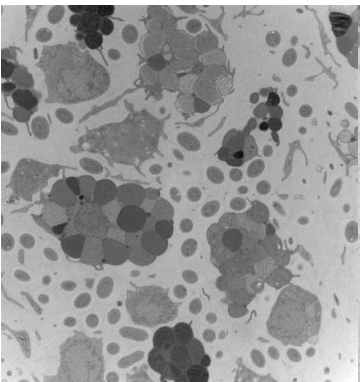


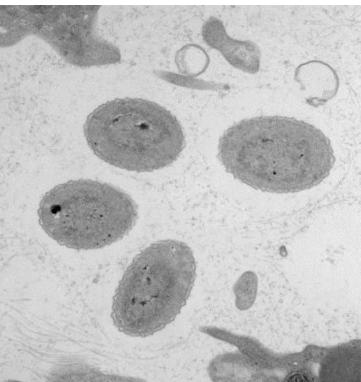
The technological proposal on



Skills



Aplysina aerophoba



Candidatus poribacteria

Transmission
Electron
Microscopy

Cell Ultrastructure,
IHC

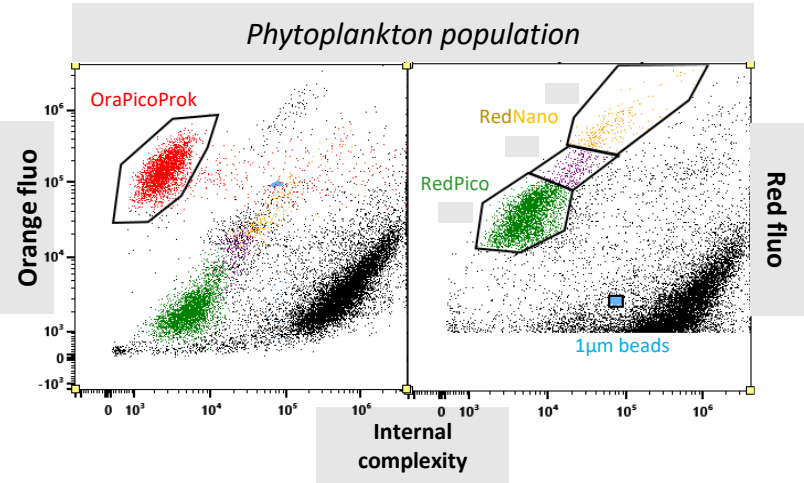
Light
Microscopy

Cell



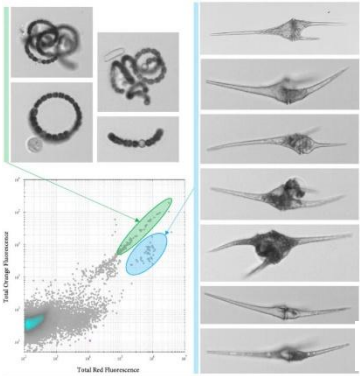
Population

Flow
Cytometry



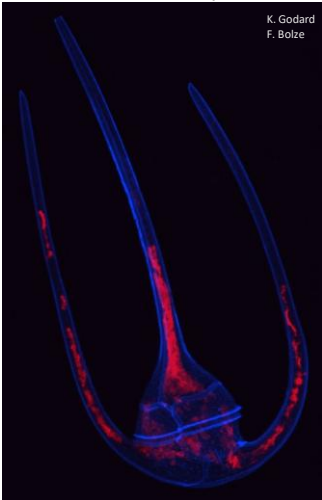
HF Flow
Cytometry +
imaging

Organisms



CytoBuoy

Ceratium sp.



