

Curriculum Vitae

Date Prepared: 27 May 2025
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Place of Birth: Lindsay, Ontario, Canada

Education

1995	B.Sc. (<i>summa cum laude</i>)	Chemistry	University of Ottawa, Ottawa, Ontario, Canada
2001	Ph.D.	Molecular Biophysics (Stephen Burley)	The Rockefeller University, New York, NY
2003	M.D.	Medicine (Tri-Institutional MD-PhD Program)	Weill Cornell University Medical College, New York, NY

Postdoctoral Training

07/03-06/06	Intern/Resident	Internal Medicine	Brigham and Women's Hospital (BWH), Boston, MA
07/03-06/06	Clinical Fellow	Medicine	Harvard Medical School (HMS), Boston, MA
07/06-06/10	Clinical Fellow	Cardiology	Massachusetts General Hospital (MGH), Boston, MA
07/06-06/11	Research Fellow	Medicine	Harvard Medical School
07/05-07/08	Research Fellow	Human Genetics (David Reich)	Harvard Medical School
08/08-02/10	Research Fellow	Bioinformatics (Frederick Roth)	Harvard Medical School
02/10-02/11	Research Fellow	Stem Cell Biology (Chad Cowan)	MGH

Faculty Academic Appointments

03/11-06/17	Assistant Professor	Medicine	University of California, San Francisco (UCSF) School of Medicine, San Francisco, CA
07/17-06/18	Associate Professor	Medicine	UCSF School of Medicine
02/18-06/21	Adjunct Associate Professor (non-voting)	Preventive Medicine	Northwestern University Feinberg School of Medicine, Chicago, MA
09/18-06/21	Adjunct Associate Professor (non-voting)	Medicine	UCSF School of Medicine
07/19-06/20	Member of the Faculty	Medicine	Harvard Medical School
07/21-01/22	Associate Professor	Medicine	Harvard Medical School
02/22-01/24	Associate Professor (on leave)	Medicine	Harvard Medical School
02/24-	Lecturer (Part-time)	Medicine	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

03/11-06/18	Physician	Cardiology Division	UCSF Moffitt Hospital, San Francisco, CA
03/11-06/18	Principal Investigator	Cardiovascular Research Institute	UCSF
07/11-06/18	Faculty Member	Institute for Human Genetics	UCSF
07/12-06/18	Affiliated Faculty	Computational Biology	California Institute for Quantitative Biosciences, San Francisco, CA
07/16-06/18	Faculty Member	Institute for Computational Health Sciences	UCSF
10/17-06/21	Faculty Member	Center for Digital Health Innovation	UCSF
07/18-present	Faculty Member	Cardiovascular Medicine	Brigham and Women's Hospital
07/18-present	Associate Physician	Cardiovascular Medicine	Brigham and Women's Hospital

Other Professional Positions

04/18-01/20	Consultant	Novartis Institute for Biomedical Research	2 days per year
11/18-06/20	Consultant	Pfizer	3 days per year
11/18-11/19	Consultant	Eko.ai	
06/20- 01/22	Consultant	Atman Health	20 days per year
01/21-04/21	Consultant	Caption Health	4 days per year
02/22 - present	Chief Medical Officer	Atman Health	full-time
02/22 - present	Chief Product Officer	Atman Health	full-time

Major Administrative Leadership Positions

Local

07/18-01/22 Chief Data Scientist, One Brave Idea BWH

Committee Service

Local

2011 - 2018	Member, Computational Biology Search Committee, Gladstone Institute of Cardiovascular Disease	UCSF
2012 - 2017	Member, Executive Committee, Institute for Computational Health Sciences	UCSF
2012 - 2012	Co-chair, Committee on IHG Seminar, Institute for Human Genetics	UCSF
2012 - 2013	Member, Faculty Candidate Search Committee, Institute for Human Genetics	UCSF
2012 - 2014	Member, Subcommittee for Genomic Medicine, Institute for Human Genetics	UCSF
2013 - 2013	Member, Planning committee for Joint UCSF-Lawrence Berkeley National Laboratory Meeting	UCSF
2013 - 2013	Member, Faculty Candidate Search Committee, Division of Medical Genetics	UCSF
2015-2016	Member, Inquiry Curriculum Deep Explore Working Group	UCSF School of Medicine
2012 - 2012	Qualifying Exam Committee - Brittany Gullledge, Chemistry and Chemical Biology Graduate Program	UCSF
2012 - 2012	Qualifying Exam Committee - Kevin Dumas, Biomedical Sciences Graduate Program	UCSF
2013-2013	Qualifying Exam Committee - Stephanie Parker, Biomedical Sciences Graduate Program	UCSF
2013-2016	Member, Genomic Medicine Initiative Informatics Implementation Group	UCSF School of Medicine

