



June-Wha Rhee

- Instructor, Cardiovascular Institute
- Instructor, Medicine

CLINICAL OFFICES

- **Stanford Cardiovascular Institute**

265 Campus Dr Rm S114

Grant Bldg

Stanford, CA 94305

Tel (650) 736-2863

Fax (650) 725-1599

Bio

BIO

Dr. Rhee is a general cardiologist with specialized clinical and research training in cardiovascular drug toxicity and pharmacogenomics. She completed clinical cardiology fellowship and internal medicine residency training at Stanford University School of Medicine. During her post-doctoral training, Dr. Rhee's research focused on elucidating cardiotoxic effects of iron overload and of multiple chemotherapeutic agents using patient-specific induced pluripotent stem cells (iPSCs) derived models. Her current research employs clinical data, population genomics, and patient-derived iPSCs models to study genetic determinants and mechanisms of drug-induced cardiovascular toxicities. Dr. Rhee's clinic sees cardio-oncology patients and focuses on devising new methods for minimizing cardiovascular complications in that population.

CLINICAL FOCUS

- Cardiovascular Disease
- Cardio-oncology
- Pharmacogenomics

ACADEMIC APPOINTMENTS

- Instructor, Cardiovascular Institute
- Instructor, Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- K08 Mentored Clinical Scientist Research Career Development Awards, National Institutes of Health (08/2020-07/2025)
- Career Development Award, American Heart Association (07/2019-06/2022)
- Ruth L. Kirschstein NRSA NIH Postdoctoral Fellowship, National Institutes of Health (01/2016-06/2019)
- Excellence in Cardiology Fellowship Award, American College of Cardiology (05/2017)
- Women in Cardiology Award for Trainee Excellence, American Heart Association (11/2015)

- Timothy F. Beckett, JR award for Best Clinical Teaching by a Medicine Fellow, Stanford University (06/2015)
- HHMI Research Training Fellowships for Medical Students, Howard Hughes Medical Institute (07/2009-06/2010)
- Gold medal, 33rd International Chemistry Olympiad committee (2001)

PROFESSIONAL EDUCATION

- Board Certification: Cardiovascular Disease, American Board of Internal Medicine (2017)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2014)
- BS, MIT , Biology, Chemical Engineering (2006)
- MD, Harvard Medical School (2011)
- Residency: Stanford School of Medicine (2014) CA
- Fellowship: Stanford School of Medicine (2017) CA
- Board Certification, American Board of Internal Medicine , Internal Medicine (2014)
- Board Certification: Adult Comprehensive Echocardiography, National Board of Echocardiography (2017)
- Board Certification, American Board of Internal Medicine , Cardiovascular Medicine (2017)

