

## Huan (Sharon) Wang (王欢)

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Google scholar: <https://scholar.google.com/citations?user=zcWTWQ4AAAAJ&hl=en>

### EDUCATION (教育)

- University of Colorado, Boulder CO (科罗拉多大学波尔德分校 博士)** **8/2006—5/2013**  
Ph.D., Department of Molecular, Cellular and Developmental Biology  
Cumulative GPA: 3.9/4.0
- Zhejiang University, Hang Zhou ZJ (浙江大学 本科)** **9/2002—7/2006**  
Bachelor of Science, Department of Biotechnology  
Cumulative GPA: 3.7/4.0 Rank (年级排名) 1<sup>st</sup>/150
- Chinese University of Hong Kong, Shatin HK (香港中文大学 本科交流学习)** **9/2004—7/2005**  
Exchange student, Department of Biology  
Cumulative GPA: 3.5/4.0

### RESEARCH INTEREST (研究兴趣)

- Molecular mechanisms of calcific aortic stenosis and tissue regeneration  
(心脏瓣膜碳化与再生的分子机理)
- Reconstruct human heart using induced pluripotent stem cells and tissue engineering  
(利用诱导性多功能干细胞进行人类心脏的组织再生)
- Cardiotoxicity of cancer drugs  
(癌症药物对心脏的毒害)
- Quantitative and systems biology in revealing universal mechanisms  
(利用量化和系统生物学方法探寻普适的原理)

### RESEARCH EXPERIENCE (科研经历)

- Postdoctoral Research Assistant, Department of Systems Biology, Harvard Medical School**  
(博士后 系统生物学系 哈佛医学院) **9/2014—present**  
Advisor: Prof. Peter Sorger  
Project: Single cell network modeling of cancer drug-induced cardiotoxicity
- Postdoctoral Research Assistant, Department of Chemical and Biological Engineering, University of Colorado at Boulder (博士后 生物与化学工程学院 科罗拉多大学波尔德分校)** **5/2013—9/2014**  
Advisor: Prof. Kristi S. Anseth (美国工程院和科学院两院院士)  
Project: Design and regulation of poly(ethylene glycol) based hydrogels as cells culture substrates for induced pluripotent stem cells
- Graduate Research Assistant, Department of Molecular, Cellular and Developmental Biology, University of Colorado at Boulder (博士 分子细胞和发育生物学系 科罗拉多大学波尔德分校)** **5/2007—5/2013**  
Advisors: Prof. Leslie A. Leinwand (美国科学院院士) and Prof. Kristi S. Anseth (美国工程院和科学院两院院士)  
Ph.D. dissertation: Signaling from matrix elasticity and TGF- $\beta$ 1 to cells of the cardiac valve
- Undergraduate Research Volunteer, Department of Biotechnology, Zhejiang University**  
(本科 生物技术系 浙江大学) **6/2003—6/2004 and 8/2005—2/2006**  
Advisors: Dr. Bingyang Ding and Dr. Xiaofeng Jin  
Project: Phylogenetic analysis and protective measures proposed for an endangered plant species, *Platycrater arguta* var. *sinensis*
- Undergraduate Research Volunteer, Department of Biology, Chinese University of Hong Kong**  
(本科 生物系 香港中文大学) **12/2004—5/2005**  
Advisor: Dr. Wei Ge  
Project: Functional assays of Activin Receptor TypeIb in goldfish

## PUBLICATIONS (期刊文章)

1. **Wang H**, Tibbitt MW, Langer SJ, Leinwand LA and Anseth KS. Hydrogels preserve inactivated fibroblast phenotype of valvular interstitial cells through an elasticity-regulated PI3K/AKT pathway. *Proceedings of the National Academy of Sciences USA*, (影响因子 9.674) 110 (48): 19336-19341 (2013).
2. **Wang H**, Leinwand LA and Anseth KS. Cardiac valve cells and their microenvironment—insights from *in vitro* studies, *Nature Reviews Cardiology* (影响因子 9.183) doi:10.1038/nrcardio.2014.162 (2014).
3. **Wang H**, Leinwand LA and Anseth KS. Roles of TGF- $\beta$ 1 and OB-cadherin in cardiac valve myofibroblast differentiation, *The FASEB Journal* (影响因子 5.043) 28:4551-4562 (2014).
4. **Wang H**, Haeger SM, Kloxin AK, Leinwand LA and Anseth KS. Redirecting valvular myofibroblasts into dormant fibroblasts through light-mediated reduction in substrate modulus. *PLoS ONE* (影响因子 3.234) 7(7):e39969 (2012).
5. **Wang H**, Sridhar B, Leinwand LA, Anseth KS. Characterization of cell subpopulations expressing progenitor cell markers in porcine cardiac valves. *PLoS ONE* (影响因子 3.234) 8(7): e69667 (2013).

## GRANTS (基金)

1. American Heart Association Postdoctoral Fellowship entitled “Single cell network modeling of drug-induced cardiotoxicity”, **Priority score: 1.3, Percentile: 4.55%, Funded on 7/1/2015 for two years.**
2. Lead author on a NIH R21 grant entitled “Mechanical dosing effects on mesenchymal stem cells” when working as a postdoc under the adviser-ship of Dr. Kristi Anseth. **Impact score: 20, Percentile: 2.0%, Funded in 2014.**
3. Author in a NIH R01 grant entitled “Reversible and irreversible cell fate of myofibroblasts in response to matrix stiffness” when working as a postdoc under the adviser-ship of Dr. Kristi Anseth. Submitted 10/2014.

