

# AIM CORE NEWSLETTER

NOVEMBER 2020

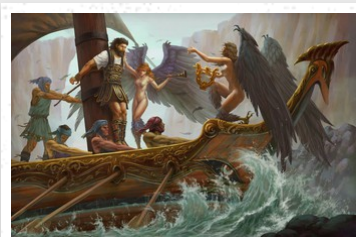
IN A NUTSHELL. . .(SCROLL DOWN TO  
LEARN MORE ABOUT)



Upcoming  
Webinars and  
Training



Seahorse:  
innovation



"Odysseus"

The Laser (LZR) based CX7  
with robotic arm (Sirena)

## Metabolomics RFA

This is an excerpt from the Official RFA distributed from Dr. Judy Cannon, our Director and Dr. Meilian Liu, our Co-Director:

The AIM COBRE is offering up to \$5000 voucher to perform metabolomic studies. The AIM COBRE Cores will facilitate studies on metabolomics by helping investigators who want to perform metabolomics analyses (with appropriate technologies not present at UNM HSC). The AIM COBRE Core will provide guidance with assessing appropriateness of the methodology, facilitate with our tested outsourcing partner for metabolomics studies, instructions for sample preparation and



administration of the voucher utilization. The voucher through AIM COBRE will pay up to \$5000 for the metabolomics experiments to be performed with the outsourced partner. In addition, applicants may apply for up to \$1000 for reagents for utilization of existing core equipment, including Agilent Seahorse to assess metabolic outputs, Amnis Imagestream or Cellomics imaging systems to assess metabolic readouts. These funds can be used to purchase kits, antibodies, laboratory supplies as appropriate to use existing core equipment. Highest priority for funding will be given to applications that also use existing core equipment to complement metabolomics. We anticipate funding up to 3 vouchers depending on review.

Please send inquiries to Meilian Liu ([MeilianLiu@salud.unm.edu](mailto:MeilianLiu@salud.unm.edu)).

To apply, please describe proposed studies (one half page summary) and send to Shaina Aguirre ([Svaguirre@salud.unm.edu](mailto:Svaguirre@salud.unm.edu)).

If funded, we expect awardees to participate in AIM Center activities including attendance and presentation of results in our Tuesday AIM seminar series. Also, any publications resulting from data obtained using the metabolomics voucher should cite the AIM Center P20 grant (P20GM121176).

## Informational Webinar: Isoplexus

Single cell or Bulk preteomics. Up your western blot game!  
Check out this new technology from Isoplexus on Wednesday  
11/11/20 @ 10am - 11am.



<https://hsc-unm.zoom.us/j/98728152273>

**After the webinar, let us know if you think this technology would benefit your research.  
YOUR PROACTIVE FEEDBACK INFLUENCES THE CONSIDERATIONS WE MAKE FOR THE  
FUTURE OF THE CORE.**

<https://www.surveymonkey.com/r/NRRCXKP>



Join Here!  
<https://hsc-unm.zoom.us/j/98728152273>

## VIRTUAL SYMPOSIUM:

Accelerating The Next Generation Of  
Immune Medicine With Functional Phenotyping

11.11.2020 | 11:00 AM - 12:00 PM CDT

## SPEAKERS



11:00 AM – 11:40 AM

**Terri Brown | IsoPlexis**  
Accelerating the Next Generation of  
Immune Medicine with Functional  
Phenotyping



11:40 AM – 12:00 PM

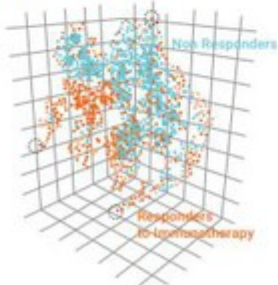
**Casey Kuenn | IsoPlexis**  
IsoSpeak Software Demo

Join our webinar to learn about IsoPlexis and how its multidisciplinary product suite is using functional phenotyping and addressing urgent challenges central to unlocking the next stage of personalized cancer immunotherapies and vaccines related to immunological mechanisms in infectious disease. With single-cell proteomics barcoding and detection of a full range of cytokines (30+) per single cell across thousands of single cells, the IsoLight platform is showing the unique value of resolving the heterogeneity of a variety of immune cell types.

### During this symposium, we will share how researchers using the IsoLight platform:

- Reveal the functional mechanism of immune activation in a novel agonist combination with adoptive cell therapy
- Uncover the role of TILs within Ipi/Nivo checkpoint combination and reveal the biological drivers of patient response
- Identify the unique polyfunctional monocyte cell types that drive tumor suppression
- Understand the functional differences of tumor antigen potency in bispecifics
- Identify functional immune mechanism CD8 T cell response for infectious diseases.
- And other single-cell functional proteomics cases

### IsoPlexis single cell function reveals differences



### 4 DATA VISUALIZATIONS

Automated on-site analysis and advanced, functional, single cell mapping with IsoSpeak Software.



Another AMNIS Training from Luminex  
(December 1-3). Register Before Nov 13!

