

Biosearch acquires majority stake in LightSpeed, 12/13

December 2013—Biosearch Technologies has acquired a majority stake in LightSpeed Genomics, a company developing an innovative optical-detection solution for the life science and diagnostics industry based on its proprietary Synthetic Aperture Optics (SAO) technology. Biosearch and LightSpeed are collaborators on the development of StellarVision, a next-generation gene-expression platform optimized to work seamlessly with Biosearch's Stellaris RNA FISH assays to detect and quantify single-molecule RNA targets within individual cells.

LightSpeed's SAO technology is an optical-detection paradigm that enables massively parallelized optical detection. The technique combines coherent interferometric illumination and computational image reconstruction to achieve ultra-high resolution that is far beyond the native resolution of the lens and camera. Unlike conventional optical detection, resolution can be independently improved without affecting the field of view, working distance, and depth of field, thereby providing a mechanism to build a high-speed scanner for ultra-high-density imaging.

The SAO-based StellarVision gene-expression analysis instrument can analyze hundreds of cells simultaneously within a single field of view using a 20× air lens but with resolution comparable to a 100× oil immersion lens or higher.

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