



# LAGO X

Ultimate in High Throughput

spectral  
instruments  
**imaging**  
A BRUKER COMPANY

# UNTRIVALED SENSITIVITY

## Best-in-class Performance



### 36% More Sensitive

When comparing minimum detectable radiance for bioluminescence to the leading competitor in its class



### Patented LED Excitation

100x more light on target gives you a stronger fluorescence signal with minimal background for superior quantitation



### BLI · FLI · X-ray

Advanced preclinical optical imaging: Bioluminescence, Fluorescence & X-ray



### 10 Mouse Capacity

Industry leading field of view maximizes your productivity



### Free Aura Analysis Software

Aura Imaging Software is a robust analysis tool available for PC & Mac users  
Import legacy Living Image® files

# RAISING THE BAR

## **-90°C Absolute Air-Cooled Camera**

No Liquids • No Chillers • No Leaks  
Reliable & ready to use in 5 minutes.

## **Access Port**

Light tight access port for external systems connections \*Field Upgradable, non-xray units.

## **Vertical Door**

Saves bench space & reduces waste anesthesia gas exposure.

## **Patented LED Fluorescence Excitation**

High intensity light source generates 100x more light on target. Individual LED colors/wavelengths are used to improve specificity & reduce background.

## **Anesthesia**

Compatible with third party systems.

## **Animal Friendly Heated Platform**

Unique materials & convection method produce even heating & uniform temperature for improved animal comfort & reliable enzyme kinetics.

## **Automated, X-ray Source**

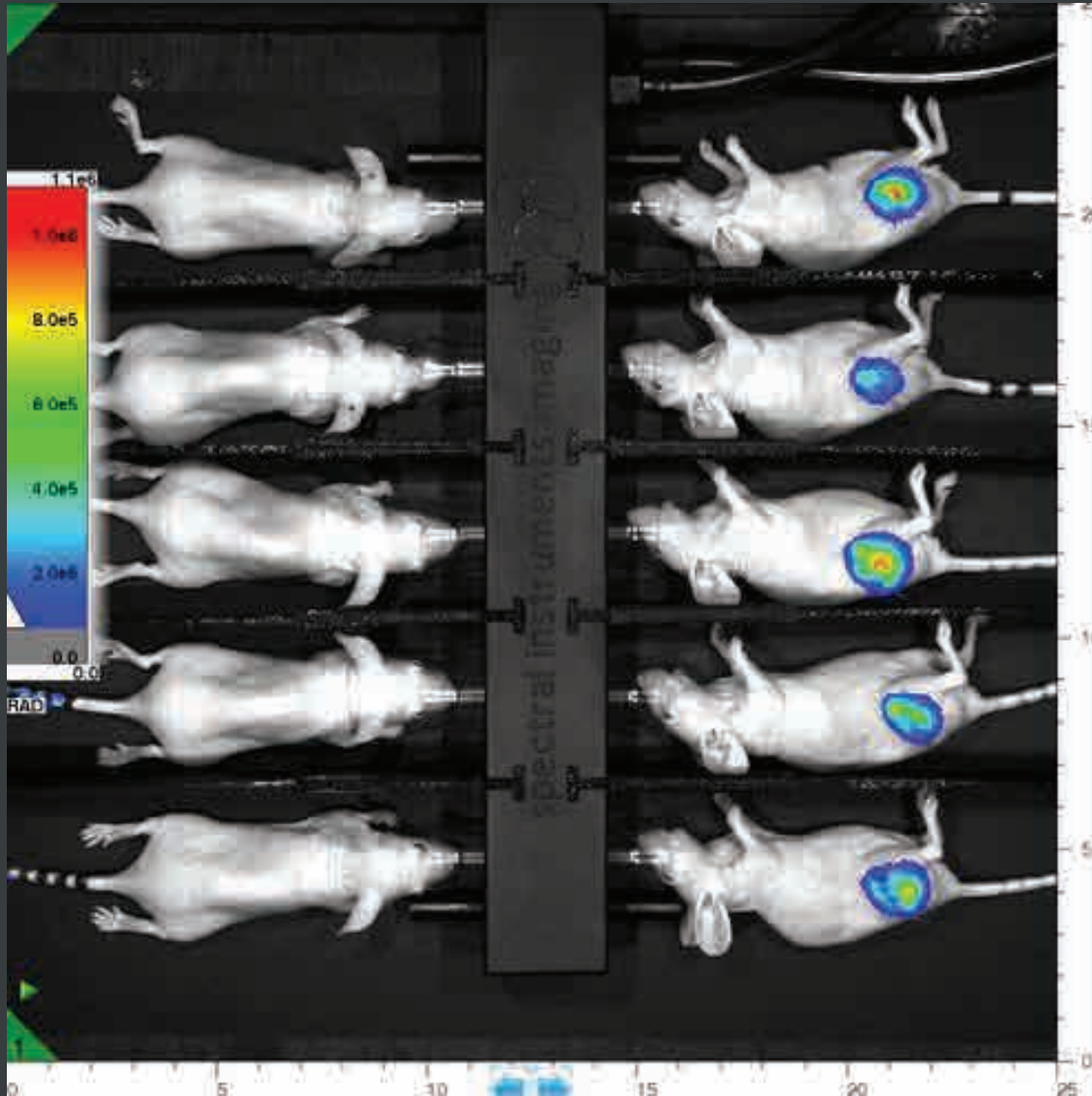
Enables rapid acquisition of X-ray images. Maintains Specimen numbers between optical & X-ray. \*Field Upgradable

