

# Parcours International (PI) Program

[https://dept-info.labri.fr/~carrere/INTERNATIONAL/LicInt\\_PI.html](https://dept-info.labri.fr/~carrere/INTERNATIONAL/LicInt_PI.html)

This is where we will put information for you. Please look at it regularly and whenever you have a question.  
Many things (like a full english translation!!) still need to be done.

*We are interested in your comments and suggestions on the site and generally the PI.*

# Mentions -- Spl, M, I, P, C, P-C, SdV

You have enrolled in several classes, with Math being obligatory. If you are going into M, I, P or Spl, you should really take "General Math" (given in english).

Many changes in majors are possible after your first semester. M and I are interchangeable for the first year. P and P-C are interchangeable for the first 3 semesters.

As part of the PI, *many of your classes are in english \*and\* you choose a minor* (a secondary area of expertise). Each minor has a class per semester and you follow your minor with time. You are *\*not allowed\** to take e.g. minor Math if your major ("mention") is Math.

In all cases, PI students spend the third year abroad (at least a semester).

# Requirements to stay in the PI

- \* During the first semester, you need to have an average of at least 10.5/20 (minor not included).
- \* Over the first year, you need to have an average of at least 11/20 (minor not included) and 10.5 in the minor.
- \* Entry into the PI is possible after the first semester for good students not originally part of the PI.
- \* You can leave the PI (nobody is obliged to stay) but we will ask why.

*Every semester we request evaluations -- they are important for us to improve things.*

*Vous pouvez écrire, parler avec nous, poser vos questions, et même passer vos examens en français si vous le souhaitez.*

# Minors and options

- Biology: Sophie Javersat
- Biosourcing: Véronique Coma
- Computer Science: Marie Beurton
- Engineering: Bruno Vallespir
- Epistemology: Jérôme Pierrel
- Mathematics: Lisl Weynans

Emails at UB are e.g.

frederique.carrere@u-bordeaux.fr

jonathan.braine@u-bordeaux.fr

etc

Courses in the minors start next week as well.

Biosourcing and Epistemology have limited enrollment so if you have requested these minors then you may have to change (this is why we request 3 choices).

# Computers and internet

A computer is extremely useful for university studies. It also makes the on-line parts of courses much easier.

We highly recommend you get one.

If you cannot, the university may be able to help finance a computer. Please contact us for this.

Internet:

1. **get eduroam** -- it is an excellent system that works at universities all over the world. You are completely identified and peer to peer is not authorized.

2. try to have a backup connection (telephone, DSL/fiber, cable...)

*We expect you to read and respond to email we send.*







# **LICENCE INTERNATIONALE**

**Biosourcing: use and  
transformation of bioresources**



# LICENCE INTERNATIONALE : Minor BIOSOURCING

The program presents options for the use and transformation of bioresources as an alternative to non-renewable resources.

Moreover, the program provides knowledge on innovation and sustainable resource management.

Designed with significant advice from industry partners



Main part of major companies (l'Oreal, BASF, Dow, Solvay, Procter & Gamble, DuPont,...) are currently working in this area, and an increasing number of smaller companies are also involved with the use and transformation of bioresources



# LICENCE INTERNATIONALE : Minor BIOSOURCING



**Biomass,  
biomolecules  
Resource  
management**



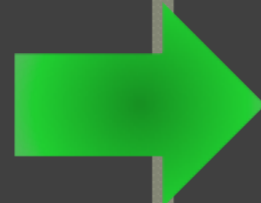
**Introduction to  
Biology /  
Microbiology  
Biotechnology**



