

Rédiger en Science

06/10/2023

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Single-cell imaging era in microbiology

Why do we need it?

DD

Dispersion and Dynamics

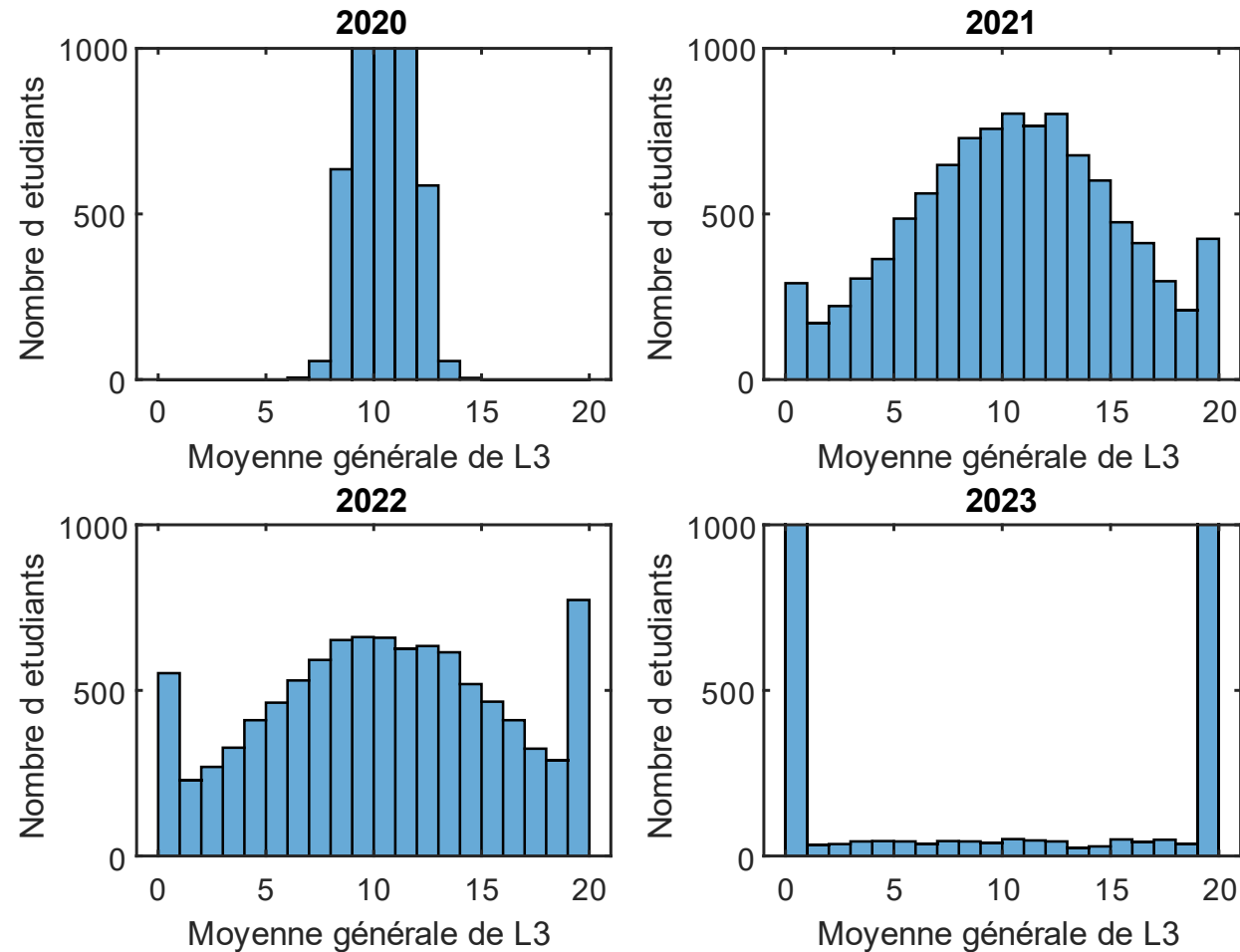
Dispersion

Evolution de la moyenne générale de L3 à la fac de Luminy

| 2020 | 2021 | 2022 | 2023 |
|------|------|------|------|
| 10 | 10 | 10 | 10 |

