

CURRICULUM VITAE

ULRIKE MENDE, MD, FAHA

Business Address: Cardiovascular Institute at Rhode Island Hospital &
Alpert Medical School of Brown University
Cardiovascular Research Center, Coro Center West, 5th floor (Room 5106)
1 Hoppin Street, Providence, RI 02903

Telephone (401) 444-9854
Fax (401) 444-9203
E-mail Address ulrike_mende@brown.edu

EDUCATION

<i>Institution</i>	<i>Degree</i>	<i>Date</i>
Medical School, University of Hamburg, Germany		1982 - 1988
	“Approbation”	May 1988
Department of Pharmacology, University of Hamburg, Germany	Doctoral Thesis MD (magna cum laude)	1985 - 1988 Sept 1988

POSTGRADUATE TRAINING

<i>Institution</i>	<i>Position</i>	<i>Specialty</i>	<i>Date</i>
Department of Pharmacology, University of Hamburg, Germany	Research Fellow	Pharmacology	1988 - 1992
Brigham and Women's Hospital and Harvard Medical School, Boston, MA	Research Fellow	Cardiovascular Basic Science	1992 - 1995

POSTGRADUATE HONORS AND AWARDS

(1) RESEARCH

<i>Name of Award</i>	<i>Institution Presenting Award</i>	<i>Date Received</i>
Dr. Martini Award [Together with Dr. T. Eschenhagen]	University of Hamburg, Germany	May 1991
Postdoctoral Fellowship Award	Deutsche Forschungsgemeinschaft	1992 - 1994
Thomas W. Smith Fellowship Award	Brigham and Women's Hospital, Boston	1998 - 1999
Louis N. and Arnold M. Katz Basic Science Research Prize for Young Investigators (Finalist)	American Heart Association	11/10/1998
New England Cardiovascular Research Competition (3 rd Prize)	AstraZeneca	12/01/1998
New Investigator Travel Award	American Heart Association	07/10/2002
9 th Annual AstraZeneca Cardiovascular Young Investigators' Forum (2 nd Prize)	AstraZeneca	10/18/2003
Fellow of the American Heart Association	American Heart Association	11/14/2006

(2) **TEACHING**

<i>Name of Award</i>	<i>Institution Presenting Award</i>	<i>Date Received</i>
Best Tutor Teaching Award (<i>Integrated Human Physiology</i>)	Harvard Medical School	2002 & 2004
Dean's Teaching Award (<i>Integrated Medical Sciences: Cardiovascular</i>)	Brown Medical School	June 2008
NRMN-Certification as Facilitator (<i>Research Mentoring Training</i>)	National Research Mentoring Network	Nov 2018
Dean's Award - Faculty Research Mentoring (<i>Advance-CTR Mentoring Training</i>) [Together with Drs. A. Caffrey, S. Colby, D. Hoffman-Kim, and M. Mello]	Brown Division of Biology and Medicine	2020
Dean's Award - Faculty Research Mentoring (<i>Advance-K Scholar Career Development Program</i>) [Together with Drs. S. Rounds and A. van Wart]	Brown Division of Biology and Medicine	2021

(3) **OTHER**

Honorary M.A. ad eundum	Brown University	May 2007
-------------------------	------------------	----------

POSTGRADUATE PROFESSIONAL DEVELOPMENT

<i>Training Program</i>	<i>Institution</i>	<i>Dates</i>
C-Change Mentoring and Leadership Institute	Brandeis University [National Initiative on Gender, Culture and Leadership in Medicine, C-Change]	Jan to Oct 2017
NRMN Facilitator Training (<i>Train-the-Trainer workshop to implement Mentoring Training for faculty in RI</i>)	<u>N</u> <u>a</u> <u>t</u> <u>i</u> <u>o</u> <u>n</u> <u>a</u> <u>l</u> <u> </u> <u>R</u> <u>e</u> <u>s</u> <u>e</u> <u>a</u> <u>r</u> <u>c</u> <u>h</u> <u> </u> <u>M</u> <u>e</u> <u>n</u> <u>t</u> <u>o</u> <u>r</u> <u>i</u> <u>n</u> <u>g</u> <u> </u> <u>N</u> <u>e</u> <u>t</u> <u>w</u> <u>o</u> <u>r</u> <u>k</u> [Held at the U. Massachusetts Amherst]	Nov 2017
Dealing with Conflict Training • <i>Basic understanding of conflict</i> • <i>Facilitating conflict resolution</i>	Brown University (Ombuds Office)	Jan - Mar 2019
DEI STEM Faculty Seminar (<i>Building knowledge and making changes</i>)	Brown University	Nov 2020 - June 2021
Grant Writing Workshop • <i>Structuring NIH Proposals</i> • <i>The Ecosystem of NIH K Awards</i>	AtKisson Training Group [Virtual; hosted by Brown University]	April 2021
LEAD-in ³ Leadership Program (Integrated, Intentional, Inclusive)	AtKisson Training Group [Virtual]	Jan - Apr 2022
Career Advancement and Leadership Skills for Women in Healthcare (sponsored by Brown OWIMS)	Harvard Medical School [Virtual]	Nov 2022
Unconscious Bias Course	National Research Mentoring Network [Virtual]	Mar 2023

ACADEMIC APPOINTMENTS

<i>Position Held</i>	<i>Institution</i>	<i>Date</i>
Instructor in Medicine	Harvard Medical School, Boston, MA	1995 - 2000
Assistant Professor of Medicine	Harvard Medical School, Boston, MA	2000 - 2005
Associate Professor of Medicine	Brown Medical School, Providence, RI	2006 - 2015
Professor of Medicine	Brown Medical School, Providence, RI	2015 - present

HOSPITAL APPOINTMENTS

<i>Position Held</i>	<i>Institution</i>	<i>Date</i>
Research Associate	Brigham and Women's Hospital, Boston, MA	1995 - 2005
Research Associate	Rhode Island Hospital, Providence, RI	2005 - 2010
Senior Research Scientist	Rhode Island Hospital, Providence, RI	2010 - present

OTHER APPOINTMENTS

<i>Role</i>	<i>Journal</i>	<i>Date</i>
Ad hoc reviewer	Circulation; J Mol Cell Cardiol	1999 - 2018
	Am J Physiol; Physiol Genomics	2004 - 2018
	Cell; Mol Cell Biol; FASEB J	2007 - 2018
	Circ Arrhythm Electrophys; Biomaterials; BMC Pharmacol Toxicol; Circ J; Cardiovasc Physiol	2014 - 2018
	Life Sciences	2013 - 2018
Editorial Advisory Board Member		

<i>Role</i>	<i>Study Section</i>	<i>Funding Agency</i>	<i>Date</i>
Reviewer, then Co-chair	Northeast Affiliate 5A	<u>American Heart Association</u>	2000 - 2003
Reviewer	Cardiovasc. Pathophys. 1		2002
Reviewer	Integrative Cardiac Biology and Regulation		2004 - 2007
Co-Chair	Region 1 - Cardiac Biology 1		2008 - 2009
Chair	Cardiac Biology & Regulation 2		2010 - 2011
Ad hoc reviewer	Cardiac Contractility, Hypertrophy & Failure (CCHF) Study Section	<u>National Institutes of Health</u>	June 2007
Ad hoc reviewer	Special Emphasis Panel		Feb 2008
Ad hoc reviewer	Program Project Grant Review Panel		May 2008
Ad hoc reviewer	Special Emphasis Panel		June 2008
Ad hoc reviewer	CCHF Study Section		Oct 2008
Ad hoc reviewer	Special Emphasis Panel		May 2009
Ad hoc reviewer	Special Emphasis Panel		July 2009
Ad hoc reviewer	Program Project Grant Review Panel		May 2014
Ad hoc reviewer	CCHF Study Section		Oct 2014
Ad hoc reviewer	Special Emphasis Panel (Organ Fibrosis)		March 2016
Member	CCHF Study Section		2015 - 2019

<i>Role</i>	<i>Study Section</i>	<i>Funding Agency</i>	<i>Date</i>
Ad hoc reviewer	Multinational Grant Program	<u>Human Frontiers in Sciences</u>	Oct 2014
Ad hoc reviewer	Research Grant Program	<u>Medical Research Council</u> (UK)	May 2020
Ad hoc reviewer	Project Grant Program	<u>National Centre for the Replacement Refinement & Reduction of Animals in Research</u> (NC3Rs, UK)	June 2020

