

J. Kevin Donahue, M.D.

Updated: Jun 21, 2012

Professor of Medicine, Biomedical Engineering, Physiology and Biophysics
Case Western Reserve University
MetroHealth Campus
Rammelkamp 653
2500 MetroHealth Drive
Cleveland, OH 44109
(216) 778-7342/FAX (216) 778-1261
kdonahue@metrohealth.org

Education and Training

BA	1983-1987	Washington University College of Arts and Sciences. Chemistry, magna cum laude
MD	1987-1992	Washington University School of Medicine.
Residency	1992-1994	Hospital of the University of Pennsylvania. Internal Medicine.
Fellowship	1994-1999	Johns Hopkins University School of Medicine. Cardiology and Cardiac Electrophysiology.

Professional Appointments

1986-1987	Washington University. Research student, advisor Michael J. Welch, PhD
1990-1991	Washington University School of Medicine. Four Schools Physician-Scientist Program research fellowship, advisor Peter B. Corr, PhD
1995-1997	Johns Hopkins University School of Medicine. Post-doctoral fellow, John H. Lawrence, M.D. advisor
1999-2004	Johns Hopkins University. Assistant Professor of Medicine
1999-2005	Johns Hopkins Hospital. Active full-time staff, cardiac electrophysiology
2003-2005	Johns Hopkins University. Director of Cardiac Genetics
2004-2005	Johns Hopkins University. Associate Professor of Medicine
2005-2011	Case Western Reserve University. Associate Professor of Medicine
2005-	MetroHealth Medical Center, Cleveland, OH. full-time staff, cardiac electrophysiology.
2007-2011	Case Western Reserve University. Associate Professor of Physiology and Biophysics.
2009-2011	Case Western Reserve University. Associate Professor of Biomedical Engineering.
2011-	Case Western Reserve University. Professor (with tenure).

Licensure and Board Certification

1994-2006	Maryland Medical License D46652
1995-2005	American Board of Internal Medicine: internal medicine board certified
1999-2019	American Board of Internal Medicine: cardiovascular diseases board certified
2001-2021	American Board of Internal Medicine: cardiac electrophysiology board certified
2005-present	Ohio Medical License 35-087096

Professional Society memberships

1996-	Cardiac Electrophysiology Society
1998-	American Society of Gene and Cell Therapy
	2003-2005 CV abstracts review committee (chair 2005)
	2004-2010 Cardiovascular Committee
	2005 Cardiovascular Sessions organizer
1998-	American Heart Association basic sciences council, clinical council
	2001- Fellow of the American Heart Association
	2005-2007 Electrocardiography and Arrhythmias Committee
	2008, 2011 Cleveland Affiliate Research Committee
2001-	Heart Rhythm Society
	2001 NASPE Futures Conference invited participant
	2002-2003 Publications Task Force
	2003-2005 Scientific Sessions Program Committee
	2004-2008 Research Subcommittee
	2005-2012 Fellowship Subcommittee (Chair 2008-2012)
	2005-2010 Young Investigator Award Committee (Chair 2009)
	2008-2012 Clinical and Research Training Committee
	2008-2009 Awards Subcommittee
	2008 Strategic Planning Summit invited participant
	2010-2012 Internet Subcommittee
	2010 Interviews@HR10 working group
	2012- Journal subcommittee
2009-	American Society for Clinical Investigation

Awards and Honors

1987	Phi Beta Kappa Honorary Society
1987	American Chemical Society, Charles D. Coryell Award
1990	Four Schools Physician-Scientist Training Program
1996	Astra-Merck, Young Investigator Competition, national finalist
1998	NASPE, Wilson Greatbatch, Ltd. Travel Award
1999	Johns Hopkins University, Richard S. Ross Clinician Scientist Award
2000	American Heart Association, "Top 10 Research Advances in Cardiovascular Disease"
2001	David H. Bernstein Idea Award in cardiovascular biology
2009	Induction into the American Society for Clinical Investigation
2011	Award of tenure. Case Western Reserve University

Professional Service

Subspecialty Board:

American Board of Internal Medicine, Test Committee on Clinical Cardiac Electrophysiology
2010 - present

Editorial Board:

Circulation Research 1999-2005, Journal of Cardiovascular Electrophysiology 2009 - present,
Journal of Interventional Cardiac Electrophysiology 2011 - present

Invited reviewer:

Nature Medicine, Journal of the American Medical Association, Circulation, Circulation Research, Journal of the American College of Cardiology, The Journal of Gene Medicine, Molecular Therapy, American Journal of Physiology, Journal of Electrocardiography, Heart Rhythm, Journal of Cardiovascular Electrophysiology, PACE, Journal of Molecular and Cellular Cardiology, Gene Therapy.

