CURRICULUM VITAE

**THOMAS V. McDONALD, M.D.**

**Address:** University of South Florida Morsani College of Medicine

Heart Institute

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MDD 0612

Tampa, FL 33602, USA

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**Place of Birth:**  Pensacola, FL

**Personal:** Wife: Kami Kim, M.D.

Children: Clayton, Vaughan

**Degrees and Training:**

1974 - 1977 B.A. (Zoology), University of South Florida, Tampa, FL.

1977 - 1981 M.D., University of Florida College of Medicine, Gainesville, FL.

1981 - 1984 Intern and Resident, Medical Service,

Columbia-Presbyterian Medical Center, New York, NY

1984 - 1985 Research Fellow in Cardiology, Columbia University, New York, NY.

1985 - 1988 Fellow in Cardiology, Stanford University School of Medicine, Stanford, CA.

1988 - 1989 Fellowship Interventional Cardiology, Stanford University School of Medicine, Stanford, CA.

1989 - 1994 Post-doctoral research fellowship, Laboratory of Dr. Phyllis Gardner, Stanford University School of Medicine, Stanford, CA.

**Employment:**

1973 - 1974 Head Cook, Steak & Ale Restaurant, Winter Park, FL.

1988 - 1993 Attending Cardiologist, Stanford University Hospital Cardiac Catheterization Laboratory.

1995 - 2002 Assistant Professor of Medicine, Albert Einstein College of Medicine, Bronx, NY.

1997 - 2002 Assistant Professor (Joint) Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY.

2002 - 2007 Associate Professor of Medicine and (Joint) Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY

2007 - 2017 Professor Medicine and (Joint) Molecular Pharmacology, Albert Einstein College of Medicine, NY.

2008 - 2017 Co-Director Montefiore-Einstein CardioGenetics Clinic

2017-present Adjunct Professor of Clinical Medicine, Albert Einstein College of Medicine

2017 - present Professor (Tenured), University of South Florida Heart Institute – Department of Cardiovascular Sciences

2017 - present Director of CardioGenetics Clinic, University of South Florida, Morsani College of Medicine

2024 – Present Director, USF Health Heart Institute

2025-Present Vice-Chair for Research, Department of Internal Medicine, University of South Florida, Morsani College of Medicine

**Honors and Awards:**

1976 Phi Kappa Phi, University of South Florida

1977 Graduated summa cum laude, University of South Florida

1977 Deans List, University of South Florida

1980 Alpha Omega Alpha, University of Florida College of Medicine

1981 Lange Book Award, University of Florida College of Medicine

1981 Neurology Award, University of Florida College of Medicine

1990 Physician Scientist Award, NIH/NHLBI

1992 Upjohn Achievement Award for Cardiovascular Research

1996 American Heart Association, NYC Affiliate, Grant-in-Aid (declined)

1997 American Heart Association, NYC Affiliate, Grant-in-Aid

1998 Cancer Research Institute, Clinical Investigator Award in Cancer Immunology

2001 American Heart Association, NYC Affiliate, Grant-in-Aid

2003 American Heart Association, Established Investigator Award

2011 Fellowship in the American Heart Association, Basic Cardiovascular Sciences

2011 American Heart Association, Heritage Affiliate, Grant-in-Aid

2017 Member, Leo Davidoff Society, Albert Einstein College of Medicine

2024 USF Faculty Outstanding Research Achievement Award

**Certification:**

1989 Diplomat, American Board of Internal Medicine/Cardiology

1985 Licensed Physician, State of California, #G 54895

1984 Diplomat, American Board of Internal Medicine

1982 Licensed Physician, State of New York, #150974

1982 Diplomat, National Board of Medical Examiners

2018 Licensed Physician, State of Florida, #134718

## **Professional Societies:**

1982 Associate, American College of Physicians

1988 American Association for the Advancement of Science

1992 American Society for Cell Biology

1992 American Heart Association Council on Basic Science

1997    Biophysical Society

2002 American Society of Biochemistry and Molecular Biology

2007 Heart Rhythm Society

2019 Cardiac Electrophysiology Society

**Other Professional Activities:**

Peer review study sections:

American Heart Association: Northeast Consortium Study Group. 1998-2001, 2005

American Heart Association: National Scientific Sessions Abstract Reviewer. 2001-2004, 2006-2009

National Institutes of Health (NHLBI) CICS (formerly CCVS) study section, (7/2002, 11/2002, 7/2003. 11/2003, 3/2004)

National Institutes of Health (NHLBI) ESTA study section (Ad Hoc 6/2004, 6/2005, 6/2018) Regular member 2005-2009.

National Institutes of Health (NHLBI) Special Emphasis Panel ZRG1 CVS-P (3/2006)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-L, 9/2010, Chairman).

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-F, 1/2011)

National Institutes of Health/NIGMS (ZGM1 GDB-7 (CP)) (7/2013)

National Institutes of Health (ZRG1 BCMB-N 02 M), Member Conflict: Biochemistry & Macromolecular Biophysics (7/2013)

National Institutes of Health Special Emphasis Panel (ZRG1 BCMB-X (02) 4/2014)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-C (02) 8/2014)

National Institutes of Health Special Emphasis Panel—Biochemistry (ZRG1 MDCN-R (04) 4/2015)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-B (02) 7/2015)

National Institutes of Health Special Emphasis Panel—Biophysical Studies of Receptors, Channels, and Transporters (ZRG1 MDCN-G (04) 7/2015)

National Institutes of Health (NHLBI) ESTA study section (Ad Hoc 6/2004, 6/2005, 4/2016, 6/2018, 10/2018), Regular member 2005-2009.

National Institutes of Health (NHLBI) Member Conflict: Cardiovascular Disorders-Special Emphasis Panel (9/2015, 10/2016, 3/2017)

National Institutes of Health Special Emphasis Panel (ZRG1 CBJ70, 2/2019)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-C 3/2020)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-C 7/2020)

National Institutes of Health Special Emphasis Panel (ZRG1 CVRS-C 10/2020)

Friedreich’s Ataxia Grant reviewer 2023, 2024

Journal Review:

Editorial Board:

Associated Editor for Basic Science, Pacing and Cardiac Electrophysiology (PACE) 2012-2019.

Ad hoc reviewer for:

American Journal of Cardiology

American Journal of Physiology

Biochimica et Biophysica Acta

Biochemical and Biophysical Research Communications

Biophysical Journal

BMC-Medical Genetics

British Journal of Medicine and Medical Research

British Journal of Pharmacology

Cardiovascular Research

Case Reports in Medicine

Cell Biochemistry and Biophysics

Circulation: Arrhythmia and Electrophysiology

Circulation: Genomic and Precision Medicine

Circulation Research

Expert Review of Clinical Pharmacology

FASEB Journal

FEBS Letters

Frontiers in Pharmacology of Ion Channels and Channelopathies

Frontiers in Physiology

Future Medicinal Chemistry

Heart and Vessels

International Journal of Molecular Sciences

Journal of the American College of Cardiology (JACC)

Journal of the American Heart Association (JAHA)

Journal of Biological Chemistry

Journal of Cardiovascular Electrophysiology

Journal of Clinical Investigation

Journal of Membrane Biology

Journal of Molecular and Cellular Cardiology

Journal of Molecular Biology

Journal of Molecular Histology

Journal of Neurophysiology

Journal of Pharmacology and Experimental Therapeutics

Journal of Physiology (London)

Metabolism

Molecular and Cellular Biology

Molecular Interventions

Molecular Pharmacology

Nature Communications

Neuron

New England Journal of Medicine

Pacing and Cardiac Electrophysiology (PACE)

PLoS-ONE

PLoS-Neglected Tropical Diseases

External Advisory Activities:

* Nora Eccles Treadwell Foundation grant reviewer 2002-4
* Science Foundation Ireland (SFI) Site Review Assessment 2009
* ad hoc Promotion &Tenure Advisory Subcommittee Weill Cornell Medical College 2010.

