

Qlife

Quantitative Biology Summer School Series

QUANTITATIVE PHAGE-BACTERIA DYNAMICS ACROSS SCALES

JULY 8TH - 12TH, 2024 - PARIS

LECTURERS & SPEAKERS

Aude BERNHEIM, Paris

Remy CHAIT, Exeter

Anne CHEVALLEREAU, Paris

Laurent DEBARBIEUX, Paris

David DEMORY, Banyuls-sur-mer

Ido GOLDING, Urbana-Champaign

Claudia IGLER, Manchester

Britt KOSKELLA, Berkeley

Jacopo MARCHI, Maryland

Namiko MITARAI, Copenhagen

Joshua WEITZ, Maryland

SCIENTIFIC COMMITTEE CHAIR

Joshua WEITZ, Maryland

COORDINATOR

Patrick CHARNAY, Paris

Viruses transform human and environmental health. As the global SARS-CoV-2 pandemic revealed, viruses can rapidly spread within and between individuals in a connected population with devastating consequences. Yet, viruses infect organisms across all scales of life, including bacteria and other single-celled microbes. These infections are often antagonistic, leading to cell death and the release of virus particles. But, viral infections can also lead to persistent infections that benefit their hosts. Altogether, phages play critical roles in shaping the flow of nutrients in natural systems and can be deployed as therapeutics to treat antibiotics resistant pathogens.

This course will bring thought leaders in dialogue with early career scientists to advance the integrative study of quantitative phage-bacteria dynamics across scales. It will train participants to model virus-host interactions from cells to populations, integrate robust computational methods into research practice, and bridge the gap between models and data motivated by ongoing challenges in microbiology, therapeutics, and ecology.

For the digital practical (every afternoon), participants will develop computational models of phage-bacteria dynamics spanning cells to populations and learn to infer novel anti-phage defense features in bacterial genomes. Informal discussions and poster sessions will foster interactions between participants and instructors. The summer school is limited to 25 participants. It is open to Master 2 and PhD students, as well as early stage postdocs, engineers and junior scientists with backgrounds in life sciences, physics, engineering, computer science or mathematics.

Basic experience in file manipulation in Unix/Linux and in Python or R programming is required.

Additional information is available on :

<https://www.edu.bio.ens.psl.eu/spip.php?article283>

APPLICATION DEADLINE APRIL 8TH, 2024

REGISTRATION FEES: 150 €*

- Register through the following link: <https://forms.office.com/e/BhS8DAaSFy>
- In addition, provide a CV, a motivation letter (including justification for travel grant if requested) and a supporting letter from a supervisor as a simple pdf file with "Qlife Phage-Bacteria Summer School 2024_LASTNAME" as subject header to qlife-school@bio.ens.psl.eu

* Fees cover food and lodging from Monday morning to Friday afternoon. Some travel grants will be available.



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