Amphioxus

BioPIC Staff

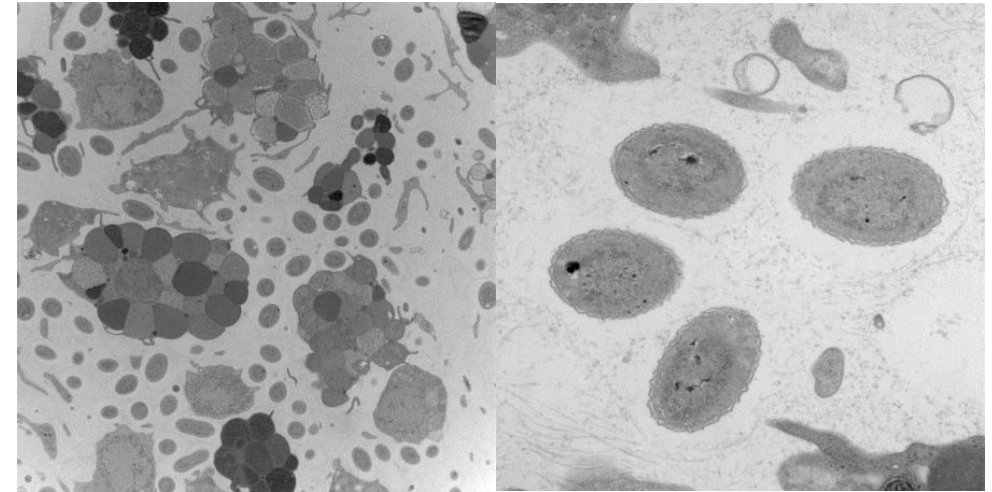


- From left to right,
 - Christophe Salmeron
 - Jean-Michel Hermel

I. TRANSMISSION ELECTRON MICROSCOPY

- 2027 : New microscope

HITACHI 7800



N. Ahmed

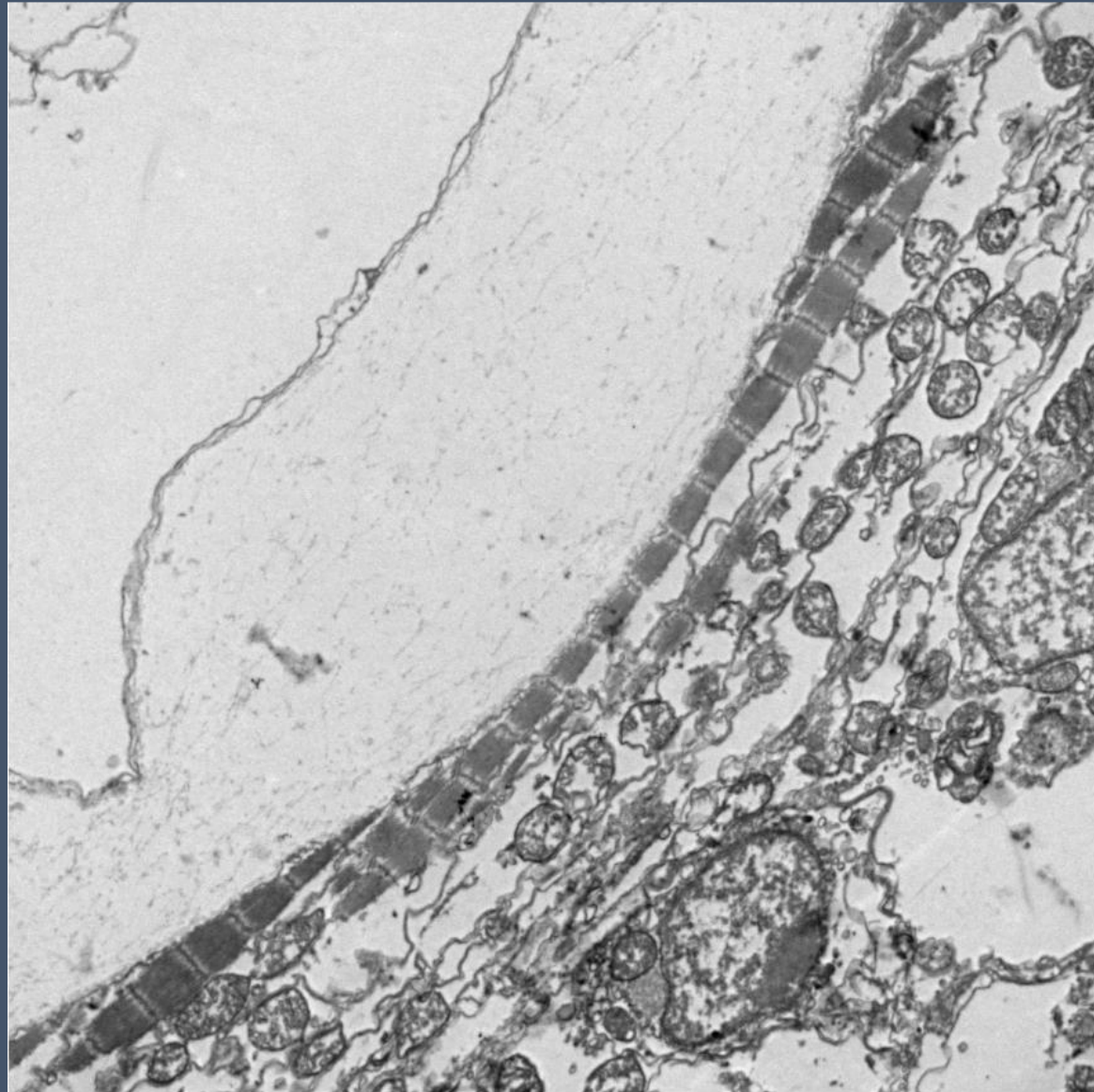
