

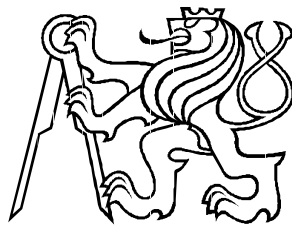
mobile med 2014

2nd Conference on Mobile and Information Technologies in Medicine

November 20th-21st 2014, Prague, Czech Republic,

<http://www.mobmed.org>

Conference Proceedings



Czech Technical University in Prague

Faculty of Electrical Engineering

Dept. of Cybernetics

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Preface

Dear colleagues,

It was my great pleasure to welcome you the 2nd International Conference Mobile and Information Technologies in Medicine in Prague, Czech Republic.

The 2nd MobileMed is the premier event for researchers and practitioners interested in applications of mobile communications to human health. It is a must attend opportunity if you wish to tap into the most recent discoveries within the synergistic areas of mobile and health and an opportunity to network with tomorrow's experts in the field. Mobile technologies are ubiquitous part of the modern world and provide novel possibilities to address problems faced by the ageing society.

I appreciate your participation and hope you will find this meeting stimulating and rewarding.

Daniel Novak, chair

This document

This document represents front matter for proceedings of MobieMed 2014, and includes basic summary of the conference. Full papers can be downloaded in form of an archive from the conference website:

<http://www.mobmed.org/2014.html>

Online video presentations

Selected oral presentations from MobileMed 2014 are available on SlidesLive.:

<http://slideslive.com/conferencemobilemed/mobmed-2014>

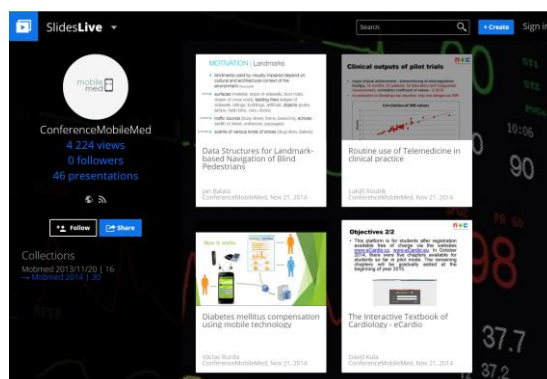


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Achenbach, Stephan	34	University Hospital Erlangen, Germany
Afonso, Daniel	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Almeida, Ana Margarida	3	University of Aveiro, Portugal
Altiner, Attila	21	Institute of General Practice, Rostock University Medical Center, Germany
Amoah, Benjamin	4	AIMS Ghana / ETH Zurich, Switzerland
Anneken, Lars	34	University Hospital Erlangen, Germany
Anto, Evelyn	4	AIMS Ghana / ETH Zurich, Switzerland
Anyz, Jiri	31	CTU Prague
Aqueveque, Pablo	33	Universidad de Concepcion, Chile
Arbet, Daniel	7	FEI STUBA, Slovakia
Arnold, Martin	34	University Hospital Erlangen, Germany
Ater, Yotam	11	Technion- Israel Institute of Technology, Haifa, Israel
Azoulay, Ofer	11	Kaplan Medical Center, Rehovot, Israel
B		
Balata, Jan	28	Department of Computer Graphics and Interaction, CTU Prague
Barros, Ana	3	Institute of Molecular Pathology and Immunology of the University of Porto, Portugal
Bonifacio, Herbert Joseph	12	University of Toronto, Department of Paediatrics; St. Michael's Hospital, Canada
Bryt, Ori	11	Technion- Israel Institute of Technology, Haifa, Israel
Burda, Václav	27	CTU Prague
Burwitz, Martin	15	TU Dresden, Germany
C		
Campbell, Douglas	12	University of Toronto, Department of Paediatrics; St. Michael's Hospital, Canada
Cap, Clemens H.	21	Department of Computer Science, University of Rostock, Germany
Catania, Vincenzo	6	Department of Electrical, Electronics and Computer Engineering, University of Catania, Italy
Chavez, Javier	33	Universidad de Concepcion, Chile
Chbani, Baha	14	Mediware, Czech Republic
Crimi, Alessandro	4	AIMS Ghana / ETH Zurich, Switzerland
D		
Darebny, Kamil	28	Department of Computer Graphics and Interaction, CTU Prague
Davis, Sarah	12	St. Michael's Hospital, Canada
de Buenaga, Manuel	23	Universidad Europea de Madrid, Spain
E		
Eskofier, Bjoern M.	34	Universität Erlangen-Nürnberg (FAU), Germany
Eskofier, Björn M.	35	Universität Erlangen-Nürnberg (FAU), Germany

