Master Projects @ Philips Research

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Philips Research
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Two focused companies

Royal Philips

HealthTech

Philips Lighting

Lighting solutions
Philips Research
100+ years of delivering meaningful innovations
Introducing Philips Research - anno 2015

101 years founded in 1914

~500 projects per year

Annual research budget ~1% of Philips turnover

Global presence: Europe, North America, China, India Brazil and Africa (3 major labs, 5 satellites)

Over 55% of total 130,000 Philips patents

~1,700 Research employees across the globe

50 nationalities

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Some insights on how we operate

**Providing technology options for innovations in health and well-being**

**People-centric innovation**
- Driven by unmet needs and societal challenges

**Open innovation**
- **Inside-out**: opening up our skills to the world
- **Outside-in**: leveraging skills of the world

**Active collaboration**
- With partners from all over the world, including a 5 year, 25 million USD research alliance with the Massachusetts Institute of Technology

**Global organization, local partner**
- One of the largest private research organizations in the world with 1700+ professionals, working on healthtech and lighting solutions
We target health care customer and consumer needs along the health continuum

- **Healthy living**: Help people to live a healthy life in a healthy home environment
- **Prevention**: Enable people to manage their own health
- **Diagnosis**: Ensure first time right diagnosis with personalized and adaptive care pathways
- **Treatment**: Enable more effective therapies, faster recovery and better outcomes
- **Home care**: Support recovery and chronic care at home

**Monitoring, informatics and connected care**

Improve population health outcomes and efficiency through integrated care, real-time analytics and value-added services
Collaboration with the VU

- Bachelor students
- Master students
- PhD students

Healthy Lifestyle Solutions

e-Coaching for Behavioral Change

The conference is part of the unique Healthy Lifestyle Solutions research program, in which academia, public funding, and industry (Philips) together investigate and develop e-coaching know how for lifestyle improvement.

The HLS conference is concerned with (the combination of human and) automatic coaching to support people in adopting a healthier lifestyle, involving their physical activity, sleep and eating behavior and stress level. We intend to focus on e-coaching elements that are common for these application areas, including the use of sensors and software methodology, ethical and societal aspects, and ways to persuade people to comply.
Previous projects: Social Data Analytics

Maurits Bleeker

A research project to investigate the influence of social interactions on people's physical and cognitive states. Combination of learning from data and modeling human behavior.

• Do emotions spread through groups?
• Do social interactions positively influence mood?
• Are people physically more active when they are together?
• Are we able to identify who someone is interacting with from social signals?

- Individual Social Data: recognizing social signals between 2 persons
- Group Social Data: annotated social graph
Previous projects: Virtual Patients

Sascha Slisser

A research project aimed at developing realistic virtual patients for simulation-based training of health coaches. Combination of knowledge representation, dialog systems and 3D modeling.
Current interests/subjects

• Virtual Coaching

• Hybrid Coaching (Human-Computer Interaction)

• Human Modeling
  – Physical
  – Lifestyle
  – Psychosocial

• Digital Behavior Change Interventions

• Conversational Systems

• (Social) Data Analytics
**Example Research Questions**

- **Is it possible to automatically tag the content of short textual interventions?**
- **Can we use motivational interviewing to automatically deduce the (value of) psychosocial determinants of behavior?**
- **What unobtrusive ways of measuring can we use to gain more insights into (the reasons for) a person’s behavior?**
- **How can we use AI techniques be used to create coaching plans that are both robust and adaptive?**
- **Can we use a virtual coach/communication system to determine a person’s current (values of) determinants of behavior?**
- **How can we identify the effects of specific content in interventions on behavior or behavioral determinants?**
- **How can we identify the effort it takes for someone to make a particular change?**

**PHILIPS**
Interested? Want to know more?

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