

環境適応機能評価のための ラン藻のオンチップ機械的特徴量計測



○長谷川貴之¹、佐久間臣耶¹、魚住信之²、新井史人¹
1. 名古屋大学大学院工学研究科、2. 東北大学大学院工学研究科

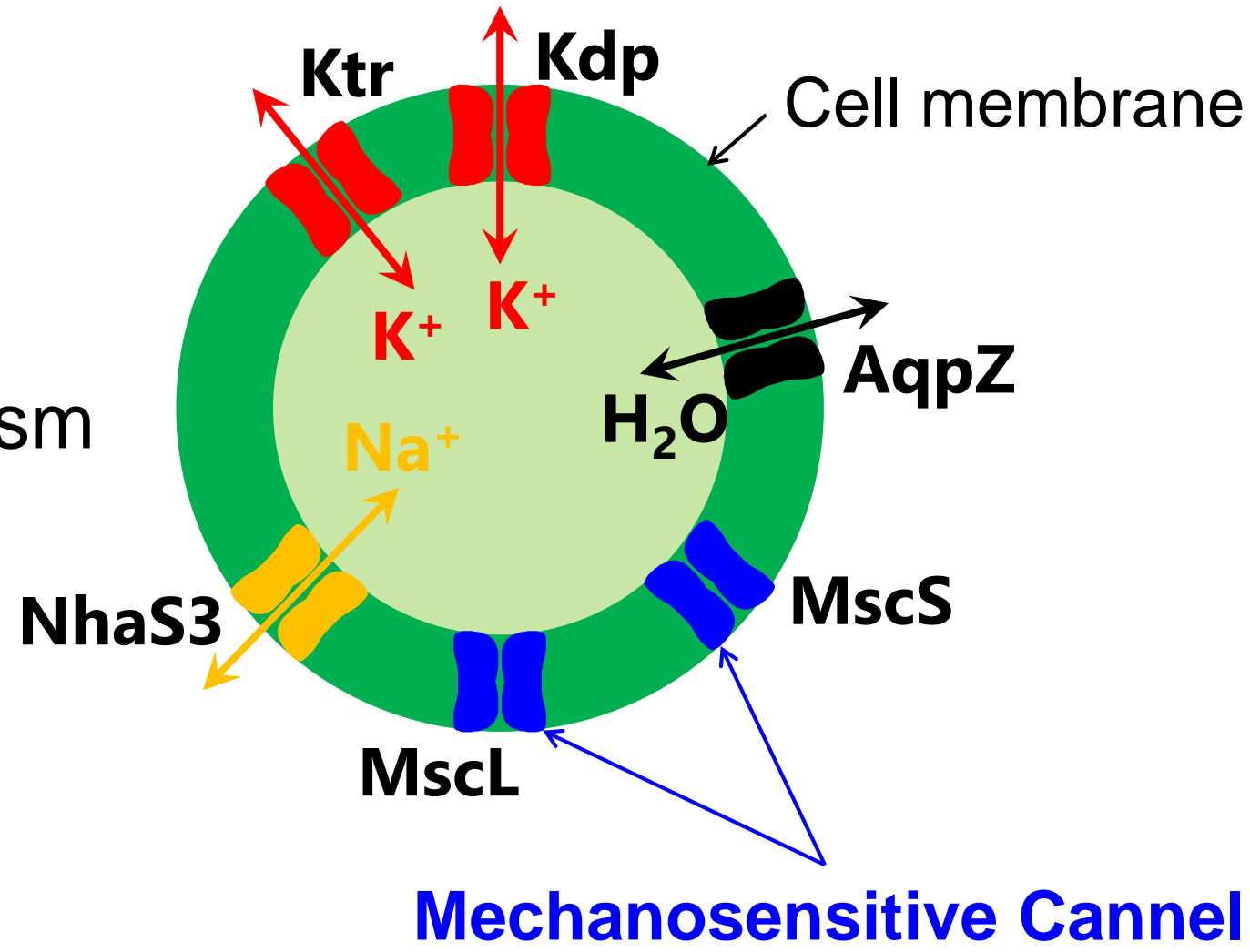


