BIOGRAPHICAL SKETCH

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NAME: McConnell, Michael V.

eRA COMMONS USER NAME (credential, e.g., agency login): McConnell.Michael

POSITION TITLE: Clinical Professor of Medicine, Stanford; Chief Medical Officer, Identifeye Health

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
M.I.T. – Cambridge, MA	S.B.	05/1983	EE/BioEE
M.I.T. – Cambridge, MA	S.M.	06/1985	EE/BioEE
Stanford University – Stanford, CA	M.D.	06/1990	Medicine
Harvard Medical School – Boston, MA	M.M.Sc.	06/1998	Clinical Investigation

A. Personal Statement

I am a cardiologist and bioengineer with research and clinical expertise in cardiovascular imaging, prevention, and digital health. I was the founding Program Director of the NIBIB T32 Multi-Disciplinary Training Program in Cardiovascular Imaging at Stanford (CVIS) and have also served as a mentor on other Stanford pre-doctoral and post-doctoral training grants. I continue part-time at Stanford as a Clinical Professor of Medicine (Cardiovascular), including clinical care and teaching in cardiovascular MRI and echo, attending in the Preventive Cardiology Clinic, and advising in the Stanford Biodesign program. I was recently a Senior Clinical Lead at Google/Verily/Fitbit for 7 years, including multiple publications in AI, imaging, and digital health. I am currently Chief Medical Officer at Identifeye Health, which is developing retinal imaging biomarkers ("oculomics") for cardiometabolic diseases. I have mentored over 25 medical and bioengineering post-doctoral fellows and graduate students.

B. Positions, Scientific Appointments, and Honors
Positions and Scientific Appointments
1990-1992 Intern and Resident in Medicine, Brigham & Women's Hospital, Boston, MA
1992-1996 Cardiology Fellow, Brigham & Women's Hospital, Boston, MA
1993- American College of Cardiology; Fellow, 1998
1994-2015 International Society for Magnetic Resonance in Medicine (Interventional Group Chair, 2008)
1995-1996 Cardiovascular Imaging Fellow, Brigham & Women's/Beth Israel Hospitals, Boston, MA
1995- American Heart Assoc., Council on Arteriosclerosis, Thrombosis, & Vascular Bio; Fellow 2007
1996-1998 Instructor in Medicine, Harvard Medical School, Brigham & Women's Hospital
1996- Society for Cardiovascular Magnetic Resonance (Founding Member;Program Chair, 2014-2015)
1998-2005 Assistant Professor of Medicine (Cardiovascular), Stanford University School of Medicine
2000-2015 Director, Cardiovascular MRI Program, Stanford Division of Cardiovascular Medicine
2000-2005 Assistant Professor of Molecular and Cellular Physiology (by courtesy), Stanford University
2002-2005 Assistant Professor of Electrical Engineering (by courtesy), Stanford University
2003-2015 Faculty Member, Molecular Imaging Program at Stanford (MIPS)
2005-2011 Associate Professor of Medicine (Cardiovascular), Electrical Engineering (by courtesy), and Molecular and Cellular Physiology (by courtesy), Stanford University
2007-2015 Co-Director, Noninvasive Imaging Section, Division of Cardiovascular Medicine
2007-2016 Editorial Board, Journal of Cardiovascular Magnetic Resonance
2008-2015 Program Director, NIBIB Multi-Disciplinary Training Program in CV Imaging at Stanford (CVIS)

2010-2012	Chair/Co-Chair, American Heart Association Grant Review Panel (Radiology/Imaging)
2010-2013	Director, Preventive Cardiology Clinic
2011-2015	ACC/AHA/PCPI/NCQA Cardiac Imaging Performance Measure Working Group
2011-2015	Director, Advanced Treatment Center for Coronary Artery Disease, Stanford CV Health
2011-2017	Professor of Medicine (Cardiovascular), Electrical Engineering (by courtesy), and Molecular and Cellular Physiology (by courtesy), Stanford University
2013-	Faculty, Stanford Biodesign for Digital Health
2014-2015	Director, Cardiovascular Health Innovation; Co-Director, Preventive Cardiology Clinic
2014-	Health Tech Advisory Group, American Heart Association
2016-2019	Head, Cardiovascular Health Innovations, Verily (formerly Google) Life Sciences
2017-2020	Co-Chair, American Heart Association 2030 Impact Goal Task Force
2019-2022	Senior Clinical Lead, Google Health/Fitbit
2021-2022	Co-chair, ACC-Consumer Tech Assoc Committee: Cardiovascular Technology Solutions
2022-	Chief Medical Officer, Identifeye Health
2022-	Vice Chair, Board of Directors, National Fitness Foundation
2023-	Chair, Medical Advisory Board, 4Catalyzer Corporation

