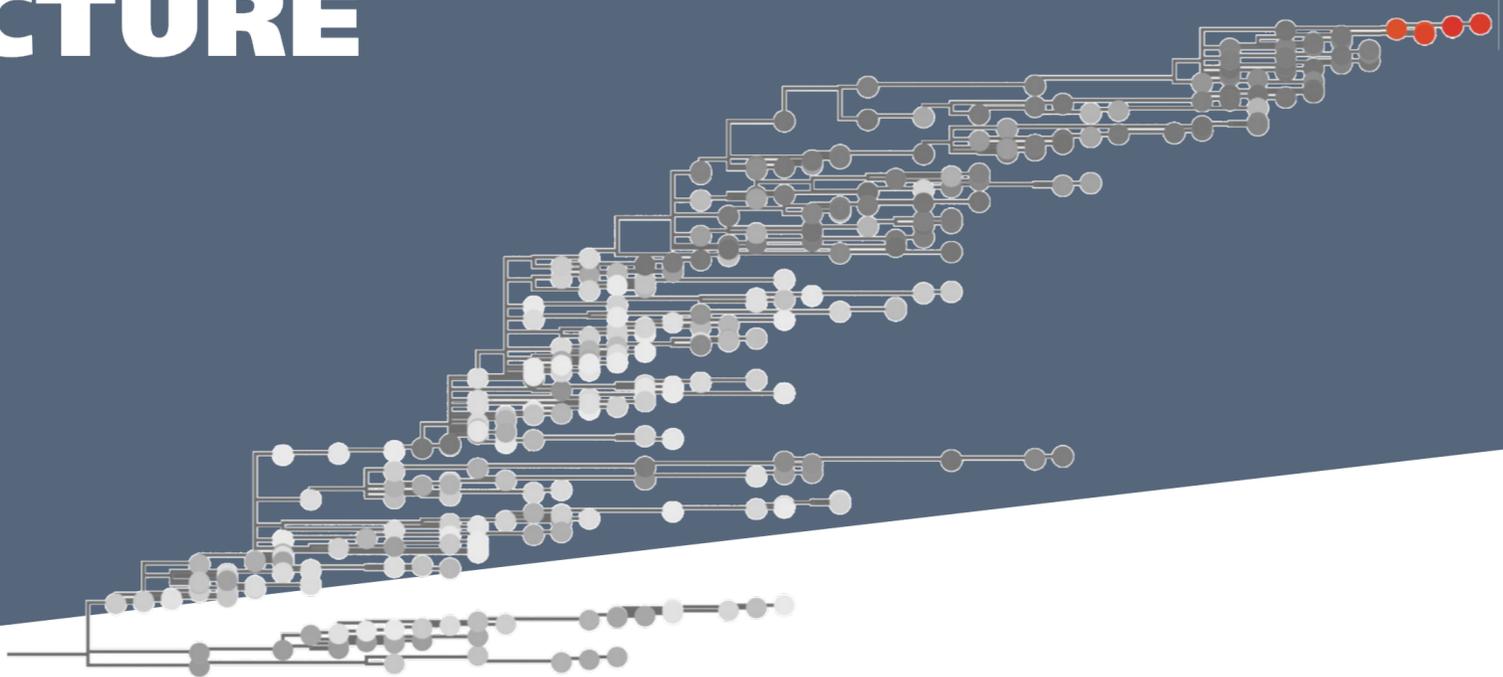


MAX DELBRÜCK LECTURE



Virus variation, evolution and the quest for live-attenuated vaccines

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Vaccination with live attenuated vaccines, such as Sabin oral polio vaccine (OPV), results in robust intestinal and humoral immunity and has been key to controlling poliomyelitis. As with any RNA virus, OPV evolves rapidly to lose attenuating determinants critical to the reacquisition of virulence, resulting in vaccine-derived virulent poliovirus variants. Circulation of these variants within under-immunized populations leads to further evolved circulating vaccine-derived poliovirus (cVDPV) with higher transmission capacity, representing a significant risk of polio reemergence. A novel type 2 oral polio vaccine (nOPV2) with promising clinical data on genetic stability and immunogenicity recently received authorization from the World Health Organization for use in response to cVDPV2 outbreaks. I will discuss the epidemiological and experimental data that led to the development of a new trivalent OPV and paved the way to develop additional live attenuated vaccine candidates against other viruses. I will also describe our current understanding of the diversity and evolution of RNA viruses, and explain how this understanding could aid in designing more effective antiviral interventions.

Wednesday, Mai 10, 2023, 17:00

University of Cologne

Institute for Biological Physics

Seminar Room S0.02, Zülpicher Str 77a

Hosted by R. Moran-Tovar & M. Lässig