

## Luc Sensebé, champion of MSCs, dies.

Dr. Luc Sensebé' academic career kicks off with a first-authored case report on agranulocytosis published in *La Presse médicale* in 1984 whilst a young practicing hematologist in Brest, France. Later on, a sabbatical in Jack W. Singer' laboratory at the Hutch in Seattle launched Dr. Sensebé' career as a discovery stem cell scientist with a vigorous interest in marrow stromal cell lines. He developed stromal colony-derived cells lines from human normal bone marrow, adapting a culture method initiated in Seattle on SV-40 transformed stromal cells. The stromal clones provided a pure population of mesenchymal stromal cells and he set to the original task of defining its mRNA signature, cytokine repertoire and growth factor requirements. This work identified the large range of mediators expressed by mesenchymal cells, thus paving the way for future clinical applications using what would later be called Mesenchymal Stem/Stromal Cells (MSCs). In the 2000', Dr. Sensebé established in the Blood Bank of Tours, in the Loire valley, its own laboratory dedicated to the culture of GMP-grade MSCs, proving himself to be a staunch supporter for the application of these cells in a vast array of medical indications. From this point on, Dr. Sensebé' scientific leadership was rippling through *l'Hexagone* contributing to set up ECELL-France and beyond. An ardent foe of *immobilisme*, he organized and stimulated the French network, gathering together clinicians, cell production at the *établissement français du sang* (EFS) as well as contributing to the regulatory approval from the French regulatory agency. He led the European FP7 project CASCADE developing MSC for bone regeneration, and was involved in REBORNE, another large FP7 project on bone regeneration. Four clinical trials with MSCs were completed in orthopedic and maxillofacial surgeries in the next years. These successes were followed by two large European Commission funded H2020 projects ORTHOUNION and MAXIBONE that are on-going.

From Tours, Dr Sensebé relocated south to Toulouse to establish with Dr. Louis Casteilla a regenerative medicine center dedicated to MSC biology and clinical use. STROMAlab as a nod to the word stroma from mesenchymal stroma cells, was launched. Dr. Sensebé' vision led to construction of an adapted building of 3000 m2 that he named INCERE at the apotheosis of his administrative career at EFS.

His most cited scientific article dealt with the vexing issue of genetic stability of culture adapted MSCs [PubMed ID: 20032501]. Indeed, an earlier report from the University of Bergen, Norway – later retracted – suggested that long-term cultures of bone marrow-derived human mesenchymal stem cells frequently undergo spontaneous malignant transformation. The impact of the original Norwegian report was potentially calamitous for the MSC clinical trial space considering the appropriate concern by European regulatory agencies for patient safety enrolled in MSC clinical trials. Led by Luc Sensebé, a multicentric French team from the *Société Française de Greffe de Moelle et Thérapie Cellulaire* promptly and definitively demonstrated that rigorously managed clinical-grade MSC culture expansion could exhibit recurring chromosomal alterations independent of the culture process, and that all MSCs, with or without aneuploidy, became senescent, without transformation features. Later on, Dr Sensebé in his role as Chair of the ISCT MSC committee, with like-minded peers, became the internationally acclaimed clarion of clear-minded rationalism allowing the MSC translational field to prosper in Europe. Aptly, he went on later on to co-Chair the 2014 ISCT International Paris meeting.

True to his Gallic roots, Luc was pleasantly cultured, fond of the better offerings of the table, vineyard and finer things – a great cook from who's kitchen I got to enjoy some *museau de veau*. An interested sinophile, he travelled frequently to Asia as a scholar where Yufang Shi informs he was known as “Grandpa Luc.” He enjoyed the fast mechanicals as he commuted in Toulouse with a large cylindered BMW motorcycle and took to a Miata roadster convertible in his retirement years. More than anything, he adored his family and growing flock of grandchildren. His friends and colleagues from all over the world were touched by his intelligence, leadership and friendship. He will be missed.

Luc Sensebé, physician and scientist: born in France 1953; *Dr en médecine, Directeur scientifique de l'E F.S, Toulouse*; married Chantal, sons Christophe and Thomas and granddaughters Eléonore, Louise and Olivia; died Easter Sunday 12 April 2020.

Jacques Galipeau, MD – Chair of the ISCT MSC Committee and on behalf of its Members.