Publications

PUBLICATIONS

- **Author Correction: Large-scale generation of functional mRNA-encapsulating exosomes via cellular nanoporation.** *Nature biomedical engineering*
Yang, Z., Shi, J., Xie, J., Wang, Y., Sun, J., Liu, T., Zhao, Y., Zhao, X., Wang, X., Ma, Y., Malkoc, V., Chiang, C., Deng, et al
2021
- **Racial and Ethnic Disparities in Cardio-Oncology A Call to Action** *JACC: CARDIOONCOLOGY*
Fazal, M., Malisa, J., Rhee, J., Witteles, R. M., Rodriguez, F.
2021; 3 (2): 201-204
- **Impact of Hormonal Therapies for Treatment of Hormone-Dependent Cancers (Breast and Prostate) on the Cardiovascular System: Effects and Modifications: A Scientific Statement From the American Heart Association** *CIRCULATION-GENOMIC AND PRECISION MEDICINE*
Okwuosa, T. M., Morgans, A., Rhee, J., Reding, K. W., Maliski, S., Plana, J., Volgman, A., Moseley, K. F., Porter, C. B., Ismail-Khan, R., Amer Heart Assoc
Cardiooncology, Council Arteriosclerosis Thrombos, Council Cardiovasc Radiology
2021; 14 (3): 390-407
- **Race and Genetics in Congenital Heart Disease: Application of iPSCs, Omics, and Machine Learning Technologies.** *Frontiers in cardiovascular medicine*
Mullen, M. n., Zhang, A. n., Lui, G. K., Romfh, A. W., Rhee, J. W., Wu, J. C.
2021; 8: 635280
- **Atlas of Exosomal microRNAs Secreted From Human iPSC-Derived Cardiac Cell Types.** *Circulation*
Chandy, M., Rhee, J., Ozen, M. O., Williams, D. R., Pepic, L., Liu, C., Zhang, H., Malisa, J., Lau, E., Demirci, U., Wu, J. C.
2020; 142 (18): 1794-96
- **IMPROVE-IT A Final Closure to Carcinogenicity of Ezetimibe?** *JACC: CARDIOONCOLOGY*
Lewis, E. F., Rhee, J.
2020; 2 (3): 397-99
- **Primer on Biomarker Discovery in Cardio-Oncology: Application of Omics Technologies.** *JACC. CardioOncology*
Rhee, J., Ky, B., Armenian, S. H., Yancy, C. W., Wu, J. C.
2020; 2 (3): 379-84
- **The Regulation of Endothelial Function Through Hmgcr/mevalonate Pathway Mediated Yap Activity**
Liu, C., Liu, Y., Chen, C., Ameen, M., Yang, H., Shen, M., Rhee, J., Chen, I. Y., Sayed, N., Wu, J. C.
LIPPINCOTT WILLIAMS & WILKINS.2020