## **Patented Steel Construction**

Innovative light tight cabinet - Designed without parts that can wear over time & compromise data quality.



# ULTIMATE IN HIGH THROUGHPUT



Sharon S. Hori, Sheen-Woo Lee, Sanjiv Sam Gambhir (Canary Center at Stanford, Stanford University School of Medicine)

## Image 10 Mice

Industry Leading 25cm x 25cm FoV

Includes manifolds for 10 & 5 mouse configurations

*We really like the SII Lago imaging instrument because it has several improvements as compared to our previous IVIS<sup>®</sup> instrument. The second adapter with 10 nosepieces allows us to image up to 10 mice at once, which saves us a lot of time when imaging mice. Additionally, the software is very user-friendly and easy to run.*

# BETTER FLUORESCENCE EXPERIENCE



## Patented LED Technology

High intensity fluorescent excitation source results in stronger signals - with less background for Superior Signal-to-Noise & earlier detection.



## 100x more light on target

\*than traditional white light sources

LEDs have a direct path to targets. No use of fiber optic cables that can contaminate & attenuate excitation light.



## Stable & Linear Excitation Light

Long life LED's - Rated for 100,000 hrs of imaging. Lasts 1000x longer than tungsten bulbs, never fading or compromising your data. Fine tune adjustable power of every LED. No warm up time.



## Engineered for non-stop imaging

14 excitation LED's | 20 emission filters | Custom options available

*We have found the NIR fluorescence to be of high sensitivity with the ability to differentiate signals at 680nm, 715nm, 750nm, and 800nm.*

Multiplex FLI: GFP & ProSense 750

# FREE AURA ANALYSIS SOFTWARE



Aura Software is comprehensive & provides a seamless, end to end workflow – from acquisition to analysis.



Spectral supports open collaboration by providing free Aura Analysis Software for both Mac & PC.



Aura Software supports legacy files by opening & analyzing IVIS® Living Image® optical data.

