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5.1 EXECUTIVE COMMITTEE DESCRIPTION

5.1.1 Pr Luc Aquilina / Director

55 yrs old

Married, 3 grown up and great childrens



Carrier : 18 yrs as full professor in Géosciences Rennes, Rennes1 Univ. after 7 yrs in the French Geological Survey

Skills : groundwater geochemistry, groundwater dating, microbial ecology, socio-hydrogeology

Management : International laboratory France-Quebec RE-SO

Water Science Master degree

Vice Director and Director of the CAREN Research federation (6 labs, 400 persons),

UVED e-learning University president

17 national and European project management [2000-2016] representing ~2 M €

Research activities [1994-2016]

92 per-reviewed publications (50-1st or 2nd author - 3.6 / yr, 6/yr during the last years)

20 technical publications, 1 patent / 16 Ph.D. directions [2000-2018]

1,700 to 2,200 citations, H index 23 to 27 (Research Gate / Google Scholar)

I have been working on modern and past fluid migrations within the continental crust within various context (subduction zones, geothermal Hot dry Rock site, deep nuclear waste sites). Recently I carried out investigations at the scale of Brittany, demonstrating past climate changes record within groundwater [Aquilina et al., 2015, *Nature-Scientific Reports*].

I have developed in Rennes a project on the hydrobiogeochemical functioning of groundwater within heterogeneous aquifers (fractured aquifers and karsts). I have developed coupling of physical parameters (transfer) and biogeochemical reactivity. I have developed an analysis laboratory allowing the estimation of residence times of water since its recharge by the analysis of dissolved anthropogenic gases, CFC, tritium and SF6. In 2012, I organized a seminar on dating in Rennes, bringing together all the international laboratories of the field in a joint inter-calibration exercise (*Applied Geochemistry Special Issue*, November 2014). This laboratory, now organized in the form of a financially autonomous university platform, This lab is one of the most active and internationally developed laboratories with more than 30 publications and 500 citations over the past five years.

A tight collaboration with microbial ecologists has allowed investigating original relationships between microbial diversity in groundwater and groundwater fluxes. These works have led to striking results with 2 recent publications in *P.N.A.S.* and *Nature Geosciences*.

In recent years, I have been working with human and social science researchers on socio-hydrosystems. These works were developed on the metropolis of Recife (Brazil), the watersheds 'green algae' of Brittany and the marshes of Cotentin. These approaches require a strong acculturation but open up particularly interesting perspectives for an integrated and sustainable management of water resources.

I have directed on these subjects 16 doctoral theses since 2000. In general, I have constantly sought to develop new partnerships and to open up new scientific perspectives both in the field of research and training.

Training : My courses in Rennes are mainly involved in a Water Science master that I created and managed from 2002. This master includes ecological, geological and physical aspects of water in surface and subsurface as well as water management. I have also created this year a new undergraduate degree in Environmental sciences.

I have been responsible of the numeric campus ENVAM [Environment and Landscaping] and was the first president of UVED [Sustainable Environment numeric University], one of the 6th e-learning Universities in France. I have developed 6 numeric modules and co-directed a MOOC on landscape.

(<https://www.fun-mooc.fr/courses/univrennes1/110001/session01/about>).

Expertize : I have been associate editor of Applied Geochemistry (IP>2.5) from 2004 to 2016 and I am now associate editor of Nature-Scientific Reports (IP>5). I am/was also member of several scientific councils (CNRS-INSU, CNRS division, scientific groups) but also of scientific councils from non scientific organizations such as “Région Bretagne”, “Espace des Sciences” and government “Green Algae” program.

Science dissemination : I have intensive activities of research popularization: public conferences, exhibitions, scientific feast, TV reports, books chapter, school presentations... I have produced several broadcasts and provided the overall steering of a numeric introduction to Environmental Sciences which mobilized 80 researchers.