**Transformation of  
bioresources  
Green chemistry  
Environnemental  
impact**



# LICENCE INTERNATIONALE : Minor BIOSOURCING



**(Bio)molecules  
of interest,  
Biomaterials,  
Bioplastics,  
Biofuels,  
Purif/waste  
Valorisation**

**INDUSTRIES**

**Chemistry,  
Materials,  
Cosmetic,  
Biomedical,  
Medical,  
Food,  
etc**

# LICENCE INTERNATIONALE : Minor BIOSOURCING

## New Courses

### Semester 1

Resource  
management  
and renewable  
resources

### Semester 2

An introduction  
to biological  
systems

### Semester 3

Methods and  
tools for  
biosyntheses

### Semester 4

Environmental  
impact and  
resource  
efficiency



Fossil, mineral and  
bioresources

Biomolecules and  
biopolymers

Green chemistry



Micro-organisms as  
producers of  
molecules and  
polymers of interest



Enzymatic reactions  
BioProcesses  
PROJECT



Resource Efficiency  
Environmental impact  
Life Cycle Assessment





# Licence Internationale

## Mineure

### “Industrial engineering and logistics”

**Purpose:** introduce students to optional knowledge about enterprise and industrial systems engineering

#### **Objectives:**

1. facilitate their future professional carrier in economic world
2. attract and prepare some students to the Master Programmes on “Industrial engineering and logistics” at University of Bordeaux

## Semester 1 / Module 1

### Production System Management (6 ECTS)

Present basic concepts and techniques for planning and managing industrial systems of various types of organization

- Typology of workshop (flowshop, jobshop, openshop) and production
- Workshop scheduling algorithms (Gantt, Johnson, heuristic and priority rules)
- Inventory management methods (economic quantity, order point method, ...)

## Semester 2 / Module 2

### Enterprise, Manufacturing and Service (6 ECTS)

Provide an introduction on enterprise and industrial system, from manufacturing to service as well as evolution of market, manufacturing and organization

- Enterprise, virtual enterprise, network enterprise
- Manufacturing vs. service and servitization
- Evolution of manufacturing technology and organization (assembly line, flexible cell, ...)

## Semester 3 / Module 3

### Product Design and Innovation

(6 ECTS)

Initiate the students the basic concepts and techniques on product design and innovations

- Basic concepts and definitions on product design and innovation
- Functional analysis methods for product design
- Theory and methodologies for product innovations

## Semester 4 / Module 4

### Enterprise System Modelling

(6 ECTS)

Present discrete event concepts, introduce languages and methods to describe, analyze and design automatic industrial systems as well as enterprise modeling and simulation

- Enterprise modeling and simulation
- Data modelling
- Functional modelling
- Process modelling





# Mineure Épistémologie, Histoire et Communication des Sciences (EHCS) Université de Bordeaux

Jérôme Pierrel

`jerome.pierrel@u-bordeaux.fr`

Université de Bordeaux  
Laboratoire S.P.H.  
E.A. 4574

13 Mai 2020

# Semestre 1. History of Science

- 6 ECTS
- Enseignant : Jérôme PIERREL
- Programme : les institutions de recherche et d'enseignement supérieur du Moyen Âge à nos jours
- Fiche UE

## Semestre 2. Science communication 1

- 6 ECTS
- Enseignant : Boris URBAS
- Programme : les types de discours sur la science (expert, vulgarisation, ...) et leurs techniques
- Fiche UE

## Semestre 3. Philosophy of Science

- 6 ECTS
- Enseignant : Jérôme PIERREL
- Programme : les classifications des sciences et des savoirs, la croissance du savoir (révolution ou continuité ?)
- Fiche UE



