**Huan (Sharon) Wang**

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**EDUCATION**

**University of Colorado, Boulder CO 8/2006—5/2013**

Ph.D., Department of Molecular, Cellular and Developmental Biology

Cumulative GPA: 3.9/4.0

**Zhejiang University, Hang Zhou ZJ 9/2002—7/2006**

Bachelor of Science, Department of Biotechnology

Cumulative GPA: 3.7/4.0

**Chinese University of Hong Kong, Shatin HK 9/2004—7/2005**

Exchange student, Department of Biology

Cumulative GPA: 3.5/4.0

**RESEARCH INTEREST**

* Molecular mechanisms of calcific aortic stenosis and tissue regeneration
* Reconstruct human heart using induced pluoripotent stem cells and tissue engineering
* Cardiotoxicity of cancer drugs
* Quantitative and systems biology in revealing universal mechanisms

**RESEARCH EXPERIENCE**

**Postdoctoral Research Assistant, Department of Systems Biology, Harvard Medical School**

**9/2014—present**

Advisor: Dr. Peter Sorger

Project: Single cell network modeling of drug-induced cardiotoxicity.

**Postdoctoral Research Assistant, Department of Chemical and Biological Engineering, University of Colorado at Boulder 5/2013—9/2014**

Advisor: Dr. Kristi S. Anseth

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 5/2007—5/2013**

Advisors: Dr. Leslie A. Leinwand and Dr. Kristi S. Anseth

Ph.D. dissertation: Signaling from matrix elasticity and TGF-β1 to cells of the cardiac valve

**Undergraduate Research Volunteer, Department of Biotechnology, Zhejiang University**

**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**

**12/2004—5/2005**

Advisor: Dr. Wei Ge

Project: Functional assays of Activin Receptor TypeIb in goldfish

**PUBLICATIONS**

1. **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* 7(7):e39969 (2012).
2. **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,* 110 (48): 19336-19341 (2013)*.*
3. **Wang H**, Sridhar B, Leinwand LA, Anseth KS. Characterization of cell subpopulations expressing progenitor cell markers in porcine cardiac valves. *PLoS ONE* 8(7): e69667 (2013).
4. **Wang H**, Leinwand LA and Anseth KS. Roles of TGF-β1 and OB-cadherin in cardiac valve myofibroblast differentiation, *The FASEB Journal,* 28:4551-4562 (2014).
5. **Wang H**, Leinwand LA and Anseth KS. Cardiac valve cells and their microenvironment—insights from *in vitro* studies, *Nature Reviews Cardiology,* 11: 715–727 (2014).
6. **Wang H.** A double dose of advice. *Science careers*.Vol. 346, Issue 6208, pp. 510 (2014)

**GRANTS**

1. Lead author in a NIH R21 grant entitled “mechanical dosing effects on MSCs” as a postdoc research assistant under the adviser-ship of Dr. Kristi Anseth. **Impact score: 20, Percentile: top 2%, Funded in 2014.**
2. Author in a NIH R01 grant entitled “reversible and irreversible cell fate of myofibroblasts in response to matrix stiffness” as a postdoc research assistant under the adviser-ship of Dr. Kristi Anseth. Submitted 10/2014.
3. American Heart Association Postdoc Fellowship granted on 7/1/2015 for two years.

**POSTERS AND PRESENTATIONS**

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”, 9th World Biomaterial Congress, June 2012, Chengdu, China (Podium Presentation).
8. **Wang H**, Leinwand LA and Anseth KS, “Global Effects of TGF-β1 on Porcine Valvular Interstitial Cells (VICs)”, [4th Biennial Heart Valve Biology and Tissue Engineering Meeting](http://hiltonhead.gatech.edu/), 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).

**PROFESSIONAL SKILLS**

**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 analysis, gene ontology analysis, signaling pathway analysis, Matlab, R programming, python

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

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

**AWARDS**

**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.

**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) and covers annual college tuition.

**Excellent student cadre honor awarded by Zhejiang University, 2002—2003.**

**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.

**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.

**TEACHING EXPERIENCE**

Teaching Assistant, Introduction to Molecular and Cellular Biology Lab (25 students) 2006 fall

Teaching Assistant, Genetics Lab (20 students) 2007 spring