

Ophthalmology Software Brings The Promise Of New, Non-Invasive Diagnostics And Novel Therapies

Medical College of Wisconsin



Advances in optical imaging technology has allowed detection of not only prevalent eye diseases, such as macular degeneration and glaucoma but newer diagnosis possibilities are on the horizon, such as detecting diabetes, Alzheimer's disease, and multiple sclerosis.

With the advance of technology has come numerous clinical and translational research activities with the promise of new, non-invasive diagnostics and novel therapies, and a vast quantity of optical images.

Medical College of Wisconsin (MCW) faculty inventor Dr. Joseph Carroll and his team developed software tools to help manage the images for ophthalmology researchers. With the aid of funding from the NIH, Carroll and his team created a work environment called Mosaic, where users can analyze photoreceptors and study the impact of disease and therapeutics on the photoreceptors, helping to extract more data from the images.

They also developed Lattice, an online platform to streamline clinical eye research by incorporating electronic medical record keeping, scheduling and team communications, as well as a portal to manage optical images and data.

Beginning in 2018, MCW's Office of Technology Development (OTD) worked closely with both Carroll and entrepreneur

Dr. Eric Buckland to manage the academic and commercial relationship.

Ultimately, MCW licensed Carroll's software to Buckland's new company, Translational Imaging Innovations (TII). Buckland and TII had a vision for an end-to-end suite of products to enable translational researchers to develop better diagnostics and better therapies, with more predictable benefits – faster, at a lower cost, and with less frustration than other software products.

TII's simplified ocular research platform is a unified suite of applications that addresses the workflow and data management needs of ophthalmology and vision science investigators in a collaborative, secure, environment.

Since licensing, TII has obtained two National Institutes of Health direct-to-phase II Small Business Innovation Research (SBIR) grants and has grown to the point where the Lattice and Mosaic technologies are used to manage more than 80 clinical research projects at MCW and leading ophthalmology research institutions.

The next phase for TII includes continued growth to support clinical research and gene therapy clinical trials.

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