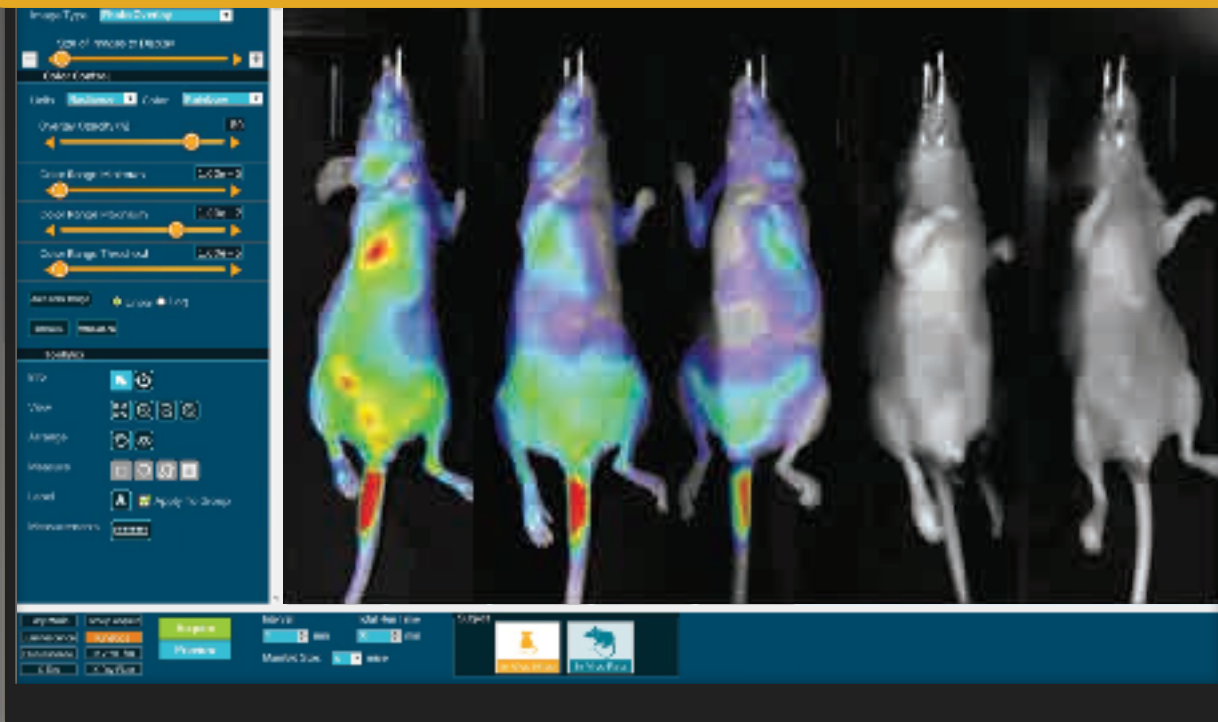
## 3 Clicks to Acquisition



Easy Mode makes capturing data faster than ever before.

Simply select your probe & subject & acquire your data!

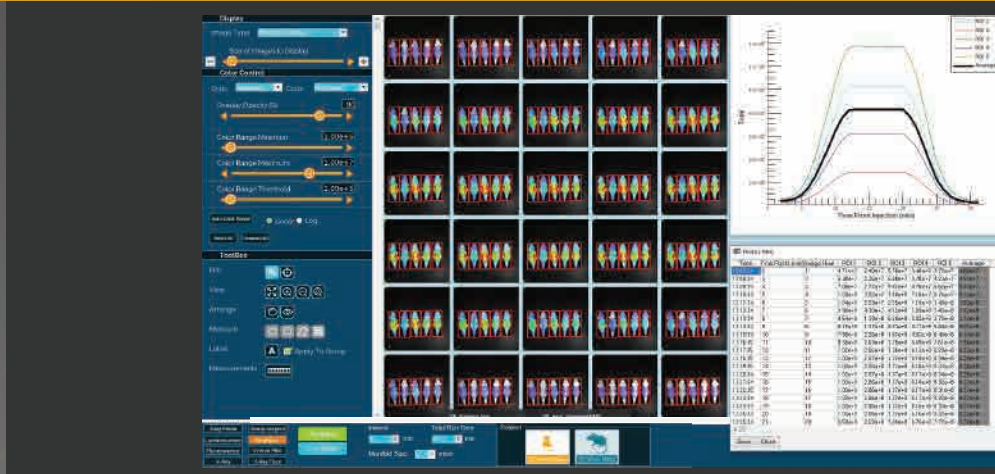
Smart AutoExp with proprietary SmoothBlend technology enables rapid data acquisition at maximum sensitivity without compromising image quality.



# Automatic BL Kinetic Curves



Quantifying data captured at peak signal is critical to ensuring data accuracy & reproducibility. Kinetics enables automatic, real-time acquisition of bioluminescent kinetic curves. Quickly & accurately acquire & present BL kinetic curve data of up to 10 mice from a single image.



## ROBUST & RELIABLE WORKHORSE



### Spectral Instruments' novel Solid State Air-Cooled Cameras

Provide ultra cold  $-90^{\circ}\text{C}$  absolute cooling without the use of liquids or gas for support which guarantees *No Leaks!*



### Less pieces & parts to break

Built without limit switches or other dated parts prone to failure. Innovative light tight cabinet with interlocking greek keyed steel avoids gaskets that crack & degrade over time. Vertical door to save space & minimize isoflurane exposure.



### Factory Calibrated

All instruments are factory calibrated prior to shipment, allowing easy and quick installation. Factory calibrations last over the life of the instrument, maintaining high data quality.



### Absolute Calibration

Ensures data accuracy regardless of changes in animal position or camera settings. Traceable to NIST standard.

