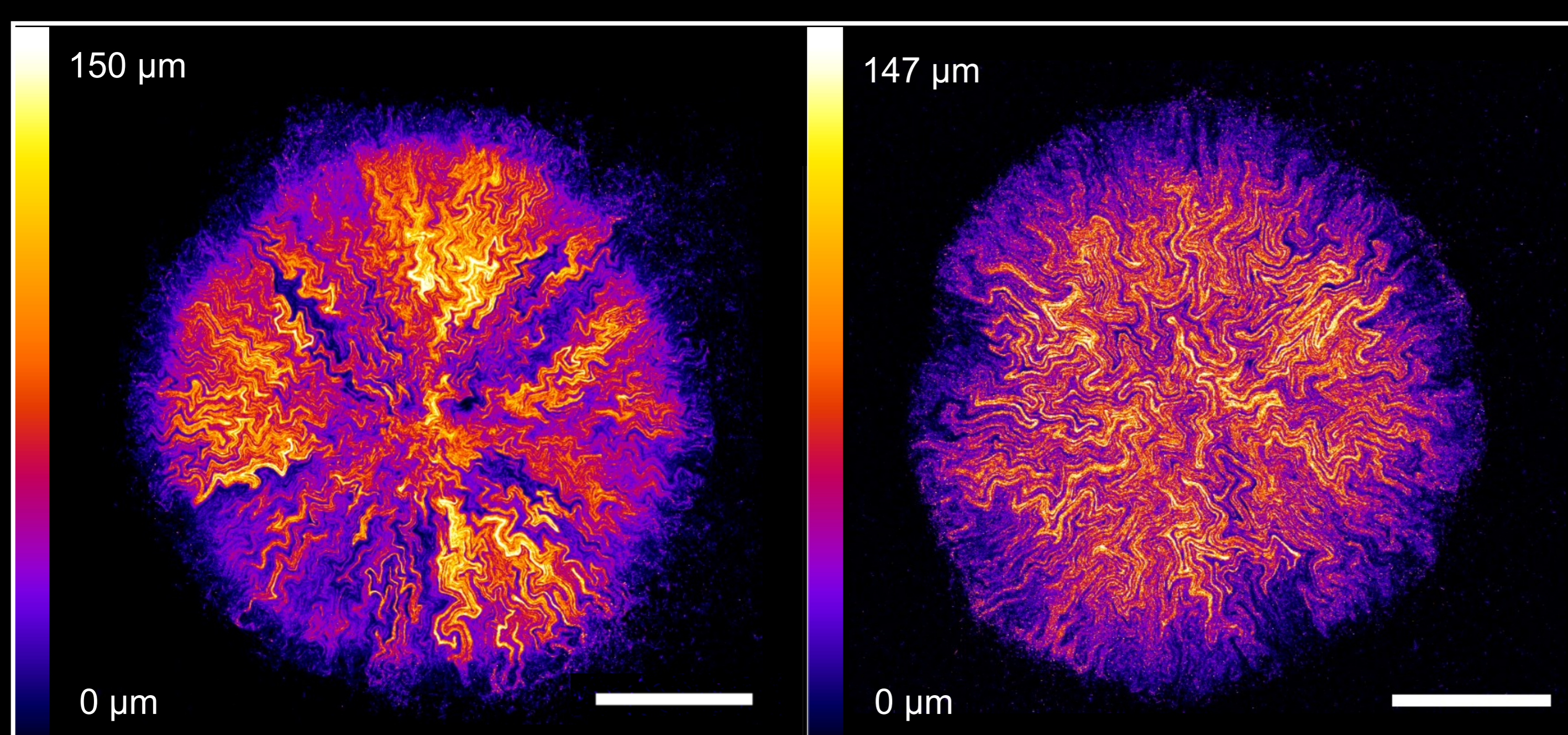


# Intra-colony channel morphology in *Escherichia coli* biofilms is governed by nutrient availability and substrate stiffness

