NORTHEAST REGIONAL
Laboratory Staff & Core Directors

2025 Northeast Regional Laboratory Staff and Core Directors Meeting
October 8th – 10th, 2025
Omni New Haven Hotel at Yale
New Haven, CT

ABRF Research • Technology Communication • Education

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Land Acknowledgement

Yale University acknowledges that indigenous peoples and nations, including Mohegan, Mashantucket Pequot, Eastern Pequot, Schaghticoke, Golden Hill Paugussett, Niantic, and the Quinnipiac and other Algonquian speaking peoples, have stewarded through generations the lands and waterways of what is now the state of Connecticut. We honor and respect the enduring relationship that exists between these peoples and nations and this land.

The Northeast Regional Laboratory Scientists and Core Directors Organizing Committee, along with all attendees, honor the enduring presence of these Nations and their ancestors, past and present. We are committed to fostering a more inclusive, equitable, and respectful environment for all.

WELCOME TO NERLSCD 2025

Thank you for joining us as we celebrate the 20th annual meeting of the Northeast Regional Laboratory Staff and Core Directors (NERLSCD) meeting!

This year's meeting is hosted by Yale University at the Omni New Haven Hotel at Yale in New Haven, CT USA. The 2025 meeting continues the grand tradition started at the first meeting held at Cornell University, Ithaca, NY, USA, of presenting an outstanding regional forum for core facility administrators, directors, managers, and staff. The meeting offers opportunities to network with colleagues, to learn about biotechnology advances and applications, and to discuss the challenges of implementing shared research resources.

This meeting would not be possible without the support of our speakers who have graciously donated their time to come and share their experiences with us. Active discussion and participation by all meeting attendees are hallmarks of the NERLSCD meeting and we encourage you to continue that tradition.

A meeting of this nature cannot be held without the generous support of our partners and sponsors. Their financial support is crucial for the continued success of this meeting. Take time to browse the 42 exhibitors who are here for this meeting.

Sincerely,

The NERLSCD Organizing Committee

NERLSCD 2025 ORGANIZING COMMITTEE

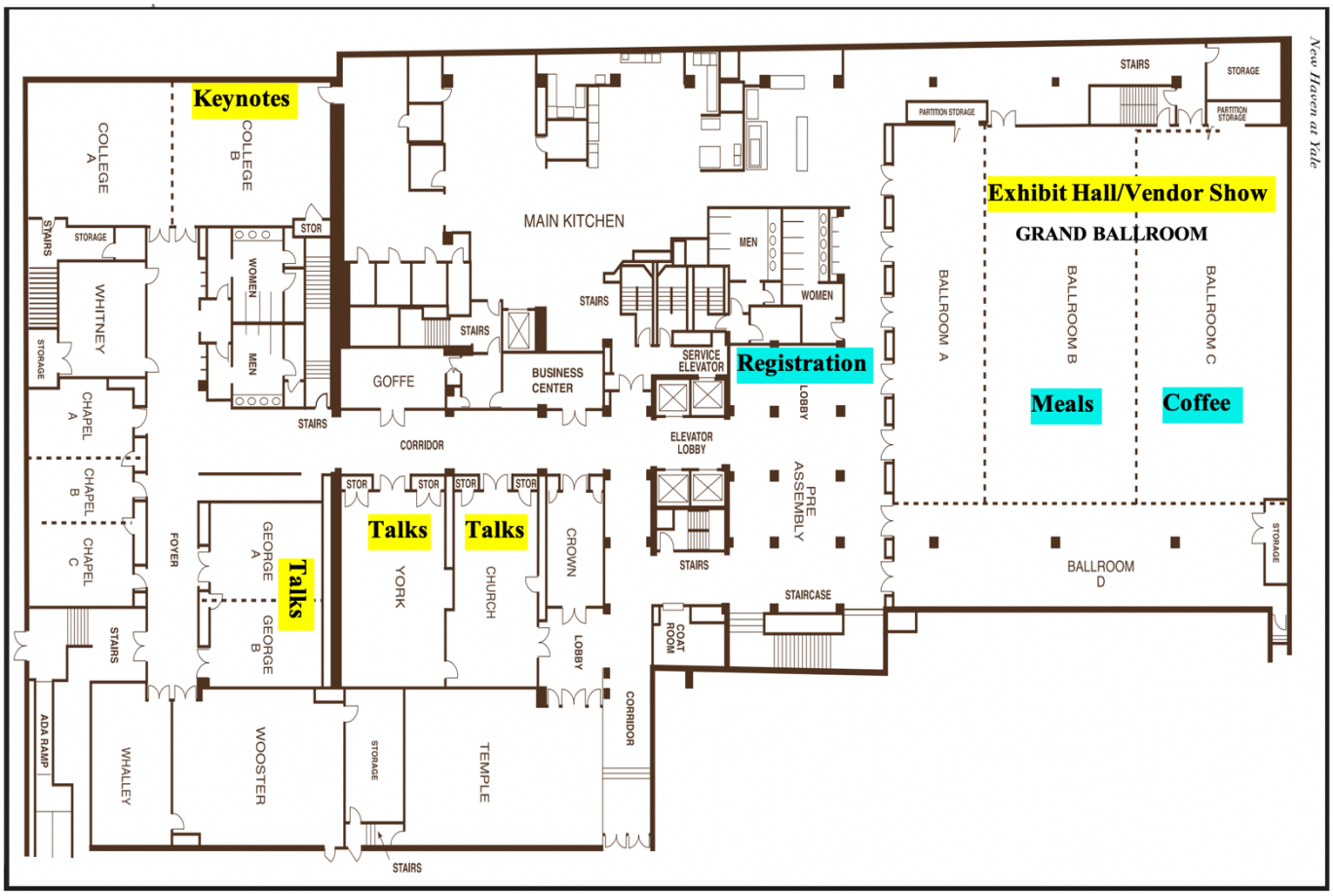
Meeting Hosts

Amy Blanchard Director of Research Cores (YSM) Yale University (New Haven, CT)	**Ben Myers** Director of Research Cores (Central) Yale University (New Haven, CT)

