Ruowang Li

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EDUCATION AND TRAINING

Ph.D. candidate, Integrative Biosciences, Bioinformatics and Genomics, August 2011-Present
The Pennsylvania State University
Advisor: Dr.Marylyn Ritchie

B.S., Biology & Biotechnology, minor in Computer Science, with High Distinction, May 2011
Worcester Polytechnic Institute
Advisor: Dr.Dave Adams

RESEARCH EXPERIENCE

The Pennsylvania State University

2013-present Using an integrative approach to uncover genetic factors affected under chemotherapeutic agent
2012-2013 Performing genome-wide analysis of heat-shock induced gene and protein network in yeast
2012 Using RNAseq to study rdr1 mutant effects on transcriptome in Physcomitrella patens
2011-2012 Characterizing genome-wide binding patterns of Phd1 and Sok2 using ChIP-exo
2011-2012 Analysing the efficiency of a new gene expression measurement technique: KwikSeq

University of Massachusetts Medical School

2010-2011 Characterizing the roles of transcription factors BRG and Mbd3 in mouse embryonic stem cells.
2009-2010 Studying the epigenetic inheritance of offspring through germline in mice

Worcester Polytechnic Institute

2008-2009 Improving the synthesis of PbSe nanocrystals

PEER REVIEWED PUBLICATIONS

1. Dokyoon Kim, **Ruowang Li**, Scott M. Dudek, Marylyn D. Ritchie. ATHENA: Identifying interactions between different levels of genomic data using grammatical evolution neural network. *Translational Bioinformatics Conference* (submitted)

2. **Ruowang Li**, E.R. Holzinger, S.M. Dudek, M.D. Ritchie. (2013). Evaluation of parameter contribution to neural network size and fitness in ATHENA for genetic analysis. *Genetic Programming Theory And Practice* (accepted)

3. Marylyn Ritchie, Emily Holzinger, **Ruowang Li**, Sarah Pendergrass. Next-generation analyses for exploring the genetic architecture of complex traits: meta-dimensional approaches. *Nature Reviews Genetics* (submitted)

4. Marylyn Ritchie, Sarah Pendergrass, **Ruowang Li**, Emily Holzinger. Meta-dimensional analysis to dissect the architecture of complex traits. *Trends in Genetics* (submitted)

5. Ozlem Yildirim, **Ruowang Li**, Jui-Hung Hung,Poshen B. Chen,Xianjun Dong,Ly-Sha Ee, Zhiping Weng, Oliver J. Rando, and Thomas G. Fazzio. (2011). Mbd3/NURD Complex Regulates Expression of 5-Hydroxymethylcytosine Marked Genes in Embryonic Stem Cells. *Cell*, 147 (2011), pp. 1498–1510.

6. Benjamin R. Carone, Lucas Fauquier, Naomi Habib, Jeremy M. Shea, Caroline E.Hart, **Ruowang Li**, Christoph Bock, Chengjian Li, Phillip D. Zamore, Alexander Meissner, Zhiping Weng, Hans A. Hofmann, Nir Friedman, and Oliver J. Rando. (2010). Paternally-induced transgenerational environmental reprogramming of metabolic gene expression in mammals. *Cell* 143, 1084–1096.

7. Quanqin Dai, Yingnan Wang, Yu Zhang, Xinbi Li, **Ruowang Li**, Bo Zou, JaeTae Seo, Yiding Wang, Manhong Liu, William W. Yu. (2009) Stability Study of PbSe Semiconductor Nanocrystals over Concentration, Size, Atmosphere, and Light Exposure. *Langmuir* 25 (20), 12320-12324

FELLOWSHIPS & GRANTS

2013-2015 NSF Graduate Research Fellowship
2011-2013 Graham Endowed Fellowship: University-wide recognition of highly recruited students
2011-2012 Huck Institute of the Life Sciences Fellowship
2011 University Graduate Fellowships
2007-2011 Chemistry and Biochemistry Scholarship

HONORS & AWARDS

2011-2012 Excellence in Graduate Recruitment award
2011 Provost's Major Qualifying Project Awards: Best senior research project in department of biology

PROFESSIONAL SERVICE

2013-present Editor of Big Data Analytics in Bioinformatics and Healthcare
2011-present GENOMIX (Genomics Student Organization): Co-founder, Webmaster, Vice president
2012 Distinguished Lecture Series: Co-organizer
2011-2012 Bioinformatics and Genomics retreat: Volunteer

SCIENCE OUTREACH

2009-2010 ASSITment: Developed teaching methods and problem sets in geometry for 8th grade students

ORAL PRESENTATIONS

Ruowang Li. Title pending. P-STAR Pharmacogenomics Analysis Workshop. Nashville, TN, December 2013.
Ruowang Li. Integration of genomics data to model chemotherapeutic drug response on the HapMap cell lines. Genomics Retreat. Pennsylvania State University, October 2013.
Ruowang Li. Integration of genomics data. Genomics Seminar. Pennsylvania State University, August 2013.
Ruowang Li, Emily R. Holzinger, Scott M. Dudek, Marylyn D. Ritchie Evaluation of parameter contribution to neural network size and fitness in ATHENA for genetic analysis. Genetic Programming Theory And Practice Conference. Ann Arbor, Michigan, May 2013
Ruowang Li. Integration of "-omics" data. Epistasis Discovery in Genetic Epidemiology Conference. Key West, Florida, February 2013.

POSTER PRESENTATIONS

Ruowang Li, Marylyn Ritchie. Genome-wide analysis identifies heat shock induced gene and chromatin regulatory protein network in Saccharomyces cerevisiae. American Society for Human Genetics 2013. Boston, MA.