## Semestre 4. Science communication 2

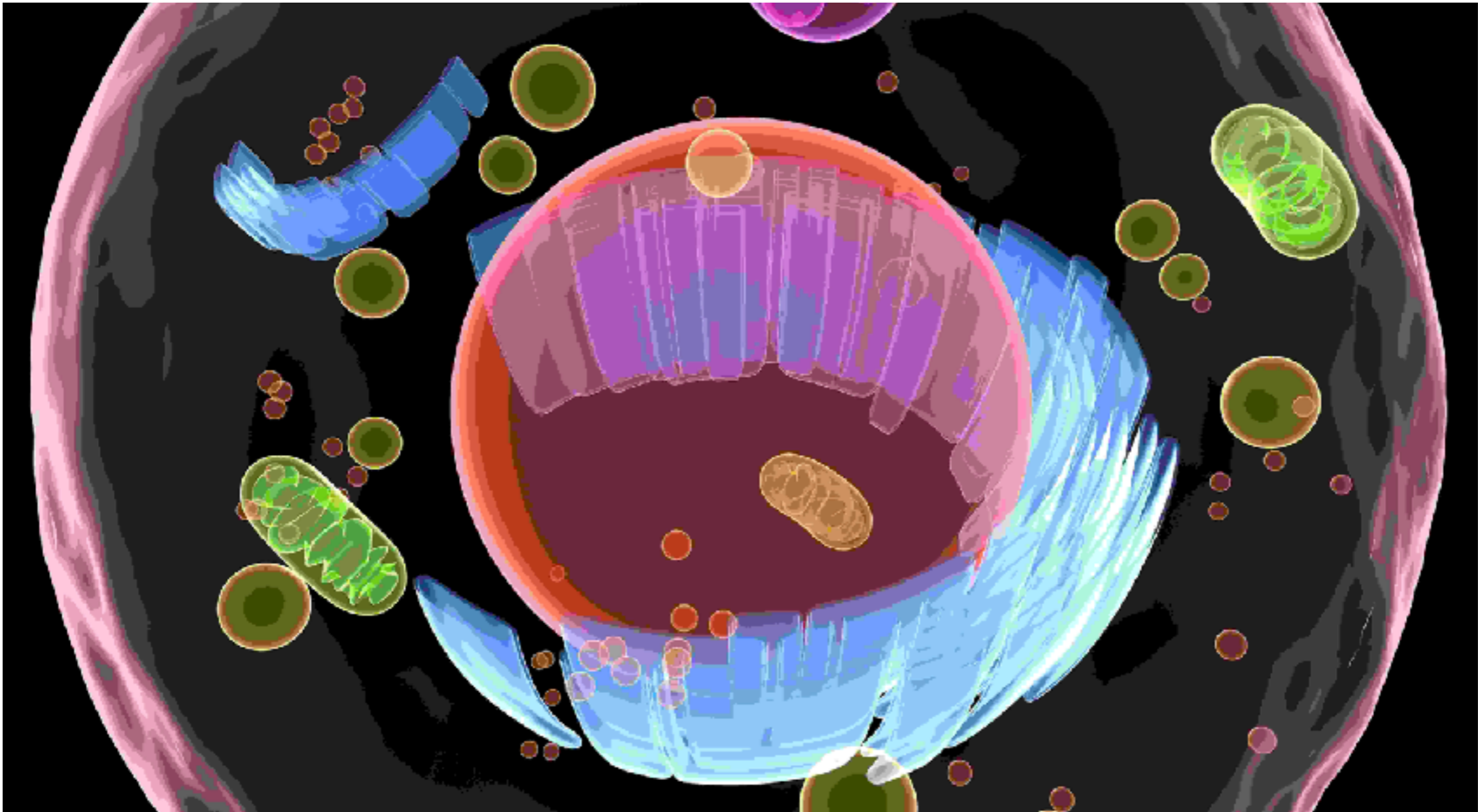
- 6 ECTS
- Enseignant : Axel HOHNSBEIN
- Programme : histoire de la vulgarisation scientifique, de Fontenelle à nos jours
- Fiche UE



