in centres of clinical excellence.

Within the sphere of the funding approved in the 6th framework programme (FP6) of the European Community, Health-e-Child constitutes a sort of precursor of the sphere of research described as Virtual Physiological Human (VPH) in the 7th framework programme (FP7, 2007-2013). As such, the project and its subsequent developments seek to foster ever-expanding forms of collaboration with other projects in the same area with a view to combining the most important efforts so as to increase the diagnostic and predictive capacities based on the modelling of paediatric physiopathology.



September 23rd, 2009

Morning chaired by **Gian Franco Bottazzo**, Scientific Director, OPBG

9.30

Opening Addresses

Giuseppe Profiti, President, OPBG

Giovanni Alemanno, Mayor of Rome

10.00

Fondamenti etici nella cura e nel rispetto della dignità del bambino

H.E. Monsignor Rino Fisichella, President of the Pontifical Academy for Life

10.20

eHealth and the Virtual Physiological Human

Joël Bacquet, Head of Health Infrastructures - ICT for Health, European Commission

10.40

Health-e-Child's technological developments

Martin Huber, Technical Coordinator HeC, Siemens AG

11.00 - 11.30

Coffee break

11.30 - 11.50

The clinical significance of Health-e-Child

Giacomo Pongiglione, Clinical Coordinator of HeC, Director of Cardiology, OPBG

11.50 - 12.10

Intelligent Information Management for Paediatrics

Yannis Ioannidis, University of Athens

12.10 - 12.30

What to look forward to for Health-e-Child

Edwin Morley-Fletcher, Project Manager of HeC, President Lynkeus

12.30 - 13.00

Concluding Remarks

Ferruccio Fazio, Vice Minister for Health

13.00 - 14.30

Lunch

Health-e-Child's clinical developments

Afternoon chaired by **Giacomo Pongiglione**, Clinical Coordinator of HeC,
Director of Cardiology, OPBG

14.30 - 15.10

Cardiology

Giacomo Pongiglione, OPBG, **Andrew Taylor**, GOSH,
Allen Everett, Johns Hopkins University Hospital

15.10 - 15.30

Neuro-Oncology

Maria Luisa Garré, Istituto G. Gaslini

15.30 - 16.00

Rheumatology

Iona Alova, Necker-Enfants Malades, **Alberto G. Ugazio**, OPBG

16.00 - 16.15

Coffee break

16.15 - 16.45

Genetic Results

Roberto Ravazzolo, Istituto G. Gaslini, **Filippo Santorelli**, OPBG,
Gianni Romeo, European Genetic Foundation

16.45 - 17.15

Radiology

Francis Brunelle, Necker-Enfants Malades, **Catherine Owens**, GOSH,
Paolo Tomà, Istituto G. Gaslini

17.15 - 17.30

Health-e-Child's e-Health Platform

David Manset, Maat G Knowledge

17.30 - 18.00

Guided exhibition tours

During both days, there will be a poster exhibition, and live demonstrations of both the tool and the applications of the Health-e-Child platform and of the work of the other invited Grid and VPH projects. In addition, during breaks, and for half an hour after the end of the first day, brief guided tours to Health-e-Child's developments will be given by technological and clinical staff.

September 24th, 2009

Morning chaired by **Joerg Freund**, Health-e-Child's Coordinator

9.00 - 10.15

Health-e-Child Tools Integration

CaseReasoner, **Martin Huber**, Siemens A.G

TreeMaps, **Tamas Hauer**, University of the West of England

CardioViz, **Tommaso Mansi**, INRIA

AITION, **Harry Dimitropoulos**, University of Athens,

Discovering knowledge from biomedical data through regularization methods,

Alessandro Verri, University of Genoa, DISI

10.15 - 11.15

Parallel developments and proposals by other selected Grid and VPH Projects

Introduction, **Joel Bacquet**, ICT for Health, European Commission

American College of Cardiology, **Gerard R. Martin**, American College of Cardiology

NeuGrid, **Giovanni B. Frisoni**, IRCCS Fatebenefratelli, Brescia

@neuLink, **Martin Hofmann-Apitius**, Fraunhofer SCAI

CTSNet, **Andrew Cook**, Institute of Child Health

11.15 - 11.30

Coffee Break

11.30 - 12.30

Continuation of parallel developments and proposals
by other selected Grid and VPH Projects

VPH NoE, **Peter Coveney**, UCL, University College of London

GARR-IRCCSS network, **Massimo Casciello**, Ministry of Health

ITT, **Lorenzo Masia**, Istituto Italiano di Tecnologia

EGEE, GEANT, EUMEDGRID, **Federico Ruggieri**, Istituto Nazionale di Fisica Nucleare

12.45 - 13.00

Closing Remarks

Joerg Freund, Coordinator, Health-e-Child

Giuseppe Profiti, President, OPBG

13.00 - 14.30

Lunch and brief guided tours of the exhibitions



Conference Secretariat:

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Registration:

There will be no registration fee.
Applicants should fill-in the registration form and send it by fax to the Conference Secretariat (fax: +39.06.6859.2443).
Confirmation will be given via e-mail.

THE CONFERENCE LANGUAGES WILL BE ENGLISH AND ITALIAN
SIMULTANEOUS INTERPRETATION WILL BE PROVIDED FOR ALL SESSIONS