Xin Zhiguo Li, Ph.D.

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EDUCATION AND RESEARCH

2014-present University of Rochester Center for RNA Biology, Rochester, NY
Department of Biochemistry and Biophysics
Assistant Professor

2009-2014 University of Massachusetts Medical School/HHMI, Worcester, MA
Postdoctoral Associate

Advisor: Phillip D. Zamore, Ph.D.
Title: Investigating the function, regulation and biogenesis of mammalian small RNAs

2004-2009 Cornell University, Ithaca, NY
Ph.D. Biochemistry Molecular & Cell Biology

Joint advisors: Bik Tye, Ph.D. & John Schimenti, Ph.D.
Dissertation: Modeling mouse cancer in yeast, Tye lab
Dissertation: Defining the function of *Trip13* in mouse meiosis, Schimenti lab

2000-2004 Tsinghua University, Beijing, China
B.S. Biological Sciences and Biotechnology

Thesis Advisor: Senfang Sui, Ph.D.
Thesis: Mutagenized the trichosanthin and tested the mutant proteins on endocytosis

Primary Investigator, Student Research Training (SRT) Projects, my own lab
Title: Comparative study of *Ligularia intermedia* growing at different altitudes

RESEARCH SUPPORT

2013-2018 NIH Pathway to Independence Award (K99/R00), NICHD
Impact/Priority score :10, KHD078482, $927,000
"Dissect the piRNA regulatory mechanism during spermatogenesis"

2011-2013 Jane Coffin Childs Memorial Foundation for Medical Research Fellowship, $143,500
"Understanding the function and regulation of piRNAs in mammals"

2010-2011 Lalor Foundation Postdoctoral Fellowship, $35,000
"What is the function of non-repetitive piRNAs during spermatogenesis"

2001-2003 Student Research Training (SRT) Projects, No. 2S005, 4,000 RMB
"Comparative study of *Ligularia intermedia* growing at different altitudes on Dongling Mountain"

PEER REVIEWED PUBLICATIONS

Ishiguro, K., Kim, J., Shibuya, H., Hernández-Hernández, A., Suzuki, A., Fukagawa, T., Shioi, G., Kiyonari, H., **Li, X.C.**, Schimenti, J., Höög, C., and Watanabe Y. Meiosis-specific cohesin mediates homolog recognition in mouse spermatocytes. *Genes & Development*, 28(6):594-607, 2014 PMID:24589552

Moran, Y., Fredman, D., Praher D., **Li, X.Z.**, Wee, L., Rentzsch, F., Zamore, P.D., Technau, U. and Seitz, H. Cnidarian microRNAs frequently regulate targets by cleavage. *Genome Research*, 24(4):651-63, 2014 PMID:24642861

Li, X.Z., Roy, C.K., Dong, X., Bolcun-Filas, E.M., Wang, J., Han, B.W., Xu, J., Moore, M.J., Schimenti, J.C., Weng Z., and Zamore, P.D. An Ancient Transcription Factor Initiates the Burst of piRNA Production During Early Meiosis in Mouse Testes. *Molecular Cell*, 50: 67-81, 2013 PMID: 23523368

Highlighted in Nature Review Genetics, *Nature*, 14: 301, 2013 PMID:23552218

Feature Editorial: **Li, X.Z.**, Roy, C.K., Moore, M.J., and Zamore, P.D. Defining piRNA primary transcripts. *Cell Cycle*, 12:1657-8, 2013 PMID: 23673320

Li, X.C., Bolcun-Filas, E.M. and Schimenti, J.C. Genetic evidence that synaptonemal complex axial elements govern recombination partner choice in mice. *Genetics*, 189: 71-82, 2011 PMID: 21750255

Li, X.C. and Tye, B.K. Ploidy Dictates Repair Pathway Choice under DNA Replication Stress. *Genetics*, 187: 1031-40, 2011 PMID: 21242538

Li, X.C., Schimenti, J.C. and Tye, B.K. Aneuploidy and Improved Growth are Coincident but Not Causal in a Yeast Cancer Model. *PLOS Biology* l 7: e1000161, 2009 PMCID: PMC2708349

Li, X.C., Barringer, B.C. and Barbash, D.A. The pachytene checkpoint and its relationship to evolutionary patterns of polyploidization and hybrid sterility. *Heredity* 9: 1-7, 2008 PMID: 18766201

Li, X.C. and Schimenti, J.C. Mouse pachytene checkpoint 2 (Trip13) is required for completing meiotic recombination but not synapsis. *PLOS Genetics* 3: 1785-1785, 2007 PMCID: PMC1941754

