

BIH RESEARCH PLATFORM

DIGITAL MEDICINE

BIH's Digital Medicine Platform plans to combine its work and that of partner institutes to improve data use in research and clinical practice. BIH will achieve this by focusing on key areas such as health informatics, computational simulation, artificial intelligence and big data. Its activities will include the development of IT infrastructures and services, big data analytical tools and mobile healthcare apps. The platform will act as a hub for interdisciplinary and innovative research projects to significantly improve healthcare by bringing digital solutions from the bench to the bedside as well as using bedside data and use cases for the development of new tools.

For this, the platform brings together all major stakeholders from the BIH/Charité/MDC research community with the aim to jointly promote and excel digital medicine. To foster the common spirit in the digital medicine community, the founding members of the digital medicine platform developed a joint project to kick-start a pilot program connected to the Charité Health Data platform (HDP). The pilot rests on two major building blocks:

Empowering the BIH/Charité Health Data Platform for broad applications in digital medicine across clinical sectors through *dedicated Hardware IT infrastructure & services* and **Demonstration pilots** (*ONConnect - Integrated morpho-molecular precision oncology, Integration Hub for data from wearables and smartphone apps, Implementation of a central ID and consent management, Specification and Implementation of Interface Technologies and Standards for Laboratory Test Results and Medication, Automated use of clinical routine data for machine learning and model based simulation: Demonstrator for cardiovascular medicine*) for bringing the HDP into practice. Through a tight connection of the central HDP development with these demonstration pilots, the HDP will be progressively enabled to serve a growing number of projects and applications for the community across the Digital Medicine platform. In addition, the pilots shall deliver solutions for researchers in accordance with the strict data protection provisions in a clinical environment, specifically, by defining and demarcating scopes for applications by their intended purpose, e.g. for inpatient care or research.

To adequately serve the needs and demands of the community, the platform delivers a growing service portfolio, including services in aspects of interoperability, data use & access, Science IT as well as support from the BIH Innovation Drivers. Another core element for the establishment of the community are planned calls to support basic, clinical and translational research in line with BIH's strategy and to strengthen innovative key areas of data collection, storage and use.

In the long term, the vision is an interconnected digital health infrastructure that enables new technologies to predict disease more accurately, develop better, personalized treatments, promote active patient participation and ensure high data security. The platform's infrastructure will provide Charité/MDC/BIH researchers with seamless and secure access to services and appropriate access modalities to a wider user community like external collaborators, industry, public sector, citizen scientists, etc. This will eventually facilitate clinical research in an unprecedented manner leading to truly personalized medicine applications with recognizable patient benefits.

Steering Committee

Speaker:

Prof. Dr. Sylvia Thun BIH, Charité Medical Informatics

Deputy Speaker:

Prof. Dr. Frederick Klauschen Charité Bioinformatics

Dr. Altuna Akalin	MDC	AI & Machine Learning
Prof. Dr. Felix Balzer	Charité	Medical Informatics
Prof. Dr. Klemens Budde	Charité	Electronic Patient Records, Telemedicine
Prof. Dr. Duska Dragun	BIH, Charité	Education & Training
Prof. Dr. Roland Eils	BIH, Charité	Big Data
Prof. Dr. Martin Falcke	MDC	Modelling & Simulation
Dr. Peter Gocke	Charité	Digital Health IT
Prof. Dr. Erwin Keeve	Charité	AI & Machine Learning
Prof. Dr. Titus Kühne	Charité	Diagnostics & Precision Medicine
Prof. Dr. Uwe Ohler	MDC	Bioinformatics
Dr. Robert Preissner	Charité	Digital Health IT
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