

## Wolf Foundation Prize for Mathematics in 2018 announced

by Manjil Saikia - Wednesday, February 14, 2018

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A [press release](#) of The Wolf Foundation stated:

The Wolf Foundation Prize for Mathematics in 2018 will be awarded to Professor Alexander Beilinson and Vladimir Drinfeld, both of the University of Chicago, for their ground-breaking work in algebraic geometry (a field that integrates abstract algebra with geometry), in mathematical physics and in presentation theory, a field which helps to understand complex algebraic structures

An "algebraic structure" is a set of objects, including the actions that can be performed on those objects, that obey certain axioms. One of the roles of modern algebra is to research, in the most general and abstract way possible, the properties of various algebraic structures (including their objects), many of which are amazingly complicated

Alexander Beilinson was born in Moscow (1957), won the Ostrowski Prize (together with a colleague) in 1999, for extraordinary achievements in mathematics, and in 2017 he was elected to the National Academy of Sciences of the United States. His outstanding achievements include proofs of the Kashdan-Lustig and Jantzen conjectures, which play a key role in the representation theory, the development of important conjectures ("Beilinson's Conjectures") in algebraic geometry, and a significant contribution to the interface between geometry and mathematical physics. The joint work of Beilinson and Vladimir Drinfeld on the Langlands Program - a woven fabric of theorems and conjectures designed to link key areas of mathematics - has led to impressive progress in implementing the program in important areas of physics, such as quantum field theory and string theory.

Drinfeld and Beilinson, together created a geometric model of algebraic theory that plays a key role in both field theory and physical string theory, thereby further strengthening the connections between abstract modern mathematics and physics. In 2004 they jointly published their work in a book that describes important algebraic structures used in quantum field theory, which is the theoretical basis for the particle physics of today. This publication has since become the basic reference book on this complex subject.

More information on the prize and it's past winners can be found [here](#).

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