Chen, F., Chen, Y., Dong, Y., **Li, X.**, Xu, M., Zhang, C., Yan, Y., and Zhang, G. OsDof28, a New Member of the DOF Transcription Factor Family from Rice. *Tsinghua Science and Technology* 10: 454-460, 2005

Li, X., Jia, S., Jian, J., Lin, M., Li, Q., Huang, X., Zhang, C., Zhang, R., and Zhang, G. Physiological Defense Mechanism of *Ligularia intermedia* Against UV-B Radiation on Dongling Mountain. *Tsinghua Science and Technology* 8: 481-486, 2003

PATENT

Compositions and Methods for Constructing cDNA Libraries that Allow for Mapping the 5' and 3' Ends of RNAs, US Patent Application Nos. 14/492,815

TEACHING EXPERIENCE

2014-present	Guest Lecturer at Williams College, Williamstown, MA
2012-2013	Guest Lecturer at Waldorf High School, High Mowing School, Wilton, NH Invited by Kim McCormick to teach non-coding RNA to 10th graders
2005-2009	Technician Supervisor, Cornell University • Yeast Genetics • Basic molecular biology • General lab supply maintenance
2005-2006	Teaching Assistant, Cornell University • Biochemistry lab sections to ~30 senior undergrads with instructor Dr. Susan Ely • Four-hour Biochemistry lab sections twice a week two semesters • Hosted discussions, supervised experiments, and graded notebooks • 4.7/5 satisfaction rating from students
2001-2004	Extracurricular Advisor, Beijing No.5 Middle School Appointed by school to advise students interested in biology

INVITED PRESENTATIONS

2013	School of Life Science, Fudan University, China Title: Defining piRNA primary transcripts and their regulation
2013	CAS-MPG Partner Institute for Computational Biology, China Title: piRNA primary transcripts: a new class of long non-coding RNA
2013	Tianjin Infectious Disease Hospital and Tianjin Institute of Hepatology, China Title: Transcription regulation of piRNA pathway
2002	"Imaginative Ideas" Program, China Central Television (CCTV), China Title: How to protect genetic diversity of *Nipponia Nippon* using modern technology?

PLATFORM PRESENTATIONS

2014	Conference on Germ cells. CSHL, NY
2014	Conference on Translational Control. CSHL, NY
2013	EMBO Conference on Meiosis. Dresden, Germany
2012	Cold Spring Harbor Asian: Epigenetics, Chromatin & Transcription. Suzhou, China
2009	Keystone Symposia of Genome Instability and DNA Repair. Taos, New Mexico
2008	Twelfth Annual Buffalo DNA Replication and Repair Symposium. Buffalo, NY
2007	Eukaryotic DNA Replication & Genome Maintenance Meeting. CSHL, NY
2007	Eleventh Annual Buffalo DNA Replication and Repair Symposium. Buffalo, NY
2007	2007 Northeast Regional Yeast (NERY) Meeting. Syracuse, NY
2007	31st Annual Ecology & Evolutionary Biology Graduate Student Symposium. Ithaca, NY
2006	Fourth Annual Biological and Biomedical Sciences Symposium. Ithaca, NY

POSTER PRESENTATIONS

2014	Keystone Symposia of RNA Silencing. Seattle, WA
2011	Genomic Impact of Eukaryotic Transposable Elements. Pacific Grove, California
2009	EMBO Conference Series on Meiosis. L'Isle sur la Sorgue, France
2009	Keystone Symposia of Genome Instability and DNA Repair. Taos, New Mexico
2008	Ray Wu Memorial Symposium. Ithaca, NY
2008	Mechanisms & Models of Cancer. CSHL, NY
2008	2008 Yeast Genetics and Molecular Biology Meeting. Toronto, Canada
2008	XX International Congress of Genetics. Berlin, Germany
2007	Eighth European Meiosis Meeting. Kanagawa, Japan
2007	Third Annual Center for Vertebrate Genomics Symposium. Ithaca, NY
2007	International Conference on Yeast Genetics & Molecular Biology. Melbourne, Australia
2007	Twenty-seventh Annual Vincent duVigneaud Symposium. NYC, NY
2006	Fourth DNA Replication & Genome Integrity, Salk/Caltech Meeting. La Jolla, CA

CONFERENCES ATTENDED

2013	Mechanisms of Eukaryotic Transcription. CSHL, NY
2013	Eukaryotic mRNA Processing. CSHL, NY
2011	Keystone Symposia of Gene Silencing by Small RNAs. Vancouver, Canada
2011	Mechanisms of Eukaryotic Transcription. CSHL, NY
2011	Eukaryotic mRNA Processing. CSHL, NY
2011	Sixth Microsymposium on Small RNAs. IMBA, Vienna
2010	Fifteenth Annual Meeting of the RNA Society. Seattle, WA
2010	RNA Silencing: Mechanism, Biology and Application. Keystone, Colorado
2008	Seventy-third Symposium: Control & Regulation of Stem Cells Meeting. CSHL, NY
2006	The Gordon Research Conferences on Meiosis. New London, MA
2005	Cold Spring Harbor Laboratory Eukaryotic DNA Replication Meeting. CSHL, NY