F

Fernández, Fernando	37	Complejo Hospitalario Universitario Insular - Materno Infantil, Spain
Fischer, Georg	35	Universität Erlangen-Nürnberg (FAU), Germany
Foo, Schubert Shou Boon	26	Nanyang Technological University, Singapore

G

Gaglio, Salvatore	18	DICGIM - University of Palermo, Italy
Gersi, Lior	11	Technion- Israel Institute of Technology, Haifa, Israel
Glassner, Yonatan	11	Technion- Israel Institute of Technology, Haifa, Israel
González, Jonay	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Goodman, Michelle	12	University of Guelph, Canada
Gottschalk, Tristan	34	Universität Erlangen-Nürnberg (FAU), Germany
Greiffenberg, Steffen	15	Semture.de, Germany

H

Halperin, Doron	11	Kaplan Medical Center, Rehovot, Israel
Hebelka, Vladimir	8	Brno University of Technology, Czech Republic
Hernández, Alfonso	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Heuberger, Albert	34, 35	Fraunhofer Institute for Integrated Circuits IIS
Hofmann, Christian	35	Fraunhofer Institute for Integrated Circuits IIS, Erlangen, Germany
Huber, Joeline	12	University of Toronto, Department of Paediatrics; St. Michael's Hospital, Canada
Hána, Karel	22	Faculty of Biomedical Engineering, CTU, Prague

J

Janatová, Markéta	22	Faculty of Biomedical Engineering, CTU, Prague
Jegathesan, Thivia	12	St. Michael's Hospital, Canada
Jinoch, Vlastimil	28	Department of Computer Graphics and Interaction, CTU Prague

K

Klíment, Radim	22	Faculty of Biomedical Engineering, CTU, Prague
Koranda, Petr	14	Mediinspect, Czech Republic
Korhonen, Markku	17	Oulu University of Applied Sciences, Finland
Korpok, Oliver	35	Fraunhofer Institute for Integrated Circuits IIS, Erlangen, Germany
Korč, Tomáš	14	Mediinspect, Czech Republic
Kováč, Martin	7	FEI STUBA, Slovakia
Kramar, Vadym	17	Oulu University of Applied Sciences, Finland
Kufa, Martin	8	Brno University of Technology, Czech Republic
Křížek, Miroslav	14	Mediware, Czech Republic

L

La Delfa, Gaetano Carmelo	6	Department of Electrical, Electronics and Computer Engineering, University of Catania, Italy
Larsen, Constanza	33	Universidad de Concepcion, Chile
Lee, Jason Wen Yau	26	Nanyang Technological University, Singapore
Lenart, Marek	32	CTU Prague
Leutheuser, Heike	34, 35	Universität Erlangen-Nürnberg (FAU), Germany
Lo Re, Giuseppe	18	DICGIM - University of Palermo, Italy
Luca, Mario	38	The University of Texas M.D. Anderson Cancer Center, US
Luján, Tamara	37	Informática y Equipamiento Médico de Canarias S.A, Spain

M

Malenak, Filip	10	Brno University of Technology, Czech Republic
Marani, Salma	38	The University of Texas M.D. Anderson Cancer Center, US
Martorella, Gloria	18	DICGIM - University of Palermo, Italy
Martínez, Julio	37	
Martínez		Informática y Equipamiento Médico de Canarias S.A, Spain
Mihailidis, Alex	12	University of Toronto; Toronto Rehabilitation Institute, Canada
Mikovec, Zdenek	28	Department of Computer Graphics and Interaction, CTU Prague
Mistry, Niraj	12	St. Michael's Hospital, Canada
Moreira, Luis	3	Piaget Institute

