

## Curriculum vitae

### EDUCATION

MS, Bioinformatics and Computational Biology, 2016, University of Idaho  
PhD, Physics, 2013, University of Idaho  
Master, Chemistry, 2007, Chinese University of Hong Kong  
Bachelor, Physics, 2005, Wuhan University

### ACADEMIC/PROFESSIONAL APPOINTMENTS

Postdoctoral Associate	The Jackson Laboratory for Genomic Medicine	2016 - current
Research Assistant	University of Idaho	2009 - 2016
Teaching Assistant	University of Idaho	2009 - 2012
Teaching Assistant	Chinese University of Hong Kong	2005 - 2007

### RESEARCH EXPERIENCE

2016.11 – current

Postdoctoral Associate in Prof. Jeff Chuang's Group, The Jackson Laboratory for Genomic Medicine, Farmington

Projects:

1. ChIA-PET analyses on Erythroid cells
2. 3D genome

2013.8 – 2016.8

M.S. student (BCB) in Prof. Marty Ytreberg's Group, University of Idaho, Idaho

Projects:

1. cis-trans isomerization in p53 (published)
2. The distribution of cis-trans isomerization among intrinsically disordered proteins (manuscript in preparation)

2009.1-2013.8

Ph.D. student (Physics) in Prof. Marty Ytreberg's Group, University of Idaho, Idaho

Projects:

1. Computational study of hydrogen adsorption on silica-based nanosprings (published)
2. Impact of the K24N mutation on the transactivation domain of p53 and its binding to MDM2 (published)
3. Absolute p53-MDM2 binding affinity from computer simulation

2005.8-2007.8

M.Phil. student in Prof. Sik Lok Lam's Group, The Chinese University of Hong Kong, Hong Kong

Project: Effects of N1-Methylated Purines on DNA Double Helical Structures and Stabilities (published)

2004.12-2005.6

Undergraduate research student in Prof. Xiong Guiguang's Group, Wuhan University, P.R.China

Project: Study on Raman Spectra of CdSe/ZnS Nanocrystals

2004.7

Summer research student in Prof. Yang Size's Group, Institute of Physics, Chinese Academy of Science, P.R.China

Work: Constructed a probe scanner

## FUNDING, HONORS AND AWARDS

- BCB fellowship for Fall 2014
- BCB fellowship for 2013-2014
- INBRE travel funding to attend The Third Biennial Western Regional IDeA Scientific Conference in 2013
- SGP Dissemination Award from University of Idaho in 2012
- Education Travel Award from Biophysical Society in 2012
- Graduate Student Travel Award from Chinese University of Hong Kong in 2006
- Honored Graduates from Wuhan University in 2005
- The 2<sup>nd</sup> place prize for Treatise Competition on the Summer Research from Wuhan University in 2004
- The 2<sup>nd</sup> place Student Scholarship from Wuhan University in 2004
- The 3<sup>rd</sup> place Student Scholarship from Wuhan University in 2003
- The 2<sup>nd</sup> place Student Scholarship from Wuhan University in 2002
- The 3<sup>rd</sup> place prize for Chorus Competition in Wuhan University in 2001
- The 3<sup>rd</sup> place prize for National Juvenile Painting and Calligraphy Competition in 1996, China

## TECHNICAL SKILLS

- **Operating systems:** Linux, Mac OS-X, Windows
- **Programming languages:** C/C++, Java, R, Tcl/Tk, Shell
- **Molecular simulation**
- **Big data manipulation and analysis**
- **Computational and theoretical:** Molecular dynamics, Mathematical genetics, Genetic programming, Mathematical modeling (deterministic and stochastic), Mass spectrometry analysis on DNA and protein
- **Experimental:** Chemistry-based DNA synthesis and purification, electrophoresis, acrylamide gel, UV melting, NMR spectroscopy, cell culture, agarose gel, DNA

