

Stanford



Rajesh Dash, MD, PhD, Medical & Scientific Director, SSATHI

Assistant Professor of Medicine (Cardiovascular Medicine) at the Stanford University Medical Center

Medicine - Cardiovascular Medicine

CLINICAL OFFICES

- **Stanford Cardiovascular Clinic**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

CLINICAL FOCUS

- South Asian Cardiovascular Risk
- Cardiovascular Medicine
- Cardiovascular Disease

ACADEMIC APPOINTMENTS

- Assistant Professor - Med Center Line, Medicine - Cardiovascular Medicine
- Member, Bio-X
- Member, Cardiovascular Institute

ADMINISTRATIVE APPOINTMENTS

- Co-Director, Falk Cardiovascular MRI Facility, (2011- present)
- Medical & Scientific Director, Stanford South Asian Translational Heart Initiative (SSATHI), (2013- present)

HONORS AND AWARDS

- Chief Cardiology Fellow, UCSF Medical Center (2006-2007)
- Finalist, Young Investigators Award, American Heart Association (2008)
- Recipient, Frances & John Bowes Cardiovascular Research Fellowship, UCSF Medical Center (2008-2009)
- Finalist, Young Investigator Award, Society for Cardiovascular Magnetic Resonance (2009)
- Winner, Melvin Judkins Young Investigator Award, American Heart Association (2010)
- Finalist, Young Investigator Award, Basic Science, Northwestern Cardiovascular Forum (2012)
- Winner, Best Poster Award, ACC Scientific Sessions (2013)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board member, HealthPals Inc (2017 - present)

PROFESSIONAL EDUCATION

- Board Certification: Adult Comprehensive Echocardiography, National Board of Echocardiography (2009)
- Fellowship: UCSF Medical Center (2009) CA
- Board Certification: Cardiovascular Disease, American Board of Internal Medicine (2008)
- Residency: University of Washington School of Medicine (2005) WA
- Internship: University of Washington School of Medicine (2003) WA
- Medical Education: University of Cincinnati College of Medicine (2002) OH
- Board Certification, Echocardiography, National Board of Echocardiography (2009)
- PhD, University of Cincinnati MSTP, Pharmacology & Cell Biophysics (2001)
- BS, Stanford University, Biological Sciences (1995)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

1) Heart disease in South Asians - genetic, metabolic, & behavioral underpinnings of an aggressive phenotype. Leveraging digital health to optimize lifestyle changes. I founded a preventive cardiology clinic dedicated to treating South Asian patients who have a 4x risk of early heart disease and heart-related events. The clinic, SSATHI, is a clinical and research program that tracks patient performance and utilizes a multidisciplinary strategy to lower risk levels in these high-risk patients.

2) Imaging cell injury & recovery in the heart. Designing molecular probes that track to injured heart cells where cardiac MRI can visualize signals of early cardiac injury and facilitate preventive medical therapy. I have also optimized a new imaging method for viable cells, manganese-enhanced MRI, to delineate live heart cells or transplanted stem cells. A third area of imaging research surrounds the impact of hypothermia on preservation of heart tissue after myocardial infarction, where cooling the heart and body to 5-6 degrees cooler than average protects up to 90% of at-risk heart muscle from dying.

CLINICAL TRIALS

- Cardiovascular Outcomes Assessment of the MitraClip Percutaneous Therapy for Heart Failure Patients With Functional Mitral Regurgitation (The COAPT Trial), Recruiting
- Early MRI Detection of Myocardial Deterioration as a Preventive, Disease Staging, and Prognostic Biomarker in Insulin Resistance, Recruiting
- The PARTNER 3 - Trial - The Safety and Effectiveness of the SAPIEN 3 Transcatheter Heart Valve in Low Risk Patients With Aortic Stenosis, Recruiting
- The PARTNER II Trial: Placement of AoRTic TraNscathetER Valves - PII A, Recruiting
- The PARTNER II Trial: S3iCAP, Recruiting
- The PARTNER II Trial: Placement of AoRTic TraNscathetER Valves - PII B, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Yuko Tada

Postdoctoral Research Mentor

Yuko Tada

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cardiovascular Medicine (Fellowship Program)