**Invited Talks:**

* “Molecular mechanisms of Long QT Syndrome”. Division of Cardiovascular Medicine, Stanford University, Stanford, CA. January 1996
* “Regulation of the human cardiac K+ channel HERG”. Department of Pharmacology, Columbia University, New York, NY. May 1997
* “Protein-protein Interactions Regulating the HERG K+ Channel. Division of Cardiology and Physiology & Biophysics, Mt. Sinai School of Medicine, New York, NY, April 1998
* “Potassium channel structure and subunit interactions” Invited talk, American Heart Association Scientific Sessions 2001.
* "Novel HERG Channel interactions: potential plasticity in cardiac stress responses" New York University School of Medicine, Department of Physiology. December 2001
* “HERG Channel 14-3-3 Interaction: teaching the heart to remember”. Department of Physiology and Biophysics. UMDNJ, Piscataway. March 27, 2002
* “Teaching the heart to remember: ion channel interactions” Harvey Mudd College, Pomona, CA. February 2002.
* "The Biophysics, Pharmacology, and Molecular Biology of T-lymphocyte calcium entry". Bristol-Myers Squibb, Department of Immunology, Princeton, NJ. September 2002.
* "From sudden death to structure - living and dying with K channel subunits." Internal Faculty Seminar, AECOM, October 2002.
* “K Channel Subunits and Sudden Death”. Department of Biology, Ithaca College, December 4, 2003.
* “Dynamic control of hERG activity by cAMP, PKA and interactions with 14-3-3”. Novartis Foundation Symposium, London, May 5, 2004.
* "Adrenergic Modification of Channels in the Long QT Syndrome" Cornell University School of Medicine, Cardiology Grand Rounds, June 9, 2004.
* “The Long QT Syndrome: Genes & Drugs” Albert Einstein College of Medicine/Montefiore Medical Center, Medical Grand Rounds, October 14, 2004.
* “What Practicing Cardiologists Should Know About Basic Cardiac Electrophysiology: Bench-to-Bedside”. Albert Einstein College of Medicine-Weiler/Montefiore Hospital/Cardiology Fellows Lecture December 6&20, 2004.
* “The Long QT Syndrome: Clinical Correlates of Basic Research”. Albert Einstein College of Medicine, Medical Resident’s Noontime Seminar. January 20, 2005.
* “Regulation of HERG channels by cAMP/PKA” Department of Physiology, University of Medicine and Dentistry of New Jersey, Newark. February 2007.
* “Adrenergic regulation of the HERG potassium channel” Cardiology Grand Rounds, NYU School of Medicine, March 15, 2007
* “Adrenergic regulation of HERG/IKr”. Department of Pharmacology, Columbia University, New York, NY. March 2008
* “The Einstein-Montefiore CardioGenetics Clinic: A Multidisciplinary Approach to Sudden Cardiac Death”. Kennedy Center Seminars in Translational Neurogenetics, AECOM. March 2009
* “Sudden Death in the Young with a ‘Normal’ Heart”. Cardiovascular Science at the Heart of Medicine, Einstein Alumni Association Seminar. May 2009.
* “Ion Channel Defects in SIDS/SUDS”. Grand Rounds, the Office of Chief Medical Examiner, New York City. May 2009.
* “CardioGenetics Clinic for Workup, Counseling and Treatment of SIDS/SUDS”. Montefiore/Einstein Pediatrics Alumni Day Seminar. October 2009.
* “Protein-Protein Interactions and Modulation of Repolarizing Currents”. American Heart Association Scientific Sessions special educational session: Action Potential Repolarization: From Molecular to Clinical. November 2009.
* “Ion Channel Defects in SIDS/SUDS”. CHaM Pediatric Heart Center Grand Rounds. January 2010.
* “HERG channel regulation, Long QT and beyond”. Cardiovascular Research Seminar, Beth Israel Deaconess Medical Center, Harvard Medical School. May 2010.
* “Cardiac K+ channel regulation: Long QT and beyond”. Internal Faculty Seminar, AECOM, May 2010.
* "Regulation of HERG channel bio-processing" Hengstberger Symposium: The Long QT Syndrome – From Molecular Mechanisms to Arrhythmias, Heidelberg, Germany, October 2010.
* “Hereditary Arrhythmias: An Update on the Einstein-Montefiore CardioGenetics Program” Montefiore-Einstein, Cardiology Grand Rounds. May 24, 2011.
* “IKs: Probing the interaction of KCNQ1 and KCNE1” Cardiovascular Research Center, Rhode Island Hospital/Brown University School of Medicine. January 26, 2012
* “Hereditary Arrhythmias: Einstein-Montefiore Cardiogenetics Program” Jacobi Medical Center, Medical Grand Rounds, May 2012
* “Genetics of Cardiac Arrhythmias and Sudden Death” New York State Genetics Task Force Meeting (at NYU) September 2012.
* “The role of Cardiogenetics in Hereditary Sudden Death Syndromes” NY City Office of Chief Medical Examiner Grand Rounds, December 2012
* “Non-coding data in HERG mRNA control channel synthesis and trafficking efficiency” At the FASEB Science Research conference—Ion Chanel Regulation conferences, Bahamas, June 2013
* “Extra-coding data in hERG mRNA: Influence on channel synthesis and trafficking” IWH- symposium Identification of novel antiarrhythmic strategies. University of Heidelberg, Germany, September 2013
* “Extra-coding information in mRNA: regulation of hERG channel synthesis and trafficking” University of Iowa School of medicine Division of Cardiology December 2014
* “Extra-coding information in mRNA: regulation of hERG channel synthesis and trafficking” Cardiovascular Research Center, Brown University School of Medicine, February 2015
* “Cardiogenetics Clinic: A model for personalized diagnostics and precision medicine.” University of Alabama-Birmingham, Cardiology Grand Rounds, May 2015
* “Cardiogenetics Clinic: A model for personalized diagnostics and precision medicine.” Dartmouth School of Medicine Medical Grand Rounds. June 2015
* “Cardiogenetics Clinic: A model for personalized diagnostics and precision medicine.” North Shore Long Island Jewish Medical Center Medical Grand Rounds. January 2016.
* “Cardiogenetics Clinic: A model for personalized diagnostics and precision medicine: a Bronx experience” NYU School of Medicine, Cardiology Grand Rounds April 2016.
* “Synonymous codon variations impact translation and folding of the Long QT channel hERG” University of South Florida College of Medicine. March 2017.
* “Cardiogenetics at USF” Department of Pediatrics Grand Rounds, USF, Tampa, FL November 2018
* “Cardiac Genetics at USF” Department of Medicine Grand Rounds USF, Tampa, FL, February 2019
* “Clinical cardiogenomics: Patience matters to Patients” USF Genomics Annual Symposium Personal Genomics, November 15th, 2019.
* Heart Disease in Friedreich’s Ataxia (FA-HD)” Annual Friedreich’s Ataxia Research Alliance Symposium October 2023.
* “Cardiogenetics at USF: Update” USF/TGH HVI November 2023
* “Modeling Monogenic Cardiomyopathies with patient-specific iPSCs” USF-Health Heart Institute Seminar Series, May 2024
* “A multi-modal approach to evaluate a genotype-negative Long QT Syndrome family” Florida Association of Genetic Counselors (FLAGC) Annual Education Conference, May 2024
* “Genetic implications in HCM” TGH/USF Hypertrophic Cardiomyopathy Support Group. July 2024.
* “Heart Disease in Friedreich’s Ataxia (FA-HD)-Upate” Annual Friedreich’s Ataxia Research Alliance Symposium December 2024.

**Meeting Presentations/Session Chair 2000-present:**

• “Potassium channel structure and subunit interactions” American Heart Association Scientific Sessions 2001.

• “Voltage-Gated K+ Channels: Regulations & Modulation" at the 2007 Annual Meeting of the Biophysical Society 2007.

• “Signaling and Regulation of Cellular Electrophysiology.” American Heart Association Scientific Sessions 2009.

**Teaching:**

• Medical Student 1st-year Physiology (Albert Einstein College of Medicine): Yearly Lectures “Cell membrane, transport proteins, and ion channel structure” and “Genetic diseases of ion channels”. 2010-2017

• Medical Student 1st-year Pharmacology (Albert Einstein College of Medicine): Yearly Lectures—“Local anesthetics”, “Autonomic Nervous System-Introduction” & “Cholinergic Receptors”.

