

The CBSR *Correspondent*

Welcome to the inaugural edition of our CBSR newsletter. We'll provide updates and news on current activities in the CBSR cores, and hope you find it informative.



Issue Date:
Fall 2024

A biannual
publication

CBSR
established
in 2023

[CBSR email](#)
[CBSR brochure](#)
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Center for Biomedical Shared Resources

Flow Cytometry and Small Particles Detection Facility (FCSPD)

Microscopy Imaging Center Facility (MIC)

Vermont Biomedical Research Network (VBRN)—Proteomics Facility

Vermont Integrative Genomics Resource (VIGR)

The Center for Biomedical Shared Resources (CBSR) uses an innovative, dynamic, integrated model of cores based on team science. This pioneering approach and the associated technologies allow faculty, students, and investigators throughout the region and beyond to foster interdisciplinary collaborations and advance world-class discoveries. Let us know how we can help enhance and advance your research!



CBSR Research Technologies Seminar Series

HSRF 200, 2nd Wed of the month, 12-1pm, lunch provided

We invite you to participate in our monthly research technologies seminars. These seminars are intended to provide information on current and potentially future technologies available in CBSR. We value your input regarding services offered by the cores and this is a good forum to provide feedback. Is there a particular research technology for your research that you'd like to use? Would you like to suggest potential topics or speakers for future seminars? Do you want to better understand a particular CBSR process? Please let us know by emailing your ideas: cbstr@med.uvm.edu

September 11—Getting Started and How to Work with CBSR Core Facilities—CBSR core staff ([view this recorded ilab tutorial](#))

October 9—Nikon AXR-NSPARC Point Scanning Confocal: Breaking boundaries of sensitivity, speed, and resolution. Why Compromise?

November 13—Investigate New Dimensions of Spatial Insights at a Sub-Cellular Resolution—bio-techne

December 11—Sample Prep and high-throughput for cryo-EM and cryo-ET—Thermo Fisher Scientific

Kudos to Kirsten Tracy

As part of the 2024 College of Medicine Celebration of Excellence in Research, on September 26th Kirsten Tracy, Senior Lab/Research Technician was announced as the 2024 winner, in the category of **Scientific Research Staff**. Congratulations to Kirsten!



Kudos to Roxana del Rio-Guerra

Recently Roxana del Rio-Guerra, PhD, SCYM (ASCP), core director of the Harry Hood Bassett Flow Cytometry and Small Particle Detection (FCSPD) facility, received the Cellular, Molecular & Biomedical Sciences Director's Award in recognition of extraordinary contributions to the CMB Program by a member of its extended community for service to the CMB and UVM graduate student community that goes above and beyond the norm. Roxana was selected for serving as an outstanding advocate for student, staff, and faculty individuality, inclusion and excellence.

A CBSR cohort recently attended the **2024 Annual Northeastern Regional Laboratory Staff and Core Directors (NERLSCD)** meeting in Albany, NY, Oct 16-18th. NERLSCD, a regional chapter of the Assn of Biomolecular Resource Facilities (ABRF), is one of the largest chapters with members from CT, DE, MA, ME, NH, NJ, PA, RI and VT. Many of our group, Julie Dragon, Roxana del Rio-Guerra and Scott Tighe, were featured speakers for the multi-day conference.

 University of Vermont
Larner College of Medicine



Core facilities exist to assist researchers with their experiments, and are expensive to operate and maintain. To demonstrate the critical importance of core facilities and their staff for our research mission, it is imperative that investigators cite core assistance in publications, presentations, and posters. Of equal importance is to cite funding sources for instruments located in the cores, especially NIH S10 awards. We have tried to simplify this process for you by providing multiple options for crediting the cores, visit the link below:

How to Cite CBSR Core Facilities, [Policies | CBSR | UVM Larner College of Medicine](#) with RRID numbers provided and equipment grant acknowledgment information.

If you have any questions or comments regarding core services or activities, please contact us at cbsr@med.uvm.edu

CALL FOR CITATIONS—ALL PUBLICATIONS, PRESENTATIONS AND POSTERS FROM JULY 1—NOVEMBER 30, 2024. Email to the cbsr@med.uvm.edu

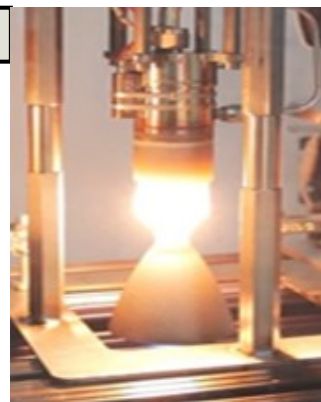
Flow Cytometry & Small Particle Detection

Utilizing flow cytometry, UVM scientists are making amazing discoveries! Katherine Horrigan and Oliver Dienz (Boyson Lab) are collaborating with Dr. Shahid Ahmed (Hemato/Onco) to understand the role of T cells in bladder cancer (sorting/single cell genomics). Nancy Graham (Diehl Lab) works on 15-colors panel to assess T cell response in immunize individuals. Shannon Prior (Deming Lab) is uncovering the role of phosphatidyl serine and glycans on cancer and susceptibility/resistance to chemotherapy. Cool stuff we have been working on or we will work in near future: with spiders (Fabian-Fine/St. Michaels), dogs (Dorosko/VS University) and soon with *C. elegans* (Leo Tang/Dept. Biology). Go with the flow!

Microscopy Imaging Center

In 2024 MIC has been fortunate to support clients in academia with questions in basic science, materials science and clinical translational science utilizing tools available in the CBSR. In addition, we have enjoyed fruitful collaborations with local companies studying everything from satellite engines, rocket fuel and aviation components to food science materials and water filtration. MIC would like to thank **Benchmark Space Systems, Beta Technologies, Food Science Corporation, Perrigo Nutritional Inc. and Analytical Services Inc.** for their exciting collaborations and continued support.

(Image [Press Release: Benchmark Awarded \\$4.9M Air Force Research Lab Contract to Scale ASCENT-Fueled Thrusters For Government Missions](#))



VBRN—Proteomics

The VBRN_Proteomics Facility has been working with 5 new user groups on their differential proteomics projects using tandem mass tags (TMT). We have increased the phosphopeptide identifications using the off-line HPLC workflow and have established the on-column TMT labeling for low sample amounts. Undergraduate training: We've been working with new interns in the facility (Favio Dupiton at Landmark College and Adam Davis at UVM) on testing and standardizing facility operation workflows. New Instrumentation and upcoming capabilities: We are getting the Cytiva AKTA FPLC and HDX-PAL up and running and will be providing resources and expertise on protein purification and protein structural analysis in the near future.

VIGR—Genome Technologies/Bioinformatics Shared Resource

Vermont Integrative Genomics Resource now has a second P2 Solo from Oxford Nanopore to keep up with the demand for methylation data from native DNA sequencing, and direct sequencing of RNA. Thank you to Vermont Biomedical Research Network for generously supporting this purchase!

