

# SPEAKER PROFILE

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**Professor Dr Michael Summers**  
Consultant, The Bridge Centre, UK

Educated at Cambridge University and as a member of King's College, Cambridge held the prestigious Beit Memorial Fellowship for Medical Research. He also previously held a Wellcome Fellowship and National Institutes of Health (NIH, United States) post-doctoral Fellowship at the Institute for Cancer Research, Philadelphia, PA, USA. He received his medical education and basic clinical training in the United States at the University of Pennsylvania School of Medicine, University of Pennsylvania Health System and Clinical Fellowship at Brigham and Women's Hospital, Harvard Medical School, Boston. He is a Diplomate of the National Board of Medical Examiners, United States of America.



He is fully board certified in the United States in Obstetrics and Gynaecology, and Reproductive Endocrinology, Surgery and Infertility and is also listed on the GMC Specialist Register in Obstetrics and Gynaecology, Consultant in Reproductive Medicine. He is a Fellow of the American College of Obstetrics and Gynaecology. He has held staff appointments at St Mary's Hospital Medical School, London; University of Pennsylvania School of Medicine; Clinical Instructor, Brigham and Women's Hospital, Harvard Medical School; Clinical Associate Professor in Obstetrics and Gynaecology, Division of Reproductive Medicine, Tufts University School of Medicine, Boston; Clinical Associate Professor in Obstetrics and Gynaecology, Division of Reproductive Medicine, University of Massachusetts Memorial Medical Centre. He holds an Honorary Readership in the School of Biosciences, University of Kent. He is currently a Consultant in Reproductive Medicine at the Bridge Centre: Fertility, Gynaecology and Genetics, London.

## LECTURE ABSTRACT: 40 Years of IVF Culture Media

**12:00 - 12:30**

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Whitten (1956) using modified Krebs-Ringer bicarbonate as the physiologic saline added glucose, penicillin, streptomycin and egg white confirmed good development of eight-cell mouse embryos into blastocysts. Later, he replaced egg with bovine serum albumin. McLaren and Biggers (1958) showed that mouse blastocysts produced by Whitten's technique developed into normal adults following transfer to surrogate females. These studies paved the way for the experimental manipulation of the mammalian preimplantation embryo in vitro. On July 25th, 1978 at 11:47 pm a baby girl, Louise Brown, was delivered by primary Caesarean section at Oldham General Hospital to a woman without functional fallopian tubes following the fertilisation in vitro of an ovum from the patient by her husband's sperm and replacement of the resultant embryo into her uterus. Thus, a new treatment was introduced for an intractable cause of infertility first described by Burns (1809) nearly two centuries earlier. Edwards and co-workers (1981) summarized the media used for culture of early human embryos including use of heat-inactivated human serum. Since then several strategies have been introduced for the culture of human preimplantation embryos: firstly, use of chemically-defined media; and secondly, methods to increase the yield of blastocysts. Preimplantation embryos placed in a chemically-defined medium are exposed to stress since inevitably any medium provides only a partial representation of the natural environment. To survive an embryo must adapt using innate physiological mechanisms the long term consequences of which are not known at this time. The commercialisation of media and secrecy surrounding the composition of media used for the manipulation of human gametes and embryos are issues that are not yet resolved.



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