• Co-Director 1st-year Pharmacology Course (Albert Einstein College of Medicine). 2010-2017

• Case-based Conference Facilitator (Albert Einstein College of Medicine): (1st year Physiology, 1st-year Pharmacology, and 2nd-year Cardiovascular Physiology). 2000-2017

• Molecular Pharmacology Graduate Course “Signal Transduction” Lecture on Ion Channels (Albert Einstein College of Medicine) 2006-2014

• Lecture (“Patient-specific iPSCs in clinical genetics evaluation”) Graduate Genetics Course (Albert Einstein College of Medicine): Topics in Advanced Mammalian Genetics. 2016

• “Introduction to ECG Analysis” MD/PhD students (Albert Einstein College of Medicine), one lecture per year 2012-2017.

• Clinical supervisor of students in Outpatient M.D./Ph.D. Student Continuity Clinic, Jacobi Hospital. 2005-2017

• Critical Readings for Molecular Biologists, (Albert Einstein College of Medicine), Spring 2004, 2005.

• Cardiology Fellows Lecture on Ion channels and arrhythmias Albert Einstein College of Medicine (2 Yearly lectures). 2000-2017

• Sudden Cardiac Death Genetics of Cardiomyopathies and Channelopathies 4th year Medical student Lectures USF, Morsani College of Medicine (2 lectures/year) “Cardiac Genetics in Sudden Death” and “Patient Counseling Session” 2018-present

• USF-MD/PhD Journal Club, faculty supervisor, monthly meeting” 2021-present

**Clinical Service:**

• In-patient Cardiology Attending Weiler/Montefiore Hospital, 6-8 weeks/year 1997-2017

• Consultative Cardiology Attending Weiler/Montefiore Hospital, 6-8 weeks/year 1997-2017

• CCU Attending, Weiler/Montefiore Hospital, 1-month/year 1997-2017

• EKG Associates, Weiler/Montefiore Hospital, 1997-2017

• Outpatient, General Medical Continuity Clinic (MSTP), Jacobi Medical Center, 1998-2016

• Co-Founder/Co-Director Montefiore-Einstein CardioGenetics Program 2008-present

• Member of Einstein/Montefiore Combined Genetics Group 2008-2014

• Founder/ Director USF Cardiogenetics Clinic 2018-present

• Consultative Cardiology Attending, TGH 6-8 weeks/year 2018-present

• CCU Attending, TGH 2-3 weeks/year 2018-present

**Educational Service:**

Graduate Qualifying Examination and Advisory Committees:

2000 Sarah Freidman (Molecular Genetics)

2002-3 Scott Woodman (Lisanti Laboratory, Molecular Pharmacology)

2001-4 Vicky Paroder (Carrasco Laboratory, Molecular Pharmacology)

2002 Jenny Yip (Backer Laboratory, Molecular Pharmacology)

2002 Dongying Li (Rubin Laboratory, Molecular Pharmacology)

2003 Alex Cohen (Lisanti Laboratory, Molecular Pharmacology)

2003 Lu Chen (Rubin Laboratory, Molecular Pharmacology)

2003- Mia Reed (Carrasco Laboratory, Molecular Pharmacology)

2003-5 Christian Faul (Mundel Laboratory, Anatomy & Structural Biology)

2003 Chun-Yue Geoff Lau (Zukin Laboratory, Neuroscience)

2004 Justin Sher (Evans Laboratory, Developmental Biology)

2004- Pei-wen Chen (Kroog Laboratory, Molecular Pharmacology)

2004 Louis Nkrumah (Jacobs Laboratory, Microbiology & Immunology)

2004 Yu Min (Fidock Laboratory, Microbiology & Immunology)

2004 Opeyemi Olabisi (Chow Laboratory, Molecular Pharmacology)

2005 Yasmin Edwards (Edelman Laboratory, Cell Biology)

2005 Linchao Lu (P. Stanley Laboratory, Cell Biology)

2005 Sunyata Smith (Auborn Laboratory, Microbiology & Immunology)

2005 Hyungbae Kwon (Castillo Laboratory, Neuroscience)

2005 Dongying Li (Rubin Laboratory, Molecular Pharmacology)

2006 Rachel Ross (Rossetti Laboratory, Molecular Pharmacology)

2006 John Elrod (Lefer Laboratory, Pathology)

2007 Glicella Salazar-De Simone (Carrasco Laboratory, Molecular Pharmacology)

2007 Diana J Davila (Carrasco Laboratory, Molecular Pharmacology)

2007-09 Ersin Selcuk Unal (Goldman Laboratory, Molecular Pharmacology)

2007-11 Jo Choi (Wolkoff Laboratory, Department of Anatomy & Structural Biology)

2007 Xiaoling Guo (Zhang Laboratory, Molecular Pharmacology)

2008-11 Carla Portulano (Carrasco Laboratory, Molecular Pharmacology)

2008-11 Monica Paroder (Carrasco Laboratory, Molecular Pharmacology)

2008 Marina Khrapunovich (Horwitz Laboratory, Molecular Pharmacology)

2009 Russ Whelan (Kitsis Laboratory, Cell Biology)

2009-13 Jon Wardman (Fricker Laboratory, Molecular Pharmacology)

2010-14 Eshwar Udho (Finkelstein Laboratory, Biophysics & Physiology)

2012-15 Mohammed Bhuiyan (Poget Laboratory, CUNY-Staten Island)

2018-19 Reka Muller (USF, Genetic counselling program)

2022-23 Dylan Allen (USF, Genetic counseling program)

2022-24 Elizabeth Traverse (USF, Barr Laboratory, College of Public Health)

2022- Elena Forzi (Rutgers, Sesti Laboratory, Neuroscience & Cell Biology)

2022- Monica Moore (Lockwood Laboratory, USF)

2024- Jacob Connolly (Schilaty Laboratory, Neuroscience, USF)

2025- Derek Jacobs (Porterfield Laboratory, USF)

Graduate Thesis Defense Committees:

1998 Lisa Senzel (Finkelstein Laboratory, Neuroscience)

2000 Amnon Schlegel (Lisanti Laboratory, Molecular Pharmacology)

2001 Babak Razani (Lisanti Laboratory, Molecular Pharmacology)

2001 Michael Gordon (Finkelstein Laboratory, Neuroscience)

2002 Claudia Reidel (Carrasco Laboratory, Molecular Pharmacology)

2002 Will Schubart (Lisanti Laboratory, Molecular Pharmacology)

2003 Scott Woodman (Lisanti Laboratory, Molecular Pharmacology)

2003 Utpal Pavani (Scherer Laboratory, Cell Biology)

2004 Yong-Jae Nam (Kitsis Laboratory, Cell Biology)

2004 Ming Chen (Rubin Laboratory, Molecular Pharmacology)

2005 Christian Faul (Mundel Laboratory, Anatomy & Structural Biology)

2005 Vicky Paroder (Carrasco Laboratory, Molecular Pharmacology)

2006 XiaoYong Yang (Chow Laboratory, Molecular Pharmacology)

2007 Opeyemi Olabisi (Chow Laboratory, Molecular Pharmacology)

2007 John Elrod (Lefer Laboratory, Pathology)

2007 Mia Reed (Carrasco Laboratory, Molecular Pharmacology)

2007 Ya Wang (Rubin Laboratory, Molecular Pharmacology)

2007 Pei-Wen Chen (Kroog Laboratory, Molecular Pharmacology)

2008 Dongying Li (Rubin Laboratory, Molecular Pharmacology)

2008 HeeYun Suk (Chow Laboratory, Molecular Pharmacology)

2008 Xiaoling Guo (Zhang Laboratory, Molecular Pharmacology)

2008 Rachel Ross (Schwartz & Rossetti Laboratories, Molecular Pharmacology)

2009 Ersin Selcuk Unal (Goldman Laboratory, Molecular Pharmacology)

2010 Galyna Sidyelyeva (Fricker Laboratory, Molecular Pharmacology)

2010 Monica Paroder (Carrasco Laboratory, Molecular Pharmacology)

2011 Jo Choi (Wolkoff Laboratory, Department of Anatomy & Structural Biology)

2011 Carla Portulano (Carrasco Laboratory, Molecular Pharmacology)

2011 Glicella Salazar-De Simone (Carrasco Laboratory, Molecular Pharmacology)

2011 Erin Harleton (Robinson Laboratory, Pharmacology, Columbia University)

2011 Jon Wardman (Fricker Laboratory, Molecular Pharmacology)

2012 Eshwar Udho (Finkelstein Laboratory, Biophysics & Physiology)

2019 Reka Muller (USF, Genetic counselling program)

2023 Dylan Allen (USF, Genetic counseling program)

2024 Monica Moore (Lockwood Laboratory)

2024 Elizabeth Traverse (USF, Barr Laboratory, College of Public Health)

External PhD thesis examiner:

2011 Erin Harleton (Richard Robinson Laboratory, Dept. Pharmacology, Columbia University)

**University Service:**

• LCME Institutional Task Force, Subcommittee VI (C) Resources: Faculty. 1998-1999.

