



22 December 2023

Subject: Fee Structure for CMDIS facilities 2024

Dear CMDIS members and Users of CMDIS facilities,

We would like to share our appreciation to all our faculty, researchers and users for their excellence in research. CMDIS facilities' overarching mission is to empower researchers across diverse disciplines, fostering innovation and enabling solutions to the pressing global challenges of our time. Our facilities not only support the groundbreaking work of our faculty, staff, and students but also extend a welcoming hand to our academic, government, and industry collaborators.

The Micro and Nano Fabrication Clean Room at Rensselaer (MNCR) is a multi-user campus-wide core facility which provides critical support for a wide range of research and education in microelectronics, nanotechnology, advanced materials systems, energy, biotechnology, information technology, and other areas. The MNCR supports collaborations and new research themes among faculty from many departments on campus, as well as, external users. The MNCR provides tools, infrastructure, and management for device design, end-to-end device fabrication, characterization, and testing of wide range of sample sizes and material systems, such as silicon, compound semiconductors, and novel materials. The capabilities of the MNCR include the equipment, expertise, and staff to provide micro- and nano-fabrication modules of surface preparation, lithography, etching, metallization, dielectrics deposition, thin film characterization, metrology, and device probing.

The Nanoscale Characterization Core (NCC) offers a powerful suite for imaging, spectrometry, and diffraction. At NCC, the researchers interrogate structure and chemistry at the atomic to micro scales. The Polymer Processing and Characterization Core (PPCC) is a dedicated facility for characterization of polymer, composite materials, and soft materials. The instruments in this facility are used to image, to characterize the chemistry and mechanical properties. Both facilities provide the infrastructure, maintenance, and staffing to support expert use of the instruments within them.

Facilities at CMDIS are open to students, post-doctoral fellows, principal investigators, and external customers and operate on a fee-for-service basis, where a major component of the operating costs and staff salaries are recovered through user fees. Over the past years, the costs related to instruments have substantially increased, due to higher expenses related to supplies, maintenance, and service contracts. Our goal is to largely maintain the current user fees with minimal adjustments for the upcoming year. In addition to this, we have eliminated the extra personnel time charges from the training rates for both internal and external academic users. This change is aimed at encouraging more users to take advantage of training opportunities. The tables below summarize the fee structure for MNCR, NCC and PPCC, effective from January 1, 2024.

Please let us know of any comments or questions,

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Table 1. Micro and Nanofabrication Clean Room. All rates are in USD/h.

	Internal ¹			External NFP ²			Proprietary Use ³		
	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶
Micro and Nanofabrication CleanRoom Access (excluding SEMs and ALD)	55	55	100	90	90	135	205	305	305
Zeiss 1540EsB Crossbeam (SEM)	70	70	115	105	105	150	220	320	320
Zeiss SUPRA 55 (SEM)	70	70	115	105	105	150	220	320	320
PicoSun Atomic Layer Deposition (ALD) ⁷	65	65	110	100	100	145	215	315	315
Personnel Time			45			45		100	100

Table 2. Nanoscale Characterization Core. All rates are in USD/h.

	Internal ¹			External NFP ²			Proprietary Use ³		
	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶
Versa Scanning Electron Microscopy (SEM)	70	70	115	115	115	160	220	320	320
X-Ray Photoelectron Spectroscopy (XPS)	45	45	90	75	75	120	150	250	250
Auger Electron Spectroscopy (AES)	45	45	90	75	75	120	150	250	250
Transmission Electron Microscopy (TEM)	70	70	115	115	115	160	200	300	300
Raman Spectroscopy (Ranishaw)	30	30	75	50	50	95	85	185	185
Rigaku Single Crys. X-Ray Diff. (sc-XRD)	45	45	90	75	75	120	150	250	250
Personnel Time			45			45		100	100

Table 3. Polymer Processing and Characterization Core. All rates are in USD/h.

	Internal ¹			External NFP ²			Proprietary Use ³		
	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶	Standard ⁴	Training ⁵	Assisted ⁶
Confocal Raman Microscope (Witec 300R)	30	30	75	50	50	95	85	185	185
Nanoindenter (Hysitron TI900)	30	30	75	50	50	95	85	185	185
Atomic Force Microscope (Bruker)	30	30	75	50	50	95	85	185	185
Dynamic Mechanical Testing Analyzer	30	30	75	50	50	95	85	185	185
Microtome	30	30	75	50	50	95	85	185	185
FTIR Spectrometer (PE - Spectrum One)	30	30	75	50	50	95	85	185	185
UV-Vis Spectrometer (PE - Lambda950)	30	30	75	50	50	95	85	185	185
Personnel Time			45			45		100	100

- ¹ Internal rates are applied to internal RPI users for sponsored research with expectation of publication.
- ² External NFP rates are applied to users coming from external not-for-profit organizations (educational institutions, government labs, etc) to support sponsored research with expectation of publication.
- ³ Proprietary rates are applied to projects for non-sponsored research, proprietary, non-publishable and/or consultancy work, irrespective of the user's status as an RPI member or an external user.
- ⁴ Standard rates are applied to users who successfully completed safety and instrument / tool trainings and can use the facilities without supervision.
- ⁵ Training rate is applied when a facility staff is providing initial training.
- ⁶ Assisted rates are applied when a facility staff is operating the instrument / tool on behalf of the user. Data analysis and/or reporting are charged separately as personnel time.
- ⁷ This instrument is in MNCR facility and can perform operations for extended durations without requiring user intervention. For such prolonged experiments, only 10 USD/h surcharge is applied.