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PhD PROGRAMME **FLUVIO**

RIVER RESTORATION AND MANAGEMENT

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1. Introduction

FLUVIO is an international Ph.D. programme funded by FCT, the Portuguese Science & Technology Foundation. The consortium comprises two faculties of the University of Lisbon (Instituto Superior de Agronomia and Instituto Superior Técnico), three other universities (University of Environmental and Life Sciences of Vienna, Universidade Politécnica de Madrid, Spain and Universidade Federal da Bahia, Brazil) and two companies (Katopodis Ecohydraulics of Canada and Environmental Consultants Klagenfurt, Austria; ECK). The University of Environmental and Life Sciences of Vienna (BOKU) joined the consortium in the second year of the programme, having signed a contract amendment. All information concerning FLUVIO management and governance, and FLUVIO consortium members and elements, is available in http://www.isa.ulisboa.pt/ensino/pd-f/fluvio.

The first cohort of FLUVIO students was recruited between October 2013 and January 2014, in time for university semester starting February 2014. The second cohort was recruited during the period of this Report (ranking based on education, experience, and research productivity and interview in-person or by Skype, as previous), in time for the university semester starting February 2016. This interim report refers to the period between July 2015 and September 2016, and reports the actions held by the consortium and the evolution of the first and second cohort of students.

2. Management and governance

The FLUVIO programme is managed by three Committees: Coordination (CCFLUVIO), Scientific (SCFLUVIO) and Advisory (ACFLUVIO). The CCFLUVIO has a day-to-day operational or administrative role. The SCFLUVIO supervises the scientific aspects through close contact with supervisors and students (study design, data collection and management, data analyses, research presentations and publications). The ACFLUVIO acts as an external observer and overall program reviewer. Currently, ACFLUVIO members are: Robert M. Hughes (Chair, Oregon State University, USA); Nuno Portal (EDP, Portugal); Rui Cortes (University of Trás-os-Montes e Alto Douro, Portugal); Felix Frances (University of Valencia, Spain); Toni Munne (Catalan Water Agency, Spain); and Stephanne Stroffek (Agence de

l'Eau Rhône Méditerranée et Corse, France). At the kick-off meeting, it was decided to bring a Brazilian member into the Committee (Prof. Paulo Pompeu, Universidade Federal de Lavras).

The consortium presently enlists about 30 researchers from the seven institutions, able to supervise theses according to FLUVIO proposal rules, plus a variable number of post-doctoral fellows, also able to contribute to supervising. All PhD supervisory is mixed, with a supervisor from a Portuguese institution and a supervisory from at least an international university of the consortium. Most supervisory committees also have as third element, usually a post-doc fellow. The supervisor teams, once proposed and accepted by one of the Portuguese institutions, have a determinant role in the conduction of the PhD working plan. They respond directly to SCFLUVIO for the progression of the thesis plans (Figure 1, updated from 1st report).