• Department of Molecular Pharmacology, Graduate Student/Postdoctoral Improvement/Oversight Committee 2000-2001.

• Graduate Student Thesis Committee for Departments of Molecular Pharmacology, Cell Biology, Anatomy & Structural Biology, and Neuroscience. 2004

• Member, Committee for Graduate Student Academic Affairs/Performance. 2001-present

• Chairman, Graduate Student Recruitment Committee, 2001-2003

• Faculty Discussion Leader for Summer Undergraduate Research Program 2002, 2003, 2004

• Member, Academic Promotions Committee, AECOM 2003

• Co-Chairman, Academic Promotions Committee, AECOM 2004

• Chairman, Academic Promotions Committee, AECOM 2005

• Member Graduate Student Qualifying Exam Committee 2002-2008

• Faculty Senate member, 2002-2006

• Search Committee, Pediatric Cardiology Chief 2004

• Sub-Committee to Review Promotions Policy Proposal 2004

• Faculty Search Committee. Department of Molecular Pharmacology 2007

• Search Committee: C.E.R.C. Scientific Director 2008

• Co-Chair Medical School Admissions Committee 2009-present

• Co-Director Montefiore-Einstein CardioGenetics Program 2008-present

• LCME Institutional Task Force, Subcommittee III Medical Students—Admissions. 2014.

• Director, USF-Cardiogenetics Program, 2018-present.

• Member, USF MD-PhD Executive Advisory Committee, 2020-present.

• USF-Health Heart Institute Director 2024-present.

**Current funding:**

Title “Mechanisms, Markers, and Risk Factors in Friedreich's Ataxia Heart Disease (FA-HD)”

PI: Thomas McDonald (25% effort commitment).

Partnering PIs: Kami Kim, MD, Sami Noujaim, PhD, Aarti Patel, MD

USAMRAA, FY22 PRMRP

Program Announcement # W81XWH-22-PRMRP-FPA

Proposed budget: $ $5,680,964 over 4 years

Title “Pleiotropy in LMNA‐associated Arrhythmogenic Cardiomyopathy”

PI: Thomas McDonald (20% effort)

NIH/NHLBI 1R56 HL159146 ‐ 01A1

Proposed budget: $568,704 (one year, on i-year NCE)

W. Paul Hoenle Foundation “Stemcell-based Modeling of Hereditary Cardiomyopathy” 2020-2024

PI: Thomas McDonald

USF COVID-19 Rapid Response Research Grants “SARS-CoVid-19 tissue-specific susceptibility in different ethnic backgrounds” 2020-2024

PI: Thomas McDonald

NIH/NIEHS R01ES032099: “Cardiac toxicity of flavorings in electronic nicotine delivery systems”

Major Goals: To investigate if the inhalation exposure to flavorings that are found in vaping products adversely affect the ventricular electrophysiology.

(09/2020-08/2025)

PD/PI: Sami Noujaim (McDonald, Collaborator)

NIH/NHLBI R01ES032099 “Remodeled airway irritant reflexes as a cause of serious cardiovascular events”

(01/2021-12/202)

PD/PI: Thomas Taylor-Clark (McDonald, Collaborator)

American Heart Association (24CDA1271837) “Hematopoietic Stem Cell Specific MYC Expression as a Driver of Cardiovascular Disease in Myelofibrsis”

4/1/2024 – 3/331/2027

Co-mentor Co-sponsor (Trainee: Dr. Dae-Hyun Lee)

**Pending Applications:**

**Completed grants:**

NIH/NHLBI: 1 R01 HL 57388-01A1 “Cardiac K+ Channel Gene Interactions and Arrhythmias” Principal Investigator: T. McDonald, 1998-2002.

Irma T. Hirschl Career Scientist Award. . PI: T. McDonald 2007-2012

Cancer Research Institute: Clinical Investigator Award in Cancer Immunology: “Calcium Signal Dynamics and Lymphocyte Activation”. Principal Investigator: T. McDonald, 1998-2002.

Burroughs Wellcome Fund: New Initiatives in Malaria Research. “K+ Channels as Therapeutic targets in Malaria. Principal Investigator: T. McDonald, 1999-2001.

American Heart Association (NY Affiliate) Grant-in-Aid. “KCNE Gene Family Regulation of Cardiac Potassium Channels” Principal Investigator: T. McDonald 2001-2004.

American Heart Association (NYC Affiliate) Post-doctoral Fellowship Award “Second Messenger Regulation of Cardiac Delayed Rectifier K+ Channels” Trainee: J.Bian. 2001-2003. (Sponsor/Advisor; T. McDonald).

Peer Reviewed Research Program, Department of Defense. “Novel Leishmania and Malaria Potassium channels: Candidate Therapeutic Targets”. Principal Investigator: T. McDonald, 2002- June 2005.

American Heart Association (NYC Affiliate) Post-doctoral Fellowship Award. “The molecular basis for adrenergic modulation of KCNH2 channel in heart.” Trainee: Yan Li, Ph.D., (Sponsor/Advisor: T. McDonald). 7/2005-6/2006

NIH/NCI: SBIR 1 R43 CA106112-01 "In vitro Assay-Based Predictive K+ Channel Modeling"

Principal Investigator: Scott Perschke (Novascreen Biosciences) Co-investigator: T. McDonald.

NIH/NHLBI: 1 R01 HL075615 “Analysis of minK and MiRP Regulation of Cardiac K Channels.” Principal Investigator: T. McDonald . 1/2004-12/2007

American Heart Association (National) Established Investigator Award “Cardiac Delayed Rectifier K+ channels: interactions between - and -subunits.” Principal Investigator: T. McDonald 2003-2008

NIH/NHLBI: 1 R01 HL077326-01 “Adrenergic Regulation of HERG Protein.”

Principal Investigator: T. McDonald. 7/2004-6/2008.

NIH: 1F30HL096296-01 “STRUCTURE-FUNCTION ANALYSIS OF CARDIAC KCNQ1 K+ CHANNEL INTERACTIONS WITH KCNE1”

P.I.: Jerri Chen

Mentor: Thomas McDonald

NIH: 1F30HL096279-01 “GPCR-BASED REGULATION OF THE HERG POTASSIUM CHANNEL BIOSYNTHESIS AND FUNCTION”

P.I. Yamini Krishnan

Mentor Thomas McDonald

NIH/NHLBI: 1 R01 HL093440-01A1 “Structure-function analysis of KCNE interactions with cardiac channel KCNQ1”

PI: Thomas McDonald. 3/2010-2/2014

Modeling and Pharmacologic Treatment of Autism Spectrum Disorders in Drosophila.

