

Innovation Cell

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The fields of valorization

Public/private partnerships:

- Research collaborations
- LabCom
- Chaires industrielles
- Industrial PHD/ CIFRE

Prestations:

- Equipment rental
- Consultations
- Services
- Expertises
- Training

Technological innovations:

- Proof of concept
- Pré-maturation
- EIC

Transferts:

- Know-how transfer
- Technology transfer
- Transfer of licenses
- Patents
- Start up

What we have done in 2021

- ❑ Construction of a web page on the IPhU site :
 - <https://www.univ-amu.fr/fr/public/cellule-innovatio>
- ❑ Production of a flyer for internal communication
- ❑ Identify our valorization projects: In progress ...



- ❑ ~~Organization of an “R&D Institute event” in the framework of the AMU call:~~
 - ~~3-5 days in November~~
 - ~~Exchanges between IPhU lab personnel & students, and industry Participation of 3-5 invited companies among our main partners~~
 - ~~AKATON on companies R&D challenges — students + teachers~~

NOT DONE : Lack of time & Person Power

FICHE IDENTITE

Nom du projet	Matrice Pixel ITK
Porteur(s)	Marlon BARBERO
Laboratoire	CPPM
Catégorie de valorisation	Collaborations industrielles Thèse CIFRE
Domaines d'application	Micro-électronique
Démarrage	Date début : 12/2019 - Date fin prévue : 03/2023
Partenaire(s)	CEGITEC

The project consists in designing the new generation of imagers with a very high flux photon counting capability while discriminating photons with at least two detection thresholds in energy. The goal is the microelectronic design of the readout ASIC composed of a large pixel array capable of operating and processing a large flux of photons for energies from 3 keV to 200 keV. In order to avoid the dead time during the acquisition, the readout ASIC must be able to manage simultaneously the photon counting and the data transfer to the output.

FICHE IDENTITE

Nom du projet	Simulation Model with IA
Porteur(s)	Yannick Boursier
Laboratoire	CPPM
Catégorie de valorisation	Collaborations industrielles Thèse CIFRE
Démarrage	Date début : ? - Date fin prévue :
Partenaire(s)	Detection Technology (DT)

The objective of the project is to develop simulation tools to model the response of the CdTe spectrometric counting detector in different geometrical and electronic configurations. The simulation of the detector response (DR) is a complex task, as many physical and electronic contributions must be taken into account. Monte-Carlo simulations and Deep Learning approaches will be used to model the detector response. The quality of the simulated results will be validated by comparison with experimental data from different internal detectors.

FICHE IDENTITE

Nom du projet	DOSIMETRE
Porteur(s)	Mohsine MENOUNI
Laboratoire	CPPM
Catégorie de valorisation	Contrat de prestation de service
Domaines d'application	Circuit microélectronique pour la dosimétrie active
Démarrage	Date début : 01/03/2022 Date fin prévue :
Partenaire(s)	MIRION

The project is part of the development of an ASIC for MIRION, a company specialized in nuclear instrumentation for radiation protection.. The ASIC to be developed is intended to group together the essential analog and digital functions necessary for the manufacture of a portable device for measuring the level of radioactivity. The main constraints of the ASIC concern the analog front-end electronics which requires a low noise level allowing to work with a very low threshold (< 2 keV), a very low power consumption and a processing speed important enough to avoid the stacking phenomena likely to affect the quality and the accuracy of the measurement.

FICHE IDENTITE	
Nom du projet	PCIe400
Porteur(s)	Julien Langouet
Laboratoire	CPPM
Catégorie de valorisation	Collaborations industrielles
Domaines d'application	Circuit électronique
Démarrage	Date début : 01/03/2022 Date fin prévue :
Partenaire(s)	INTEL
<p>The CPPM is developing a generic acquisition card (PCIe400) based on the most powerful Intel FPGA incorporating nearly 4 million logic cells and equipped with serial links that can operate at up to 112 Gbits/s. As this component is not yet released, we have signed a contract with Intel giving us access to all Intel's technical documentation on this component before their official release and giving us privileged support on any related technical subject. This collaboration covers the development of the board, but also its development and its production. Translated with www.DeepL.com/Translator (free version)</p>	

What we plan to do in 2023

- ❑ Continue to **identify valorization project**: project form
- ❑ **Discussion with CISAM +** and AMU
 - How to integrate the IPhU Innovation Cell actions in the CISAM+ project ?
- ❑ **Organize a one-day event to promote exchange between researchers, students, Industrial partners:**
 - Need help & people
- ❑ **Help any person wishing to valorize its research by proposing all the tools of the Innovation ecosystem:**
 - In the planning stage:
 - Thesis with MIRION
 - LabCom with CEGITEC