2005 Ninth Annual DNA Replication & Repair Symposium. Buffalo, NY

AWARDS

2008 LPS Best Paper Award, Biochemistry, Molecular & Cell Biology program

2007 Liu Memorial Award and Hsien Wu and Daisy Yen Wu scholarship
Ranked 1st among all candidates nominated from all Ph.D. programs

2005-2008 Travel awards for presenting at various scientific conferences, awarded by:
- Genetic Society of America
- New York Stem Cell Funding Program
- Japan Young Participants Fellowship
- Cornell Center of Vertebrate Genomics
- Cornell Graduate School

2003 First Prize Award, Beijing's 2nd "Challenge Cup" Contest of Scientific and Technological Work

2003 Zeng Xianzi Fellowship, top 1% Academic Excellence

2002 Science and Technology Fellowship for Best Undergraduate Scientific Research

2002 First Prize, 2002 Excellence Student Research Training (SRT) Project

2002 Wu Shunde Couple Fellowship, top 5% Academic Excellence

2002 First Prize Award, Tsinghua's 20th "Challenge Cup" Contest of College Students' Scientific and Technological Work

2000 Freshman Fellowship, top 1% Academic Excellence

1999 Gold Medal 8th National Biology Olympiad

PROFESSIONAL SOCIETIES

2014-present Society for the Study of Reproduction
2010-present RNA Society
2010-present New York Academy of Sciences
2005-Present Genetic Society of America

LEADERSHIP EXPERIENCE

2013-Present RNA Club organizer, UMass Medical School
Coordinated monthly presentations for ~60 labs that share common interests on RNA biology

2005-2009 Graduate recruitment committee, Biochemistry Molecular and Cell Biology program, Cornell University

2006-2009 Student of MBA classes, Samuel Curtis Johnson Graduate School of Management

2001-2003 Independent Undergraduate Research Fellow, Tsinghua University
- Awarded research funds from Student Research Training (SRT) foundation as a pioneer student supervisor at Tsinghua University.
- Set up a laboratory in the Department of Biological Science and Biotechnology, the first lab in the department for undergrads to perform their own research.
- Collected plant samples growing on the top of Dongling Mountain at the altitude of 2,303 km with liquid nitrogen four times.
- Organized and directed a group of more than ten students.

2002-2003 President of Students' Science & Technology Association, Department of Biological Science and Biotechnology, Tsinghua University

Reviewer

2010-present *FEBS Letters*

REFERENCES

Jeffrey J. Hayes, (Department Chair)
Shohei Koide Professor and Chair, Department of Biochemistry and Biophysics
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Lynne E. Maquat, (RNA Center Director)
J. Lowell Orbison Endowed Chair and Professor
Director, University of Rochester Center for RNA Biology: From Genome to Therapeutics
Chair, University of Rochester Graduate Women in Science
Department of Biochemistry and Biophysics
University of Rochester
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Phillip D. Zamore, (Postdoc mentor)
Co-director, RNA Therapeutics Institute
Gretchen Stone Cook Professor of Biomedical Sciences
Investigator, Howard Hughes Medical Institute
University of Massachusetts Medical School
368 Plantation Street, AS4-2053, Worcester, MA 01605-2324
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Melissa J. Moore, (Collaborator)
Eleanor Eustis Farrington Chair of Cancer Research
Co-director, RNA and Neuro Therapeutics Institutes
Investigator, Howard Hughes Medical Institute
Professor, Department of Biochemistry and Molecular Pharmacology
University of Massachusetts Medical School
368 Plantation Street, AS4-2049, Worcester, MA 01605
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Zhiping Weng, (Collaborator and co-mentor for K99 grant)
Professor and Director
Program in Bioinformatics and Integrative Biology
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368 Plantation Street, AS5-1069
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John Schimenti, (Ph.D. advisor)
James Law Professor of Genetics,
Director, Center for Vertebrate Genomics, Cornell University
College of Veterinary Medicine T9014A, Ithaca, NY 14853
Tel: (607) 253-3636, Fax: (607) 253-3789, jcs92@cornell.edu

Bik Tye, (Ph.D. co-advisor)
Professor,

Director of Graduate Studies, Field of Genetics & Development,
Department of Molecular Biology & Genetics,
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