Scientia A/Professor Payzan-LeNestour obtained her PhD in finance from the *Swiss Finance Institute (SFI)* at the *École Polytechnique Fédérale de Lausanne* in 2009 under the supervision of Professor Peter Bossaerts, with whom she chose to specialise in "Neurofinance", a growing scientific field that harnesses the latest insights from decision neuroscience and cutting-edge methods from Experimental/ Behavioural Economics in order to understand how the human brain perceives and reacts to uncertainty.

Prior to specialising in Neurofinance at the SFI, she completed the first part of her PhD at the *London School of Economics* in London and studied economics and neuroscience at *Princeton University* where she was a *Charlotte Elisabeth Procter Fellow* in 2004-2005. She also holds a diploma of engineer statistician from the *ENSAE Paris* (an elite-level school of Engineering in France) and graduated from *the École Normale Supérieure de la rue d'Ulm* (also known as *Normale Sup*).

After a short postdoctorate at the *California Institute of Technology* in 2010, in September 2010 she joined the *School of Banking and Finance*.

The topics covered by her expertise in Neurofinance encompass all that concerns individual decision-making under uncertainty: how individuals acquire and process information to form an opinion when they have to decide under uncertainty, and how they make a decision on the basis of their opinion. Neurofinance further aims to understand *why* individuals behave the way they do through uncovering the biomechanisms underlying behaviour.

As such, Neurofinance is a new kind of Behavioural Economics—the area of contemporary economic research that consists of integrating insights from psychological research into economic science. Standard Behavioural Economics focuses on describing how individuals behave, leaving aside all questions related to the origins of the observed behaviour at the neurobiological level. Neurofinance sets out to address such questions.

A key strength of Elise's line of research is to generate innovative ideas through spanning disciplinary boundaries and make discoveries about human behaviour that resonate in multiple disciplines. For one example, she discovered that the brain detects disruptions in its environment through releasing norepinephrine [one of the key neurotransmitters of the human brain]. This discovery was published in one of the top 3 neuroscience journals and received extensive media coverage (including TV) due to its practical potentials for the finance community along with its significance for fundamental research—it concerns the neural underpinnings of human adaptation to abrupt changes in a broad sense (financial investing being just one domain of application).

Elise has published the findings of her research in the top 1% of journals both in neurobiology and finance, always as first or solo author. For example, she published in *Neuron*, the premier intellectual forum of the entire neuroscience community, *Current Biology* (one of the prestigious journals in what biologists call the "big five"—*Current Biology*, *Nature*, *PNAS*, *PloS Biology*, and *Science*), *The Review of Financial Studies*, and *The Journal of Financial Economics*.

Elise's research has attracted more than $510,000 of research income and she is among the most cited researchers in the world on the topic of the neural substrates of human adaptation in a fast-changing world, which has turned out to be a highly topical issue since the beginning of the COVID pandemic. As the leader of highly interdisciplinary research programmes, she

has been building bridges across schools and research centres both within UNSW (e.g., partnerships involving UNSW Business School, UNSW School of Psychology, and UNSW School of Computer Science) and internationally: she is currently collaborating with top scholars from top institutions in the US (Harvard, MIT, Columbia University, Brown University, Wharton) and Europe (Geneva University).

Elise has also been sharing insights from her research with different kind of stakeholders over the years, as consultant, expert witness, and speaker at high-profile events (for example, she talked at *TedX Sydney 2016* and the *Behavioural Exchange 2018* conference organized by *the Behavioural Economics Team* at the *Department of the Prime Minister and Cabinet*).