



## 2024 Nobel Prize in Physics

John J. Hopfield and Geoffrey E. Hinton receive the Nobel Prize for foundational discoveries and inventions that enable machine learning with artificial neural networks

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This morning, the Royal Swedish Academy of Sciences announced the laureates of the 2024 Nobel Prize in Physics, naming **John J. Hopfield**, Princeton University, and **Geoffrey E. Hinton**, University of Toronto, for foundational discoveries and inventions that enable machine learning with artificial neural networks

Hopfield and Hinton have used tools from physics to develop methods that are the foundation of today's powerful machine learning. John Hopfield created an associative memory that can store and reconstruct images and other types of patterns in data. Geoffrey Hinton invented a method that can autonomously find properties in data, and so perform tasks such as identifying specific elements in pictures.

The laureates' work has already been of the greatest benefit. In physics we use artificial neural networks in a vast range of areas, such as developing new materials with specific properties, says Ellen Moons, Chair of the Nobel Committee for Physics

. ICFOians congratulate these scientists for their landmark achievements and for the highest recognition for their work that this Nobel Prize implies