2μmの浮遊細胞の“硬さ”計測へのチャレンジ：捕捉・搬送・力計測

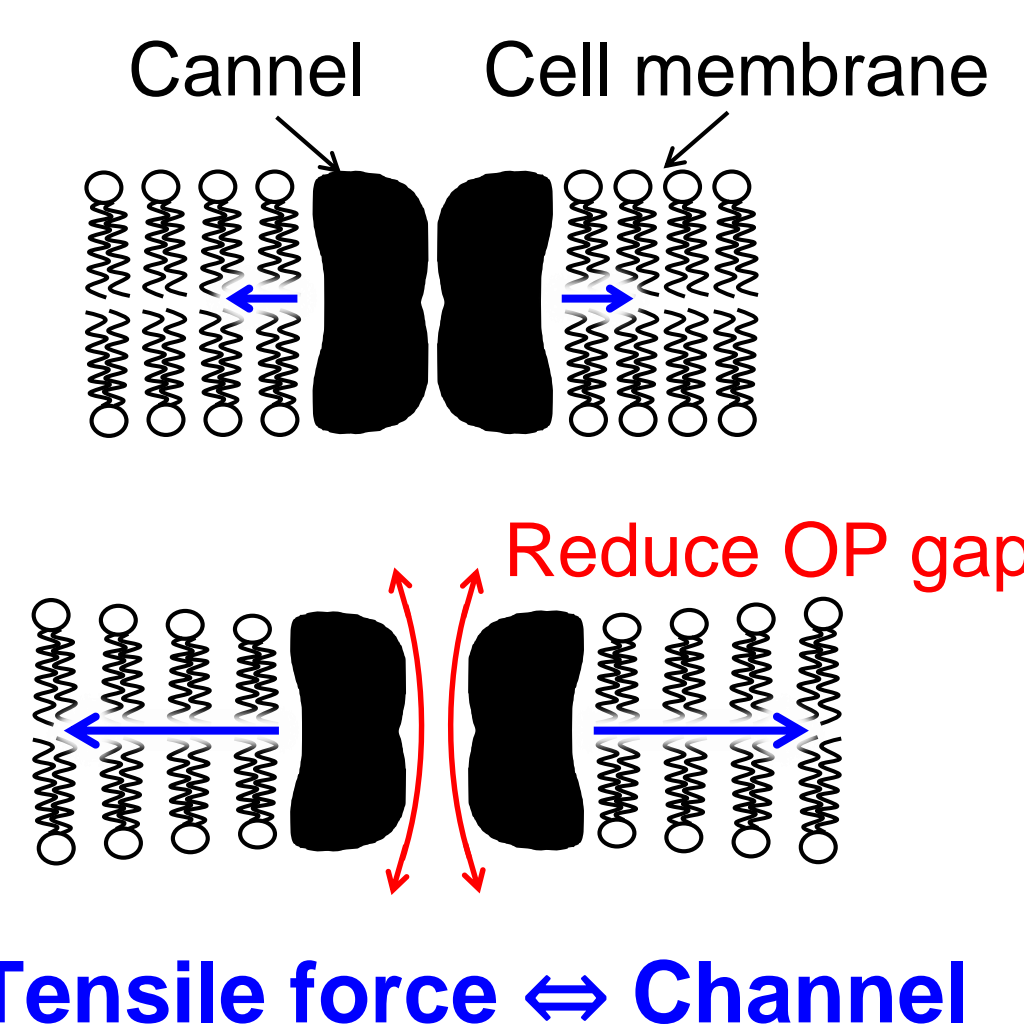
Background & Purpose

ラン藻 (*Synechocystis* sp. PCC 6803)

