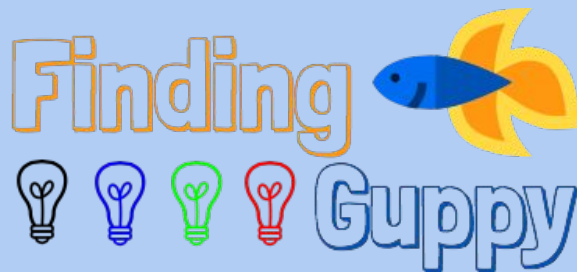
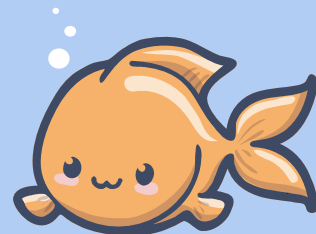


BIOSENSORS FINAL PROJECT

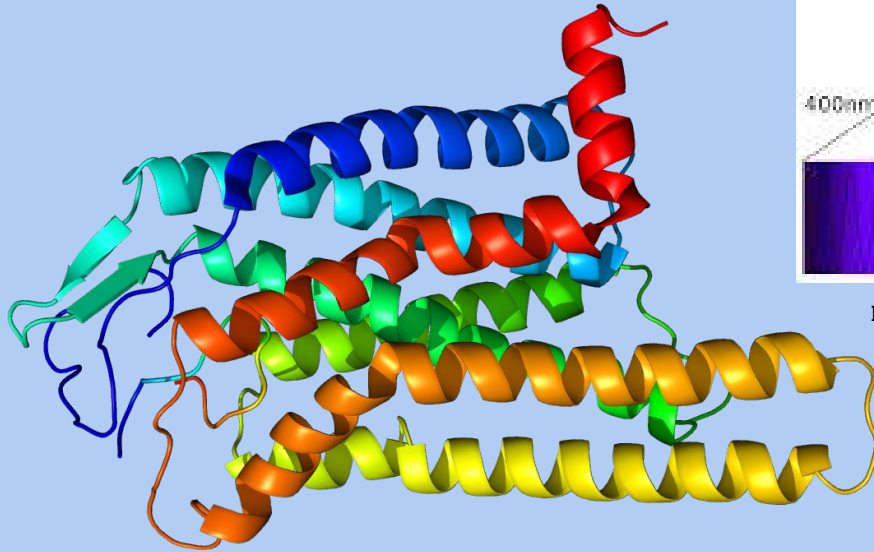


FINDING GUPPY

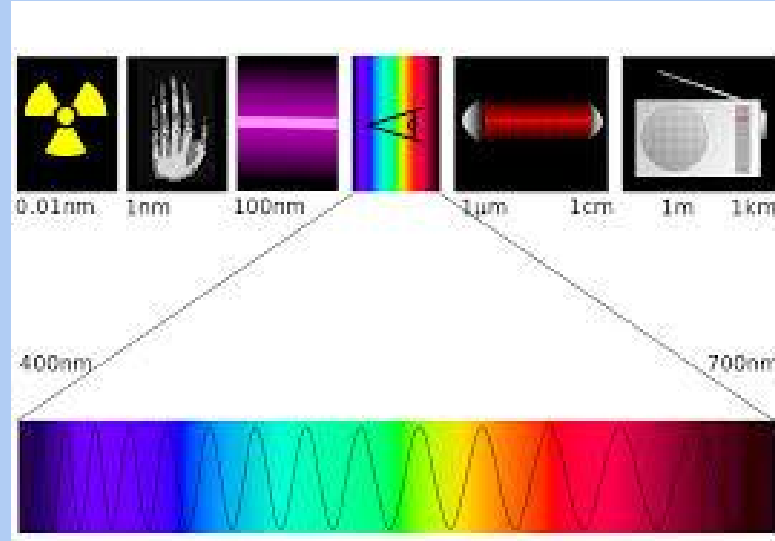
Nina Guérin - Daphné Guénée - Nicolas Larrouy



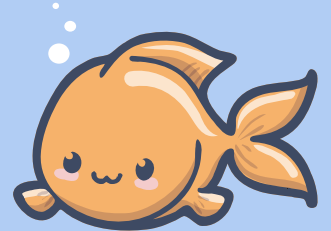
ARE *POECILIA RETICULATA* ATTRACTED TO SPECIFIC WAVELENGTHS ?