HOSPITAL COMMITTEES

<i>Role</i>	<i>Committee</i>	<i>Date</i>
Reviewer	Lifespan Development Grant Program	2007
Advisor	RIH Planning Committee for Coro 1 Renovation (Construction of new Barrier Facility for Rodent Housing)	2008 2011-2012

UNIVERSITY COMMITTEES

<i>Role</i>	<i>Committee</i>	<i>Date</i>
Co-Founding PI	Cardiovascular Research Center at Rhode Island Hospital	2005 - present
Member	Brown Cardiovascular Community Steering Committee	2005 - 2007
Member	Faculty Search Committees, Department of Molecular Physiology, Pharmacology and Biotechnology (MPPB)	2006 2007
Member	Task Force for Animal Model Cardiac and Vascular Imaging Brown University and Affiliated Hospitals	2007
Member	Executive Committee, Center of Biomedical Research Excellence (COBRE) in Perinatal Biology (P20 RR018728)	2008 - 2013
Member	Executive Committee, Brown CardioPulmonary Research Training Program (T32 HL094300)	2008 - 2013
Member/AAR	Faculty Search Committee, Department of Medicine, Cardiology Division	2010
Member	Ad hoc Committee for Faculty Promotion Policies	2010 - 2013
Member	Brown University Genomics Core Steering Committee	2012 - 2013
Member	Executive Committee, COBRE in CardioPulmonary Vascular Biology (P20 GM103652)	2013 - 2018
Member/AAR	Faculty Search Committee, Department of Medicine, Cardiology Division	2015
Co-Founding Faculty	Center to Advance Predictive Biology at Brown University	2016 - present
Member	Advance-Clinical Translational Research Professional Development Core Steering Committee (U54 GM115677)	2017 - present
Member	Office of Women in Medicine and Science Advisory Board	2018 - present
Member	Faculty Search Committee, Department of Orthopedics	2019 - 2021
Member	Faculty Search Committees, Lifespan Cardiovascular Institute	2019 - present
Co-Director	Advance-K program (Advance RI-CTR, Brown University) (plus Curriculum Planning then Steering Committee Member)	2019 - present
Member	Mentoring Steering Committee (Adv. RI-CTR, Brown University)	2021 - present

NATIONAL COMMITTEES

<i>Role</i>	<i>Committee</i>	<i>Institution</i>	<i>Date</i>
Member & Vice Chair	Founders Affiliate Research Committee	American Heart Association	2008 - 2013
Member	Peer Review Steering Committee	American Heart Association	2014 - 2016

MEMBERSHIP IN SOCIETIES

<i>Society</i>	<i>Role</i>	<i>Date</i>
German Society of Pharmacology and Toxicology	Member	1990 - 2000
German Society of Heart and Circulation Research	Member	1991 - 2005
American Heart Association	Member	1995 - present
American Society for Biochemistry and Molecular Biology	Member	1996 - 2018
Heart Failure Society of America	Member	2003 - 2004
International Society for Heart Research	Member	2003 - 2012
American Physiological Society	Member	2012 - 2018

PUBLICATION LIST

ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS

It was the general policy of the laboratory in Germany to list authors in alphabetical order within each group. Manuscripts from that time, to which contributions were made that would generally warrant first or shared first authorship, are marked by #. For all other publications, bold font highlights the position in authorship lists.

1. # Böhm M, Mende U, Schmitz W, Scholz H. Increased sensitivity to α -adrenoceptor stimulation but intact purinergic and muscarinergic effects in prehypertensive cardiac hypertrophy of spontaneously hypertensive rats. *Naunyn Schmiedebergs Arch Pharmacol.* 1986; 333(3): 284-289.
2. # Böhm M, Mende U, Schmitz W, Scholz H. Does an impaired adenosine mediated feedback control play a role in the development of hereditary dystrophic cardiomyopathy? *Cardiovasc Res.* 1986; 20(8): 568-573.
3. # Böhm M, Mende U, Schmitz W, Scholz H. Increased responsiveness to stimulation of α - but not β -adrenoceptors in the hereditary cardiomyopathy of the Syrian hamster. Intact adenosine- and cholinergic-mediated isoprenaline antagonistic effect. *Eur J Pharmacol.* 1986; 128(3): 195-203.
4. Böhm M, Mende U, Schmitz W, Scholz H. Cardiac α -receptors and cardiac hypertrophy in genetic predisposition to hypertension. *Am Heart J.* 1986; 112(6): 1347-1349.
5. # Eschenhagen T, Mende U, Nose M, Schmitz W, Scholz H, Warnholtz A, Wüstel JM. Isoprenaline-induced increase in mRNA levels of inhibitory G-protein α -subunits in rat heart. *Naunyn Schmiedebergs Arch Pharmacol.* 1991; 343(6): 609-615.
6. von der Leyen H, Mende U, Meyer W, Neumann J, Nose M, Schmitz W, Scholz H, Starbatty J, Stein B, Wenzlaff H. Mechanism underlying the reduced positive inotropic effects of the phosphodiesterase III inhibitors pimobendan, adibendan and saterinone in failing as compared to nonfailing human cardiac muscle preparations. *Naunyn Schmiedebergs Arch Pharmacol.* 1991; 344(1): 90-100.
7. Bethke T, Klimkiewicz A, Kohl C, von der Leyen H, Mehl H, Mende U, Meyer W, Neumann J, Schmitz W, Scholz H. Effects of isomazole on force of contraction and phosphodiesterase

- isoenzymes I-IV in nonfailing and failing human hearts. *J Cardiovasc Pharmacol.* 1991; 18(3): 386-397.
8. # Mende U, Eschenhagen T, Geertz B, Schmitz W, Scholz H, Schulte am Esch J, Sempell R, Steinfath M. Isoprenaline-induced increase in the 40/41 kDa pertussis toxin substrates and functional consequences on contractile response in rat heart. *Naunyn Schmiedebergs Arch Pharmacol.* 1992; 345(1): 44-50.
 9. # Eschenhagen T, Mende U, Diederich M, Nose M, Schmitz W, Scholz H, Schulte am Esch J, Warnholtz A, Schäfer H. Long term β -adrenoceptor-mediated up-regulation of $G\alpha_i$ and $G\alpha_o$ mRNA levels and pertussis toxin-sensitive guanine nucleotide-binding proteins in rat heart. *Mol Pharmacol.* 1992; 42(5): 773-783.
 10. Bethke T, Eschenhagen T, Klimkiewicz A, Kohl C, von der Leyen H, Mehl H, Mende U, Meyer W, Neumann J, Rosswag S. Phosphodiesterase inhibition by enoximone in preparations from nonfailing and failing human hearts. *Arzneimittelforschung.* 1992; 42(4): 437-445.
 11. Steinfath M, Danielsen W, von der Leyen H, Mende U, Meyer W, Neumann J, Nose M, Reich T, Schmitz W, Scholz H. Reduced α_1 - and β_2 -adrenoceptor-mediated positive inotropic effects in human end-stage heart failure. *Br J Pharmacol.* 1992; 105(2): 463-469.
 12. Eschenhagen T, Mende U, Nose M, Schmitz W, Scholz H, Haverich A, Hirt S, Döring V, Kalmár P, Höppner W. Increased messenger RNA level of the inhibitory G protein α subunit $G\alpha_{i2}$ in human end-stage heart failure. *Circ Res.* 1992; 70(4): 688-689
 13. Stein B, Mende U, Neumann J, Schmitz W, Scholz H. Pertussis toxin unmasks stimulatory myocardial A₂-adenosine receptors on ventricular cardiomyocytes. *J Mol Cell Cardiol.* 1993; 25(6): 655-659.
 14. Böhm M, Eschenhagen T, Gierschik P, Larisch K, Lensche H, Mende U, Schmitz W, Schnabel P, Scholz H, Steinfath M. Radioimmunochemical quantification of $G\alpha_i$ in right and left ventricles from patients with ischaemic and dilated cardiomyopathy and predominant left ventricular failure. *J Mol Cell Cardiol.* 1994; 26(2): 133-49.
 15. von Schrenck T, Mackensen B, Mende U, Schmitz W, Sievers J, Mirau S, Raedler A, Greten H. Signal transduction pathway of the muscarinic receptors mediating gallbladder contraction. *Naunyn Schmiedebergs Arch Pharmacol.* 1994; 349(4): 346-354.
 16. Jakob H, Sigmund M, Eschenhagen T, Mende U, Patten M, Schmitz W, Scholz H, Schulte am Esch J, Steinfath M, Hanrath P. Effect of captopril on myocardial β -adrenoceptor density and $G\alpha_i$ proteins in patients with mild to moderate heart failure due to dilated cardiomyopathy. *Eur J Clin Pharmacol.* 1995; 47(5): 389-394.
 17. Eschenhagen T, Diederich M, Kluge SH, Magnussen O, Mende U, Muller F, Schmitz W, Scholz H, weil J, Sent U, Schaad A, Scholtysik G, Wuthrich A, Gaillard C. Bovine hereditary cardiomyopathy: an animal model of human dilated cardiomyopathy. *J Mol Cell Cardiol.* 1995; 27: 357-370.
 18. Boluyt MO, Long X, Eschenhagen T, Mende U, Schmitz W, Crow MT, Lakatta EG. Isoproterenol infusion induces alterations in expression of hypertrophy-associated genes in rat heart. *Am J Physiol.* 1995; 269(2 Pt 2): H638-H647.
 19. Bartel S, Stein B, Eschenhagen T, Mende U, Neumann J, Schmitz W, Krause EG, Karczewski P, Scholz H. Protein phosphorylation in isolated trabeculae from nonfailing and failing human hearts. *Mol Cell Biochem.* 1996; 157(1-2): 171-179.
 20. Stokke M, Hagelin EM, Mende U, Brørs O. Stable guanosine 5'-triphosphate-analogues inhibit specific (+)-[³H]isradipine binding in rat hearts by a Ca^{2+} -lowering, G protein-independent mechanism. *Pharmacol Toxicol.* 1996; 78(1): 28-36.

