## Fwd: [Data+Service] Newsletter 11/2019

**Data+Service Office** <info.office@data-service-alliance.ch>                    27 January 2020 at 08:53
Draft

# Newsletter #4
# 25.11.2019

**Welcome to the Data+Service Alliance Newsletter!**

We bring you an issue every month, containing information about things happening inside the Alliance as well as information from our members.

In this issue, learn about our new Topic Leaders and upcoming events, mark your calendars and register now!
Questions, remarks or contributions for the newsletter? Reach out to the editors.

Happy reading!
The Editors

*Make sure to scroll all the way down -- don't-miss-it-goodie at the end!*

## Upcoming Alliance/Member Events

Please check our website for all information and upcoming events.

**28.11.2019 -** CSEM's Technology Briefing 2019 - Sensors: from academic research to industrial use**, Neuchâtel**

**Topic Leader: "Geoscientific Applications" - Hochschule für Technik Rapperswil, Institute for Software, Geometa Lab**



Stefan Keller
Professor for Data Engineering
Institute Partner
Director of Geometa Lab

The Geometa Lab is a research group at the Institute for Software (IFS) at the HSR Hochschule für Technik Rapperswil (member of the Fachhochschule Ostschweiz). We conduct research and development, services, consulting and training courses in the field of geoscientific applications. The employees of Geometa Lab are involved in the bachelor's program in computer science as well as in the master's program in computer and data science.

The Geometa Lab:

- is engaged in the field of Data Science, in particular (Spatial) Data Engineering and (Open) Data Management.
- is involved in database management system projects, such as PostgreSQL (Swiss PGDay).
- is involved in open source GIS projects like PostGIS and QGIS.
- integrates open and closed source software, as well as open and government data.
- is specialized in crowd sourced open data, especially OpenStreetMap.

Contact: https://www.hsr.ch/geometalab

Training and further education: https://giswiki.hsr.ch/Kurse

**Topic Leader: "Making sense of sensor data for supporting behavioural change" – FHS Institute for Information & Process Management**



Ulrich Reimer          Edith Maier          Peter Jaeschke          Tom Ulmer          Beat Tödtli

The Institute for Information and Process Management at FHS St. Gallen has a long R&D track record in the digital health field ranging from sensor-based remote monitoring and patient self-management, active assisted living, systems for behavioural change support to surveillance systems for zoonoses. A more recent focus has been on applying insights from behavioural economics to health promotion, public health, prevention and patient self-management using smart (mobile) technologies with the aim to motivate people to change their health behaviour.

The team members come from a wide range of backgrounds and bring together expertise in data science, sensor technology, ethnographic methods, mobile health solutions, user-centred design, hardware integration, and software architecture.

Selected topics

- Data mining on sensor data to establish correlations between behavioural patterns and personal health
- Track vital data to fill in the "black box" between doctoral visits
- Remote monitoring of patients for the early detection of health problems
- Motivate people to change unfavourable health behaviour
- Sustain motivation by personalising advice and taking into account context
- Facilitate behavioural change by minimising effort through automatic adaptation

Teaching

Minors in data science in the BSc in Industrial Engineering (start spring 2020) as well as the BSc in Business Information Systems (planned).

Selected publications

Reimer, U. / Emmenegger, S. / Maier, E. / Ulmer, T.: SmartCoping: A Mobile Solution for Recognizing Stress and Coping with it. To be published in: N. Wickramasinghe, F. Bodendorf (eds): Mobile Sensors and Analytics for Better Health and Wellness. Springer, 2019.

Reimer, U. / Emmenegger, S. / Maier, E. / Ulmer, T. / Vollbrecht, H.-J. / Zhang, Z. / Khatami, R.: Laying the Foundation for Correlating Daytime Behaviour with Sleep Architecture Using Wearables Sensors. In: C. Röcker, J. O'Donoghue, M. Ziefle, L. Maciaszek, W. Molloy (eds): Information and Communication Technologies for Ageing Well and e-Health. Springer, 2018, pp.147-167.

Reimer, U. / Maier, E. / Ulmer, T.: A Self-Learning Application Framework for Behavioral Change Support. In: C. Röcker, J. O'Donoghue, M. Ziefle, M. Helfert, W. Molloy (Eds.): Information and Communication Technologies for Ageing Well and e-Health. Second International Conference, ICT4AWE 2016, Revised Selected Papers. Springer, 2017, pp. 119-139.

Reimer, U. / Maier, E. / Laurenzi, E. / Ulmer, T.: Mobile Stress Recognition and Relaxation Support with SmartCoping: User-Adaptive Interpretation of Physiological Stress Parameters. In: Proc. Hawaii Int. Conference on System Sciences (HICSS-50), 2017.

Selected projects

GREAT – Persuasive Ambiences (European AAL Initiative)

- Develop and implement scalable, adaptive and affordable solutions for supporting daily routines for people with dementia
- Employ controllable mood lighting based on optical motion sensors to address behavioural challenges such as agitation and apathy.