Organizing Committee

President **Dan Mielcarz** Director, DartLab Dartmouth Cancer Center Geisel School of Medicine,Dartmouth (Lebanon, NH)	**Treasurer** **Tim Bushnell** Director, Center for Advanced Research Technologies Scientific Director, Flow Cytometry Resource University of Rochester Medical Center (Rochester NY)
Corporate Liaison **Shahina Maqbool** Director, Epigenomics Shared Facility Albert Einstein College of Medicine (Bronx, NY)	**Corporate Liaison** **Robert Steen** Director, BPF NGS Genomics Core, Department of Genetics, Harvard Medical School (Boston, MA)
Webmaster **Andrew Vinard** Director for Research Infrastructure Support Office of the Vice Provost for Research Tufts University (Boston, MA)	**Past President** **Stuart Levine** Director, MIT BioMicro Center Massachusetts Institute of Technology (Cambridge, MA)
John Ashton Genomics Research Center Director Functional Genomics Resource Director Wilmot Cancer Institute Shared Scientific Resources (Rochester, NY)	**Jeremy Balsbaugh** Director, Center for Open Research Resources & Equipment (COR²E) Director, UConn Proteomics & Metabolomics Facility University of Connecticut (Storrs, CT)
Sridar Chittur Director, Center for Functional Genomics University at Albany State University of New York (Albany, NY)	**Danielle Hunt** Manager, Advanced Light Microscopy & Image Analysis Core, Wadsworth Center NYS Department of Health (Albany, NY)
Marimar Lopez Director, Research Cores Center for Biotechnology and Interdisciplinary Studies Rensselaer Polytechnic Institute (Troy, NY)	**Christian Lytle** Administrative Coordinator for Shared Resources Laboratory Manager, Molecular Biology & Proteomics Core Facility Norris Cotton Cancer Center Geisel School of Medicine at Dartmouth (Hanover, NH)
Susanna Perkins – Host 2026 Executive Director, Research Facilities Office of the Vice Provost for Research Worcester Polytechnic Institute (Worcester, MA)	**W. Kelley Thomas** Director, Hubbard Center for Genome Studies University of New Hampshire (Durham, NH)

OMNI NEW HAVEN SPACE LAYOUT



NERLSCD 2025 PROGRAM AT A GLANCE

Wednesday, October 8, 2025

12:00 – 5:30pm	REGISTRATION OPEN **Location: Grand Ballroom Lobby**
	PLATINUM SPONSOR PRE-MEETING WORKSHOPS
1:15 – 2:45pm	Qiagen Pre-Meeting Workshop: "*Get the Most Out of Your Samples: Updates to Sample Extraction, NGS, and Digital PCR Portfolios*" Speaker: Samuel J. Rulli, Jr., Ph.D. **Location: College A**
1:15 – 2:45pm	BD Biosciences Pre-Meeting Workshop: "Seeing Science Differently: Transformative Lab Stories using the FACSDiscover™ S8 Cell Sorter" Speaker: Tiberiu Mihaila, Varun Sahu, Aaron Tyznik **Location: Church**
3:00 – 4:30pm	Illumina Pre-Meeting Workshop: "*Multiomics & Innovation Roadmap*" Speakers: Mike Smith, Ph.D. & Josh Burgess, Ph.D. **Location: York**
3:00 – 4:30pm	TissueGnostics Pre-Meeting Workshop: "*Users to Experts: Strategies for Building Autonomy and Managing Imaging Data at Scale*" Speakers: Jeffrey Kuhn, Alain Pitiot **Location: Whitney**
3:00 – 5:00pm	NORTHEAST CORE ADMIN (NE-CAN) Meeting: "*Focusing on the Impact of Current/Future Funding Environments"* **Location: George A**
6:00 – 8:30pm	OPENING RECEPTION. **Location: Yale Peabody Museum, 170 Whitney Ave, New Haven, CT**

Thursday, October 9, 2025

8:00 – 6:00pm	REGISTRATION OPEN **Location: Grand Ballroom Lobby**			
8:00 – 9:00am	BREAKFAST **Location: Grand Ballroom**			
9:00 – 9:15am	WELCOME – Ken Williams, Professor (Adjunct) of Research, Molecular Biophysics and Biochemistry, Founder, W.M. Keck Foundation Biotechnology Resource Laboratory, Co-Director, Yale/NIDA Neuroproteomics Center, Yale University **Location: College**			
9:15 – 10:05am	KEYNOTE ADDRESS 1: *Structure and Function: Volume Electron Microscopy Applications in Biology* Speaker: C. Shan Xu, Ph.D. Harvey and Kate Cushing Professor of Cellular & Molecular Physiology, Yale University **Location: College**			
10:05 – 10:15am	PLATINUM SPONSOR 1: QIAGEN - Speaker: Samuel Rulli, Ph.D. **Location: College**			
10:15 – 10:30am	MORNING BREAK & NETWORKING			
10:30 – 11:30am	CONCURRENT BREAKOUT SESSIONS 1			
	Genomics in Transition: Present Realities and Future Potential Chair: Bony De Kumar (Yale) **Gold Sponsor: New England Biolabs** **Location: York**	*Introducing Light Sheet Microscopy at the Imaging Core* Chair: Joerg Nikolaus (Yale) **Location: George A**	*Multiomics 101* Chair: Jeremy Balsbaugh (UConn) **Location: George B**	*LIMS, ELNs & Everything In-Between: Tools, Tales, and Tech Truths* Chair: Tim Bushnell (URMC) **Gold Sponsor: Third Wave Analytics** **Location: Church**
11:45 – 1:00pm	LUNCH & NETWORKING **Location: Grand Ballroom**			