https://en.wikipedia.org/wiki/File:Protein_MC4R_PDB_2IQP.png

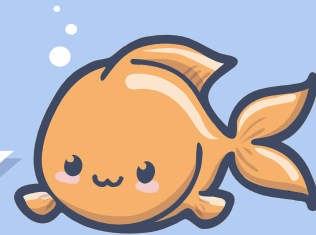


[https://commons.wikimedia.org/wiki/Commons:Potd/2006-02_\(fr\)](https://commons.wikimedia.org/wiki/Commons:Potd/2006-02_(fr))



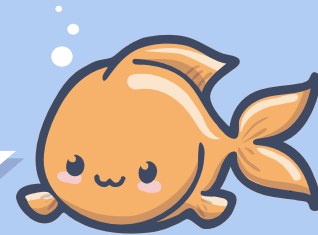
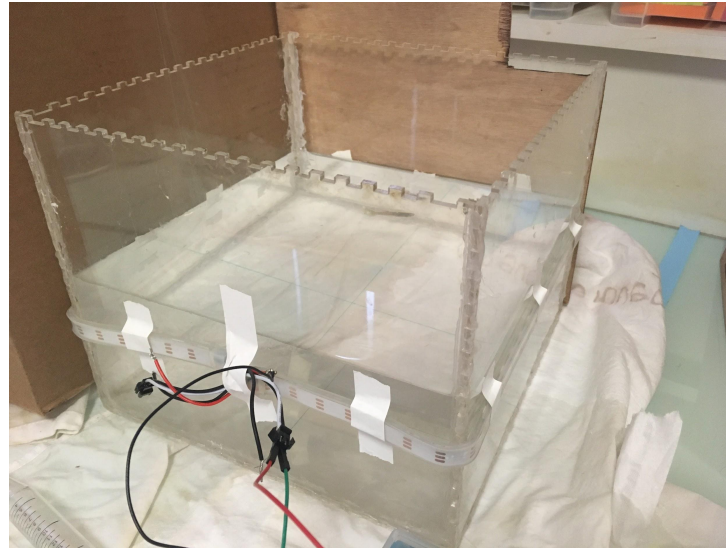
POECILIA RETICULATA AKA GUPPY

- Tropical fish
- Easy to buy and sustain
- Male to female ratio
- 6 opsins
- Sensitive to long-wavelengths
- Importance of UV for choosing mating partner



WHAT DO WE HAVE TO ANSWER OUR QUESTION ?

- 4 guppies: 3 females and 1 male
- 1 Aquarium
- 1 Adafruit Strip LED
- 1 DIY aquarium

