



Research evaluation

**FINAL RESUME ON THE RESEARCH UNIT
PRéTI - Physiopathology and Regulation of Ionic
Channels**

**UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND
RESEARCH BODIES:
Université de Poitiers**

**EVALUATION CAMPAIGN 2020-2022
GROUP B**

Report published on September, 21 2021

High Council for evaluation of research and higher education



In the name of Hcéres¹:

Mr Thierry Coulhon, President

In the name of the experts committee²:

Mr Jean-Yves Le Guennec, Chairman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

¹ The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

² The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with certified data submitted by the supervising body on behalf of the unit.

UNIT PRESENTATION

Unit name:	Physiopathology and Regulation of Ionic Channels
Unit acronym:	PRéTI
Current label and N:	Laboratory STIM, Teams TIME and TIRC
ID RNSR:	201420820Z
Application type:	Restructuration
Head of the unit (2020-2021):	Mr Bruno Constantin (actuelle unité STIM)
Project leader (2021-2025):	Mr Jean-François Faivre
Number of teams:	1

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Jean-Yves Le Guennec, Université de Montpellier (representative of CNU)
Experts :	Mr Heinrich Brinkmeier, University Medicine Greifswald, Germany
	Mr Marc Chanson, University of Geneva, Switzerland
	Ms Emilie Pocachard Pallesi, Inserm, Marseille (supporting personnel)

HCÉRES REPRESENTATIVE

Mr Clair-Yves Boquien

REPRESENTATIVE OF SUPERVISING INSTITUTIONS AND BODIES

Mr Yves Gervais, Université de Poitiers

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The STIM unit has a long history in the field of physiology, more specifically in the study of ion channels and ionic homeostasis. The unit is located in the south campus of the faculty of fundamental and applied sciences in the building 'Pôle Biologie-Santé'. It is presently organized in three teams, one having both affiliations to CNRS and University of Poitiers (4CS), and the two others being affiliated to the university (TIME and TIRC). The unit is also located near the faculty of medicine and pharmacy. The PRéTI unit is the result of the split of the STIM unit in two laboratories: PRéTI and 4CS that will evolve separately. PRéTI is a mono-team unit resulting from the merge of the two teams TIME and TIRC. One research group from TIRC Team is located in the University of Tours and will separate from the PRéTI unit.

RESEARCH ECOSYSTEM

The unit shares the building 'Pôle Biologie-Santé' with five research units (three Inserm units and two University of Poitiers units). It uses two platforms of the University of Poitiers: ImageUP, dedicated to microscopy, and Prebios dedicated to animal housing and facilities for *in vivo* experiments. The ImageUP platform is directed by a member of the STIM unit. Platforms used by the unit (animal facilities, microscopy and imaging facilities) are located in the vicinity of the laboratories of the 'Pôle Biologie-Santé'. One of the researchers of the unit is the director of the imaging platform. A start-up originates from the unit (Conic-Meds) and is directed by one of the unit's members. The unit is also at the origin of the creation of a collaborative laboratory between ConicMeds, a startup, LitCh, created by the TIRC/TIME STIM unit and the University of Poitiers, that develops R&D inside the unit with their know-how and facilities.

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

The unit depends on the following subdomains:

SVE5:

SV5_1

SV5_2

SV5_3

The research topics of the teams (TIME and TIRC) from the unit STIM that will constitute PRéTI are: 1/ Ion transporters in cardiovascular tissues and skeletal muscles (Team TIRC) and 2/ Cystic Fibrosis Trans-Regulator chloride channel (CFTR) and the role of lipids in Cystic Fibrosis and cell function that depend on CFTR (Team TIME).

MANAGEMENT TEAM

The director of the unit is Mr Bruno Constantin (research director in CNRS) helped by a deputy director, Ms Valérie Coronas. She advises the director on the scientific strategy and for representing him in his absence. The management team is assisted in the governance of the unit by a direction committee constituted by the director, the deputy head and the heads of the teams.

UNIT WORKFORCE

Active staff	Number 06/01/2020		Number 01/01/2022
	STIM	STIM - EA (TIRC, TIME & LitCh)	PRéTI
Full professors and similar positions	7	5	4
Assistant professors and similar positions	16	10	6
Full time research directors (Directeurs de recherche) and similar positions	4	3	1
Full time research associates (Chargés de recherche) and similar positions	1	0	0

Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	0	0
High school teachers	0	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	14	5	3
Permanent staff	42	23	14
Non-permanent professors and associate professors, including emeritus	0	0	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	0	0	
PhD Students	7	4	
Non-permanent supporting personnel	4	2	
Non permanent staff	11	6	
Total	53	29	14

GLOBAL ASSESSMENT OF THE UNIT

The PRÉTI unit is interested on the role of ionic channels in three models: cardiac, skeletal muscle and respiratory epithelium. This unit is well-recognized in the field of ionic channels at the national level and has developed international partnerships.

During the last five years, the members of the PRÉTI unit had a very good scientific production in the top journals of the discipline, with 67 papers mainly in the first quartile of the journals of the discipline, 60 % signed in first/last position. However, publications in interdisciplinary high-profile journals were rare.