1:00 – 2:00pm	CONCURRENT BREAKOUT SESSIONS 2			
	Human Neuroimaging Technology & Operations Chair: Roeland Hancock (Yale) **Location: George A**	*Marketing in Core Facilities* Chair: Elizabeth Pritchett (UR) **Gold Sponsor: SPT Labtech** **Location: York**	*Emerging Technologies in Flow Cytometry* Chair: Lesley Devine (Yale) **Location: George B**	*Partnering With Procurement* Chair: Susanna Perkins (WPI) **Location: Church**
2:30 – 3:30pm	KEYNOTE ADDRESS 2: *Synthetic and structure–function studies of (–)-gukulenin A* Speaker: Seth Herzon, Ph.D., Milton Harris '29 Professor of Chemistry, Yale University **Location: College**			
3:30 – 3:40pm	PLATINUM SPONSOR 2: ILLUMINA – Speaker: Matthew Welch, MBA **Location: College**			
3:40 – 4:00pm	AFTERNOON BREAK & NETWORKING			
4:00 – 5:00pm	ROUNDTABLE DISCUSSION: Current Events and How they Impact Core Facilities. Coordinators: Susanna Perkins (WPI), Marimar Lopez (RPI), Andrew Vinard (Tufts) **Location: College**			
5:10 – 5:20pm	PLATINUM SPONSOR 3: BD Biosciences - Speaker: Aaron Tzynik, Ph.D. **Location: College**			
5:30 - 7:00pm	VENDOR SHOW & POSTER SESSION **Location: Grand Ballroom**			
7:00pm - ?	DINNER ON YOUR OWN			
9:30pm	NERLSCD Afterdark **Location: Bar 19**			

Friday, October 10, 2025

8:00 – 12:00pm	REGISTRATION OPEN **Location: Grand Ballroom Lobby**			
8:00 – 9:00am	BREAKFAST **Location: Grand Ballroom**			
9:00 – 9:45am	KEYNOTE ADDRESS 3: Nanoscale molecular cartography of the cellular membrane. Speaker: Kallol Gupta, Ph.D., Department of Cell Biology, Yale University **Location: College**			
9:45 – 9:55am	PLATINUM SPONSOR 4: TissueGnostics - Speaker: Alain Pitiot, Ph.D. **Location: College**			
10:00 – 10:30am	MORNING BREAK & NETWORKING **Location: Grand Ballroom**			
10:30 –11:45am	CONCURRENT BREAKOUT SESSIONS 3			
	Opening the Electron Microscope: Institutional Models, Access, and Impact Chair: Brandon Mercado (Yale) **Location: George A**	*Towards the Standardized Description and Persistent Identification of Instruments in Core Facilities* Chair: Caterina Strambio de Castillia (UMass Chan) **Location: Church**	*Mass Spectrometry Support Infrastructure* Chair: TuKiet Lam (Yale) **Location: George B**	Pathways to Single Cell Analysis Chair: Tim Bushnell (URMC) **Gold Sponsor: 10X Genomics** **Location: York**
11:45am – 1:00pm	LUNCH – Yale Pizza Challenge **Location: Whitney/College**			
12:00 – 1:00pm	KEYNOTE ADDRESS 4: Speaker: Peter Raymond, Ph.D., Oastler Professor of Biogeochemistry, Yale University **Location: College**			
1:00pm	TOM VOLKERT MEMORIAL MENTORSHIP AWARD Presented by Dan Mielcarz, Ph.D., NERLSCD President **Location: College**			
1:10pm	CONCLUDING REMARKS Dan Mielcarz, Ph.D., NERLSCD President **Location: College**			
1:30 PM	Gather outside of the ballroom for core tours			
	SEE YOU NEXT YEAR IN WORCESTER! OCTOBER 14-16, 2026			

NERLSCD 2025 PROGRAM

Registration is held in the Grand Ballroom Lobby from Wednesday, Oct 8th at 12 noon through Friday, Oct 10th at 12 noon.

WEDNESDAY, OCTOBER 8th

Pre-Meeting Workshops

1:15 – 2:45 pm

Platinum Sponsor Workshop: **QIAGEN – "Get the Most Out of Your Samples: Updates to Sample Extraction, NGS, and Digital PCR Portfolios."** Samuel J. Rulli, Jr., Ph.D. (*Location:* College A*)*

1:15 – 2:45 pm

Platinum Sponsor Workshop: **BD BIOSCIENCES – "Seeing Science Differently: Transformative Lab Stories using the FACSDiscover™ S8 Cell Sorter."** Tiberiu Mihaila, Varun Sahu, Aaron Tyznik (*Location: Church)*

3:00 – 4:30 pm

Platinum Sponsor Workshop: **ILLUMINA – "Multiomics & Innovation Roadmap."** Mike Smith, Ph.D. & Josh Burgess, Ph.D. (*Location: York*)

3:00 – 4:30 pm

Platinum Sponsor Workshop: **TISSUEGNOSTICS – "Users to Experts: Strategies for Building Autonomy and Managing Imaging Data at Scale."** Jeffrey Kuhn & Alain Pitiot. (*Location: Whitney*)

3:00 – 5:00 pm

Northeast Core Administrators Network (NE-CAN) meeting-**"Focusing on the Impact of Current/Future Funding Environments." (***Location: GeorgeA*)

Opening reception

6:00 pm – 8:30 pm

Yale Peabody Museum (170 Whitney Avenue, New Haven, CT) *Transportation will be provided; please meet in the hotel lobby by 5.30pm. Ample parking is also available at the location in lots 22 and 22V for those who wish to arrange their own transportation.*