CRYO
techniques



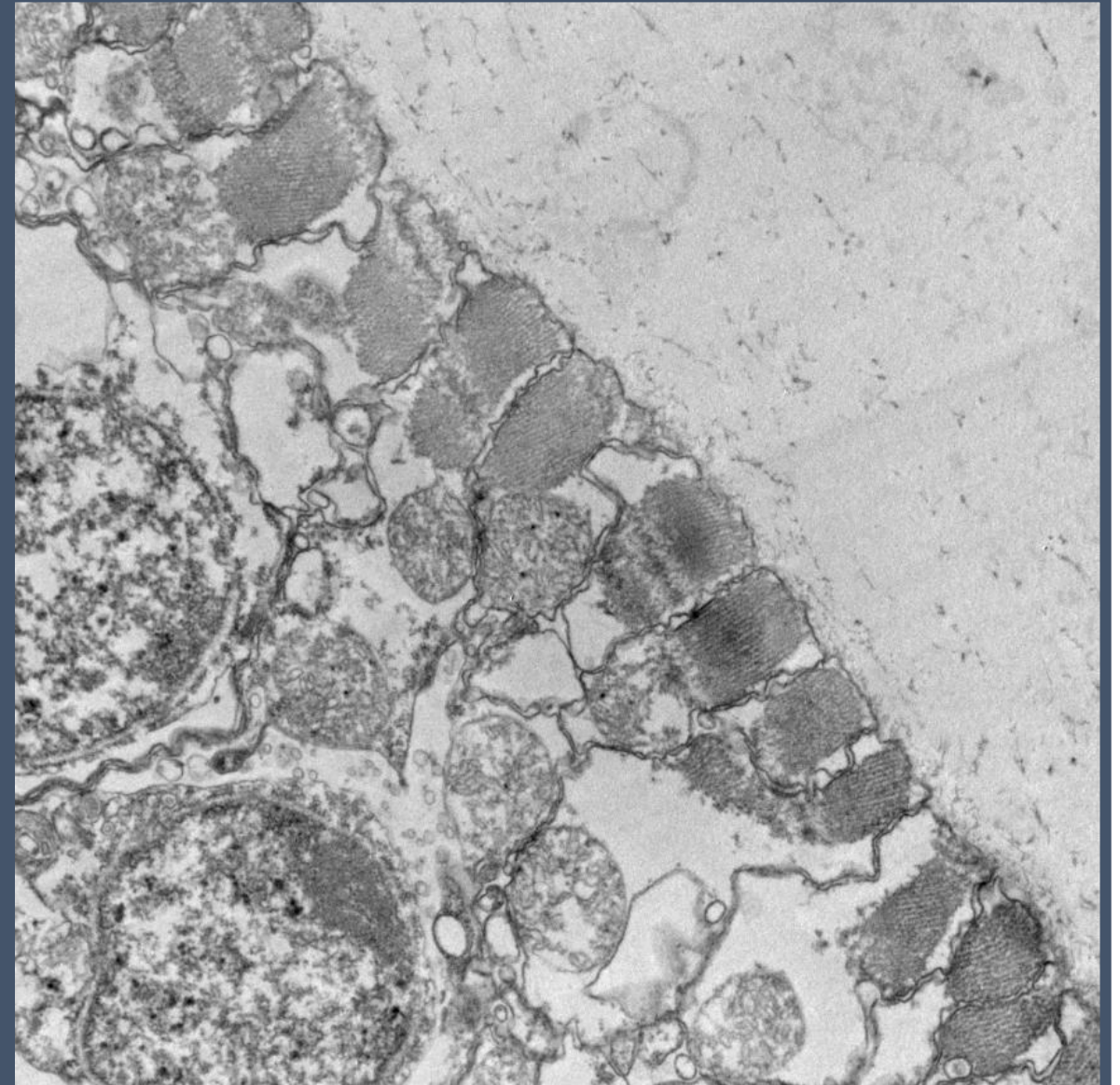
Glow
discharge



I. CNIDEVO TEAM (L. LECLERE & C. SINIGAGLIA)



Meduse Pelagia 899 5j no ment mb 0.6pcent piol Pb JM 1104.022.tif
Meduse Pelagia 899 5j no ment mb 0.6pcen 2 microns



