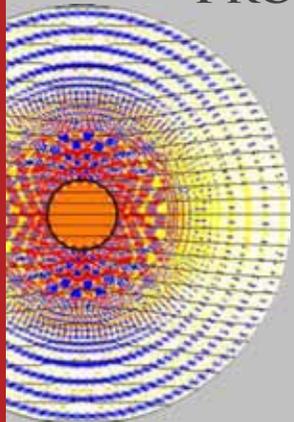
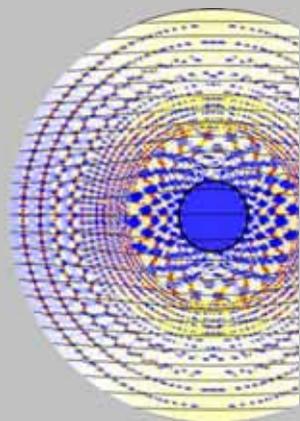


# ROWLAND JUNIOR FELLOWS PROGRAM



[www.rowland.harvard.edu](http://www.rowland.harvard.edu)



2015

The Rowland Institute at Harvard is seeking applications for Junior Fellowships for the 2015 academic year. We seek the best young experimentalists in all areas of science and engineering; research projects in the areas of energy science and neuroscience, broadly defined, are of particular interest. The Rowland Junior Fellowship provides an opportunity to work in the rich intellectual environment at Harvard and the surrounding area, while establishing an independent program.

Dr. Edwin Land founded the Rowland Institute in order to foster high-risk, creative research. In 2002, the Rowland Institute became part of Harvard with the mission of advancing the careers of experimental scientists and engineers at an early career stage by providing them with the opportunity to establish an independent research program. In the tradition of Dr. Land, we are particularly interested in young scholars with the potential to establish a ground-breaking research program in their chosen field.

The Rowland Junior Fellowships are restricted to experimentalists at an early career stage (not more than three years beyond the receipt of their doctorate). Fellowship awardees will receive funding for salary and research expenses, including support for a postdoctoral researcher, research operating costs, and equipment. The Rowland Institute also provides technical support from permanent staff. All Fellows are allocated their own laboratory space.

The term of the fellowship is for up to five years, with terms beginning between July 1 and September 30. The stipend for Rowland Junior Fellows will start at \$66,000 per year, depending on the candidate's experience. Fellows must have completed their doctoral degrees prior to starting their term at the Rowland Institute at Harvard.

Applicants should submit a 1-page research proposal, a 2-page *curriculum vitae* (CV) and arrange for three letters of recommendation to be sent. The proposal, CV and recommendations should be submitted via US mail, or electronically as PDFs to

[rjf@rowland.harvard.edu](mailto:rjf@rowland.harvard.edu).

Mail address:

**Dr. Michael M. Burns  
Rowland Junior Fellows Program  
Rowland Institute at Harvard  
100 Edwin H. Land Boulevard  
Cambridge, MA 02142 USA**

The application deadline is **Nov. 14, 2014**. No applications postmarked after this date will be accepted. Questions about the program should be directed to [rjf@rowland.harvard.edu](mailto:rjf@rowland.harvard.edu). Further information about the Rowland Institute can be found at -

[www.rowland.harvard.edu](http://www.rowland.harvard.edu).

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Cover images: Geometrically constructed metamaterial showing thermal (upper) and electrical (lower) current densities.  
RJF Yuki Sato (2014)