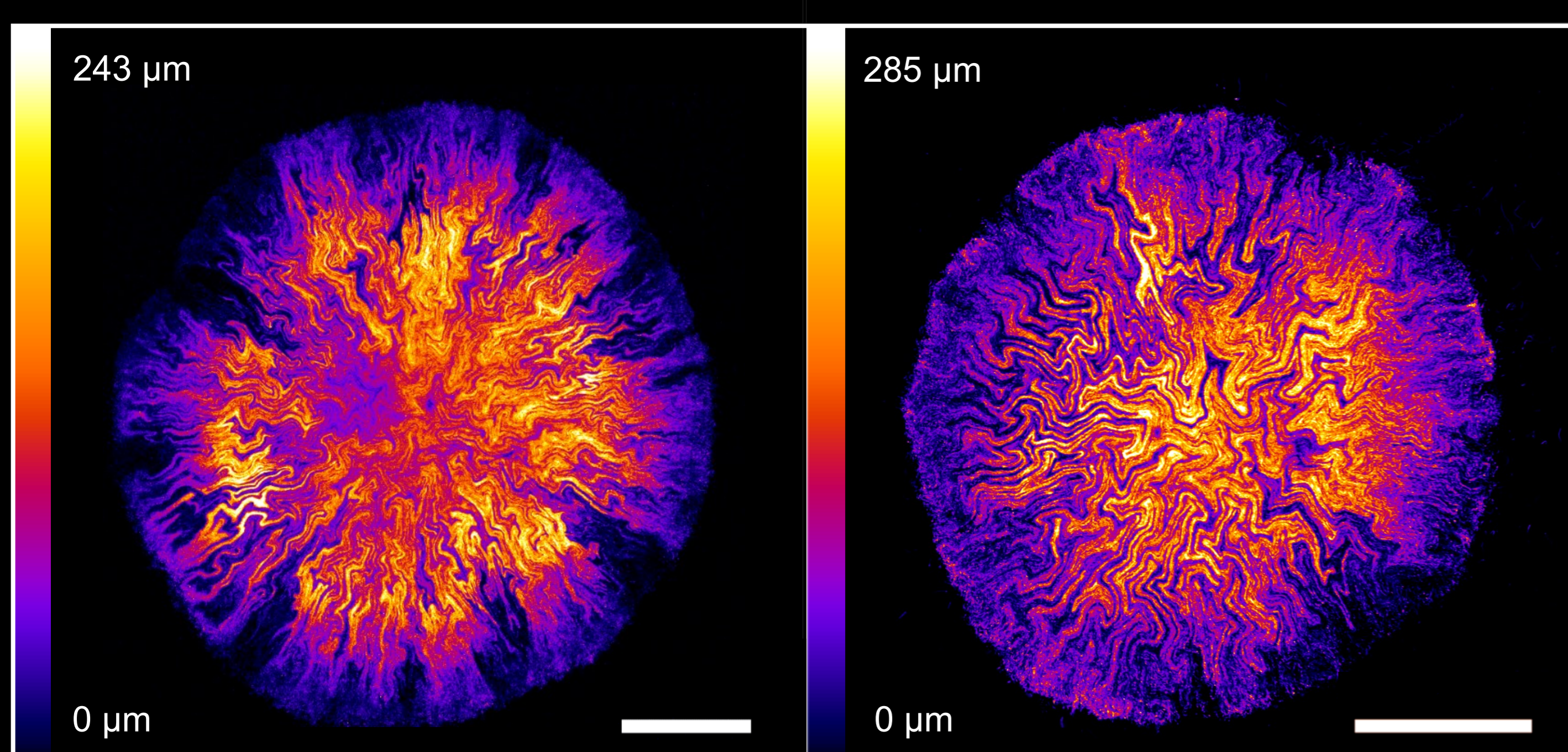
Beatrice Bottura, Liam M. Rooney, Paul A. Hoskisson, Gail McConnell