Funding agency: Autism Speaks. PI: TV McDonald (co-PI SMJ McBride) 2007-2010

AHA: Grant-in-Aid: 11GRNT5480008 “Post-transcriptional regulation of KCNH2 channel processing”

P.I.: Thomas McDonald (1/2011 – 12/2013)

Human Genetics Pilot Project: Exome/Genome analysis of cardiac sudden death. (Albert Einstein College of Medicine, Department of genetics) 2011-2017

NIH: 1RC1HL100756-01 “ETHICAL & SOCIAL IMPLICATIONS OF GENETIC TESTING IN THE CASE OF UNEXPECTED DEATHS”

P.I.: Siobhan Dolan

Co-Investigator: Thomas McDonald

NIH/NHLBI: 1R01HL118437-01 “Functional implications of non-coding data in HERG mRNA: implications for LQTS”

P.I. McDonald (4/2014 – 3/2018) No cost extension to 3/2019

NIH/NHLBI: F30 HL126283-01A1 “Extra-coding features of mRNA are essential for hERG channel function”

P.I.: Marika Osterbur (Sponsor/Advisor: T. McDonald) (9/2015-8/2019)

NIH/NHLBI: 1R21HL120782-01 “Large-scale functional phenotyping of ion channel arrhythmia genomic variants” (7/2014 – 6/2016(R21) – 6/2019(R33)) No Cost extension to 6/2020

P.I. McDonald

NIH/NHGRI U01 HG009610-01(RFA-HG-16-010 U01): Clinical Sequencing Evidence-Generating Research (CSER2) “Incorporating genomics into the clinical care of diverse NYC children”

(June/2017 – May/2022)

P.I.: Eimear Kenny/M. Wasserstein (McDonald, Collaborator)

**Research Studies Involving Human Subjects:**

2018 – Present:

Role: Site Principal Investigator

Sponsor : Array BioPharma-Pfizer

CRO: PPD Investigator Services, LLC

“A Phase 3, Multinational, Randomized, Placebo-controlled Study of ARRY-371797 in Patients with Symptomatic Dilated Cardiomyopathy Due to a Lamin A/C Gene Mutation”

2021-Present:

Role: Site Principal Investigator

Sponsor : Bristol-Myer-Squibb/MyoKardia

MYK-491-006 “An Open-Label, Exploratory Study of the Safety and Preliminary Efficacy of Danicamtiv in Stable Ambulatory Patients with Primary Dilated Cardiomyopathy Due to Either MYH7 or TTN Variants”

2022-present:

Role: Principal Investigator

Sponsor: Bristol-Meyer-Squibb

BMS CV027-031 “A Randomized, Double-blind, Placebo-controlled Clinical Study to Evaluate Mavacamten in Adults with Symptomatic Nonobstructive Hypertrophic Cardiomyopathy”

**Full-Time Laboratory Personnel**

Cierra Koehring, lab technician 2023-present

Faiza Siddiq, PhD, Research Associate, 2024-present

**Part-Time Laboratory Personnel**

Allison Dumitriu Caroana, USF-Medical student 2021-present

Kayla Santopeitro, Post-graduate laboratory volunteer

John Bancroft, USF undergraduate BS/MD 7-year program

**Previous Trainees**

Postdoctoral trainees:

Zhen, Ming M.D.

Post-doctoral fellow 1995-1996, Current: at Univ. North Carolina, Chapel Hill.

Cui, Jie Ph.D.

Post-doctoral fellow 1998-2003. Current: Principal Scientist at Lexicon Biotech, Woodlands, TX.

Andrew Krumerman M.D.

Post-doctoral fellow 2000-2003. Cardiology Fellow Einstein/Montefiore 2003-2005; Electrophysiology Fellow Columbia University 2005-2006; Current: Professor of Medicine, Albert Einstein College of Medicine, Division of Cardiology.

Jinsong Bian Ph.D.

Post-doctoral Fellow, 2000-2003, (Recipient, AHA Post-doctoral fellowship award). Current: Professor (Chairman) Department of Pharmacology, School of Medicine, Southern University of Science and Technology, China.

Karena Waller, Ph.D.

Research Associate July 2002-December 2005 Current: tenured Lecturer University of Melbourne, Australia

Vlad Cotarlan, M.D.

Visiting fellow 2003-2005 Current, Associate Professor, University of Cincinnati, Cardiology Division.

Yan, Li, Ph.D.

Post-doctoral Fellow, 2003-2007 (Recipient, AHA Post-doctoral fellowship award) Current: Consultant for Lundbeck-USA Pharmaceuticals

Sung Yon Um, Ph.D.

Post-doctoral Fellow 2003-2008 Current: Research Scientist NYC, Office of Chief Medical Examiner, Department of Molecular Forensics.

Jian Chen, M.D., Ph.D.

Post-doctoral Fellow 2004-2010 Current: Scientist at Labcorp

Mike Weber, M.D.

Cardiology Fellow 2008-2010 Current: Cardiac Electrophysiologist at Heart Rhythm Consultants of New York -- CEO/Founder DirectLineMD

Kartiki Aruha, M.D.

Cardiology Fellow 2009-2010; Current Cardiology-Electrophysiology Practice Long Island North Shore Hospital

Lilian Cohen, M.D.

Clinical Genetics fellow 2011; Current: Assistant Professor Pediatric-Genetics, Cornell-Weill School of Medicine.

Fanrong Kong, Ph.D.

Post-doctoral fellow 2012-2014; Current: Senior Scientist, Pfizer.

Rhadames A Rojas, M.D. Post-doctoral fellow 2010-2015 Current: Private practice Electrophysiology-Cardiology

Zhenning Liu, M.D., Ph.D. Visiting Scientist 2016-2017. Current: Assistant Professor, Department of Emergency Medicine, Shengjing Hospital of China Medical University, Shenyang, China

Alexander Bertalovitz, Ph.D. Post-doctoral fellow 2015-2017. Current: Assistant Professor, University of South Florida College of Medicine, Division of Cardiology, Tampa Florida.

Maliheh Beidokhi, Ph.D., Postdoctoral Fellow, 2018-2020, Presently post-doctoral fellow in Laboratory of Professor Steve Liggett, USF

Non-tenure track faculty research associates:

Eva Samal, Ph.D., Research Associate 2019-2020

Mariana Argenziano, Ph.D. Research Associate 2019-2021

Predoctoral Trainees:

Kagan, Anna. M.D./Ph.D. student 1998-2003.

Winner of the J. Marmur Graduate Student Thesis Competition Award 2002: Resident in Medicine at Massachusetts General Hospital 2003-2006. Nephrology Fellowship Baylor Medical Center. Current: Transplant Nephrologist, Houston Methodist Medical Center, Houston, TX.

Melman, Yonathan. M.D./Ph.D. student 1998-2004.

Winner of the J. Marmur Graduate Student Thesis Competition Award 2003. Resident in Pediatrics at Boston Children’s Hospital and in Medicine at Brigham & Women’s Hospital 2004-2009; Cardiology Fellow Beth Israel-Deaconess Medical Center 2009-2004. Current: Cardiac Electrophysiology at Intermountain Medical Center Salt Lake City, UT.

Sean McBride, M.D./Ph.D. student 2001-2010

Winner of the J. Marmur Graduate Student Thesis Competition Award 2007. Assistant Professor of Cell Biology & Neuroscience, Rowan Medical School, Camden, NJ (Adjunct Faculty at University of Pennsylvania).

Jerri Chen, M.D., Ph.D. student, 2006-2013.

Current Assistant Professor, Department of Anesthesiology, Columbia University School of Medicine.

Yamini Krishnan, M.D., Ph.D. student, 2006-2013.

Current: Clinical Instructor, Internal Medicine, Yale New Haven Hospital.

Jakub Sroubek, M.D./Ph.D. student 2006-2012.

Current: Assistant Professor (Cardiology) Cleveland Clinic, Cleveland, OH.

John Creagh, Medical student Research 2011-2014 Current: Director Pediatric Emergency Bayview-Johns Hopkins University

Marika Osterbur, M.D., Ph.D. candidate 2012-2019. Resident (OB/GYN) Brigham & Women’s Hospital, Harvard Medical School 2019-2024. Current: Assistant Professor OB-GYN, NYU-School of Medicine.

Jiajia Yang, PhD student 2017-2022, USF, Current Internal medicine residency, University of New Mexico.

Mariana Burgos Angulo, PhD student 2018-2023, USF. Current: Clinical Research Associated, USF, Department of Medicine.

**Other Trainees:**

Medical residents:

Palma, Eugen M.D. Medical Resident 1996-1997; Cardiology fellow 1997-2000,

Current: Professor, Albert Einstein College of Medicine, Division of Cardiology.