**Director Cynthia M. Friend**

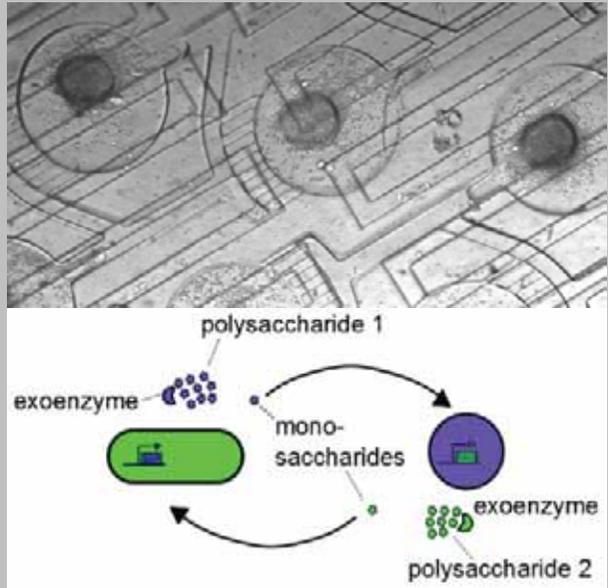


The Rowland Junior Fellowship provides an unparalleled opportunity to explore high-risk/high-reward projects while establishing an independent research career. This year, we are especially interested in building up the areas of neuroscience and energy science defined in their broadest sense. We look forward to learning about your innovative ideas.

**The Rowland Institute at Harvard**



**RJF Alvaro Sanchez (2018)**  
**Microbial Biophysics & System Biology Lab**

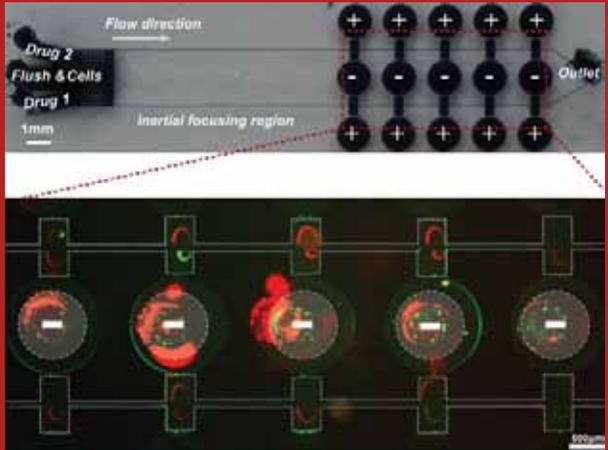


Top: A microfluidic array of chemostats is being developed to perform high-throughput, long-term microbial evolution experiments.  
Bottom: Microbial ecological interactions are often mediated by molecules secreted to the environment, which are costly to produce.

Institute scientist Chris Stokes provides technical support in development of instrumentation.



**RJF SJ Claire Hur (2016)**  
**μFluidics Biophysics Lab**

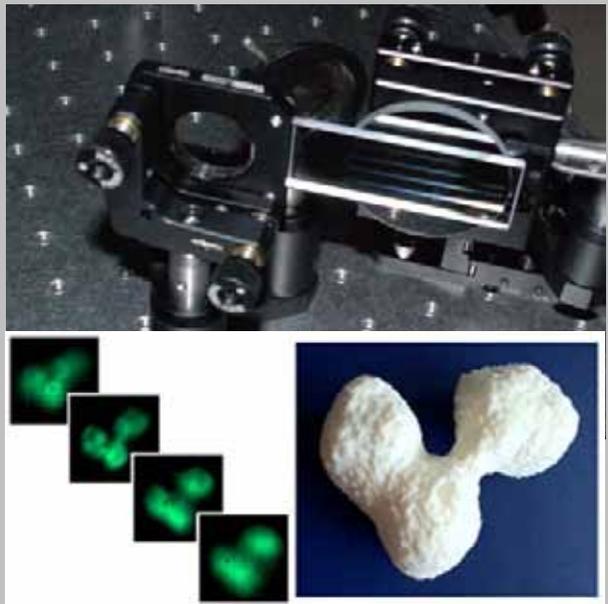


A microfluidic electroporation system which sequentially inserts molecules into cells for drug cocktail analysis. It measures the real dose responses of cells to, for example, a chemotherapeutic drug and an anti-cancer flavonoid, quantitatively characterizing them for synergistic and antagonistic effects.

Director of Electronics Engineering Win Hill and RJF Alessandra Ferzoco (2016) discuss electronics required for her custom mass spectrometer.



**RJF Ethan Schonbrun (2015)**  
**Optofluidics Cytometry Group**



Top: A custom optical element that acts as a defocusing image splitter.  
Bottom: A focus stack of a fluorescently labeled white blood cell nucleus and a 3D printed 10,000:1 scale model of the reconstructed object.

Institute scientist Diane Schaak provides biochemical and biophysical expertise in developing research projects.