**How do environmental growth conditions affect intra-colony channel morphology?**

**Nutrient availability affects channel morphology at the mesoscale**



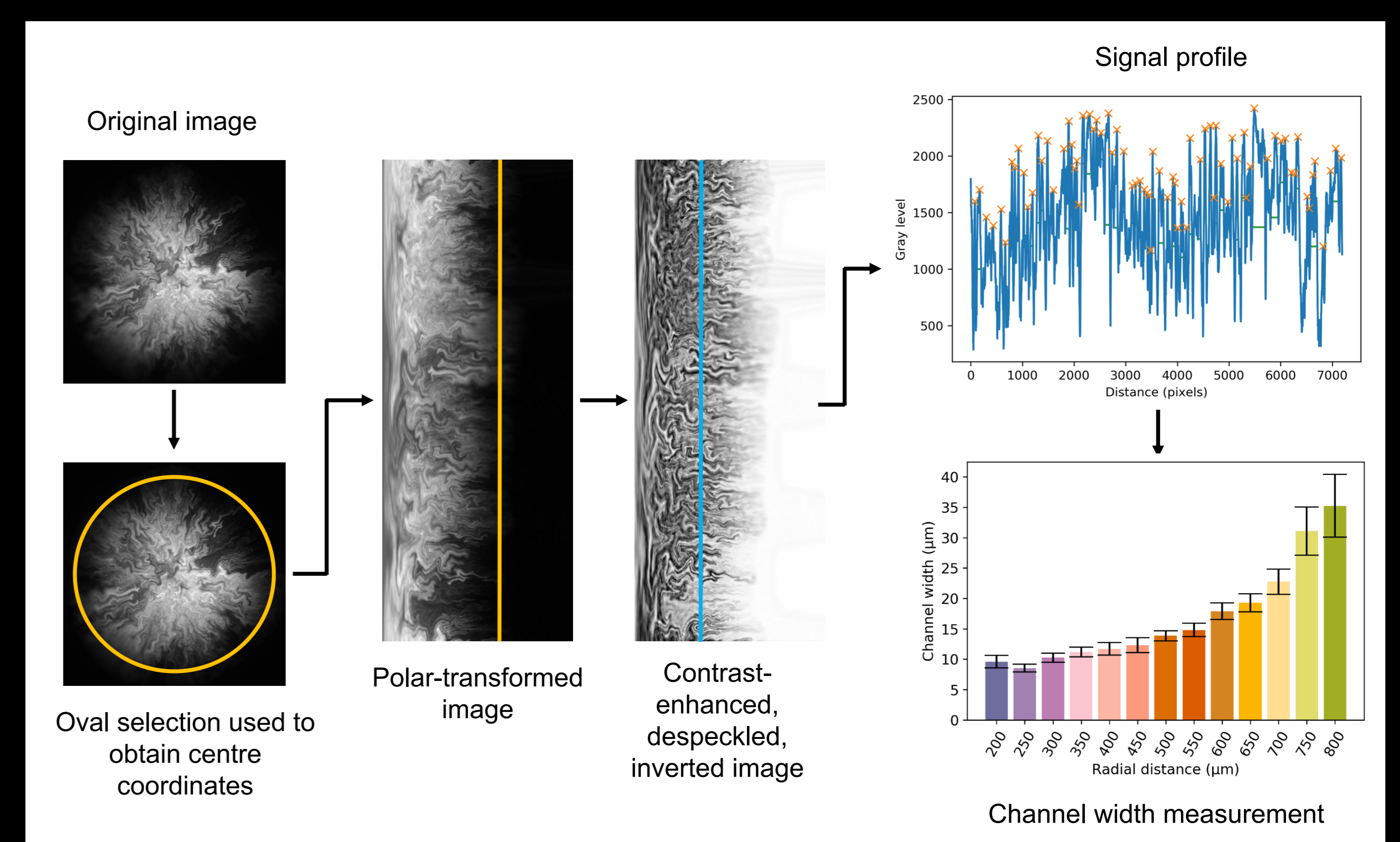
» Increasing carbon concentration »



