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# Interferometric, Rapid Single-cell Physical Phenotyping In An Acoustofluidic System

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► **To cite this version:**

Julián Mejía, P Glynne-Jones, Massimo Vassalli, Gian Luca Lippi. Interferometric, Rapid Single-cell Physical Phenotyping In An Acoustofluidic System. 9ème édition du congrès OPTIQUE de la Société Française d'Optique, Jul 2022, Nice, France. hal-03723301

**HAL Id: hal-03723301**

**<https://hal.science/hal-03723301>**

Submitted on 14 Jul 2022

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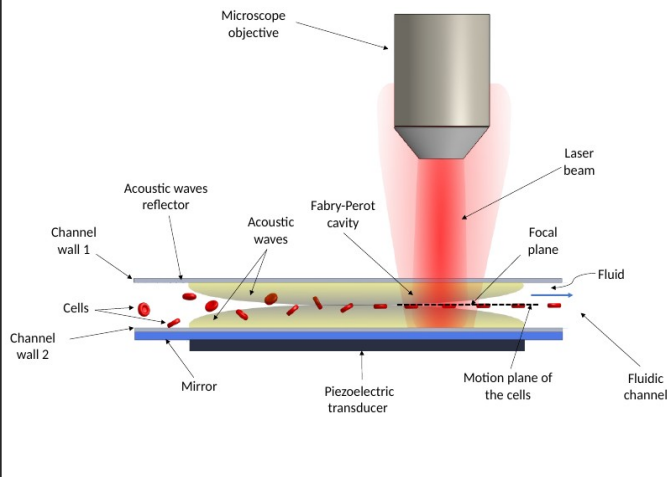
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# Interferometric, Rapid Single-cell Physical Phenotyping In An Acoustofluidic System

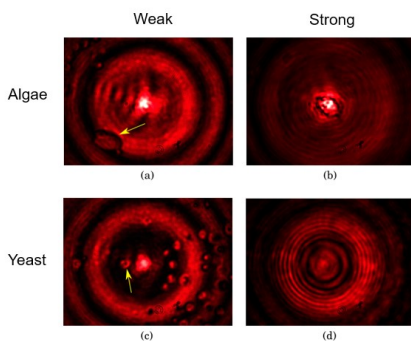
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High-throughput morphological and mechanical cell analysis, based on label-free physical properties, is emerging as a key tool for clinical research. A simple and affordable instrument, coupling acoustic cell focussing and deformation in a microfluidic channel to interferometric measurements, allows for the characterization of cell deformability.

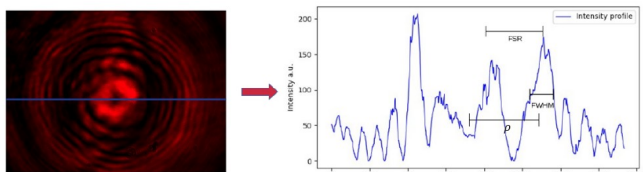
## Acoustofluidic interferometric device (AID)



## Cell Induced Fringe Pattern Perturbation



## Cell Focal Length and Finesse

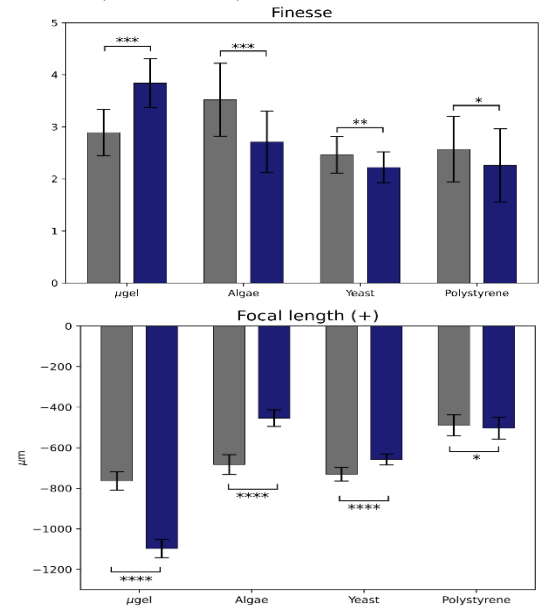


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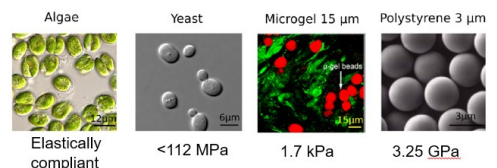
## Results

The asterisks in the plots indicate:  
 \*\*\* P < .0001, \*\* P < .001, \* P < .05 and \* P > .1.



Condition A: Acoustic focussing (grey bar)  
 Condition B: Acoustic deformation (blue bar)

## Conclusion



Maximum expected applied pressure in a similar configuration of our device is  $\approx 15$  kPa

AID results matches expectations

## References

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