Dispersion

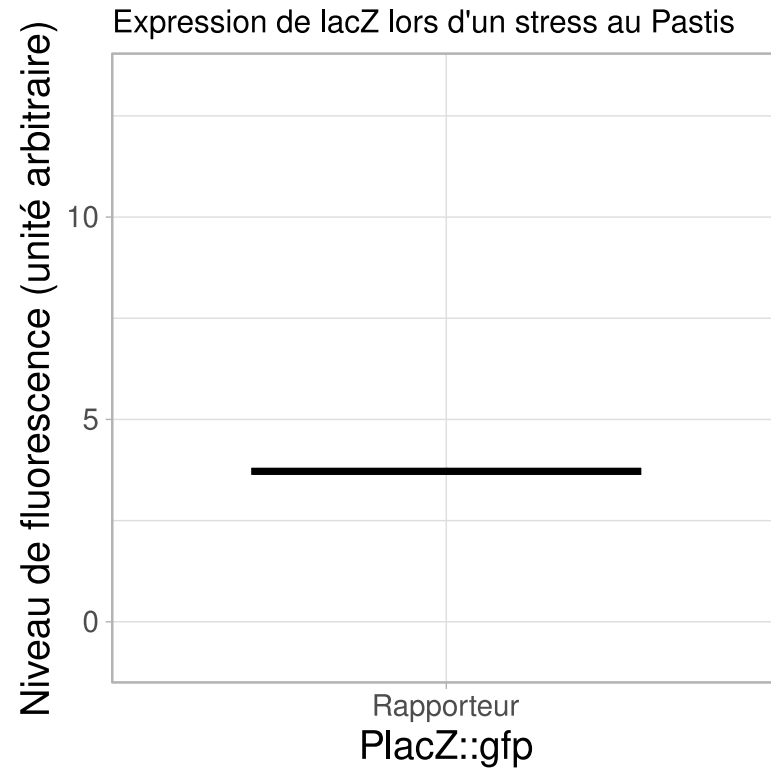
Evolution de la moyenne générale de L3 à la fac de Luminy



