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, 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