

[首页](#)
[学院简介](#)
[师资队伍](#)
[学术研究](#)
[学生培养](#)
[学生工作](#)
[党群工作](#)
[校友专区](#)
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凌新生 客座教授

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学习经历

1980-1984 武汉大学 物理系 学士
 1984-1987 中科院金属所 金属物理 硕士
 1987-1992 康涅狄格大学 (University of Connecticut), 物理, 博士

工作经历

1992-1994 耶鲁大学 博士后
 1994-1996 NEC普林斯顿研究所 访问科学家
 1996-至今 布朗大学 教授

教授课程

经典力学, 电磁学, 热力学与统计物理, 电动力学, 量子力学, 生物物理, 纳米孔器件物理。

研究方向

1. 纳米孔测序物理和工程
2. 生物物理

获奖情况

1998 A. P. Sloan Fellowship (斯隆奖)
 2002 J.S. Guggenheim Fellowship (古根汉姆奖)

论文著作

- [43] Daniel Y. Ling and Xinsheng Sean Ling, "On the distribution of DNA translocation times in solid-state nanopores: an analysis using Schrödinger's first-passage-time theory", *J. Phys.: Condens. Matter* **25**, 375102 (2013).
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- [35] A. Pertsinidis and X.S. Ling, Statics and Dynamics of 2D Colloidal Crystals in a Random Pinning Potential, *Physical Review Letters*, **100**, 028303 (2008).
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- [33] N. Daniilidis, I. Dimitrov and X. S. Ling, Ewald construction and resolution function for rocking-curve Small Angle Neutron Scattering experiments, *Journal of Applied Crystallography*, **40**, 959-963 (2007).
- [32] I. K. Dimitrov, N. D. Daniilidis, C. Elbaum, J. W. Lynn, X. S. Ling, "Peak Effect in Polycrystalline Vortex Matter", *Physical Review Letters* **99**, 047001 (2007).
- [31] N. D. Daniilidis, I. K. Dimitrov, V. F. Mitrovic, C. Elbaum, X. S. Ling, "Magnetocaloric Studies of the Peak Effect in Nb", *Physical Review B* **75**, 174519 (2007).
- [30] S.R. Park, H. Peng, and X.S. Ling, Fabrication of Nanopores in Silicon Chips Using Feedback Chemical Etching, *SMALL* **3**, 116 (2007).
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- [25] S.R. Park, S.M. Choi, D.C. Dender, J.W. Lynn, and X.S. Ling, "Fate of the Peak Effect in a Type-II Superconductor: Multicriticality of the Bragg-Glass Transition, *Physical Review Letters*, **91**, 167003 (2003).
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- [21] A. Pertsinidis and X.S. Ling, "Equilibrium Configurations and Energetics of Point Defects in Two-Dimensional Colloidal Crystals", *Physical Review Letters*, **87**, 098303 (2001).
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- [14] X.S. Ling, J.I. Budnick, and B.W. Veal, *Physica C*, **282**, 2191 (1997), "Peak Effect and Its Disappearance in Superconducting YBCO Crystals.
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科研项目

项目名称	项目类别	项目时间	工作类别	项目金额
Statics and Dynamics of 1D and 2D Colloidal Lattices with Random Pinning	National Science Foundation, Condensed Matter Physics Program	July 1, 2010-June 30, 2013	Role: PI	\$360,000
Hybridization-Assisted Nanopore DNA Sequencing	NIH National Human Genome Research Institute: R21	Aug.1, 2007-July 31, 2010	Role: PI	\$820,000
Neutron scattering studies of vortex matter	DOE Basic Energy Sciences	Aug.1, 2007-July 31, 2010	Role: PI	\$600,685
NIRT: DNA Sequencing and Translocation Studies using Electrically-Addressable Nanopore Arrays	National Science Foundation Grant	07/04-06/08	PI: Ling (Brown)	\$1,550,000 (Brown \$900,000, Harvard \$650,000)
Investigation of Vortex Matter Phase Transitions in Type-II Superconductors using Small Angle Neutron Scattering and Complementary Techniques	National Science Foundation Grant, DMR	07/04-06/07	Role: PI	\$330,000
DNA Sequence Detection using Novel Solid-State and Soft Nanopores	National Science Foundation Grant, NER	09/03-08/04	Role: PI	\$100,000
Acquisition of a Scanning Probe Microscope for Studies of Biomolecules and Nanoscale Materials and Devices	National Science Foundation Grant, MRI	07/03-06/04	Role: co-PI	\$133,000
Acquisition of a Workhorse Electron Beam Lithography System for Microstructured Materials and Devices Research	National Science Foundation Grant, MRI	07/01-06/02	Role: PI	\$151,200
Novel Studies of Vortex Matter and Peak Effect using In-Situ Neutron Scattering and AC Magnetization	National Science Foundation Grant, DMR	07/01-06/02	Role: PI	\$277,000
In-Situ Measurements of Small Angle Neutron Scattering and AC Magnetic Susceptibility of Vortex Matter	National Science Foundation Grant, SGER	07/00-06/01	Role: PI	\$59,949.
Novel Studies of Two-Dimensional Colloidal Crystals in Pinning Potentials	National Science Foundation Grant, DMR:	07/98-06/02	Role: PI	\$240,000
A. P. Sloan Fellowship	A. P. Sloan Fellowship	07/98-06/01		
Experimental Studies of Topological Defects and Order in 2D Colloidal Crystals	Research Innovation Award, Research Corporation	07/98-06/00		
Novel Studies of Two-Dimensional Colloidal Crystals in Pinning Potentials	Petroleum Research Fund Grant	07/98-06/99	Role: PI	\$35,000

专利

专利号	专利名称	专利类型
No. 7,678,562	X.S. Ling, Addressable nanopores and micropores including methods for making and using same	US Patent
20100096268	X.S. Ling, et al. "USE OF LONGITUDINALLY DISPLACED NANOSCALE ELECTRODES FOR VOLTAGE SENSING OF BIOMOLECULES AND OTHER ANALYTES IN FLUIDIC CHANNELS"	Patent pending, App
No.: PCT/US2006/038748	Ling, X.S., Bready, B.; Pertsinidis, A. "Hybridization Assisted Nanopore Sequencing"	International Application
No.: PCT/US2013/025106	Ling, X.S. "Methods of sequencing nucleic acids using nanopores and active kinetic proofreading"	International Application