(https://www.canal-u.tv/recherche/?q=aquilina&submitProgramSearch=Ok&simpleform_submitted=searchbar-form&fromSimpleForm=1)

5.1.2 Dr Patrick Durand / Deputy director (Research)

57 yrs old

Ph.D. in hydrology

Research director INRA

Research activities [1989-2018]

More than 80 peer-reviewed papers

3,000 citations, H index 34 (ResearchGate)



After a PhD and a post doctorate fellowship on hydrological processes and acidification in semi natural ecosystems, I joined INRA where I specialized in agricultural diffuse water pollution, first developing natural tracing approaches to assess the contribution of riparian zones to stream discharge, then focusing on modeling approaches. I developed or contributed to the development of a set of integrated agrohydrological models (TNT, TNT2, INCA, Casimod’N, Nitroscape model) of N dynamics in agricultural catchments, with both scientific and operational applications. I also work on DOC transfer. I have participated to 7 EU projects, coordinated work packages in 3 ANR projects and coordinated 3 scientific projects. Most of these projects, dealing with the consequences of man-made disturbances of hydrological and biogeochemical cycles, had direct implications in terms of policy support.

I am the director of UMR SAS, a research unit of 100 collaborators from INRA and Agrocampus-Ouest working on the impacts of agriculture on the environment and the design of sustainable agricultural landscapes, with a consolidated budget of 5 M€. As co-chair of the scientific comity of CRESEB, I am coordinating the scientific support to the French national plan against algal blooms.

5.1.3 Pr Simon Dufour / Deputy Director (Education)

42 yrs old

Ph.D. in 2005

From 2006 Associate Professor Université Aix Marseille

From 2009 Associate Professor Université Rennes 2



Research activities [2005-2018]

More than 40 peer-reviewed papers (26 during the last 6 yrs)

1,500 citations, H index 20 (ResearchGate)

Simon Dufour obtained a BSc and PhD in geography from the University of Lyon, France. He is currently Associate Professor of geography at Rennes 2 University, where he specializes in research on fluvial landscapes, especially on spatial patterns of riparian buffers at large scale, interactions between vegetation and hydro-geomorphic processes, fluvial landscape evolution, river and floodplain management and restoration, remote sensing uses and ecosystem services.

Simon Dufour is currently the head of the Master degree “Géographie Aménagement Environnement Développement” (Rennes 2 University). This Master degree provides training in Remote sensing tools and environmental management and is one of the master that will be integrated in the EI-master.

5.1.4 Dr Virginie Vergnaud / Deputy Director (Partnership)

38 yrs old

2005 Ph.D. in Environmental sciences

2007 Creation of LADES, innovative company

Research Engineer (Université Rennes 1)



Research activities [2005-2018]

16 peer-reviewed publications, one book chapter

500 citations, H index 14 (ResearchGate)

From 2011, V. Vergnaud is been in charge of research dissemination and project management:

Management of CONDATE-eau Platform (groundwater dating and expertise) including communication, commercialisation, administration, finance management and technical implementation of studies with stakeholders and universities.

Organisation of GDAT-2012 (Groundwater Dating) Workshop : 60 participants, 12 countries.

Management of European projects (Interreg IVa France-Channel-England 3C and CLIMAWAT) including projects setting up, finance, administration management and all the communication strategy and implementation.

5.1.5 Guillaume Pajot / Public sector representative

2006: PhD Economics "Economic approach of carbon sequestration by forests: application to the Landes de Gascogne massif" University of Bordeaux



From 2015: Project manager - Centre of Resources and scientific expertise on water

Animation of interdisciplinary and multi-partner thematic groups (scientific-decision-makers in the field of water): climate change and water, payments for environmental services, eutrophication of freshwater bodies; Animation of the Creseb and Scientific Council (Breizh Cop initiative)

2011-2015: Brittany Region. Definition of the climate strategy of the Region

2007-2010: Macaulay Institute (James Hutton Institute since 2011): researcher on economic aspects of the fight against climate change

2010-2011: Bordeaux University. Researcher on the economic aspects of carbon sequestration by forests

5.1.6 Jean-François Commaille / Private sector representative

65 yrs old
1982 PhD in water sciences
1980 INSA Engineer degree in industrial chemistry – Water



Director Water-Sanitation infrastructures and biomass valorization. SCE Aménagement & Environnement

Jean-François Commaille is President of Bretagne EcoEntreprises. Bretagne Éco-Entreprises is an association whose objective is to promote synergies (access to markets, networking skills, information, training, development and promotion) with companies "producing goods and services to measure, prevent, limit or correct the damage to the environment ". The cluster is now the regional pole for the ecological and energy transition.

5.1.7 Vincent Boschero / Civil Society representative

29 yrs old
Water science graduate Rennes 1



Deputy director of the association Les petits débrouillards [small resourceful] – Western France

Vincent Boschero is a trained hydrogeologist with a degree from the University of Rennes 1. He has focused his career on supporting higher education and disseminating research. His professional career led him to work as a project manager at the French Embassy in Romania, then in the Brittany Regional authorities.