Sirulnick, Erik, M.D. Medical Resident 2000,

Current: Healthcare Partners Cardiology, Las Vegas, NV.

Francisco Marty, M.D. Medical Resident 1998-2000;

Current: Attending in Infectious Diseases, Brigham and Women’s Hospital; Associate Professor, Harvard Medical School.

Laboratory technicians:

Ricardo Perez, lab technician 2024-2025

Medical students:

Fischer Bruce. Medical student 1997, 1999-2000.

Attending Pediatric Oncologist Children’s Hospital of Philadelphia.

Keith Thompson, Medical student Research 2008.

Current: Cardiologist, Kaiser-Permanente, Fontana, CA.

Edmund Obeng, Medical student Research 2008-2011.

Current: Cardiologist at Wellspan York, PA

Bret Negro, Medical student Research 2009-2010.

Current: Emergency Medicine Fort Atkinson, WI.

Christopher Vanichsarn, Medical student Research 2012.

Current Cardiologist, Burlington MA.

Noah Chodos, Medical student Research 2016-2018. Medical Resident Tufts. Current: Infectious Disease Follow, Washington University, St. Louis, MO.

Allison O. Dumitriu Carcoana, Medical Student Research 2021-present

Undergraduates:

Michael Regan

Summer Undergraduate Research Program 2006 Current: in Ph.D. program at University of Arizona

Dana Alessi

Summer Undergraduate Research Program 2007 Current: postdoctoral fellow Regeneron

Daniel Saenz

Undergraduate Research Program 2011. Current Master Program Brown University.

Fiona Raso

College Undergraduate Research Intern Summer 2011. Current PhD student Univ. Mass.

Kellie Ifill,

Diversity Student Summer Research Opportunity Program 2012. Current: Clinical Research Coordinator, Mt. Sinai School of Medicine.

Brian Schoenfeld

Research Technician, Current Genetic Counselor Ambry Labs Genetics.

Kelsey Spaur

Undergraduate Research Program 2013. Current: ER-Medicine Resident University of Colorado.

Veronica Natale

Summer Undergraduate Research Program 2015. Current Surgical Quality and Safety Program Manager at Johns Hopkins University

Devin Minor

USF Undergraduate Student 2018-2020, Presently applying for Medical School

Christian Maugee

USF Undergraduate Student 2019, Presently graduate research assistant at Univ. of Florida

John Bancroft

USF Undergraduate Student 2024-present, 7-year BS/MD program

High school Students:

Jehu Mathew, Intel High School Science Student 1999-2000 & 2003. Medical School, Univ. Rochester 2007. Resident in Medicine Univ. Pennsylvania 2007-2010. Cardiology Fellow, Univ. Washington Medical Center and Univ. Pennsylvania 2010-2016. Current: Electrophysiologist Denver

Neal Ferrick High School Intern Spring 2006 & College summer 2007. Current: Cardiology Fellow, Montefiore-Einstein Medical Center.

Eric Koenigsberg High School Intern Spring 2006 & College summer 2007, College—Williams. Law School—Univ. Michigan.

Robert Antonelli, High School Intern Summer 2010. Current Colgate University.

Jessica Laird, High School Intern Summer 2011-2013. Current: Harvard Medical School.

Jessica Kao, High School Intern Summer 2013. Current Wellesley College

Jason Durrel, High School Intern Summer 2013. Current Amherst College

Lena Woo, High School Intern Summer 2013. Current University of Chicago

Michael Schulte, High School Intern Summer 2014, current Johns Hopkins University

Benjamin Kepecs, High School Intern Summer 2014 & 2015, Current Columbia University

Griffin Edmonds, High School Intern Summer 2015. Current Georgetown University

Michael St. George, High School Intern Summer 2015 & 2016. Current Dartmouth University

Edward Holappa, High School Intern Summer 2016. Current University of Southern California