N

Nagy, Gabriel	7	FEI STUBA, Slovakia
Novak, Daniel	27	CTU Prague
Novak, Petr	31	CTU Prague

P

Palas, Jiří	14	Mediware, Czech Republic
Patinadan, Paul Victor	26	Nanyang Technological University, Singapore
Peri, Daniele	18	DICGIM - University of Palermo, Italy
Pino, Esteban	33	Universidad de Concepcion, Chile
Potůček, Jiří	14	Mediinspect, Czech Republic
Prieto, María Lorena	23	Universidad Europea de Madrid, Spain
Prokhorov, Alexander	38	The University of Texas M.D. Anderson Cancer Center, US
Puertas, Enrique	23	Universidad Europea de Madrid, Spain

R

Raida, Zbynek	8	Brno University of Technology, Czech Republic
Rauhala, Marjo	17	Vienna University of Technology, Austria
Ribeiro, Nuno	3	Institute of Molecular Pathology and Immunology of the University of Porto, Portugal
Roche, Rossany	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Rodríguez, Carlos	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Rodríguez, David	37	Informática y Equipamiento Médico de Canarias S.A, Spain
Roubik, Lukas	16	Czech National eHealth Center, Czech Republic

S

Santos-Silva, Filipe	3	Institute of Molecular Pathology and Immunology of the University of Porto, Portugal
Schlieter, Hannes	15	TU Dresden, Germany
Schmitz, Björn	35	Fraunhofer Institute for Integrated Circuits IIS, Erlangen, Germany
So, Scott	12	University of Waterloo; University of Toronto; Toronto Rehabilitation Institute, Canada
Staniek, Štěpán	14	Mediware, Czech Republic
Stopjaková, Viera	7	FEI STUBA, Slovakia
Struck, Matthias	34, 35	Fraunhofer Institute for Integrated Circuits IIS, Germany
Švestková, Olga	22	Department of Rehabilitation Medicine, Charles University in Prague, Czech Republic

T

Theng, Yin Leng	26	Nanyang Technological University, Singapore
Tichá, Marie	22	Faculty of Biomedical Engineering, CTU, Prague

Program Committee

Daniel Novak (chair), Dept. of Cybernetics, FEE CTU in Prague
David Kula (co-chair), Czech National eHealth Centre, Palacky University Olomouc and University Hospital Olomouc
Eduard Bakštejn (co-chair), Dept. of Cybernetics, FEE CTU in Prague
Jakub Schneider (co-chair), Dept. of Cybernetics, FEE CTU in Prague
Gianluca Agosta, ENEA ,Italy
Tarik Al-Ani ESIEE-PARIS, France
Eoin Banahan RoundRose Associates Ltd, UK
David Cuesta Frau Department of Computer Engineering, Politecnical University of Valencia, Spain
Roman Gabrhelik, Clinic of addictology, 1st Faculty of Medicine Charles University, Charles University and General Teaching Hospital
Miroslav Hamouz, AleinrtMe, UK
Stefan Holiga, Max Planck Institute for Human Cognitive and Brain Sciences, Germany
Francisco Ibáñez, Brainstorm Multimedia, Spain
Pavel Kordik, Czech Technical University in Prague
Claudio Lamberti, University of Bologna, Italy
Lenka Lhotská, Dept. of Cybernetics, FEE CTU in Prague
Jan Macek, IBM, Czech Republic
Milos Mraz, 3rd Medical Department, 1st Faculty of Medicine Charles University, Charles University and General Teaching Hospital
Gregory Maniatopoulos, Institute of Health & Society, Faculty of Medical Sciences, Newcastle University
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Petr Nalevka, SleepAsAndroid, Czech Republic
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Thomas Penzel, Charite, Germany
Christine Petioky Fonds Soziales Wien, Austria
Tomas Prusa, Masaryk University, Czech Republic.
Eugen Rasev, Schweinfurt Rehabilitation Clinic, Germany
Rossany Roche, Informedica, Spain
Henk Schwietert, Evalan, Netherlands
Jan Šedivý, Dept. of Cybernetics, FEE CTU in Prague
Olga Štěpánková, Dept. of Cybernetics, FEE CTU in Prague
Ausra Vidugiriene, Vytautas Magnus University, Lithuania
Martin Vyhnálek, Department of Neurology, 2nd faculty of Medicine, Charles University and Motol Hospital
Kevin Warwick, University of Reading, UK
Alexandrer Wohrer, Vienna Science and Technology Fund, Austria
Adam Zbiejczuk, Babel Guide

