

## CASE STUDY



City of Hope

# ADVANCING CRITICAL RESEARCH

with the *LAGO X*



### THE SEARCH FOR A NEW INSTRUMENT

The City of Hope's Comprehensive Cancer Center's Small Animal Imaging Core (SAIC), a part of the Beckman Research Institute, provides In vivo functional and anatomical imaging and image analysis for cells, tissues, and small animals, primarily mice and rats. The assets of the SAIC include state-of-the-art instrumentation and a globally recognized team.

Optical imaging is a critical component of the Beckman Research Institute's SAIC, which has deployed various optical systems over the years to provide its research community with critical bioluminescence and fluorescence imaging data.

In 2015, the entire suite of optical imaging systems was in need of a replacement and upgrades and the SAIC team was tasked with finding the next generation of optical imaging technology.

*As an imaging core, reliability and support were at a premium. We were impressed with SII's emphasis on systems reliability from the ground up and also heartened by the references we received from their customers. We were also intrigued by the potential of SII's LED based illumination for use in fluorescence imaging. We also valued the company's commitment to high throughput especially given the renewed research emphasis on larger animal samples.*

*After months of evaluation and consideration of multiple optical systems on the market, in 2015 we chose the state-of-the-art instruments from Spectral Instruments Imaging (SII). Initially the Ami HTX and subsequently multiple Lago (X)'s.*

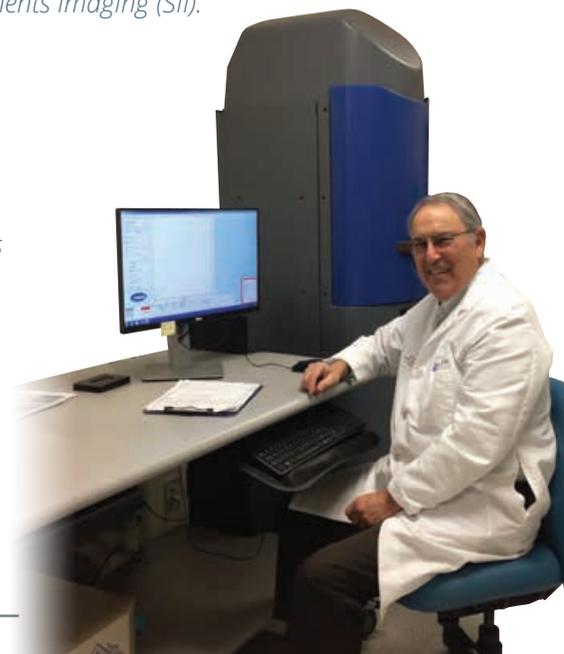


### USING THE LAGO, LAGO X & AMI HTX

*We were so pleased with the instrument's performance and SII's support within the very first year of use that we committed to a replacement of our entire suite of older instruments with SII products.*

*In 2016, we procured a Lago X imaging system from Spectral Instruments Imaging, and in 2017 a Lago and a Lago X giving us a total simultaneous throughput of over thirty mice on the Lago and the 2 Lago X systems...*

*David M Colcher, Ph.D., City of Hope  
Professor of Molecular Immunology*



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*Delivery and install were on time, very professional and accomplished in less than an hour. Training was short and very effective, and users were very pleased with the system.*

*The throughput of the instruments was significantly greater than that of the closest comparable alternative. In fact, the system's outstanding reliability was only exceeded by SII's total commitment to system uptime and availability. SII application and support teams were proactive and available – over the phone or, just as readily, in person when needed.*



### LED BASED FLUORESCENCE

*We really value the LED based illumination for use in fluorescence imaging. That has been a real game changer for both researchers and for imaging core operations.*

*The LED based illumination meant that there was nearly a 90X more light incident on the surface of the specimen versus traditional white lights used by other manufacturers which translates to earlier detection – sometimes weeks ahead – saving researchers time and money. It also dramatically improved the utilization of the imaging core.*



### WHY SPECTRAL INSTRUMENTS IMAGING?

*Unlike some of the other larger companies for whom optical imaging is not their main business, SII has a single-minded focus on building the best optical imaging instruments for bioluminescence and fluorescence. The entire company – management, engineers, sales team and support is aligned around that central focus.*

*This has meant many good things for us as a customer – where the innovation continues non-stop. We are already seeing many new features in software and hardware that leave us very optimistic about the future.*

## RESEARCH

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*We have over 35 Principal Investigators and over 125 Users of the Small Animal Imaging Center. Most of our users are following tumor growth after a variety of treatment modalities, including CAR-T cell and neural stem therapies, using bioluminescence. We also have users that are following antibody targeting using fluorescent labeled antibodies, which we have translated to the clinical for intra-operative optical imaging.*

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### HIGHLIGHTED RESEARCH AT CITY OF HOPE, USING LAGO & LAGO X

- A Model For Studying Tissue-Specific mdr1a Gene Expression In Vivo By Optical Imaging
- Daratumumab As An Imaging Tracer For Multiple Myeloma: Potential Use For Minimal Residual Disease Detection.
- Donor B Cells In Transplants Augment Clonal Expansion And Survival Of Pathogenic CD4+ T Cells That Mediate Autoimmune-Like Chronic Graft-Versus-Host Disease
- Fluorescent Imaging Of Human Breast (MCF-7/HER2) Tumors With Anti-HER2 (Trastuzumab)-Cy5
- Fluorescent Imaging Of Human Colon (LS-174T) Tumors With Anti-CEA hT84.88-AlexaFluor®647
- Fluorescently Labeled Anti-PSMA As An Intra-Operative Optical Imaging Agent For Prostate Cancer
- L1 Cell Adhesion Molecule-Specific Chimeric Antigen Receptor-Redirected Human T Cells Exhibit Specific And Efficient Anti-tumor Activity Against Human Ovarian Cancer In Mice
- PD-L1 Interacts With CD80 To Regulate Graft-Versus-Leukemia Activity Of Donor CD8+ T Cells

[See More Publications](#)

## LAGO X In Vivo Imaging System

### UNRIVALED PERFORMANCE

- Ultimate in High Throughput: 10 Mice, BLI / FLI / X-ray
- Industry leading Field of View: 25x25cm
- 36% More Sensitive than the leading competitor in its class
- Patented LED Illumination for FLI yields 100x more light on target
- Free Aura Analysis Software | Mac & PC | Import Living Image® Data

[Learn More about our Imaging Systems](#)

