

London cabbies streets ahead with 'inner GPS': Nobel winner

October 6 2014, by Robin Millard



British-American researcher John O'Keefe poses for pictures at his office in London on October 6, 2014, after winning the Nobel Medicine Prize

John O'Keefe, the US-British neuroscientist who [won the Nobel Prize for Medicine](#) on Monday, told AFP the brain's "inner GPS" system he discovered was starkly evident in London taxi drivers.

The 74-year-old, who jointly won the prize with his former students,

Norwegian couple Edvard and May-Britt Moser, has been bending the ear of US President Barack Obama about the importance of such research in helping find cures for [brain](#) diseases.

He found in 1971 that specific cells in the [hippocampus](#) part of the brain were triggered in rats when in a certain location. Thirty-four years later, in 2005, the Mosers found "grid cells" linking the information together.

"In the same way that GPS allows you to locate yourself in an area or even on the surface of the Earth and then find your way to a desired location, it does exactly the same thing for the brain," O'Keefe said.

"It tells you where you are, where you want to go."

He said there were also cells registering direction and landmarks.

O'Keefe is a professor of cognitive neuroscience at University College London and has only to step outside the building to find evidence of his discoveries in action.

"We know that this part of the brain is used more efficiently by some people than others," the New Yorker said.



Union Flags fly along The Mall as a taxi passes near the Queen Victoria Memorial statue and Buckingham Palace in London, on May 29, 2012

"Some of the best navigators in the world are London taxi cab drivers. They have to learn 25,000 streets and how to get from one to the other.

"They have a bigger part of the hippocampus than other people and that part of the hippocampus grows the longer they are cab drivers. So if you take somebody who's been driving for 25 years, that part of the brain is larger.

"You can actually track this in individual people."

State of shock

O'Keefe said he was still in shock at receiving the award—which he learned of while working at his desk at home.

"It doesn't get any better than this. On the other hand, it's all downhill from here!" he joked.



British-American researcher John O'Keefe answers a question during a press conference in London on October 6, 2014, after winning the Nobel Prize in medicine

He gets a half-share of the eight million Swedish kronor (\$1.1 million, 880,000-euro) prize and said he would likely put the money into supporting science.

O'Keefe recently met Obama thanks to another prize in his collection.

"He said that he was very, very mindful of the problems with Alzheimer's. He hoped that we could make progress with that. He didn't want to get it himself," he said.

"Very seriously, he said that he was aware that the American government and others really had to support this type of research because it was going to be a real major problem for health services the world over. It is already."

O'Keefe said his career had been driven by sheer curiosity.

"I want to know how the mind works," he said.

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