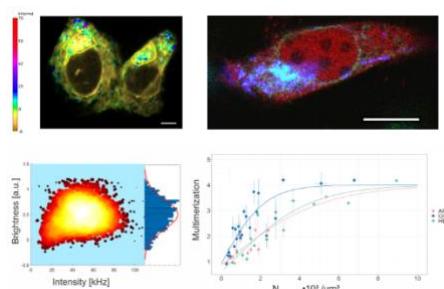


Quantifying protein-protein interactions in living cells

Description



methods that allow the characterization of fluorescently labeled biomolecules directly in living cells or *in vitro*. The analysis provides direct quantification of diffusion dynamics, protein multimerization and complex formation between different molecules.

Research interests and activities

- Influenza A virus assembly: virus production (several human and avian strains) in cell culture, scanning fluorescence correlation (sFCS) and cross-correlation measurements.
- Protein-protein interactions in Hantavirus assembly: comparison between different cell models (e.g. HEK283T, CHO, MDCK, Vero), Number and Brightness (N&B) analysis.
- Protein-mediated cell-cell interactions: quantitative assays for the quantification of protein multimerization and hetero-interactions at cell junctions.
- Lipid phase separation and lipid-lipid interactions in model membranes: supported lipid bilayers, giant unilamellar vesicles, lipid monolayers, plasma membrane vesicles, Raster Image Correlation (RICS) analysis.
- Super-resolution microscopy: currently implementing several Single Molecule Localization Microscopy approaches, such as SRRF, PALM, STORM.

Scientific literature

Petrich A, Dunsing V, Bobone S, Chiantia S. (2021), Influenza A M2 recruits M1 to the plasma membrane: a fluorescence fluctuation microscopy study, doi.org/10.1101/2021.05.06.442926

Dunsing V, Petrich A, Chiantia S (2021), Multi-color fluorescence spectroscopy in living cells via spectral detection, doi.org/10.1101/2020.12.18.423407

Petazzi RA, Aji AK, Tischler ND, Chiantia S. (2020), Detection of Envelope Glycoprotein Assembly from Old-World Hantaviruses in the Golgi Apparatus of Living Cells, *J Virol*. 2020 Nov 25;JVI.01238-20.

Applications

- Life Science research

Keywords

- Cellular Culture
- Molecular Virology
- Fluorescence Microscopy
- Artificial Membranes
- Lipid-Protein Interactions
- Protein-Protein interactions

Interest in cooperation

- Research collaborations
- Contract research

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