THURSDAY, OCTOBER 9th

8:00 am – 6:00 pm: Registration (*Location: Grand Ballroom Lobby)*

8:00 – 9:00 am: Breakfast (*Location: Grand Ballroom)*

9:00 – 9:15 am: Welcome to NERLSCD 2025: Ken Williams, Ph.D., Professor (Adjunct) of Research, Molecular Biophysics and Biochemistry, Founder, W.M. Keck Foundation Biotechnology Resource Laboratory, Co-Director, Yale/NIDA Neuroproteomics Center, Yale University. (*Location: College)*

9:15 – 10:05 am: Keynote 1 *(Location: College)*

C. Shan Xu, Ph.D., Harvey & Kate Cushing Professor of Cellular & Molecular Physiology, Yale University – **"Structure and Function: Volume Electron Microscopy Applications in Biology"**

10:05 – 10:15 am: Platinum Sponsor Talk #1: Qiagen – Samuel Rulli, Jr., Ph.D. **"New Updates to the QIAseq xHYB Library Prep Portfolio."** (*Location: College*)

10:15 -10:30 am: Morning break & Networking (*Location: Grand Ballroom*)

10:30 – 11:30 am: Concurrent Breakout Sessions & Gold Sponsor Talks

Breakout Session 1: **Genomics in Transition: Present Realities and Future Potential—** Session Chair: Bony De Kumar (Yale) (*Location:York*)

Breakout speakers: Anoja Perera (Stowers Institute), Sara Goodwin (Cold Spring Harbor), Sridar Chittur (SUNY Albany), Silas Maniatis (NY Genome Center)

Gold Sponsor: New England Biolabs – Speaker: Siva Chavadi, Ph.D., Sr. FAS **"Breaking Through Bias to Redefine Precision in Small RNA Library Prep"**

Breakout Session 2: **Introducing Light Sheet Microscopy at the Imaging Core—** Session Chair: Joerg Nikolaus (Yale) (*Location:George A*)

Breakout speakers: Pam Rios Coronado (Yale) & Marc Schneeberger Pane (Yale)

Breakout Session 3: **Multiomics 101—** Session Chair: Jeremy Balsbaugh (UConn) (*Location:George B*)

Breakout speakers: Christopher Castaldi (Yale), Stephen Siebel (Yale), & Noah Reid (UConn)

Breakout Session 4: **LIMS, ELNs, & Everything In-Between: Tools, Tales, and Tech Truths—** Session Chair: Tim Bushnell (URMC) (*Location:Church*)

Breakout speakers: Bob Steen (Harvard), Marimar Lopez (RPI), Sarah Siddiqui (UofR), & Joe Salemme (Yale)

Gold Sponsor: Third Wave Analytics – Speaker: Chris Gawronski, VP Commercial **"Core Lab Tetris: How LIMS Fits the Pieces Together"**

11:45 am – 1:00 pm: Lunch & Networking. (*Location: Grand Ballroom*)

1:00 – 2:00 pm: Concurrent Breakout Sessions & Gold Sponsor Talks (*Locations: TBD)*

Breakout Session 1: **Human Neuroimaging Technology & Operations**– Session Chair: Roeland Hancock (Yale) (*Location:George A*)

Breakout speakers: Mark Pinsk (Princeton) & Jeff Luci (Rutgers)

Breakout Session 2: **Marketing in Core Facilities** – Session Chair: Elizabeth Pritchett (UR) (*Location:York*)

Breakout speakers: Megan Crawford (UR)

Gold sponsor: SPT Labtech – Speaker: Adam Hall, Field Application Scientist **"Unlocking the Potential of your Core Lab: An In-Depth Look at SPT Labtech"**

Breakout Session 3: **Emerging Technologies in Flow Cytometry –** Session Chair: Lesley Devine (Yale) (*Location:George B*)

Breakout speakers: Michael Kissner (Columbia), Luca Musante (UPenn)

Breakout Session 4: **Partnering with Procurement** – Session Chair: Susanna Perkins (WPI) (*Location:Church*)

Breakout speakers: Rachael Capo (RPI), Kelly Sullivan (Tufts), & Eric Swanson (Northeastern)

2:30 – 3:30 pm: Keynote 2 (*Location: College*)

Seth Herzon, Milton Harris '29 Ph.D. Professor of Chemistry, Yale University – **"Synthetic and structure-function studies of (-)-gukulenin A."**

3:30 pm: Platinum Sponsor Talk #2: Illumina – Matthew Welch, MBA, Senior Sequencing Specialist – New England Illumina, Inc., **"Beyond the Genome: Unlocking Dual Insights with Illumina 5-Base Sequencing."** (*Location: College*)

3:40 – 4:00 pm: Afternoon break & Networking

4:00 – 5:00 pm: **Roundtable Discussion: Current Events and How they Impact Core Facilities.** Coordinators: Susanna Perkins, Marimar Lopez, Andrew Vinard. *(Location: College)*

5:10 pm: Platinum Sponsor Talk #3: BD Biosciences – Aaron Tyznik, Ph.D.**,** Director of Scientific Affairs. **"From Spectrum to Insight: Innovations Driving Higher-Dimensional Flow Cytometry."** *(Location: College)*

5:30 – 7:00 pm: Vendor show & poster session *(Location: Grand Ballroom)*

7:00 pm: Dinner (on your own)

9:30 pm: NERLSCD After-dark (*Location: Bar 19)*

FRIDAY, OCTOBER 10th

8:00am – 12:00 pm: Registration *(Location: Grand Ballroom Lobby)*

8:00 – 9:00 am: Breakfast (*Location: Grand Ballroom)*

9:00 – 9:45 am: Keynote 3 (*Location: College*)

Kallol Gupta, Department of Cell Biology, Yale University – **"Nanoscale molecular cartography of the cellular membrane"**