Grant reviewer:

Ad hoc: Food and Drug Administration Orphan Drug Program 2000, Isreal Science Foundation 2003, United States-Israel Binational Science Foundation 2009, Health Research Council of New Zealand 2011; Deutsche Forschungsgemeinschaft (German DFG) 2011.

AHA—Mid-Atlantic Affiliate Basic Cardiac Physiology study section 2002-2005

National: Biotechnology study section 2006-2009

NIH— ZHL1 “Ancillary Studies in Clinical Trials” special emphasis panel 2007-present

Ad hoc PPG review 2002, 2004; SBIR review 2008, 2010, BRP review 2009

Abstract reviewer:

American Heart Association national meeting, American Society of Gene Therapy national meeting, Heart Rhythm Society national meeting

Advisory Committees:

- 2003-2005 Data Safety Monitoring Board, Clinical trial on the use of D-Stat to prevent hematoma formation in prepectoral pockets. (Sponsor: Vascular Solutions, Inc.)
- 2005-2010 External Advisory Board for P01 HL039707 Intercellular communication and impulse propagation (PI Jose Jalife)
- 2005-2010 Consultant for P01 HL078931 Cardiac fibrillation: mechanisms and therapy (PI James Weiss)
- 2007-2011 Consultant for P01 HL028958 Cardiac rhythm and arrhythmias (PI Michael Rosen)
- 2008-2013 Consultant for P01 application SA node targeted gene therapy (PI Mark Anderson)

Medical School Service

- 1999-2005 JHU Division of Cardiology, Mentor, T32 training grant (David Kass PI)
- 2001 JHU Department of Medicine Research Protocol Prioritization Committee
- 2006-2009 CWRU Department of Biomedical Engineering, PhD Advisory Committee. Maria Dikshteyn Strom.
- 2007 MetroHealth Campus, CWRU, Chester Summer Scholars selection committee.
- 2007-2009 MetroHealth Campus, CWRU, Rammelkamp Research Day Young Investigator Award judge
- 2007-2009 MetroHealth Campus, CWRU, EP fellowship selection committee
- 2007-2011 CWRU Department of Physiology and Biophysics, PhD Advisory Committee. Krekwit Shinlapawittayatorn.
- 2007-2011 MetroHealth Campus CWRU, Cardiology Grand Rounds selection committee

2008-2010 Cleveland Clinic Lerner College of Medicine, CWRU, Graduate Program Advisory Committee. Sharmila Basu.
 2008- CWRU Institutional Animal Care and Use Committee
 2009- CWRU Department of Physiology & Biophysics, Mentor, T32 training grant (George Dubyak, Mukesh Jain co-PIs)
 2009- CWRU Mentor, KL2 multidisciplinary clinical research training program.
 2009- CWRU Mentor, Medical Scientist Training Program
 2009- MetroHealth Campus CWRU, Appointments, Promotions and Tenure Committee
 2011 MetroHealth Campus CWRU, search committee for Division Chief, Gastroenterology

Educational activities:

Teaching

1999-2005 Johns Hopkins University Attending physician: Electrophysiology Service and Electrophysiology Laboratory (25% effort)
 2002-2005 Johns Hopkins University Molecular and Cellular Physiology journal club
 2005-present MetroHealth Hospital Attending physician: Electrophysiology Laboratory and Electrophysiology service (25% effort)
 2006-present Ad hoc CWRU teaching: cardiac pathophysiology and physiology small group discussion sections. Masters in Science program translational physiology section.

Mentoring

Basic Research Trainees:

<u>Name</u>	<u>Rank/dates</u>	<u>Current Position</u>
Xiao-Lei Pan, MD	Post-doctoral fellow 4-12/2000	lost contact
Harikrishna Tandri, MD (2003 NASPE Young Investigator Award finalist)	Medical resident 7/2000-6/2003	Assistant Professor Johns Hopkins University
Stephan Lehnart, MD (Deutsche Forschungsgemeinschaft post-doctoral research fellowship)	Post-doctoral fellow 11/2000-9/2001	Associate Professor University of Göttingen
Alexander Bauer, MD (Deutsche Forschungsgemeinschaft post-doctoral research fellowship)	Post-doctoral fellow 4/2001-4/2003	Assistant Professor University of Heidelberg
Kan Kikuchi, MD	Post-doctoral fellow 9/2002-9/2004	Lecturer in Cardiology Second Department of Internal Medicine University of Occupational and Environmental Health, Japan
Tetsuo Sasano, MD	Post-doctoral fellow 7/2003-9/2005	Associate Professor Tokyo Medical and Dental University

