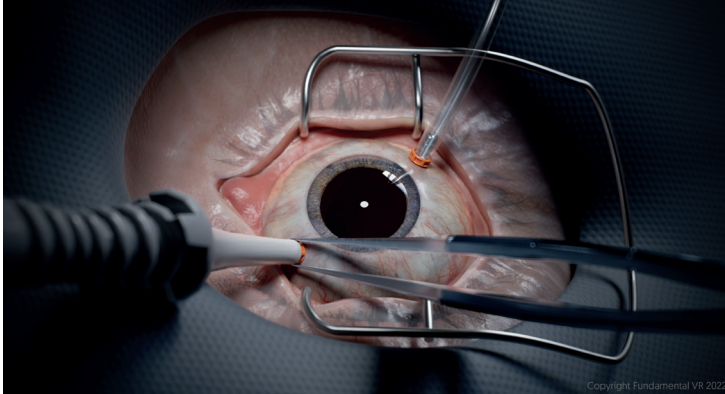
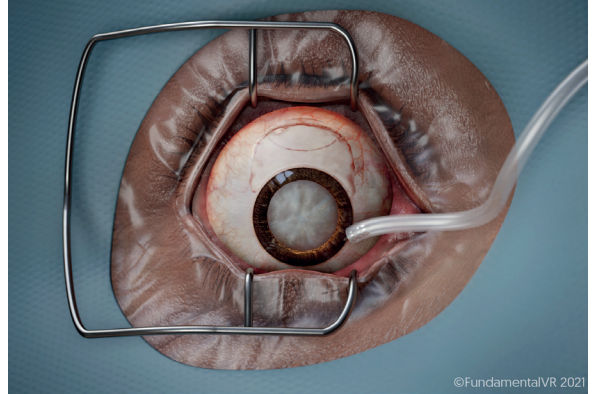


The art of ophthalmic simulations

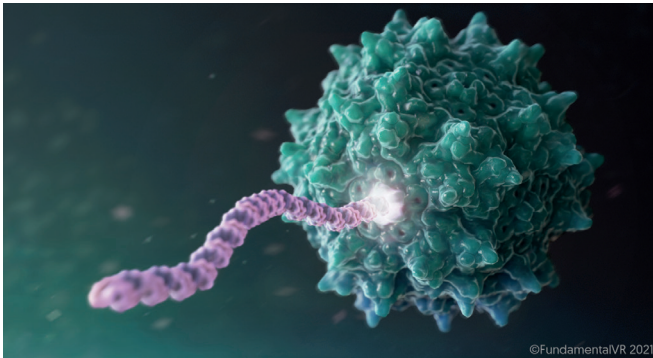
BY NICKY WEBSTER



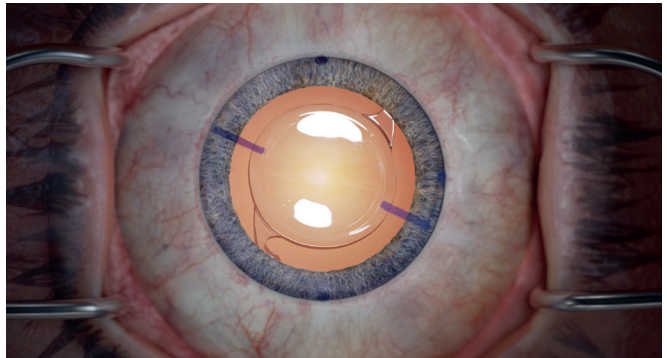
Trocar application in VR.



MSICS, post-peritomy eye with cataract.



Subretinal gene therapy; one time gene therapy with the potential to restore the visual cycle.



Toric IOL, astigmatism correcting intraocular lens.

In this issue, I got in touch with Nicky Webster, a Principal 3D Artist at FundamentalVR (<https://fundamentalsurgery.com>). Nicky is also a registered medical illustrator, healthcare scientist and medical photographer. With over 18 years of experience working in various disciplines within medical illustration, imaging and visualisation, Nicky uses her multi-media background to create award-winning examples of visual communication within the pharmaceutical and healthcare industry.

I became a full-time artist at the age of 40 after going back to university part-time and doing an MA in 3D Animation. After a long period working in ophthalmic and medical photography within the NHS and as my study drew close to finishing, I made the difficult decision to leave and start a new position as a 3D artist at FundamentalVR. The business has grown significantly since then, but at that time they were a small start-up company and I would be making the art assets for surgical simulations. I was certainly out of my comfort zone for a while, but I soon started to merge my background experience with my new position and began leading the art on our ophthalmic simulations.

The art team had great fun creating the 3D models for a 'Mechanism of Action' simulation for a subretinal gene therapy that transported surgeons and healthcare professionals (HCPs) inside the eyeball and showed what was happening at a cellular level. The HCP is surrounded by the

viral vectors – much more immersive and informative than watching an animation.

FundamentalVR also developed an immersive VR solution with eyecare charity Orbis International (<https://gbr.orbis.org>). It was a really rewarding experience leading the art on a manual small incision cataract surgery (MSICS) procedure – a surgical technique that is most used in developing countries for treating cataracts, the world's leading cause of blindness. This was a challenging yet rewarding experience as the project allowed me to work closely with our development team to merge my visuals with our HapticVR™ (haptic feedback) capability. Together we created a valuable learning experience that allows surgeons to train on what feels like actual human tissue.

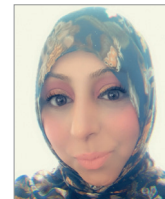
Because of my background, the patient is very real for me, not hypothetical, so I hope I can always approach these projects with genuine empathy from everything that I was exposed to while working for the NHS.

AUTHOR



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