

Interview with Rodrigue Kantati and PRIMACEN

For this new interview, we met with **Rodrigue Kantati, Marine Pernes and Magalie B  nard**, all three involved in a scientific collaboration in the field of neuroscience. Rodrigue was able to benefit from a stay at the Normandy-based **PRIMACEN facility**, a member of the France-BioImaging Normandy Node, through the **Imaging 4 All programme initiated by Global BioImaging**.

In this interview, discover Rodrigue's project, how this collaboration unfolded, and their future ambitions.

Rodrigue, Marine and Magalie, could you tell us about your background?

Rodrigue Kantati (R.K): I have been a **Togolese lecturer-researcher for five years** in the Department of Animal Physiology at the Faculty of Science of the University of Lom  , Togo.

I completed a **PhD in Pharmacology of Natural Substances**, specialising in neuropharmacology, with a thesis focusing on the evaluation of the neuroprotective properties of three plant species from the Togolese flora. My PhD was **jointly supervised by the University of Rouen Normandy, France, and the University of Lom  **.

In addition to teaching undergraduate and Master's students at the university, I conduct research within the SRU **Physiopathologies, Bioactive Substances and Safety unit**. My work focuses on the **scientific validation of local medicinal plants**, particularly those with neuroprotective properties that could help **address neurodegenerative diseases** such as Alzheimer's disease, Parkinson's disease, or neuronal death following cerebral ischemia.

I am currently studying the **neuroprotective properties of *Sterculia setigera***, a medicinal plant from the Togolese flora.

Marine Pernes (M.P): I graduated in 2025 with a **Master's degree in Biotechnology and Bioproducts for Health**, after completing a Bachelor's degree in Biochemistry. Since February 2026, I have been working as an **Inserm Assistant Engineer in biological experimentation and instrumentation at PRIMACEN**, focusing more specifically on **sample preparation before microscopy**.

Magalie Bénard (M.B): I hold a **PhD in Cell Biology** and **specialise in Neuroscience**. I joined Inserm in 2005 on the Rouen imaging facility, where I was responsible for photonic microscopy. I am currently an **Inserm Research Engineer and head of the HeRacLeS-PRIMACEN imaging facility**. My work focuses more specifically on **sample preparation and live photonic microscopy equipment**.

Rodrigue, how did you experience the Imaging 4 All - Access Track programme?

R.K.: It was a memorable experience: every day spent on the PRIMACEN facility was a day of discovery and learning, in a friendly and stimulating atmosphere.

Magalie and Marine, why is it important for you to welcome beneficiaries of the Imaging 4 All programme?

M.B. and M.P.: Welcoming current and future collaborators through the **Imaging 4 All programme** is very important to us, as it gives beneficiaries **access to advanced and diverse equipment and technologies** that are not easily available in their current working environment, particularly in African countries.

The exchange of expertise is **extremely enriching**, and it is always very valuable to **share our knowledge and technical know-how** through projects such as Rodrigue's.

Rodrigue, why did you choose the PRIMACEN facility?

R.K.: I couldn't really say whether I chose PRIMACEN or whether PRIMACEN chose me! *Laughs.* The city of Rouen in general, ever since my **Erasmus doctoral mobility period in 2015–2016**, has always brought me luck. I feel very good in Rouen; there is a kind of connection between me and this extraordinary city.

I think I have always felt at ease there because wonderful people have always welcomed and supported me. I would therefore like to **thank Dr David Vaudry**, HDR, Inserm, former director of PRIMACEN and co-supervisor of my PhD thesis, as well as the entire new team,

especially **Dr Magalie Bénard**, my collaborator on the Imaging 4 All programme, **Ms Marine Pernes**, her assistant, and the current director **Dr Ludovic Galas**.

Without this collaboration, I would not have been able to continue my research work. The University of Lomé does not yet have the technical facilities required to culture neurons and perform imaging on neuronal cultures.

Magalie and Marine, how did the facility benefit from this collaboration?

M.B. and M.P.: This collaboration enabled us to make significant progress on a project between our two structures, thanks to the financial support provided by the Imaging 4 All programme from Global BioImaging.

It was also an opportunity to share enjoyable moments and **work together for one month** with a collaborator I have known since his PhD in Rouen. Finally, this collaboration also gave us the opportunity to **involve Marine**, who had just joined the facility, in a complete project, from cell culture, differentiation and treatment, through to image acquisition and analysis.

Rodrigue, Magalie and Marine, how has this collaboration enriched your scientific approaches?

R.K.: This collaboration allowed us to **deepen existing data on the neuroprotective properties of *Sterculia setigera***, in particular by investigating the **mechanisms of neuroprotection** at the cellular level: neuritogenesis and mitochondrial dynamics, using specific trackers and probes, as well as time-lapse and very high-resolution imaging.

M.B. and M.P.: From a scientific point of view, this project enabled us to **discover the significantly protective effect of an extract of *Sterculia setigera*, derived from an African tree**. Using advanced confocal microscopy, we were able to visualise and measure this effect on previously cultured neurons, more specifically at the level of mitochondrial shape and dynamics.

Rodrigue, Magalie and Marine, do you plan to continue this collaboration?

R.K.: Yes! It is vital for me because, as mentioned earlier, the local technical facilities in Togo do not currently allow me to make major advances in pharmacology. **Only collaborations of this level can allow me to exist as a neuroscience researcher**, while continuing to improve and refine my skills by staying in contact with my peers in France and with new technologies.

In the long term, this will help **strengthen exchanges with PRIMACEN** and support the **real emergence of teaching, and above all research, in Neuroscience and Neurobiology at the University of Lomé.**

M.B. and M.P.: Yes! We remain in contact with Rodrigue for the **next steps in promoting the results**, which were very conclusive, and we are currently working on **preparing a publication based on these findings.**

It was a real pleasure to work with Rodrigue, and we hope to have the opportunity to welcome him again in the near future.