2013-2016	Member, Faculty Candidate Search Committee, Institute for Human Genetics	UCSF
2013-2018	Member of General Faculty Candidate Search Committee, Cardiovascular Research Institute	UCSF
2013-2015	Thesis Committee - Nina Gonzaludo, Pharmaceutical Sciences and Pharmacogenomics Graduate Program	UCSF
2015-2015	Qualifying Exam Committee - Yvanka De Soysa Biomedical Sciences Graduate Program	UCSF
2016-2016	Qualifying Exam Committee - Bonnie Cole, Biomedical Sciences Graduate Program	UCSF
2016 - 2016	Reviewer, Prescient TL1 Fellowship Program for Precision Health	UCSF
2016-2018	Member, Internal Medicine Internship and Residency Selection Committee	UCSF
2018	Chair, Computational Biology Search Committee, Department of Pediatrics	UCSF

National

2017	Heart Failure with Preserved Ejection Fraction Working Group	National Heart, Lung, and Blood Institute (NHLBI), Bethesda, MD
2018	Artificial Intelligence in Aging Research Working Group	National Institute on Aging (NIA), Bethesda, MD

Professional Societies

2003-2004, 2018-present	Massachusetts Medical Society	
2006-2009	American College of Cardiology	
2008-present	American Heart Association (AHA)	
	2014-2016	Member, Professional Education and Publications Committee, Functional Genomics & Translational Biology Council
	2014-2016	Member, Membership/Communications Committee, Functional Genomics & Translational Biology Council

Grant Review Activities

2014-2014	Cardiovascular Disease Grant Program	Fondazione Cariplo, Milan, Italy <i>Ad Hoc</i> Reviewer
2015-2015	Reviewer	RAPtr Committee - for Medical Student Research funding, University of California, San Francisco
2017-2017	Collaborative Award in Science	Wellcome Trust, London, UK <i>Ad Hoc</i> Reviewer
2019-2019	Programme Grant	British Heart Foundation, London, UK

2019-2019	New Investigator Research Grant	<i>Ad Hoc</i> Reviewer Medical Research Council, Swindon, UK
2019-2019	Fast-Start Research Program	<i>Ad Hoc</i> Reviewer Marsden Fund Council, Royal Society Te Apārangi, Wellington, NZ
2024	Small Business in Research: Health Services and Systems	<i>Ad Hoc</i> Reviewer National Institute of Health

Editorial Activities

Ad hoc Reviewer

Circulation
Circulation: Cardiovascular Genetics
Circulation: Cardiovascular Imaging
Circulation: Cardiovascular Quality and Outcomes
European Heart Journal
Genetics
Heart
Human Genetics
Journal of the American College of Cardiology
JACC: Cardiovascular Imaging
JAMA Cardiology
Journal of the American Society of Echocardiography
Nature Genetics
Nature Machine Intelligence
Nature Medicine
New England Journal of Medicine
Nucleic Acids Research
Pacific Symposium in Biocomputing
PLOS Computational Biology
PLOS Genetics

Other Editorial Roles

2014-present	Editorial Board	<i>Trends in Cardiovascular Medicine</i>
2016-2017	Editorial Board	<i>Circulation: Cardiovascular Genetics</i>
2016-present	Editorial Board	<i>Circulation: Cardiovascular Quality and Outcomes</i>
2017-present	Associate Editor	<i>Circulation: Genomic and Precision Medicine</i>