# BIOLOGY

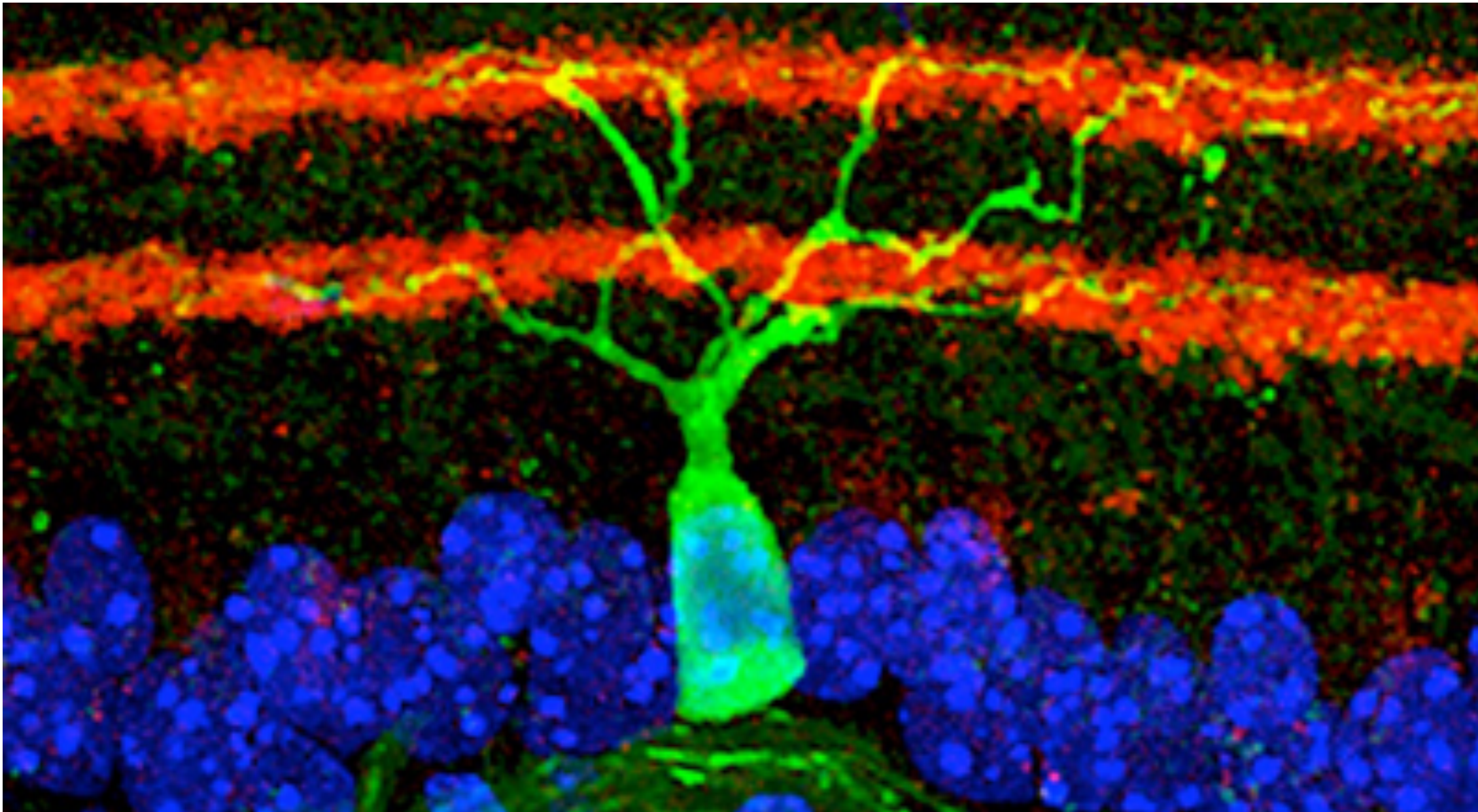
Sophie JAVERZAT  
Ijsbrand KRAMER

# + 1st year fall: cell content and functions





+ 1st year spring: cell interactions in the organism





# UniCell; Unity in Diversity

Instructor: IJsbrand KRAMER

## content

UniCell describes the common characteristics of cells that compose an organism (cell types and organelles of eukaryotes). The course is continued in MetaCell (S2), in which we deal with cell adhesion and cell communication (hormones, etc)

## course format

1. two formal interactive lectures

overview of cells and their characteristics

2. group-based active learning project

from a given list, you explore in a group of three a cell biology subject which you are going to present in a 15 minute video in English

## assessment

2 in-course tests dealing with the content of the formal lectures 0,5

1 video presentation Teacher evaluation 0,25

Peer evaluation 0,25

<https://www.cellbiol.net/cbe/multimedia.php>

[ijsbrand.kramer@u-bordeaux.fr](mailto:ijsbrand.kramer@u-bordeaux.fr)