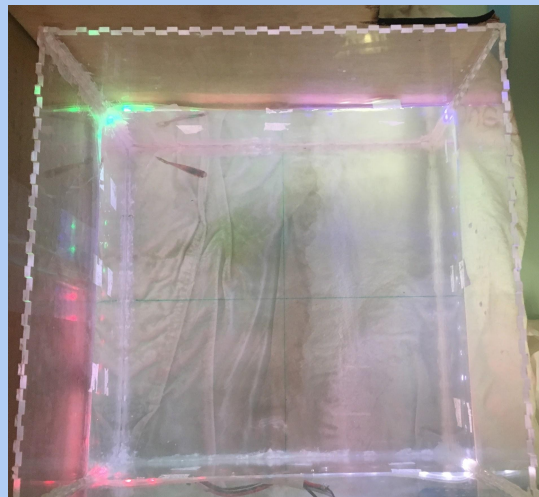


WE COMPARED THEIR BEHAVIOUR WITH NO LIGHT AND WITH LED TURNED ON



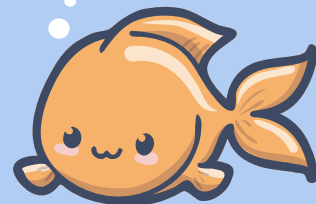
5 min of
accommodation

2 min
Lights on

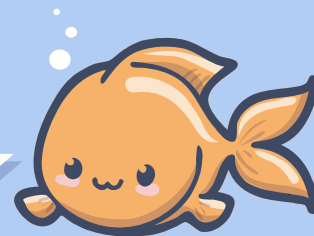
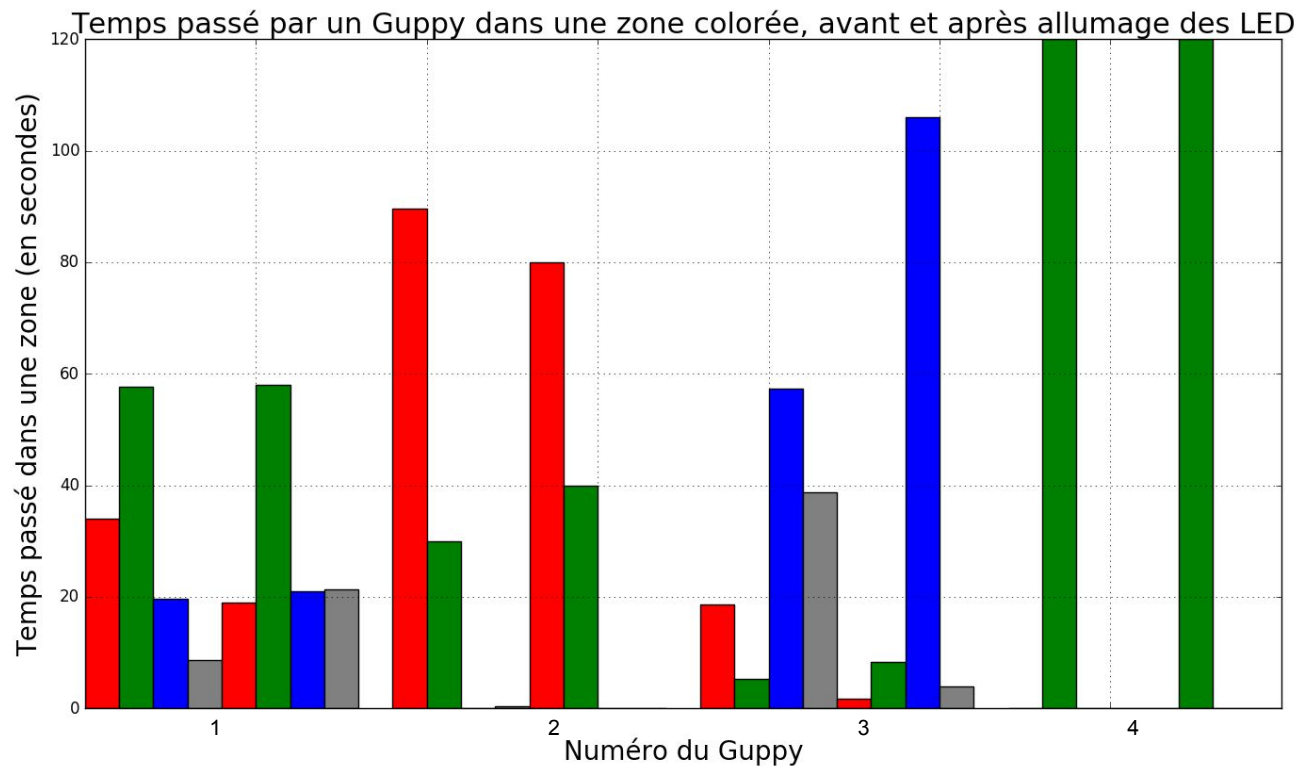


