

Promotor

Prof. Dr. ir. Marc Nyssen

Departement Biostatistics and Medical Informatics
Vrije Universiteit Brussel

Leden van de examencommissie

Prof. Dr. Andrew Todd-Pokropek

Department of Medical Physics & Bioengineering
University College London, UK

Prof. Dr. em. Francis Roger-France

Ecole de Santé Publique/INFM
Université Catholique de Louvain

Prof. Dr. Joost Weyler

Departement Sociale Geneeskunde
Universiteit Antwerpen

Prof. Dr. em. Leonard Kaufman

Departement Biostatistiek en Medische Informatica
Vrije Universiteit Brussel

Prof. Dr. em. Anne-Marie Depoorter

Departement Maatschappelijke Gezondheidszorg
Vrije Universiteit Brussel

Prof. Dr. Peter Vaes

Departement Motorische Revalidatie en Kinesitherapie
Vrije Universiteit Brussel

Prof. Chris van Schravendijk, voorzitter

Diabetes Research Center
Vrije Universiteit Brussel



Vrije Universiteit Brussel

FACULTEIT GENEESKUNDE EN FARMACIE

Doctoraat in de Medische Wetenschappen

Academiejaar 2008-2009

UITNODIGING

Voor de openbare verdediging van het
doctoraatsproefschrift van

Ronald BUYL

dinsdag 23 juni 2009

U wordt vriendelijk uitgenodigd op de openbare verdediging van het proefschrift van

Ronald BUYL

'Contributions to e-health developments and electronic health records.

Advances in certification methodology, electronic registries and structured EHRs in physiotherapy'

Op **dinsdag 23 juni 2009**, om **18 uur** in auditorium **P. Brouwer** van de Faculteit Geneeskunde & Farmacie, Laarbeeklaan 103, 1090 Brussel

Situering van het proefschrift

The e-health field, comprising electronic health records (EHRs) plays an important role in health care. Health care providers are becoming aware that well structured EHRs are essential preconditions for progress. This Ph. D. thesis describes the results of several studies and developments that we performed in this area over the past six years (from 2003-2008). The first part describes the certification procedures in different health care domains that have taught us that software labeling can significantly contribute to the improvement of the EHR systems. The proposed methodology of scenario testing proved to be a very efficient practice which allows testing EHR systems in a manner that conforms perfectly to the common working circumstances of the health care provider. The electronic physiotherapy registry, as described in a second part was the first step towards a structured electronic recording of patient data in physiotherapy in Belgium. We contributed to the effective transition from the paper-based registry to the electronic registry while solving the problems of inalterability and traceability of the data, taking into account the user-friendliness for the end-user. A last part of this thesis is devoted to the problem concerning the structure of the EHR for physiotherapists and its interoperability. The conceptual model we developed defines an interoperability framework between the three-level problem oriented medical registration (POMR) EHR structure of the general practitioner and the ERH for physiotherapists, that has a cyclic eight level structure, by means of two newly created Kmehr-bis (XML) messages.

Curriculum Vitae

Ronald Buyl was born on July 20, 1978 in Diest. He studied Mathematics and Sciences at the Sint-Jan Berchmanscollege in Diest. In 1996 he decided to go to the Vrije Universiteit Brussel where he obtained a master degree in "Physical Education" in 2000 and a master degree in "Rehabilitation sciences and Physiotherapy" in 2002. Stimulated by the enthusiasm of Prof. Marc Nyssen he started his PhD. research in 2003 at the Biostatistics and Medical Informatics department in the faculty of Medicine and Pharmacy. The e-health field, with an emphasis on electronic health records became his main research interest. At this department he also discovered the love for statistics and he decided to deepen this subject. In 2008 he graduated as Master of Science in Statistics (KUL).

From 2003-2008 he was a member of the certification committee on medical and paramedical software systems organized by the Ministry of Health. In this period he actively led and participated in numerous national and European e-health projects (KINELECTRICS, OKIDO, MedSkills). He is author and co-author of several peer-reviewed publications. Besides his research he is very active in teaching statistics and computers science at the faculty of Medicine and Pharmacy and a driving force behind projects aiming at educational innovation (EPISTAT, O2).