- **Clinical trial in a dish using iPSCs shows lovastatin improves endothelial dysfunction and cellular cross-talk in LMNA cardiomyopathy.** *Science translational medicine*
Sayed, N., Liu, C., Ameen, M., Himmami, F., Zhang, J. Z., Khanamiri, S., Moonen, J., Wnorowski, A., Cheng, L., Rhee, J., Gaddam, S., Wang, K. C., Sallam, et al
2020; 12 (554)
- **Correction to: Cardiovascular Complications in Patients with COVID-19: Consequences of Viral Toxicities and Host Immune Response.** *Current cardiology reports*
Zhu, H., Rhee, J., Cheng, P., Waliyany, S., Chang, A., Witteles, R. M., Maecker, H., Davis, M. M., Nguyen, P. K., Wu, S. M.
2020; 22 (5): 36
- **Multimodality Imaging for Risk Assessment of Inherited Cardiomyopathies** *CURRENT CARDIOVASCULAR RISK REPORTS*
O'Sullivan, J. W., Rhee, J., Hsu, D., Wheeler, M. T., Nieman, K.
2020; 14 (5)
- **RNA Sequencing Analysis of Induced Pluripotent Stem Cell-Derived Cardiomyocytes from Congenital Heart Disease Patients.** *Circulation research*
Kitani, T. n., Tian, L. n., Zhang, T. n., Itzhaki, I. n., Zhang, J. Z., Ma, N. n., Liu, C. n., Rhee, J. W., Romfh, A. n., Lui, G. K., Wu, J. C.
2020
- **Cardiovascular Complications in Patients with COVID-19: Consequences of Viral Toxicities and Host Immune Response** *Curr Cardiol Rep*
Zhu, H., Rhee, J., Cheng, P., Waliyany, S., Chang, A., Witteles, R. M., Maecker, H., Davis, M. M., Nguyen, P. K., Wu, S. M.
2020; 22 (5)
- **Modeling Secondary Iron Overload Cardiomyopathy with Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes.** *Cell reports*
Rhee, J. W., Yi, H. n., Thomas, D. n., Lam, C. K., Belbachir, N. n., Tian, L. n., Qin, X. n., Malisa, J. n., Lau, E. n., Paik, D. T., Kim, Y. n., Choi, B. S., Sayed, et al
2020; 32 (2): 107886
- **Innovation in Precision Cardio-Oncology During the Coronavirus Pandemic and Into a Post-pandemic World.** *Frontiers in cardiovascular medicine*
Brown, S., Rhee, J., Guha, A., Rao, V. U.
2020; 7: 145
- **Cardiovascular Risks in Patients with COVID-19: Potential Mechanisms and Areas of Uncertainty.** *Current cardiology reports*
Cheng, P. n., Zhu, H. n., Witteles, R. M., Wu, J. C., Quertermous, T. n., Wu, S. M., Rhee, J. W.
2020; 22 (5): 34
- **Large-scale generation of functional mRNA-encapsulating exosomes via cellular nanoporation.** *Nature biomedical engineering*
Yang, Z., Shi, J., Xie, J., Wang, Y., Sun, J., Liu, T., Zhao, Y., Zhao, X., Wang, X., Ma, Y., Malkoc, V., Chiang, C., Deng, et al
2019
- **Human-induced Pluripotent Stem Cell-derived Cardiomyocytes as a Model for Trastuzumab-Induced Cardiac Dysfunction**
Kitani, T., Ong, S., Lam, C. K., Rhee, J., Zhang, J. Z., Oikonomopoulos, A., Ma, N., Tian, L., Lee, J., Telli, M. L., Witteles, R. M., Sharma, A., Sayed, et al
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Identifying the Transcriptome Signature of Calcium Channel Blocker in Human iPSC-Derived Cardiomyocytes**
Lam, C., Tian Lei, Belbachir, N., Wnorowski, A., Shrestha, R., Ma Ning, Kitani, T., Rhee, J. W., Wu, J. C.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Adiponectin Receptor 3 is Associated With Endothelial Nitric Oxide Synthase Dysfunction and Predicts Insulin Resistance in South Asians**
Chandy, M., Sayed, N., Lau, E., Liu, C., Wei Tzu-Tang, Chen, I. Y., Thomas, D., Rhee, J., Oh, B., Pepic, L., Husain, M., Quertermous, T., Nallamshetty, S., et al
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Studying Cardiovascular Effects of Marijuana on Healthy Individuals Using Human Derived Induced Pluripotent Stem Cells**
Wei, T., Chandy, M., Chen, I. Y., Wo, H., Khanamiri, S., Nishiga, M., Seidl, F., Sayed, N., Liu, C., Rhee, J., Obal, D., Chour, T., Wu, et al
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Multi-Omics Investigation of Cardiomyocyte-to-Fibroblast Crosstalk in Human iPSC Models**
Lau, E., Chandy, M. J., Williams, D. R., Shrestha, R., Rhee, J., Wu, J. C.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Identifying the Transcriptome Signatures of Calcium Channel Blockers in Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes** *CIRCULATION RESEARCH*

