



## Aijun Wang, Ph.D.

### Research/Academic Interests

Dr. Wang's research focuses on developing innovative tools, technologies, and therapeutics that combine molecular, cellular, tissue, and biomaterial engineering to promote tissue regeneration and restore function. His lab engineers and develops stem cells, extracellular vesicles, and extracellular matrices to treat surgical conditions and diseases. His lab also conducts IND (Investigational New Drug) enabling studies and clinical trials in both companion animal patients and human patients. Serving as the School of Medicine Dean's fellow in entrepreneurship and Department of Surgery's Vice Chair for Translational Research, Innovation, and Entrepreneurship, Dr. Wang is an active researcher and strong advocate in promoting academic innovation and entrepreneurship.

Please click here to see Dr. Wang's lab web page.

**Title** Vice Chair for Translational Research, Innovation and Entrepreneurship  
Co-Director, Surgical Bioengineering Laboratory  
Associate Professor, Department of Surgery  
Chancellor's Fellow  
Dean's Fellow in Entrepreneurship, School of Medicine

**Specialty** [Surgery - General](#)

**Department** [Surgery](#)

**Division** Pediatric Surgery

**Center/Program Affiliation** [Stem Cell Research Program](#)

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**Languages** Chinese

**Education** M.S., Shandong University, Jinan, China 2003  
Ph.D., Tsinghua University, Beijing, China 2007  
B.S., Shandong Medical University, Jinan, China 2000

**Fellowships** Department of Bioengineering, UC Berkeley, Berkeley CA 2008-2010  
Berkeley Stem Cell Center, UC Berkeley, Berkeley CA 2010-2011



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### Professional Memberships

American Heart Association  
Biomedical Engineering Society  
International Fetal Medicine and Surgical Society  
International Perinatal Stem Cell Society  
International Society for Stem Cell Research  
Tissue Engineering and Regenerative Medicine International Society

### Honors and Awards

Winner of the KidneyX: Redesign Dialysis Phase 2 prize competition, the American Society of Nephrology (ASN) and the Department of Health and Human Services (HHS), 2020  
Chancellor's Fellow, UC Davis, 2020  
Dean's Team Award for Excellence in Research, UC Davis Health, 2020  
Dean's Fellow in Entrepreneurship, UC Davis School of Medicine, 2018  
NIH/NHLBI Technology Development Award, UC Center for Accelerated Innovation (UC-CAI), 2017  
The Basil O'Connor Starter Scholar Research Award, the March of Dimes Foundation, 2016  
Marquis Who's Who in America 2015 (69th Edition), Marquis Who's Who Publications, 2015  
The Tony Phillips Research Award, the Children's Miracle Network (CMN), 2014  
Best of ASH, American Society of Hematology 2014 Annual Meeting, 2014  
Deloitte QB3 Award for Innovation, California Institute for Quantitative Bioscience (QB3), 2012  
Winner of the Venture Lab Competition, Center for Entrepreneurship and Technology (CET), UC Berkeley, 2011  
Tsinghua - Hengshanliangci Excellent Thesis Award, 2010

### Select Recent Publications

Complete List of Published Work in MyBibliography: <https://www.ncbi.nlm.nih.gov/sites/myncbi/aijun.wang.1/bibliography/53100355/public/?sort=date%26amp%3Bdirection=descending>

Amorim RM, Clark KC, Walker NJ, Kumar P, Herout K, Borjesson DL, Wang A. Placenta-Derived Multipotent Mesenchymal Stromal/Stem Cells: A Promising Potential Cell-Based Therapy for Canine Inflammatory Brain Disease. *Stem Cell Research & Therapy*. 2020 Jul 22;11(1):304. PMID:32698861. doi:10.1186/s13287-020-01799-0.

