Meet Thierry Brue, our 2025 Geoffrey Harris Awardee

Professor Thierry Brue, from Marseille, France, is our 2025 Geoffrey Harris Awardee. He will deliver his Award Lecture in Copenhagen at the Joint Congress of ESPE and ESE. Read on to learn more about his career in endocrinology, his advice for future endocrinologists, and what you can look forward to hearing him talk about at the Congress.

Please tell us about your current role
I currently serve as Endocrinologist and Co-ordinator of the French Reference Centre for Rare Pituitary Diseases (HYPO) at Conception Hospital, Marseille, and Professor of Endocrinology at Aix-Marseille University. My group in the Marseille Medical Genetics Laboratory (INSERM and Aix-Marseille University) is working on human models of congenital hypopituitarism, mainly hypothalamo-pituitary organoids.

How were you inspired to work in endocrinology?
Endocrinology attracted me because of its close link to pathophysiology. It is a specialty where understanding mechanisms is key to providing appropriate treatments. I have always been particularly interested in understanding pituitary disorders. My inspiring mentors have included Philippe Jaquet, Charles Oliver, Alain Enjalbert, Paul Kelly and Sally Radovick.

What will you discuss in your Award Lecture at the 2025 Joint Congress of ESE and ESPE?
In the mid-1990s, I launched an international network called Genhypopit, aimed at collecting clinical data and DNA samples from patients with various forms of isolated or combined pituitary hormone deficiency. Over the years, it appeared that an increasing number of genes were found to be involved in these heterogeneous conditions, which mostly affect children but may also be diagnosed in adults.

In 2001, I was lucky to collaborate with Jacques Drouin's group in Montréal, Canada. They had found a new transcription factor (Tpit) in mice which proved to be the key regulator of corticotroph cell differentiation. The group also found mutations in the orthologue human gene (*TPIT*, also known as *TBX19*) in two of the families of patients who harboured isolated neonatal adrenocorticotrophin (ACTH) deficiency, whom we had been studying for candidate genes within Genhypopit. These discoveries confirmed that this factor was also a major determinant of corticotroph differentiation in humans.

We then further characterised patients with isolated corticotroph deficiency who either harboured *TPIT* mutations (most of the neonatal cases) or did not. In the latter group, we found an unusual association in three unrelated families between ACTH deficiency and common variable immunodeficiency: a new entity that we called DAVID syndrome (for *d*eficit in *a*nterior pituitary function and *v*ariable *i*mmune *d*eficiency). We identified *NFKB2* mutations as the cause of this syndrome. More recently, we were able to introduce these mutations into human hypothalamo-pituitary organoids, which showed that *NFKB2* plays a previously unknown role in corticotroph differentiation in humans.

Bridging corticotroph deficiency and corticotroph tumours, we have also studied some pathophysiological aspects of Cushing's disease, which I plan to address at the Joint Congress of ESPE and ESE in Copenhagen.

What are you most proud of in your career, and in life in general?
If I am proud of anything, it is having been able to build up a fantastic team in the hospital and in the research lab. I have the pleasure of working with colleagues who share a common passion for clinical endocrinology and for translational research, especially in neuroendocrinology. The same holds true in life: sharing common goals with family and friends, and the transmission of knowledge and values to children/grandchildren, are reasons for satisfaction.

What is likely to be the next breakthrough in your area of interest?
Regenerative medicine for hypopituitarism is certainly not going to happen tomorrow but maybe for 'the day after tomorrow', although many difficulties still need to be overcome in this very exciting and promising field. Progress has been made with so-called organoids in other fields of endocrinology, such as the thyroid gland or β-cell replacement therapies, justifying reasoned optimism.

What are the biggest challenges in your field right now?
Most of the causes of congenital hypopituitarism remain unidentified, and the pathogenic mechanisms behind most pituitary tumours are still unknown. These are just two examples of the various challenges that researchers will face over the coming years.

What is the most enjoyable aspect of your work?
The excitement of exploring new fields has always provided the stimulation and motivation for pursuing sometimes lengthy and demanding research. Sharing ideas with colleagues in both clinical and research fields is also highly rewarding. It is a fulfilling experience to apply new diagnostic or therapeutic tools to our individual patients.

What are you most looking forward to at the 2025 Joint Congress?
Meeting with colleagues, and exchanging ideas and projects are always the main reasons for taking part in large meetings like the 2025 Joint Congress. This will be a unique opportunity for me to meet with paediatric endocrinologists, which is particularly relevant to me for professional reasons, as my research is largely devoted to diseases occurring in childhood, and for personal reasons, as my wife − who is a paediatric endocrinologist − will also be present!

Why should people join ESE?
ESE is undoubtedly *the* European platform for clinicians, clinical scientists and researchers involved in all aspects of endocrinology. It is important to be part of this large community.

What words of wisdom do you have for aspiring endocrinologists?
Following one's passion is key to maintaining an interest in research in the long run, despite all the difficulties that may arise. Choosing good mentors and collaborators who share similar views is also key to success. Teamwork and trusting each other are most important, although each team member is different and brings different skills to reach a common aim.