

**Research Support Specialist 5 - 22253BR**  
**Microfabrication Specialist**

**Yale University offers exciting opportunities for achievement and growth in the greater New Haven area of Connecticut. Conveniently located between Boston and New York, New Haven is the creative capital of Connecticut with cultural resources that include three major museums, a critically-acclaimed repertory theater, state-of-the-art concert hall, and world-renowned schools of Architecture, Art, Drama, and Music.**

**Job Description:**

**General Purpose:**

The Microfabrication Core of Yale University West Campus is seeking to hire an experienced lead technician to oversee this new facility. The Specialist will have the responsibility of operating instruments, training new operators, consulting with users on experimental design and completion, interfacing with instrument manufacturers, and the maintenance of instruments in the Core. The Specialist will be expected to contribute heavily to the development and construction of the new state-of-art facility and manage its operation moving forward. The Core will accommodate the research activities of faculty from the West Campus Institutes: Nanobiology, Chemical Biology, Cancer Biology, Energy Sciences, Systems Biology, and Microbial Diversity.

The Specialist is expected to assist faculty, staff, and students in conducting research. S/he will also be required to assist in the development of research plans and participate in preparing grant proposals.

Resources in the Core will include:

Facilities for soft lithography mold making and casting.  
Wet process fume hoods: base, acid and solvent chemical processes  
Photolithography: resist spinners, hot plates, EVG aligner  
Dry Process: O<sub>2</sub> Plasma, annealing  
Metrology: Microscopes, profilometer, reflectometer  
Safety equipment

**Essential Duties of the Position:**

With reporting responsibility to the West Campus Director of Research Operations and Technology, direct activities of the facility in partnership with the existing cleanroom

facilities in the Yale School of Engineering and Applied Sciences, and with the existing Analytical Services Group at West Campus.

Activities include organizing the space and the flow of work, ordering equipment and supplies, advertising technologies available in the facility, scheduling work, establishing priorities, developing short and long range programmatic goals to ensure the outstanding quality of the services.

1. Serve as a technical mentor for cleanroom users by developing and debugging cleanroom processes used in research. Benchmark essential cleanroom processes and performance.
2. Conceive, design and modify microfluidic (and possibly semiconductor) processing equipment.
3. Develop and implement research applications to fabricate microfluidic materials, devices and processing equipment.
4. Assist in managing research groups for the efficient flow of research projects.
5. Participate in defining the direction of research and equipment design.
6. Develop and maintain a system for data and user management.
7. Assist in managing research, research support design, and projects associated with the development of devices and materials and associated process and characterization equipment.
8. Conceive and design equipment and facilities for material processing.
9. Supervise contractors, researchers, graduate students, etc.
10. Consult and advise on technical designs.
11. Interact with internal contacts to discuss and consult on research projects.
12. Design research processes, implement and project cost estimates.
13. Interact with vendors, suppliers, manufacturing companies and other research institutions to develop and design specialized equipment and instruments.
14. Exchange technical information. Stay abreast of new research technologies and developments.
15. Develop and manage the budget of the facility in conjunction with West Campus Administration, determine pricing and ensure use of the facility to guarantee a steady revenue flow and cost recovery.

### **Education and Training:**

B.S. Degree in Engineering and eight to ten years related work experience in a research development facility, supervising and overseeing facilities operations; or the equivalent combination of education and experience.

Experience and understanding of microfluidic and microelectronics processing equipment.

Applicant should be familiar with all processes related to soft lithography used in the fabrication of micro and nano- fluidic devices.

Background in photomask design using CAD programs such as Layout Editor is a plus. Processes including positive and negative resists, silanization, casting materials (i.e. PDMS) are used to create single and multi-level devices, applicant will be knowledgeable of the basics in this area and be required to teach and train users in these processes.

Familiarity with alignment techniques at the micro and nano level is critical.

Maintaining process equipment and integrating process solutions is a major responsibility.

Experience working in a multiuser environment.

### **Skills and Abilities**

1. Excellent interpersonal skills suited to a multiuser environment.
2. Demonstrated ability to organize and support multiple projects for multiple users.
3. Ability to function independently and utilize judgment, analysis and creativity in investigating problems while evaluating alternative solutions.
4. Self-motivated
5. Ability to work as a full collaborator with faculty, students, and research staff.
6. Ability to train and instruct students and post-docs.
7. Participate in acquiring funding.

**Application:** For more information and immediate consideration, please apply online at [www.Yale.edu/jobs](http://www.Yale.edu/jobs) - the STARS req ID for this position is **27388BR**. Please be sure to reference this website when applying for this position.

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*Yale University is an affirmative action/equal opportunity employer. Yale values diversity in its faculty, staff, and students and strongly encourages applications from women and members of underrepresented minority groups.*