Organizing committee

Daniel Novák
Eduard Bakštejn
Jakub Schneider

[Nature inspired technologies group](#)
[Department of Cybernetics](#)
[Faculty of Electrical Engineering](#)
Czech Technical university in Prague

Keynote speakers

Rachelle Kaye



We are very pleased to share that Rachelle Kaye, a member of the Board of Directors of EHTEL (the European Health Telematics Association) and Coordinator of the Maccabi International Center for Research and Development, Israel, will join this year's mobileMed. With over 25 years of experience in health IT including significant large-scale eHealth systems, she is one of the key professionals in the field.

Her speech will be on **Modern Methods for Personal Health and Electronic Medical Record Management and Patient-Doctor Communication** [\[View on slideslive\]](#)

Håvar Brendryen



Dr. Håvar Brendryen is senior research fellow at Norwegian Centre for Addiction Research, University of Oslo with interests in addictology and especially relapse prevention.

His talk will be on **Lapse Management Systems in Online Interventions for Alcohol and Smoking Cessation**. [\[View on slideslive\]](#)

Diane Whitehouse



Ms Diane Whitehouse is an eHealth expert with the European Health Telematics Association (EHTEL). She is currently involved with the Momentum and Engaged thematic networks, which was also the topic of her talk. [\[View on slideslive\]](#)

Matěj Adam



Mr. Adam is a Healthcare Industry leader at IBM for EMEA markets and has a very extensive experience in developing modern health IT solutions and formulating strategies in more than 30 countries.

In his talk, he will present **how can modern health IT solutions facilitate the needs of ageing population and expansion of chronic diseases by leveraging new and existing data sources and analytic**. [\[View on slideslive\]](#)

Vladimír Finsterle



Dr. Finsterle is a founder and CEO of Pears Health Cyber - company aimed at health communication, information services, marketing and e-commerce.

His talk will be on **Current Trends Marketing and Communication in Healthcare**. [\[View on slideslive\]](#)

Daniela Rubio



Daniela is a Mexican living in Spain and accessibility consultant for Apple. She will hold a talk and demonstration on **What the VoiceOver Technology can do for the Visually Impaired**. Being blind herself, she understands importance of the topic very well.

[\[View on youtube\]](#)



Holly Jimison

Professor at Northeastern University, Boston, MA, previously with the U.S. National Institute of Health (NIH) - is an expert on new approaches in medical informatics.

Her talk will be on **Big Data Challenges in Monitoring Health Behaviors in the Home & Environment.** [\[View on slideslive\]](#)



Radek Fiala

Mr. Radek Fiala is founder of CleverTech Prague and one of the key movers of the Seniorinspect project.

He will speak on his primary topic: **Assistive Technologies in Ageing Population.** [\[View on slideslive\]](#)



Pavel Kubu

Dr. Pavel Kubu is a doctor of Medicine specialized in experienced in eHealth and mHealth tools, currently working as expert on Medical Informatics at Intel corp.

His talk will be on **Special needs and threats of elderly people in the virtual world.** [\[View on slideslive\]](#)



Vratislav Fabián

Co-founder of the Medicton group and assistant professor at the CTU, Prague, interested in assistive and other medical technologies.