9:45 – 9:55 am: Platinum Sponsor Talk #4 – TissueGnostics -Alain Pitiot, Ph.D., Senior Product Manager, **"Expose, TissueGnostics Integrated Platform for the Acquisition, Management, Visualization, and Analysis of Biological Data."** (*Location: College*)

10:00 – 10:30 am: Morning break & Networking. (*Location: Grand Ballroom)*

10:30 – 11:45 am: Concurrent Breakout Sessions & Gold Sponsor Talks (*Locations: TBD)*

Breakout Session 1: **Opening the Electron Microscope: Institutional Models, Access, and Impact** – Session Chair: Brandon Mercado (Yale) (*Location:George A*)

Breakout speakers: Jianfeng Lin (Yale), Judith Yang (BNL), Jason de la Cruz (Memorial Sloan Kettering), Ben Myers (Yale), Shize Yang (Yale)

Breakout Session 2: **Towards the Standardized Description and Persistent Identification of Instruments in Core Facilities** – Session Chair: Caterina Strambio de Castillia (UMass) (*Location:Church*)

Breakout speakers: Nate Herzog (UVM) & Claudius Mundoma (Stanford)

Breakout Session 3: **Mass Spectrometry Support Infrastructure** – Session Chair: TuKiet Lam (Yale) (*Location:George B*)

Breakout speakers: Terence Wu (Yale), Fabian Menges (Yale), Stephan Siebel (Yale), Virginie Sjoelund (Northeastern), & Sheng Zhang (Cornell)

Breakout Session 4: **Pathways to Single Cell Analysis** – Session Chair: Tim Bushnell (URMC) (*Location:York*)

Breakout speakers: Dan Mielcarz (Dartmouth), Elizabeth Pritchett (URMC), Johnathan Preall (Cold Spring Harbor Laboratory)

Gold Sponsor: 10X Genomics – Speaker: Robert Dowden, Ph.D., Science & Technology Advisor, **"Unlocking the power of Single Cell & Spatial Biology: The 10X Ecosystem Drives Innovation & Scientific Discovery"**

11:45 am – 1:00 pm: Lunch: Yale Pizza Challenge! (*Location: Whitney/College*)

12:00 – 1:00 pm: Keynote 4 (*Location: College*)

Peter Raymond, Ph.D., Oastler Professor of Biogeochemistry, Yale University – **"Greenhouse Gas exchange between aquatic ecosystems and the atmosphere"**

1:00 pm: Tom Volkert Memorial Mentorship Award, Presented by Dan Mielcarz, Ph.D., NERLSCD President (*Location: College)*

1:30 pm: Concluding Remarks: Dan Mielcarz, Ph.D., NERLSCD President (*Location: College)*

NERLSCD 2025 SPONSOR ABSTRACTS

WEDNESDAY, OCTOBER 8th

Pre-Meeting Workshops

1:15 – 2:45pm

Platinum Sponsor Workshop: Qiagen, "**Get the most out of your samples: Updates to sample extraction, NGS and digital PCR portfolios"**
Presenter: Samuel J. Rulli, Jr., Ph.D., Director Global Product Manager RNAseq Profiling and NGS Assay Technologies.
Location: College A

Abstract:
QIAGEN continues to innovate molecular biology workflows by providing high quality products for sample stabilization, nucleic acid extraction, digital PCR, qPCR, NGS (Next-generation sequencing) and bioinformatics. In this workshop we will focus on new and upcoming solutions for discovery and absolute quantification of target molecules. Partnering with QIAGEN gives core facilities access to off the shelf solutions, customization options and a large catalog of components which can be utilized in all types of molecular workflows.

1:15 – 2:45pm

Platinum Sponsor Workshop: BD Biosciences, "**Seeing Science Differently: Transformative Lab Stories using the FACSDiscover™ S8 Cell Sorter"**
Presenter: Tiberiu "Tibby" Mihaila, Varun Sahu, Aaron Tyznik
Location: Church

Abstract:
Studying the genetic control of axon guidance in olfactory sensory neurons
Olfactory sensory neurons undergo two remarkable processes. Firstly, they randomly choose to express only one olfactory receptor gene out of a possible ~1400 in the mouse. Second, all of the cells that randomly choose the same receptor project their axons to a unique and stereotyped position in the brain called a glomerulus. By isolating olfactory sensory neurons at different developmental stages with flow cytometry and performing subsequent next generation sequencing experiments, we are beginning to dissect how a random choice can be transformed into a deterministic outcome.

Combining CRISPR screens with high content imaging for target discovery
Functional screens are often used to identify novel targets or for biomarker discovery. However, the final read out is often binary in the sense if cells are alive or dead, or if cells express a particular fluorescent marker or not. Key information about a cell's state, such as changes in cell morphology, differentiation, and cellular content are often not captured with these approaches. Here we combine CRISPR screening with BD FACSDiscover™ S8 Cell Sorter to isolate, grow, and characterize cells with unique morphological features that would often be overlooked.

3:00 – 4:30pm

Platinum Sponsor Workshop: Illumina, **"Multiomics & Innovation Roadmap"**
Presenters: Mike Smith, Ph.D., Associate Director, Sales Specialists, Josh Burgess, Ph.D., Associate Director, Product Management
Location: York

Abstract:
Illumina innovations are redefining the limits of next generation sequencing, enabling more insights, faster than ever. Join us for a User Group Meeting as we discuss new innovative technology offerings from the Illumina product pipeline and provide updates on our sequencing platforms and multiomics offerings, including Constellation mapped reads, Illumina Single Cell and Spatial technology, Illumina Protein Prep and more. From scalable single-omic to multi-omic solutions, come learn how Illumina can partner with you and your core facility in advancing multiomic and multimodal research.