## CONFERENCE PAPERS: (会议文章)

1. **Wang H**, Sorger PK. “Molecular signatures of cardiotoxicity induced by tyrosine kinase inhibitors – from *in vitro* cell culture”, August 18-19 2016, FDA workshop in Building Systems Pharmacology Model for Adverse Events. White Oak Campus, Silver Spring, MD 20993 (Podium Presentation).
2. **Wang H**, Palmer A, Boswell S, Everley R, Ron-Harel N, Jenney A, Sorger PK. “Molecular network modeling of drug-induced cardiotoxicity in space of dose and time”, Systems Biology of Human Disease, June 14-16 2016, Broad Institute, Cambridge USA (Poster)
3. **Wang H**, Palmer A, Boswell S, Everley R, Ron-Harel N, Jenney A, Sorger PK. “Molecular network modeling of drug-induced cardiotoxicity in space of dose and time”, Gordon Research Conference on Cardiac Regulatory Mechanisms, June 5-10 2016, New London, NH USA (Poster)
4. **Wang H**, Lin JR, Sorger PK “Single cell network modeling of drug-induced cardiotoxicity”, Keystone Symposium on Cell Biology of the Heart: Beyond the Myocyte-Centric View, March 1-6 2015, Copper Mountain, CO USA (Poster)
5. **Wang H**, Tibbitt MW, Langer SJ, Leinwand LA and Anseth KS. “Hydrogels preserve native phenotypes of valvular fibroblasts through an elasticity-regulated PI3K/AKT pathway”, Annual meeting of Society For Biomaterials, April 2014, Denver, CO USA (Podium Presentation)
6. **Wang H**, Tibbitt MW, Langer SJ, Leinwand LA and Anseth KS. “Hydrogels preserve inactivated fibroblast phenotype of valvular interstitial cells through an elasticity-regulated PI3K/AKT pathway”, HHMI Scientific Meeting, September 2013, Janelia Farm Research Campus, Ashburn, VA USA (Poster)
7. **Wang H**, Leinwand LA and Anseth KS, “Lowering Substrate Stiffness *in situ* through Photodegradable Hydrogels Promotes Quiescence of Cardiac Valvular Fibroblast”, 9<sup>th</sup> World Biomaterial Congress, June 2012, Chengdu, China (Podium Presentation).
8. **Wang H**, Leinwand LA and Anseth KS, “Global Effects of TGF- $\beta$ 1 on Porcine Valvular Interstitial Cells (VICs)”, 4th Biennial Heart Valve Biology and Tissue Engineering Meeting, March 2010, Hilton Head Island, SC USA (Podium Presentation).
9. **Wang H**, Leinwand LA and Anseth KS, “OB-Cadherin, A Novel Cell Surface Marker for Valvular Myofibroblasts”, 5th Biennial Meeting of the Society for Heart Valve Disease (SHVD), June 2009, Berlin, Germany (Podium Presentation).

## AWARDS (奖项)

1. **Fellowship for exchange student to the Chinese University of Hong Kong, 2004—2005.** This fellowship was awarded to 2 persons in the College of Life Sciences in Zhejiang University.
2. **First-class fellowship for excellent student awarded by Zhejiang University for two consecutive years, 2002—2004.** This honor is awarded annually to the students ranked top 3% in the department (~150 students).

3. **Excellent student cadre honor awarded by Zhejiang University, 2002—2003.**
4. **One-star volunteer prize awarded by College of Life Sciences, 2002—2003.** I was awarded for being a volunteer interpreter at the Natural Museum of Zhejiang Province.
5. **National Grade 10 Certificate on playing Pipa(Lute) awarded by Chinese Music Association, 2001.** The national certificate on Pipa ranges from Grade 1 to 10, with 10 as the highest level.

### **PROFESSIONAL SKILLS (实验技术)**

**Cell Culture:** mammalian primary cell and cell line culture, fluorescence activated cell sorting, transient transfection and stable lentiviral-mediated infection, retrovirus production and infection

**Molecular Techniques:** molecular cloning, real-time PCR, luciferase reporter assays, protein expression, Western blot, immunofluorescence

**In vivo Techniques:** mouse colony maintenance and breeding, subcutaneous implantation of biomaterials in mice, small animal surgery

**Data Analysis:** microarray/RNAseq analysis, gene ontology analysis, signaling pathway analysis, python language, matlab, R

**Chemistry:** peptide synthesis, poly(ethylene glycol) functionalization, hydrogel manufacture for cell culture

**Microscopy:** Bright field, epifluorescence and confocal microscopy

### **TEACHING EXPERIENCE (教书背景)**

Teaching Assistant, Introduction to Molecular and Cellular Biology Lab (25 students)

2006 fall

Teaching Assistant, Genetics Lab (20 students)

2007 spring

### **REFERENCES**

Kristi Anseth  
Distinguished Professor and HHMI Investigator  
University of Colorado Boulder  
Tel: (303) 735-5336  
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