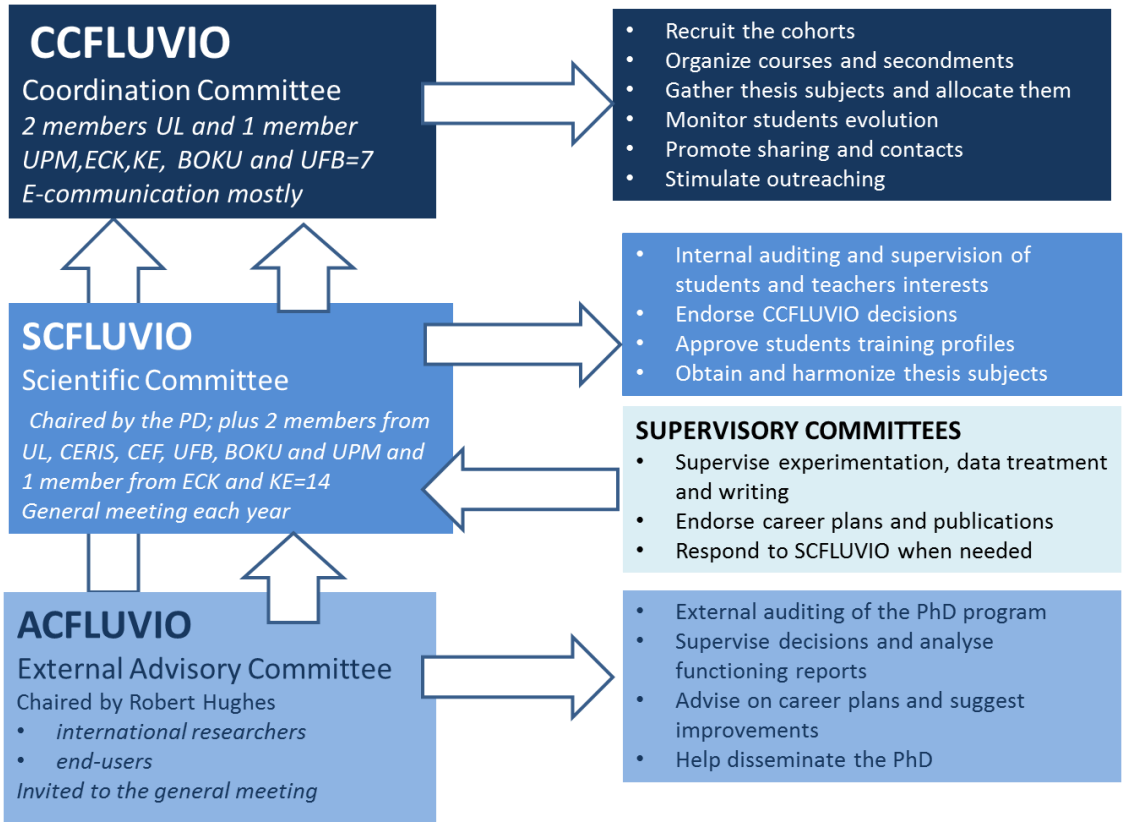

Figure 1. FLUVIO governance structure and its role (updated from 1st Report)

3. Second cohort recruitment

3.1. Candidate eligibility

For this second cohort, we decided to increase the details of the research themes that the students would be applying to, so that the candidate profiles already aimed at the themes. The purpose was to improve the adequacy of the couplet candidate-theme, considering the previous background of the candidates.

We first made an internal call to all potential FLUVIO supervisors, 30 researchers and 15 post-doc fellows, asking a paragraph explaining the subject, where it would be developed, in which conditions and what type of scientific break-through would be expected at the end. We held a CCFLUVIO meeting to decide the best candidate themes, considering the demand for mixed supervisory between consortium institutions and the working conditions offered. We also took into account the closeness between proposed themes and the core subject of the PhD programme.

Nine proposals were considered eligible for theses development and the list of requirements for these publicized in http://www.isa.ulisboa.pt/ensino/pf-f/fluvio, in http://www.eracareers.pt/ and in several sites of scientific societies and universities. Furthermore, FLUVIO and institutional contacts were also used. Recruitment was opened in the period 15 May to 15 July 2015.

List of proposed PhD themes (in http://www.isa.ulisboa.pt/ensino/pd-f/fluvio/themes):

Theme 1 – *"Integrated flow management incorporating human uses and river conservation". Main supervisor: Luis Garrote, UPM.*

General goal is maximizing water resource performance while minimizing ecological impacts on fluvial ecosystems. Specific objectives: a) To assess the impact on water resource system performance and to assess the ecological impact on the fluvial system, of applying different management strategies and policies and implementing different ecological flows; and b) To propose measures towards integrated and sustainable management of fluvial systems (i.e., ecological, economic and social, among others) accounting for different climate change scenarios.

Preference will be given to holders of Degree in Environmental Engineering, Agronomic Engineering, Civil Engineering, Forest Engineering. Sound knowledge of hydrology, water resources management and ecology is required. Basic knowledge of Matlab and Informatics is preferred.

Theme 2 – *"Mitigation of hydropeaking impacts on fish: towards sustainable hydropower management". Main supervisor: António Pinheiro, IST-U Lisboa.*

Objective: To assess the effects of peak flows and daily and seasonal flow patterns on cyprinid movements and behaviors to propose guidelines for hydropower operation and sustainable use of hydropower.