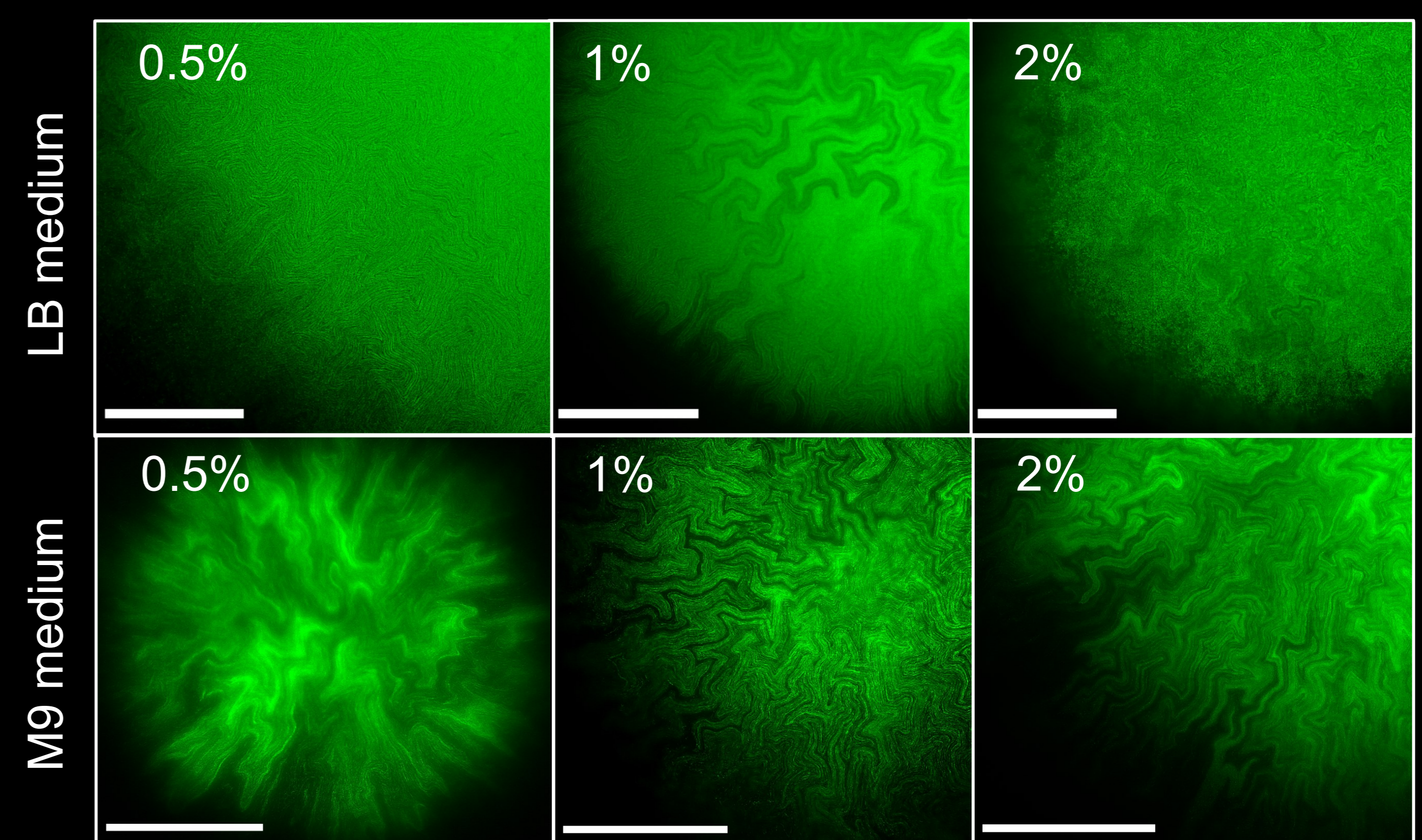
» Increasing nitrogen concentration »

**Custom image analysis pipeline to calculate channel width from Mesolens images (Python script in preprint)**

**Channel width increases non-linearly with radial distance from the centre**



**Substrate stiffness affects channel density inside the biofilm**



» Increasing agar concentration »



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