Honors and Prizes

1995	Governor General's Gold Medal	University of Ottawa	Top student receiving an undergraduate degree
1995	Plaque of the Department of Chemistry	University of Ottawa	Top student in the Chemistry Honors program
1995	Merck-Frosst Prize	University of Ottawa	Best Thesis in the B.Sc. Honors Chemistry Program

1995	Society of Chemical Industry Plaque	University of Ottawa	Highest standing in the B.Sc. Chemistry Honors Program
1995	Thomas L. Lapierre Award	University of Ottawa	Highest standing in the B.Sc. Honors Program
1995	Chemical Society of Canada Medal	University of Ottawa	Achievement in the field of Chemistry
2003	Yvette and Seymour Feil Prize	Weill Cornell College of Medicine	Academic excellence In Internal Medicine

Report of Funded and Unfunded Projects

Funding Information

Past

2006-2011	Health Disparities and CVD: Admixture Mapping in the Jackson Heart Study NIH/NHLBI R01 HL084107 Co-Investigator (PI: James G. Wilson) This project encompasses a genome wide admixture scan and follow-up fine-mapping studies designed to identify genetic determinants of cardiovascular disease in the African American population. It uses a technique of genome-wide scanning that requires a smaller number of genetic markers to determine regions of the genome that differ in frequency between African and European populations and are associated with disease.
2011-2016 NCE 2016-2017	Integrating Lipid Genotypes and Phenotypes in IPS Derived Hepatocytes/ Adipocytes NIH/NHLBI U01 HL107440-03 Multi-PI (Multi-PI: Chad Cowan, Robert Gerszten, Sekar Kathiresan, Vasam Ramachandran, Derrick Rossi) The goals of this project were to generate and characterize IPS-derived hepatocytes and adipocytes, thereby understanding the genetic determinants of lipid metabolism phenotypes.
2010-2015	Bioinformatic Approaches to Small Molecule Profiling of Cardiometabolic Disease NIH/NHLBI K08 HL098361 PI This project emphasized the use of bioinformatics techniques and metabolite profiling to advance the characterization and classification of cardiovascular disease.
2012-2013	A Mobile Image-Processing Based Application for Pill Identification. mHealth Translational Development Award, UCSF Resource Allocation Program / Clinical & Translational Science Institute (CTSI) PI This project involved developed a computer vision algorithm for recognition of pills based on visual appearance.

- 2013-2018 Resolving Incomplete Penetrance in the Cardiomyopathies and Channelopathies
NIH/NHLBI DP2 HL123228
Principal Investigator
We used massively parallel sequencing to characterize genetic variants that affect the expression of cardiomyopathy/channelopathy genes and evaluate their impact on modulating the severity of disease (penetrance) in patients.
- 2017-2018 Computer vision approaches to detect cardiotoxicity
UC Cancer Research Coordinating Comm. (UC CRCC) CRR-18-524535
Principal Investigator
This project was focused on devising automated methods to detect early signs of cardiac damage in patients receiving cardiotoxic chemotherapeutics.
- 2017-2018 Transcriptional Heart Maps for Deciphering Mechanism in the Inherited
Cardiomyopathies
American Heart Association - Innovative Research Award 17IRG33460152
Principal Investigator
We developed transcriptional profiles of chemical and genetic perturbations of zebrafish hearts to elucidate underlying disease mechanisms.
- 2019-2020 Algorithms for Detection of Mitral Valvular Disease
GE Health
Multi-PI (Multi-PI: Geoff Tison) (\$374,000 total direct costs)
Develop computer vision models for detection of mitral valvular disease.

Current

- 2017-2022 Redefining Coronary Heart Disease (One Brave Idea Award)
AHA/Verily/AstraZeneca/Quest Diagnostics
Co-investigator (PI: Calum MacRae)
A consortium to define novel approaches to coronary heart disease detection, discovery, therapy, and prevention.
- 2018-2023 Machine Learning for the Automated Identification and Tracking of Rare Myocardial
Diseases
NIH/NHLBI R01 HL140731
Multi-PI (Multi-PI: Rahul Deo, Sanjiv Shah)
Develop a computer vision approach to detecting and tracking patients with cardiac amyloidosis and hypertrophic cardiomyopathy.
- 2019-2024 Apple Heart and Movement Study
Apple/American Heart Association
Co-investigator (PI: Calum MacRae)
Develop a large prospective cohort and study novel biological sensors and their role in health tracking and event prediction
- 2021-2022 Clinical Trial for Seltorexant
Janssen
Co-investigator (PI: Calum MacRae)
Develop a synthetic control arm to complement traditional interventional trial.
Coordinate data science efforts across multiple institutions.