(2006 Heart Rhythm Society Young Investigator Award winner)

Ning Feng, MD, PhD	Post-doctoral fellow 10/2004-9/2005	lost contact
Maria Strom, MS (co-sponsor with David Rosenbaum)	Graduate student 12/2005 – 3/2010	Scientist CardioInsight Technologies, Inc.
Kamilla Kelemen, MD (Heart Rhythm Society post-doctoral research fellowship)	Post-doctoral fellow 2/2006 – 5/2007	Post-doctoral fellow University of Heidelberg
Hao Qin, PhD (F32 National Research Service Award)	Post-doctoral fellow 4/2006 – 3/2008	MS program in Computer Science
Guy Amit, MD	Post-doctoral fellow 7/2007 – 6/2008	Cardiac Electrophysiology Section Head Lecturer in Cardiology Soroka University Medical Center Ben-Gurion University of the Negev
Tomonori Igarashi (Heart Rhythm Society post-doctoral research fellowship, 2011 Heart Rhythm Society Young Investigator Award winner)	Post-doctoral fellow 4/2009 – 4/2011	Instructor Second Department of Internal Medicine University of Occupational and Environmental Health, Japan
J. Emanuel Finet, MD (2012 American College of Cardiology Young Investigator Award winner)	Post-doctoral fellow 3/2006 – present	
Ian Greener, PhD (American Heart Association post-doctoral research fellowship)	Post-doctoral fellow 3/2008 – 9/2011	Post-doctoral fellow University of Illinois-Chicago
Ramnath Nayak, MD, PhD	Post-doctoral fellow 4/2011 – present	
Julie Wolfram, PhD	Post-doctoral fellow 9/2011 – present	
Michelle Jennings, MS	graduate student (MD-PhD, Physiology) 4/2012 – present	

Zhao Liu, MS graduate student (BME)
6/2012 – present

Clinical Trainees:

<u>Name</u>	<u>Dates</u>	<u>Current Position</u>
Eric Taylor, MD	4-6/1999	private practice
Sunny Po, MD, PhD	1999-2000	Associate Professor University of Oklahoma
Pete Jumrussirikul, MD	1999-2000	private practice
Charles Leng, MD	2000-2001	Assistant Professor University of Pennsylvania
Richard Wu, MD	2000-2002	Associate Professor University of Texas-Southwestern
Piamsook Angekeow, MD	2000-2002	private practice
George Juang, MD	2000-2002	private practice
Zayd Eldadah, MD, PhD	2002-2003	private practice
David Bradley, MD, PhD	2002-2003	Assistant Professor Mayo Clinic
Vinod Jayam, MD	2002-2003	private practice
Glenn Meininger, MD	2003-2004	private practice
Lars Lickfett, MD	2003-2004	Assistant Professor University of Bonn
Timm Dickfeld, MD	2003-2004	Associate Professor University of Maryland
Charles Henrickson, MD	2003-2004	Assistant Professor Johns Hopkins University
Alan Cheng, MD, PhD	2004-2005	Assistant Professor Johns Hopkins University
David Spragg, MD	2004-2005	Assistant Professor Johns Hopkins University

Ken Bilchick, MD	2005	Assistant Professor University of Virginia
Saman Nazarian, MD	2005	Assistant Professor Johns Hopkins University
Hari Tandri, MD	2005	Assistant Professor Johns Hopkins University
Irfan Khan, MD	2005-2006	private practice
Quan Pham, MD	2005-2006	private practice
Guy Amit, MD	2006-2008	Cardiac Electrophysiology Section Head Lecturer in Cardiology Soroka University Medical Center Ben-Gurion University of the Negev
Roopinder Sandhu, MD	2007-2009	Assistant Professor University of Calgary
Devi Gopinath, MD	2009 – 2011	private practice
Michael Cutler, DO PhD	2011 - present	

Research Support

Pending

2012-2014 NIH/NIA R21 AG042701-01
 “Final preclinical development of gene therapy for post-operative atrial fibrillation”
 Role: Principal Investigator, 20% effort. Direct cost \$275,000 over 2 years.

