

Microbeam Training Course at RARAF

July 23-27, 2018

The 7th Microbeam Training Course at Columbia University's Radiological Research Accelerator Facility (RARAF) in Irvington, New York will be held July 23-27, 2018. The course is designed to provide a “pipeline” of researchers interested in the use and development of microbeam facilities for research in biology, radiation biology, and radiation physics.

Sponsored by the National Institute of Biomedical Imaging and Bioengineering (NIBIB), the five-day course will be offered for the seventh time to a limited group of scientists, selected by an open competitive application process. Application to the program is open to graduate students, postdoctoral fellows, and faculty with an interest in the use and development of microbeam facilities. Both foreign nationals and U.S. citizens may apply to the program. *Limited support for travel and housing will be available.*

This intense program is taught by leading Columbia University biologists and physicists who are pioneers in the development and use of microbeam technologies.

Applicants are required to submit:

1. A copy of their *curriculum vitae*
2. A statement (one page or less) of how they intend to use the knowledge gained from the course and whether they will need financial support.

Applications should be sent to Course Director Marcelo Vazquez, MD, Ph.D. by:

EXTENDED DEADLINE: 5 p.m. EST, Friday, March 30, 2018.



For questions or more information please check our website

(<http://www.raraf.org/microbeamtrainingMain.html>)

or contact

Marcelo E. Vazquez, MD, Ph.D., Director

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Microbeam Training Course Agenda

Day 1: Lectures and demonstrations

- *Introduction to microbeams:* These presentations are designed to give biologists an understanding of microbeam physics and physicists an understanding of biology requirements and applications.
- *Tour of RARAF microbeam facilities*
- *Designing and building a microbeam*
- *Designing a microbeam experiment*
- *Day-to-day issues running a microbeam*
- *Preparing cells for irradiation*

Day 2: Lectures, Demonstrations and wetlab activities

- *Microbeam setup: scan the beam spot size, focus the beam, locate beam spot*
- *Imaging procedures*
- *Irradiation procedures*
- *Cell Irradiation Demo: operate microbeam for different irradiation protocols*
- *Data gathering, processing and analysis*
- *Experimental set-up for next day*

Day 3: Experimental Day

- *Microbeam facility development*
- *User facility interactions*

Day 4: Experimental Day and Lectures

- *Data gathering and processing*
- *Homework day*

Day 5: Discussions and final lectures



7th RARAF Microbeam Training Course

Nevis Laboratories, Columbia University

Irvington, NY

July 23-27, 2018

TOPICS:

- *Introduction to microbeams*
- *Physics of microbeams*
- *Biology of microbeams*
- *Designing and building a microbeam facility*
- *Designing a microbeam experiment*
- *Day-to-day issues running a microbeam*
- *Preparing cells for irradiation*
- *Imaging procedures*
- *Irradiation procedures*
- *On-line/off-line analyses*
- *Translational studies*

More information:

Website: www.raraf.org/microbeamtrainingMain.html

Contact: Director Marcelo E. Vazquez, MD, PhD

mvazquez@llu.edu

