

Shoucheng Zhang

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Research Interest

Theoretical condensed matter physics, including quantum spintronics, quantized Hall effect, high temperature superconductivity, superfluidity and magnetism.

Experience

ITP Santa Barbara Santa Barbara, CA
1987–1989

Postdoctoral Research fellow at ITP UCSB.

IBM Almaden Research Center San Jose, CA
1989–1993

Research Staff Member of IBM Research Division.

Stanford University Stanford, CA
1993–present

Professor of Physics.

Stanford University Stanford, CA
1993–present

Professor of Applied Physics, by courtesy.

Stanford University Stanford, CA
2004–present

Professor of Electrical Engineering, by courtesy.

Stanford University Stanford, CA
2004–present

Co-director of the IBM Stanford center for spintronics.

Education

Free University of Berlin Berlin, GERMANY
Diplom in Physics, June 1983.

SUNY at Stony Brook Stony Brook, New York
Ph.D. in Physics, June 1987.

Grant Awards

National Science Foundation: “Symmetry principles in strongly correlated electron systems”, funded since 1996.

Department of Energy: “Nanoscale magnetism in the vortex state of high T_c superconductors”, funded since 2001.

Department of Energy: “Experimental and theoretical investigations of spin transport in semiconductors”, funded since 2005.

Western Institute of Nanoelectronics: “Theory of spin transport in solids”, funded by the consortium of semiconductor companies including Intel, IBM, AMD, TI etc, funded since 2006.

Functional Engineered Nano Architectonics: “Quantum spin Hall effect transistor”, funded by the MARCO since 2006.

- Honors**
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| Outstanding Young Researcher Award | 1992 |
| Awarded by the Oversea Chinese Physicist Association, selection committee members are Paul Chu, Steven Chu, Patrick Lee, T.D. Lee and C.N. Yang. | |
| Outstanding Innovation Award | 1993 |
| Awarded by the IBM Research Division. | |
| Cheong Kong Visiting Chair Professor | 2001 |
| Tsinghua University, China. | |
| Royal Society Visiting Chair Professor | 2005 |
| Hong Kong University. | |
| Fellow of the American Physical Society | 2006 |
| Awarded by the American Physical Society. | |
| Guggenheim Fellow | 2007 |
| Awarded by the John Simon Guggenheim Memorial Foundation. | |
| Science Top 10 | 2007 |
| Our work on the quantum spin Hall effect was recognized by Science Magazine as one of the top 10 breakthroughs among all scientific fields in 2007. | |
| Humboldt Research Prize | 2009 |
| Awarded by the Alexander von Humboldt Foundation of Germany. | |
- Publications** 156 papers published in refereed journals. Eight in Science, five in Nature and Nature Physics, fifty in the Physical Review Letters and one in the Review of Modern Physics.
- Conferences** Invited talks at 160 international conferences and workshops.
- Mentoring** Ph. D. students and postdocs under my thesis supervision have become faculty members at the distinguished universities, including Xiaoliang Qi at Stanford, Eugene Demler at Harvard, Andrei Bernevig at Princeton, Congjun Wu at UCSD, Jiangping Hu at Purdue, Leonid Pryadko at UC Riverside and Yaroslav Bazaliy at the University of South Carolina.