# SELECTION GUIDE



	LAGO X	LAGO	Ami HTX	Ami HT	KNO
<b>Ideal For:</b>	High Capacity Imaging Cores, BioPharma		Animal Care Specialists, CROs		Small Startups
<b>Bioluminescent Imaging (BLI)</b>	✓	✓	✓	✓	✓
<b>Fluorescent Imaging (FLI)</b>	✓	✓	✓	✓	✓
<b>X-ray</b>	✓	Field Upgradeable	✓	Field Upgradeable	N/A
<b>Mouse Capacity</b>	10 Mice	10 Mice	5 Mice	5 Mice	3 Mice
<b>Maximum Optical Field of View (cm)</b>	25 x 25	25 x 25	25 x 17	25 x 17	13 x 13
<b>Patented LED Excitation</b>	✓	✓	✓	✓	✓
<b># of LED (Fluorescent) Excitation Wavelengths</b>	14	14	10	10	10
<b>Included LED Excitation Wavelengths</b>	360, 405, 430, 465, 500, 535, 570, 605, 640, 675, 710, 745, 770, & 805 <sub>nm</sub>		430, 465, 500, 535, 570, 605, 640, 675, 710, & 745 <sub>nm</sub>		430, 465, 500, 535, 570, 605, 640, 675, 710, & 745 <sub>nm</sub>
<b>Fluorescent Emission Filters</b>	20	20	10	10	5
<b>Standard Emission Filter Choices:</b>	490, 510, 530, 550, 570, 590, 610, 630, 650, 670, 690, 710, 730, 750, 770, 790, 810, 830, 850, & 870nm				
<b>CCD -90°C Absolute Solid State Cooling</b>	✓	✓	✓	✓	✓
<b>Minimum Detectable Radiance</b>	45 photons/sec/cm2/sr	45 photons/sec/cm2/sr	50 photons/sec/cm2/sr	50 photons/sec/cm2/sr	59 photons/sec/cm2/sr
<b>Camera Sensor</b>	1" back-illuminated Grade 1 plus CCD	1" back-illuminated Grade 1 plus CCD	1" back-illuminated Grade 1 plus CCD	1" back-illuminated Grade 1 plus CCD	.5" back-illuminated Grade 1 plus CCD
<b>Pixel Dimensions</b>	2048 x 2048	2048 x 2048	1152 x 770	1152 x 770	1024 x 1024
<b>High Performance CCD Size</b>	27.6 x 27.6mm	27.6 x 27.6mm	25.9 x 17.3mm	25.9 x 17.3mm	13mm x 13mm
<b>Quantum Efficiency: &gt;85% efficiency 500-700nm; &gt;35% efficiency 700-900nm</b>	✓	✓	✓	✓	✓
<b>Dark Current</b>	<49 e-/sec/cm <sup>2</sup>	<49 e-/sec/cm <sup>2</sup>	<49 e-/sec/cm <sup>2</sup>	<49 e-/sec/cm <sup>2</sup>	<100 e-/sec/cm <sup>2</sup>
<b>Binning</b>	1x1,2x2,4x4,8x8,16x16	1x1,2x2,4x4,8x8,16x16	1x1,2x2,4x4,8x8	1x1,2x2,4x4,8x8	1x1,2x2,4x4,8x8
<b>Lens</b>	50mm, Aperture: f/1.2 - f/16	50mm, Aperture: f/1.2 - f/16	50mm, Aperture: f/1.2 - f/16	50mm, Aperture: f/1.2 - f/16	50mm, Aperture: f/1.2 - f/16
<b>Absolute Calibration, NIST Traceable</b>	✓	✓	✓	✓	✓
<b>X-ray Source</b>	10-50keV	Field Upgradeable	10-40 keV	Field Upgradeable	N/A
<b>X-ray Camera</b>	Line scanning imager	Field Upgradeable	Line scanning imager	Field Upgradeable	N/A
<b>X-ray Field of View</b>	25x22cm	Field Upgradeable	25 x 15cm	Field Upgradeable	N/A
<b>Heated Imaging Platform, 20-40c</b>	✓	✓	✓	✓	✓
<b>Inlet &amp; Outlet Ports for Gas Anesthesia</b>	✓	✓	✓	✓	✓
<b>Light Tight Access Port (Field Upgradeable)</b>	N/A	Optional	N/A	Optional	Optional
<b>Space Requirements</b>	56cm(w) x 66cm (d) x 211cm (h)	56cm(w) x 66cm (d) x 211cm (h)	56cm (w), 66cm (d), 122cm (h)	56cm (w), 66cm (d), 122cm (h)	56cm (w), 66cm (d), 122cm (h)
<b>System Internal Dimension</b>	Imaging platform: 50x34cm	Imaging platform: 50x34cm	Imaging platform: 50x34cm	Imaging platform: 50x34cm	Imaging platform: 50x34cm
<b>PC, Monitor &amp; Software Included</b>	✓	✓	✓	✓	✓
<b>Free Aura Analysis Software (MAC &amp; PC)</b>	✓	✓	✓	✓	✓