3:00 – 4:30pm

Platinum Sponsor Workshop: TissueGnostics, **"Users to Experts: Strategies for Building Autonomy and Managing Imaging Data at Scale"**
Presenters: Jeffrey Kuhn, Scientific Director of the Microscopy Core at MIT, Alain Pitiot, Senior Project Manager at TissueGnostics
Location: Whitney

Abstract**:**
Slide Scanning in a Multi-User Environment: Lessons Learnt
Dr. Jeffrey Kuhn begins with a discussion on operating a high-throughput imaging core with minimal staff, emphasizing adaptive training, parallelized access, and strategies that empower users to operate systems independently. Insights into scheduling, data flow, and slide scanning infrastructure will be shared. With over 200 users trained in just two years, Dr. Kuhn highlights how the TissueFAXS scanning system supports streamlined onboarding, robust performance, and flexible applications across diverse research projects.

Exposé: from Data to Insights
Dr. Alain Pitiot introduces Exposé, TissueGnostics' integrated platform for the acquisition, management, visualisation and analysis of biological data. The talk will focus on how Exposé streamlines end-to-end workflows, linking slide scanning, statistical characterization, and visualization within a cohesive, GPU-accelerated environment, and showcase the platform's flexibility and interoperability with OMERO. Use cases include CellPose integration and dynamic reporting with Exposé dynamic notebooks.

StrataQuest In Action
Coming soon! StrataQuest is a flexible and grammatically consistent environment that enables users to create and scale analysis of whole-slide imaging with ease. The application, now in its second decade, is rapidly evolving as user engagement with the technology continues to increase. We will present StrataQuest from the user perspective and provide a short application example.

3:00 pm - 5:00 pm

Northeast Core Administrators Network (NE-CAN) meeting
Discussion Leaders: Susanna Perkins (Worcester Polytechnic Institute), Marimar Lopez (Rensselaer Polytechnic Institute), Andrew Vinard (Tufts University), Tim Bushnell (University of Rochester)
Location: George A

Abstract:
Come join us for our annual Regional Core Administration Meeting. This is a forum, open to all, not just administrators! We will get to exchange ideas and propose varied approaches to Cores and career-related problem-solving. Walk-in at any time during this session.

THURSDAY, OCTOBER 9th

9:00 – 9:15 am: Welcome to NERLSCD 2025 – Ken Williams, Professor (Adjunct) of Research, Molecular Biophysics and Biochemistry, Founder, W.M. Keck Foundation Biotechnology Resource Laboratory, Co-Director, Yale/NIDA Neuroproteomics Center, Yale University. (*Location: College)*

9:15 – 10:05 am: Keynote 1 *(Location: College)*

C. Shan Xu, Harvey & Kate Cushing Professor of Cellular & Molecular Physiology, Yale University – **"Structure and Function: Volume Electron Microscopy Applications in Biology"**

10:05 – 10:15 am: Platinum Sponsor Talk #1: Qiagen – Samuel Rulli, Ph.D. Director, Global Product Manager, RNAseq Profiling & NGS Assay Technologies - **"New Updates to the QIAseq xHYB Library Prep Portfolio."** (*Location: College*)

Abstract: QIAGEN is working on improving library preparation workflows for long and short read sequencing. We will present updates to the QIAseq xHYB portfolio which includes library preparation from RNA, DNA and total nucleic acid designed against human and microbial targets. This update will cover newly released long read compatible workflows and off the shelf kits and panels which can be further customized for specific applications.

10:15 -10:30 am: Morning break & Networking. (*Location: Grand Ballroom*)

10:30 – 11:30 am: Concurrent Breakout Sessions & Gold Sponsor Talks

Breakout Session 1: **Genomics in Transition: Present Realities and Future Potential—**
Session Chair: Bony De Kumar (Yale) (*Location:York)*

Breakout speakers: Anoja Perera (Stowers Institute), Sara Goodwin (Cold Spring Harbor), Sridar Chittur (SUNY Albany), Silas Maniatis (NY Genome Center)

Gold Sponsor: New England Biolabs – Speaker: Siva Chavadi, Ph.D., Sr. FAS, **"Breaking Through Bias to Redefine Precision in Small RNA Library Prep"**

Abstract: MicroRNAs (miRNAs) are essential regulators of gene expression and promising biomarkers in oncology research, yet their sequencing is often impeded by input limitations, bias, and complex workflows. The NEBNext Low-bias Small RNA Library Prep Kit overcomes these challenges with a gel-free, single-day protocol optimized for 0.5 ng to 1000 ng total RNA, or 0.05 ng to 5 ng enriched small RNA. Leveraging randomized splint ligation, the kit effectively minimizes ligation bias, reduces adapter-dimer formation, and enhances detection of low-abundance and diverse small RNA species—including miRNAs and 2'-O-methylated piRNAs. Performance data from FFPE tissues and human brain RNA demonstrate robust library yields, high reproducibility, and reliable detection across a wide input range—even with degraded or low-input samples. The kit's streamlined protocol and compatibility with Illumina platforms and multiplexing (up to 480 UDIs) make it ideally suited for translational research. By improving sensitivity, reproducibility, and reducing bias, the NEBNext Low-bias Small RNA Library Prep Kit empowers researchers to more reliably incorporate miRNA into multiomic clinical research studies, advancing biomarker discovery and furthering genomic insight.