(E-) Nudging for Chronic Care (Gebert Rüf Foundation)

- Use insights from behavioural economics to "nudge" people towards a healthier lifestyle
- Develop an application framework for self-learning behavioural change support systems which infer individual preferences and personalised advice from users' behaviour and vital data

SmartCoping (CTI)

- Use heart rate variability for early stress detection
- Automatically adapt to the individual user
- Help users cope with stress with biofeedback

SmartSleep  (Internat. Bodenseehochschule)

- Recognize sleep stages from wearable sensors
- Find correlations between daytime activities, sleep structure and subjective sleep quality
- Provide personalised advice based on correlations

Mobile Palliative Care (Gebert Rüf Foundation)

- Develop and evaluate a sensor-based monitoring system to accompany people at the end of life and thus avoid unnecessary admissions to hospital or emergency units

Remote monitoring of severely ill children  (CTI)

- Support family members taking care of ill children at home through on-site monitoring
- Define detailed contingency plans as well as the workflows triggered by alerts

In all these projects, the team closely collaborates with colleagues from other disciplines such as nursing or social sciences, and application partners such as sleep laboratories, clinics, dementia care units etc.

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**Smart Maintenance Conference, 12-13 Feb 2020, Zurich**



Smart Maintenance conference (in cooperation with Easyfairs) takes place on the 12th & 13th of February 2020, at Zurich Messe.

The conference covers 2 main topics: Predictive maintenance and Smart Services. Take this opportunity to join and hear the industry trends and academic research.

Full Information

**Welcome New Members!**

**KITRO**

We heartily welcome our new Industrial member KITRO, represented in the Alliance by Mr. Dominic Mösch and Ms. Naomi Mackenzie, who have joined the Alliance under the startup grant scheme.



*Naomi Mackenzie & Dominic Mösch*

KITRO aims to tackle the issue of food waste and low profit margins in the food & beverage (F&B) industry by providing users with a tool to measure and mitigate food waste. The goal is to measure and monitor food waste automatically in order to prevent food waste and optimize operational practices. Using image processing and machine learning technologies KITRO is changing the way the food waste is managed and perceived.

The idea for KITRO was born from co-founders Anastasia Hofmann and Naomi Mackenzie who previously worked in kitchens and in the service industry, and threw away perfectly edible food on a daily basis. To combat this growing issue they set out to create a KITchen heRO. From a university-led competition to create a futuristic kitchen concept, KITRO evolved into what it is today - an automated food waste solution for the food and beverage industry. KITRO's goal is to bring back the value of food so that all food is appreciated and not wasted.
An Innosuisse research project brings KITRO together with ZHAW's InES Institute of Embedded Systems and InIT The Institute of Applied Information Technology, where together they are working on a project to tackle the automation of food waste measurement in the hospitality industry.

**B Braun**

We heartily welcome our new Industrial member B Braun, represented in the Alliance by Mr. Marc Häfliger and Mr. Silvan Helfenstein.



*Marc Häfliger & Silvan Helfenstein*

**Effective solutions through constructive dialog**

B. Braun is one of the world's leading providers and manufacturers of healthcare solutions today. Every service that B. Braun provides incorporates the entirety of our knowledge and skills, the company's deep understanding of user's needs, and extensive expertise since 1839. With its constantly growing portfolio of effective medical care solutions, B. Braun makes a substantial contribution towards protecting and improving people's health. In total, the B. Braun product range comprises 5,000 different products, 95% of which are manufactured by the company. By offering supplementary services and consulting, B. Braun is a system supplier that develops the best solution for patients in close partnership with our customers, making a significant contribution to medical advancements.

They ensure - in development, production and sales - that the healthcare market is supplied with high-quality products.

By becoming a member of the Swiss Alliance for Data-Intensive Services, B. Braun Switzerland would like to get in touch with companies that are facing similar challenges across all industries and build up a connection to science so that current trends and findings can be discussed.
Find more information: www.bbraun.ch

**FHS St. Gallen, Institute for Information & Process Management**

We heartily welcome our new Academic member Fachhochschule St. Gallen, Institute for Information & Process Management. The Academic member is represented in the Alliance by Prof. Ulrich Reimer.
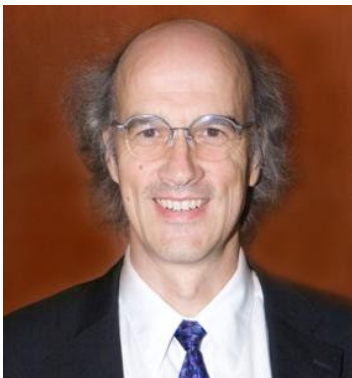


*Prof. Ulrich Reimer*

The Institute for Information & Process Management at FHS St. Gallen has a long R&D track record in the digital health field. A more recent focus has been on applying insights from behavioural economics to health promotion, public health, prevention and patient self-management using smart (mobile) technologies with the aim to motivate people to change their health behaviour. A main building block of these systems is the – often real-time – analysis of data from various sensors such as wearables or ambient sensors. Sensor data analysis provides insights into correlations between behavioural patterns and personal health. Besides, it enables the support systems to automatically adapt to a user's specific needs and contexts.

The group is further involved in projects for developing remote patient monitoring systems for the early detection of health problems. Other projects focus on systems for active assisted living and for the surveillance of zoonoses. An important aspect of many of the group's digital health projects is to achieve a seamless integration of all the stakeholders along the care path.

The institute's digital health team closely collaborates with colleagues from other disciplines such as nursing or social sciences, and application partners such as sleep laboratories, clinics, care units etc.

The team members come from a wide range of backgrounds and bring together expertise in data science, sensor technology, ethnographic methods, mobile health solutions, user-centred design, hardware integration, and software architecture.

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