The association Les petits débrouillards is a popular education association to science through science. The little resourceful people are actors in the science-society dialogue and work daily on the social appropriation of science. Present in Rennes and set up in 8 cities in Brittany, the small resourceful people of the West set up scientific mediation actions in the territories using itinerant teaching tools and face-to-face animation.

5.1.8 Nataline Simon / Student representative

26 yrs old

2015: Graduate in hydrology from Rennes 1 University



Nataline Simon realizes her thesis in the Water team (Geosciences Rennes unit) on the subject: Quantification of aquifer-river exchanges by active methods of distributed temperature measurements by optic fiber.

5.2 SIX AXES ANIMATORS

5.2.1 Dr Nathalie Hervé-Fournereau / Axis 1 Water, actors and territories trajectories

51 years old

Ph.D. in 1998

From 1999 Researcher CNRS, IODE 6262 CNRS-University of Rennes 1

From 2012 Research Director IODE 6262 CNRS-University of Rennes 1



Research activities [1997-2018]

My research focuses on European Environmental law, the integration of environmental requirements into European policies and environmental governance. Invested in interdisciplinary research, I study the interactions between Law and scientific knowledge in the field of biodiversity, water and natural resources and the integration of hybrid concepts as ecosystem service, resilience and planetary boundaries into Law.

Author of more 50 articles, I also published several books as *Enterprise and European Environmental Law*, *Voluntary Approaches and Environmental Law* (dir.), *From innovation to use of nanotechnology* (co-dir.), *Indigenous peoples and regional integration: for a rethinking sustainability of biodiversity and natural resources* (co-dir.)

I am involved in several research projects (on biodiversity & landscape, on nanotechnologies, on water issues & alternatives to pesticides use (...)). I am also in charge of the organization of 24 national & international colloquium/workshops. I coordinated the multidisciplinary network BIODISCEE "Biodiversity, Law and ecosystem services" of the Institute of Ecology and the Environment CNRS (2012-2015).

Vice-President of the French Society for Environmental Law and member of the European Association of environmental Lawyers (Avosetta group), I am also a member of the IUCN Academy of Environmental Law (co-chair of the research committee 2014-2017). According the spirit and the field of my research, I'm involving with enthusiasm and a great interest in the Environmental Intelligence EUR Project.

5.2.2 Pr Christian Walter / Axis 2 Towards agroecology

56 yrs old

Ph.D. in 1990

From 1988 Associate Professor Agrocampus Ouest

From 2002 Full Professor Agrocampus Ouest



Research activities [1990-2018]

More than 100 peer-reviewed papers (36 during the last 6 yrs)

2,500 citations, H index 27 (ResearchGate)

Christian Walter is Professor in Soil Science and associated researcher to INRA. He is currently vice-head of UMR SAS, a joined research unit from INRA and Agrocampus Ouest working on the interactions between agriculture and the environment using an integrative and spatialized approach of rural areas. His personnel research area focuses on the impact of agricultural systems on soil quality at landscape scale, considering the spatial variability of the practices and the processes.

He coordinates the *Soilserv* research program funded by ANR on soil ecosystem services assessment and their integration into decision chains, involving 3 institutional and two private partners

He has published 104 articles in peer-reviewed journals, supervised 15 PhD students and has been elected in 2014 at the French National Academy of Agriculture. He is convinced that sustainable agricultural production systems based on agroecology should conciliate both global issues e.g. food security, climate change and natural resources depletion, and local issues namely the impact of agriculture on water, air, soil, biodiversity resources. This can only be achieved in a co-construction process with the main stakeholders (farmers, consumers, agronomists, environmentalists, supply chains) to shape a common vision of agriculture in the local context.

