Maya M. Lassiter

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I make electronics differently. Most recently, the [world's first autonomous microscopic robot](). My background is in experimental nanofabrication, scalable semiconductor process development, and iterative design for custom manufacture. My career has built novel electronics and solved field-based engineering challenges.

Relevant Experience

Autonomous Microscopic Robots *(6 years)*
- Principal Investigator for the fabrication and testing of the world's first autonomous microscopic robot
- Lead experimentalist, responsible for testing, acquiring data, and performing analysis
- Invented foundry-compatible release process at 55- and 28-nm technology nodes for scalable production
- Democratized new technology via open-source low-cost kits for using and controlling microscopic robots
- Added to the Museum of Science and Industry and Computer History Museum permanent collections

Nanofabrication Process Engineer *(2+ years)*
- Responsible for cleanroom processes across deposition, etching, lithography, packaging, and metrology
- Directed process documentation and training of new lab users
- Ensured lab upkeep for day-to-day operations supporting over 200 users
- Supported capital equipment move and install during cleanroom relocation

Flexible Neural Probes *(2 years)*
- Developed packaging process for soft neural probes to improve chronic optogenetic brain stimulation
- Invented a low-cost solution with commercial components and custom 3D printed parts
- Miniaturized from pumped benchtop laser to <1cm^3 mobile package for untethered chronic implantation

Carnegie Mellon Solar Racing *(2 years)*
- Fabricated custom carbon fiber solar powered boat for international competition
- Built custom electrical system on-site
- Pilot for part of multi-day racing through The Netherlands and exhibition in Monaco

Accessible Robotics: Braille Tutors *(1 year)*
- Field engineer for deploying Stand-Alone Braille Tutors in rural India classrooms at the Mathru School for the Blind
- Directed hardware build and troubleshooting in classrooms with both Blind teachers and students
- Expanded Braille tutor functionality with new modes including Kannada language support
- Coordinated hardware documentation process across three languages (English, Hindi, Kannada)

Skills

Nanofabrication process development
Chip-scale handling and packaging
Mask layout
Device testing and analysis
Python/C

Recognition

University of Pennsylvania Presidential Fellow
MIT Lincoln Lab GEM PhD Fellow
Carnegie Mellon University Outstanding Woman in Engineering
William J. Happel Fellow, GEM MS University Fellow
Carnegie Mellon University Leadership Search Committee Member
Member of: Fontaine Society, IEEE-HKN, SfN, OSA, APS

Education

PhD Electrical and Systems Engineering, University of Pennsylvania
MS Electrical and Computer Engineering, Carnegie Mellon University
BS Electrical and Computer Engineering, Minor in Global Engineering, Carnegie Mellon University