Meduse-891-Pelagia-5j-ss menthol-UF8-2-ML.036.tif
Meduse-891-Pelagia-5j-ss menthol-UF8-2-M 500 nm

SCANNING ELECTRON MICROSCOPE

LINK TO PERPIGNAN-UPVD, PROMES (FR FREE)

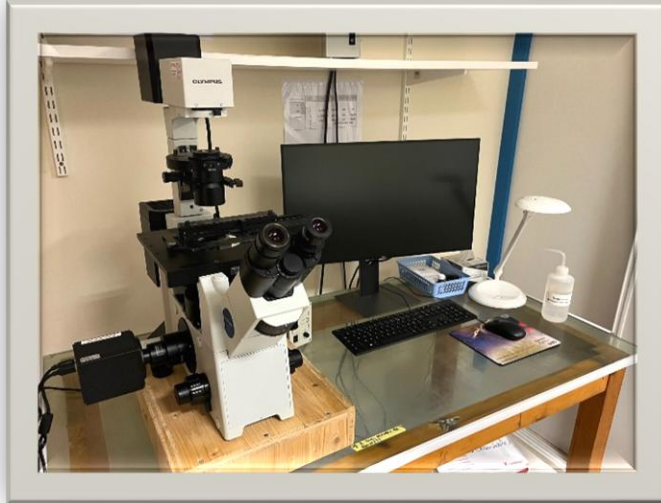
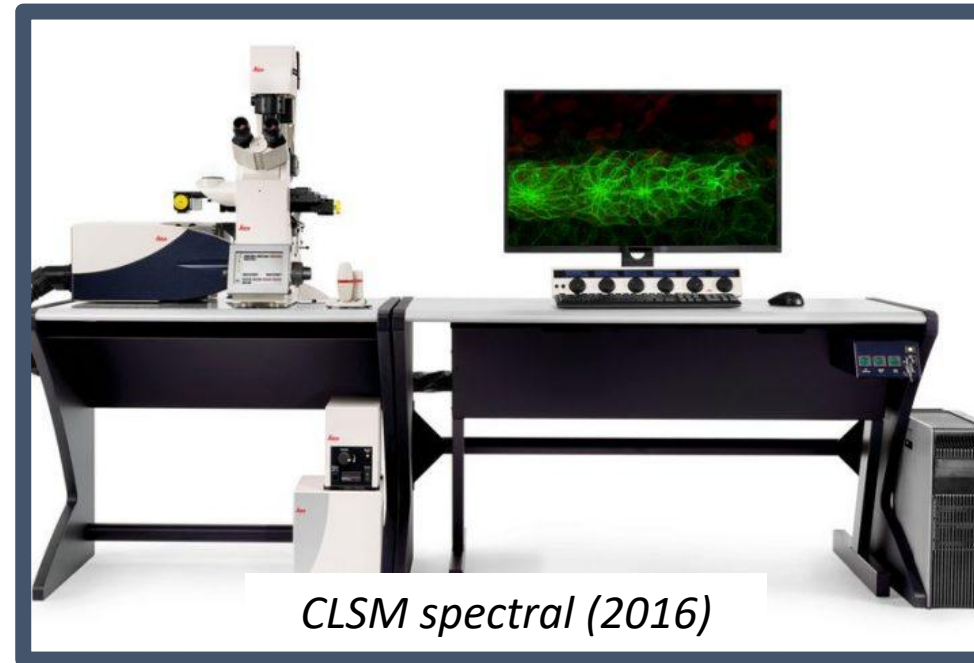


- New MEB PROMES (UPVD) in 2025:
 - Chemical analysis
 - Mode TEM
 - 3D reconstruction



JEOL IT800 SHL LV

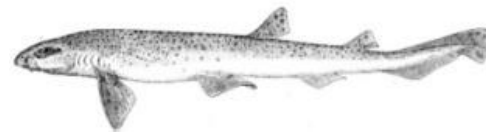
II. PHOTONIC MICROSCOPY



Timelapse machine (2023)