Vratislav will speak about development and user experience of **i4control - Unique Assistive Device for Controlling Computer Using Eye Movements.** [\[View on slideslive\]](#)



Michal Zwinger

Managing director of Legentas.com / Rozectise.cz will speak about their project **Levebee.**

Levebee is an online app that aims to improve insufficient reading skills and reading disorder conditions, such as dyslexia, by providing a new-generation learning tool to students, parents, teachers and related professionals. [\[View on slideslive\]](#)



Jan Husák & Daniel Kuneš

The founders of **BigLauncher** project - an android interface for elderly and visually impaired - will hold a joint talk at this year's mobilemed.

They will talk about User **Design and B2B Experience.** [\[View on slideslive\]](#)

Conference programme

Keynotes

- 9:00 Rachelle Kaye
- 9:20 Håvar Brendryen
- 9:40 Diane Whitehouse

Morning session 1

session chair: Holly Jimison

- 10:00 Martin Burwitz,
15 Hannes Schlieter and
Steffen Greiffenberg
[Clinical Process Management in the Future - Standard Operation Procedures on Mobile Devices](#)
- 10:15 Enrique Puertas,
23 Manuel de Buenaga
and María Lorena
Prieto
[BUSCLIMED: Mobile app for searching medical literature](#)
- 10:30 Nuno Ribeiro, Luis
Moreira, Ana Barros,
3 Ana Margarida
Almeida and Filipe
Santos-Silva
[Happy: a cancer prevention smartphone app designed to promote behavior change](#)
- 10:45 Esteban Pino, Javier
Chavez, Constanza
33 Larsen, Carlos
Villagrán and Pablo
Aqueveque
[Non-Invasive system for ubiquitous physiological home monitoring](#)

Coffee break 11:00 - 11:15

Morning session 2

session chair: Håvar Brendryen

- 11:15 Alexander Prokhorov,
38 Salma Marani and
Mario Luca
[Three evidence-based tobacco control mobile apps based on federally funded research projects](#)

11:30	Salvatore Gaglio, Giuseppe Lo Re, Gloria Martorella, Daniele Peri and Salvatore Davide Vassallo	<u>Development of an IoT Environmental Monitoring Application with a Novel Middleware for Resource Constrained Devices</u>
11:45	Gaetano Carmelo La Delfa and Vincenzo Catania	<u>Accurate indoor navigation using Smartphone, Bluetooth Low Energy and Visual Tags</u>
12:00	Marie Tichá, Markéta Janatová and Olga Švestková	<u>Mobile rehabilitation device for balance training with visual feedback</u>
Lunch	12:15-13:00	
Poster session 1	13:00-14:00	
8	Martin Kufa and Zbynek Raida	<u>Filtering antenna array for off-body communication</u>
10	Filip Malenak	<u>Mobile system for monitoring sports activity</u>
14	Tomáš Korč, Petr Koranda, Jiří Potůček, Baha Chbani, Jiří Palas, Miroslav Křížek and Štěpán Staniek	<u>InspectLife – Pilot Testing of Telecare and Telehealth Services</u>
17	Vadym Kramar, Markku Korhonen and Marjo Rauhala	<u>End-user Experiences and Perspectives – HoviMestari</u>
21	Jonas Vetterick, Attila Altiner and Clemens H. Cap	<u>Enhancing Medical Students Exam Revision Course with Modern Classroom Response Systems</u>
31	Petr Novak and Jiri Anyz	<u>Everyday Independence and Self-Sufficiency</u>
32	Miroslav Uller and Marek Lenart	<u>WOW – A Friendly User Interface Framework for Elderly Users</u>
34	Heike Leutheuser	<u>Real-Time ECG Arrhythmia Detection on Smartphones</u>
11	Ofer Azoulay	<u>Mobile Application for Diagnosis of Facial Nerve Palsy</u>

Keynote session

- 14:30 Matěj Adam
15:00 Vladimír Finsterle
15:30 Daniela Rubio

Coffee break 16:00-16:15

Afternoon session

session chair: Matěj Adam

16:15 Andreas Tobola,
Oliver Korpok,
35 Christian Hofmann,
Christian Weigand
and Georg Fischer
[System Design Impacts on Battery Runtime of Wearable Medical Sensors](#)