Current

2009-2012 NIH/NHLBI Gene Therapy Resource Program
 RSA1106 “Immunology testing of AAV serotypes for atrial gene transfer”
 RSA1122 “Regulatory support: gene therapy to prevent post-operative atrial fibrillation”
 RSA1095 “Pharm/tox: gene therapy to prevent post-operative atrial fibrillation”
 Role: Principal Investigator, no defined effort. No direct cost. Service provision only.

2009-2012 NIH/NHLBI RC1 HL100105
 “Targeted Cell Therapy for the Treatment of Ventricular Tachycardia”
 Role: Co-investigator (Laurita PI), 10% effort. Direct cost \$352,198

2008-2013 NIH/NHLBI R01 HL93486
 “Gene Transfer Approaches to Atrial Fibrillation”
 Role: Principal Investigator, 25% effort. Direct cost \$250,000/year

- 2008-2013 Fondation Leducq Transatlantic Networks of Excellence program
 “Alliance for Calmodulin Kinase Signaling in Heart Disease”
 Role: Associate Member, 10% effort. Direct cost \$55,000/year
- 2001-2012 NIH/NHLBI R01 HL67148 (renewal submitted 3/12)
 “Focal Modification of Electrical Conduction in the Heart”
 Role: Principal investigator, 25% effort. Direct cost \$300,000/year

Completed

- 2009-2010 NIH/NHLBI Gene Therapy Resource Program
 RSA1058 “Survey of AAV serotypes for atrial gene transfer”
 RSA1065 “Immunology testing of AAV serotypes for atrial gene transfer”
 RSA1090 “Regulatory support: gene therapy to prevent post-operative atrial fibrillation”
 Role: Principal Investigator, no defined effort. No direct cost. Service provision only.
- 2003-2007 NIH/NIBIB R01 EB002846
 “Improved methods for myocardial gene transfer”
 Role: Principal Investigator, 20% effort. Direct cost \$180,000/year
- 2006 Excigen, Inc
 “Pilot study evaluating AF in a miniature swine model”
 Role: Principal Investigator, 30% effort
- 2003-2005 Foundation For Fighting Blindness (P.I. Quan Dong Nguyen)
 An open label pilot (phase I/II) study of combretastatin A4 phosphate in macular degeneration
 Role: Co-Investigator, 2% effort
- 2003-2005 NIH/NHLBI R01 HL072922 (P.I. Richard Rivers)
 “Network vasomotor response to tissue adenosine”
 Role: Co-Investigator, 5% effort
- 2003-2005 Reynolds Cardiovascular Clinical Research Center (P.I. Eduardo Marbán)
 “Novel therapeutics targeted at prevention of sudden cardiac death”
 Role: Associate Investigator, 15% effort
- 2005 Genzyme Corporation
 “Serotype comparison for AAV gene transfer in cardiac myocytes”
 Role: Principal Investigator, 1% effort
- 2001-2004 AHA. Scientist-Development Grant #0130350N
 “Focal Modification of Electrical Conduction in the Heart”
- 2000-2004 NIH/NHLBI. P50 HL52307 (P.I. Eduardo Marbán)
 “Specialized Center of Research in Sudden Cardiac Death”

Role: Co-investigator on Project 1 and Director of the Virus Vector Core, 20% effort

2000-2002 NIH/NHLBI. R01 HL66381-01 (P.I. Brad Nuss)
“Gene Therapy for Heart Failure”
Role: Associate Investigator, 10% effort

Conference Organizer/ Session Chair Responsibilities

11/99 AHA, session chair: Advances in Defibrillator Therapy
5/00 NASPE, sessions chair: Neurohumoral and Pharmacological Modulation of Arrhythmias; Congestive Heart Failure—Autonomic Nervous System
9/00 European Muscle Conference, session chair: Myocardial Gene Therapy
2/01-2/03 CARDIAC EP SUMMIT, Scientific Director and Conference Organizer
5/01 NASPE, session chair: Mutations, Polymorphisms and Alternative Splicing of Channel Genes and Arrhythmias
5/03 NASPE, session chair: Pharmacogenetics
5/04 ASGT, session chair: Cardiovascular gene therapy
6/04 Cardiostim 14th World Congress in Cardiac Electrophysiology, session chair: cardiac genetics
5/05 Heart Rhythm 2005, session chair: Gene transfer techniques in arrhythmia research
5/06 ASGT, session chair: Cardiovascular gene therapy
10/06 Rappaport Symposium, session chair: Ion channels in health and disease
5/08 HRS session chair: Research Fellowship Awards Session
5/09 HRS session chair: Research Fellowship Awards Session, Young Investigator Competition Oral Presentations
2/10 Winter Arrhythmia School session chair: Novel interventions in atrial fibrillation
5/10 HRS session chair: Research Fellowship Awards Session, “Getting back into rhythm; can gene transfer deliver?”
5/10 ASGCT session chair: Scientific Symposium: Gene and Cell Therapy Translational Studies
5/12 HRS session chair: Research Fellowship Awards Session
5/12 HRS session chair: Research Fellowship Awards Session