Honors

1981	Elected to Eta Kappa Nu, Tau Beta Pi (1982), and Sigma Xi (1984)
1987	American Heart Association Student Research Fellowship
1990	Stanford Dean's Awards for Research, Excellence in Clinical Medicine, and Outstanding Teaching
1994	NHLBI Individual National Research Service Award
1995	Bracco Diagnostics, Inc./SCA&I Fellowship Award for Research in Cardiac Imaging
1996	Fellowship, Harvard/MIT Clinical Investigator Training Program
1996	American Heart Association Clinician Scientist Award
1999	Doris Duke Clinical Scientist Award
2002	Department of Medicine Teaching Award
2007	Stanford Diversity and Leadership Faculty Fellow
2008	Fulbright Scholar, Aquitaine Region
2009	Outstanding Teacher Award, ISMRM Scientific Sessions
2018	Brian L. Strom Visiting Professorship, University of Pennsylvania Perelman School of Medicine
2018	Annual Gaasch Lecture, University of Massachusetts Medical School

C. Contributions to Science

1. *Characteristic echocardiographic finding in acute pulmonary embolism.* As a cardiology fellow, I published the paper that established a distinct pattern of regional right ventricular dysfunction found in acute pulmonary embolism, now commonly referred to as "McConnell's sign."

   a) **McConnell MV**, Solomon SD, Rayan ME, Come PC, Goldhaber SZ, Lee RT. Regional right ventricular dysfunction detected by echocardiography in acute pulmonary embolism. *Am J Cardiol* 1996;78(4):469-473.

   b) Nass N, **McConnell MV**, Goldhaber SZ, Chyu S, Solomon SD. Recovery of regional right ventricular function after thrombolysis for pulmonary embolism. *Am J Cardiol* 1999;83(5):804-806.

   c) Tuzovic M, Adigopula S, Amsallem M, Kobayashi Y, Kadoch M, Boulate D, Krishnan G, Liang D, Schnittger I, Fleischmann D, **McConnell MV**, Haddad F. Regional right ventricular dysfunction in acute pulmonary embolism: relationship with clot burden and biomarker profile. *Int J Cardiovasc Imaging.* 2016;32(3):389-98.

   d) Sengupta PP, Andrikopoulou E, Choi AD, Dang G, **McConnell MV**, Waller AH, Weissman NJ. Cardiovascular Point of Care Ultrasound: Current Value and Vision for Future Use. Mar 3, 2023. https://www.acc.org/About-ACC/Innovation/POCUS.

2. *Advances in coronary magnetic resonance imaging.* I am recognized for multiple advances in human coronary imaging using MRI, from identifying anomalous coronary arteries to technical advances in motion correction. I then published papers on the new technique of coronary vasodilation imaging by MRI, showing feasibility, time course, and impairment related to coronary risk factors and physical activity.

   a) **McConnell MV**, Ganz P, Selwyn AP, Li W, Edelman RR, Manning WJ. Identification of anomalous

coronary arteries and their anatomic course by magnetic resonance coronary angiography. *Circulation* 1995;92(11):3158-3162.

b) **McConnell MV**, Khasgiwala VC, Savord BJ, Chen MH, Chuang ML, Edelman RR, Manning WJ. Prospective adaptive navigator correction for breath-hold MR coronary angiography. *Magn Reson Med* 1997;37(1):148-152.

c) Terashima M, Meyer CH, Keeffe BG, Putz EJ, de la Pena-Almaguer E, Yang PC, Hu BS, Nishimura DG, **McConnell MV**. Noninvasive assessment of coronary vasodilation using magnetic resonance angiography. *J Am Coll Cardiol* 2005;45(1):104-110.

d) Nguyen PK, Terashima M, Fair JM, Varady A, Taylor-Piliae RE, Iribarren C, Go AS, Haskell WL, Hlatky MA, Fortmann SP, **McConnell MV**. Physical activity in older subjects is associated with increased coronary vasodilation in the ADVANCE study. *JACC Cardiovasc Imaging* 2011;4(6):622-9.

