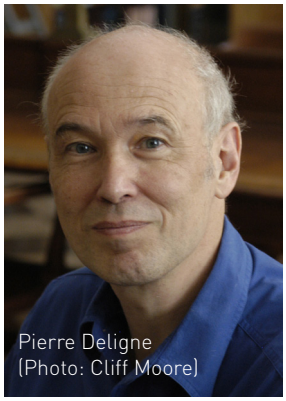
Date: 24 May 2013
Time: 13:30 – 18:00
Venue: The Beijer Hall, The Royal Swedish Academy of Sciences, Lilla Frescativägen 4A, Stockholm

KUNGL. VETENSKAPS-AKADEMIEN
THE ROYAL SWEDISH ACADEMY OF SCIENCES

Symposium in honor of the Abel Prize Laureate 2013

Symposium in honor of Pierre Deligne, Institute for Advanced Study, Princeton, New Jersey, USA.


Pierre Deligne
(Photo: Cliff Moore)

The Norwegian Academy of Science and Letters has decided to award the Abel Prize for 2013 to Pierre Deligne, Institute for Advanced Study, Princeton, New Jersey, USA *"for seminal contributions to algebraic geometry and for their transformative impact on number theory, representation theory, and related fields"*

Pierre Deligne was born on 3 October 1944 in Etterbeek, Brussels, Belgium. He is Professor Emeritus in the School of Mathematics at the Institute for Advanced Study, Princeton, New Jersey, USA. Deligne received the Fields Medal in 1978, the Crafoord Prize in 1988, and is a Foreign Member of the Royal Swedish Academy of Sciences since 2009.

Algebraic geometry is the fundamental connection between geometry and algebra, in which geometric methods are used to study solutions of polynomial equations, and, conversely, algebraic techniques are applied to analyze geometric objects. Pierre Deligne's best known achievement is his spectacular solution of the last and deepest of the Weil conjectures, namely the analogue of the Riemann hypothesis for algebraic varieties over a finite field.

The prize is awarded by the Norwegian Academy of Science and Letters. The choice of the Abel Laureate is based on the recommendation of the Abel Committee. The Abel Prize was awarded for the first time in 2003. The Abel Prize and associated events are funded by the Norwegian Government.

13.30 Opening of the symposium
***Nils Dencker**, chairman of the Academy's Class for mathematics*

13.35 Introduction - The Abel Prize 2013
***Ragni Piene**, Abelkomiteen, University of Oslo, Norway*

13.50 Fixed points formulas
Fixed points formulas express the number of fixed points of a transformation (or sometimes the sum of "local terms" attached to the fixed points) as an alternating sum of traces of corresponding endomorphisms of suitable cohomology groups. Such formulas imply relations between the numbers of fixed points of iterates of a transformation. Drinfeld has discovered in 1981 a case in which such relations hold, but where no known cohomology theory explains them. It would be extremely interesting to find this missing cohomology theory, if it exists.
***Pierre Deligne**, Institute of Advanced Study, Princeton, USA*

14.50 Coffee

15.20 TBA
***Alexander Beilinson,** University of Chicago, USA*

16.10 Modular forms and the cohomology of moduli spaces
***Carel Faber**, KTH Royal Institute of Technology, Sweden*

17.00 Some applications of Deligne's work to analytic number theory
***Per Salberger,** Chalmers University of Technology, Sweden*

The symposium is open to the public and free of charge but registration is required. For the first 50 registered participants there will be a buffet dinner served after the symposium in the Academy Club House. Register at http://kva.se no later than 20 May 2013.

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