<https://www.luminexcorp.com/luminex-learning-sessions/#flow>

## December 2020 Virtual Sessions

We are hosting virtual Imaging Flow Cytometry Luminex Learning Sessions from December 1 – 3 in Central Standard Time (GMT-6). This event will include seminars covering ImageStream technology and core concepts, data analysis sessions using sample training data to walkthrough IDEAS lab. The event will also involve demonstration sessions that will provide an overview of newer software packages (IDEAS, Machine Learning), to enhance your ImageStream experience.



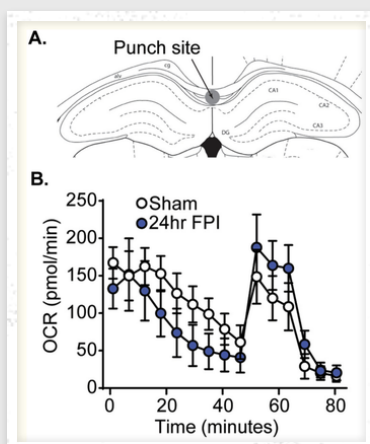
This event is free to our ImageStream/FlowSight customers. If you are interested in attending please let Terrin Blackmon ([tblackmon@luminexcorp.com](mailto:tblackmon@luminexcorp.com)) know which sessions you'd like to attend, and she can assist with coordinating your request.

**Please note, registration closes on Friday, November 13th.**

**We also have training modules on the AMNIS computer and work analysis station (>10GB worth of training) Please feel free to copy them and practice on your home PC (sorry, not mac compatible) by contacting the company to ask for a free copy of the IDEAS analysis software (you will need to ask me for the serial # of our machine). Alternatively, you can practice in the core at your convenience. Ask me about it =)**

## Agilent TRAINING and EVENTS > Webinars

Very useful general resource to peruse different ways the Seahorse analyzers can be applied to your research: <https://www.agilent.com/en/training-events/eseminars/cell-analysis-webinar-series>



## Seahorse highlights

Check out this innovative way Underwood et al. was able to use the Seahorse to assess tissue respiration in anatomically defined brain regions from vibratome slices of brain tissue punches!

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7413397/>

Also, did you know our new XFe96 Seahorse can even analyze spheroids!?

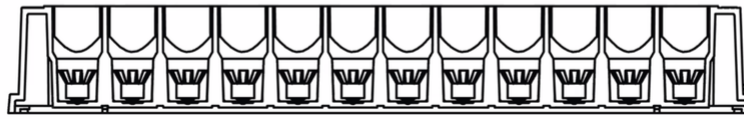




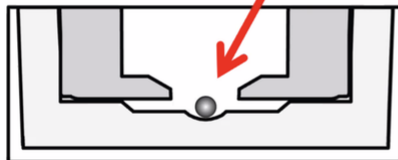
## Measuring bioenergetic function in spheroids with the XFe96 Spheroid Plate

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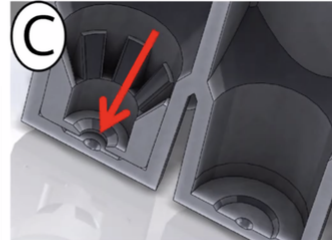
*The Seahorse XFe96 Spheroid Plates have been validated for use with cultured spheroids*



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## Reminder: Please clean up after use and take your data

As with all the instruments in the core, it is the onus of each investigator to clean & spray down your station after each use.

Part of this finishing up process is also taking your data with you after acquisition. The only instruments currently connected to the server are the CX7 Cellomics analyzers. Every other data generating instrument accumulates data, that can cause problems for other users as the build up grows



To assure all users have smooth data acquisition, please take your data EACH time from the chemidoc, plate reader, seahorses, Amnis, and Guava. If for some reason you can't take your data at the time of acquisition and you need more time, you can email me so that I specifically know NOT to purge the instrument until you can complete a data transfer within a day or two. Failing to let me know that you need more time means you run the risk of losing your data. I will purge data on different devices according to the needs of the devices and the rate/amount of accumulation. Please consider this your "prior notice" as I don't want to send many tiny reminder notices of purging.

So please, if there is data on any device in the core (other than the CX7 instruments) that you need, please make sure you take them soon. I would hate for anyone to lose precious results.



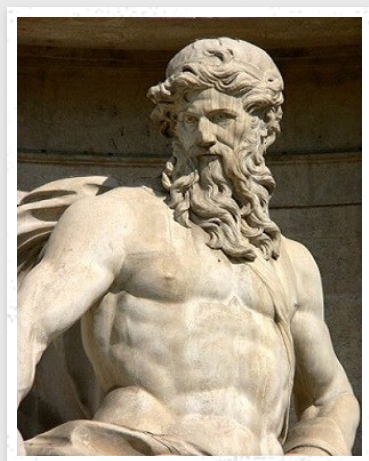
## Optical Plates for High Content Analysis is Best

For 20X & 40X magnifications we really recommend using OPTICAL plates in the High Content Analyzers.

