

Point sur la formation dans CLAND

Philippe Bousquet, Jean Christophe Bureau,
John Bazire, Estelle Fournel



Cland On *Instituts de Convergence ...*

- *Rassembler, dans un partenariat organisé en un lieu donné, des compétences de recherche diversifiées visant à produire des savoirs nouveaux par la mobilisation conjointe de différentes compétences disciplinaires ;*
- *Développer, en lien avec ces recherches interdisciplinaires, des **formations** d'excellence innovantes aux niveaux master et doctorat, en formation initiale comme en formation continue ;*
- *Déployer dans la durée une dynamique de structuration autour de l'enjeu principal du centre, appuyée sur une ambition scientifique de haut niveau international, sur une véritable stratégie d'emploi scientifique...*

CHALLENGE 1 - LAND-BASED CLIMATE MITIGATION

Research line 1.1 - Reducing GHG emissions in the land-use sector, in support of the Paris Agreement

Research line 1.2 - Impact of land-based carbon dioxide removal on climate and the environment

Research line 1.3 - Consistent scenarios for the role of agriculture and managed forests in climate mitigation

CHALLENGE 2 - FOOD, WATER AND BIONERGY SECURITY UNDER CLIMATE CHANGE

Research line 2.1 - Effect of recent climate change (trends and extremes) on crop and livestock production

Research line 2.2 - Optimizing food production systems under climate and environmental pressure

Research line 2.3 - Optimizing forest management under climate pressure

CHALLENGE 3. THE TRANSITION TOWARDS INTEGRATED LAND MANAGEMENT

Research line 3.1 - Mapping conditions for robust and sustainable articulation of the multiple roles of land

Research line 3.2 - Policy options for transitioning to sustainable land-use futures

Research line 3.3 - Conditions for kick-starting the transition

6 master programmes, with more than 500 students in master 2 :

- Agro-sciences, Environment, Territory, Landscape, Forest (AEPTF) 4 pathways (70 students)
- Biodiversity, Ecology, Evolution (BEE), 11 pathways (120 students)
- Environmental, Energy, and Transport Economics (EEET) 3 pathways (100 students)
- Land Management and Community Development (GTDL) 3 pathways (60 students)
- Earth and Planetary Sciences, Environment (STePE) 7 pathways (120 students)
- Social Sciences (Soc. Sc.) with a contribution on environment (50 students)

6 Doctoral schools:

- Sciences de l'environnement d'Ile de France (SEIF)
- Agriculture, alimentation, biologie, environnement, santé (ABIES),
- Sciences du végétal (SDV),
- Sciences mécaniques et énergétiques, matériaux et géosciences (SMEMaG),
- Sciences de l'Homme et de la Société (SHS),
- Structure et dynamique des systèmes vivants (SDSV)

Do not forget as well :

- Maison des Sciences de l'Homme (séminaires, Culture of Nature)
- Alternance training in particular with CFA from IFP Schools
- Professional PhD ?

- Driven by the education committee
- Education committee validated by the steering committee
- Composition :
 - 1 representant per master programme
 - 1 representant per doctoral school
 - 1 representant per research unit
 - Education coordinator(s)
 - Education assistant (to be hired by the project)
 - Head of CLAND or its representant
- At least 50% professors or assistant professors
- Renewed by half every 2/3 years
- Reporting to the Steering committee
- Meetings : 3-4 per year, possibly *skype* for some of them (2 meetings done and the third next week)

Task 1 : Identification or development of research-based International graduate tracks:

- Identification of modules within the existing master pathways or creation of modules, as numerical resources in French and English
- Labeling of the pathways for student following this track (modules from their pathway + a number of additional modules)
- Promotion of double diplomas whenever it is possible and relevant
- Coordination of European Marie Curie ITN programmes

Work done :

- Listing of all teaching units related to CLAND topics in the master programs
- Attribution of the relevant teaching unit to the three challenges of CLAND
- Identification of master tracks related to CLAND challenges starting next week

M2	Course title	EC	TS	CM	TD	TP	Relevance to CLAND (put a "x" when relevant)		
							Challenge 1	Challenge 2	Challenge 3
CLUE S	Biogeochemical cycles and surface-atmosphere exchanges and interactions : global scale	3	30h	-	-		x		
CLUE S	Biosphere-Atmosphere interactions at local scale	3	12h	12h	6h				
CLUE S	Climatic system- Introduction to atmospheric dynamics and energetics	3	20h	8h	-				
CLUE S	Agronomy for global issues	3	13h	10h	-		x		
CLUE S	Land-use engineering for the provision of climate and environmental services	3	21h	6h	-				
CLUE S	Public policy for climate and environmental regulation	1	15h	-	-				
CLUE S	Global ecosystem responses to climate change	3	18h	6h	-		x		
CLUE S	Integrated assessment of ecosystem services:tools and processes	5	24h	15h	-				
CLUE S	Natural resources, food security and poverty alleviation	3	21h	6h	-	x	x	x	
CLUE S	Land-use planning and agriculture in peri-urban areas	3	12h	12h	-				x
CLUE S	Understanding and managing soil organic matter for ecosystem services delivery	3	12h	7h	-	x			
CLUE S	Integrative project	3	5h	5h	-	x	x	x	



