

NanoCenter Account Setup Form

Welcome to the Maryland NanoCenter! We look forward to working with you in the very near future. In order to get started using the facilities, you need to complete the following steps:

Step 1: New User Registration

If you have not yet done so, please register on our website at:

<http://www.nanocenter.umd.edu/register.php>

You will still need to be trained and authorized by our staff on each tool/lab you wish to use.

Step 2: Billing Account Setup

Fill out and submit the appropriate account setup form:

[UMCP Users](#)

[External Users](#)

You will be charged at an hourly rate only for time spent on equipment. Please note that you are not charged for time spent in a lab nor is there a monthly fee required.

Our [current rates](#) are shown below. You will be billed monthly for any NanoCenter charges. External users must provide either a purchase order or a valid credit card **before working** in the NanoCenter.

1. Purchase Orders
2. Credit Cards
 - 2.1. After you receive your monthly invoice, please contact Ms. Regina Achey at the University of Maryland Bursar's Office (301-405-9027) to pay by credit card.
 - 2.2. Give us the credit card information and we will charge the card and email you (or whomever needs the information) with details of the charge.

- 2.3. Prepay via credit card. We will send monthly statements showing charges applied to the prepaid amount and the remaining balance.
- 2.4. Please contact Alice Mobaidin (301-405-6047, mobaidin@umd.edu) to elect options 2 or 3 and if you have any questions about your bill.

Alice Mobaidin

The Maryland NanoCenter
University of Maryland
1119 Jeong H. Kim Engineering Building
8228 Paint Branch Drive
College Park, Maryland 20742
Phone: (301) 405-6047
Email: mobaidin@umd.edu

Step 3: Lab and Equipment Training

The final step involves becoming familiar with the safety and operating procedures within each lab as well as becoming trained and authorized to use each tool you will be reserving. Contact the staff members of each NanoCenter lab to arrange training times.

Please read the lab user requirements sections (below) for the lab you wish to use.

FabLab User Requirements

Welcome to FabLab! As part of the Maryland NanoCenter, we look forward to working with you to develop processes for a wide variety of exciting new materials and devices.

Please read over and complete the following requirements prior to working in the FabLab. Bring all three pages of the FabLab User Requirements for the orientation.

FabLab New User Orientation Check List

- UMCP users must complete the online training and successfully pass a quiz at the end.

1) "Chemical Hygiene Training Program for Chemical Workers"

Initials: _____ Date: _____

2) "Laboratory Exposure Controls"

Initials: _____ Date: _____

- UMCP users must complete the one-time classroom training

1) "New Laboratory Researcher" or "New Laboratory Researcher for Undergraduates"

Initials: _____ Date: _____

These program are located on the UMCP Department of Environmental Safety web site, <https://essr.umd.edu/research-safety/laboratory-safety/chemical-safety>.

Outside users must have completed similar training and be approved on a case-by-case basis by FabLab staff.

- All users must read and understand the following documents. They can be found at: <http://www.nanocenter.umd.edu/fablab/documents>

○ Chemical Handling Procedures Initial: _____ Date: _____

○ Clean Room Protocols Initial: _____ Date: _____

- All new users must complete a one hour in-lab (no charge) orientation with one of the FabLab staff. Please contact Tom, Jon H., John A. or Mark for this. The orientation will cover:
 1. FabLab Rules and Regulations
 - a. Buddy System
 - b. After Hours Access
 - c. MSDS Sheets –what they are and where to find them
 - d. Procedure for Introducing New Materials and Chemicals
 - e. Cleanliness in FabLab
 2. Gowning Instruction
 3. Chemical Handling and Wet Bench Protocols
 4. Alarms/Response and Evacuation Procedures
 5. Disposal of Waste Solvents
 6. Reserving Tools/Tool Training – **You must reserve tools before using them!**

FabLab User Requirements

FabLab Staff Contact List

John Abrahams	(301) 405-6664	jabrah@umd.edu
Tom Loughran	(301) 405-3642	tcl@umd.edu
Jon Hummel	(301) 405-5017	jhummel1@umd.edu
Mark Lecates	(301) 405 5197	mlecates@umd.edu

I have read and understood the documents listed above and have completed in-lab training with a FabLab staff member.

Name (Print): _____ Date: _____

Signature: _____

Staff Signature: _____

AIM Lab User Requirements

Welcome to the AIM Lab! As part of the Maryland NanoCenter, we look forward to working with you on imaging and characterizing your samples that are pushing the boundaries of science and technology.

Please read over and complete the following requirements prior to working in the AIM Lab. Please sign this form and return it to the AIM Lab staff.

AIM Lab New User Orientation Check List

- All new users must schedule a no-charge AIM Lab familiarization and safety training session with Wen-An Chiou or Sz-Chian. At that time, they will give you a brief overview of the equipment in the AIM Lab and discuss with you what you would like to do.
- Each tool in the AIM Lab requires user training and passing a test in order to reserve time and use the tool on your own. Please arrange with the staff for training and testing.

AIM Lab Staff Contact Information

Wen-An Chiou	(301) 405-0541	wachiou@umd.edu
Phil Piccoli	(301) 405-6966	piccoli@umd.edu
Sz-Chian Liou	(301) 405-0051	scliou@umd.edu
Jiancun Rao	(301) 405-0561	jcrao@umd.edu

I have read and understood the documents listed above and have completed in-lab training with an AIM Lab staff member.

Name (Print): _____ Date: _____

Signature: _____

Staff Signature: _____

NanoCenter Equipment Rates (\$/Hr.)

	UMCP	External / Nonprofit	Small Commercial/ MTECH	Large Commercial
FabLab				
Process Tools	75	116	158	220
E-Beam Litho - Raith (1)	43 (21.50)	66 (33)	98 (49)	165 (82.50)
Hitachi SEM	25	39	60	121
ASAP 2020	18	28	49	67
Porosimeter (2)	(5)	(7)	(14)	(18)
Backside Tools:				
Wafer Probe Station, Dicing Saw, Glove Box	26	40	61	136
H-J-Y Raman	34	52.50	78	150
Staff Technical Assistance Time	37	57	63	72

(1) Rate is for Raith eLine system runs of 6 hours or less. For runs longer than six hours, the first six hours will be charged at the published rate and any hours over six hours will be charged at 50% of the regular rate.

(2) Rate is for first 4 hours with each additional hour in (\$).

	UMCP	External / Nonprofit	Small Commercial/ MTECH	Large Commercial
AIMLab				
Hitachi SU-70 FEG SEM	48	74	126	165
JEOL 2100 LaB6 TEM	43	66	126	165
JEOL 2100 FEG TEM/STEM	61	94	189	248
JEOL 8900R Microprobe	32	49	126	165
Tescan GAIA/XEIA FEG SEM	48	74	126	165
Tescan GAIA/XEIA FIB/SEM	95	147	189	248
Staff Technical Assistance Time	37	57	63	72
Heating Holder	32	49	79	110
Cryo Holder/Plunger	26	40	52	73

	UMCP	External / Nonprofit	Small Commercial/ MTECH	Large Commercial
Chemistry SAC Lab				
H-J-Y Raman	34	52.50	78	150
AFM	32	49	90	101