

Recipient of the 2023 IETS Pioneer Award: Dr Enoch Borges de Oliveira Filho

Enoch was born on D-Day, 6 June 1944, in a small city called Monte Azul Paulista, in English, Blue Mountain, possibly because of the exuberant Atlantic tropical forest or perhaps because of the coffee trees, at that time, planted on the mountains in the countryside of São Paulo State in Brazil. He very soon showed an agricultural and animal science vocation. The first activities in these areas started in the early 60s, 1960–1962, during his studies at agricultural and animal industry internal college in Pirassununga City, also in São Paulo state, again, a small city close to a very fishy river with a small rapid that in Tupi Guarany autochthonous language means the sound of the fish. By the middle 1960s (1965–1968) mostly during the military government in Brazil, he studied Veterinarian Medicine at Rural Federal University of Rio de Janeiro (UFRJ) in a city called Seropédica, not far away from the marvellous city and built in an old farm where they produced silkworm during the Empire.

Dr Oliveira's first appointment in 1972 was in the Universidade Federal Fluminense, also in Rio de Janeiro, very close to Copacabana beach, where he was dedicated to Dairy production. His master's in science was carried on in cattle reproduction, supervised by Dr Megale, one of the most recognised researchers in the area at the time in Brazil, in the Universidade Federal de Minas Gerais, also in Brazilian South East, in Belo Horizonte, which translates to Beautiful Horizon. He then changed his appointment to the University of São Paulo, again in Pirassununga, where he taught Genetic selection and in 1977 had his PhD degree supervised by Dr Moura Duarte, a human geneticist interested in cattle who passed away last August. In his PhD, he developed quantitative genetics expertise and delivered the first EPD on reproduction (average reproductive value at the time) in the Nellore cattle Breed (Oliveira Filho *et al.* 1975a, 1975b).

It is worth mentioning that by the middle of the 1960s the Zebu cattle breeds were somehow 'rediscovered' in Brazil and experienced a new round of importations from India, with a new offer of Genetics, distinct from those previously bred in Brazil. From studies in many institutions like ABCZ (Brazilian Association of Zebu Breeders) and USP (Universidade de São Paulo), for example, many *Bos indicus* breeds started to grow in number and importance for tropical production.



Dr Oliveira finally decided to internationalise his carrier and moved to Gainesville, Florida, where he did a first sabbatical training at the University of Florida, financed by the American States Organization, and supervised by Dr Marvin Koger, working with Beef Cattle Genetics (Oliveira Filho *et al.* 1979; Lobo *et al.* 1983).

Back to Brazil, in 1982 Dr Oliveira moved again from Pirassununga to UNESP Jaboticabal, a city very close to his natal city named to form the fruit Jaboticaba, a typical south American fruit that can't be described by those who have never tasted it. There he was engaged in the reproduction department and had his first contact with a COC and an oocyte presented by Dr Parvati Basur, from Guelph University in one of her visits to Brazil organised by Dr Pinheiro. At the time, the Brazilian Society of Embryo Transfer was founded, and further renamed as the Brazilian Society of Embryo Technology.

'That was my first experience with this gamete, and it was love at first sight'.

However, life is never easy with pioneers. Dr Oliveira's application to become a member of the Sociedade Brasileira de Tecnologia de Embriões (SBTE) was denied twice until he showed he was able to collect and transfer embryos accordingly.

He then went on another sabbatical in 1987 to the University of Cambridge financed by the British Council and supervised by Dr Christopher Polge to work on embryo transfer and IVF, and soon after in 1988 to the 'Laboratoire Pour Le Controle Des Reproducteurs' in Maisons-Alfort, France, to work with embryo production and micromanipulation.

By this time IVF was an obsession, and fortunately, our pioneer could get the first funding from the São Paulo Research Foundation (FAPESP), which enabled the production of the first *B. indicus* embryo in 1991. 'We were happy to have a great number of international collaborators, that came to Brazil to give talks but also stayed for short periods in many Brazilian laboratories, not only showing high-quality science but also generosity'. This behaviour was propagated to the SBTE.

With a higher dose of heparin, taught to be essential for zebu IVF, and an even greater dose of dedication by many technicians, graduate students, and collaborators, 'allow me to mention Dr Assis Roberto De Bem'. IVF and other embryo technologies, including cloning and PGDs, started to be discussed in the SBTE meetings, especially by 1992/93 under Dr Oliveira's presidency. In 1993, our pioneer predicted that IVF would become commercially viable and perhaps would be as useful as MOET technology.

The last activity in his university position was a sabbatical leave in 1995 to the Hôpital Saint-Louis, in Paris, on Genetic Markers. Back in Brazil he retired and started a new life as a farmer in the north of the country, where he applied all the embryo technology in his Pure-Bred Nellore herd.

Meanwhile, OPU methodologies, ultrasound, and other equipment had an impressive technological evolution, allowing large-scale collection of gametes, especially in zebu, that for a non-completely understood reason offer a greater pool of antral follicles to recover by OPU.

Hence the synchronisation studies and Fixed Time Embryo Transfer reached very successful rates allowing larger scale Embryo Transfer.

Altogether, these advances conspired to the very small city of Jaboticabal, somehow becoming one of the most important sites for cattle IVF in Latin America. From this site, many people that received their training at UNESP and a few started commercial laboratories, that spread out until Dr Oliveira's prediction became a reality in Brazil (Watanabe and Oliveira Filho 2000).

In 2023 Dr Oliveira received the first Pioneer Award granted by the SBTE (created by inspiration on the IETS Award) due to his work in establishing and stimulating studies in IVP. This effort reached an international level and the IETS, in recognition of good services to embryo technologies development and dissemination, congratulates Dr Enoch Borges de Oliveira Filho, one well-deserved recipient of the 2023 IETS Pioneer Award.

References

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