dSTORM on the Ch-i-ea-p

Introduction

* Importance of Super resolution
* Open Source efforts
* Open/Low-Cost Science
* We designed a device which turns any microscope into a SR microscope
* State of the art
  + Nanoscopy/dSTORM on a chip
* Motivation
  + Low cost, affordable, accessible

Results (from Nanoscopy on achip)

* Chip-based single-molecule localizationmicroscopy
  + Results of dSTORM with rough theoretical background
  + Important parameters to make the thing work
* Chip-based fluctuation imaging.
  + Basic Idea
  + Quantitative Results
  + Problems
* Scalable super-resolution imaging
  + Advantage is imaging using 4x – 100x objectives
  + Refering to images
  + Quantitative result of resolution
* Imaging the membrane/cytoskeleton interaction in LSECs.
  + Biological findings
  + When is the system working, when not (thick membrane bad e.g.)

Discussion

* Findings of new method

Methods

* Blurayplayer lenses
* Theoretical Coupling Efficiency
* Degrees of freedom
* Setup
* Where to use lenses
* Basic electronic setup
* Cellphone camera
* Old microscope
  + Cheap lenses, coupling
  + Laser characterization
* Cell preparation