Invited Lectures

1/99 Baylor University Division of Cardiology Grand Rounds, Houston, TX. “Factors Affecting Adenoviral Gene Transfer to the Myocardium.”
4/99 German Society of Cardiology, Mannheim, Germany. “An Update on Myocardial Gene Therapy.”
6/99 International Symposium on Molecular Approaches to the Therapy of Heart Failure, Goettingen, Germany. “*In vivo* Myocardial Gene Transfer Delivery Systems.”
6/00 International Society of Heart Research, Louisville, KY. “Basic Parameters Relevant to Myocardial Virus Delivery.”
5/01 Dartmouth University Division of Cardiology Grand Rounds, Hanover, NH. “Gene Therapy for Cardiac Arrhythmias.”

- 5/01 National Institutes of Health. US-Russia Joint Symposium on New Developments in Cardiac Arrhythmias, Washington, DC. "Prospects for Gene Therapy to Treat Arrhythmic Diseases."
- 6/01 Visiting Professor of Cardiology. King Edward VI Memorial Hospital, Bermuda.
- 9/01 Visiting Professor of Pharmacology. State University of New York, Syracuse, NY.
- 11/01 University of Maastricht Department of Cardiology Grand Rounds, Maastricht, the Netherlands. "Gene Therapy for Cardiac Arrhythmias."
- 12/01 European Science Foundation Workshop on Cardiovascular Genomics. Maastricht, the Netherlands. "Ion Channel Regulation: from arrhythmias to genes to channels (to cures?)."
- 4/02 Cardiovascular Cell and Gene Therapy Conference. Massachusetts General Hospital. Boston, MA. "Gene Therapy for Arrhythmias in Heart Failure".
- 5/02 North American Society of Pacing and Electrophysiology Annual Meeting. "Combining a career in clinical EP and basic research: from the perspective of a young investigator", "Myocardial Gene Transfer".
- 6/02 CardioStim. 13th World Congress in Cardiac Electrophysiology. Nice, France. "AV Node Gene Therapy for Rate Control in Atrial Fibrillation"
- 9/02 Duke University Division of Cardiology Grand Rounds, Durham, NC. "The Prospects for Gene Therapy to Treat Cardiac Arrhythmias".
- 5/03 North American Society of Pacing and Electrophysiology Annual Meeting. "Gene Therapy for Cardiac Arrhythmias."
- 7/03 Atrial Fibrillation Summit. The Cleveland Clinic Foundation. Cleveland, OH. "Cellular and Molecular Alterations in Atrial Fibrillation".
- 8/03 XIV Paavo Nurmi Symposium. Genetic and Molecular Basis of Cardiac Arrhythmias. Helsinki, Finland. "Gene transfer techniques in treatment of cardiac channelopathies".
- 9/03 University of California San Diego Division of Cardiology Grand Rounds. "Gene Therapy for Cardiac Arrhythmias".
- 9/03 2nd Fairberg Workshop. Cardiac Engineering: From Genes & Cells to Structure & Function. Erice, Sicily, Italy. "Gene Therapy for Arrhythmias".
- 10/03 Washington University Division of Cardiology Grand Rounds, St. Louis, MO. "Gene Therapy for Cardiac Arrhythmias".
- 10/03 Harold W. Siebens Conference on Genetic and Cell Therapies for Cardiovascular Disease. Mayo Clinic Foundation. Rochester, MN. "Gene Therapy and Arrhythmogenesis".
- 11/03 University of Wisconsin Division of Cardiology Grand Rounds, Madison, WI. "Gene Therapy for Cardiac Arrhythmias".
- 11/03 University of Indiana Division of Cardiology Grand Rounds, Indianapolis, IN. "Gene Therapy for Cardiac Arrhythmias".
- 12/03 The Cleveland Clinic Foundation Division of Cardiology Grand Rounds, Cleveland, OH. "Gene Therapy for Cardiac Arrhythmias".
- 3/04 Keystone Symposium on the Molecular Biology of Cardiac Disease. Keystone, CO. "Gene Therapy for Cardiac Arrhythmias."
- 4/04 Visiting Professor of Cardiac Electrophysiology. University of Western Ontario. London, Ontario, Canada.