Espace Pédagogique Commun sur l'Environnement (EPCE)
Université Paris-Saclay

Accueil Descriptif des UE Organisation/Planning

Recherche ... Recherche

Actualités

Attention horaire du cours "Eau, sol, sous-sol" du 16/11
Posted on: Sep 27th, 2017
Le cours du 16 novembre 2017 débutera...

Choix des sujets projets UE
Grands Défis pour l'Environnement : projet pluridisciplinaire
Posted on: Sep 10th, 2017
Tableau GD2 avec sujet 2017-2018 version du...

Présentation des UEs "conférences" et UE Grand Défis : projet
Posted on: Sep 22nd, 2016
Conférences de l'EPCE : UE Conférences Enjeux...

Conférences

Planning des conférences 2017-2018

Descriptif des UE

Ci-dessous le descriptif des UEs (contenus, objectifs,...).

- [Cycle de conférences Enjeux BASE](#)
- [Cycle de Conférences Environnement](#)
- [Droit de l'environnement](#)
- [Ecologie et Ecosystèmes](#)
- [Economie de l'environnement](#)
- [Epistémologies et éthiques de l'environnement et du développement](#)
- [Grands défis pour l'environnement : projet pluridisciplinaire](#)
- [Pollutions physiques et chimiques](#)
- [Santé et écotoxicologie](#)
- [Sols, sous-sol, eau](#)
- [Système climatique](#)

Task 2 : Linking Research to education

- Organisation of international workshops / summer schools with PKU, CAAS and IIASA;
- Organisation of individual MSc and doctoral projects with the research projects supported by CLAND.
- Mentoring of students by scientific staff and by other students.

Work done

- Thematic schools from 27th to 28th of November 2018 (with SOFIE , *in Paris*)
- Two workshops planned with participation of master students :
 - Emerging challenges in large scale soil carbon sequestration, from October 8th to 10th proposed by B. Guenet, B. Gabrielle and C. Chenu
 - Forecasting crop yields from data, models and expert knowledge including a data challenge from December 6th to 7th proposed by D. Makowski
 - Proposition of a two other workshops :
 - Spatial Econometrics and Statistics by Raja Chakir
 - Markets and climate change by Christophe Gouel

Crop Data Challenge 2018 : Prediction of agricultural yields

Objectives

- To Compare the performance of statistical methods and machine learning to predict crop yields
- To promote knowledge exchange around prediction methods for agricultural education and applications

A simple procedure

- Pick up a challenge (two challenges are proposed, one on wheat and one on corn)
- Develop your prediction algorithm from the training dataset
- Submit your online predictions for the test dataset
- Get rewarded if you win the challenge !

Task 3 : Linking Industry to education:

- Involvement of staff from the private sector staff in teaching (seminars) and student mentoring;
- Development of personal research and entrepreneurship projects to students for their MSc thesis, defined with private sector partners and with the Climate KIC education pillar
- Mentoring of students by industrial partners

Work done

- This task has not started yet

Task 4 : Supporting graduate education:

- Offer Msc. mobility grants both to attract students in CLAND masters and allow students to make internship in international partners of CLAND
- Offer doctoral grants to the best MSc. students, with 3 full grants per year (and up to 6 ½ grants)
- Support the development of joint courses and pathways between Grandes Ecoles and Universities within UPSaclay in order to bridge the gap between the two types of institution.

Work done

- **6 PhD grants** attributed by the COMEX (10 phd students) to be started in 2018 and 2019.
- Campaign to attribute **4 master grants** starting next week (deadline for subject application November 15th) for internship next spring. Mailing with the template to fill next week.

Task 5: Promoting renewed learning methods:

- Developing and supporting e-learning developments
- Promoting active learning methods for students and their professors, such as inverted classroom, problem-based approaches, group project work, and interdisciplinary workshops and thematic schools.

Work done

- This task will first support the development of master tracks as online resources (task 1)

- Promote a full & consistent federation of masters on climate and environment in Ile de France, based on multilingual resources when necessary
- Propose integrated master+PhD pathways for early-identified excellent students ?
- Build/reinforce a full international pathway and make it attractive (still built on existing programmes) ?
- Coordinate ITN projects. Who ?
- More ...



Cland ... and its environment

A possible synthesis on the education side for

a federation of masters on climate and environment
In Ile de France

- \$\$\$ Funding
- Masters

