Bern Seminar Series for Precision Medicine

Prof. Jean-Pierre Hubaux

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Title: Data Protection for Personalized Health

Tuesday October 15 at 12 noon, seminar room H810 (top floor), MEM building, Murtenstrasse 35, 3008 Bern

(Sandwiches will be provided)

Host: Prof. Dr. Mark Rubin, Director Bern Center for Precision Medicine (BCPM)

Jean-Pierre Hubaux is a full professor at EPFL. Through his research, he contributes to laying the foundations and developing the tools for protecting privacy in tomorrow's hyper-connected world. He has pioneered the areas of privacy and security in mobile/wireless networks and in personalized health.
He is the academic director of Center for Digital Trust (c4dt.org). He leads the ETH-funded project Data Protection in Personalized Health (DPPH) and is a co-chair of the Data Security Work Stream of the Global Alliance for Genomics and Health (GA4GH). He is a Fellow of both IEEE (2008) and ACM (2010). He is among the most cited researchers in privacy protection and in information security.
https://people.epfl.ch/jean-pierre.hubaux?lang=en

Abstract:

With the fast development of -omics, the biomed community is facing an unprecedented challenge in terms of data protection. In this talk, we will explain why existing information security solutions, such as the ones used in the financial sector, are not sufficient in this case. We will then refine the data protection requirements of P4 medicine and show how modern protection techniques, including homomorphic encryption, secure multi-party computation and private blockchains, can help responding to this challenge, even at very large scale. We will talk about the privacy precautions to be taken before deploying medical apps. We will describe the DPPH project (dpph.ch) as well as the MedCo toolbox (medco.epfl.ch) under experimental deployment at Inselspital, CHUV and HUG for secure medical data sharing. We will also describe the ongoing collaborations with Harvard Medical School. Finally, we will summarize the data-protection activities of GA4GH.