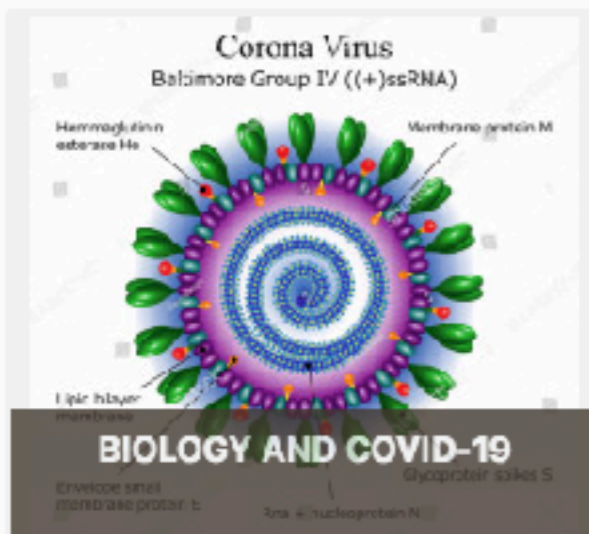
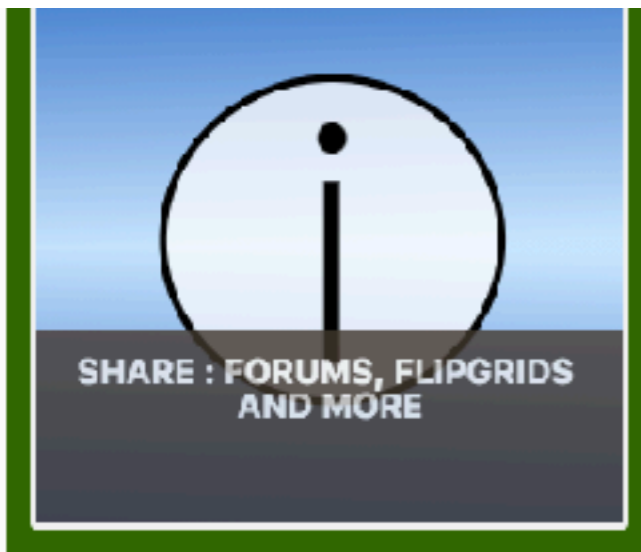
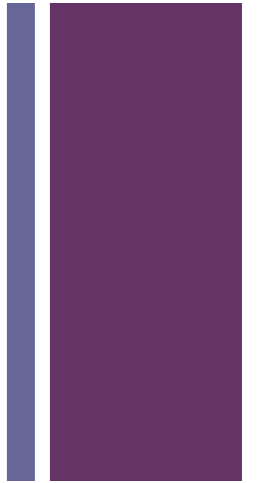


+ 2<sup>nd</sup> year fall: genes & genetic disorders





# + 2<sup>nd</sup> year spring: Hot topics Ethical concerns, Critical thinking, Interdisciplinarity



# + How do we teach? How do you gain skills?



- E-learning - Flipped classrooms
- Collaborative project
- Your skills at the end of the day :
  - Deal with scientific knowledge in english with different means of communication
  - Search for relevant sources on a topic
  - Understand and contribute to multidisciplinary projects : bio-informatics; bio-physics; bio-chemistry aso...



# Options Anglais L1 PI

Semestre 1 et 2

2021-22

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Code UE S1: 4TPM120U **Intitulé:** Anglais renforcé pour PI (Think International)

**Responsable:** Pascale Robson

12 heures de cours, soit 12 séances d'1H20 en présentiel en groupe de 24 étudiants maximum.  
Contenu du cours disponible sur Moodle.

**AUTUMN TERM** Basics first: numbers, graphs, measurement, scientific vocabulary, a bit of grammar etc... Keeping up with the news and current affairs (foreign press, videos), debates on topical issues. Work on oral fluency and presentations.

**SPRING TERM** Student press reviews, specific vocabulary for life abroad (flat share, banks, university, health...). Finding out about foreign universities, students and different cultures. Debates on topical issues.

CC intégral

Présentation orale: 0.4, compréhension orale: 0.3, compréhension écrite: 0.3



Code UE S1: 4TPU109U

## Intitulé: ENLIVE\* virtual exchange (10 places)

Responsables: Alexandra Reynolds et Ruth Holloway

Students will select and research a topic in order to design and disseminate a **social media campaign** to their chosen target audience.

Topics:

- Gender and education
- Diversity on screen
- Climate change and youth activism
- Body image and social media
- Science denial and anti-science movements



(\*ENLIGHT Network Language and Intercultural Virtual Exchange)

**Each week, groups of 8 students will meet for 2h via Zoom.** They will alternate plenary phases where all members of the group are engaged in dialogue, and project work in dyads in breakout rooms.

**ENLIGHT: *European university Network to promote equitable quality of Life, sustainability and Global engagement through Higher education Transformation.***

***Université de Bordeaux, National University of Ireland Galway, Universiteit Gent, Rijksuniversiteit Groningen, Georg-August-Universität Göttingen, Uppsala Universitet, Tartu Ülikool, Univerzita Komenského, Euskal Herriko Unibertsitatea.***

CC intégral

<sup>32</sup> **Evaluations continues individuelles orales (coef. 0.5)** dont (0.3) Video Project, et (0.2) Participation, **Evaluations continues individuelles écrites (coef. 0.5)** dont (0.2) Weekly Reflective Journal et (0.3) Social Media Project.