Here's a THIN PLASTIC bottom suggestion: Fisher cat# 12-566-70 (Case of 30) Nunc. Sterile 96well Black Well Optical Plates for Cell Culture (~\$221.56)

## Odysseus is Up and Running

We've fully installed and connected the new CX7 LZR instrument to the server. We've had two users trained on it so far. Users are welcome to book time on either machine (typical kiosk protocols apply). Previous form factors and protocols are available on both machines and more training videos covering the following topics are either already posted or will be posted in the next week.

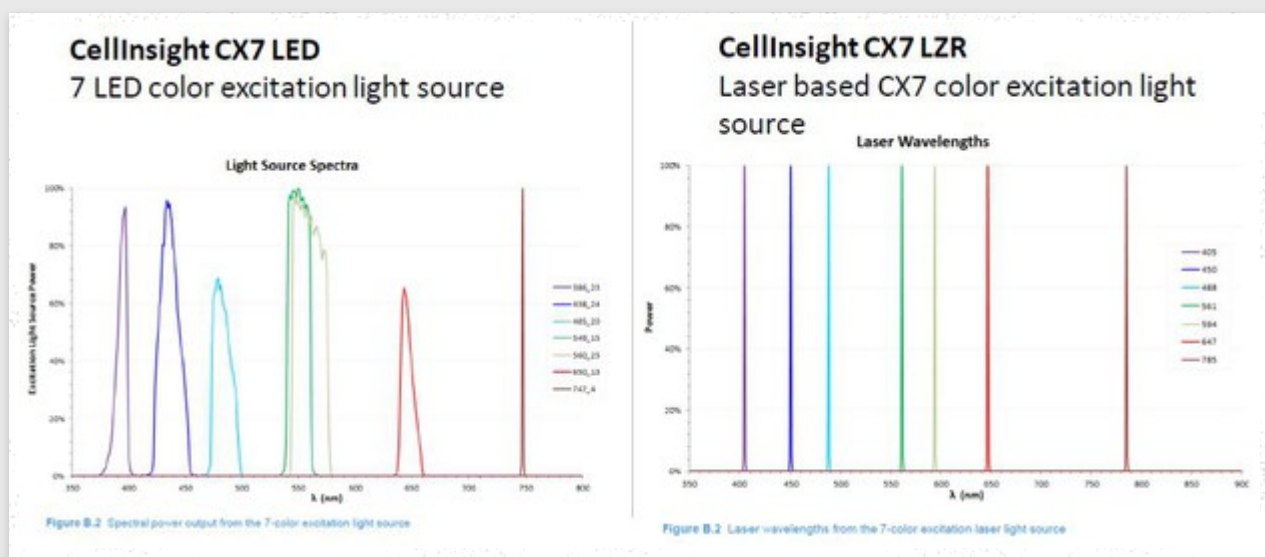


Available/Posting soon videos:

HCS 101, Colocalization, Eureka Scan, Robotic Arm Operation, Apoptosis bioapplication

Some differences to note:

- 1) Odysseus will not take an image if the top door is not fully locked (laser safety).
- 2) The placement clip that holds the the plates in place is automatically pulled back when the tray comes out (this needs to be done manually in "Spotty" the LED CX7). As the tray enters the unit, the placement clip engages automatically.
- 3) The collar on the 20X objective (on Odysseus) is set to 0.17, which is optimal for OPTICAL PLATES (thin plastic or coverslip bottoms). Please do not use regular thick plastic bottom plates at 20x on this machine. You will not be able to focus your sample unless we physically adjust the collar. On Spotty, the 20x collar is preset at 1.0 for thick bottom plates.
- 4) The dye filter set designations are slightly different because of the laser light source



Survey monkey: Possible changes to the plate Biotek reader.

Users of the the Biotek plate reader, we need your input! Please click on this [survey monkey question](#).

We're now on LINKED IN!

I'm currently adding content to the AIM CORE Linked In profile.





I would love suggestions on content and to add you to our network.

I'm happy to highlight publications of our investigators, equipment offerings, posters, talks, etc. Please send me pics of your title slides/you/your manuscript cover pages/etc. so that I can highlight the many amazing achievement of our AIM community!



## Autophagy Inflammation and Metabolism Core

I can't believe it's November already! Keep up all the great work battling COVID fatigue. We need to be as vigilant as ever with our NM numbers on the rise. Remember to clean your stations and practice great hand hygiene.

As we gear up for the next phase of funding for the core, please remember to kiosk in and out so that we can tally the hours that the core is in use. Please remember to include us in your citations and email me to let me know when you do/where you present.

### Fun fact: **No-Shave November?**

- "No-Shave November" is defined as a month-long journey where men avoid shaving and grooming in order to increase cancer awareness and discussion about cancer. It means embracing the hair which is lost by many cancer patients during their treatment of chemotherapy and allowing this hair to grow wild and free.

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☎ 505-272-7102

✉ [spdesai@salud.unm.edu](mailto:spdesai@salud.unm.edu)

🌐 [autophagy.center/](https://autophagy.center/)