



Joseph C. Wu

Director, Stanford Cardiovascular Institute, Simon H. Stertzler, MD, Professor and Professor of Radiology
Medicine - Cardiovascular Medicine

CLINICAL OFFICES

- **Cardiovascular Medicine**

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ACADEMIC CONTACT INFORMATION

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Bio

BIO

Joseph C. Wu, MD, PhD is Director of the Stanford Cardiovascular Institute (<http://cvi.stanford.edu/>) and the Simon H. Stertzler, MD, Professor of Medicine and Radiology. Dr. Wu received his medical degree from Yale. He completed his medicine internship, residency and cardiology fellowship training at UCLA followed by a PhD (Molecular & Medical Pharmacology) in the UCLA STAR program. His clinical activities involve adult congenital heart disease and cardiovascular imaging.

Dr. Wu has published >350 manuscripts. His lab works on biological mechanisms of patient-specific and disease-specific induced pluripotent stem cells (iPSCs). The main goals are to (i) understand cardiovascular disease mechanisms, (ii) accelerate drug discovery, (iii) develop “clinical trial in a dish” concept, and (iv) implement precision medicine for prevention and treatment of cardiovascular patients. His lab uses a combination of genomics, stem cells, cellular & molecular biology, physiological testing, and molecular imaging technologies to better understand molecular and pathological processes.

Dr. Wu has received several awards, including the Burroughs Wellcome Foundation (BWF) Career Award in Medical Sciences, BWF Innovation in Regulatory Science Award, American Heart Association (AHA) Innovative Research Award, AHA Established Investigator Award, AHA Merit Award, National Institute of Health (NIH) Director’s New Innovator Award, NIH Roadmap Transformative Award, and Presidential Early Career Award for Scientists and Engineers (PECASE) given out by President Obama. He is on the editorial board of Journal Clinical Investigation, Circulation Research, Circulation Cardiovascular Imaging, Human Gene Therapy, Molecular Therapy, Stem Cell Research, Physiological Genomics, Scientific Reports, and Nature Review Cardiology

Dr. Wu is a member of the Association of University Cardiologists (AUC), American Society for Clinical Investigation (ASCI), and Association of American Physicians (AAP). Dr. Wu currently serves on the Scientific Advisory Board for the Keystone Symposia (2014-2020), FDA Cellular, Tissue, and Gene Therapies Advisory Committee (2016-2020), AHA National Board of Directors (2017-2019), Chair of the AHA Research Committee (2017-2021), and Chair of the AHA Basic Cardiovascular Science Council (2018-2020).

CLINICAL FOCUS

- Congenital Heart Disease (Adult)

- Cardiovascular Disease
- Cardiovascular Imaging

ACADEMIC APPOINTMENTS

- Professor, Medicine - Cardiovascular Medicine
- Professor, Radiology
- Member, Bio-X
- Director, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Faculty Fellow, Stanford ChEM-H

ADMINISTRATIVE APPOINTMENTS

- Director, Stanford Cardiovascular Institute, (2013- present)

HONORS AND AWARDS

- Highly Cited Researcher, Clarivate Analytics (2108)
- Best Manuscript Award, Circulation Research (2018)
- Distinguished Scientist Award, American Heart Association (2018)
- Elected, American Institute for Medical and Biological Engineering (2018)
- Best Manuscript Award, Circulation Research (2017)

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BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair, AHA Research Committee (2017 - present)
- Editorial Board, Nature Review Cardiology (2017 - present)
- Member, Cellular, Tissue, and Gene Therapies Advisory Committee (FDA) (2017 - present)
- Member, AHA National Board of Directors (2017 - present)
- Editorial Board, Stem Cell Reviews and Reports (2016 - present)
- Associate Editor, Circulation Research (2015 - present)

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PROFESSIONAL EDUCATION

- Fellowship: UCLA Medical Center Radiology Fellowship (2004) CA
- Residency: UCLA Medical Center Radiology Fellowship (1999) CA
- Medical Education: Yale School Of Medicine Office of Student Affairs (1997) CT
- MD, Yale University School of Medicine , Medicine (1997)
- PhD, UCLA , Molecular & Medical Pharmacology (2004)

