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ICB PhD public presentations

PCR DIAGNOSTICS WITHIN MINUTES FOR EVERYBODY: ASSAY DEVELOPMENT AND OPTIMIZATION

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Co-examiner: Prof. Dr. Paolo Arosio

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Project Summary: The polymerase chain reaction (PCR) is a molecular technology that enables the exponential amplification of a specific sequence of deoxyribonucleic acid (DNA) in a sample. PCR techniques are used in a wide number of applications, such as biological analysis, environmental studies and medical diagnostics. Especially in the context of the current pandemic, fast PCR diagnosis has become more relevant than ever. During his studies, Philippe has developed a ready-to-use kit that enables users to perform a PCR test at the point-of-care (PoC) within less than 30 minutes. In a pre-clinical study with over 250 users, he has investigated the feasibility of self-testing by untrained people. Together with the Swiss Tropical and Public Health Institute, he has developed high performance PCR assays to detect the variants of concern for Sars-CoV-2 as well as a range of tropical diseases.

CV. Philippe received his BSc. and MSc. In Chemical and Bioengineering from ETH Zurich. He graduated in 2018 with a Master thesis in the group of Prof. Gregory Stephanopoulos's at MIT. In the same year he started his doctoral studies at the Functional Materials Laboratory. Out of his studies he has co-founded an ETH-Spinoff, Diaxxo, working on the commercialization of the developed PCR assays.