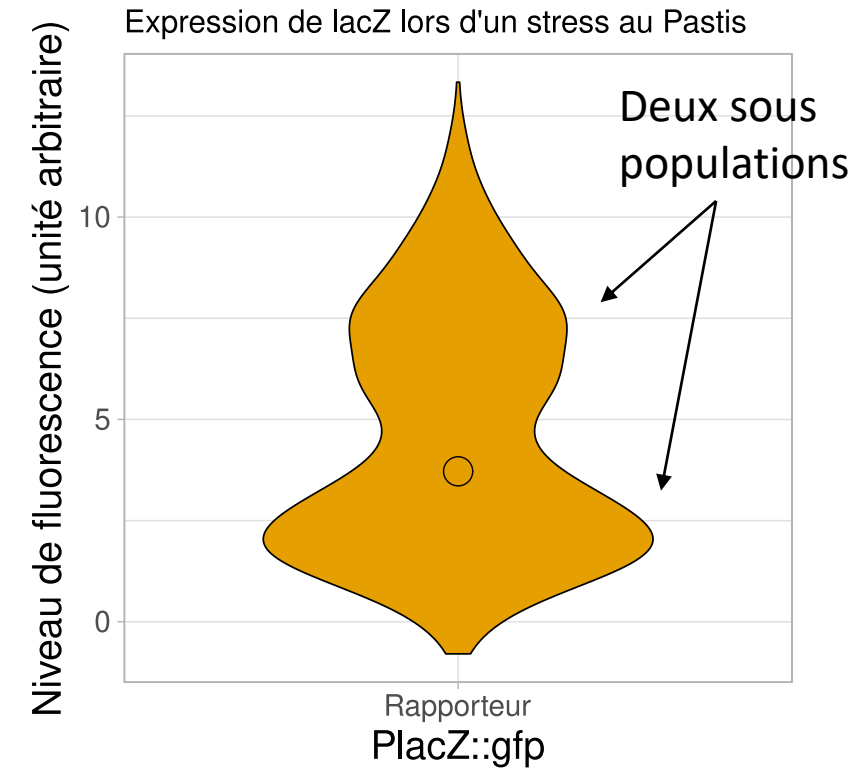
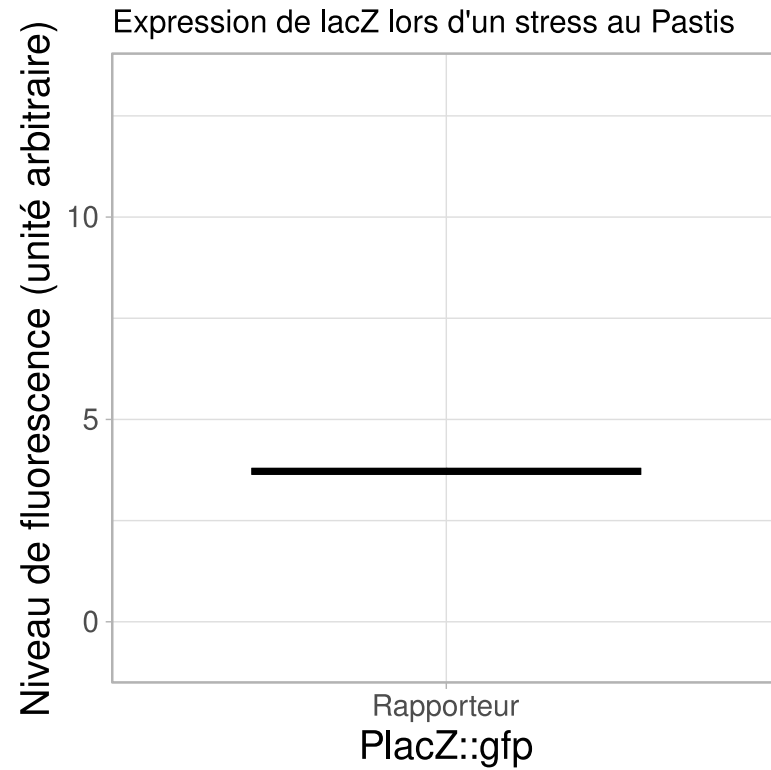
Dispersion



Dispersion

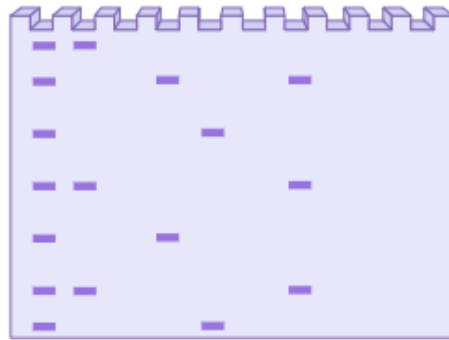
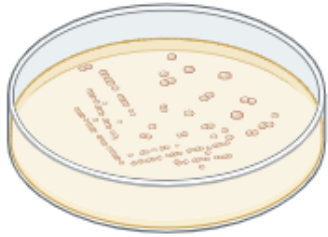


