ISCT TALKING WITH GIANTS

"Try to stand in the future to look back at the problems you are facing. The future is where you will be – so try to shape it to be one that looks good."

International Society ISCT Cell & Gene Therapy®

Le Prix Luc Sensebé Innovation Award – Keith Thompson CBE

The International Society for Cell & Gene Therapy is proud to present the inaugural 2021 Le Prix Luc Sensebé Innovation Award to Keith Thompson CBE, for his service to the field by building the groundwork for sustained innovation.

Mr. Keith Thompson is a renowned leader in the cell and gene therapy space, known especially for his contributions as founding CEO of the Cell and Gene Therapy Catapult, based in the United Kingdom. Under his vision, CGT Catapult developed and executed exponentially successful strategies to encourage dialogue that today have established the UK as an international site of cell and gene therapy expertise and standards.

From childhood, Mr. Thompson knew that he wanted to be a scientist or engineer. Driven by curiosity, any gadgets that found their way into his childhood home would be investigated – dismantled, but not always reassembled in time to avoid detection and trouble. This driving motive would bring a young Keith Thompson to develop, a few years into his first industry job, immunoaffinity purification for beta interferon – an innovation he was soon asked to 'scale up'.

This would launch him into the exciting world of a developmental pilot plant, to him a "veritable palace of stainless steel." In this space, Mr. Thompson says, "I was hooked. I knew that if you wanted to see these innovations in use, you had to be able to make them first. Innovation was the practical implementation of ideas that could result in the introduction of new products."

Over time, Mr. Thompson built a wealth of knowledge as his career progressed. He learned to gauge the practicalities of innovation, especially in a pragmatic market. He saw how regulators, as scientists themselves, would be fascinated by new products, and the ways to prove their efficacy. He began to see the need to change systems, from clinical trials to manufacturing, in order to ensure that innovation could take place.

As his perspective continued to grow, Mr. Thompson would see cell and gene therapies as a field that held the right balance of compelling advancements for treatment – and which had major barriers that could be addressed strategically.

"You can develop a clear mission and strategy that structures activities to systematically attack complex barriers to change, where carefully chosen pathfinder products can clear the way for others," says Mr. Thompson. "I set up a system at the Catapult to address the three great barriers to the CGT revolution by forming innovation teams, investigating: 1. Clinical/Regulatory; 2. Manufacturing and Cost of Goods; and 3. Health Economies and Business Systems. Each team, led by a highly motivated leader, worked on clinical pathfinder projects designed to flush out the real industry barriers so that we could address them."

Mr. Thompson highlights clinical proof of principle as a key factor preceding his strategy. "Prior to founding the catapult, when I was leading the Scottish National Blood Service, we had expanded a cell therapy R&D program established by Mark Turner, and found great success with multiple treatments. That had convinced me around 2010 that cell therapy was the next big thing, leading me to leave to start the Catapult in 2012. The most notable clinical success, however, was the well known Emily Whitehead story with Carl June and his team at the University of Pennsylvania. Not only did CAR-T work – it also provided a framework for many issues in the field to be addressed, alongside a level of interest that lifted the whole industry."

For Mr. Thompson, clinical success is the key outcome of the innovation cycle – when proof of principle, regulatory approval, and positive health economics evaluation come together to introduce a widespread adoption of a therapy. Alongside this, Mr. Thompson finds enthusiasm in witnessing the expansion of cutting-edge manufacturing, and the correlated opportunities for young professionals to find their path there.

Over the next few years, Mr. Thompson anticipates the need to optimize cell and gene therapies – making them cheaper, faster, and better – as the critical step in making them a 'pillar' of pharmaceutical intervention. "The field is simply so enormous so young professionals should have many and broad opportunities presented to them, just like when I started out in Monoclonals over 40 years ago. There will be multiple opportunities for innovation, and it will be a long time until the field settles into an established paradigm."

Mr. Thompson reflects back on his leadership experience with good humour, and attributes a large part of his success to those around him. "Always hire people who are cleverer than you; in my case, it wasn't hard," he laughs. He ends with a few words of wisdom, "try to stand in the future to look back at the problems you are facing. The future is where you will be – so try to shape it to be one that looks good."