LINKS

- Joseph Wu Lab Website: <http://med.stanford.edu/wulab.html>
- Stanford Cardiovascular Institute: <http://cvi.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My lab works on biological mechanisms of adult stem cells, embryonic stem cells, and induced pluripotent stem cells. We use a combination of gene profiling, tissue engineering, physiological testing, and molecular imaging technologies to better understand stem cell biology in vitro and in vivo. For adult stem cells, we are interested in monitoring stem cell survival, proliferation, and differentiation. For ESC, we are currently studying their tumorigenicity, immunogenicity, and differentiation for regenerative medicine. For iPSC, we are focusing on disease modeling, drug discovery, and personalized medicine.

CLINICAL TRIALS

- An Efficacy, Safety and Tolerability Study of Ixmyelocel-T Administered Via Transendocardial Catheter-based Injections to Subjects With Heart Failure Due to Ischemic Dilated Cardiomyopathy (IDCM), Recruiting
- NBS10 (Also Known as AMR-001) Versus Placebo Post ST Segment Elevation Myocardial Infarction, Recruiting

Teaching

STANFORD ADVISEES

Michelle Bae

Doctoral Dissertation Reader (AC)

Stephen Chang

Postdoctoral Faculty Sponsor

Nadjet Belbachir, Mark Chandy, Sangkyun Cho, Hongchao Guo, Yukari Kobayashi, Edward Lau, Chun Liu, Yu Liu, Olfat MALAK, Ning Ma, Masataka Nishiga, Xiaoming Ouyang, David Paik, Ilanit Ronen Itzhaki, Mengcheng Shen, Dilip Thomas, Lei Tian, Chengyi Tu, Lin Wang, Ian Williams, Huaxiao Yang, Xiaolan Zhang

Postdoctoral Research Mentor

Yukari Kobayashi, Ilanit Ronen Itzhaki, Xiaolan Zhang

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)
- Cardiovascular Medicine (Fellowship Program)
- Immunology (Phd Program)

Publications

PUBLICATIONS

- **Autologous iPSC-Based Vaccines Elicit Anti-tumor Responses In Vivo.** *Cell stem cell*
Kooreman, N. G., Kim, Y., de Almeida, P. E., Termglinchan, V., Diecke, S., Shao, N. Y., Wei, T. T., Yi, H., Dey, D., Nelakanti, R., Brouwer, T. P., Paik, D. T., Sagiv-Barfi, et al
2018
- **SETD7 Drives Cardiac Lineage Commitment through Stage-Specific Transcriptional Activation.** *Cell stem cell*
Lee, J., Shao, N. Y., Paik, D. T., Wu, H., Guo, H., Termglinchan, V., Churko, J. M., Kim, Y., Kitani, T., Zhao, M. T., Zhang, Y., Wilson, K. D., Karakikes, et al
2018; 22 (3): 428–44.e5
- **Global position paper on cardiovascular regenerative medicine: Scientific statement of the transnational alliance for regenerative therapies in cardiovascular syndromes (TACTICS) international group for the comprehensive cardiovascular application of regenerative medicinal products.** *European heart journal*
Fernández-Avilés, F., Sanz-Ruiz, R., Climent, A. M., Badimon, L., Bolli, R., Charron, D., Fuster, V., Janssens, S., Kastrup, J., Kim, H., Lüscher, T. F., Martin, J. F., Menasché, et al
2017

- **High-throughput screening of tyrosine kinase inhibitor cardiotoxicity with human induced pluripotent stem cells.** *Science translational medicine*
Sharma, A., Burridge, P. W., McKeithan, W. L., Serrano, R., Shukla, P., Sayed, N., Churko, J. M., Kitani, T., Wu, H., Holmström, A., Matsa, E., Zhang, Y., Kumar, et al
2017; 9 (377)
- **Molecular and functional resemblance of differentiated cells derived from isogenic human iPSCs and SCNT-derived ESCs.** *Proceedings of the National Academy of Sciences of the United States of America*
Zhao, M. T., Chen, H., Liu, Q., Shao, N. Y., Sayed, N., Wo, H. T., Zhang, J. Z., Ong, S. G., Liu, C., Kim, Y., Yang, H., Chour, T., Ma, et al
2017

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