Preference will be given to holders of: M.Sc. Degree in Environmental Engineering, Civil Engineering, Forestry Engineering, or Biology. The candidate should have a sound knowledge of hydraulics, hydrology, and ecology.

***Theme 3 –** "Advanced eutrophication management and sustainable phosphorus recovery". Main supervisor: António Guerreiro de Brito, ISA-U Lisboa.*

The target of this research is to develop an innovative process able to recover phosphorus from aquatic systems using natural substrates and to develop a new strategy for P-related eutrophication management in riverine systems. The idea is to control eutrophication by action upon aquatic environment internal sources and to obtain a valuable and cost-effective P source.

M.Sc. in Materials Science, Materials Engineering, Chemistry, or Physics is mandatory. Good skills in advanced lab research work are preferred.

***Theme 4 –** "Modelling the interactions of riparian vegetation and fluvial processes". Main supervisor: Gregory Egger, Klagenfurt Environmental Consultants.*

The goal is to set up a spatial explicit, process based, dynamic floodplain vegetation model that integrates the interaction of physical habitat parameters of riparian ecosystems and the lon term development of floodplain vegetation. The main innovative issue will be the combination of the existing expert based concepts of succession models CASIMIR vegetation with competition- and stress-controlled growth model concepts of functional plant types.

The student needs an advanced experience in programming and GIS/geoinformatic. She/he has to have also ecological basic knowledge in floodplain vegetation, riparian and river ecology, hydrology, hydraulics and river morphodynamics.

***Theme 5 –** "Effects of interactions between hydrological and morphological rehabilitation measures on fish assemblages". Main supervisor: Stefan Schmutz, BOKU, Vienna.*

Fish are proven responsive indicators of the effects of both environmental flows and habitat rehabilitation. Riverine fish and their life stages respond to a wide range of flow and habitat characteristics, and, therefore, can be used as model organisms to investigate functional responses of biota to rehabilitation measures. The following research questions will be investigated: What are the single and combined effects of flow and habitat rehabilitation measures for alpine fish communities? Which fish species and life stages are most sensitive to effects resulting from interactions between flow and habitat rehabilitation measures?

For this topic a basic education in aquatic ecology, fish ecology, or similar topics in environmental science are required, especially in hydrology, and river morphology. Experience in field surveys, habitat mapping, flow measurements, and fish sampling are beneficial, as well as habitat modelling. Good skills in experimental design and statistics (preferably R) are required.

***Theme 6 –** "Understanding the interaction of hydromorphological restoration measures and other human pressures on nutrient cycling and GHG emissions". Main supervisor: Thomas Hein, BOKU Vienna.*

The aim of this PhD research is to improve the understanding of the coupling between changes in the hydromorphological regime and the ecosystem response in terms of the interlinked carbon and nitrogen cycles along the water and sediment interface and along the aquatic – terrestrial boundary. The following

research questions will be investigated: To what extent are C and N cycles along aquatic / terrestrial interfaces controlled by changes in flow regime? What are the effects of increased connectivity on nutrient retention capacity and microbial uptake processes leading to changes in end products and intermediate products in riverine landscapes? Field observations and experimental approaches will be combined with modelling activities.

For this topic a basic education in aquatic ecology, biogeochemistry of aquatic systems, or similar topics in environmental science are required, especially in hydrology, general ecology, and elemental cycles in ecosystems. Research experience with stable isotopes and nutrient and carbon cycling are of advantage. Experience and good skills in laboratory work are necessary as is basic knowledge in experimental research.

Theme 7 – *"Distribution of potamal invertebrates in large European rivers: zoogeographic implications, current status, perspectives". Main supervisor: Wolfram Graf, BOKU, Vienna.*

The research objective focuses on species loss and replacement of macroinvertebrates in large rivers of Europe based on the comparison of historical and recent data. We hypothesize that the faunal pool of large rivers is comparable over wide geographical ranges at the genus level and that the indigenous faunas have been replaced by euryoecious species and/or neobiota with relatively wide ecological niches. We assume that the occurrence of specific species (indicators) is linked to specific ecosystem functions and their loss is linked to distinct biodiversity losses. Further, we suppose a shift of the indigenous elements towards Eastern Europe. Within the frame of the multiple stressor set we will identify ecological processes essential for large rivers to build a basis for conserving and rehabilitation of large European rivers.