21. # Eschenhagen T, Mende U, Diederich M, Hertle B, Memmesheimer C, Pohl A, Schmitz W, Scholz H, Steinfath M, Böhm M, Michel MC, Brodde OE, Raap A. Chronic treatment with carbachol sensitizes the myocardium to cAMP-induced arrhythmia. *Circulation*. 1996; 93(4): 763-771.
22. **Mende U**, Schmidt CJ, Yi F, Spring DJ, Neer EJ. The G protein γ subunit. Requirements for dimerization with β subunits. *J Biol Chem*. 1995; 270(26): 15892-15898.
23. Li Y, **Mende U**, Lewis C, Neer EJ. Maintenance of cellular levels of G-proteins: different efficiencies of α_s and α_o synthesis in GH3 cells. *Biochem J*. 1996; 318(Pt 3): 1071-1077.
24. Valenzuela D, Han X, **Mende U**, Fankhauser C, Mashimo H, Huang P, Pfeffer J, Neer EJ, Fishman MC. $G\alpha_o$ is necessary for muscarinic regulation of Ca^{2+} channels in mouse heart. *Proc Natl Acad Sci U S A*. 1997; 94(5): 1727-1732.
25. **Mende U**, Zagrovic B, Cohen A, Li Y, Valenzuela D, Fishman MC, Neer EJ. Effect of deletion of the major brain G-protein alpha subunit (α_o) on coordination of G-protein subunits and on adenylyl cyclase activity. *J Neurosci Res*. 1998; 54(2): 263-272.
26. **Mende U**, Kagen A, Cohen A, Aramburu J, Schoen FJ, Neer EJ. Transient cardiac expression of constitutively active $G\alpha_q$ leads to hypertrophy and dilated cardiomyopathy by calcineurin-dependent and independent pathways. *Proc Natl Acad Sci U S A*. 1998; 95(23): 13893-13898.
27. **Mende U**, Kagen A, Meister M, Neer EJ. Signal transduction in atria and ventricles of mice with transient cardiac expression of activated G protein α_q . *Circ Res*. 1999; 85(11): 1085-1091.
28. Greif GJ, Sodickson DL, Bean BP, Neer EJ, **Mende U**. Altered regulation of potassium and calcium channels by GABA_B and adenosine receptors in hippocampal neurons from mice lacking $G\alpha_o$. *J Neurophysiol*. 2000; 83(2): 1010-1018.
29. **Mende U**, Semsarian C, Martins DC, Kagen A, Duffy C, Schoen FJ, Neer EJ. Dilated cardiomyopathy in two transgenic mouse lines expressing activated G protein α_q : lack of correlation between phospholipase C activation and the phenotype. *J Mol Cell Cardiol*. 2001; 33(8): 1477-1491. (*Editorial by Dr. A.M. Samarel and selected for journal cover.*)
30. Gehrman J, Meister M, Maguire CT, Martins DC, Hammer PE, Neer EJ, Berul CI, **Mende U**. Impaired parasympathetic heart rate control in mice with a reduction of functional G protein $\beta\gamma$ subunits. *Am J Physiol Heart Circ Physiol*. 2002; 282(2): H445-H456.
31. Semsarian C, Ahmad I, Giewat M, Georgakopoulos D, Schmitt JP, McConnell BK, Reiken S, **Mende U**, Marks AR, Kass DA, Seidman CE, Seidman JG. The L-type calcium channel inhibitor diltiazem prevents cardiomyopathy in a mouse model. *J Clin Invest*. 2002; 109(8): 1013-1020.
32. Schmitt JP, Kamisago M, Asahi M, Li GH, Ahmad F, **Mende U**, Kranias EG, MacLennan DH, Seidman JG, Seidman CE. Dilated cardiomyopathy and heart failure caused by a mutation in phospholamban. *Science*. 2003; 299(5611): 1410-1413.
33. Anger T, Zhang W, **Mende U**. Differential contribution of GTPase activation and effector antagonism to the inhibitory effect of RGS proteins on G_q -mediated signaling *in vivo*. *J Biol Chem*. 2004; 279(6): 3906-3915.
34. Carvalho-Bianco SD, Kim BW, Zhang JX, Harney JW, Ribeiro RS, Gereben B, Bianco AC, **Mende U**, Larsen PR. Chronic cardiac-specific thyrotoxicosis increases myocardial β -adrenergic responsiveness. *Mol Endocrinol*. 2004; 18(7): 1840-1849.
35. Zhang W, Anger T, Su J, Hao J, Xu X, Zhu M, Gach A, Cui L, Liao R, **Mende U**. Selective loss of fine-tuning of $G_{q/11}$ signaling by RGS2 protein exacerbates cardiomyocyte hypertrophy. *J Biol Chem*. 2006; 281(9): 5811-5820.