- 5/04 Heart Rhythm Society Annual Meeting. San Francisco, CA. "Plenary session: Genetics, Genomics and Gene Therapy of Electrophysiology", "Bench to bedside. Life in the middle"
- 5/04 American Medical Association Media Briefing, New York, NY. "The next generation of therapies for atrial fibrillation."
- 6/04 Cardiostim. 14th World Congress in Cardiac Electrophysiology. Nice, France. "AV node gene therapy", "The future of somatic gene therapy"
- 10/04 NIBIB. Bioengineering grantees meeting. Washington, DC. "Targeted genetic alteration of the cardiac atria by homogeneous transmural gene transfer."
- 10/04 New Arrhythmia Technologies Retreat, Chicago, IL. "Gene therapy for tachyarrhythmias."
- 11/04 American Heart Association Policy Conference. Challenges in Cardiology Training Roundtable, New Orleans, LA. "Transition from trainee to faculty."
- 11/04 American Heart Association Annual Meeting. New Orleans, LA. "Therapeutic applications of myocardial gene transfer."
- 1/05 3rd Fairberg Workshop. The Communicative Cell. Sintra, Portugal. "Modification of cellular communication by gene transfer".
- 5/05 Heart Rhythm Society Annual Meeting. San Francisco, CA. "Nuts and bolts of myocardial gene transfer".
- 11/05 William Beaumont Hospital, Royal Oaks, MI. Visiting Professor in Cardiology.
- 1/06 Carle Clinic, University of Illinois School of Medicine, Urbana, IL. Department of Medicine Grand Rounds.
- 5/06 Heart Rhythm Society Annual Meeting. New Orleans, LA. "Gene Therapy for AF."
- 6/06 American Society of Gene Therapy Annual Meeting. Baltimore, MD. "Large animal models in gene therapy preclinical studies."
- 6/06 Cardiostim. 15th World Congress in Cardiac Electrophysiology. Nice, France. "Atrial Gene Transfer".
- 8/06 Inherited arrhythmias: a National Heart, Lung, and Blood Institute and Office of Rare Diseases workshop consensus report about the diagnosis, phenotyping, molecular mechanisms, and therapeutic approaches for primary cardiomyopathies of gene mutations affecting ion channel function. Washington, DC. "Gene and cell transfer for rare and inherited arrhythmias."
- 10/06 17th Rappaport Symposium. Tel Aviv, Israel. "Mechanisms of ventricular tachycardia ablation by somatic gene transfer".
- 10/06 8th International Dead Sea Symposium, Tel Aviv, Israel. "Future Therapies for SCD: will there be a role for targeted gene and cell therapies?"
- 4/07 International Society for Computerized Electrocardiography Annual Meeting, Cancun, Mexico. "Gene therapy for cardiac tachyarrhythmias."
- 5/07 Heart Rhythm Society Annual Meeting. Denver, CO. "Sudden Cardiac Death: Is the substrate monogenetic or polygenetic"; "Targeting gap junctions with cell and gene therapy to suppress arrhythmias."
- 10/07 2nd International Symposium on Ventricular Arrhythmias. Philadelphia, PA. "Molecular potassium channel ablation."
- 3/08 American College of Cardiology Annual Meeting. Chicago, IL. "Gene therapy in the treatment of cardiac arrhythmias."