Students should enjoy field work, have a good understanding of ecological processes and basic knowledge of benthic invertebrate taxonomy and ecology. The academic background must include statistic skills.

Theme 8 – *"Restoring fish passage at river obstacles: a multispecies approach". Main supervisor: Jose Maria Santos, ISA-U Lisboa.*

The research objective is focused on the restoration of fish passage at river obstacles using a multispecies approach. The main objective is to assess the effects of small instream structures on fish movements, particularly their ability to negotiate distinct physical and hydraulic obstacles, and to develop guidelines for improving existing, and designing new, fishways for the passage of multiple species and size classes.

A background in ecology or related field is required. He/she also should have published at least one ISI paper as the leading author. Priority will be given to applicants with previous experience working with freshwater fishes, particularly in ecohydraulics projects.

Theme 9 – *"Ethohydraulic characterization of fish ways: estimation of findability and passability, using hydraulic and biological methods". Main supervisor: Martin Schletterer, TIWAG-Tiroler Wasserkraft AG.*

The objective of this research is to analyze fish passage through river barriers. Field work will take place at hydropower plants in Austria: Langkampfen power station and Prutz power station (with Runserau weir and Wenns water intake). Research developments include: 1) documenting fish migration abundance, species composition, interannual changes, and the effects of recently established fishways on fish stocks, 2) slots fishway efficiency using an ethohydraulics approach, 3) downstream hydrodynamic characteristics most adequate for fish to be attracted and to find the entrance of the fishway and 4) a review on fish lift conditions and efficiency at global scale, with comparison of different lifts (Portugal, France, Switzerland, Germany, Austria, Russia...).

Student profile preferences includes basic knowledge on free surface hydraulics and fish ecology, being acquainted with 1D or 2D hydrodynamic models, and/or having experience in fish monitoring.

A total of 21 applications were received. All documents and requirements were checked. Amandine Gameiro was discarded due to lack of the necessary documentation. Susana Amaral send a letter indicating her desistence. The remaining 19 candidates were considered eligible and accepted for evaluation.

Eligible applicants should hold a MSc degree or equivalent, obtained in either a Portuguese university or a foreign one, with a total of 300 ECTS, or equivalent in the case of non-European institutions (Nº 1 of Article 30º of Decree-Law nº 74/2006, March 24th, modified by Decree-law nº 107/2008, June 25th and Decree-law 230/2009, September 14th). Furthermore, candidates should have a minimum average grade of 14 out of 20**,** or in the case this condition is not met, have at least one publication as first author**,** in an ISI peer-reviewed journal, with upload pdf mandatory. Students from other educational systems should be within the 70th percentile of their educational system.

3.2 CV evaluation

The evaluation followed the criteria indicated in call. For the first phase, the following criteria were adopted:

1. Merit of the educational background and adequacy of scientific training

Grades were scored according to Table 1. Candidates with both a 5-year BSc and an MSc were given an additional score (1 point).

Table 1. Scoring of the educational background

Background (≥300 ECTS)	Grade
≥ 17	35
16	30
15	25
15	20
14	15
< 14	10

2) Number of publications in peer-reviewed journals

Only publications quoted in Scopus (http://www.scimagojr.com) and WoK (http://apps.webofknowledge.com) were considered. First and other authorships were distinguished (10 points per article as first author, and 5 points per article as co-author), until de maximum of 30 points (3 or more articles). Due to their recent publication, the citations of the papers were not considered for the scoring.

3) Participation in projects and research activities

A scoring was created to quantify the participation, up to 10 points: 0 points - No participation in research project or research activities; 3 points – participation in projects or activities non-related to the subject or non-research; 6 points - 1 participation in research project or activity; 10 points - more than 1 participation in research project or activity.

4) Publication in book chapters, non-indexed journals and reports

The adopted scoring was 1-2 publications – 2 points; 3-4 publications – 4 points; 5-6 publications – 6 points; 7-8 publications – 8 points; >8 publications – 10 points.

5) Participation in national and international scientific meetings

The adopted scoring was: no active participations - 0 points; fair active participation- 5 points; significant active participation – 10 points.

