

## **Assisted Reproduction Technologies in a modern IVF lab: current practice and future challenges**

Danilo CIMADOMO – *Centro PMA Genera, Rome*

The global decline in fertility rates, now falling below the replacement level of 2.1 children per woman in over 50% of the countries worldwide, represents a critical challenge. While Assisted Reproduction Technologies (ART) cannot fully reverse this trend, they play a crucial role in supporting family building. To address this, there is an urgent need to make high-quality ART more accessible and affordable. In this talk, we will explore the evolution of ART in IVF laboratories over the past 40-50 years from the birth of Louise Brown, the first IVF baby. We will provide a concise overview of established certainties, current advancements, and finally discuss future needs and perspectives, emphasizing the pivotal role of the Academia in leading research within this fascinating field of biology and medicine.