They were able to obtain important grants mainly at the national level from ANR (one as partner), charities (VLM, AFM, ...), local organizations (Région) and from INSERM Plan Cancer. They were involved in a FEDER European project but this could be significantly improved as compared to the workforce.

One of the impressive strengths of the unit is its competence to set-up and use innovative and rare techniques for the investigation of cell structure and function such as Digital Holographic Microscopy and Scanning Ion Conductance Microscopy, the unit being equipped with a remarkable number of instruments and platforms for the investigation of ion channels and transporters. Some of the equipment is internationally unique or rare, at least in its local combination.

A second major strength of the unit is its interactions with pharmaceutical and biotechnological companies thanks to research contracts, PhD bursaries (CIFRE). The unit is at the origin of a start-up, Conic-Meds and will constitute a LabCom from 2021 with co-funding from 'Région Nouvelle Aquitaine' and FEDER fund with H4 Orphan Pharma to develop a new R&D axe on dry eye disease. They have two accepted European patents and one has been recently deposited. However, and related to the unit's projects in biomedical field with a strong focus in pharmacology, there is a room to improve their strong interactions with clinicians to bring their discovery from the bench to the bedside.

The unit performed well in training through research with twelve PhD trained during the current term for nine HDR, an average PhD duration of 36 months with at least one first author paper and the majority of PhDs trained in the unit follow their training as postdoctoral fellows or get a permanent position, with a particular good management and follow up of the PhD students during the first lock-down period. Moreover, numerous members of the unit are very active in education and formation.

The unit attracted one foreign postdoctoral fellow and six foreign visiting scientists during the evaluation period but the last lecturer recruitment occurred thirteen years ago.

The proposed organization of the governance of PRÉTI by a director helped by a scientific committee appears to be efficient. The size of the unit allows to have a laboratory council made of all staff. The engineers and technicians are well integrated in the research projects.

The PRÉTI unit proposes projects in agreement with their experience and competences especially in ion channels and ion homeostasis. Based on this, they propose new hypotheses, role of intracardiac neurons on cardiac physiology and water flow in dry eye disease, and new technological innovations, combination of CRE-LOX approach and optogenetic. However, the direction may take care about the risk of having two subgroups following individual lines of research, the LitCh collaborative laboratory providing small bridges between them.

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Evaluation of higher education and research institutions

Evaluation of research

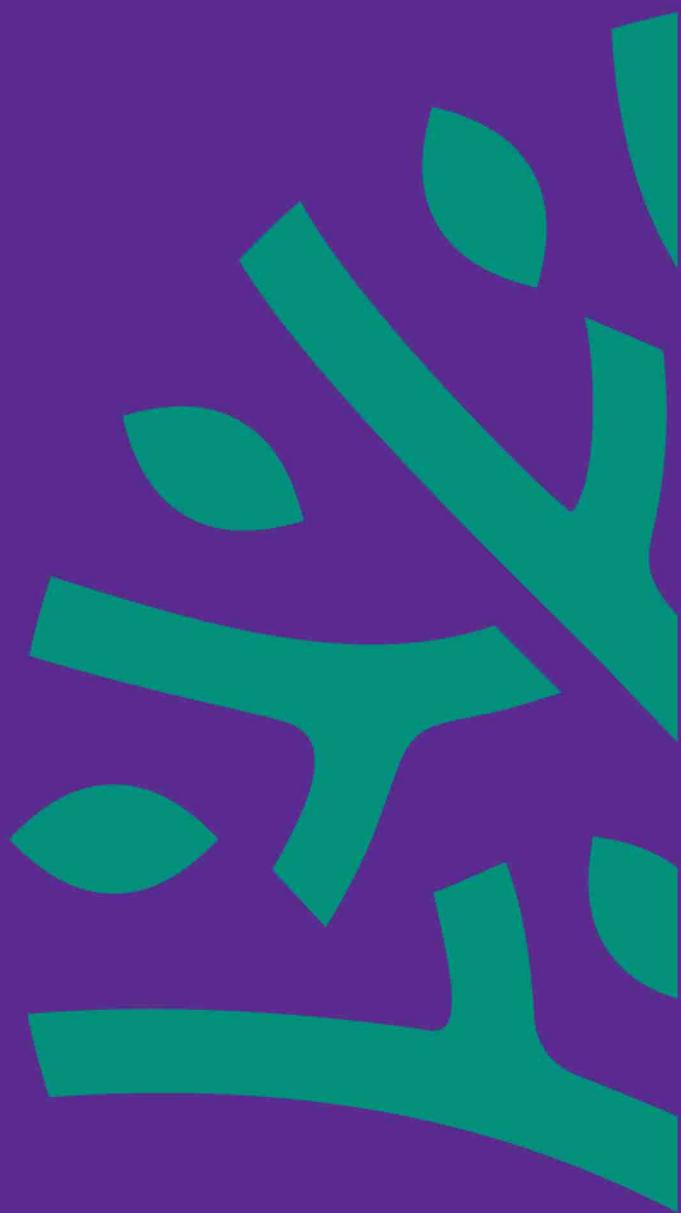
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