Finally, a supplementary value was given to account for the centering of the candidates' background to the core subject of FLUVIO, river restoration and management. The adopted scoring was: not related – 0 points; fairly related – 5 points; highly related – 10 points.

Candidates were ranked after summing the scores. The 13 candidates with the highest rank were selected for interviewing, and were distributed by the themes they had chosen.

The result of Phase 1 is in Table 2. A letter was send to each candidate informing about the decision and their scores, and how to prepare for the 2nd phase.

Combining the rank of choices and the rank of final grades, themes 1 to 8 were considered as having adequate candidates. Theme 9 only had three candidates of third choice, therefore CCFLUVIO decided it would not be developed. However, we will attempt that the

working programme proposed in theme 9 will be developed, at least partially, in the closest themes 2 and 8. José Maria Santos was substituted in Theme 8 by Paulo Branco as main supervisor (both post-doc fellows). A total of 2 to 6 candidates per theme was interviewed in the second phase.

Table 2. Distribution of candidates per theme. Colors indicate candidate' choices. Numbers indicate candidate's final grade. Theme responsible and institutions also indicated.

	1	2	3	4	5	6	7	8	9				
CANDIDATES	Integrated flow management incorporating human uses and river conservation	Mitigation of hydropeaking impacts on fish: towards sustainable hydropower management	Advanced eutrophication management and sustainable phosphorus recovery	Modelling the interactions of riparian vegetation and fluvial processes	Effects of interactions between hydrological and morphological rehabilitation measures on fish assemblages	Understanding the interaction of hydromorphological restoration measures and other human pressures on nutrient cycling and GHG emissions	Distribution of potamal invertebrates in large European rivers: zoogeographic implications, current status, perspectives	Restoring fish passage at river obstacles: a multispecies approach	Ethohydraulic characterization of fish ways: estimation of findability and passability, using hydraulic and biological methods	FINAL GRADE 1st PHASE			
Paula Quiterio			77			77			77	77			
Kai Chen							64			64			
Alban Kuriqi	63	63			63					63			
Renata Pinto	55		55			55				55			
Carla Fernandes		52				52	52			52			
Mario Eckert					48			48	48	48			
Daniel Hays					48			48	48	48			
Miguel Moreira	47									47			
Konstantin Ochs	46			46						46			
João Rua				43						43			
Artur Santos	42			42						42			
Denis Rodrigues			41			41				41			
Ingrid Maldonado	40	40					40			40			
Luis Dorantes										38	do not go to 2nd phase		
Andrea Masseti										36	do not go to 2nd phase		
Marta Alves										27	do not go to 2nd phase		
Ivana Zanovska										20	do not go to 2nd phase		
Jeremy tormos										20	do not go to 2nd phase		
Inês Marques										10	do not go to 2nd phase		
candidates for interview	6	4	4	3	4	4	3	2	3				
Interview responsible	Alvaro Sordo	António Pinheiro/ Martin Schletterer	António Guerreiro	Gregory Egger	Stefan Schmutz	Thomas Hein	Wolf Graf	Paulo Branco/Martin Schletterer					
Institutions	UPM/IST	IST/TIAWAG	ISA/BOKU	ECK/ISA	BOKU/ISA	BOKU/ISA	BOKU/ISA	ISA/TIAWAG					
	1st choice												
	2nd choice												
	3rd choice												

3.3. Interviews

The interviews were conducted in presence or via skype, individually, in English. For each theme, there was an interview responsible (Table 3). The presence of three elements of the FLUVIO list of members in each interview was obligatory. Dates and hours of interviews

circulated between CCFLUVIO, in case other members wanted to be present and ask specific questions.

Each applicant gave a short presentation (5-10 min) in English of his/her scientific background, skills and motivation for FLUVIO attendance and selection of themes.

The interview evaluation scored four aspects defined by CCFLUVIO and the call: a) quality and deepness of the presentation, b) Exchange of ideas during the interview and candidate's motivation (including the analysis of the motivation letter), c) English fluency. A last score was given to the adequacy of the background concerning the specific theme being addressed (CV). For each aspect a score of 0 (minimum) to 10 (maximum) points was attributed to the candidate, with a total of 40 points. Paula Quitério and Carla Fernandes gave up before the interview. The minutes/summary of the interviews for each theme were send to the Programme Director by the designated responsible, indicating the FLUVIO elements present and the scoring per aspect and candidate (Table 3).