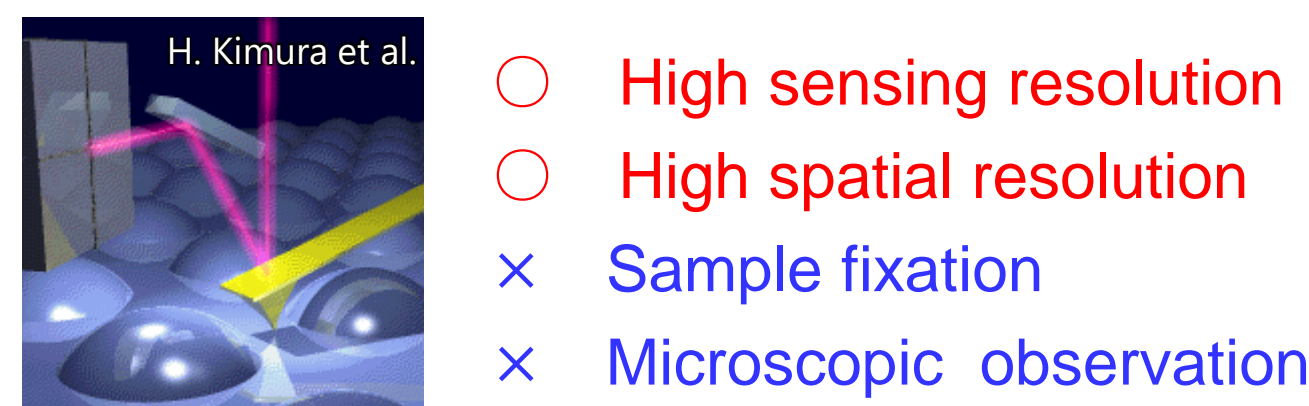
- 2 μm floating cell
- Simplest photosynthetic cell
- Photosynthetic model organism



Osmoadaptation mechanism



AFM (Atomic Force Microscope)