Publications

PUBLICATIONS

- **Index of Microcirculatory Resistance and Infarct Size.** *JACC. Cardiovascular imaging*
Fearon, W. F., Dash, R.
2018
- **Dose-Dependent Cardioprotection of Moderate (32°C) Versus Mild (35°C) Therapeutic Hypothermia in Porcine Acute Myocardial Infarction.** *JACC. Cardiovascular interventions*
Dash, R., Mitsutake, Y., Pyun, W. B., Dawoud, F., Lyons, J., Tachibana, A., Yahagi, K., Matsuura, Y., Kolodgie, F. D., Virmani, R., McConnell, M. V., Illindala, U., Ikeno, et al
2018; 11 (2): 195–205
- **Therapeutic Hypothermia in Postcardiac Arrest.** *Therapeutic hypothermia and temperature management*
Polderman, K. H., Dash, R., Nichol, G., Deye, N.
2017; 7 (1): 2-7
- **An Alpha-1A Adrenergic Receptor Agonist Prevents Acute Doxorubicin Cardiomyopathy in Male Mice** *PLOS ONE*
Montgomery, M. D., Chan, T., Swigart, P. M., Myagmar, B., Dash, R., Simpson, P. C.
2017; 12 (1)
- **Manganese-Enhanced Magnetic Resonance Imaging Enables In Vivo Confirmation of Peri-Infarct Restoration Following Stem Cell Therapy in a Porcine Ischemia-Reperfusion Model.** *Journal of the American Heart Association*
Dash, R., Kim, P. J., Matsuura, Y., Ikeno, F., Metzler, S., Huang, N. F., Lyons, J. K., Nguyen, P. K., Ge, X., Foo, C. W., McConnell, M. V., Wu, J. C., Yeung, et al
2015; 4 (7)
- **Near infrared imaging and photothermal ablation of vascular inflammation using single-walled carbon nanotubes.** *Journal of the American Heart Association*
Kosuge, H., Sherlock, S. P., Kitagawa, T., Dash, R., Robinson, J. T., Dai, H., McConnell, M. V.
2012; 1 (6)
- **Theranostic effect of serial manganese-enhanced magnetic resonance imaging of human embryonic stem cell derived teratoma** *MAGNETIC RESONANCE IN MEDICINE*
Chung, J., Dash, R., Kee, K., Barral, J. K., Kosuge, H., Robbins, R. C., Nishimura, D., Reijo-Pera, R. A., Yang, P. C.
2012; 68 (2): 595-599
- **Synthesis of an in vivo MRI-detectable apoptosis probe.** *Journal of visualized experiments : JoVE*
Lam, J., Simpson, P. C., Yang, P. C., Dash, R.
2012
- **In vivo Molecular MRI of Cell Survival and Teratoma Formation Following Embryonic Stem Cell Transplantation Into the Injured Murine Myocardium** *MAGNETIC RESONANCE IN MEDICINE*
Chung, J., Kee, K., Barral, J. K., Dash, R., Kosuge, H., Wang, X., Weissman, I., Robbins, R. C., Nishimura, D., Quertermous, T., Reijo-Pera, R. A., Yang, P. C.
2011; 66 (5): 1374-1381
- **A Molecular MRI Probe to Detect Treatment of Cardiac Apoptosis In Vivo** *MAGNETIC RESONANCE IN MEDICINE*
Dash, R., Chung, J., Chan, T., Yamada, M., Barral, J., Nishimura, D., Yang, P. C., Simpson, P. C.
2011; 66 (4): 1152-1162
- **Dual Manganese-Enhanced and Delayed Gadolinium-Enhanced MRI Detects Myocardial Border Zone Injury in a Pig Ischemia-Reperfusion Model** *CIRCULATION-CARDIOVASCULAR IMAGING*
Dash, R., Chung, J., Ikeno, F., Hahn-Windgassen, A., Matsuura, Y., Bennett, M. V., Lyons, J. K., Teramoto, T., Robbins, R. C., McConnell, M. V., Yeung, A. C., Brinton, T. J., Harnish, et al
2011; 4 (5): 574-582
- **Detection of Injured Border Zone Myocardium Using Manganese-Enhanced and Delayed-Enhanced MRI in a Pig Ischemia-Reperfusion Model**

Dash, R., Chung, J., Hahn-Windgassen, A., Matsuura, Y., Ikeno, F., Lyons, J., Teramoto, T., Yeung, A. C., McConnell, M. V., Brinton, T. J., Harnish, P., Yang, P. C.