36. Hao J, Zhang W, Michalek C, Zhu M, Xu X, **Mende U**. Regulation of cardiomyocyte signaling by RGS proteins: differential selectivity towards G proteins and susceptibility to regulation. *J Mol Cell Cardiol*. 2006; 41: 51-61. (*Editorial by Dr. T. Muslin.*)
37. Schmitt JP, Debold EP, Ahmad F, Armstrong A, Frederico A, Conner DA, **Mende U**, Lohse MJ, Warshaw D, Seidman CE, Seidman JG. Cardiac myosin missense mutations cause dilated cardiomyopathy in mouse models and depress molecular motor function. *Proc Natl Acad Sci USA*. 2006; 103(39): 14525-14530.
38. Fish S, Gray S, Heymans S, Wang B, Haldar S, Pfister O, Cui L, Kumar A, Lin Z, Sen-Banerjee S, Das H, Petersen CA, **Mende U**, Burleigh BA, Zhu Y, Pinto Y, Liao R, Jain M. Kruppel-like factor KLF 15 is a novel regulator of cardiomyocyte hypertrophy. *Proc Natl Acad Sci USA*. 2007; 104(17): 7074-7079.
39. Niizeki T, Takeishi Y, Kitahara T, Arimoto T, Koyama Y, Goto K, **Mende U**, Kubota I. Diacylglycerol kinase ζ rescues $G\alpha_q$ -induced heart failure in transgenic mice. *Circ J* 2008; 72: 309-317.
40. Zhu M, Gach A, Liu GX, Xu X, Lim CC, Zhang JX, Mao L, Chuprun K, Koch WJ, Liao R, Koren G, Blaxall BC, **Mende U**. Enhanced calcium cycling and contractile function in transgenic hearts expressing constitutively active $G\alpha_o$ protein. *Am J Physiol Heart Circ Physiol* 2008; 294: H1335-H1347.
41. Drelicharz L, Kozlovski V, Skorcka T, Heinze-Paluchowska S, Jasinski A, Gebaska A, Guzik T, Olszanecki R, Wojnar L, **Mende U**, Csanyi G, Chlopicki S. NO and PGI_2 in coronary endothelial dysfunction in transgenic mice with dilated cardiomyopathy. *Basic Res Cardiol* 2008; 103: 417-430.
42. Hirose M, Takeishi Y, Niizeki T, Shimojo H, Nakada T, Kubota I, Nakayama J, **Mende U**, Yamada M. Diacylglycerol kinase ζ inhibits $G\alpha_q$ -induced atrial remodeling in transgenic mice. *Heart Rhythm* 2009; 6: 78-84. (*Editorial by Dr. S. Nattel.*)
43. Pinz I, Zhu M, **Mende U**, Ingwall J. An improved isolation procedure for adult mouse cardiomyocytes. *Cell Biochem Biophys* 2011; 61: 93-101.
44. Chakir K, Zhu W, Tsang S, Woo AY, Yang D, Wang X, Zeng X, Rhee MH, **Mende U**, Koitabashi N, Takimoto E, Blumer KJ, Lakatta EG, Kass DA, Xiao RP. RGS2 is a primary terminator of β_2 -adrenergic receptor-mediated G_i signaling. *J Mol Cell Cardiol* 2011; 50(6): 1000-1007.
45. Hirose M, Takeishi Y, Niizeki T, Nakada T, Shimojo H, Kubota I, **Mende U**, Yamada M. Diacylglycerol kinase ζ inhibits ventricular tachyarrhythmias in a mouse model of heart failure: Roles of canonical transient receptor potential (TRPC) channels. *Circ J* 2011; 75:2333-2342.
46. Zhang P, Su J, King ME, Maldonado Lopez AE, Park C, **Mende U**. Regulator of G protein signaling 2 is a functionally important negative regulator of Angiotensin II-induced cardiac fibroblast responses. *Am J Physiol Heart Circ Physiol* 2011; 301: H147-H156. (*Selected for journal cover.*)
47. Mackiewicz U, Czarnowska E, Brudek M, Pająk B, Duda M, Emanuel K, Csanyi G, Fedorowicz A, Grochal E, Tyrankiewicz U, Skórka T, **Mende U**, Lewartowski B, Chłopicki S. Preserved cardiomyocyte function and altered desmin pattern in transgenic mouse model of dilated cardiomyopathy. *J Mol Cell Cardiol* 2012; 52(5):978-987.
48. Desroches BR*, Zhang P*, Choi B, King ME, Maldonado AE, Li W, Rago A, Liu GX, Nath N, Hartmann KM, Yang B, Koren G, Morgan JR, **Mende U**. Functional scaffold-free 3D cardiac microtissues: a novel model for the investigation of heart cells. *Am J Physiol Heart Circ Physiol* 2012; 302(10): H2031-H2042.
49. Park-Windhol C, Zhang P, Zhu M, Su J, Chaves Jr L, Maldonado AE, King ME, Rickey L, Cullen D, **Mende U**. $G_{q/11}$ -mediated signaling and hypertrophy in mice with cardiac-specific transgenic RGS2 expression. *PLoS ONE* 2012; 7(7): e40048.

50. Hirose M, Takeishi Y, Nakada T, Shimojo H, Kashihara T, Suzuki S, **Mende U**, Matsumoto K, Yamada M. Nicorandil prevents $G\alpha_q$ -induced progressive heart failure and ventricular arrhythmias in transgenic mice. *PLoS ONE* 2012; 7(12): e52667
51. Matsushita N, Hirose M, Takeishi Y, Kashihara T, Shimojo H, Nakada T, Suzuki S, **Mende U**, Taira E, Yamada M. Transient cardiac expression of constitutively active $G\alpha_q$ causes angiotensin II type1 receptor activation, leading to progressive heart failure and ventricular arrhythmias in transgenic mice. *PLoS ONE* 2014; 9(8): e106354.
52. Chichger H, Vang A, O'Connell KA, Zhang P, **Mende U**, Harrington EO, Choudhary G. PKC δ and PKC β II regulate Angiotensin II mediated fibrosis through p38: a mechanism for RV fibrosis in pulmonary hypertension. *Am J Physiol Lung Cell Mol Physiol* 2015; 308(8): L827-36.
53. Czarnowska E, Bierła JB, Toczek M, Tyrankiewicz U, Pająk B, Domal-Kwiatkowska D, Ratajska A, Smolenski RT, **Mende U**, Chlopicki S. Narrow time window of metabolic changes associated with transition to overt heart failure in TG α_q *44 mice. *Pharmacol Rep* 2016; 68: 707-714.
54. Kofron CM*, Kim TY*, King ME, Xie A, Feng F, Park E, Qu Z, Choi B-R#, **Mende U**#. $G\alpha_q$ -activated fibroblasts induce cardiomyocyte action potential prolongation and automaticity in a 3D microtissue environment. *Am J Physiol Heart Circ Physiol* 2017; 313(4): H810-H827 (# Co-corresponding senior authors).
55. Jhun BS, O-Uchi J, Adaniya SM, Mancini TJ, Cao JL, King ME, Landi AK, Ma H, Shin M, Yang D, Xu X, Yoon Y, Choudhary G, Clements RT, **Mende U**, Sheu S-S. Protein kinase D activation induces mitochondrial fragmentation and dysfunction in cardiomyocytes. *J Physiol* 2018; 596(5): 827-855.
56. Kim TY*, Kofron CM*, King ME, Marks A, Okundaye AO, Qu Z, **Mende U**#, Choi B-R#. Directed fusion of cardiac spheroids into larger heterocellular microtissues enables investigation of cardiac action potential propagation via cardiac fibroblasts. *PLoS ONE* 2018; 13(5):e0196714 (# Co-corresponding senior authors).
57. Kofron CM*, Kim TY*, Munarin F, Soepriatna AH, Kant RJ, **Mende U**, Choi B-R#, Coulombe KLK#. A predictive in vitro risk assessment platform for pro-arrhythmic toxicity using human 3D cardiac microtissues. *Sci Rep* 2021; 11(1):10228.
58. Vang A, da Silva Gonçalves Bos D, Fernandez-Nicolas A, Zhang P, Morrison AR, Mancini TJ, Clements RT, Polina I, Cypress MW, Jhun BS, Hawrot E, **Mende U**, O-Uchi J, Choudhary G. α 7 nicotinic acetylcholine receptor mediates right ventricular fibrosis and diastolic dysfunction in pulmonary hypertension. *JCI Insight* 2021;6(12):e142945.
59. Li X, Braza J, **Mende U**, Choudhary G, Zhang P. Cardioprotective effects of early intervention with sacubitril/valsartan on pressure overloaded rat hearts. *Sci Rep* 2021; 11(1):16542.
60. Soepriatna AH*, Navarrete-WeltonA*, KimTY, Daley MC, Bronk P, Kofron CM, **Mende U**, Coulombe KLK, Choi B-R. Action potential metrics and automated data analysis pipeline for cardiotoxicity testing using optically mapped hiPSC-derived cardiac microtissues. *PLoS ONE* 2023;18(2):e0280406.

PEER-REVIEWED REVIEW ARTICLES

61. Zhang P, **Mende U**. Regulators of G Protein Signaling in the heart and their potential as therapeutic targets. *Circ Res* 2011; 109: 320-333.
62. Zhang P, Su J, **Mende U**. Cross talk between cardiac myocytes and fibroblasts: from multiscale investigative approaches to mechanisms and functional consequences. *Am J Physiol Heart Circ Physiol* 2012; 303(12): H1385-H1396.

63. Zhang P, **Mende U**. Functional role, mechanisms of regulation, and therapeutic potential of regulator of G protein signaling 2 in the heart. *Trends Cardiovasc Med*; 2014; 24: 85-93.
64. Zhang P, Kofron CM, **Mende U**. Heterotrimeric G protein-mediated signaling and its non-canonical regulation in the heart. *Life Sciences* 2015; 129: 35-41.
65. Kofron CM, **Mende U**. *In vitro* models of the cardiac microenvironment to study myocyte and non-myocyte crosstalk: bioinspired approaches beyond the polystyrene dish. *J Physiol*; 2017; 595(12): 3891-3905.
66. Daley MC, **Mende U**, Choi B-R, McMullen PD, Coulombe KLK. Beyond pharmaceuticals: Fit-for-purpose new approach methodologies for environmental cardio toxicity testing. *ALTEX* 2023; 40(1):103.