- 5/08 Heart Rhythm Society Annual Meeting. San Francisco, CA. “Gene therapies directed at potassium channels”; “Strategies for a successful career in translational EP.”
- 6/08 Cardiostim. 16th World Congress in Cardiac Electrophysiology. Nice, France. “Gene constructs for antiarrhythmic therapy.”
- 10/08 California Heart Rhythm Conference. San Diego, CA. “Genetic ablation of ventricular tachycardia.”
- 11/08 Cardiac EP Society Annual Meeting. New Orleans, LA. “Antiarrhythmic AV node ablation and genetic modification.”
- 4/09 MedStar Cardiology Update. Washington, DC. “Gene therapy for ventricular tachyarrhythmias after myocardial infarction.”
- 5/09 Heart Rhythm Society Annual Meeting. Boston, MA “Gene therapy for atrial fibrillation”, “Gene therapy for ventricular tachyarrhythmias”, “Fundamentals of myocardial gene transfer.”
- 10/09 4th International Symposium on Ventricular Arrhythmias. Philadelphia, PA. “Themes in basic science that will be important to clinical electrophysiologists in the next 5-10 years.”
- 2/10 7th Winter Arrhythmia School. Collingwood, ON, Canada. “Molecular/cellular therapies for arrhythmia treatment”
- 3/10 American College of Cardiology Annual Meeting. Atlanta, GA. “Gene therapy for atrial fibrillation”.
- 4/10 European Cardiac Arrhythmia Society Annual Meeting. Munich, Germany. “Biological therapies as replacement for device therapies.”
- 5/10 Heart Rhythm Society Annual Meeting. Denver, CO. “Basic concepts in gene therapy.”
- 5/10 American Society of Gene and Cell Therapy Annual Meeting. Washington, DC. “Development of a gene therapeutic for atrial arrhythmias.”
- 6/10 Cardiostim. 17th World Congress in Cardiac Electrophysiology. Nice, France. “Gene therapy for atrial fibrillation and ventricular tachycardia.”
- 1/11 16th Annual Boston Atrial Fibrillation Symposium. Boston, MA. “Gene therapy for atrial fibrillation.”
- 2/11 Electrophysiology Grand Rounds. University Hospitals, Case Medical Center. “Gene therapy for atrial fibrillation.”
- 5/11 Heart Rhythm Society Annual Meeting. San Francisco, CA. “Reentry and atrial fibrillation.”
- 6/11 Board meeting. American Heart Association, Cleveland Chapter. “Arrhythmia gene therapy.”
- 11/11 Division of Cardiology, University of North Carolina-Chapel Hill, Grand Rounds.
- 12/11 Department of Molecular Cardiology, Lerner Research Institute, Cleveland Clinic. Grand Rounds.
- 4/12 Division of Cardiology, Dartmouth University, Grand Rounds.
- 5/12 Stanford University Biodesign New Arrhythmia Technologies Retreat. “Gene therapy for atrial fibrillation.”
- 5/12 Heart Rhythm Society Annual Meeting. Boston, MA. “My path: basic, translational and clinical EP career development in the mid-Atlantic and mid-West.”

Bibliography

Editorials

1. Tomaselli GF and Donahue JK. Point of View: Somatic Gene Transfer and Cardiac Arrhythmias – Problems and Prospects. *J Cardiovasc Electrophysiol* 2003;14:547-551.
2. Donahue JK. Sonic the Hedgehog to the rescue? *Gene Ther* 2006;13:998-999.
3. Donahue JK. Gender and the Heart. *Heart Rhythm* 2006;3:840-841.
4. Donahue JK. Novel strategy to reduce sudden death risk in the healing phase after myocardial infarction. *Circulation* 2009;119:6-8.
5. Donahue JK. Advice for management of the Long-QT patient. *J Cardiovasc Electrophysiol* 2010;21:902-4.

Book chapters

1. Donahue JK. Adenovirus-mediated myocardial gene therapy, in Hasenfuss G, Marbán E (eds): Molecular Approaches to Heart Failure Therapy. Darmstadt, Germany, Steinkopff Verlag Publishing, 2000, pp 100-111.
2. Janssen PML, Lehnart SE, Donahue JK, Prestle J, Marbán E and Hasenfuss G. Adenovirus-mediated transfection of multicellular cardiac preparations, in Hasenfuss G, Marbán E (eds): Molecular Approaches to Heart Failure Therapy. Darmstadt, Germany, Steinkopff Verlag Publishing, 2000, pp 112-125.
3. Donahue JK. Ion Channel Regulation: from arrhythmias to genes to channels (to cures?). Doevendans P and Kääh S (eds) Cardiovascular Genomics: new pathophysiological concepts. Dordrecht, the Netherlands, Kluwer Academic Publishers, 2002 pp 159-165.
4. Donahue JK and Marbán E. Gene therapy for cardiac arrhythmias, in Runge MS, Patterson C (eds) Principles of Molecular Cardiology. Totowa, NJ, Humana Press, Inc., 2005, pp 353-358.
5. Donahue JK, McDonald AD, Fraser H, Rade JJ, Miller JM, and Heldman AH. Gene therapy for atrial fibrillation, in Zenati M and Schwartzman D (eds) Innovative Management of Atrial Fibrillation. Malden, MA, Blackwell Publishing, Inc., 2005, pp 171-177.
6. Strom M, Greener ID, and Donahue JK. Introduction to translational research, in Sigg D, He B, Iaizzo P and Xiao YF (eds) Cardiac Electrophysiology, methods and models. New York, NY, Springer Publishing Co. 2010, pp 441-456.