- Lam, C., Tian, L., Belbachir, N., Wnorowski, A., Shrestha, R., Ma, N., Kitani, T., Rhee, J., Wu, J. C.
2019; 125 (2): 212–22
- **CARDIOVASCULAR SAFETY OF MEXILETINE AS A THERAPY FOR MYOTONIA IN PATIENTS WITH MYOTONIC DYSTROPHY**
Rhee, J., Gombar, S., Beutner, K., Callahan, A., Jung, K., Wheeler, M.
ELSEVIER SCIENCE INC.2019: 474
 - **Targeted and Selective Treatment of Pluripotent Stem Cell-derived Teratomas Using External Beam Radiation in a Small-animal Model.** *Journal of visualized experiments : JoVE*
Sallam, K., Rhee, J., Chour, T., D'addabbo, J., Lee, A. S., Graves, E., Nguyen, P. K.
2019
 - **Electronic Cigarettes: Where There Is Smoke There Is Disease.** *Journal of the American College of Cardiology*
Wu, J. C., Rhee, J. W., Sallam, K. n.
2019; 74 (25): 3121–23
 - **Human Induced Pluripotent Stem Cell Model of Trastuzumab-Induced Cardiac Dysfunction in Breast Cancer Patients.** *Circulation*
Kitani, T. n., Ong, S. G., Lam, C. K., Rhee, J. W., Zhang, J. Z., Oikonomopoulos, A. n., Ma, N. n., Tian, L. n., Lee, J. n., Telli, M. L., Witteles, R. M., Sharma, A. n., Sayed, et al
2019
 - **Modelling diastolic dysfunction in induced pluripotent stem cell-derived cardiomyocytes from hypertrophic cardiomyopathy patients.** *European heart journal*
Wu, H. n., Yang, H. n., Rhee, J. W., Zhang, J. Z., Lam, C. K., Sallam, K. n., Chang, A. C., Ma, N. n., Lee, J. n., Zhang, H. n., Blau, H. M., Bers, D. M., Wu, et al
2019
 - **Marked Vascular Dysfunction in a Case of Peripartum Cardiomyopathy.** *Journal of vascular research*
Khanamiri, S. n., Rhee, J. W., Paik, D. T., Chen, I. Y., Liu, C. n., Sayed, N. n.
2019; 56 (1): 11–15
 - **Activation of PDGF pathway links LMNA mutation to dilated cardiomyopathy.** *Nature*
Lee, J. n., Termglinchan, V. n., Diecke, S. n., Itzhaki, I. n., Lam, C. K., Garg, P. n., Lau, E. n., Greenhaw, M. n., Seeger, T. n., Wu, H. n., Zhang, J. Z., Chen, X. n., Gil, et al
2019
 - **Large-Scale Single-Cell RNA-Seq Reveals Molecular Signatures of Heterogeneous Populations of Human Induced Pluripotent Stem Cell-Derived Endothelial Cells** *CIRCULATION RESEARCH*
Paik, D. T., Tian, L., Lee, J., Sayed, N., Chen, I. Y., Rhee, S., Rhee, J., Kim, Y., Wirka, R. C., Buikema, J. W., Wu, S. M., Red-Horse, K., Quertermous, et al
2018; 123 (4): 443–50
 - **Dyslipidaemia: In vivo genome editing of ANGPTL3: a therapy for atherosclerosis?** *Nature reviews. Cardiology*
Rhee, J., Wu, J. C.
2018; 15 (5): 259–60
 - **In vivo genome editing of ANGPTL3: a therapy for atherosclerosis?** *NATURE REVIEWS CARDIOLOGY*
Rhee, J., Wu, J. C.
2018; 15 (5): 259–60
 - **Cardiac Cell Cycle Activation as a Strategy to Improve iPSC-Derived Cardiomyocyte Therapy.** *Circulation research*
Rhee, J. W., Wu, J. C.
2018; 122 (1): 14–16
 - **Human iPSC-Derived Endothelial Cells Predict Predilection to Atherogenesis by Endothelial Proinflammatory Activation**
Paik, D. T., Kim, Y., Rhee, J., Yi, H., Mishra, R., Wu, J. C.
LIPPINCOTT WILLIAMS & WILKINS.2017: E98
 - **Navigating Genetic and Phenotypic Uncertainty in Left Ventricular Noncompaction** *CIRCULATION-CARDIOVASCULAR GENETICS*
Rhee, J., Grove, M. E., Ashley, E. A.
2017; 10 (4)