16:30 Martin Kováč, Gabriel
7 Nagy, Viera
Stopjaková and
Daniel Arbet
[Integrated UWB Antenna for Implantable Biosensors within WBAN](#)

Keynote session

17:00 Holly Jimison

Keynote session

9:00 Radek Fiala
9:30 Pavel Kubů
10:00 Daniel Novák

Coffee break 10:30 - 10:45

MobileMed Challenge presentations

2 4 Alessandro Crimi [Docmeup](#)

3	12	Dr. Joeline Huber	<u>"911 Sim Kids App" - A Smartphone Application Designed for Teaching Emergency Safety Skills to Children</u>
4		Dipl.-Inf.(FH) Patrick Rogge	FAS-Senior
5		Walter Karlen	RRate: An innovative respiratory rate counter for the point-of-care
7		Alberto Ferrari	Intelligent tutoring system for gait rehabilitation of persons with Parkinson's disease
8		Filip Zoubek	Psoriasis does not have to be perpetual
9		Dani Roig	Psious
10	34	Heike Leutheuser	<u>Real-Time ECG Arrhythmia Detection on Smartphones</u>
11	11	Ofer Azoulay	<u>Mobile Application for Diagnosis of Facial Nerve Palsy</u>
12		Piotr Słomian	Telemedi.co

Lunch 12:15 - 13:15

Keynote session

13:15	Vratislav Fabián
13:35	Michal Zwinger
13:55	Jan Husák & Daniel Kuneš

Coffee break 14:15-14:30

Afternoon session 14:30-15:30 *session chair: Daniel Novák*

14:30	David Kula, Renata Kolářová	The Interactive Textbook of Cardiology - eCardio
14:45	27 Václav Burda and Daniel Novak	<u>Diabetes mellitus compensation using mobile technology</u>
15:00	16 Lukas Roubik	<u>Routine use of Telemedicine in clinical practice</u>
15:15	28 Jan Balata, Zdenek Mikovec, Kamil	<u>Data Structures for Landmark-based Navigation of Blind Pedestrians</u>

Darebny and Vlastimil
Jinoch

Challenge awards 15:30-15:45

Final word 16:00

MobileMed App challenge

The 2nd MobileMed conference was a host of the Mobile Health & AAL (Ambient Assistive Technology) Challenge" - a technical competition geared towards engaging students (can include faculty researchers AS team members) and mHealth startups, small SME and entrepreneurs to: **Design and develop a mHealth app that aims to improve the delivery of healthcare at either the patient, physician and community levels.** The mHealth app should focus on any one of these themes:

- Patient support to self-manage chronic disease
- Physician support to improve clinical decision-making
- Patient-Provider information sharing
- Remote patient monitoring and response.
- The mHealth app should present a mobile health solution to address a real-world problem.

Challenge committee

All AAL challenge presentations was be evaluated by the committee of experienced judges:

- **Pavel Kubu**, Intel Medical Informatics, mHealth and eHealth tools specialist
- **Adam Kočí**, J&T ventures, investment manager with more than 12 years of experience (PPF, MorganStanley, CSOB, Brookdale group)
- **Radek Fiala**, Senior inspect, AAL expert

Challenge awards

1st: *Intelligent tutoring system for gait rehabilitation of persons with Parkinson's disease*

Alberto Ferrari - University of Bologna

2nd: *Docmeup*

Alessandro Crimi - AIMS Ghana / ETH Zurich

3rd: *RRate: An innovative respiratory rate counter for the point-of-care*

Walter Karlen – ETH Zurich

Audience: *Intelligent tutoring system for gait rehabilitation of persons with Parkinson's disease*

Alberto Ferrari - University of Bologna



Alberto Ferrari collecting the plaque for best project in challenge from Daniel Novák

Partners and Sponsors



Contact

Daniel Novak

(conference chair)

Czech Technical University,
Faculty of Electrical Engineering,
Department of Cybernetics

Karlovo namesti 13,
121 35,
Prague 2,
Czech Republic

Tel +420 224 357 314,
Fax +420 224 923 677

xnovakd1@labe.felk.cvut.cz