7. Donahue JK and Laurita KR. Approaches to atrial fibrillation and post-infarction ventricular tachycardia, in Cohen I and Gaudette G (eds) *Stem Cell Biology and Regenerative Medicine*. New York, NY, Springer Publishing Co., 2011, pp349-378.
8. Donahue JK. The biological pacemaker, in Ellenbogen K, Wilcoff B, Kay GN and Lau CP (eds) *Clinical Cardiac Pacing, Defibrillation, and Resynchronization Therapy*, 4th Edn, Philadelphia, PA, Saunders an imprint of Elsevier, Inc., 2011, pp 191-195.
9. Igarashi T and Donahue JK. Gene therapy for ventricular tachyarrhythmias, in Dudley S, Kocheril A and Alizadehsovari A (eds) *Ventricular Arrhythmias: From Principles to Patients*, Hauppauge, NY, Nova Science Publishers, Inc, 2011, (in press).

Peer-reviewed articles

1. Yamada K, McHowat J, Yan G, Donahue K, Peirick K, Kleber A, and Corr P. Cellular uncoupling induced by the accumulation of long chain acetylcarnitine during ischemia. *Circ Res* 74:83-95, 1994.
2. Donahue JK, Kikkawa K, Johns D, Marbán E, and Lawrence JH. Ultrarapid, highly efficient viral gene transfer to the heart. *Proc Natl Acad Sci USA* 94:4664-4668, 1997.
3. Donahue JK, Kikkawa K, Thomas AD, Marbán E, and Lawrence JH. Acceleration of widespread adenoviral gene transfer to intact rabbit hearts by coronary perfusion with low calcium and serotonin. *Gene Ther* 5:630-634, 1998.
4. Donahue JK, Orias D, Berger RD, Tomaselli GF, Lawrence JH, and Calkins H. Comparison of adenosine effects on AV node reentry and atrioventricular reciprocating tachycardias. *Clin Cardiol* 21:743-746 1998.
5. Lehnart SE, Janssen PML, Franz WM, Donahue JK, Lawrence JH, Marbán E, Prestle J, and Hasenfuss G. Preservation of myocardial function after adenoviral gene transfer in isolated myocardium. *Am J Physiol Heart Circ Physiol* 279: H986-H991 2000.
6. Donahue JK*, Heldman AH, Fraser H, McDonald AD, Miller JM, Rade JJ, Eschenhagen T and Marbán E. Focal modification of electrical conduction in the heart by viral gene transfer. *Nature Medicine* 6:1395-1398 2000. *first and corresponding author
7. Nagata K, Marbán E, Lawrence JL and Donahue JK. Phosphodiesterase inhibitor-mediated potentiation of adenovirus delivery to myocardium. *J Mol Cell Cardiol* 33:575-580 2001.
8. Lehnart SE and Donahue JK. Gene therapy for the treatment of common cardiac arrhythmias, Braunwald E (ed) *MDCConsult.com* published online 3/2001.
9. Calkins H, Ramza BM, Brinker J, Atiga W, Donahue K, Nsah E, Taylor E, Halperin H, Lawrence JH, Tomaselli G, and Berger RD. Prospective randomized comparison of the safety and effectiveness of placement of endocardial pacemaker and defibrillator leads using the

extrathoracic subclavian vein guided by contrast venography versus the cephalic approach. *Pacing Clin Electrophysiol* 24:456-464 2001.

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Patents

Gene delivery compositions and methods (US Patents 6376471, 6855701, 7256182, pending US applications 20020103156, 20050101559)

Methods and compositions for nucleic acid delivery (US Patent 6992070, pending US application 20020094326)

Cardiac arrhythmia treatment methods, (US Patent 7034008, pending US applications 20040266716, 20040266717, 20050107323, 20070048284)

Gene delivery to organs, (pending US applications 20050014714, 20080261909)

Entrepreneurship

Excigen, Inc. A gene therapy company. Co-founder 2002, member, Board of Directors.