

## **INTEGRATION OF OPTICAL COHERENCE TOMOGRAPHY SCAN PATTERNS TO AUGMENT THE CLINICAL DATA SUITE**

S. Mason<sup>1</sup>, N. Patel<sup>2</sup>, M. Young<sup>3</sup>, M. Van Baalen<sup>3</sup>, W. Tarver<sup>3</sup>, C. Otto<sup>4</sup>, B. Samuels<sup>5</sup>, M. Koslovsky<sup>6</sup>, C. Schaefer<sup>1</sup>, W. Taiym<sup>6</sup>, M. Wear<sup>6</sup>, C. Gibson<sup>6</sup>, A. Tafreshi<sup>7</sup>

<sup>1</sup> MEIT, Houston, <sup>2</sup> University of Houston-Optometry, <sup>3</sup> NASA Johnson Space Center, Houston, TX, , Houston, TX, TX, <sup>4</sup> Memorial Sloan Kettering Cancer Center, New York, NY <sup>5</sup> University of Alabama, Birmingham, AL, <sup>6</sup> KBRwyle, Houston, TX, <sup>7</sup> Heidelberg Engineering, Heidelberg, Germany

### **OVERVIEW**

Vision changes identified in long duration spaceflight astronauts has led Space Medicine at NASA to adopt a more comprehensive clinical monitoring protocol. Optical Coherence Tomography (OCT) was recently implemented at NASA, including on board the International Space Station in 2013. NASA is collaborating with Heidelberg Engineering to increase the fidelity of the current OCT data set by integrating the traditional circumpapillary OCT image with radial and horizontal block images at the optic nerve head. The retinal nerve fiber layer was segmented by two experienced individuals. Intra-rater (N=4 subjects and 70 images) and inter-rater (N=4 subjects and 221 images) agreement was performed. The results of this analysis and the potential benefits will be presented.