5.2.3 Dr Patrick Dabert / Axis 3 Reduce pollutant exposition

55 yrs old

Ph.D. in 1992

From 1992 Research Scientist at INRA

From 2009 Research Director at Irstea

From 2017 Deputy Director of the OPAALE Unit - Irstea



Research activities [1990-2018]

70 peer-reviewed publications (26 during the last 6 yrs)

2,567 citations, H index 26 (Scopus)

Patrick DABERT holds a PhD in Microbial Genetics and accreditation to direct thesis on Microbial Ecology. Since 1995 he is working on the understanding of microbial ecosystems dynamics and functions in waste and wastewater biological treatment processes. As so he has co-supervised 17 PhD (three on-going) and participated to 15 research projects from which 8 as coordinator. More specifically he led the ANR multidisciplinary project DIVA about agronomic valorization of digestate (2010-2014 <https://diva.irstea.fr/welcome-to-diva/>) and was involved in the French national collective expertise of organic waste and effluent (MAFOR 2012-2014). From 2007 to 2017, he led the group PANDOR (20 people) specialized in processes of transformation and valorization of organic effluent and waste from urban and agricultural origins, at Irstea Rennes.

In the EUR RSEI project, he is in charge of the "Reduce pollutant exposure" axis. More than 20 years of applied research in the field of waste management has shown him that it is not enough to develop treatment and recovery technologies for them to be accepted and implemented by our fellow citizens. This is why his Research Unit supports the co-construction and multidisciplinary approach, combining environmental sciences and social sciences, promoted by the RSEI project.

5.2.4 Pr Véronique van Tilbeurgh / Axis 4 Invent new participative strategies

57 yrs old

Ph.D. in 1994

Between 1995 and 2015: Associate Professor in sociology, UMR 6590 ESO, Université Rennes 2

From 2015: Full Professor in sociology, UMR 6590 ESO, Université Rennes 2



Research activities [1994-2018]

More than 50 peer-reviewed papers and 80 papers

After a Ph.D. in sociology, she developed research on knowledge about natural environment in participatory devices. In particular, she analyzed the process of co-construction of protected areas in France and in Brazilian Amazon. She demonstrated that negotiating devices were also asymmetric knowledges hybridization devices. In addition, she has conducted research to examine the process of integration environmental constraints into economic processes. This approach has involved investigations on environmental conflicts and local mobilizations seen as the result of imbalance participatory devices. Her current research topics include evolution of living (animals and plant) in the socio-ecological transition, in particular, the process of assigning values to living.

Her research topics fall within key goals for axis 4 of the "Eur IE". Her contribution to research programmes in environmental intelligence will be based on her expertise in co-construction and hybridization of knowledge.

5.2.5 Dr Tassadit Bouadi / Axis 5 Develop smart data and observations

34 years old

Ph.D. in 2013

From 2014 Associate Professor Université Rennes 1



Research activities [2013-2018]

Tassadit Bouadi is an associate professor (MCF) at the University of Rennes 1 and in the IRISA laboratory since 2014. She received her Ph.D. in Computer Science from the University of Rennes 1 in 2013. Her interests are at the intersection of data analysis, especially skyline analysis, and user preference modeling. Her areas of application are mainly related to agri-environment.

She authored several peer-reviewed papers (11 during the last 5 years) in major conferences and Journals, including Environmental Modelling and Software Journal (5-year Impact Factor-IF: 5 and within JCR Q1).

She is involved in various projects, including pluri-disciplinary projects such as ANR ADD Acassya, and Meta-TNT AMI-EAU. The main objective of these two projects is to develop modeling tools supporting the management of ecosystems, and more precisely the agro-ecological evolution of breeding systems in coastal watersheds.

The Environmental Intelligence School of Rennes has the ambition to ensure a sustainable future through training of a new generation of scientists, managers and engineers with high awareness of environmental issues. Developing sustainable solutions requires high quality, accessible, meaningful and reliable data to support informed decision making. Tassadit Bouadi is strongly interested in collaborating with the partners of the Environmental Intelligence School of Rennes on this field.

5.2.6 Pr Cyrille Harpet / Axis 6 Co-construct models, scenarios and shared decisions

52 yrs old

Ph.D. in Urban Planning and Public Health

From 2010 Professor EHESP

From 2017 – associate director research unity ARENES UMR 6051



Research activities [1998-2018]

55 peer-reviewed papers (10 during the last 6 yrs)

PhD in Philosophy (University Lyon 3), with a degree in social anthropology (University Lyon 2), in biological anthropology (University of the Mediterranean), and in environmental management (Institute for Applied Engineering-Lyon-INSA), Cyrille Harpet is full professor at EHESP (High School of Public Health) of Rennes. He is accredited research in Space Planning and Urbanism, researcher at the unity ARENES, and considers the determinants for public health in relations with the environment.