# English options

Semester 2

# English language courses for PI: Semester 2

- S2 Anglais renforcé pour PI (open to all L1 PI, contact: [pascale.robson@u-bordeaux.fr](mailto:pascale.robson@u-bordeaux.fr))
- S2 ENLIVE (10 places)
- S2 Erasmus Virtual exchange (10 places)
- S2 Eloquence anglaise (10 places)
- S2 Eloquence française for non-native French speakers (10 places)
- S2 Stanford Virtual Exchange (10 places)

All options in green are 'internationalisation@home' courses: contact [alexandra.reynolds@u-bordeaux.fr](mailto:alexandra.reynolds@u-bordeaux.fr)





# Math "Mineure"

[note that this is not for math majors]

Elizabeth Strouse (1st year),  
Lisl Weynans (2nd year)

- S1          Linear Algebra
- S2          Euclidean Spaces
- S3          Probability and Statistics
- S4          Integration and Differential Equations





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**Parcours International  
en Licence**

**Mathématiques, Informatique,  
Maths/Info  
Physique, Chimie,  
Physique/Chimie,  
Sciences pour l'Ingenieur  
Biologie**

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# Effectifs

Effectifs :	Année	L1	L2	L3
	2018-2019	67	49	27
	2019-2020	55 (+33 Bio)	53	37
	2020-2021	66 (+29 Bio)	45	49
	2021-2022	73	57	33

- Répartition / Majeures en L1:
  - PI Maths / Info: 22
  - PI chimie: 10
  - PI Physique / Phys-Chimie: 21
  - PI Sc Ingé: 8      Biologie : 12
  - Biologie: 13 - Biosourcing: 12
- Répartition / Mineures en L1:
  - Epistémologie: 9 - Informatique : 10
  - Engineering: 8 – Mathématiques : 15

Taux réussite :

Année	L1	L2	L3
2016-2017	93,33	87,18	93,1
2017-2018	87,5	81,81	94
2018-2019	84.15	79.59	92
2019-2020	85.45	92.45	92.5

# Amélioration de l'offre de formation et des échanges internationaux

- Ouverture du PI Bio sur Parcoursup (12 étudiants)
- UE «Erasmus Virtual Exchange», pour un petit nombre de PI L1 sélectionnés.
- 4 projets spécifiques à certains PI soumis à NewDeal :
  - projet PI Biologie : Pascal Fossat, Philippe Gallusci
  - projet PI Chimie : Denis Deffieux
  - projet PI Maths : Elizabeth Strouse, Bernhard Haak
  - projet PI SPI : André Benine Neto

Physique : Slovaquie, Pérou, franco-canadien, Nouvelle Calédonie  
3 sans Maths Exp, 3/14 pas bac 2021

PC: Thaïlande, Roumanie (mais semblent français), Réunion  
1 sans MExp, 5/9 pas bac 2021

Spl: Esp, Brésil, Brésil, Mada, Portugal, Allemand, plus d'autres ayant vécu ailleurs  
6/11 pas bac 2021, 2 sans MExp (parmi les bac 2021)  
Très bon cru.

Maths: Nicaragua, Madagascar, 2 Réunion puis d'autres ayant vécu ailleurs  
1 sans MExp, 1 Bac ES, 5/11 pas bac 2021  
groupe intéressant

Info: Allemagne, Espagne, Tunisie, et d'autres ayant vécu un an ou plus à l'étranger.  
niveaux maths/prog très divers. 5/14 pas bac 2021

Chimie: assez français mais avec au moins 3 étudiants venant de familles partiellement étrangères.  
Diversité en niveau de maths. seulement 2 garçons. 3/12 pas bac 2021

Bio : Un espagnol, 2 expatriés (1 en Espagne et 1 au Qatar)

Au total sur 71 étudiants,  
-- 27 bac français pre-2021  
-- ~10 vrais étudiants internationaux  
-- encore ~10 ayant vécu ailleurs (une ou plusieurs années)

==> groupe assez international.

*Stratégie lycée français à l'étranger payante.*

Bémol : plusieurs étudiants étrangers en haut de la liste ont choisi autre chose



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