Liam Klein, High School Intern Summer 2016 & 2017 Current Brown University

Evan Woo, High School Intern Summer 2017 Currently at Northwestern University

**Peer-reviewed publications:**

1. Fischell TA, **McDonald T**V, Stadius ML, Grattan M, Miller DC. Occlusive coronary artery spasm as a cause of acute myocardial infarction after coronary artery bypass grafting. ***N Eng J Med*** 320:400, 1989.
2. **McDonald TV**, Courtney KR, Clusin WT. Use-dependent block of single sodium channels by lidocaine in guinea-pig ventricular myocytes. ***Biophys J*** 55:1261-1266, 1989.
3. Lalonde G, **McDonald TV**, OHanley P, Gardner P. Identification of a hemolysin from A. pleuropneumoniae strain 4074 and characterization of its channel properties in planar phospholipid bilayers. ***J Biol Chem*** 264:13559-13564, 1989.
4. Fischell TA, Bausback KN, **McDonald TV**. Evidence for altered epicardial coronary artery autoregulation as a cause of distal coronary vasoconstriction after successful percutaneous transluminal coronary angioplasty. ***J Clin Invest*** 86:575-584, 1990.
5. Gardner P, **McDonald TV**, Nishimoto I, Wagner J, Shumann M, Chen J, Schulman H. Regulation of lymphocyte chloride channels. ***Advances in Experimental Medicine and Biology*** 290:319-326, 1991.
6. **McDonald TV**, Ngheim PT, Gardner P, Martens CL. Human Lymphocytes Transcribe the Cystic Fibrosis Transmembrane Conductance Regulator Gene and exhibit CF-Defective cAMP-Regulated Chloride Current. ***J Biol Chem*** 267:3242-3248, 1992.
7. Wagner JA, **McDonald TV**, Nghiem PT, Lowe AW, Schulman H, Gruenert DC, Stryer L, Gardner P. Antisense Oligonucleotides to Cystic Fibrosis Transmembrane Conductance Regulator Inhibit cAMP-Dependent but not Calcium-Dependent Chloride Currents. ***Proc. Natl. Acad. Sci***. 89:6785-6789, 1992.
8. Gollapudi S, **McDonald T**, Gardner P, Kang N, Gupta S. Abnormal Chloride Conductance in Multidrug Resistant HL60/AR Cells. ***Cancer Letters***. 66:83-89, 1992
9. **McDonald TV**, Premack BA, Gardner P. Flash Photolysis of Caged-Inositol 1,4,5-trisphosphate Activates Plasma Membrane Calcium Current in Human T Cells. ***J Biol Chem***. 268:3889-3896, 1993.
10. Premack BA, **McDonald TV**, Gardner P. Activation of Ca Current Following Depletion of Ca Stores by Microsomal Ca-ATPase Inhibitors. ***J Immunol***. 15:5226-5240, 1994.
11. Kindman LA, Kim S, **McDonald TV**, Gardner P. Spingolipid-mediated Ca2+ signaling: Identification and characterization of a novel intracellular ligand-gated, voltage modulated Ca2+ channel**. *J. Biol. Chem***. 269:13088-13091, 1994.
12. Chung C, **McDonald TV**, Gardner P. Inhibition by SK&F 96365 of Ca2+ current, IL-2 production and activation in T lymphocytes**.  *Br J Pharmacol***. 113:861-868, 1994.
13. **McDonald TV\*,** Ming Z, Palma E, Yu Z, Meyers M, Goldstein SNA, Fishman GI**.** A minK-HERG complex regulates the cardiac potassium current IKr. ***Nature***388:289-292,1997.
14. Zhang HS, **McDonald TV**, Tanowitz HB, Wittner M, Weiss LM, Bilezikian JP, Morris SA. Intracellular Ca2+ homeostasis in trypomastigotes of Trypanosoma cruzi. ***Journal of Eukaryotic Microbiology***45:80-86, 1997*.*
15. Fan JS, Jiang M, Yao JA, **McDonald TV**, Tseng GN. Effects of outer mouth mutations on hERG channel function: A comparison with similar mutations in *Shaker*. ***Biophysical J***. 76:3128-3140, 1999
16. Cui J, Melman YF, Palma E, Fishman GI, **McDonald TV**. Cyclic AMP Regulates the HERG K+ Channel by Dual Pathways. ***Current Biology****.* 10:671-674. 2000.
17. Kagan A, Yu, Z Fishman GI, **McDonald TV**. The Dominant Negative LQT2 Mutation A561V Reduces Wild Type HERG Expression**. *J Biol Chem****.* 275:11241-11248. 2000.
18. Malhi H, Irani AN, Rajvanshi P, Suadicani SO, Spray DC, **McDonald TV**, Gupta S. KATP channels regulate mitogenically induced proliferation in primary hepatocytes and human liver cell lines: implications for liver growth control and potential therapeutic targeting. ***J Biol Chem***. 275:26050-26057. 2000.
19. Melman YF, Domènech A, de la Luna S, **McDonald TV**. Structural Determinants of KvLQT1 Control by the KCNE Family of Proteins. ***J Biol Chem***. 276:6439-6444. 2001.
20. Cui J, Kagan A, Qin D, Mathew J, Melman YF, **McDonald TV**. The Functional Relevance of the Cyclic Nucleotide-Binding Domain of HERG Potassium Channel. ***J Biol Chem*.** 276:17244-17251. 2001.
21. Fischer BS, Qin D, Kim K, **McDonald, TV.** Capsaicin Inhibits Jurkat T-Cell Activation by Blocking the Calcium Entry Current ICRAC. ***J. Pharmacology & Experimental Therapeutics***. 299:238-246. 2001.
22. Bian J, Cui J, **McDonald TV**. HERG K+ Channel activity is regulated by changes in PIP2. ***Circulation Research*** 89:1168-76. 2001.
23. Kagan A, Melman YF, Krummerman A, **McDonald TV**. 14-3-3 Amplifies and Prolongs Adrenergic Stimulation of HERG K+ Channel Activity. ***EMBO J.***21: 1889-1898.2002.
24. Peng C-F, Wei Y, Levsky JM, **McDonald TV**, Childs G, Kitsis RN. Microarray analysis of global changes in gene expression during cardiac myocyte differentiation. ***Physiological Genomics*** 9:145-155. 2002.
25. Melman YF, Krummerman A, **McDonald TV**. A single transmembrane site in the KCNE-encoded proteins controls the specificity of KvLQT1 channel gating. ***J Biol Chem****.* 277: 25187–25194. 2002.
26. Cui J, Bian J,Kagan A, **McDonald TV.** CaT1 contributes to T-lymphocyte stores-operated calcium entry. ***J Biol Chem*** 277:47175-47183. 2002.
27. [Krumerman A](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22Krumerman+A%22%5BAuthor%5D), [Gao X](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22Gao+X%22%5BAuthor%5D), [Bian JS](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22Bian+JS%22%5BAuthor%5D), [Melman YF](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22Melman+YF%22%5BAuthor%5D), [Kagan A](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22Kagan+A%22%5BAuthor%5D), [**McDonald TV**](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&term=%22McDonald+TV%22%5BAuthor%5D). An LQT Mutant minK alters KvLQT1 trafficking. ***Am J Physiol*** 286:C1453-C1463. 2004.
28. Melman YF, Um SY, Krumerman A, Kagan A, **McDonald TV**. KCNE1 Regulates Potassium Channel Activity by Binding to the Pore. ***Neuron*** 42:927-937. 2004.
29. Bian J, Gao X, Cui J, Melman YF, **McDonald TV**. Molecular determinants of HERG inactivation. ***Cell Biochemistry and Biophysics*** 41:25-39. 2004.
30. Bian J, Kagan A, **McDonald TV**. Molecular analysis of Phosphatidyl Inositol 4,5-Bisphosphate Regulation of Cardiac IKr. ***Am J Physiol*** 287:H2154-H2163. 2004.
31. Mc Bride SMJ, Choi CH, Wang Y, Liebelt D, Braunstein E, Ferreiro D, Sehgal A, Siwicki KK, Dockendorff TC, Nguyen HT, **McDonald TV**, Jongens TA. Pharmacological rescue of synaptic plasticity, courtship behavior and mushroom body defects in a *Drosophila* model of Fragile X Syndrome. ***Neuron*** 45:753-764**.** 2005.
32. Ghosh, K , Cappiello CD, McBride SM, Occi JL, Cali A, **McDonald TV**, Weiss LM. Functional characterization of a putative aquaporin from *Encephalitozoon cuniculi*, a microsporidium parasite of humans. ***Int J Parasitol*** 36:57-62. 2006.
33. Um S-Y, **McDonald TV**. Differential processing and trafficking of KCNE1 and KCNE2: implications for association with HERG. ***PLoS-ONE*** 2007 Sep 26;2(9):e933. PMID: 17895974
34. deSouza N, Cui J, Dura M, **McDonald TV,** Marks AR.Role of tyrosine phosphorylation of type 1 inositol 1,4,5-trisphosphate receptor in lymphocyte activation. ***J. Cell Biol***. 179:923-34. 2007.
35. Waller K, McBride SMJ, Kim K, **McDonald TV.** Differential Expression and Localization of Two Potassium Channels in *Plasmodium falciparum.* ***Malaria Journal*** 7:19. 2008.
36. Li Y, Sroubek J, Krishnan Y, **McDonald TV**. AKAP targeting of protein kinase A and regulation of HERG channels. ***J. Membrane Biol***. 223:107-16.2008.
37. Wu Z-Y, Chen K, Haendler B, **McDonald TV**, Bian J-S. Stimulation of androgen receptor AR45 variant stabilizes HERG potassium channel protein via activation of extracellular signal regulated kinase 1/2. ***Endocrinology****.* 149:5061-9.2008.
38. Waller K, Kim K, **McDonald TV.** *Plasmodium falciparum*: growth response to potassium channel blocking compounds. ***Exp Parasitol***. 120:280-5. 2008.