Projects Submitted for Funding

Training Grants and Mentored Trainee Grants

2011-2018	Molecular and Cellular Basis of Cardiovascular Disease NIH T32 HL007731 Faculty The major goal is to train research fellows on the molecular and cellular basis of cardiovascular disease. My role is to mentor trainees with an interest in inherited forms of heart failure and bioinformatics approaches.
2015-2017	Classifying cardiomyopathy mutations in the Titin gene using CRISPR/Cas9 site-specific genome engineering in zebrafish American Heart Association Postdoctoral Award Mentor of Jun Zou The major goal of this study is to characterize N- and C-terminal truncations of the Titin protein in zebrafish.
2015-2017	Function of a Novel Mutation in Cardiac Calsequestrin Sarnoff Foundation - Scholar Award Mentor of Erron Titus The major goal of this study is to characterize structural and biophysical properties of the cardiac calsequestrin protein and relate these to disease-producing mutants.
2017-2019	Cardiac Calsequestrin Filament Dynamics in Catecholaminergic Polymorphic Ventricular Tachycardia NIH F30HL137329 Mentor of Erron Titus The major goal of this study is to characterize structural and biophysical properties of the cardiac calsequestrin protein and relate these to disease-producing mutants.

Report of Local Teaching and Training

Teaching of Students in Courses

UCSF Graduate School of Biomedical Sciences

2011-2011	GEMS Introduction to Human Biology and Medicine Mini-Course Lecturer Graduate Students	UCSF One 2h lecture
2014-2014-	BMS225B – Investigating Human Biology and Disease Discussion Group Leader 1st year graduate students	UCSF 3 2-hr sessions
2015-2018	BMS 260 - Cell Biology Discussion Group Leader 1st year graduate students	UCSF 10 2hr sessions
2016 - 2018	BMS 255 Genetics - Mendelian Disease Lecturer 1st year graduate students	UCSF Two 80 minute lectures

UCSF School of Medicine

2013-2014	Clinical Application of Whole Genome Sequencing Preceptor 2nd year medical students	UCSF School of Medicine 2hr session
2013	Organs-Cardiovascular block Preceptor 2nd year medical students	UCSF School of Medicine 2hr session
2016	Mendelian and Complex Disease Lecturer 1st year medical students	UCSF School of Medicine One 60 minute lecture

HMS

2020	HST.956 Machine Learning for Healthcare Preceptor for 2 undergraduate students and 1 graduate student	Harvard-MIT Health Sciences and Technology (HST) 4 x 1hr sessions
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Formal Teaching of Residents, Clinical Fellows, and Research Fellows (post-docs)

2019	Journal Club Discussant Cardiology Fellows	BWH One 60-minute session
2020	T32 Journal Club, Training Program in Precision and Genomic Medicine	Partners HealthCare One 60-minute session

Clinical Supervisory and Training Responsibilities

2011-2018	Cardiology Attending on Ward and ICU Service 10 residents, fellows and students	UCSF Moffitt Hospital 4 weeks per year
2019-	Cardiology Attending on Ward Service 3 residents and students	BWH 4 weeks per year

Laboratory and Other Research Supervisory and Training Responsibilities

2012-2018	Supervision of postdoctoral research fellows	UCSF Daily mentorship
2018-present	Supervision of research technicians	BWH Daily mentorship
2018-present	Supervision of junior faculty	BWH Daily mentorship
2019-present	Supervision of postdoctoral research fellows	BWH Daily mentorship