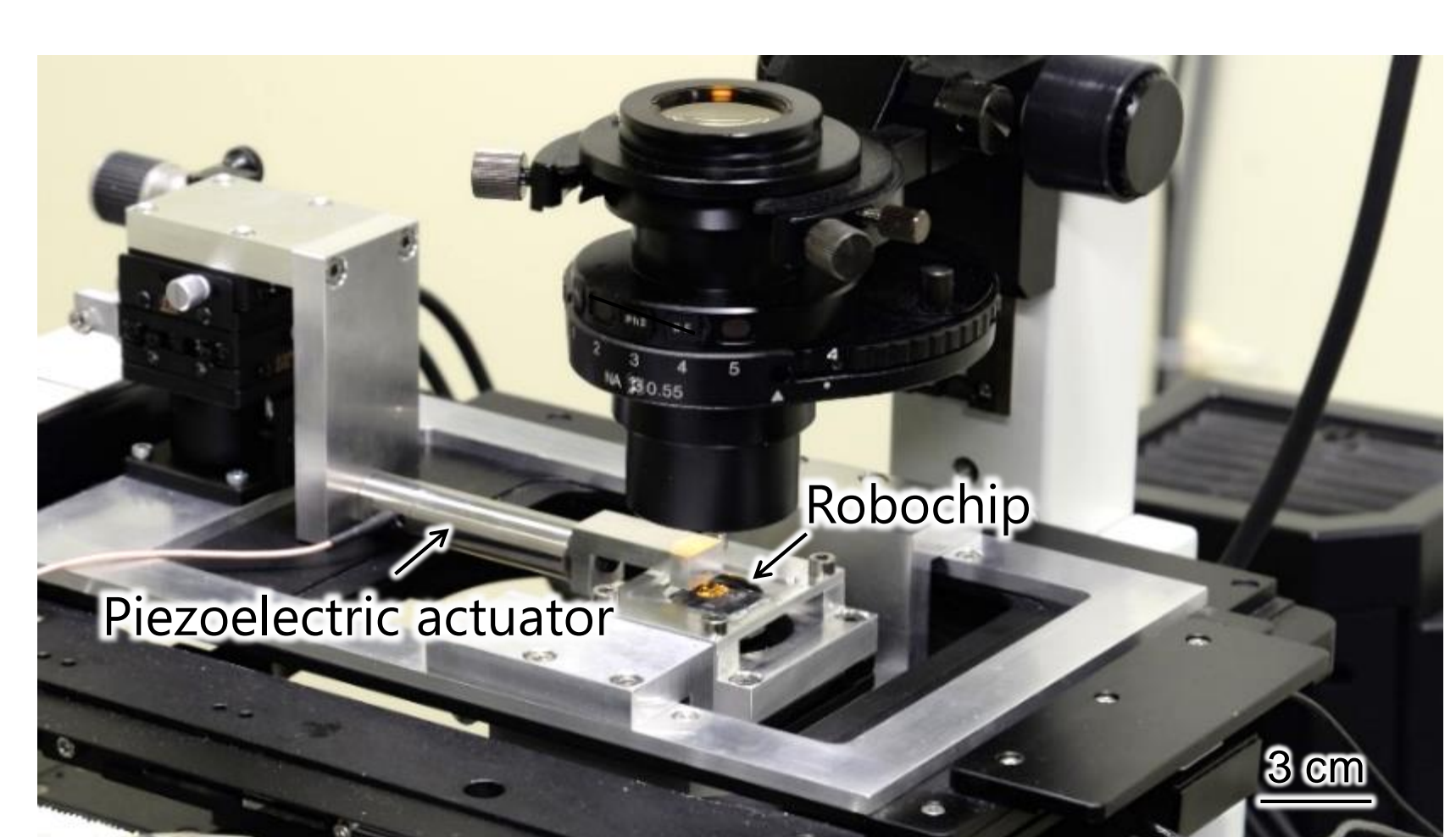