39. Chen J, Zheng R, Melman YF, **McDonald TV**. Functional Interactions Between KCNE1 C-terminus and the KCNQ1 Channel. ***PLoS ONE***. 2009 4(4):e5143. PMID: 19340287.
40. Chen J, Sroubek J, Krishnan Y, Li Y, Bian J-S, **McDonald TV**. PKA phosphorylation of HERG protein regulates the rate of channel synthesis. ***Am J Physiol Heart Circ Physiol.*** May;296(5):H1244-54. 2009, PMID: 19234087.
41. Choi CH, Mc Bride SMJ, Schoenfeld BP, Wang Y, Sumida A, Liebelt DA, Ferreiro D, Braunstein E, Rudominer RL, Nguyen HT, **McDonald TV** & Jongens TA. Age-dependent cognitive impairment in a Drosophila Fragile X model and its pharmacological rescue. ***Biogerontology***. Jun;11(3):347-62. PMID: 2010, 20039205.
42. Zheng R, Thompson K, Obeng-Gyimah E, Alessi DM, Chen J, Cheng H, **McDonald TV**. Analysis of the interactions between the C-terminal cytoplasmic domains of KCNQ1 and KCNE1 channel subunits. ***Biochem J***. 428:75-84. 2010, PMID: 20196769.
43. McBride SMJ, Choi CH, Schoenfeld BP, Bell A, Liebelt DA, Ferreiro D, Choi RJ, Hinchey P, Kollaros M, Terlizzi A, Ferrick N, Koenigsberg E, Rudominer RL, Sumida A, Chiorean S, Siwicki KK, Nguyen HT, Fortini ME, **McDonald TV**, Jongens TA.  Pharmacological and genetic reversal of age dependent cognitive deficits due to decreased presenilin function. ***J Neuroscience*** Jul 14;30(28):9510-22. 2010, PMID: 20631179.
44. Govorunova EG, Moussaif M, Kullyev A, **McDonald TV**, Sze JY. A homolog of FHM2 is involved in modulation of excitatory neurotransmission by serotonin in *C. elegans*.  ***PLoS ONE***  Apr 28;5(4):e10368. 2010, PMID: 20442779.
45. Chen J, Chen K, Sroubek J, Wu Z-Y**,** Bian J-S, **McDonald TV**. Post-transcriptional control of HERG potassium channel protein by -adrenergic receptor stimulation. ***Molecular Pharmacology*** Aug;78(2):186-97. 2010, PMID: 20463060.
46. Ren XQ, Liu GX, Organ-Darling LE, Zheng R, Roder K, Jindal HK, Centracchio J, **McDonald TV,** Koren G. Pore mutants of HERG and KvLQT1 downregulate the reciprocal currents in stable cell lines. ***Am J Physiol Heart Circ Physiol***. Nov;299(5):H1525-34. 2010, PMID: 20833965
47. Choi CH, Schoenfeld BP, Bell AJ, Hinchey P, Kollaros M, Gertner MJ, Woo NH, Tranfaglia MR, Bear MF, Zukin RS, **McDonald TV**, Jongens TA, McBride SM. Pharmacological reversal of synaptic plasticity deficits in the mouse model of Fragile X syndrome by group II mGluR antagonist or lithium treatment. ***Brain Res***. 1380:106-19. 2011, PMID: 21078304.
48. Sroubek J & **McDonald TV**. Protein Kinase A Activity at the Endoplasmic Reticulum Surface Is Responsible for Augmentation of Human ether-a-go-go-related Gene Product (HERG). ***J Biol Chem***. 286:21927-21936. 2011. PMID: 21536683.
49. Chen J, Weber M, Um SY, Walsh CA, Tang YY, & **McDonald TV**. A Dual Mechanism for IKs Current Reduction by the Pathogenic Mutation KCNQ1-S277L. ***Pacing & Clinical Electrophysiology***. 34:1562-64. 2011. PMID: 21895724
50. Krishnan Y, Zheng R, Walsh CA, Tang YY, **McDonald TV**. Partially dominant mutant channel defect corresponding with intermediate Long-QT2 phenotype. ***Pacing & Clinical Electrophysiology***. 35:3-16. 2012. PMID: 21951015
51. Sroubek J, Krishnan Y, Chinai J, Buhl S, Scharff, MD & **McDonald TV.** The use of Bcl-2 over-expression to stabilize hybridomas specific to the HERG potassium channel. ***Journal of Immunological Methods.*** 375:215-22 2012. PMID: 22107967
52. Chen J, Angeletti R, **McDonald TV**, Xiao H. Peptides from Cardiac Potassium Channel Reflect Interactions of Intact Proteins at Single Residue Resolution. ***Analytical & Bioanalytical Chemistry*** 403(5):1303-9. 2012. PMID: 22392372
53. Krishnan Y, LiY, ZhengR, KandaV, **McDonaldTV**. Mechanisms underlying the protein-kinase mediated regulation of the HERG potassium channel synthesis. ***Biochimica et Biophysica Acta - Molecular Cell Research*** 1823:1273-1284. 2012. PMID: 22613764
54. Erskine K, Griffith E, DeGroat N, Stolerman M, Silverstein LB, Hidayatalla N, Wasserman D, Paljevic E, Cohen L, Walsh CA, **McDonald T**, Marion RW, Dolan SM. An Interdisciplinary Approach to Personalized Medicine: Case Studies from a Cardiogenetics Clinic. ***Personalized Medicine* 10:73-80.** 2013. PMID: 24496296
55. Sroubek J, Krishnan Y, **McDonald TV**. Sequence and structure-specific elements of HERG mRNA regulate channel synthesis and trafficking. ***FASEB J*** 27(8):3039-3053. 2013 PMID: 23608144
56. Schoenfeld BP, Choi RJ, Choi CH, Terlizzi AM, Hinchey P, Kollaros M, Ferrick NJ, Koenigsberg E, Ferreiro D, Leibelt DA, Siegel SJ, Bell AJ, **McDonald TV**, Jongens TA, McBride SM. The Drosophila DmGluRA is required for social interaction and memory. ***Frontiers in Pharmacology*** 4:64. 2013. PMID: 23720628.
57. Linder J, Hidayatallah N, Stolerman M, **Mcdonald TV**, Marion RA, Walsh CA, Dolan S. Perceptions of an Implantable Cardioverter-Defibrillator: A Qualitative Study of Families with a History of Sudden, Life-Threatening Cardiac Events, and Recommendations to Improve Care. ***Einstein Journal of Biological Medicine*** 2014 (*In Press*).
58. Silverstein LB, Hidayatallah N, Stolerman M, Cohen L, **McDonald T**, Walsh CA, Paljevic E, Marion RW, Wasserman D, Dolan SM. Translating Advances In Cardiogenetics Into Effective Clinical Practice. ***Qualitative Health Research*** 2014 Aug 11. pii: 1049732314546754. [Epub ahead of print]. PMID: 25114027
59. Wang D, Shah KR, Um SY, Eng LS, Zhou B, Lin Y, Mitchell AA, Nicaj L, Prinz M, **McDonald TV**, Sampson BA, Tang Y. Cardiac channelopathy testing in 274 ethnically diverse sudden unexplained deaths. ***Forensic Sci Int***. 2014 Apr;237:90-9. PMID: 24631775
60. Erskine K, Hidayatalla N, Silverstein LB, Walsh CA, **McDonald TV**, Cohen L, Marion RW, Dolan SM. Motivation to Pursue Genetic Testing in Individuals with a Personal or Family History of Cardiac Events or Sudden Cardiac Death. ***Journal of Genetic Counseling*** 2014 Oct;23(5):849-59. PMID: 24664857
61. Hidayatallah N, Silverstein LB, Stolerman M, **McDonald T**, Walsh CA, Paljevic E, Cohen LL, Marion RW, Wasserman D, Hreyo S, Dolan SM. Psychological stress associated with cardiogenetic conditions. ***Personalized Medicine*** 2014 11(7):631-640. PMID: 25431604
62. Choi C, Schoenfeld B, Weisz E, Bell A, Chambers D, Hinchey J, Choi R, Hinchey P, Kallaros M, Gertner M, Ferrick N, Terlizzi A, Yohn N, Woo N, Tranfaglia M, Louneva N, Arnold S, Siegel S, Bolduc F, **McDonald T**, Jongens T, McBride S. PDE-4 inhibition rescues aberrant synaptic plasticity in Drosophila and mouse models of Fragile X syndrome. ***Journal of Neuroscience*** 35:396-408. 2015 PMID: 25568131
63. Osterbur M, Zheng R, Marion RW, Walsh CA & **McDonald TV**. An interdomain hERG mutation produces an intermediate Long QT phenotype. ***Human Mutation*** Aug;36(8):764-73 2015. PMID: 25914329. (Corrigendum: PMID: [30740826](https://www.ncbi.nlm.nih.gov/pubmed/30740826))
64. Delio M, Patel K, Maslov A, Marion RW, **McDonald TV**, Castaldi M, Simmons N, Golden A, Greally J, Vijg J, Morrow B, & Montagna C. Development of a targeted multi-disorder high-throughput sequencing assay for the effective identification of disease causing variants. **PLoS-ONE** Jul 27;10(7):e0133742. doi: 10.1371/journal.pone.0133742. 2015. PMID: 26214305
65. Monyak R , Emerson D, Schoenfeld B, Zheng X, Chambers D, Rosenfelt C, Langer S, Hinchey P, Choi C, **McDonald TV**, Bolduc F, Sehgal A, McBride S. Insulin Signaling Misregulation underlies Circadian and Cognitive Deficits in a Drosophila Fragile X Model. ***Mol Psychiatry***. 2016 Apr 19. doi: 10.1038/mp.2016.51. [Epub ahead of print]. PMID: 27090306.
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67. Osterbur Badhey ML, Bertalovitz AC, **McDonald TV**. Express with caution: Epitope tags and cDNA variants effects on hERG channel trafficking, half-life and function. ***J Cardiovasc Electrophysiol***. 2017 Sep;28(9):1070-1082. doi: 10.1111/jce.13259. Epub 2017 Jun 23. PMID: 28544109
68. Josephs K, Patel K, Janson CM, Montagna C, & **McDonald TV.** Compound heterozygous CASQ2 mutations and long term course of catecholaminergic polymorphic ventricular tachycardia. ***Mol Genet Genomic Med.*** 2017 Nov;5(6):788-794. doi: 10.1002/mgg3.323. Epub 2017 Aug 22. PMID: 29178653
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