LIPPINCOTT WILLIAMS & WILKINS.2010

- **Differential regulation of p38 mitogen-activated protein kinase mediates gender-dependent catecholamine-induced hypertrophy** *CARDIOVASCULAR RESEARCH*
Dash, R., Schmidt, A. G., Pathak, A., Gerst, M. J., Biniakiewicz, D., Kadambi, V. J., Hoit, B. D., Abraham, W. T., Kranias, E. G.
2003; 57 (3): 704-714
- **Gender influences on sarcoplasmic reticulum Ca²⁺-handling in failing human myocardium** *JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY*
Dash, R., Frank, K. F., Carr, A. N., Moravec, C. S., Kranias, E. G.
2001; 33 (7): 1345-1353
- **Interactions between phospholamban and beta-adrenergic drive may lead to cardiomyopathy and early mortality** *CIRCULATION*
Dash, R., Kadambi, V. J., Schmidt, A. G., Tepe, N. M., Biniakiewicz, D., Gerst, M. J., Canning, A. M., Abraham, W. T., Hoit, B. D., Liggett, S. B., Lorenz, J. N., Dorn, G. W., Kranias, et al
2001; 103 (6): 889-896
- **Apelin-13 infusion salvages the peri-infarct region to preserve cardiac function after severe myocardial injury** *INTERNATIONAL JOURNAL OF CARDIOLOGY*
Chung, W., Cho, A., Byun, K., Moon, J., Ge, X., Seo, H., Moon, E., Dash, R., Yang, P. C.
2016; 222: 361-367
- **Multimodality Molecular Imaging of Cardiac Cell Transplantation: Part II. In Vivo Imaging of Bone Marrow Stromal Cells in Swine with PET/CT and MR Imaging.** *Radiology*
Parashurama, N., Ahn, B., Ziv, K., Ito, K., Paulmurugan, R., Willmann, J. K., Chung, J., Ikeno, F., Swanson, J. C., Merk, D. R., Lyons, J. K., Yerushalmi, D., Teramoto, et al
2016; 280 (3): 826-836
- **Multimodality Molecular Imaging of Cardiac Cell Transplantation: Part I. Reporter Gene Design, Characterization, and Optical in Vivo Imaging of Bone Marrow Stromal Cells after Myocardial Infarction.** *Radiology*
Parashurama, N., Ahn, B., Ziv, K., Ito, K., Paulmurugan, R., Willmann, J. K., Chung, J., Ikeno, F., Swanson, J. C., Merk, D. R., Lyons, J. K., Yerushalmi, D., Teramoto, et al
2016; 280 (3): 815-825
- **Aligned nanofibrillar collagen scaffolds - Guiding lymphangiogenesis for treatment of acquired lymphedema.** *Biomaterials*
Hadamitzky, C., Zaitseva, T. S., Bazalova-Carter, M., Paukshto, M. V., Hou, L., Strassberg, Z., Ferguson, J., Matsuura, Y., Dash, R., Yang, P. C., Kretchetov, S., Vogt, P. M., Rockson, et al
2016; 102: 259-267
- **Magnetic Resonance Imaging and Positron Emission Tomography Approaches to Imaging Vascular and Cardiac Inflammation** *CIRCULATION JOURNAL*
Amsellem, M., Saito, T., Tada, Y., Dash, R., McConnell, M. V.
2016; 80 (6): 1269-1277
- **Telmisartan in the diabetic murine model of acute myocardial infarction: dual contrast manganese-enhanced and delayed enhancement MRI evaluation of the peri-infarct region.** *Cardiovascular diabetology*
Toma, I., Kim, P. J., Dash, R., McConnell, M. V., Nishimura, D., Harnish, P., Yang, P. C.
2016; 15 (1): 24-?
- **Low-Dose FK506 (Tacrolimus) in End-Stage Pulmonary Arterial Hypertension.** *American journal of respiratory and critical care medicine*
Spiekerkoetter, E., Sung, Y. K., Sudheendra, D., Bill, M., Aldred, M. A., van de Veerdonk, M. C., Vonk Noordegraaf, A., Long-Boyle, J., Dash, R., Yang, P. C., Lawrie, A., Swift, A. J., Rabinovitch, et al
2015; 192 (2): 254-257
- **Relationship between Echocardiographic and Magnetic Resonance Derived Measures of Right Ventricular Size and Function in Patients with Pulmonary Hypertension.** *Journal of the American Society of Echocardiography*
Shiran, H., Zamanian, R. T., McConnell, M. V., Liang, D. H., Dash, R., Heidary, S., Sudini, N. L., Wu, J. C., Haddad, F., Yang, P. C.
2014; 27 (4): 405-412
- **A novel stress echocardiography pattern for myocardial bridge with invasive structural and hemodynamic correlation.** *Journal of the American Heart Association*
Lin, S., Tremmel, J. A., Yamada, R., Rogers, I. S., Yong, C. M., Turcott, R., McConnell, M. V., Dash, R., Schnittger, I.