OTHER PEER-REVIEWED PUBLICATIONS #

67. # Mende U. Digoxin. *Deutsche Apotheker Zeitung*. 1990; 29: 1649-1651.
68. # Mende U. Metildigoxin. *Deutsche Apotheker Zeitung*. 1990; 30: 1686-1688.
69. # Eschenhagen T, Mende U, Schmitz W, Scholz H, Schulte am Esch J, Sempell R, Warnholtz A, Wüstel JM. β -adrenoceptor stimulation-induced increase in cardiac G_i -protein expression and in carbachol sensitivity. *Eur Heart J*. 1991; 12(Suppl F): 127-131.
70. Schmitz W, Eschenhagen T, Mende U, Müller FU, Scholz H. The role of α_1 -adrenergic and muscarinic receptors in cardiac function. *Eur Heart J*. 1991; 12(Suppl F): 83-87.
71. Schmitz W, Eschenhagen T, Mende U, Müller FU, Neumann J, Scholz H. Phosphodiesterase inhibition and positive inotropy in failing human myocardium. *Basic Res Cardiol*. 1992; 87(Suppl 1): 65-71.
72. # Eschenhagen T, Mende U, Schmitz W, Scholz H. Changes in gene expression in terminal myocardial failure. *Z Kardiol*. 1992; 81(Suppl 4): 33-40.
73. # Eschenhagen T, Mende U, Nose M, Schmitz W, Scholz H, Schulte am Esch J, Sempell R, Warnholtz A, Wüstel JM. Regulation and possible functional implications of G-protein mRNA expression in non-failing and failing ventricular myocardium. *Basic Res Cardiol*. 1992; 87(Suppl 1): 51-64.

OTHER NON-PEER-REVIEWED PUBLICATIONS

Mende U. Effect of isoprenaline, carbachol, adenosine and phenylephrine on force of contraction of isolated ventricular papillary muscles of spontaneously hypertensive rats and syrian cardiomyopathic hamsters. Doctoral Thesis. University of Hamburg, Hamburg, Germany, 1988.

PUBLICATIONS SUBMITTED OR IN PREPARATION

- Zhang P, Ford K, Sung JH, Moeller J, Suzuki Y, Polina I, Tachibana T, Kusakari Y, Cypress MW, Chaput I, Drenkova K, Dileepan G, Landherr M, Adaniya SM, Mishra J, **Mende U**, Jhun BS, O-Uchi J. Tyrosine phosphorylation of mitofusin 2 regulates endoplasmic reticulum-mitochondria tethering. Under revision.
- Polina I, Mishra J, Cypress MW, Landherr M, Valkov N, Chaput I, Nieto B, **Mende U**, Zhang P, Jhun BS, O-Uchi J. Mitochondrial Ca^{2+} uniporter (MCU) variants form plasma-membrane channels. *bioRxiv* 2023:2023.07.31.551242 doi: 10.1101/2023.07.31.551242. (preprint under revision)

- Daley M*, Moreau M*, Kofron C, Soepriatna A, Fisher J, Nong A, **Mende U**, Choi B-R, Coulombe KLK*, McMullen P*. Using an in vitro human 3D microtissue platforms and pharmacokinetic modeling to inform the next generation of risk assessment. In preparation.

PEER-REVIEWED ABSTRACTS (only of research not published in original articles)

- A1. Miao W, Pinz I, Williams B, **Mende U**, Ingwall JS. Increased $G\alpha_q$ -mediated signaling in the mouse heart leads to blunted contractile performance upon inotropic stimulation and lactate dehydrogenase isoenzyme switch prior to hypertrophy. *Circulation*. 2004; 108 (Suppl): IV-288.
- A2. Zhu M, **Mende U**. Constitutively enhanced G_q Signaling alters Ca^{2+} handling prior to the development of cardiac hypertrophy in mice. *Circulation* 2004; 110 (Suppl): III-159, 758
- A3. Gach A, **Mende U**. The activated α subunit of heterotrimeric G_q protein regulates RGS2 protein expression by slowing its degradation. *Circulation* 2004; 110 (Suppl): III-257, 1228
- A4. Shansky J, Benesch-Lee F, Zhang P, Choi B, Nath N, **Mende U**, Vandenburg H. Screening Drug activity with tissue-engineered cardiac muscle. Keystone Symposium, Jan 2008.
- A5. Nath N, Zhang P, Kofron C, King M, Hoffman-Kim D, and **Mende U**. Cardiac myocyte behavior in micropatterned and continuously paced short-term cultures. *J Mol Cell Cardiol*. 2009; 46(5) Suppl 1: S18, P-53.
- A6. Zhang P, King M, Nath N, Kofron C, Hoffman-Kim D, and **Mende U**. Effects of continuous electrical field stimulation and hypertrophic stimulation on micropatterned cardiac myocytes. *Biophys J*. 2010; 98(3) Suppl 1: 602a
- A7. Laakmann S, Fortmüller L, Stümpel F, Kirchhefer U, Müller FU, Lutz S, Wieland T, **Mende U**, Kirchhof P, Fabritz F. Development of paroxysmal and perioperative atrial fibrillation and left atrial thrombi in $G\alpha_q$ overexpressing mice. *Clin Res Cardiol* 2010; 99 (Suppl 1): P728.
- A8. Su J, Park-Windhol C, King ME, Zhang P, **Mende U**. Transgenic mice overexpressing regulator of G protein signaling 2: a unique model for investigating the role of $G_{q/11}$ signaling and function in atria. *J Mol Cell Cardiol* 2014; 74 (Suppl): S27.
- A9. Riley G, Laakmann S, Fortmueller L, Piccini I, Wieland T, **Mende U**, Kirchhof P, Fabritz L. Prothrombotic potential of $G\alpha_q$ signalling in the left atrium. *Eur Heart J* 2014; 35 (Suppl): 936.
- A10. Coulombe KLK, Munarin F, Kim TY, **Mende U**, Choi BR. Engineered hiPSC-Cardiac Tissue Propagates Electrical Impulses to Host in Infarcted Rat Hearts. 2016 Biomedical Engineering Society Annual Meeting, Minneapolis, MN; Oct 2016.
- A11. Cao JL, Adaniya SM, Yang D, King ME, Jhun BS, **Mende U**, Sheu SS, O-Uchi J. Proline-rich tyrosine kinase 2 phosphorylates mitochondrial calcium uniporter and regulates mitochondrial calcium uptake. Experimental Biology Meeting, San Diego, CA; April 2018
- A12. Jhun BS, Adaniya SM, Zhang P, **Mende U**, Sheu SS, O-Uchi J. Mitochondrial calcium influx-mediated superoxide generation induces cell proliferation under G_q -protein coupled receptor stimulation in rat cardiac fibroblasts. Gordon Research Conference on *Cardiac Regulatory Mechanisms*, New London, NH; June 2018.
- A13. Jhun BS, Suzuki Y, Cypress MW, Zhang P, **Mende U**, O-Uchi J. Mitochondrial calcium uniporter regulates proliferative activity of cardiac fibroblasts under Angiotensin II stimulation. AHA Basic Cardiovascular Sciences 2019 Scientific Sessions; Boston, MA; July 2019.
- A14. Soepriatna AH, Kofron CM, Daley MC, Kim TY, **Mende U**, Choi B-R[#], Coulombe KLK[#]. Human 3D cardiac microtissues enable chamber-specific arrhythmic risk assessment for improved safety standards. Northeast Regional IDeA Conference (NERIC); virtual; Aug 2021.

- A.15 Daley MC, Moreau M, Fisher J, **Mende U**, Choi B-RC, McMullen P, Coulombe KKK. Risk assessment by combined three-dimensional human cardiac microtissues and pharmacokinetic modeling. Society of Toxicology Annual Meeting; San Diego, CA; March 2022.
- A16. Daley MC, **Mende U**, Choi B-R, Coulombe KKK. Quantification of Arrhythmia Risk from Chronic Chemical Exposure in Engineered Three-Dimensional Human Cardiac Microtissues. Society of Toxicology Annual Meeting; Nashville, TN; March 2023.

