

Platform for Heterologous Expression (of plant membrane proteins) & Electrophysiology



B&PMP (Institut Claude Grignon)

Funding history

Recurrent funding (BPMP/ "Ion Channels" group)

- **2001 - CPER ~ 150 kEuros**
- **2007 - CPER ~ 120 kEuros**
- **2012 - Sanofi allowance ~ 250 kEuros**

A collective facility resulting from more than 20 years work



Hervé
Sentenac



Anne-Aliénor
Véry



Bertrand
Moreau



Claire
Corratgé-Faillie

Location: 1st floor of IBIP building



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Laboratory for animal cell culture (COS, CHO, Sf9...)



(two CO₂ incubators, two sterile hoods)

Micro-pipette/micro-electrode fabrication

intracellular and patch-clamp electrodes,
ion-selective electrodes
micro-injection



(four micropipette pullers, two micro-forges)

Seven recording set-ups

dedicated to:

- **Two-Electrode V-Clamp**
(oocytes, 2 set-ups)
- **Single-channel recording (patch-clamp)**
(oocytes, COS cells, protoplasts)
- **Intracellular and ion-selective recordings in plant roots**
(Arabidopsis, barley, rice...)
- **Whole-cell recording (patch-clamp) + GFP/Ca²⁺ imaging**
(COS cells, protoplasts)
- **Whole-cell recording (patch-clamp) + laser micro-dissection**
(COS cells, protoplasts + roots/root hairs)
- **Extracellular recording of APs**
(Arabidopsis or other plants)

Scientific activity

At least 4 groups in BPMP are (or have been) using the platform facilities

"Aquaporins" (C. Maurel)

"Integration" (A. Gojon)

"Ion Channels" (H. Sentenac)

"Signalisation " (J.-B. Thibaud)

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National and international training schools (E2M, Mistral, Procope, Polonium...)

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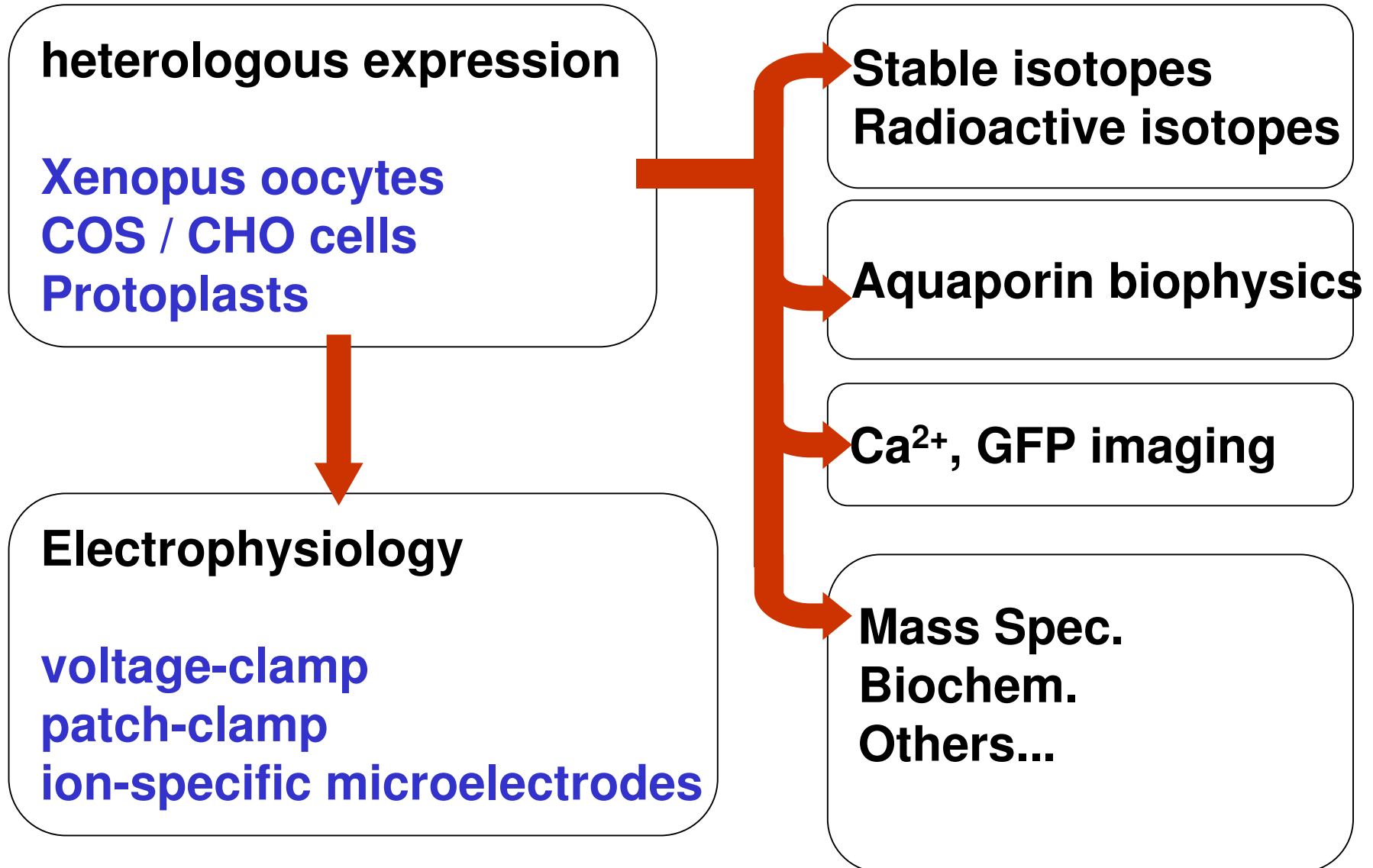
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**National and international research collaborations
(≥ 27 publications since 2000)**



Interactions with other workshops/platforms



Administration/management

- **booking of set-ups on lab's intranet**
- **main protocols and equipment notices on lab's intranet**
- **annual user committee meeting**
- **stock of spare parts of equipment (no stock for user's consumables)**
- **workshop for the maintenance (electronics, mechanics, fluidics)**
- **contribution to training new users**

Under construction or being upgraded

- **A third TEVC setup** (~ 50 kEuros)
(oocytes)
- **Intracellular recording of APs** (~ 80 kEuros)
(Arabidopsis whole plants)
- **Combined lasers for microdissection and GFP** (~ 15 kEuros)
(roots/root hairs)
- **New perfusion systems** (~ 8 kEuros)
(patch-clamp setups)

Under construction or being upgraded

- A third TEVC setup (oocytes) (~ 50 kEuros)
- Intracellular recording of APs (Arabidopsis root plants) (~ 80 kEuros)
- Combined lasers for microdissection and FRAP (roots/root hairs) (~ 15 kEuros)
- New perfusion systems (patch-clamp setups) (~ 8 kEuros)

We need a manager!!!