2013; 2 (2)

- **A novel stress echocardiography pattern for myocardial bridge with invasive structural and hemodynamic correlation.** *Journal of the American Heart Association*
Lin, S., Tremmel, J. A., Yamada, R., Rogers, I. S., Yong, C. M., Turcott, R., McConnell, M. V., Dash, R., Schnittger, I.
2013; 2 (2)
- **In vivo Kinetics of Embryonic Stem Cell Viability Following Transplantation Into the Injured Murine Myocardium** *82nd National Conference and Exhibitions and Scientific Sessions of the American-Heart-Association*
Chung, J., Kee, K., Barral, J. K., Dash, R., Weissman, I., Quertermous, T., Robbins, R. C., Nishimura, D. G., Reijo-Pera, R. A., Yang, P. C.
LIPPINCOTT WILLIAMS & WILKINS.2009: S310-S311
- **The contractile and neurohormonal roles of phospholamban in heart failure** *17th World Heart Congress*
Dash, R., Kranias, E. G.
KLUWER ACADEMIC PUBLISHERS.2003: 135-152
- **The enhanced contractility of the phospholamban-deficient mouse heart persists with aging** *JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY*
Slack, J. P., Grupp, I. L., Dash, R., Holder, D., Schmidt, A., Gerst, M. J., Tamura, T., Tilgmann, C., James, P. F., Johnson, R., Gerdes, A. M., Kranias, E. G.
2001; 33 (5): 1031-1040
- **Altering the receptor-effector ratio by transgenic overexpression of type V adenylyl cyclase: Enhanced basal catalytic activity and function without increased cardiomyocyte beta-adrenergic signalling** *BIOCHEMISTRY*
Tepe, N. M., Lorenz, J. N., Yatani, A., Dash, R., Kranias, E. G., Dorn, G. W., Liggett, S. B.
1999; 38 (50): 16706-16713
- **Influence of transgenic overexpression of phospholamban on postextrasystolic potentiation** *JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY*
Hoit, B. D., Tramuta, D. A., Kadambi, V. J., Dash, R., Ball, N., Kranias, E. G., Walsh, R. A.
1999; 31 (11): 2007-2015
- **Astressin, a novel and potent CRF antagonist, is neuroprotective in the hippocampus when administered after a seizure** *BRAIN RESEARCH*
Maecker, H., Desai, A., Dash, R., RIVIER, J., Vale, W., Sapolsky, R.
1997; 744 (1): 166-170
- **Overexpression of the glucose transporter gene with a Herpes simplex viral vector protects striatal neurons against stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*
Lawrence, M. S., Sun, G. H., Kunis, D. M., Saydam, T. C., Dash, R., Ho, D. Y., Sapolsky, R. M., Steinberg, G. K.
1996; 16 (2): 181-185
- **A herpes simplex virus vector overexpressing the glucose transporter gene protects the rat dentate gyrus from an antimetabolite toxin** *EXPERIMENTAL NEUROLOGY*
Dash, R., Lawrence, M., Ho, D., Sapolsky, R.
1996; 137 (1): 43-48
- **HERPES-SIMPLEX VIRUS VECTORS OVEREXPRESSING THE GLUCOSE-TRANSPORTER GENE PROTECT AGAINST SEIZURE-INDUCED NEURON LOSS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Lawrence, M. S., Ho, D. Y., Dash, R., Sapolsky, R. M.
1995; 92 (16): 7247-7251
- **HERPES-SIMPLEX VIRUS VECTOR SYSTEM - ANALYSIS OF ITS IN-VIVO AND IN-VITRO CYTOPATHIC EFFECTS** *JOURNAL OF NEUROSCIENCE METHODS*
Ho, D. Y., Fink, S. L., Lawrence, M. S., Meier, T. J., Saydam, T. C., Dash, R., Sapolsky, R. M.
1995; 57 (2): 205-215