PATENT

- Nov 2021 US Patent Application No. 17/611,064: A Human in vitro Cardiotoxicity Model
 Inventors: Kareen C. Coulombe, Cassidy E. Rupert, Celinda M. Kofron (Brown University)
 Bum-Rak Choi, Tae Yun Kim, **Ulrike Mende** (Rhode Island Hospital)

INVITED PRESENTATIONS

REGIONAL

1. Sponsor: Astra Pharmaceuticals
 Place: 2nd Annual New England Cardiovascular Research Competition, Le Meridien Hotel, Boston, MA
 Date: December 1, 1998
 Title: Transient Cardiac Expression of Constitutively Active G Protein α_q Initiates Changes in Multiple Signaling Components that Lead to Hypertrophy and Dilatation.
2. Sponsor: Division of Cardiovascular Medicine
 Place: Interdisciplinary Thomas W. Smith Cardiovascular Fellows' Symposium, Brigham and Women's Hospital, Boston, MA
 Date: May 10, 1999
 Title: Signal Transduction in Hypertrophied Hearts of Mice Expressing Activated G protein α_q
3. Sponsor: Department of Pharmacology
 Place: Research Seminar, University of New England, Biddeford, ME
 Date: September 29, 2000
 Title: Muscarinic Regulation of Calcium Cycling and Contractile Function in the Ventricle: Emerging Role of the Heterotrimeric G protein G_o
4. Sponsor: Renal Division
 Place: Research Seminar, Brigham and Women's Hospital, Boston, MA
 Date: February 7, 2001
 Title: Defining the Role of Heterotrimeric G Proteins for Cardiac Signaling and Function by Expressing Mutated α and $\beta\gamma$ Subunits in Transgenic Mice
5. Sponsor: Whitacker Cardiovascular Institute of Boston University
 Place: Research Seminar, Boston Medical Center, Boston, MA
 Date: January 23, 2001
 Title: Phenotypic Characterization of Transgenic Mice with Cardiac-Specific Expression of Activated G Protein α_q
6. Sponsor: Division of Cardiovascular Medicine
 Place: Young Investigators' Oral Presentations, Brigham and Women's Hospital, Boston, MA
 Date: July 31, 2002

- Title: G_o protein as Mediator of Muscarinic Regulation of the L-type Ca^{2+} Channel and Contractile Function in the Ventricle
7. Sponsor: Cardiovascular Research Center
Place: Research Seminar, Massachusetts General Hospital, Boston, MA
Date: March 25, 2003
Title: Role of Heterotrimeric G_o protein for the Muscarinic Regulation of Contractile Function in the Ventricular Myocardium
8. Sponsor: Molecular Cardiology Research Institute at Tufts University
Place: Molecular Medicine Seminar, Tufts Medical Center, Boston, MA
Date: April 14, 2003
Title: Parasympathetic Heart Rate Control in Mice with a Global Reduction in Functional $G\beta\gamma$ Subunits.
9. Sponsor: Department of Molecular Pharmacology, Physiology and Bioengineering (MPPB)
Place: MPPB Seminar, Brown University, Providence, RI
Date: May 28, 2005
Title: Signal Transduction by Heterotrimeric G Proteins and its Regulation by RGS Proteins in the Heart
10. Sponsor: Brown Medical School
Place: Pulmonary Research Conference, Rhode Island Hospital, Providence, RI
Date: December 12, 2005
Title: Heterotrimeric G Proteins and their Regulators in the Heart
11. Sponsor: Kilguss Research Institute
Place: Pediatric Research Colloquium, Women and Infants Hospital Rhode Island, Providence, RI
Date: December 21, 2005
Title: Heterotrimeric G Proteins and their Regulators in the Heart
12. Sponsor: Division of Cardiovascular Research
Place: Cardiovascular Research Seminar, Caritas St. Elizabeth's Medical Center, Boston, MA
Date: May 3, 2006
Title: Regulators of G Protein Signaling in the Heart
13. Sponsor: Brown Cardiovascular Research Community
Place: Research Seminar, Brown Medical School, Providence, RI
Date: May 10, 2006
Title: Progress and Challenges in Delineating the Role of Heterotrimeric G_i and G_o Proteins in the Heart
14. Sponsor: Cardiovascular Division
Place: Cardiovascular Grand Rounds, Rhode Island Hospital, Providence, RI
Date: June 2, 2006
Title: Excitation-Contraction Coupling in the Healthy and Failing Heart
15. Sponsor: Vascular Research Laboratory
Place: Research Seminar, Providence VA Medical Center, Providence, RI
Date: December 15, 2006
Title: Role of Heterotrimeric G_o Protein in the Myocardium.
16. Sponsor: Maine Medical Research Institute
Place: MMRI Seminar, Maine Medical Research Institute, Scarborough, ME

- Date: June 14, 2007
 Title: Canonical and Non-Canonical G Protein Signaling
17. Sponsor: Liver Research Center
 Place: Research Seminar, Rhode Island Hospital, Providence, RI
 Date: October 18, 2007
 Title: Regulators of G Protein Signaling in the Heart
18. Sponsor: Molecular Cardiology Research Institute
 Place: Molecular Medicine Seminar, Tufts Medical Center, Boston, MA
 Date: May 25, 2010
 Title: Regulation of G Protein Signaling in Cardiac Myocytes and Fibroblasts
19. Sponsor: Molecular Cardiology Research Institute, Tufts University School of Medicine
 Place: 12th Annual Scientific Retreat, Marine Biology Laboratories, Woods Hole, MA
 Date: September 24, 2010
 Title: Pressure Overload Hypertrophy in Transgenic Mice with Cardiac-Specific RGS2 Expression
20. Sponsor: Center for Life Sciences at Beth Israel Deaconess Medical Center
 Place: Center for Life Sciences Cardiovascular Research Seminar Series
 Date: March 16, 2011
 Title: Regulation of G protein Signaling in the Heart

NATIONAL

1. Sponsor: American Heart Association,
 Place: Louis N. and Arnold M. Katz Basic Science Research Prize for Young Investigators Competition, 71st Scientific Sessions, Dallas, TX
 Date: November 8, 1998
 Title: Signal Transduction and Transgene Downregulation in Hypertrophied Hearts of Mice Expressing Constitutively Active G Protein α_q .
2. Sponsor: American Heart Association
 Place: Scientific Conference on Molecular, Cellular, and Integrated Physiological Approaches to the Failing Heart, Snowbird, UT
 Date: August 18, 1999
 Title: G_q Signaling in Transgenic Mice
3. Sponsor: American Heart Association
 Place: 72nd Scientific Sessions, Atlanta, GA
 Date: November 8, 1999
 Title: Activated G_q Protein and Cardiac Hypertrophy in Transgenic Mice
4. Sponsor: Merck
 Place: Annual GPCR (G Protein-Coupled Receptors) Retreat, Gettysburg, PA
 Date: March 16, 2000
 Title: Signaling Pathways in the Hypertrophied Heart
5. Sponsor: Department of Cell Biology and Molecular Medicine
 Place: Research Seminar, Cardiovascular Research Institute, University of Medicine and Dentistry of New Jersey, Newark, NJ
 Date: August 12, 2002
 Title: G_o Protein and Muscarinic Regulation of Calcium Cycling and Contractile Function in the Ventricular Myocardium

6. Sponsor: Department of Physiology and Biophysics
Place: Research Seminar, University of Illinois at Chicago, Chicago, IL
Date: March 27, 2003
Title: G Protein-mediated Regulation of Excitation-Contraction Coupling
7. Sponsor: Division of Cardiology
Place: Cardiovascular Center's Distinguished Scientists Lecture, University of Cincinnati Medical Center, Cincinnati, OH
Date: June 24, 2003
Title: Role of Heterotrimeric G Proteins for Cardiac Function and Disease – Insights from Genetically Modified Mouse Models
8. Sponsor: AstraZeneca
Place: 9th Annual AstraZeneca Cardiovascular Young Investigators' Competition, Savannah, GA
Date: October 18, 2003
Title: RGS2 Protein Inhibits G_q-mediated Signaling and Hypertrophy in the Heart
9. Sponsor: International Society for Heart Research (ISHR)
Place: Annual ISHR North American Section Meeting, Baltimore, MD
Date: May 29, 2009
Title: G Protein Signaling and Calcium Cycling
10. Sponsor: Keystone Symposia on Molecular and Cellular Biology
Place: Symposium on Extracellular Matrix and Cardiovascular Remodeling, Tahoe City, CA
Date: January 27, 2011
Title: Using a Novel Three-Dimensional Culture Model to Study Heart Cells
11. Sponsor: Cardiovascular Division
Place: Research Seminar, Beth Israel Deaconess Medical Center, Boston, MA
Date: March 16, 2011
Title: Regulation of G Protein Signaling in Cardiac Myocytes and Fibroblasts
12. Sponsor: American Heart Association,
Place: Basic Cardiovascular Sciences 2013 Scientific Sessions, Las Vegas, NV
Date: July 24, 2013
Title: Cardiac Microtissues - Diversity of Applications
13. Sponsor: Gordon Research Conferences
Place: Gordon Conference on "Cardiac Regulatory Mechanisms", New London, NH
Date: June 9, 2016
Title: Regulation of Cardiomyocyte Electrical Activity by Cardiac Fibroblasts in Innovative 3D *in vitro* Cellular Crosstalk Platforms
14. Sponsor: Vascular Biology Center, Augusta University
Place: Augusta, GA
Date: March 21-22, 2017
Title: Heterocellular Crosstalk in the Myocardium: Regulation of Cardiac Myocytes by Cardiac Fibroblasts