Mentored Trainees and Faculty

2012-2015	Jason Roberts, MD / Assistant Professor, Medicine, University of Western Ontario, Canada <i>Career stage:</i> UCSF postdoctoral research fellow. <i>Mentoring role:</i> Mentor. <i>Accomplishments:</i> first-author publication in <i>Circ Cardiovasc Genet</i> .	
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2012-2017 Jun Zou, PhD / Senior Scientific Researcher, Genentech, San Francisco, CA
Career stage: UCSF postdoctoral research fellow. *Mentoring role:* Mentor.
Accomplishments: mentor for American Heart Association Postdoctoral Award; first-author publication in *eLife*

2013-2018 Christiana Yuan, BA/ Graduate Student, University of California, Los Angeles
Career stage: Research Technician. *Mentoring role:* Mentor.
Accomplishments: co- authored publication in *eLife*

2013-2016 Diana Tran, BS / Graduate Student, Weill Cornell Graduate School of Medical Sciences, New York, NY
Career stage: Assistant Specialist. *Mentoring role:* Mentor.
Accomplishments: co-authored publication in *eLife*

2013-2016 Angelo Pelonero, MS / Data Scientist, Gladstone Institutes, San Francisco, CA
Career stage: Junior Specialist. *Mentoring role:* Mentor.
Accomplishments: co-authored publication in *eLife*

2014-2014 Saeedeh Azary, MD, MPH / Neurology Resident, New York Presbyterian Medical Center, New York, NY
Career stage: UCSF postdoctoral research fellow. *Mentoring role:* Mentor.

2016-2018 Jeffrey Zhang, MS / Graduate Student, University of Illinois Urbana-Champaign, Urbana-Champaign, Illinois
Career stage: Research assistant. *Mentoring role:* Mentor.
Accomplishments: first author publication in *Circulation*, co-first-author publication in *Circ Cardiovasc Qual Outcomes*

2016-2017 Mandar Aras, MD, PhD / Assistant Professor, University of California San Francisco, San Francisco, CA
Career stage: UCSF postdoctoral research fellow. *Mentoring role:* Mentor.
Accomplishments: co-authored publication in *Circulation*

2016-2020 Erron Titus, PhD / UCSF
Career stage: UCSF MSTP Student. *Mentoring role:* Thesis advisor.
Mentor Accomplishment: mentor of Sarnoff Foundation and F30 award, first author manuscript on biorXiv, under review at *Nature Structure and Molecular Biology*

2016-2018 Geoff Tison, MD, MPH / Assistant Professor of Medicine, UCSF
Career stage: Assistant Professor. *Mentoring role:* research advisor.
Accomplishments: co-first-author publication in *Circ Cardiovasc Qual Outcomes*

2018- Andreas Werdich, PhD / Assistant Professor, Harvard Medical School, Boston, MA
Career stage: Assistant Professor. *Mentoring role:* Co-Mentor (with Calum MacRae).
Accomplishments: co-first author abstract accepted at AHA Scientific Sessions 2019

2018-2019 Caleb Warren, BS / Medical Student, University of California Los Angeles
Career stage: Research assistant. *Mentoring role:* Mentor.

2019- Shinichi Goto, MD PhD / Postdoctoral Fellow, Harvard Medical School, Boston, MA
Career stage: Postdoctoral Fellow. *Mentoring role:* Mentor.
Accomplishments: Kanae Foundation for the Promotion of Science Fellowship, three first author abstracts accepted at AHA Scientific Sessions 2019, 1st author manuscript published in *Nature Communications*

2019- Max Homilius PhD / Postdoctoral Fellow, Harvard Medical School, Boston, MA
Career stage: Postdoctoral Fellow. *Mentoring role:* Mentor.
Accomplishments: co-first-author abstract accepted at AHA Scientific Sessions 2019

2019- Jenine John MD / Postdoctoral Fellow, Harvard Medical School, Boston, MA
Career stage: Postdoctoral Fellow. *Mentoring role:* Mentor.