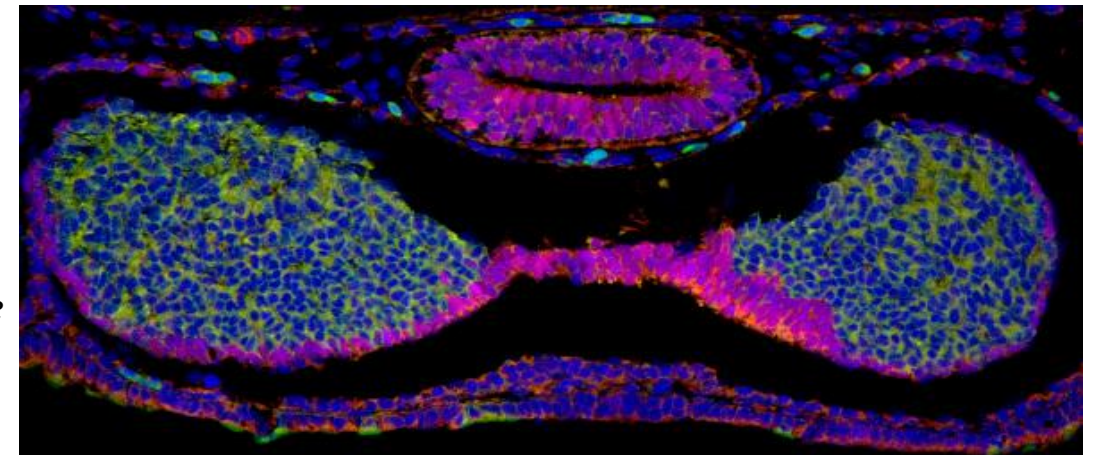
CLSM spectral (2016)

*Epi-fluorescence
With CMOS cam & stations.
Soon, replacement of
illumination and fluorescence
gathering.*



Roussette

R. Lagadec
M. Lanoizelet



S. canicula
Coupe d'habénula après IHC
Anti Pax6: rouge, anti acetylated tubulin: vert; DAPI bleu

II. PHOTONIC MICROSCOPY

Leica Stellaris



New
microscope
2026

III. FLOW CYTOMETRY:

2 ANALYSERS ET 1 SORTER



BD FACS CANTO2 / BECKMAN CYTOFLEX :

- 3 lasers
- PMT / APD
- SSC-violet (Cytoflex&Aurora)