Breakout Session 2: **Introducing Light Sheet Microscopy at the Imaging Core—** Session Chair: Joerg Nikolaus (Yale) (*Location: George A)*

Breakout speakers: Pam Rios Coronado (Yale) & Marc Schneeberger Pane (Yale)

Breakout Session 3: **Multiomics 101—** Session Chair: Jeremy Balsbaugh (UConn) (*Location: George B)*

Breakout speakers: Christopher Castaldi (Yale), Stephen Siebel (Yale), & Noah Reid (UConn)

Breakout Session 4: **LIMS, ELNs, & Everything In-Between: Tools, Tales, and Tech Truths—** Session Chair: Tim Bushnell (URMC) (*Location: Church)*

Breakout speakers: Bob Steen (Harvard), Marimar Lopez (RPI), Sarah Siddiqui (UR), & Joe Salemme (Yale)

Gold Sponsor: Third Wave Analytics – Speaker: Chris Gawronski, VP Commercial
"Core Lab Tetris: How LIMS Fits the Pieces Together"

Abstract: Learn why Lockbox LIMS by Third Wave Analytics is one of the most widely used LIMS in the ABRF community and how we can support core lab management from requests and submissions through accessioning, testing, reporting, and billing. Although there is a lot of commonality in the service-request life-cycle, which parts are currently supported with paper, Excel, or a commercially available software system varies significantly from core to core. This variability in current state processes and systems can make it difficult to adopt new systems whose workflows and user interfaces are rigid and whose integration capabilities are limited, non-standard, or even non-existent. Lockbox LIMS, in contrast, can fit elegantly into your workflows wherever and however it needs to, and solve for any combination of needs across the service-request life-cycle. Project success begins with selecting the right LIMS, but that isn't enough. Third Wave's implementation teams are made up of scientists, lab specialists, and technologists who deeply understand your workflows and needs. From submission portals and instrument reservations to automated end-to-end workflows, our modular, customizable, and all-in-one LIMS solution is designed to connect all the pieces of your core lab together.

11:45 am – 1:00 pm: Lunch & Networking. *(Location: Grand Ballroom)*

1:00 – 2:00 pm: Concurrent Breakout Sessions & Gold Sponsor Talks

Breakout Session 1: **Human Neuroimaging Technology & Operations**– Session Chair: Roeland Hancock (Yale) (*Location: George A)*

Breakout speakers: Mark Pinsk (Princeton) & Jeff Luci (Rutgers)

Breakout Session 2: **Marketing in Core Facilities** – Session Chair: Elizabeth Pritchett (UR) (*Location: York)*

Breakout speakers: Megan Crawford (UR)

Gold sponsor presentation: SPT Labtech – Speaker: Adam Hall, Field Application Scientist, **"Unlocking the Potential of your Core Lab: An In-Depth Look at SPT Labtech"**

Abstract: Core facilities are under increasing pressure to deliver reproducible, high-quality results with greater efficiency. This session will showcase how SPT Labtech's firefly and mosquito liquid handling platforms address common workflow bottlenecks and enhance overall lab performance.

Drawing on real-world data and case studies, we will demonstrate how targeted technical improvements translate into more sensitive and robust outcomes across diverse applications. Attendees will gain a practical framework for evaluating and integrating new technologies to expand research capacity and streamline operations. We will highlight validated methods with QIAseq FastSelect RNA Library Kits and QIAseq Targeted DNA, illustrating how seamless workflows enable a direct path from sample to sequencing-ready libraries. In addition, we will explore a high-throughput, cost-efficient ecotoxicity assay performed with the QIAseq UPXome RNA Library Kit. Join us to discuss how core labs can strengthen their role in advancing impactful research and accelerating scientific discovery. We will be happy to answer your questions and discuss how we can partner with you to achieve your specific goals.

Breakout Session 3: **Emerging Technologies in Flow Cytometry –** Session Chair: Lesley Devine (Yale) (*Location: George B)*

Breakout speakers: Michael Kissner (Columbia), Luca Musante (UPenn)

Breakout Session 4: **Partnering with Procurement** – Session Chair: Susanna Perkins (WPI)
Breakout speakers: Rachael Capo (RPI), Kelly Sullivan (Tufts), & Eric Swanson (Northeastern) (*Location: Church)*

2:30 – 3:30 pm: Keynote 2 (*Location: College*)

Seth Herzon, Milton Harris '29 Ph.D. Professor of Chemistry, Yale University – **"Synthetic and structure-function studies of (-)gukulenin A."**

3:30 pm: Platinum Sponsor Talk #2: Illumina – Matthew Welch, MBA, Senior Sequencing Specialist, New England Illumina, Inc. , **"Beyond the Genome: Unlocking Dual Insights with Illumina 5-Base Sequencing."** (*Location: College*)

Abstract: Traditional sequencing methods capture only part of the biological story. Illumina 5-base solution introduces a groundbreaking approach that simultaneously detects genetic variants and methylation patterns in a single assay—delivering true multiomic insights with unmatched simplicity and speed. Powered by a bespoke enzymatic conversion chemistry and integrated into standard library prep workflows, this technology enables direct detection of methylated cytosines (5mC) alongside canonical bases (A, T, G, C), preserving library complexity and maximizing data yield. In this session, we'll explore how the 5-base solution accelerates discovery, reduces workflow complexity, and expands the reach of epigenomic research. Whether you're new to methylation or looking to scale multiomic studies, this innovation redefines what's possible in next-generation sequencing.

3:40 – 4:00 pm: Afternoon break & Networking *(Location: Grand Ballroom)*

4:00 – 5:00 pm: Roundtable Discussion: **Current Events and How they Impact Core Facilities.** Coordinators: Susanna Perkins, Marimar Lopez, Andrew Vinard. *(Location: College)*

5:10 pm: Platinum Sponsor Talk #3: BD Biosciences – Aaron Tzynik, Ph.D., Director of Scientific Affairs, **"Exposé, TissueGnostics' integrated platform for the acquisition, management, visualisation and analysis of biological data**". *(Location: College)*

Abstract: Hear about the innovation and latest advancement in spectral cytometry available on the BD FACSDiscover™ S8 Cell Sorter and A8 Cell Analyzer. These instruments leverage full-spectrum detection across multiple lasers with Spectra FX™ Technology and our Fully Integrated Autoloader to improve throughput and reliability available on the A8 Cell Analyzer.