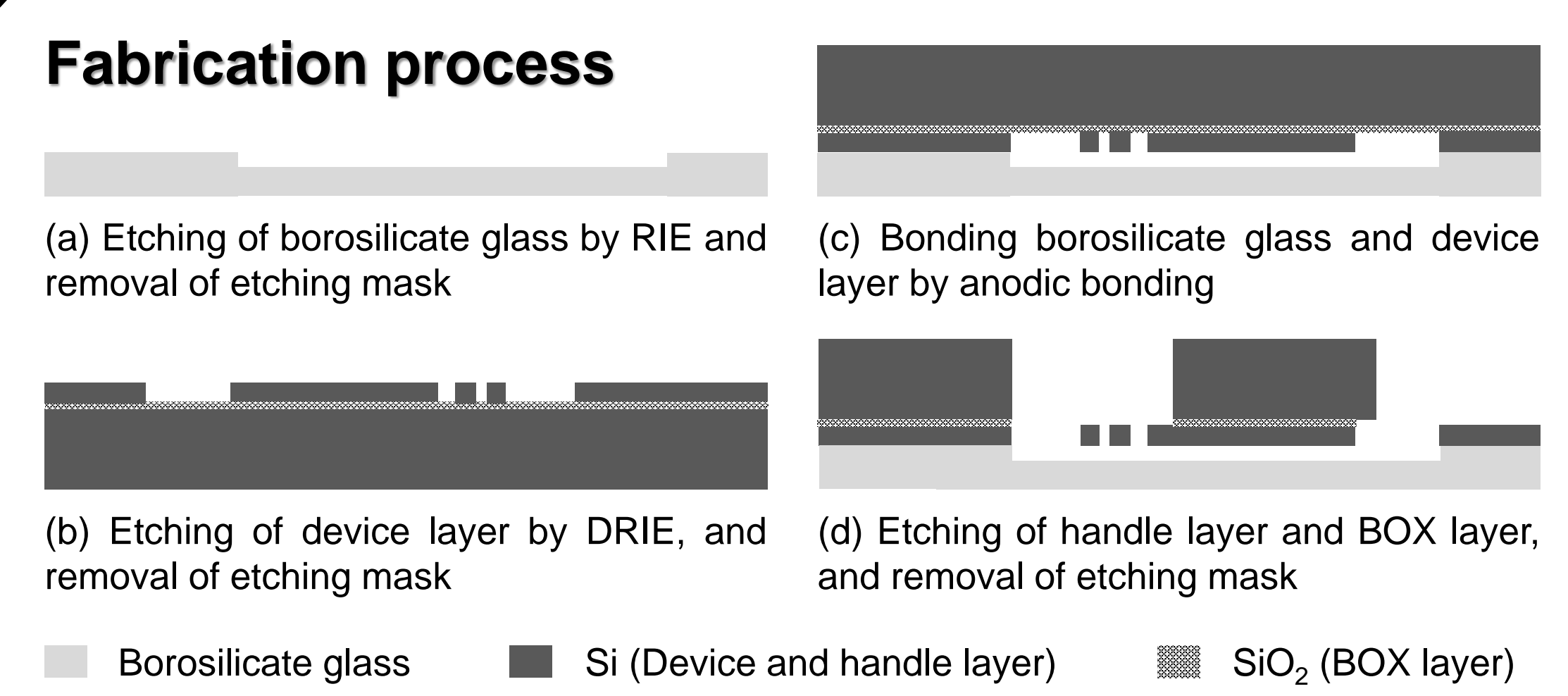
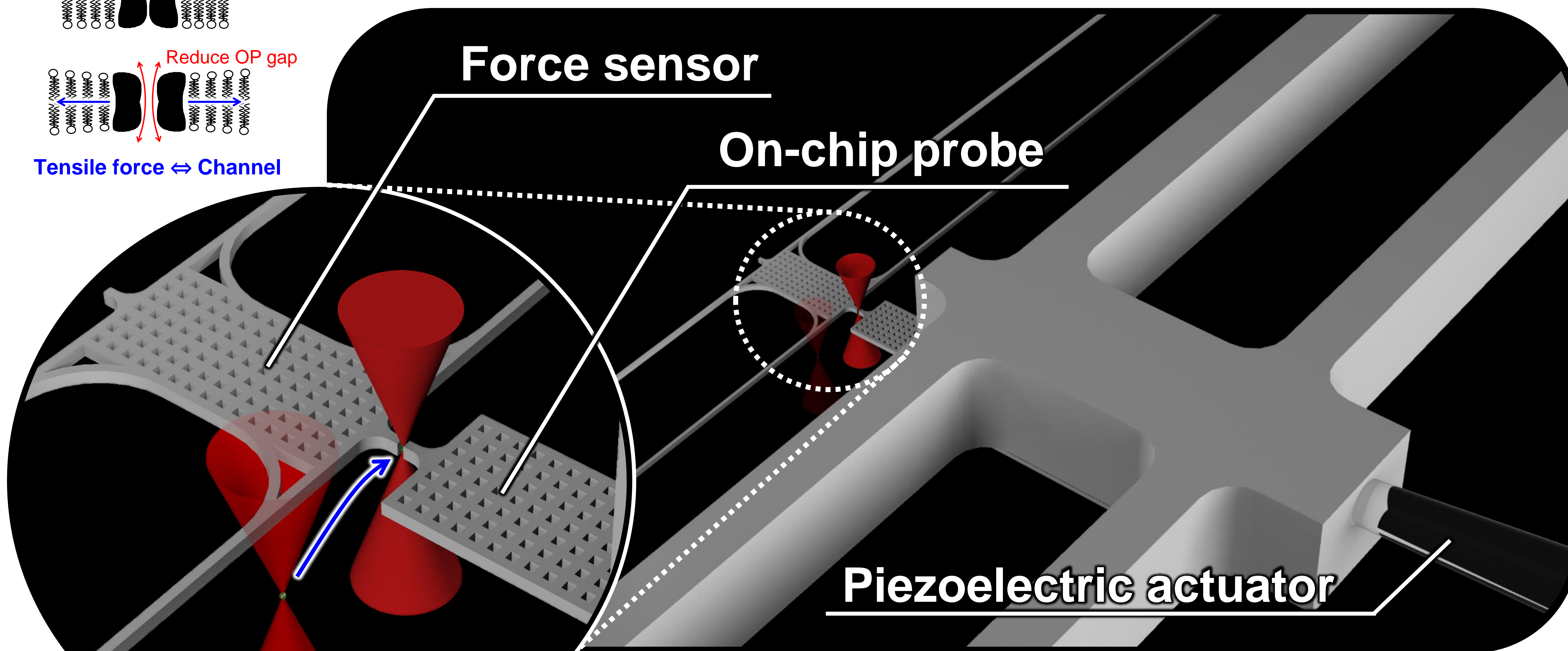