3. *Molecular imaging and therapy of atherosclerosis and aortic aneurysms.* As part of my scientific and clinical interest in addressing diseases of the arterial wall, I have published extensively on novel approaches to vascular molecular imaging and therapy, from MRI to optical.

a) Kitagawa T, Kosuge H, Uchida M, Dua MM, Bogyo M, Dalman RL, Douglas T, **McConnell MV**. RGD-Targeted Human Ferritin Nanoparticles for Molecular Imaging of Experimental Carotid Inflammation and Aortic Aneurysm Angiogenesis. *Mol Imaging Biol* 2012;14(3):315-24.

b) Kosuge H, Sherlock SP, Kitagawa T, Dash R, Robinson JT, Dai H, **McConnell MV**. Near infrared imaging and photothermal ablation of vascular inflammation using single-walled carbon nanotubes. *J Am Heart Assoc.* 2012;1(6):e002568.

c) Kitagawa T, Kosuge H, Chang E, James ML, Yamamoto T, Shen B, Chin FT, Gambhir SS, Dalman RL, **McConnell MV**. Integrin-targeted molecular imaging of experimental abdominal aortic aneurysms by ^{18}F-labeled Arg-Gly-Asp positron-emission tomography. *Circ Cardiovasc Imaging.* 2013;6(6):950-6.

d) Gifani M, Eddins DJ, Kosuge H, Zhang Y, Paluri SLA, Larson T, Leeper N, Herzenberg LA, Gambhir SS, **McConnell MV**, Ghosn EEB, Smith BR. Ultra-selective carbon nanotubes for photoacoustic imaging of inflamed atherosclerotic plaques. *Adv Funct Mater.* 2021;31(37):2101005.

4. *Digital health research to promote cardiovascular health.* Expanding on my interests in pushing technology toward cardiovascular disease prevention, I have worked with engineers at Stanford, Apple, and Google/Fitbit on mobile health research, AI, imaging, and wearable devices.

a) Chen LY, Tee BC, Chortos AL, Schwartz G, Tse V, Lipomi DJ, Wong HS, **McConnell MV**, Bao Z. Continuous wireless pressure monitoring and mapping with ultra-small passive sensors for health monitoring and critical care. *Nat Commun.* 2014;5:5028.

b) **McConnell MV**, Shcherbina A, Pavlovic A, Homburger JR, Goldfeder RL, Waggot D, Cho MK, Rosenberger ME, Haskell WL, Myers J, Champagne MA, Mignot E, Landray M, Tarassenko L, Harrington RA, Yeung AC, Ashley EA. Feasibility of Obtaining Measures of Lifestyle From a Smartphone App: The MyHeart Counts Cardiovascular Health Study. *JAMA Cardiol.* 2017;2(1):67-76.

c) Poplin R, Varadarajan AV, Blumer K, Liu Y, **McConnell MV**, Corrado GS, Peng L, Webster DR. Prediction of cardiovascular risk factors from retinal fundus photographs via deep learning. *Nat Biomed Eng.* 2018;2(3):158-164.

d) Lubitz SA, Faranesh AZ, Selvaggi C, Atlas SJ, McManus DD, Singer DE, Pagoto S, **McConnell MV**, Pantelopoulos A, Foulkes AS. Detection of Atrial Fibrillation in a Large Population Using Wearable Devices: The Fitbit Heart Study. *Circulation.* 2022;146(19):1415-1424.

Complete List of Published Work in MyBibliography:
https://www.ncbi.nlm.nih.gov/myncbi/michael.mcconnell.4/bibliography/public/