- **Restoration of Impaired Diastolic Function in Hypertrophic Cardiomyopathy Induced Pluripotent Stem Cell-derived Cardiomyocytes by Re-balancing the Calcium Homeostasis**
Wu, H., Yang, H., Zhang, J., Lam, C., Rhee, J., Seeger, T., Sallam, K., Ma, N., Wu, J.
LIPPINCOTT WILLIAMS & WILKINS.2017
- **Incremental Value of Deformation Imaging and Hemodynamics Following Heart Transplantation: Insights From Graft Function Profiling.** *JACC. Heart failure*
Kobayashi, Y. n., Sudini, N. L., Rhee, J. W., Aymami, M. n., Moneghetti, K. J., Bouajila, S. n., Kobayashi, Y. n., Kim, J. B., Schnittger, I. n., Teuteberg, J. J., Khush, K. K., Fearon, W. F., Haddad, et al
2017; 5 (12): 930–39
- **Navigating Genetic and Phenotypic Uncertainty in Left Ventricular Noncompaction.** *Circulation. Cardiovascular genetics*
Rhee, J. W., Grove, M. E., Ashley, E. A.
2017; 10 (4)
- **Potential Strategies to Address the Major Clinical Barriers Facing Stem Cell Regenerative Therapy for Cardiovascular Disease: A Review.** *JAMA cardiology*
Nguyen, P. K., Neofytou, E., Rhee, J., Wu, J. C.
2016; 1 (8): 953-962
- **Adult Stem Cell Therapy and Heart Failure, 2000 to 2016: A Systematic Review.** *JAMA cardiology*
Nguyen, P. K., Rhee, J., Wu, J. C.
2016; 1 (7): 831-841
- **Human-induced pluripotent stem cell approaches to model inborn and acquired metabolic heart diseases.** *Current opinion in cardiology*
Chanana, A. M., Rhee, J., Wu, J. C.
2016; 31 (3): 266-274
- **Continuous flow left ventricular assist device placement complicated by aortic valve thrombus and myocardial infarction** *INTERNATIONAL JOURNAL OF CARDIOLOGY*
Kim, J. B., Rhee, J., Brenner, D. A., Ha, R., Banerjee, D., Yeung, A. C., Tremmel, J. A.
2014; 176 (3): E102-E103
- **Clinical Features, Use of Evidence-Based Therapies, and Cardiovascular Outcomes Among Patients With Chronic Kidney Disease Following Non-ST-Elevation Acute Coronary Syndrome** *CLINICAL CARDIOLOGY*
Rhee, J., Wiviott, S. D., Scirica, B. M., Gibson, C. M., Murphy, S. A., Bonaca, M. P., Morrow, D. A., Mega, J. L.
2014; 37 (6): 350-356
- **Continuous flow left ventricular assist device placement complicated by aortic valve thrombus and myocardial infarction.** *International journal of cardiology*
Kim, J. B., Rhee, J. W., Brenner, D. A., Ha, R. n., Banerjee, D. n., Yeung, A. C., Tremmel, J. A.
2014; 176 (3): e102–3
- **Elevated Right Ventricular Operant Diastolic Elastance Strongly Predicts Increased Risk of Mortality Following Heart Transplantation**
Rhee, J., Sudini, N. L., Pham, M., Fearon, W., Lee, D., Beygui, R. E., Montoya, J. G., Wu, J. C., Vrtovec, B., Hunt, S. A., Haddad, F.
LIPPINCOTT WILLIAMS & WILKINS.2013
- **Advances in nanotechnology for the management of coronary artery disease** *TRENDS IN CARDIOVASCULAR MEDICINE*
Rhee, J., Wu, J. C.
2013; 23 (2): 39-45
- **The Effect of Age on Outcomes of Coronary Artery Bypass Surgery Compared With Balloon Angioplasty or Bare-Metal Stent Implantation Among Patients With Multivessel Coronary Disease** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
Flather, M., Rhee, J., Boothroyd, D. B., Boersma, E., Brooks, M. M., Carrie, D., Clayton, T. C., Danchin, N., Hamm, C. W., Hueb, W. A., King, S. B., Pocock, S. J., Rodriguez, et al
2012; 60 (21): 2150-2157
- **In vivo prevention of arterial restenosis with paclitaxel-encapsulated targeted lipid-polymeric nanoparticles** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Chan, J. M., Rhee, J., Drum, C. L., Bronson, R. T., Golomb, G., Langer, R., Farokhzad, O. C.
2011; 108 (48): 19347-19352

- **Spatiotemporal controlled delivery of nanoparticles to injured vasculature** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Chan, J. M., Zhang, L., Tong, R., Ghosh, D., Gao, W., Liao, G., Yuet, K. P., Gray, D., Rhee, J., Cheng, J., Golomb, G., Libby, P., Langer, et al
2010; 107 (5): 2213-2218