INTERNATIONAL

1. Sponsor: German Pharmacological Society
Place: Symposium on New Trends in the Pathophysiology and Pharmacology of Heart Failure, Hamburg, Germany
Date: June 10, 2004
Title: Differential Regulation of Cardiac RGS Protein Expression During Maturation and in Response to Altered G protein Signaling in vivo.
2. Sponsor: Yamagata University Medical Society
Place: Yamagata University School of Medicine, Yamagata, Japan
Date: July 8, 2005
Title: Signal Transduction via G Proteins in the Healthy and Diseased Heart
3. Sponsors: Tohoku University School of Medicine, Yamagata University School of Medicine and Fukushima Medical University,
Place: 25th Coronary Club Meeting, Yamagata, Japan
Date: July 9, 2005
Title: Emerging Roles of RGS Proteins (Regulators of G Protein Signaling) in the Heart
4. Sponsor: Division of Cardiology and Emergency Medicine
Place: National Cardiovascular Center, Osaka, Japan
Date: July 12, 2005
Title: Regulators of G Protein Signaling in the Heart
5. Sponsor: 17th Great Wall International Congress of Cardiology
Place: Symposium on Basic and Innovative Cardiology, Beijing, China
Date: November 3, 2006
Title: Heterotrimeric G Proteins and their Regulation by RGS Proteins in Cardiac Hypertrophy and Failure
6. Sponsor: Institute of Molecular Medicine
Place: Peking University, Beijing, China
Date: November 6, 2006
Title: GTP-binding Proteins and their Regulators in the Heart
7. Sponsor: Chinese Academy of Sciences
Place: Institute for Genetics and Developmental Biology, Beijing, China,
Date: November 7, 2006
Title: Signal Transduction via Heterotrimeric G Proteins and its Role in Cardiac Disease
8. Sponsor: Foundation Jagiellonian Medical Research Center
Place: Polish Academy of Arts and Sciences, Krakow, Poland
Date: November 20, 2008
Title: Regulators of G Protein Signaling in the Heart
9. Sponsor: Centre for Cardiovascular Research, College of Medical and Dental Sciences
Place: University of Birmingham, Great Britain
Date: July 19, 2013
Title: G_q Protein Signaling in the Heart and its Regulation by RGS2
10. Sponsor: International Union of Physiological Sciences (IUPS)
Place: IUPS 2013 Conference, Birmingham, Great Britain
Date: July 22, 2013
Title: G Protein-Coupled Receptor Signaling in the Diseased Heart

RESEARCH GRANTS

COMPLETED

1. Title: Activating and Inhibiting Mutations of G Proteins Targeted to the Hearts of Transgenic Mice (Project 4 of SCOR in Heart Failure)
Grant/Source: P50 HL52320; NIH
Dates: 2/1/1995-1/31/2000
Amount: \$55,000 per year (direct)
Role: Co-Investigator (PI: Dr. Eva J. Neer)
2. Title: Myocyte Culture and Biophysical Analysis (Core B of SCOR in Heart Failure)
Grant/Source: P50 HL52320; NIH
Dates: 2/1/1995-2/31/2000
Amount: \$87,506 per year (direct)
Role: Principal Investigator (as of 1/1/1998)
3. Title: Modulation of G Protein-Mediated Signal Transduction in Heart Cells by RGS Proteins
Grant/Source: #9930032N; American Heart Association, Scientist Development Grant
Dates: 1/1/1999-12/31/2002
Amount: \$59,091 per year (direct)
Role: Principal Investigator
4. Title: Cellular and Molecular Mechanisms Underlying Heart Failure Caused by Expression of a Constitutively Active G Protein α_q Subunit (Project 4 of SCOR in Heart Failure)
Grant/Source: P50 HL52320; NIH
Dates: 2/1/2000-1/31/2005
Amount: \$219,371 per year (direct)
Role: Principal Investigator
5. Title: Isolated Myocyte and Whole Heart Physiology (Core B of SCOR in Heart Failure)
Grant/Source: P50 HL52320; NIH
Dates: 2/1/2000-1/31/2005
Amount: \$77,312 per year (direct)
Role: Co-Principal Investigator (with Dr. Richard T. Lee)
6. Title: Regulation of Cardiomyocyte Signaling and Function by Endogenous Regulators of G Protein Signaling
Grant/Source: #05555817T; American Heart Association, Grant-in-Aid
Dates: 7/1/2005-6/3/2008 (*returned on 12/31/06 to accept #9 below*)
Amount: \$55,500 per year (direct)
Role: Principal Investigator
7. Title: Muscarinic Signaling: Regulation of Ventricular Function
Grant/Source: 1 R01 HL72174-01; NIH/NHLBI
Dates: 7/1/2003-6/30/2008
Amount: \$225,000 per year (direct)
Role: Principal Investigator
8. Title: High Content Drug Screening with Cardiac Tissue
Source: R43 HL093939; NIH
Dates: 9/1/2008 – 9/31/2010
Amount: \$50,000 total (direct)
Role: Co-Investigator (PI: Dr. H. Vandenberg)

9. Title: G protein-mediated Signaling and its Regulation by RGS Proteins in Cardiac Fibroblasts.
Grant/Source: Established Investigator Award #0740098N; American Heart Association
Dates: 1/1/2007-06/30/2012
Amount: \$90,909 per year (direct)
Role: Principal Investigator
10. Title: RGS Regulation of Cardiac Signaling and Hypertrophy
Source: 1R01 HL080127; NIH/NHLBI
Dates: 5/1/2006-4/30/2012
Amount: \$242,500 per year (direct)
Role: Principal Investigator
11. Title: Novel Micropatterned Culture Model for Developing New Therapeutic Strategies for Sudden Cardiac Death.
Grant/Source: Brown Research Seed Fund; Brown University
Dates: 4/1/2011 – 3/31/2013
Amount: \$90,000 per year (direct)
Role: Co-Investigator (PI: Dr. D. Hoffman-Kim)
12. Title: Sex Hormones and Cardiac Arrhythmia in Transgenic LQT2 Rabbits
Grant/Source: R01 HL093205; NIH/NHLBI
Dates: 4/1/2009 – 3/31/2013
Amount: 5% salary support
Role: Co-Investigator (PI: Dr. G. Koren)
13. Title: COBRE for Perinatal Biology
Source: P20 RR018728; NIH/NIGMS
Dates: 9/16/2008-7/31/2013
Amount: 10% salary support
Role: Faculty Mentor for Targeted Junior Investigators (PI: Dr. J. Padbury)
14. Title: Advancing Experimental Models to Study Intercellular Communication of Cardiac Cells
Grant/Source: R21 HL113918; NIH/NHLBI
Dates: 01/16/2013 – 12/31/2015
Amount: \$275,000 total (direct)
Role: Principal Investigator
15. Title: Functional Integration of Aligned Engineered Cardiac Tissue in Infarcted Heart
Source: DEANS Award; Brown University
Dates: 07/01/2014 – 12/31/2015
Amount: \$80,000 total (direct)
Role: Co-PI (with Dr. K. Coulombe)
16. Title: Regulation of G_q Signaling in Cardiac Fibroblasts and its Role in Cardiac Remodeling
Source: R01 HL114784-01A1; NIH/NHLBI
Dates: 09/01/2013 – 05/31/2018
Amount: \$303,031 per year (direct)
Role: Principal Investigator
17. Title: A Multi-Scale Approach to Cardiac Arrhythmia: from the Molecule to the Organ
Source: R01 HL110791-01A1; NHLBI
Dates: 08/01/2013 – 05/31/2018