extraction, HPLC, IR spectroscopy, Raman spectroscopy

## **PUBLICATION**

### **Journal articles**

1. Yingqian Ada Zhan, F. Marty Ytreberg. Analysis of omega dihedrals in molecular recognition features in membrane proteins, (manuscript in preparation)
2. TC Howton, Yingqian Ada Zhan, Yali Sun, Shahid Mukhtar. Intrinsically disordered proteins: controlled chaos or random walk, *International Journal of Plant Biology* 6, 52, 2015
3. Yingqian Ada Zhan, F. Marty Ytreberg. The cis conformation of proline leads to weaker binding of a p53 peptide to MDM2 compared to trans, *Archives of biochemistry and biophysics* 575, 22, 2015
4. Giancarlo Corti, Yingqian Ada Zhan, Lidong Wang, Brian Hare, Timothy Cantrell, Miles Beaux II, Tej Prakash, F. Marty Ytreberg, Michael Miller, Dave N. McIlroy. Nanoscale Geometry and Spillover on Room Temperature Storage of Hydrogen on Silica Nanosprings, *J. Physics D: Applied Physics* 46, 50307, 2013
5. Yingqian Ada Zhan, Hongwei Wu, Anne T. Powell, Gary W. Daughdrill, F. Marty Ytreberg. Impact of the K24N mutation on the transactivation domain of p53 and its binding to MDM2. *Proteins: Structure, Function, and Bioinformatics* 81, 1738-1747, 2013
6. Reddy Papasani Madhusudhan, Thornton Kara, Yingqian Zhan, Brezas Andreas, Welch Cassie, Wang Guankui, Villasante Alejandro, Pokharel Deep, Cheguru Pallavi, Kotla Swathi, and Julien Daniel. Does Obesity reduce load-induced muscle hypertrophy? *J. Physiol.* 588, 1819-1820, 2010
7. Hao Yang, Yingqian Zhan and Sik Lok Lam. Effect of 1-methyladenine on double-helical DNA structures. *FEBS Letter* 582, 1629-1633, 2008

### **Meeting proceedings (peer-reviewed)**

1. Yingqian Zhan, F Marty Ytreberg, The Effect of Proline CIS TRANS Isomerization on p53 MDM2 binding, *Biophysical Journal* 106 (2), 481a (2014)
2. Yingqian Zhan, F Marty Ytreberg, Absolute Binding Affinity Calculation for MDM2 Bound to a Disordered Fragment of p53, *Biophysical Journal* 104, 234 (2013)
3. Yingqian Ada Zhan, F Marty Ytreberg, Impact of K24N Mutation on p53TAD and its interaction with MDM2, *Biophysical Journal* 102 (3), 447a (2012)
4. Yingqian Zhan, F Marty Ytreberg, Computational study of hydrogen adsorption on silica-based nanosprings, *APS March Meeting Abstracts* 1, 1226 (2010)

## **PRESENTATIONS**

- Biophysical Society 58<sup>th</sup> Annual Meeting (2014) Poster Presentation: The effect of proline cis-trans isomerization on p53-MDM2 binding
- The Third Biennial Western Regional IDeA Scientific Conference (2013) Poster Presentation: Impact of the K24N mutation on the transactivation domain of p53 and its binding to MDM2

- UI Physics Colloquium (2013) Talk: Impact of the K24N mutation on the transactivation domain of p53 and its binding to MDM2
- Biophysical Society 57<sup>th</sup> Annual Meeting (2013) Poster Presentation: Absolute binding affinity calculation for MDM2 bound to a disordered fragment of p53
- 11<sup>th</sup> Annual INBRE Summer Research Conference (2012) Talk: Absolute MDM2-p53 binding free energy calculated from computer simulations
- Biophysical Society 56<sup>th</sup> Annual Meeting (2012) Poster Presentation: Impact of K24N mutation on p53TAD and its interaction with MDM2
- Joint 65<sup>th</sup> Northwest/22<sup>nd</sup> Rocky Mountain Regional Meeting of the American Chemical Society (ACS) (2010) Poster Presentation: Computational study of hydrogen adsorption on silica-based nanosprings
- American Physical Society (APS) March meeting (2010) Poster Presentation: Computational study of hydrogen adsorption on silica-based nanosprings
- XXII<sup>nd</sup> International Conference on Magnetic Resonance in Biological Systems (2006) Poster Presentation: Structural Studies of DNA Oligomers with N-methylated Lesions

## **AFFILIATIONS**

- International Society for Computational Biology
- Biophysical Society

## **GRADUATE AND DOCTORAL ADVISORS**

Ph.D. and Master advisor: Prof. F. Marty Ytreberg, University of Idaho

Master advisor: Prof. Sik Lok Lam, Chinese University of Hong Kong

## **OTHER SCIENTIFIC ACTIVITIES**

- Summer Course: Systems Biology of Disease 2016 (offered by Institute for Systems Biology)
- Coursera specialization: Data Science 2015-2016 (offered by Johns Hopkins University)
- 3<sup>rd</sup> Annual Immunogenomics 2015
- 2015 Bevill Neuroscience Symposium: Brain-Machine Interfaces