

Digital Health Data in Personalized Medicine

The Interreg NWE project [Codex4SMEs](#) is proud to organise this webinar with **Prof. Dr. Christoph Dieterich, Dr. Christoph Schickhardt, and Dr. Yuksel Temiz** addressing the high potential of digitizing the healthcare system in terms of clinical data exchange, policy frameworks and development of connected health devices for point-of-care testing.

Agenda

Date: May 11th, 2020 at 14.00 CEST

14:00 – 14:05 Words of welcome and short Codex4SMEs project introduction

14:05 – 14:25 HIGHmed: Open Data Standards for Clinical Care and eHealth
by Prof. Dr. Christoph Dieterich, Head of Department of Bioinformatics and Systems Cardiology at Heidelberg University Hospital

- Visualization of cancer treatment course and data exchange between hospitals, research institutes, clinicians and patients
- Identification and treatment of high-risk patients at an earlier stage by generating highly specific and comprehensive data sets through mobile diagnostic devices
- Automated early warning system to protect patients from new infections

14:25 – 14:45 Commercializing Digital Health Data – Ethical Considerations
by Dr. Christoph Schickhardt, Senior Scientist, Program of Translational Medical Ethics, National Center for Tumor Diseases (NCT) Heidelberg, German Cancer Research Center (DKFZ)

- Policy framework and recommendations for international data sharing and data access
- Data use and access frameworks
- Academic research versus commercial research?

14:45 – 15:05 Digital Diagnostics: Connecting POC Devices to Smartphones
by Dr. Yuksel Temiz, Research Staff Member, Precision Diagnostics Group at IBM Research Europe (Zurich)

- Sensitive, low-cost, rapid and connected diagnostics at the point-of-care
- Advanced diagnostic technologies based on microfluidics and IoT
- Portable and connected diagnostic platform: microfluidic and electronic components for Precision Diagnostics

15:05 – 15:15 Q&A

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Speakers

Prof. Dr. Christoph Dieterich

Head of Department of Bioinformatics and Systems Cardiology at Heidelberg University Hospital

Christoph Dieterich is professor for Bioinformatics and Systems Cardiology at Heidelberg University Hospital. His research focuses on data integration and dissemination to improve Personalized Medicine through OMICS data. After completing his doctoral thesis at the **MPI for Molecular Genetics in Berlin**, he became head of the **Bioinformatics Platform at Max Delbrück Center for Molecular Medicine**. Subsequently, he was head of the junior research group for "Computational RNA Biology and Aging" and head of the core facility "Bioinformatics" at the **MPI for Biology of Aging** in Cologne. Since 2018 Christoph Dieterich is Principal investigator in the HiGHmed project funded by the German Federal Ministry of Education and Research.

HiGHmed is working on novel, interoperable solutions in medical informatics with the aim to make **medical patient data accessible for clinical research and education** which will, in turn, improve patient care. In order to investigate the interoperability of the data platform, HiGHmed has defined **three use cases**: 1) The **oncology** use case addresses the challenges of incorporating large data volumes from genome sequencing and radiology into clinical practice. 2) The **cardiology** use case enables the collection and transfer of data from **wearables, implanted and connected medical devices** to the HiGHmed data centres. 3) The **infection control** use case develops a software system to analyse various data sources from hospitals, with the aim to detect potentially dangerous germs as early as possible.

Dr. Christoph Schickhardt

Senior Scientist, Program of Translational Medical Ethics, National Center for Tumor Diseases (NCT) Heidelberg, German Cancer Research Center (DKFZ)

Christoph Schickhardt is a researcher and lecturer at National Center for Tumor Diseases and scientific coordinator of the DASYMED project with a focus on Big Data in Systems Medicine as well as of the EURAT project addressing Ethical and Legal Aspects of Whole Genome Sequencing. His areas of competence are ethics of biomedical research and translational medicine, ethics of genomics and big data in health care as well as data sharing and data protection. Christoph Schickhardt studied philosophy at the **University of Pavia and Lausanne**. After receiving his Ph.D. degree at the University of Düsseldorf, he had a stay as an academic visitor at the **London School of Economics**. He is editor and author of several books and peer-reviewed publications. In addition, he is lecturer at the University of Bamberg and speaker at expert conferences on ethical aspects concerning life science technologies like genome sequencing, personalized oncology and clinical data sharing.

Dr. Yuksel Temiz, PhD

Research Staff Member, Precision Diagnostics Group at IBM Research Europe (Zurich)

Yuksel Temiz is a research staff member at IBM Research – Zurich. He obtained his Ph.D. degree in microelectronic engineering from **École Polytechnique Fédérale de Lausanne (EPFL)**. Since 2012, he has been working in the **Precision Diagnostics group of IBM Research – Zurich**. He has co-authored more than 50 peer-reviewed publications, 20 patent applications, and several book chapters primarily relating to capillary-driven microfluidics, bead-based immunoassays, system integration and packaging, and microfabrication. He has received **seven invention achievement awards** and **two outstanding technical achievement awards** from IBM and he is the recipient of 2019 **Young Investigator Award of Elsevier's micro- and nanoengineering journals**.