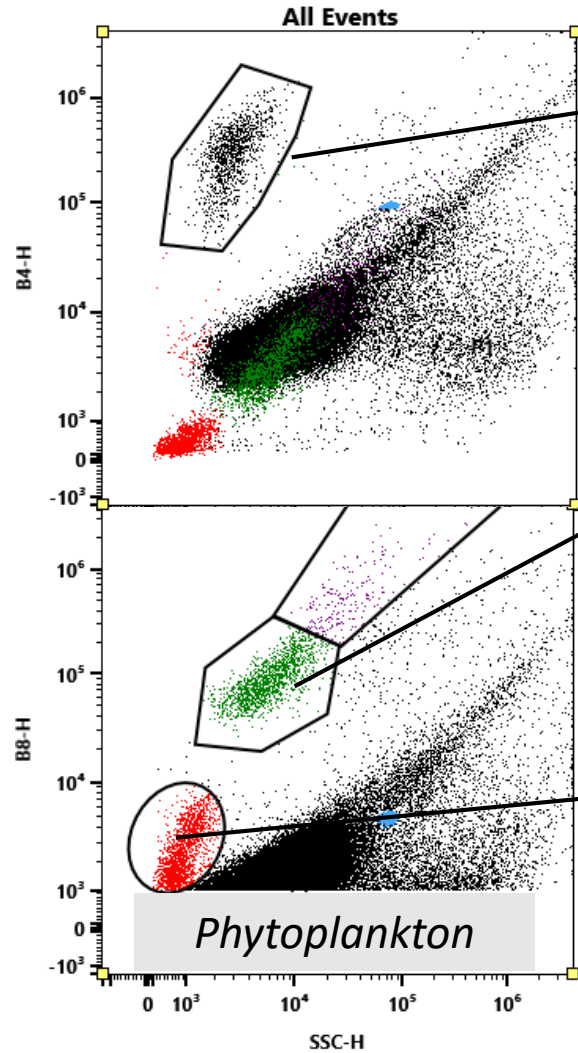
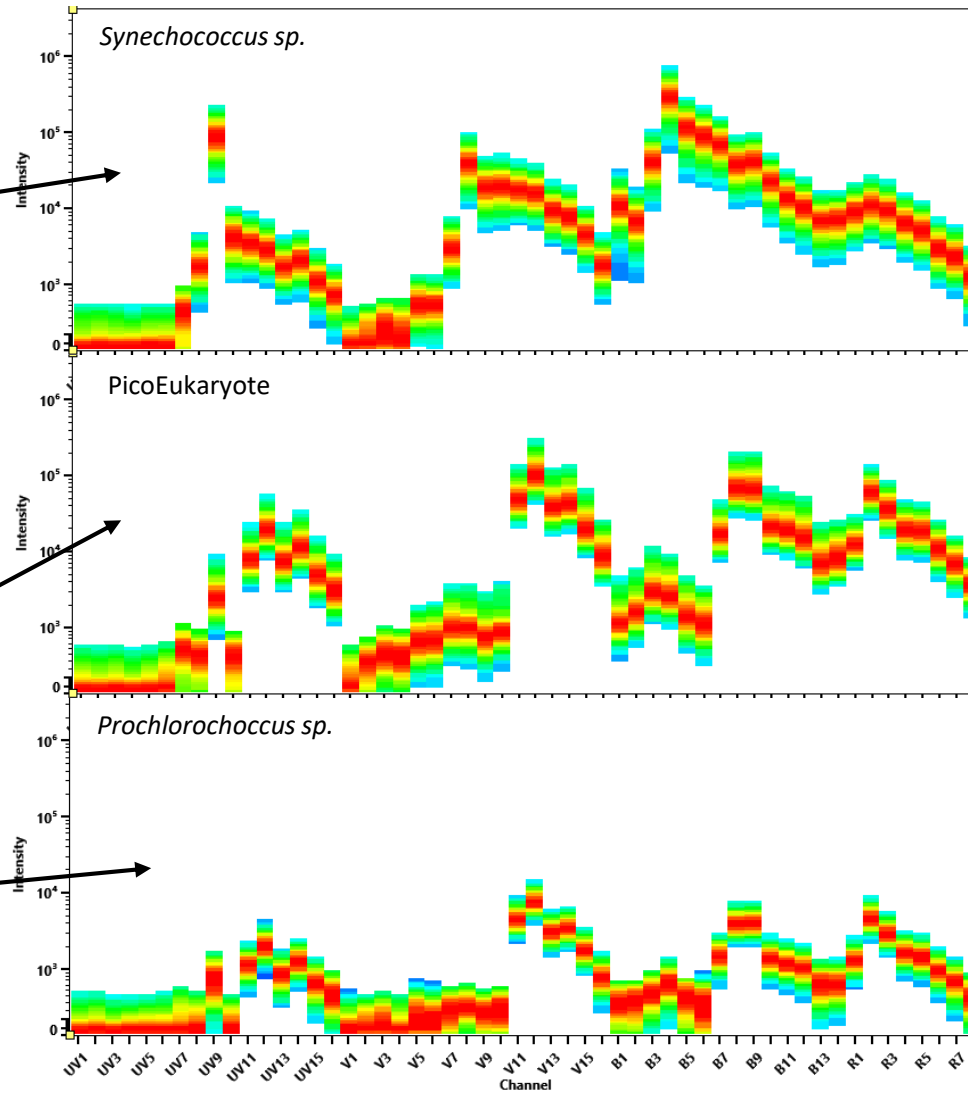
CYTEK AURORA CS

- 3 lasers
- 38 APD !
- SSC-violet

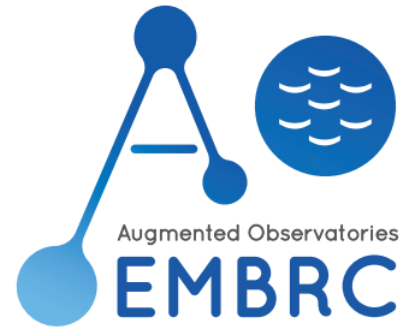


CYTOMÉTRIE EN FLUX : LIEN MISSION OBSERVATION

Service National
d'Observation des
écosystèmes
(INSU-CSOA)