- 2019- Wandi Zhu PhD / Postdoctoral Fellow, Harvard Medical School, Boston, MA
Career stage: Postdoctoral Fellow. *Mentoring role:* Co-Mentor (with Calum MacRae).
Accomplishments: manuscript accepted at Science Translational Medicine
- 2019-2020 Alexander Blood MD / Clinical Fellow, Harvard Medical School, Boston, MA
Career stage: Clinical Fellow. *Mentoring role:* Co-Mentor (with Calum MacRae).
Accomplishments: co-authored abstract accepted at AHA Scientific Sessions 2019
- 2019-2020 Keitaro Mahara MD /Student, Harvard School of Public Health, Boston, MA
Career Stage: Graduate Student. *Mentoring role:* Practicum Adviser
- 2020-2021 Ryuichiro Yagi MD /Student, Harvard School of Public Health, Boston, MA
Career Stage: Graduate Student. *Mentoring role:* Practicum Adviser
- 2021-present Yusuke Yoshikawa MD /Student, Harvard School of Public Health, Boston, MA
Career Stage: Graduate Student. *Mentoring role:* Practicum Adviser

Local Invited Presentations

No presentations below were sponsored by outside entities.

- 2006, 2007 Primer in Medical Genetics, "Admixture Mapping" / Seminar Series
 Broad Institute of MIT and Harvard, Cambridge, MA
- 2013 Deciphering Genotype-Phenotype Relationships in Inherited Cardiovascular Disease /
 Grand Rounds
 Division of Cardiology, University of California San Francisco, San Francisco, CA
- 2017 Precision Medicine at the Extremes of Heritability / Grand Rounds
 Department of Medicine, University of California San Francisco, San Francisco, CA
- 2019 Doing more with less ... extending cardiovascular diagnostic interpretation beyond
 human ability / Paul Dudley White Society Meeting
 Division of Cardiology, Massachusetts General Hospital, Boston, MA
- 2020 Doing More with Less: deriving highly informative phenotypes from simple, scalable
 medical data / Broad Institute Cardiovascular Disease Institute Seminar Series
 Broad Institute, Cambridge, MA
- 2020 Doing More with Less: Seeking Pragmatic Applications of Artificial Intelligence in
 Cardiovascular Medicine / Grand Rounds
 Division of Cardiology, Brigham and Women's Hospital, Boston, MA
- 2020 Artificial Intelligence in Medicine
 4th Brigham and Women's Transatlantic Dialogues on Controversies in Contemporary
 Cardiology
 Division of Cardiology, Brigham and Women's Hospital, Boston, MA

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

No presentations below were sponsored by outside entities.

Regional

- 2016 Understanding the Role of the Titin Internal Promoter in Health and Disease / Seminar
Integrative Genetics and Genomics Graduate Group, University of California Davis,
Davis, CA
- 2019 Application of Machine Learning to Cardiac Imaging / seminar
Machine Learning for Healthcare graduate course
Massachusetts Institute of Technology, Cambridge MA

National

- 2011 SMP.304: Systems Biology Strategies in Models of Cardiovascular Disease / Panelist
American Heart Association Scientific Sessions, Orlando, FL
- 2015 Clinical Evaluation and Big Data/ Seminar
American Heart Association Scientific Sessions, Orlando, FL
- 2016 The *Titin* Internal Promoter: Discovery and Characterization / Seminar
Myofilament Meeting Satellite Conference: Titin and its binding partners Myosin
Binding Protein-C and Obscurin in health and disease, Loyola University Medical
Center, Maywood, IL
- 2016 A Primer on Unsupervised Learning / Seminar
American Heart Association Scientific Sessions, New Orleans, LA
- 2016 Is there anything to work on in the inherited cardiomyopathies? / Seminar
CIFAR research program in Genetic Networks, Santa Cruz, CA
- 2017 Precision Medicine at the Extremes of Heritability / Grand Rounds,
Cardiovascular Division, Washington University School of Medicine, Saint Louis, MO
- 2017 What is there left to work on in the inherited cardiomyopathies? / Seminar
Division of Cardiovascular Medicine, University of Pennsylvania, Philadelphia, PA
- 2017 Heart Failure with Preserved Ejection Fraction / Seminar
NIH/NHLBI Working Group, National Institutes of Health, Bethesda, MD
- 2018 Phenomapping in Heart Failure: Moving Past Ejection Fraction / Speaker
American College of Cardiology Annual Scientific Session, Orlando, FL
- 2018 How Deep is Your Phenotype? Integrating Biomarkers and Imaging in the Individual /
Seminar
American College of Cardiology Annual Scientific Session, Orlando, FL
- 2018 Taming the Silent Killer with Quantitative Metrics of Early Disease / Seminar
Department of Genetics, Mount Sinai Medical Center, New York, NY
- 2018 Deciphering the Circulating Proteome in Dilated Cardiomyopathy / Seminar
Novartis Institute for Biomedical Research, Cambridge, MA
- 2018 Automated Approaches to Resolving Cardiac Disease Heterogeneity/ Seminar
National Institute of Aging Working Group: Artificial Intelligence, National Institutes of
Health, Bethesda, MD
- 2018 Groundbreaking Studies in the Practice of Cardiovascular Medicine / Panelist
American Heart Association Scientific Sessions, Chicago, IL
- 2018 A Precision Approach to Heart Failure: Imaging and Data Analysis/ Seminar
American Heart Association Scientific Sessions, Chicago, IL
- 2019 Taming the Silent Killer with Automation / Seminar
Framingham Heart Study Academic Research Conference, Framingham, MA

