

Mathematics rule the world of science. Innovative technologies based on mathematics have paved the way for implementation of novel strategies in Assisted Reproduction. Ascertaining efficient embryo selection in order to secure optimal pregnancy rates remains the strongest driver behind innovative approaches. This critical analysis reports on complex models based on mathematics for embryo selection, devices and software most widely employed in the IVF laboratory and algorithms in the service of the cutting-edge technology of artificial intelligence. Could bioinformatics may be the means to foretell a promising future for the IVF clinical practice?. Could it be that the traditional approach of light microscopy evaluation prior to the ET will be totally abandoned or could we simply combine both options and hence leave the final decision on the embryologist taking into account the software ranking on embryo quality? Ultimately what would be the clear advantage of creating a fully automated laboratory and to which extent should the human element be present and controlling the final choices Despite their promising nature, the practicing embryologist is the one ultimately responsible for the success of the IVF laboratory and thus the one to approve embracing pioneering technologies in routine practice. Perhaps the next step towards implementing bioinformatics in the IVF laboratory lies in bridging the chasm between understanding both intricate fields and explaining the underlying motives behind this merge. What remains to be seen in the near future is what the IVF world's verdict will be on adoption of such practices employing algorithms, software and devices.