Altogether, 23 interviews were conducted for the 11 candidates. Two to five candidates remained for each theme. The final grade for each candidate was the sum of phases 1 and 2. The themes were attributed to the candidates summing the highest score and considering the themes' preference indicated by the candidates (Table 4). This second phase was finished by the end of October 2015.

Table 3. Scoring of the second phase and final score

Theme	Candidates interviewed	JURY members	1st PHASE	Quality of presentation	Interview and motivation	English fluency	Background fitness	FINAL SCORE
1	Alban Kuriqi	Alvaro Sordo Luis Garrote Dolores Berjerano	65	8	9	8	10	100
1	Renata Pinto	Alvaro Sordo Luis Garrote Dolores Berjerano	55	8	7	8	7	85
1	Miguel Moreira	Alvaro Sordo Luis Garrote Dolores Berjerano	47	8	8	8	5	76
1	Konstantin Ochs	Alvaro Sordo Luis Garrote Dolores Berjerano	45	10	10	10	7	82
1	Artur Santos	Alvaro Sordo Luis Garrote Dolores Berjerano	42	8	7	8	5	70

1	Ingrid Maldonado	Alvaro Sordo Luis Garrote Dolores Berjerano	40	8	7	7	4	66
2	Alban Kuriqi	Antonio Pinheiro Isabel Boavida Martin Schletterer	65	7	9	10	10	101
2	Ingrid Maldonado	Antonio Pinheiro Isabel Boavida Martin Schletterer	40	9	7	7	8	71
3	Renata Pinto	António G Brito Thomas Hein Teresa Ferreira	55	5	5	10	5	80
3	Denis Rodrigues	António G Brito Thomas Hein Teresa Ferreira	41	10	10	10	10	81
4	Konstantin Ochs	Teresa Ferreira Gregory Egger António Brito	45	9	10	10	10	84
4	João Rua	Teresa Ferreira Gregory Egger António Brito	43	6	7	8	8	72
4	Artur Santos	Teresa Ferreira Gregory Egger António Brito	42	6	9	9	6	72
5	Alban Kuriqui	Stefan Schmutz Thomas Hein Wolfram Graf	65	7	7	7	5	91
5	Mario Eckert	Stefan Schmutz Teresa Ferreira Paulo Branco	48	6	8	7	7	76
5	Daniel Hays	Stefan Schmutz Teresa Ferreira Paulo Branco	48	9	9	10	10	86
6	Renata Pinto	António G Brito Thomas Hein Teresa Ferreira	55	10	10	10	10	95
6	Denis Rodrigues	António G Brito Thomas Hein Teresa Ferreira	41	5	5	10	5	66
7	Kai Chen	Stefan Schmutz Thomas Hein Wolfram Graf	64	10	8	10	9	101
7	Ingrid Maldonado	Stefan Schmutz Thomas Hein Wolfram Graf	40	8	7	8	7	70
8	Mario Eckert	Stefan Schmutz Teresa Ferreira Paulo Branco	48	8	10	10	9	85
8	Daniel Hays	Stefan Schmutz Teresa Ferreira Paulo Branco	48	9	8	10	8	83

The candidates Kai Chen and Ingrid Maldonado gave up due to the administrative complexity of the admission process of the grants. As a result, the supervisor Wolfram Graf

from BOKU gave up the theme and the supervisory. Finally, the candidates Miguel Moreira was accepted for theme 2 and Artur Santos for a new theme opened, concerning riparian buffer optimization, with Teresa Ferreira as main supervisor. Figure 2 shows the group of successful students.