The advances have influenced fluorochrome development, highlighting improvements in brightness, spillover-spread, stability, and reliability. These next generation fluorochromes may be combined with others into multi-color dried reagent formats, contributing to reproducibility across experiments and instruments.

Finally, we will look at the integration of spectral flow cytometry with imaging capabilities, with BD CellView™ Image Technology enabling the extraction of image-derived parameters for subcellular classification. This convergence represents a transformative step expanding the dimensionality and depth of cytometric analysis.

5:30 – 7:00 pm: Vendor show and poster session. *(Location: Grand Ballroom)*

7:00 pm: Dinner (on your own)

9:30 pm: NERLSCD After-dark. (*Location: Bar 19)*

FRIDAY, OCTOBER 10th

8:00am – 12:00 pm: Registration. *(Location: Grand Ballroom Lobby)*

8:00 – 9:00 am: Breakfast. (*Location: Grand Ballroom)*

9:00 – 9:45 am: Keynote 3 (*Location: College*)

Kallol Gupta, Department of Cell Biology, Yale University – **"Nanoscale molecular cartography of the cellular membrane"**

9:45 – 9:55 am: Platinum Sponsor Talk #4: TissueGnostics – Alain Pitiot, Ph.D., Senior Product Manager, **"Exposé, TissueGnostics' integrated platform for the acquisition, management, visualisation and analysis of biological data**" (*Location: College*)

Abstract: Dr. Alain Pitiot introduces Exposé, TissueGnostics' integrated platform for the acquisition, management, visualisation and analysis of biological data. The talk will showcase Exposé's ability to handle the data deluge through interoperability with other systems, e.g. Omero, the ability to structure data on the fly, and a flexible, GPU-accelerated, intelligent interface, including dynamic reporting with Exposé dynamic notebooks.

10:00 – 10:30 am: Morning break & Networking (*Location: Grand Ballroom)*

10:30 – 11:45 am: Concurrent Breakout Sessions & Gold Sponsor Talks

Breakout Session 1: **Opening the Electron Microscope: Institutional Models, Access, and Impact** – Session Chair: Brandon Mercado (Yale) *(Location:George A)*

Breakout speakers: Jianfeng Lin (Yale), Judith Yang (BNL), Jason de la Cruz (Memorial Sloan Kettering), Ben Myers (Yale), Shize Yang (Yale)

Breakout Session 2: **Towards the Standardized Description and Persistent Identification of Instruments in Core Facilities** – Session Chair: Caterina Strambio de Castillia (UMass) *(Location: Church)*

Breakout speakers: Nate Herzog (UVM) & Claudius Mundoma (Stanford)

Breakout Session 3: **Mass Spectrometry Support Infrastructure** – Session Chair: TuKiet Lam (Yale) *(Location: George B)*

Breakout speakers: Terence Wu (Yale), Fabian Menges (Yale), Stephan Siebel (Yale), Virginie Sjoelund (Northeastern), & Sheng Zhang (Cornell)

Breakout Session 4: **Pathways to Single Cell Analysis** – Session Chair: Tim Bushnell (URMC) *(Location: York)*

Gold Sponsor: 10X Genomics – Speaker: Robert Dowden, Ph.D., Science & Technology Advisor, **"Unlocking the power of Single Cell & Spatial Biology: The 10X Ecosystem Drives Innovation & Scientific Discovery"**

Abstract: Join us to explore the latest advancements from 10x Genomics in Chromium Single Cell, Visium Spatial, and Xenium In Situ technologies. Our ongoing innovations are designed to enhance the efficiency, ease of use, and cost-effectiveness of your workflows. In this session, we will delve into how these three complementary platforms are broadening applications for core facilities, enabling researchers to unlock new insights and drive impactful discoveries.

11:45 am – 1:00 pm: Lunch: Yale Pizza Challenge! (*Location: Whitney/College*)

12:00 – 1:00 pm: Keynote 4 (*Location: College*)

Peter Raymond, Oastler Professor of Biogeochemistry, Yale University – **"Greenhouse Gas exchange between aquatic ecosystems and the atmosphere"**

1:00 pm: Tom Volkert Memorial Mentorship Award Presented by Dan Mielcarz, Ph.D., NERLSCD President (*Location: College)*

1:10 pm: Concluding Remarks: Dan Mielcarz, Ph.D., NERLSCD President (*Location: College)*

1:30 pm: Gather outside of the ballroom for core tours.

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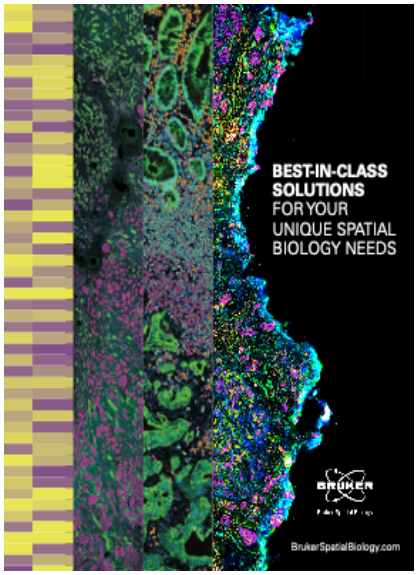

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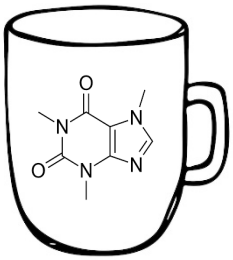

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NERLSCD 2026: SAVE THE DATE

Please join us for the 21st edition of NERLSCD as we return the meeting to an "on campus" location! We will be hosted by Worcester Polytechnic Institute in centrally located Worcester, Massachusetts on October 14-16, 2026.

If you would be interested in helping with this, or future NERLSCD meeting, please send an email to the Organizing Committee an email at oc@nerlscd.abrf.org

ABRF ANNUAL MEETING 2026: SAVE THE DATE