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June 10 – Aug. 17, 2019
When you apply, your application will be available to research mentors for all funding sources listed below:

**NSF Materials Research Science and Engineering Center (MRSEC)**

mrsec.harvard.edu

Study the mechanics of films and interfaces, soft robotics, and engineer materials and techniques for biological studies at cellular scales.

**NSF National Nanotechnology Coordinated Infrastructure (NNCI) at the Center for Nanoscale Systems at Harvard**

cns.fas.harvard.edu

Participate in research in photonics and optical computing, biomimetics, diamond-based nanoscale sensors and computing elements, and more.

**NSF Privacy Tools**

privacytools.seas.harvard.edu

Join a multidisciplinary effort to help enable the collection, analysis and sharing of personal data for research in social science and other fields while providing privacy for individual subjects. Positions contingent on funding.

**NSF Beaver Dam Structure and Logic**

Explore the building techniques and structures of the American Beaver through field work on the Blackfeet Reservation in Montana and laboratory and modeling techniques at Harvard. Positions contingent on funding.

**NSF REU Site in Biomaterials & Bioengineering (BRIDGE)**

reu site.seas.harvard.edu

Conduct research in biomaterials, including drug delivery, tissue engineering, microfluidics, and cells as materials.

**NSF Quantum Cascade Lasers as High-Speed Wireless Communication Devices**

This project aims at a radical reinvention of the quantum cascade laser: instead of using the emitted infrared radiation from the laser, light can be trapped inside the laser cavity to generate elusive microwave and terahertz frequencies - such waves may be used to transmit communication signals from the laser.

**NSF-Simons Center for Mathematical and Statistical Analysis of Biology**

https://quantbio.harvard.edu/mathbio

This Center focuses on understanding how molecular networks in individual cells contribute to developmental decisions; discovering how proteins and cells self-organize to produce intracellular structures, tissues, and organs; and understanding how biological systems adapt within and beyond the lifespan of individual organisms. Projects aim to advance knowledge of complex biological systems using mathematical and computational tools, developing new mathematics and statistics for the study of biology.

**The Wyss Institute for Biologically Inspired Engineering**

wyss.harvard.edu

Discover the engineering principles that nature uses to build living things, and harness these insights to create biologically inspired materials and devices to revolutionize healthcare and create a more sustainable world. Project include adaptive material technologies, bioinspired soft robotics, 3D organ engineering, bioinspired therapeutics and diagnostics, living cellular devices, immuno-materials, molecular robotics, and synthetic biology.

**The Rowland Institute at Harvard**

rowland.harvard.edu

Study experimental science over a broad range of disciplines. Research in physics, chemistry, and biology has an emphasis on interdisciplinary work and development of new experimental tools. Positions contingent on funding.

**Additional Opportunities**

Additional projects in a variety of areas may become available as funding is received. Please inquire at reu@seas.harvard.edu if you have specific interestes within the Harvard Paulson School of Engineering and Applied Sciences that are not listed in this flyer.

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