

Elpida Fragouli – taken too soon – an obituary prepared by Darren K Griffin

The whole of the PGT community is devastated to learn of the loss of Dr Elpida Fragouli, taken by cancer at the far too early age of 47.

Elpida was a popular member of our community, known for her quality science and lively presentations. Never afraid to express her opinions, Elpida was a frequently invited chair in scientific programmes and a regular contributor to conferences and debates

In her particular specialities of comprehensive molecular cytogenetic analysis of human embryos, mitochondrial DNA and transcriptomic analysis in early human development, Elpida particularly shone. Her scientific legacy will be her dozens of publications and impressive h-index over 40, and the many students she helped to guide along a path at the interface of science and clinical application. She was a member of the editorial boards of Human Reproduction, Fertility and Sterility, and Reproductive BioMedicine Online

Born in Thessaloniki, Greece, Elpida was a graduate in Molecular Biology from the University of Surrey (BSc), and in Biochemistry (Genetic Manipulation and Molecular Biology) from the University of Sussex MSc. She obtained a second MSc after completing the legendary Prenatal Genetics and Fetal Medicine course from University College London led by Joyce Harper, Joy Delhanty and Sioban Sen Gupta.

For her PhD in human genetics, she was supervised by Prof Joy Delhanty. I was lucky enough to examine her thesis in 2004 entitled “The detection of Chromosomal Abnormalities in Human Oocytes and Preimplantation Embryos by Molecular Cytogenetic Analysis.”

Elpida moved into the clinical world after her PhD performing diagnostics at the UCL Centre for Preimplantation Genetic Diagnosis (PGD) as well as maintaining a research interest in the cytogenetics of human oocytes. Briefly moving to Yale University Medical School, she returned to the UK in 2007 and worked as a researcher in the Nuffield Department of Women’s and Reproductive Health in the University of Oxford. Working closely with Dagan Wells and Santiago Munne, she joined the Reprogenetics laboratory in Oxford, UK, and for more than 10 years helped to direct a large team of PGT specialists. She remained in Oxford, holding a research position at the University of Oxford and also helping to establish the Juno Genetics laboratory in that city as the PGT powerhouse it has since become.

Elpida was one of the pioneers of the clinical application of comparative genomic hybridisation (CGH) for PGT, providing the first insights into the copy number of all 24 types of chromosome in individual oocytes, polar bodies and blastomeres, and highlighting that the blastocyst is the optimal embryo stage for biopsy and diagnosis to be undertaken. She identified several target genes with differential expression in cumulus cells surrounding aneuploid oocytes, and the possible role of mitochondrial DNA as a predictor of embryo implantation potential.

Elpida was the recipient of multiple awards for her work, including the New England Fertility Society-Pacific Coast Reproductive Society Exchange Prize for best submitted abstract (2007) awarded for the work on a comprehensive chromosome analysis of trophoctoderm samples

biopsied from blastocyst stage embryos, the European Society of Reproduction and Embryology Basic Science Prize (2011) for the work on the transcriptome of cumulus cells, and the American Society of Reproductive Medicine and the Society of Assisted Reproductive Technology (2015) Prize for her work on the assessment of the mitochondrial genome of human embryos.

Most recently, in 2021, Elpida joined the University of Bournemouth, being promoted to Senior Lecturer in Biomedical Science in August of 2023 and becoming Deputy Head of Department. She gave engaging and impactful educational lectures on diverse subjects related to reproductive biology and the genetics of early human development.

Our thoughts go out to all of Elpida's family, especially her 10 year old son Alexander who, I am sure, already knows how loved and respected his mum was.

Elpida, we will miss you. As you said about my corrections to your thesis "I didn't agree with everything you said" but I did always look forward to meeting up with you. I know that the colleagues that you leave behind will feel the same.

How we shall laugh at the trouble of parting when we meet again
Henry Scott-Holland.