Hao D, Fan Y, Xiao W, Liu R, Pivetti C, Walimbe T, Guo F, Zhang X, Farmer DL, Wang F, Panitch A, Lam KS, Wang A. Rapid endothelialization of small diameter vascular grafts by a bioactive



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integrin-binding ligand specifically targeting endothelial progenitor cells and endothelial cells. *Acta Biomaterialia*. 2020 May;108:178-193. PMID:32151698. doi:10.1016/j.actbio.2020.03.005.

Rose M, Gao K, Cortez-Toledo E, Agu E, Hyllen AA, Kelsey Conroy, Guangjin Pan, Nolta JA, Wang A\*, Zhou P\*. Endothelial cells derived from patients' induced pluripotent stem cells for sustained factor VIII delivery and the treatment of hemophilia A. *STEM CELLS Transl Med*. 2020 Jun;9(6):686-696. \*Co-corresponding author. Featured as the front cover story (Volume 9, Number 6, June 2020). PMID:32162786. doi:10.1002/sctm.19-0261.

Hao D, Ma B, He C, Liu R, Farmer D, Lam K, Wang A. Surface Modification of Polymeric Electrospun Scaffolds via a Potent and High-Affinity Integrin  $\alpha 1$  Ligand Improved the Adhesion, Spreading and Survival of Human Chorionic Villus-Derived Mesenchymal Stem Cells: A New Insight for Fetal Tissue Engineering. *J Mater Chem B*. 2020 Feb 26;8(8):1649-1659. PMID:32011618. doi:10.1039/c9tb02309g.

Kumar P, Becker JC, Gao K, Carney RP, Lankford L, Keller BA, Herout K, Lam KS, Farmer D, Wang A. Neuroprotective Effect of Placenta-derived Mesenchymal Stromal Cells: Role of Exosomes. *The FASEB Journal*. 2019 May;33(5):5836-5849. PMID:30753093. doi:10.1096/fj.201800972R.

Gao K, Kumar P, Cortez-Toledo E, Hao D, Reynaga L, Rose M, Wang C, Farmer D, Nolta J, Zhou J, Zhou P, Wang A. Potential long-term treatment of hemophilia A by neonatal co-transplantation of cord blood derived endothelial colony-forming cells and placental mesenchymal stromal cells. *Stem Cell Research & Therapy*. 2019 Jan 22;10(1):34. PMID:30670078. PMCID:PMC6341603. doi:10.1186/s13287-019-1138-8.

Phan J, Kumar P, Hao D, Gao K, Farmer D, Wang A. Engineering mesenchymal stem cells to improve their exosome efficacy and yield for cell-free therapy. *Journal of Extracellular Vesicles*. 2018 Sep 26;7(1):1522236. PMID:30275938. PMCID:PMC6161586. doi:10.1080/20013078.2018.1522236.



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Hao D, Xiao W, Liu R, Kumar P, Li Y, Zhou P, Guo F, Farmer D, Lam K, Wang F, Wang A. Discovery and characterization of a potent and specific peptide ligand targeting endothelial progenitor cells and endothelial cells for tissue regeneration. *ACS Chem Biol*. 2017;12(4):1075–1086. PMID:28195700. doi:10.1021/acscchembio.7b00118.

Wang A\*, Brown EG, Lankford L, Keller BA, Pivetti CD, Sitkin NA, Beattie MS, Bresnahan JC, Farmer DL. Placental Mesenchymal Stromal Cells Rescue Ambulation in Ovine Myelomeningocele. *Stem Cells Translational Medicine*. 2015 Jun;4(6):659-69. \*Corresponding author. PMID: 25911465. PMCID:PMC4449103 doi:10.5966/sctm.2014-0296.

Tang Z/Wang A (Co-first author), Yan Z, Liu B, Chu J, Helms J, Li S. Differentiation of Multipotent Vascular Stem Cells Contributes to Vascular Diseases. *Nature Communications*. 2012;3:875. (Highlighted in *Nature*, 486, 9). PMID:22673902. PMCID:PMC3538044.

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