2nd International Conference on

Eye, Ophthalmology, Optometry and Therapy

June 17-18, 2026 | London, UK

Volume: 17

Artificial Intelligence and Advanced Retinal Imaging: Revolutionizing the Early Diagnosis and Management of Vision Disorders

Pearse A. Keane

University College London, United Kingdom

Artificial intelligence (AI) and advanced retinal imaging technologies are transforming the diagnosis and management of ophthalmic diseases by enabling earlier detection, improved clinical decision-making, and personalized patient care. As the global prevalence of retinal disorders such as age-related macular degeneration, diabetic retinopathy, glaucoma, and inherited retinal diseases continues to increase, innovative diagnostic approaches have become essential for preventing irreversible vision loss. This presentation explores recent advances in optical coherence tomography (OCT), OCT angiography (OCTA), adaptive optics, and deep learning algorithms that have significantly improved the identification of subtle retinal abnormalities. The session will examine how AI-assisted image analysis enhances screening accuracy, reduces diagnostic variability, and supports clinicians in identifying disease progression at earlier stages. The presentation further highlights the integration of multimodal retinal imaging with personalized treatment planning for patients undergoing anti-VEGF therapy, retinal laser treatment, and surgical interventions. Future perspectives include AI-driven precision ophthalmology, digital clinical decision support systems, and collaborative international research aimed at improving global eye health and reducing preventable blindness.

Biography

Pearse A. Keane is Professor of Artificial Medical Intelligence at University College London, United Kingdom, and a Consultant Ophthalmologist at Moorfields Eye Hospital, London. His research focuses on retinal imaging, artificial intelligence, age-related macular degeneration, diabetic retinopathy, and digital ophthalmology. He has published extensively on AI applications in ophthalmology and is internationally recognized for advancing precision eye care through innovative imaging technologies.