

Albert Fert

Professor at Université Paris-Saclay, France

EDUCATION

Université de Paris Ph.D. Physics 1970

PROFESSIONAL ACTIVITIES

- Professor, UMR CNRS-Thales, Université Paris-Saclay, France (1976 to Present.)
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AWARD AND HONORS

- **2007 Nobel Prize in Physics**
- 2007 Wolf prize
- 2007 Japan Prize
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MAIN SCIENTIFIC PUBLICATIONS

- M. N. Baibich, J. M. Broto, A. Fert, F. Nguyen Van Dau, P. Etienne, G. Creuzet, A. Friederich, J. Chazela. Giant magnetoresistance in Fe(001)/Cr(001) superlattices. Phys. Rev.Lett. 61, 2472, 1988 Citations > 6000.
- C. Chappert, A. Fert, F. Nguyen Van Dau. The emergence of spintronics in data storage. Nature. Mat. 6, 813 (2007). Citations > 1000
- A. Fert, V. Cros, J. Sampaio. Skyrmions on the track. Nature nanotechnology 8, 153 (2013) Citations > 1000

RESEARCH INTERESTS

- Solid state physics and materials
- Magnetism and spintronics

ALBERT FERT, CV

Albert Fert graduated from École Normale Supérieure in Paris, earned his Ph.D. at University of Paris in 1970 and became Professor of Physics at University Paris-Sud in 1976. He is today Scientific Director of a joint laboratory of CNRS and company Thales, Emeritus Professor at University Paris-Saclay and member of the French Academy of Sciences.

NANO KOREA 2022

July 6~8, KINTEX, Korea

Research

The experimental (and theoretical) research of Professor Fert is in condensed matter physics (electronic and magnetic properties of solids, spintronics). He was one of the discoverers of the Giant Magnetoresistance in 1988, a phenomenon which is well known for its application to the hard discs and the resulting large increase of their storage capacity. This discovery has also triggered the development of the important research field which is called spintronics and sometimes defined as a new type of electronics harnessing the spin of the electrons. Professor Fert and his team have made significant contributions to the development of spintronics, in particular by works on the theory of spin transport (Valet-Fert model) and experiments on spin dependent tunneling, generation of microwaves by spin transfer, Spin Hall Effect, spin-orbit torques, spin transport in carbon-based conductors. His most recent works are on topological surface states (discovery of Inverse Edelstein effect) and skyrmions (he pioneered the field of skyrmions by exploiting his 1980 prediction of chiral spin interactions at interfaces).

Nobel Prize

Albert Fert and Peter Grünberg (Jülich, Germany) were awarded the 2007 Nobel Prize in Physics.

Other Awards and Honors

International Prize for New Materials of the American Physical Society (1994)

Magnetism Award of International Union of Pure and Applied Physics (1994)

Grand Prix de Physique Jean Ricard of the French Physical Society (1994)

Europhysics Prize of the European Physical Society (1997)

Gold Medal of the French National Scientific Research Center (CNRS) in 2003

Wolf Prize (2007)

Japan Prize (2007)

Gay Lussac–Humboldt research Award (2015).

Honoris Causa Doctorate of a dozen of universities