

THE A R I NETWORK WITH PLEX ELITE 9000 SWEEP-SOURCE OCT FROM ZEISS

Pushing the boundaries of discovery with OCT diagnostic innovation to advance patient care

One of the defining aspects of research is that it never stops. We might be in the 25th year of OCT, but the advances over that period have been relentless: Time-Domain OCT shifted to Spectral-Domain; we're now entering the era of Swept-Source (SS) OCT, and of course, you're now able to use SD OCT in daily practice as a simple and rapid way of performing OCT angiography too. Yet, as Philip Rosenfeld, Chairman of the Advanced Retina Imaging (A R I) Network explains, researchers at the forefront of retinal disease research always need "better, wider, deeper and faster imaging of the retina and the choroid." These needs are critical – after all, patients' vision is at stake. But they're demanding too. Providing researchers with the best diagnostic instruments requires pushing the boundaries of not just medicine, but also optics, electronics, physics, mathematics and computer science. ZEISS does this in the knowledge that it helps further researchers' discovery and understanding of diseases affecting the retina, and opens new frontiers of discovery in their quest for new clinical applications for different diseases.

ZEISS' approach to this is best described as "innovation through collaboration" and has undertaken a radical new initiative to supporting these top researchers: collaboration networks. Its first is the Advanced Retina Imaging (A R I) Network, a global consortium of the highest caliber of clinicians and scientists – those who are leading retinal research and other disciplines in ophthalmology, such as neurology and pediatrics. They, together with the engineers and scientists at ZEISS, are working to push the entire field of retinal imaging forward, and ultimately advance both clinical practice and patient care.

What drives the A R I Network is the PLEX Elite 9000 from ZEISS. It is a SS-OCT instrument with a tunable laser centered at 1050 nm, a scan speed of 100,000 A-scans/sec at a tissue depth of 3.0 mm, and an axial resolution of 6.3 μm , with a 56° field of view... for the moment. Let's revisit Philip Rosenfeld's words, this is: "better, wider, deeper and faster imaging of the retina and the

choroid." This wide-field high-resolution visualization provided by the SS-OCT and OCT Angiography imaging modality of the PLEX Elite platform expands clinicians' ability to examine the critical microstructures and microvasculature of the posterior segment at any depth of interest, from vitreous to sclera.

ZEISS' approach with the PLEX Elite system is much like that of a "Formula 1 concept car." It's not just an SS-OCT; ZEISS views it as "an open platform for innovation" that will regularly receive the latest technology – the best that ZEISS' engineers and scientists can provide. Clinicians and researchers will make requests for new features or a different way of doing things – and ZEISS will respond by further developing its technology to meet those requests. The A R I Network members are then able to evaluate those advances and see if they truly make a difference in the clinic. Further, this rapid, iterative development, performed in collaboration with the A R I Network, will result in knowledge of what works, doesn't work, and guide the future development of all OCT instruments – not just the advanced research models – meaning more patients will ultimately benefit. Importantly, the recent US FDA clearance will help US members of the A R I Network to more easily enroll patients and may facilitate faster Institutional Review Board (IRB) review for protocol approval of research further accelerating the pace of research.

The A R I Network with the ZEISS PLEX Elite 9000 at its core supports researchers in the potential to discover and shape future clinical applications for ophthalmology and beyond to other disciplines in medicine – the potential is limitless. This new model of collaboration is the engine that will advance the standard of patient care in the future.

The availability of ZEISS PLEX Elite 9000 in particular markets is dictated by the A R I Network steering committee and available regulatory pathways.

