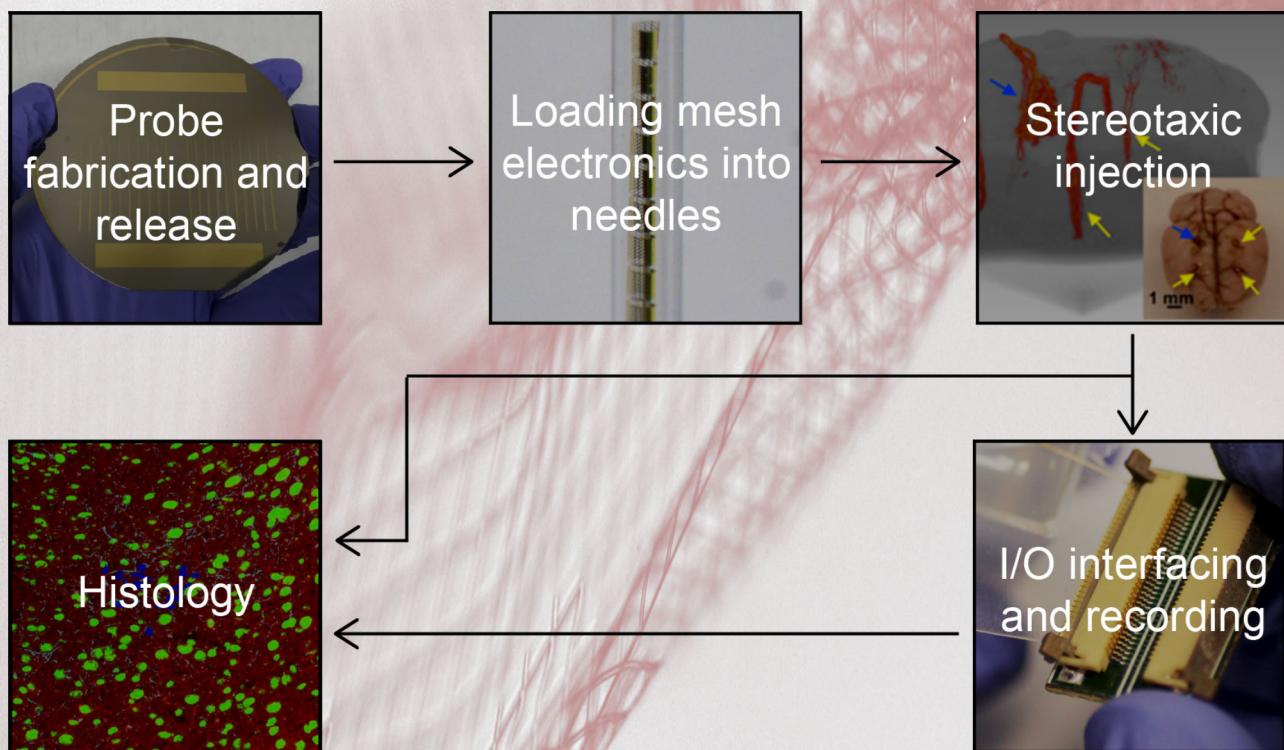


Mesh Electronics

Syringe-injectable mesh electronics seamlessly integrate with brain tissue in living animals, opening up exciting opportunities in neuroscience, bioengineering, and medicine. Here we make available to the scientific community protocols and other resources needed to implement this exciting technology. Please [contact us](#) with specific questions.

Getting Started

The main steps for implementing mesh electronics in your research are as follows:



'Click' on the specific step of interest to find out the details!

Latest updates

Lieber Lab's latest work on chronic in vivo retina recording published in *Science*

The [article](#) describes the Lieber group's latest revolutionary approach to recording single-neuron activity of

Recent papers

[Nano-enabled direct contact interfacing of syringe-injectable mesh electronics](#)

S.R. Patel and C.M. Lieber. *Nat. Biotechnology*, 2019, DOI: 10.1038/s41587-019-0234-8

In the media

[Electronic stealth neurons offer enhanced brain studies and treatments](#)

National Institutes of Health NIBIB 2019.

[Sensors go undercover to outsmart the brain](#)

opportunities to study how retinal ganglion cells connect with other vision-related brain regions and on the development of retinal prosthetics for restoring vision through nonsurgical procedures.

[Nano-enabled direct contact interfacing of syringe-injectable mesh electronics](#)

J.M. Lee, G. Hong, D. Lin, T.G. Schuhmann, A.T. Sullivan, R.D. Viveros, H.-G. Park and C.M. Lieber. *Nano Lett.*, 2019, DOI: 10.1021/acs.nanolett.9b03019

[Scalable ultrasmall three-dimensional nanowire transistor probes for intracellular recording](#)

Y. Zhao, S. You, A. Zhang, J.-H. Lee, J.L. Huang and C.M. Lieber. *Nat. Nanotechnol.*, 2019, DOI: 10.1038/s41565-019-0478-y.

[Advanced one- and two-dimensional mesh designs for injectable electronics](#)

R.D. Viveros, T. Zhou, G. Hong, T.-M. Fu, H.Y.G. Lin and C.M. Lieber. *Nano Lett.*, 2019, DOI: 10.1038/s41583-019-0140-6.

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B. Tian and C.M. Lieber. *Chem. Rev.*, 2019, DOI: 10.1021/acs.chemrev.8b00795.

[Novel electrode technologies for neural recordings](#)

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X. Yang, T. Zhou, T.J. Zwang, G. Hong, Y. Zhao, R.D. V, T.-M. Fu, T. Gao and C.M. Lieber. *Nat. Mater.*, 2019, DOI: 10.1038/s41563-019-0292-9.

[Syringe-injectable mesh electronics for stable chronic rodent electrophysiology](#)

T. G. Schuhmann, T. Zhou, G. Hong, J. M. Lee, T.-M. Fu, H.-G. Park, and C. M. Lieber. *J. Vis. Exp.*, 2018, 137, e58003.

[A method for single-neuron chronic recording from the](#)

[Image of the Day: Imposter Neurons](#)

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[Bioelectronics herald the rise of the cyborg](#)

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