- 2019 What's a machine good For ... an initial foray into applying machine learning to cardiovascular disease / Grand Rounds
University of Michigan Cardiology Grand Rounds, Ann Arbor, Michigan
- 2019 Doing more with less ... extending cardiovascular diagnostic interpretation beyond human ability / Seminar
University of Michigan, Michigan Integrated Center for Health Analytics and Clinical Prediction Seminar Series, Ann Arbor, Michigan
- 2019 Doing more with less ... extending cardiovascular diagnostic interpretation beyond human ability / Seminar
American Society of Echocardiography Scientific Sessions, Portland, OR
- 2019 Fully Automated Imaging Interpretation for Pulmonary Hypertension / Seminar
American Heart Association Scientific Sessions, Philadelphia, PA

International

- 2019 Machine Learning: Personalized Diagnosis and Therapy / Keynote Speaker European Commission's HUMAINT (Human behavior and Machine INTelligence) Symposium, Universitat Pompeu Fabra, Barcelona, Spain
- 2019 Automated and Interpretable Patient ECG Profiles for Disease Detection, Tracking, and Discovery / Invited Speaker
STAFF Symposium, Les Diablerets, Switzerland
- 2019 Applications of Artificial Intelligence to Cardiac Amyloidosis / Invited Seminar
80th National Congress of the Italian Society of Cardiology, Rome, Italy
- 2020 Applications of Artificial Intelligence to Cardiomyopathies / Invited Seminar
81th National Congress of the Italian Society of Cardiology, Rome, Italy
- 2021 Machine learning in medicine / Invited Seminar
82nd National Congress of the Italian Society of Cardiology, Rome, Italy
- 2021 Machine Learning in Medicine: Are We There Yet? / Invited Seminar
85th Annual Scientific Meeting of the Japanese Circulation Society

Report of Clinical Activities and Innovations

Licensure and Certification

- 2005 Massachusetts Medical License
- 2006 Certification, American Board of Internal Medicine (Internal Medicine)
- 2010 Certification, American Board of Internal Medicine (Cardiovascular Disease)
- 2011 California Medical License
- 2021 Certification, National Board of Physicians and Surgeons (Cardiovascular Disease)
- 2021 Certification, National Board of Physicians and Surgeons (Internal Medicine)

Practice Activities

2011-2018	Ambulatory Care	General Cardiology and Cardiovascular Genetics, UCSF Moffitt Hospital	One half-day sessions per week
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2011-2018	Inpatient Care	Cardiology Consults, Cardiac ICU, and General Cardiology, UCSF Moffitt Hospital	4 weeks per year
2019-	Inpatient Care	General Cardiology, BWH	4 weeks per year

Report of Technological and Other Scientific Innovations

“Training Cytometry Data to Redefine Disease Entities”	62/935.857 Provisional Patent BWH 2020-089	Describes the use of hematologic data to estimate cardiovascular disease risk.
“Scalable Cellular Physiology to Redefine Disease Entities”	62/935.859 Provisional Patent BWH 2020-090	Describes the use of hematologic data to define novel biological pathways and quantify their activity at the individual patient level.

