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## Humboldt Distinguished Lecture Series in Applied Mathematics

### Asymmetry of Information in Finance

Ivar Ekeland

This lecture series is intended for graduate and PhD students in mathematics and economics with an interest in mathematical finance and optimization. It is given by a pioneer in optimization and convex analysis. The talks take place

**April 12th; 16:00 - 17:00 and 17:30 - 18:30;  
Johann v. Neumann Haus; Room 1.115**

**April 13th, 17:00 - 18:00 and 18:30 - 19:30;  
Johann v. Neumann Haus; Room 1.115.**

and cover the following topics:

**Asymmetry of Information:** Adverse selection, moral hazard, the principal-agent problem, incentive-compatibility constraints, first-best contracts versus second-best contracts

**Adverse selection:** Generalized convexity, the principal's problem as an optimization problem with convexity constraints, existence theory, numerical algorithms.

**Moral hazard:** Limited liability in finance: a dynamic model with continuous time and infrequent but costly accidents, Sannikov's method, description of the optimal contract.

There is no registration. For further information and course material, please visit

[www.math.hu-berlin.de/~horst/](http://www.math.hu-berlin.de/~horst/)

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#### Organizer:

Ulrich Horst  
Deutsche Bank Professor of Applied Financial Mathematics

Humboldt-Universität zu Berlin  
Institut für Mathematik  
Unter den Linden 6  
D-10099 Berlin

In collaboration with the *Berlin Mathematical School*, the *SFB 649 "Economic Risk"* and the *DFG Research Center MATHEON*.

email: [horst@math.hu-berlin.de](mailto:horst@math.hu-berlin.de)

**Ivar Ekeland** is a fellow of the Royal Society of Canada and a member of the Norwegian and Palestinian Academies of Sciences. He was president of the University of Paris-Dauphine from 1989 to 1994, and director of the Pacific Institute of Mathematical Sciences from 2003 to 2008. He has worked in optimization and critical point theory, symplectic topology and classical mechanics, microeconomics and finance. He is well-known for the Ekeland variational principle in optimization, and the Ekeland-Hofer capacities in symplectic topology. His latest book (with P.A. Chiappori) is "The economics and mathematics of aggregation"