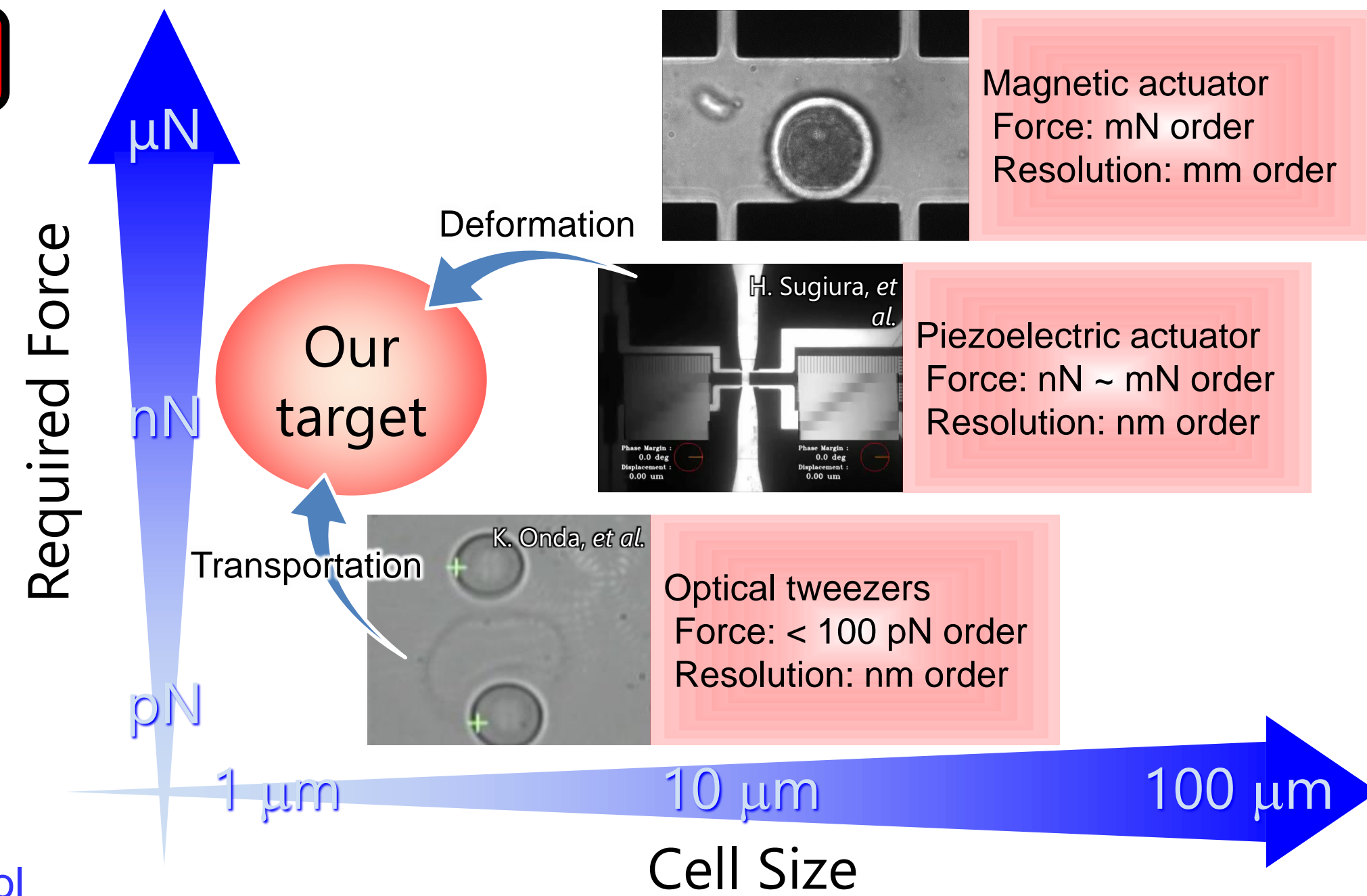