Dispersion

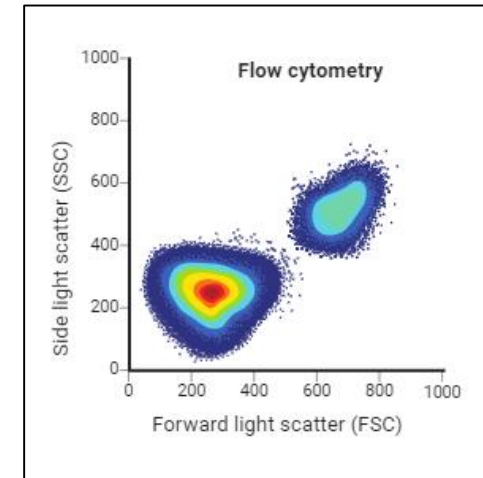
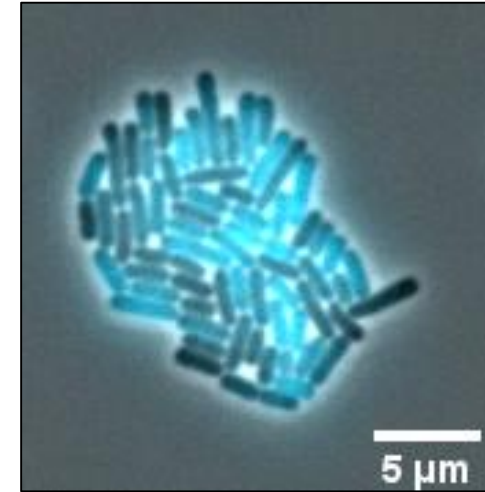