IV. NEW HIGH FREQUENCY PLATEAU



IV. HIGH FREQUENCY BioPIC/REMIMED PLATEAU:

ACCESS TO PHYTOPLANKTON HIGH FREQUENCY DYNAMICS AND DIVERSITY



Is this sufficient proof that our
CytoSubs can be deployed
long term? 😊 😊

YES
100%



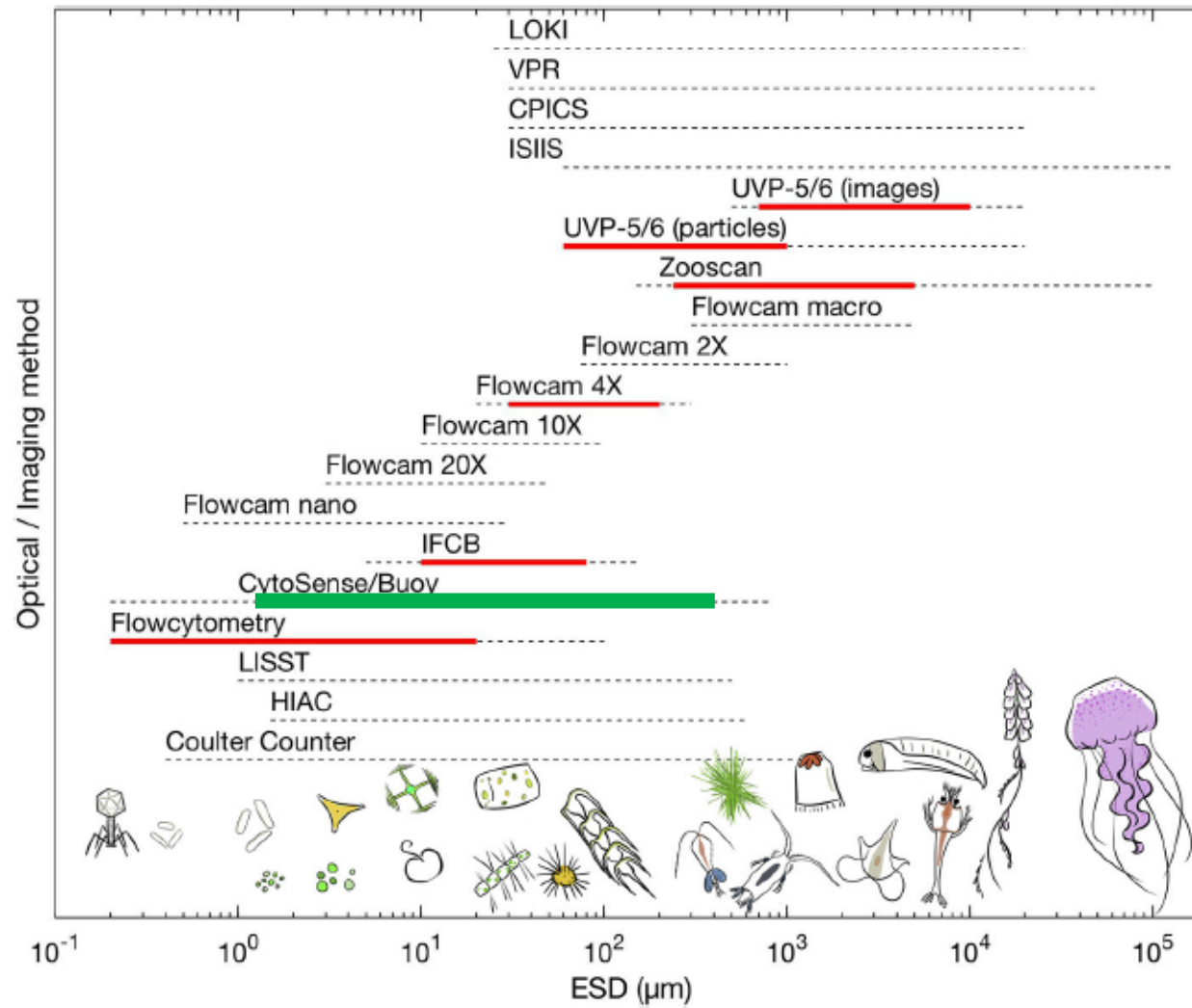
alexou91_56
Stazione zoologica Anton Dohrn



← **Cytosub** (1-600µm)

Imaging Flow Cytobot
(IFCB, 15-300µm)