2 min
Lights off

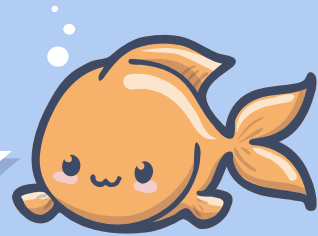
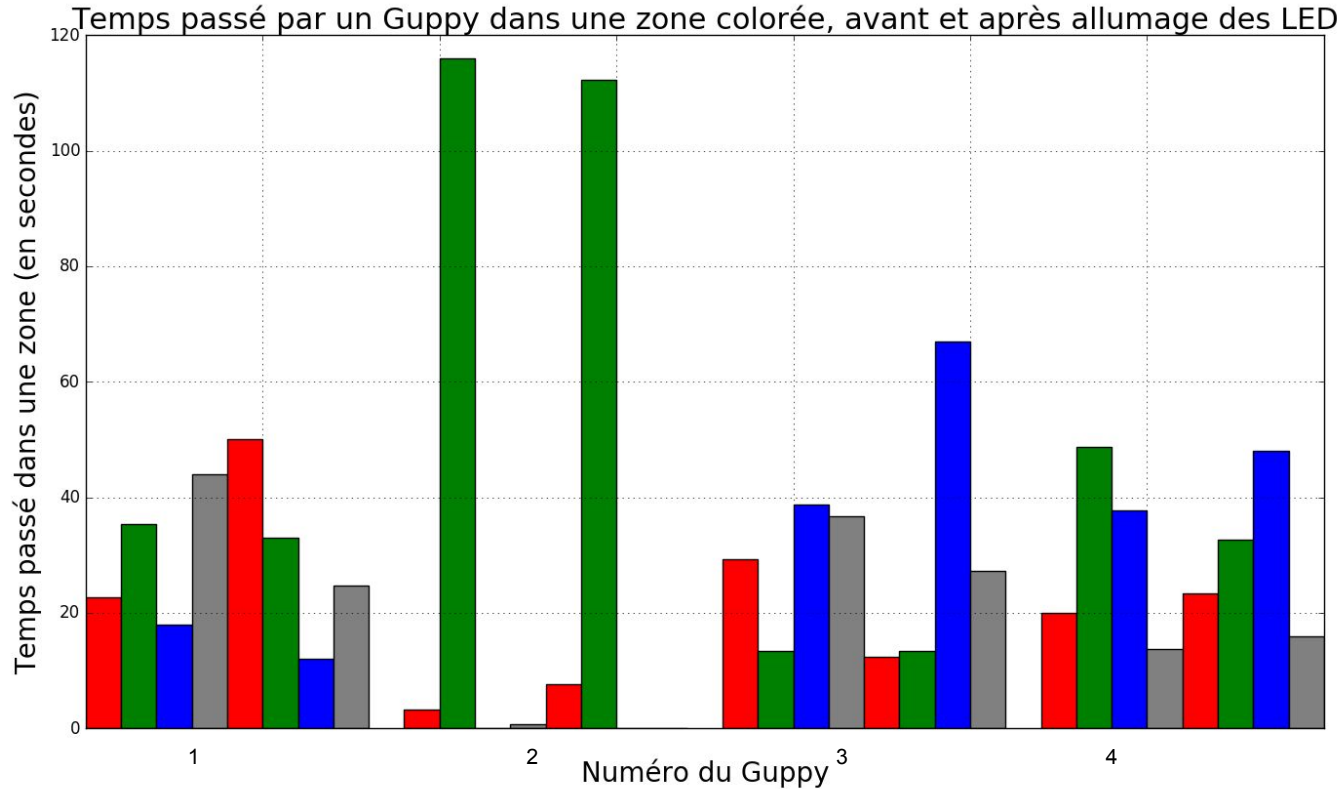
x 3



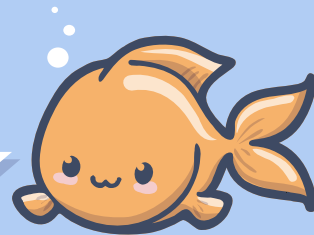
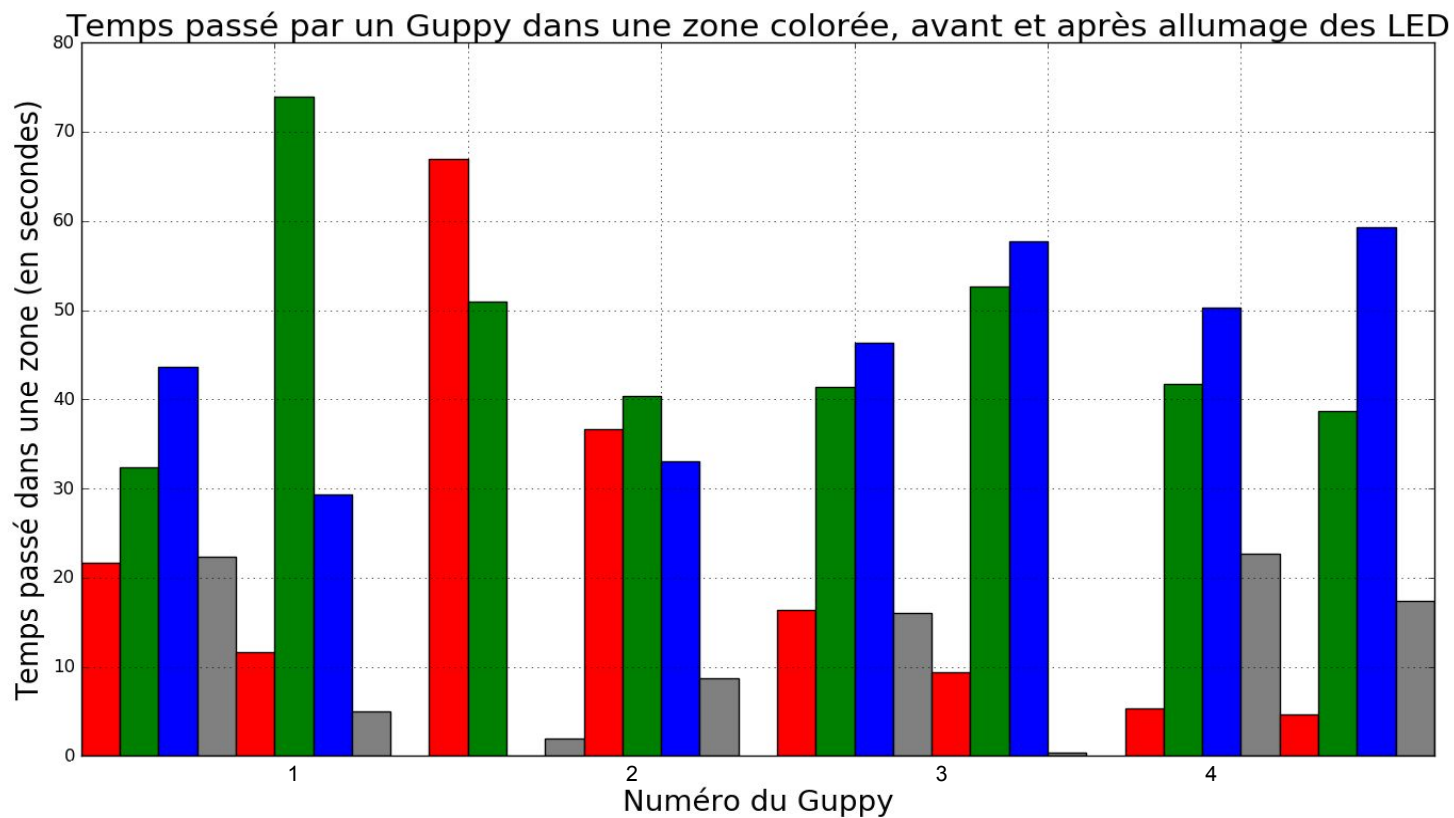
NOT A LOT OF MOVEMENTS...