Dispersion

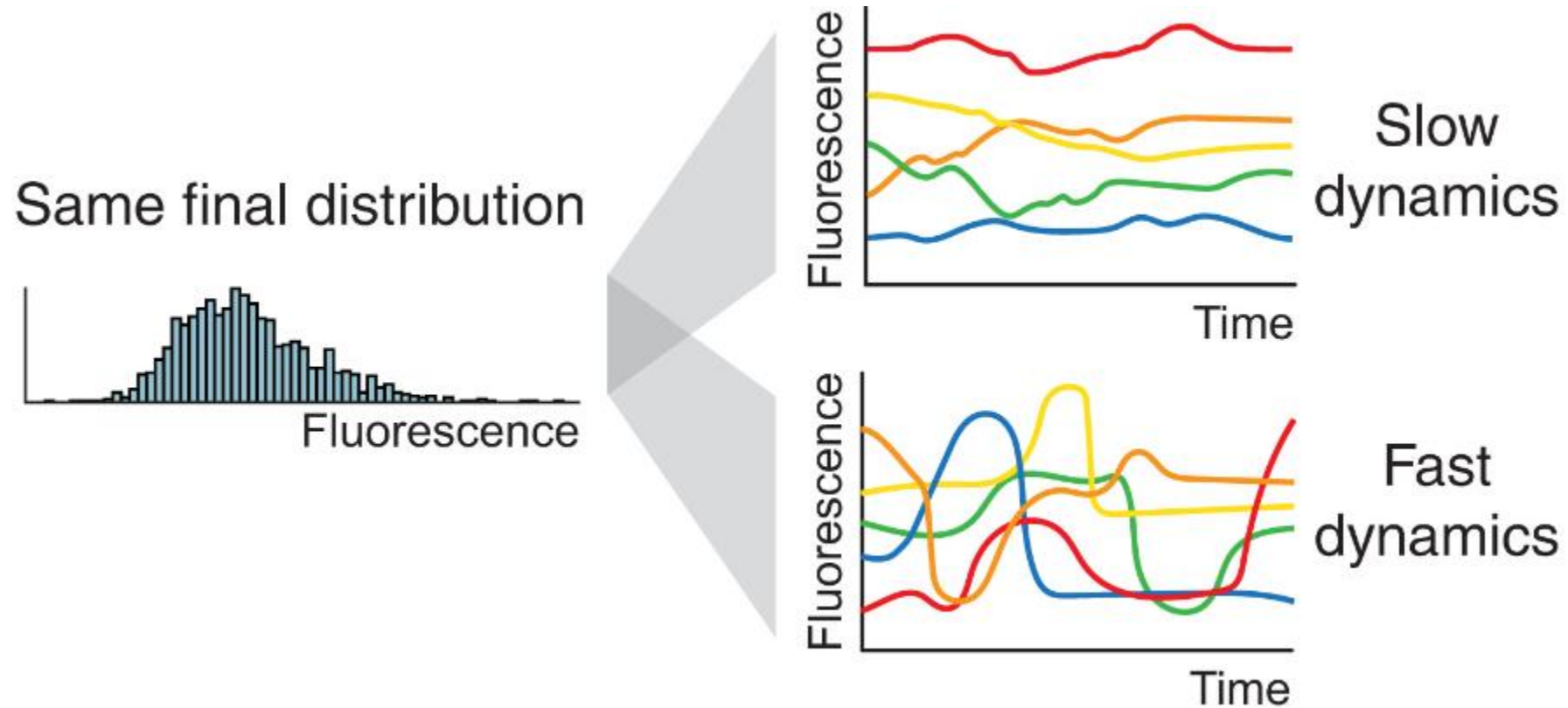
Bulk



Single-cell



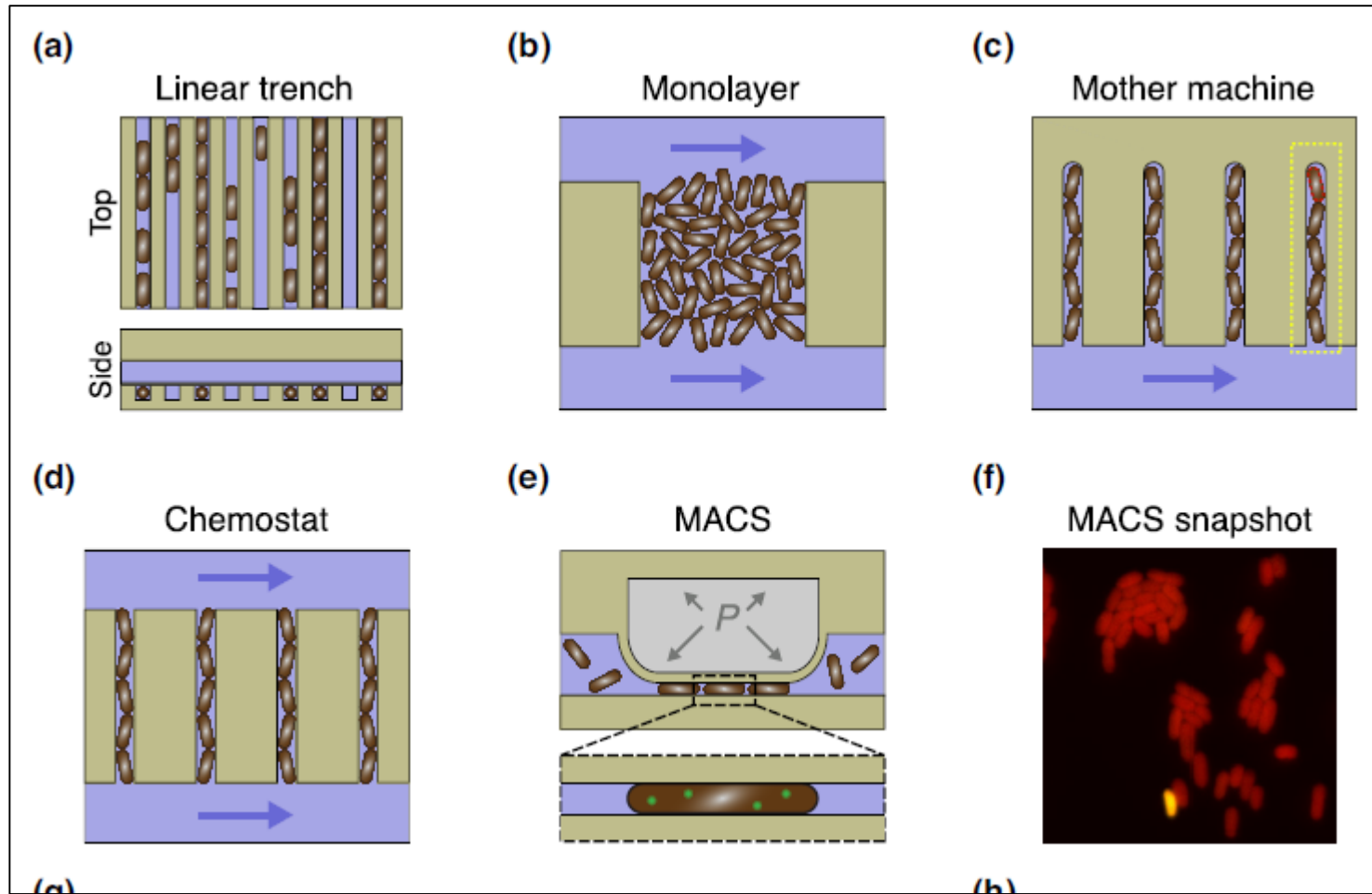
Dynamics



Dynamics

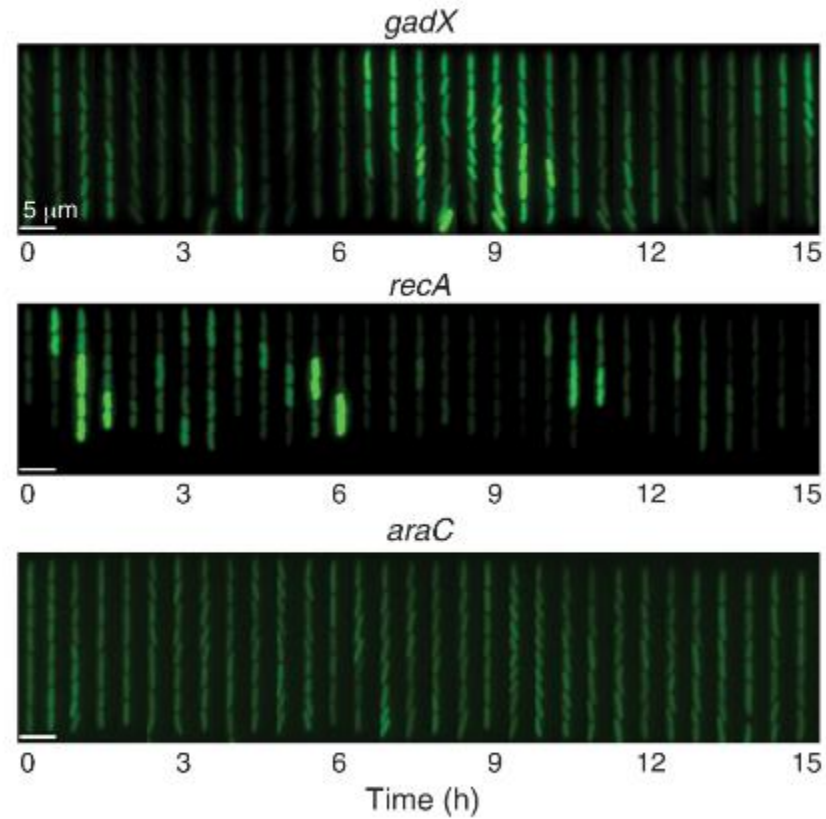
Nous ne parlerons ici que de dynamique temporelle, mais les méthodes sur cellules uniques permettent aussi d'accéder à la dynamique spatiale (ex: microenvironnements, diffusion-réaction, communauté...)

Single-cell imaging tools



Youtube: the Lutetium Project

Stochasticity, pulsing and memory



Sampaio et al, PNAS, 2022

Paper 1

Current Biology 20, 1099–1103, June 22, 2010 ©2010 Elsevier Ltd All rights reserved DOI 10.1016/j.cub.2010.04.045

Report

Robust Growth of *Escherichia coli*

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Paper 2

ARTICLES

<https://doi.org/10.1038/s41564-021-00900-4>



Tracking bacterial lineages in complex and dynamic environments with applications for growth control and persistence

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Burak Okumus^{1,4} and Johan Paulsson ¹✉

Paper 3

nature communications



Article

<https://doi.org/10.1038/s41467-022-33659-1>

Rapid antibiotic susceptibility testing and species identification for mixed samples

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