Report of Scholarship

** denotes equal contribution; † denotes corresponding author*

Peer-reviewed publications in print or other media

Research investigations

1. **Deo RC**, Bonanno JB, Sonenberg N, Burley SK. Recognition of polyadenylate RNA by the poly(A)-binding protein. *Cell*. 1999;98(6):835-45. PMID: 10499800.
2. **Deo RC**, Sonenberg N, Burley SK. X-ray structure of the human hyperplastic discs protein: an ortholog of the C-terminal domain of poly(A)-binding protein. *Proc Natl Acad Sci U S A*. 2001;98(8):4414-9. PMID: 31849.
3. Khaleghpour K, Svitkin YV, Craig AW, DeMaria CT, **Deo RC**, Burley SK, Sonenberg N. Translational repression by a novel partner of human poly(A) binding protein, Paip2. *Mol Cell*. 2001;7(1):205-16. PMID: 11172725.
4. **Deo RC***, Groft CM*, Rajashankar KR, Burley SK. Recognition of the rotavirus mRNA 3' consensus by an asymmetric NSP3 homodimer. *Cell*. 2002;108(1):71-81. PMID: 11792322.
5. Collavoli A, Hatcher CJ, He J, Okin D, **Deo R**, Basson CT. TBX5 nuclear localization is mediated by dual cooperative intramolecular signals. *J Mol Cell Cardiol*. 2003;35(10):1191-5.
6. **Deo RC***, Schmidt EF*, Elhabazi A, Togashi H, Burley SK, Strittmatter SM. Structural bases for CRMP function in plexin-dependent semaphorin3A signaling. *EMBO J*. 2004;23(1):9-22. PMID: 1271659.
7. **Deo RC†**, Patterson N, Tandon A, McDonald GJ, Haiman CA, Ardlie K, Henderson BE, Henderson SO, Reich D†. A high-density admixture scan in 1,670 African Americans with hypertension. *PLoS Genet*. 2007;3(11):e196. PMID: 2077893.
8. **Deo RC†**, Reich D, Tandon A, Akyzbekova E, Patterson N, Waliszewska A, Kathiresan S, Sarpong D, Taylor HA Jr, Wilson JG†. Genetic differences between the determinants of lipid profile phenotypes in African and European Americans: the Jackson Heart Study. *PLoS Genet*. 2009;5(1):e1000342. PMID: 2613537.
9. Fejerman L, Haiman C, Reich D, Tandon A, **Deo RC**, John E, Ingles S, Ambrosone C, Bovbjerg D, Jandorf L, Davis W, Ciupak G, Whitmore A, Press M, Ursin G, Berstein L, Huntsman S, Henderson B, Ziv E, Freedman M. An Admixture Scan in 1,484 African American Women with Breast Cancer. *Cancer Epidemiol Biomarkers Prev*. 2009;18(11):3110-7.

10. **Deo RC**, Hunter L, Lewis GD, Pare G, Vasani R, Chasman D, Wang TJ, Gerszten RE, Roth FP. Interpreting Metabolomic Profiles using Unbiased Pathway Models. *PLoS Comput Biol*. 2010;6(2):e1000692. PMID: PMC2829050
11. Lewis GD, Farrell L, Wood MJ, Martinovic M, Arany Z, Rowe GC, Souza A, Cheng S, McCabe EL, Yang E, Shi X, **Deo R**, Roth FP, Asnani A, Rhee EP, Systrom DM, Semigran MJ, Vasani RS, Carr SA, Wang TJ, Sabatine MS, Clish CB, Gerszten RE. Metabolic signatures of exercise in human plasma. *Science Transl Med*. 2010;2(33):33ra37. PMID: PMC2829050.
12. Keebler M*, **Deo RC***, Surti A, Konieczkowski, Guiducci C, Burt N, Buxbaum SG, Sarpong DF, Steffes MW, Wilson JG, Taylor HA, Kathiresan S. Fine-mapping in African Americans of 8 Recently Discovered Genetic Loci for Plasma Lipids: The Jackson Heart Study. *Circ Cardiovasc Genet*. 2010;3(4):358-64. PMID: PMC3074173.
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Thesis

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