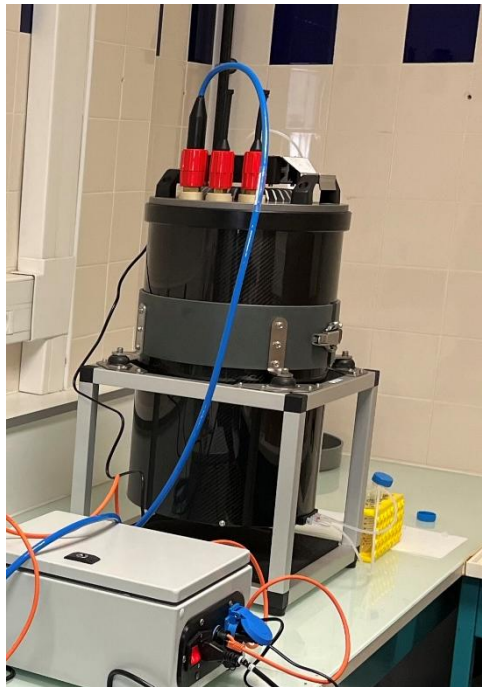
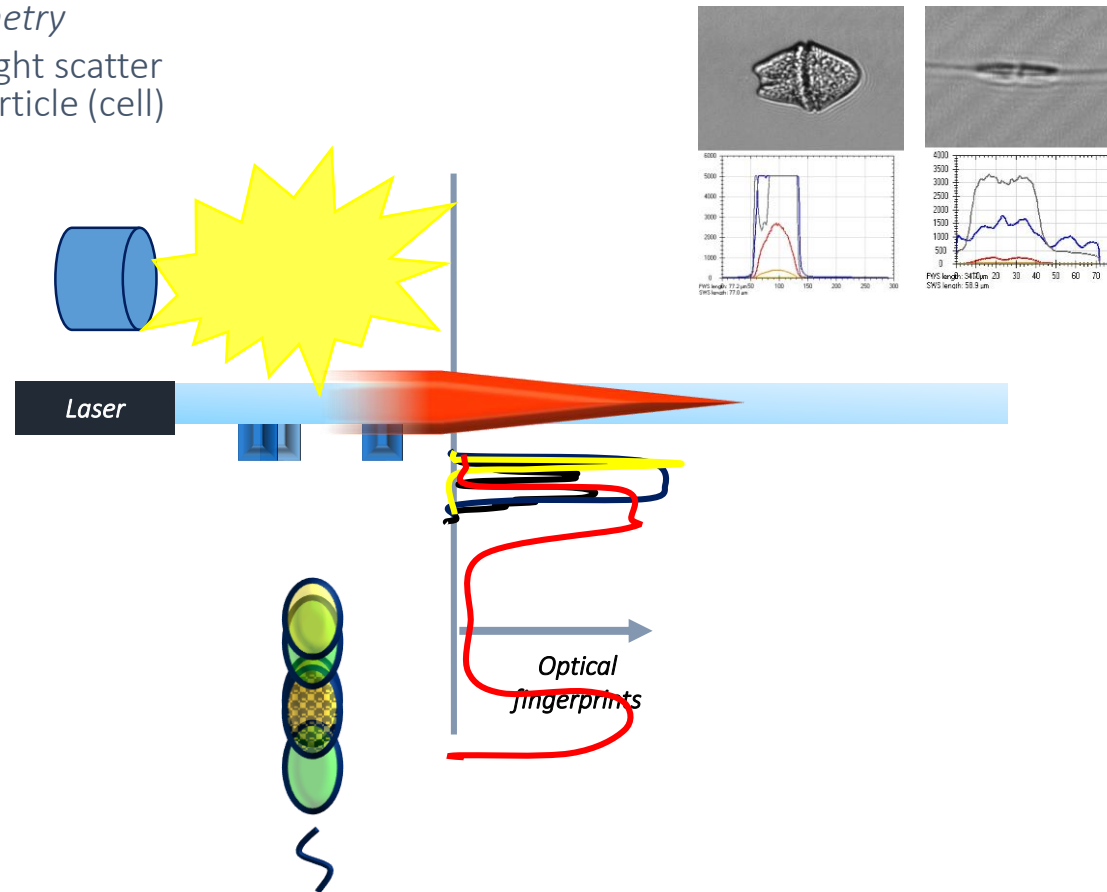
Cytosub :
From less than
 $1\mu\text{m}$ to $600\mu\text{m}$

Modified from
Lombard *et al.* 2019

AUTONOMOUS HIGH FREQUENCY FLOW CYTOMETRY (CYTOSENSE)

in situ flow cytometry

→ Fluorescence and light scatter recorded along each particle (cell)



RÉSEAUX NATIONAUX