- High sensing resolution
- High spatial resolution
- × Sample fixation
- × Microscopic observation

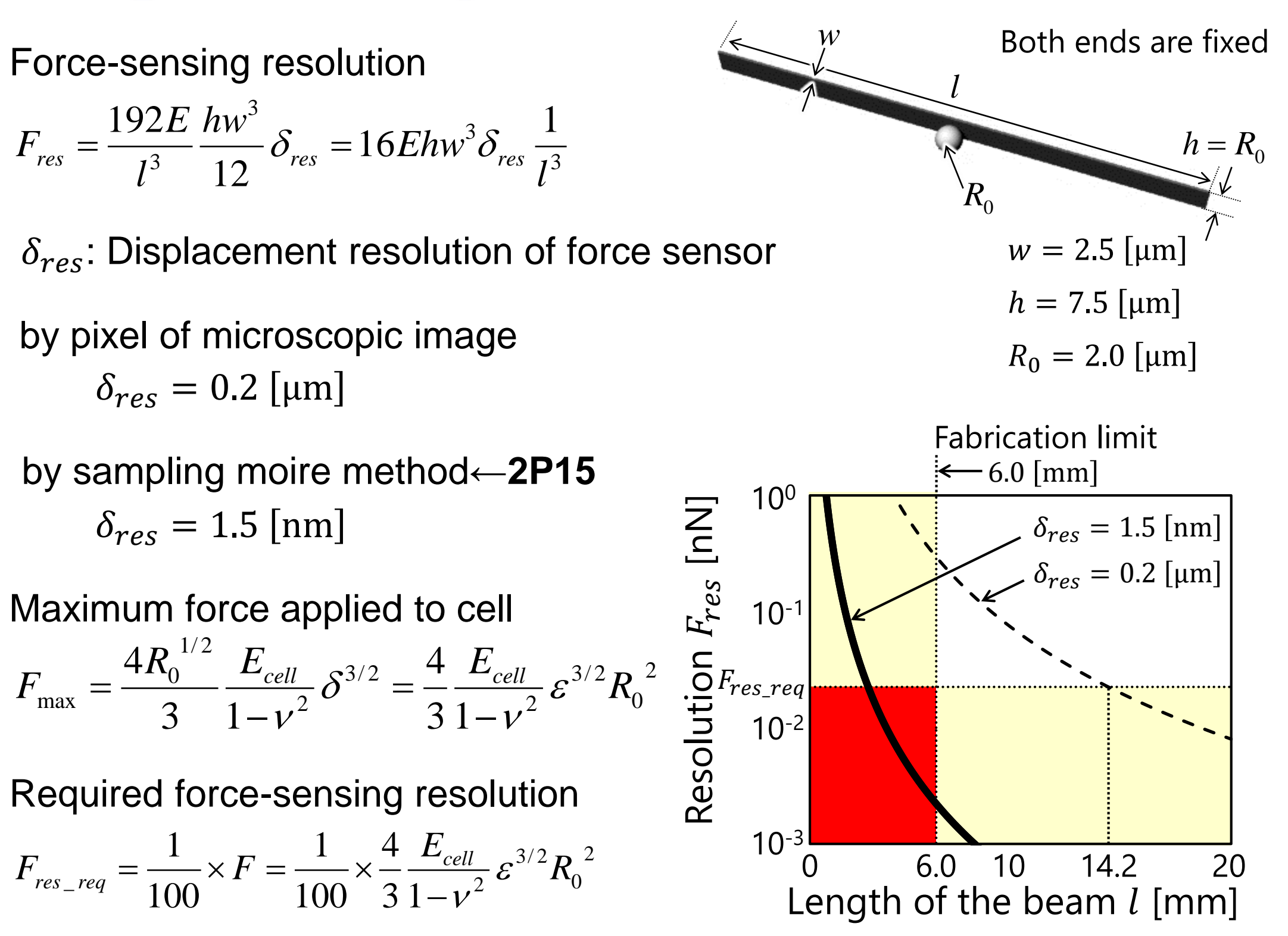
Robochip (Robot-integrated microfluidic chip)



- High throughput
- Environmental control
- Applicable to floating sample
- × Requirement: Precise flow control



Design of on-chip force sensor



Mechanical characterization of *Synechocystis* sp. PCC 6803

