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MIT neuroscientist Ed Boyden has received the 2020 Wilhelm Exner Medal.

Photo: Justin Knight

Ed Boyden wins prestigious Wilhelm Exner Medal

Entrepreneurial science award recognizes scientists whose work opens up "new dimensions of economic progress."

Sabbi Lall | McGovern Institute for Brain Research March 18, 2020

The Austrian Association of Entrepreneurs has announced that Edward S. Boyden, the Y. Eva Tan Professor in Neurotechnology at MIT, has been awarded the 2020 Wilhelm Exner Medal.

Named after Austrian businessman Wilhelm Exner, the medal has been awarded annually since 1921 to scientists, inventors, and designers who are "promoting the economy directly or indirectly in an outstanding manner." Past honorees include 22 Nobel laureates.

"It's a great honor to receive this award, which recognizes not only the basic science impact of our group's work, but the impact of the work in the industrial and startup worlds," says Boyden, who is a professor of biological engineering and of brain and cognitive sciences at MIT.

Boyden is a leading scientist whose work is widely used in industry, both in his own startup companies and in existing companies. Boyden is also a member of MIT's McGovern Institute for Brain Research, Media Lab, and Koch Institute for Integrative Cancer Research.

"I am so thrilled that Ed has received this honor," says Robert Desimone, director of the McGovern Institute. "Ed's work has transformed neuroscience, through optogenetics, expansion microscopy, and other findings that are pushing biotechnology forward too."

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He is interested in understanding the brain as a computational system, and builds and applies tools for the analysis of neural circuit structure and dynamics, in behavioral and disease contexts. He played a critical role in the development of optogenetics, a revolutionary tool where the activity of neurons can be controlled using light. Boyden also led the team that invented expansion microscopy, which gives an unprecedented view of the nanoscale structures of cells, even in the absence of special super-resolution microscopy equipment. Exner Medal laureates include notable luminaries of science, including Robert Langer of MIT. In addition, Boyden has founded a number of companies based on his inventions in the busy biotech hub of Kendall Square in Cambridge, Massachusetts. These include a startup that is seeking to apply expansion microscopy to medical problems.



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Boyden will deliver his prize lecture at the Exner symposium in November 2020, during which economists and scientists come together to hear about the winner's research.

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