STILL NOT A LOT OF MOVEMENTS...



THEY ARE MORE ACTIVE AFTER BEING FED



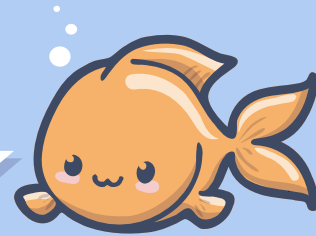
RESULTS NOT CONCLUSIVE & LOT OF BIAS

No significant data

Aquarium

Light exposure

Time measurement



PERSPECTIVES : RECONDUCT THE EXPERIMENTS !

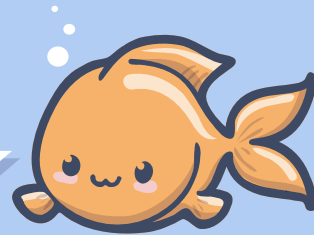
More Fishes !

No leak DIY Aquarium !

**Eliminate the noise
like surrounding
sound & vibrations !**

**More
wavelengths !**

**Test the lights
one by one !**

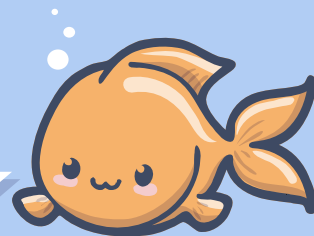


“ SPECIAL THANKS !

Tamara for making this project possible and for all of her help throughout this week and this month !

Ivan, Kevin, Lucy & Alice for their guidance !

Louise D for the Adafruit device !





UNIVERSITÉ
**PARIS
DESCARTES**



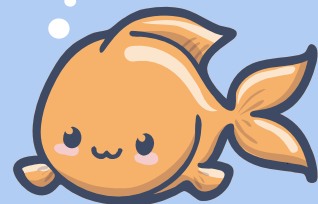
FONDATION
BETTENCOURT
SCHUELLER

Centre
CRi F_D
recherches
interdisciplinaires
sciences
de la
vie



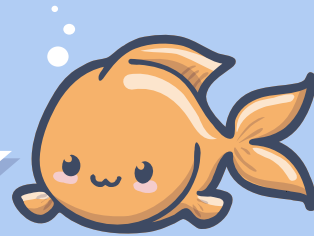
Finding
Guppy

**“Thank you
for your
attention !”**



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