Table 4. Distribution of final selected candidates per themes and supervisors

ndidates selected	Theme	Choice priority	Main supervisor	Other supervisors	Final Maximum Scoring
Alban Kuriqui	1	1	Luis Moreno	António Pinheiro Alvaro Sordo	100
Renata Pinto	6	1	Thomas Hein	António Brito	95
Daniel Hays	5	1	Stefan Schmutz	Teresa Ferreira	86
Mario Eckert	8	1	Paulo Branco	Stefan Schmutz	85
Konstantin Ochs	4	2	Gregory Egger	Gregory Egger Teresa Ferreira	84
Denis Rodrigues	3	1	António Brito	Thomas Hein	81
Miguel Moreira	2	3	António Pinheiro	Isabel Boavida Martin Schletterer	76
Artur Santos	4	2	Teresa Ferreira	Daniel Hering Rosário Fernandes	72

Figure 2. FLUVIO students from the second cohort at the second annual meeting plus a student from SUSFOR FTC-program working in riparian ecology theme

4. Training and pathways

4.1. Course pathway for the second cohort

From the experience of the first cohort, it was clear that the major difficulty in the students' evaluations of the courses is the students' heterogeneous scientific backgrounds and the different requirements of different themes. For example, in a hydraulics class, there can be biology students with no knowledge of hydraulics, together with students with a strong hydraulic engineering background. In a river ecology class, there can be students from hydraulic engineering with no knowledge of ecology. Nevertheless, for both types of students to develop their thesis properly, they need to be able to understand both types of subjects, though not at the same depth of knowledge.

Such differing student backgrounds and educational needs make teaching such classes very difficult; but the tacking of such scientific interfaces is also the key feature and asset of FLUVIO. Therefore, we adjusted our teaching methods, course content development, required readings, laboratory and field exercises, and student-faculty interactions to accommodate those differing student backgrounds and needs.

Table 5. FLUVIO student's pathway for the second cohort - 2015

	PT (1)	PT (2)	PT (3)	SP (4)	AU (5)	Seminar (6)
Artur Santos	X	X	X	X	X	X
Denis Rodrigues	X	X	X	X	X	X
Daniel Hayes	X	X	X	X	X	X
Konstantin Kochs	X	X	X	X	X	X
Renata S Pinto	X	X	X	X	X	X
Mario Eckert	X	X	X	X	X	X
Alban Kuriqi	X	X	X	X	X	X
Miguel Moreira	X	X	X	X	X	X

(1) River Ecosystem Functioning and Monitoring (IST mandatory)
(2) Land Use and Water Management (ISA)
(3) River modelling and Ecohydraulics (IST mandatory)
(4) Hydromorphological and Habitat Restoration (UPM)
(5) River Conservation under Managed Flows (ECK, practicum)
(6) Seminar (ISA and IST, mandatory)

The courses for this cohort were organized considering the following: a) a need to optimize the courses by concentrating the students in less but core subjects – ecohydraulics, ecohydrology and ecology, b) the advantage of having the courses concentrated in the first year of the programme, thereby increasing the period for thesis development, c) the emphasis in this cohort for students associated to Spanish and Austrian supervisors and thesis' developments on those countries and d) the comments received on the internal evaluation of the courses by the students from the 1st cohort. Table 4 indicates the courses followed by the second cohort.

As example of improvements, the course Land Use and Water Management became more applied (including a SWAT model application) and included a part on hydrological concepts, the course River Conservation under Managed Flows included a practicum on the Tyrol region related with fish passes in several dams, and the course River Ecosystem Functioning and Monitoring included practical classes with a training of science writing using a non-published example and real scientific data gathering. As a result, some of the work developed in this course is already being submitted to publication.

The complementary funds from FCT to back-up the PhD programme arrived in the end of 2015. Contrarily to the 1st cohort, this cohort had no financial issues, therefore it could travel to the countries to follow the theoretical and field courses and likewise, supervisors or teachers could come to Portugal and have part of the courses here.

Overall, it was very difficult for non-European students to get through the contract process, which requires a residency term in Portugal, and therefore we lost two very good candidates, from Peru and China, though we were able to retain those from Europe. In this second recruitment, Brazil and Canada supervisory was under-represented and if a new cohort is granted, we should try to obtain again the excellent enrollment these countries provided for the first cohort. Also, we would like to promote the recruitment of Brazilian students and in general terms, to obtain a large sample of recruits.

Lisbon, 12 September 2016

Maria Teresa Ferreira, FLUVIO PD