



# ROLE OF GENETICS AND GENOMICS IN PRECISION FERTILITY MANAGEMENT- AN ETHICAL PERSPECTIVE

## Dr. Birendranath Banerjee<sup>1,2</sup>

1: Head inDNA Center for Research and Innovation in Molecular Diagnostics, inDNA Life Sciences Private Limited, Odisha

2: School of Biotechnology, KIIT University, Bhubaneswar, Odisha

In the current era of Precision medicine, we are at the cross road of technology and personalization of clinical management. Fertility Science has also progressed on the development of state of ART facilities in Molecular technologies, Whole exome sequencing, Pre implantation Diagnostics and high throughput Next generation sequencing of the gametes and embryo. There is a very thin line separating the possibility, necessity and legality of our clinical decision. It is imperative to use the cutting-edge tools of modern genetics and genomics with precision and caution. The standard guidelines and regulatory framework are an ever-evolving paradigm but the standard of care and outcomes are based on ethical principles. Each case is an unique opportunity to explore the use of Genomics and cutting-edge modern Sequencing tools to detect, diagnose and decide the course of clinical management in a personalized and precise manner.

### Take Home Messages

- ☞ Genetics is hereditary standard presentation of the case with a certain family history, Genomics is functional annotation and Molecular Technologies would enable the clinical team to decide on the outcome.
- ☞ Although the powerful tools of Cutting-edge genomics and DNA sequencing technology increase the possibilities but ethical and regulatory framework always balances and checks the outcome as per Societal norms.