- Amount: 10% salary support
Role: Co-Investigator (PI: Dr. G. Koren)
18. Title: Endothelial Injury and Repair: CardioPulmonary Vascular Biology COBRE
Source: P20 GM103652-01A1; NIH/NIGMS
Dates: 09/20/2013 – 05/31/2018
Amount: 10% salary support
Role: Faculty Mentor for a Targeted Junior Investigator (PI: Dr. S. Rounds)
19. Title: Effects of LCZ696 on cardiac function and remodeling in response to chronic pressure overload
Source: IIRP Preclinical Study, Novartis
Dates: 03/01/2017 - 12/31/2018
Amount: 3% salary support
Role: Co-Investigator (PI: Dr. P. Zhang)
20. Title: Nicotinic Acetylcholine Receptors and RV Dysfunction in Pulmonary Hypertension
Source: R01 HL110791; NIH/NHLBI
Dates: 09/01/2015 - 05/30/2019
Amount: 5% salary support
Role: Co-Investigator (PI: Dr. G. Choudhary)
21. Title: A novel therapy targeting cardiac fibroblast electrical remodeling to reduce fatal arrhythmias after heart attack
Source: Brown University OPVR Seed Award
Dates: 01/17/2019 - 06/30/2021
Amount: 5% effort (no salary support for faculty)
Role: Co-Investigator (PI: Dr. KLK Coulombe)
22. Title: Scarring and Arrhythmia in Infarcted Aged Hearts: Role of Senescent Fibroblasts
Source: R01 HL139467; NIH/NHLBI
Dates: 01/20/2019 - 12/31/2021
Amount: 5% salary support
Role: Co-Investigator (MPI: Drs. G. Koren and J. Sedivy)
23. Title: Cardio-Tox TEEM: A novel human *in vitro* cardiotoxicity assay
Source: Brown Biomedical Innovations to Impact (BBII) – Phase 1, Brown University
Dates: 09/01/2020 - 08/30/2022
Amount: 2.5% effort (no salary support for faculty)
Role: Co-Investigator (PI: Dr. KLK Coulombe)
24. Title: Regulation of mitochondrial calcium uniporter in the heart
Source: R01 HL136757; NIH/NHLBI
Dates: 07/01/2017 - 06/30/2023 (NCE)
Amount: 5% salary support
Role: Co-Investigator (PI: Dr. J. O-Uchi)
25. Title: Human 3D Microtissues for Toxicity Testing via Integrated Imaging, Molecular and Functional Analyses
Source: U01 (BRP) 17030326; NIH/NIEHS
Dates: 09/01/2017 - 06/30/2020 (Phase 1), 07/01/2020 – 06/30/2023 (Phase 2) (NCE)
Amount: 3% and 10% salary support (in Phase I and Phase II, respectively)
Role: Co-Investigator & Subaward PI (PI: Dr. K. Boekelheide)

CURRENT

26. Title: Advance-CTR; RI-Center for Clinical and Translational Science
Source: U54 GM115677 ; NIH/NIGMS IDeA Program
Dates: 08/01/2021 - 07/31/2026
Amount: 20% salary support
Role: Co-Director for the Advance-K and Advance-R programs, Mentoring Steering Committee and Professional Development Core Steering Committee Member
27. Title: Cardio-Tox TEEM: A novel human *in vitro* cardiotoxicity assay
Source: Brown Biomedical Innovations to Impact (BBII) – Phase 2, Brown University
Dates: 10/01/2022 - 06/30/2024
Amount: 5% effort (no salary support for faculty)
Role: Co-Investigator (PI: Dr. KLK Coulombe)
28. Title: 3D bioprinting of a bioelectric cell bridge for re-engineering cardiac conduction
Source: 1R21EB035030
Dates: 07/01/23 – 06/31/25
Amount: 1% salary support
Role: Co-Investigator (PI: Dr. KLK Coulombe)
29. Title: Elucidating mechanisms of cardiac arrhythmias in metabolic syndrome
Source: P20GM103652 (CPVB COBRE Pilot Award); NIH/NIGMS
Dates: 09/01/23 - 05/31/24 (delayed start date: 01/01/24)
Amount: 3% effort
Role: Co-Investigator (MPI: Dr. B-R Choi & Dr. KLK Coulombe)

PENDING

30. Title: Interdependence of Post-MI Local Revascularization and Remuscularization by Engineered Human Myocardium on Cardiac Remodeling and Regeneration
Source: R01 HL173938 ; NIH/NHLBI
Dates: 04/01/24 – 03/31/29 (11 percentile)
Amount: 5% effort
Role: Co-Investigator (PI: Dr. KLK Coulombe)
31. Title: Unraveling sex-based differences in atrial fibrillation using hiPSC-CM in vitro models
Source: 1R21HL173744 ; NIH/NHLBI
Dates: 04/01/24 – 03/31/26 (impact score 43; borderline)
Amount: 5% effort (no salary support for faculty)
Role: Co-Investigator (PI: Dr. KLK Coulombe)

UNIVERSITY TEACHING ROLES

1) UNIVERSITY OF HAMBURG

Years taught: 1988 - 1992
Name of course: Basic and Clinical Pharmacology and Toxicology
Teaching role: Lecturer
Type of students: Medical Students (300)

Years taught: 1988 - 1992
Name of course: Basic and Clinical Pharmacology and Toxicology
Teaching role: Lecturer
Type of students: Medical Students (50)

Years taught: 1991 - 1992
Name of course: Pharmacology and Toxicology for Pharmacists
Teaching role: Lecturer
Type of students: Pharmacy Students (50)

2) HARVARD MEDICAL SCHOOL

Years taught: 1993
Name of course: Principles of Pharmacology
Teaching role: Tutor
Type of students: Medical students (8)

Years taught: 2001 - 2005
Name of course: Integrated Human Physiology
Teaching role: Tutor
Type of students: Medical students (6-9)

Nominated for “*Best Tutor Teaching Award*” by Harvard Medical Students in July of 2002 and 2004.

3) BROWN UNIVERSITY

Years taught: 2007 - 2016
Name of course: Integrated Medical Sciences: Cardiovascular (BIOL3660)
Teaching role: Lecturer
Type of students: Medical students (85-110 per class)
“*Dean’s Teaching Award*” in June 2008

Years taught: 2007 - 2016
Name of course: Receptors, Channels and Signaling (BIOL2170)
Teaching role: Guest Lecturer
Type of students: Graduate and undergraduate students (8-12 per class)

Years taught: 2007 - 2016
Name of course: Directed Research in Biology (BIOL195/196)
Teaching role: Mentor
Type of students: Undergraduate students (2-4 at a time)

4) MENTORSHIP TRAINING

4A. IN RHODE ISLAND (for Brown University, affiliated Hospitals, and the University of Rhode Island)

Mentorship Training Workshops

For Faculty of all levels (Research Mentoring Training; sponsored by Advance RI-CTR)

Developed and co-facilitated evidence-based training sessions that are customized to the level of mentoring experience and research focus of the participating faculty. Using case studies and written mentoring tools (made available by the National Research Mentoring Network (NRMN) and the Center for the Improvement of Mentored Experience in Research (CIMER)), this interactive training provides faculty mentors with skills and techniques to enhance communication with their mentees and improve outcomes for professional development and success.

- I was recognized by NRMN and CIMER as *Certified Facilitator* in Dec 2018
- Our Facilitation Team received Brown's *2020 Dean's Award for Faculty Research Mentoring*

In-person Training (8.5 hrs each):

May 2018	at Brown	13 faculty	(12 from Brown/Hospitals; 1 from URI)
July 2018	at URI	21 faculty	(9 from Brown/Hospitals; 12 from URI)
Jan 2019	at URI	14 faculty	(10 from Brown/Hospitals; 4 from URI)
Dec 2019	at Brown	21 faculty	(21 from Brown/Hospitals)
May 2023	at Brown	26 faculty	(24 from Brown/Hospitals; 2 from URI)
Dec 2023	at Brown	12 faculty	(9 from Brown/Hospitals; 3 from URI)

Virtual Training (9 hrs each):

Apr - May 2021	via Zoom	21 faculty	(20 from Brown/Hospitals; 1 from URI)
Oct - Nov 2021	via Zoom	22 faculty	(22 from Brown/Hospitals)
May 2022	via Zoom	23 faculty	(22 from Brown/Hospitals; 1 from URI)
Oct 2022	via Zoom	20 faculty	(16 from Brown/Hospitals; 4 from URI)

For Junior Faculty (enrolled in the Brown's Research Integrity Series for Faculty)

May 2019	Session on "How to be a good Mentor" (2 hrs, 10 junior faculty)
Nov 2020	Session on 'Mentorship' (2 hrs, 36 junior faculty)
Jan 2023	Session on 'Mentorship and the Research Environment' (1.5 hrs, 11 junior faculty)
Jan 2024	Session on 'Mentorship and the Research Environment' (1.5 hrs, 16 junior faculty)

For Medical School Faculty (attending the AMS Program in Educational Faculty Development)

Nov 2019	Workshop on 'Optimizing Mentoring Relationships' (1.5 hrs, 24 participants)
----------	---

For Graduate Students and Postdoctoral Trainees (enrolled in Brown's BEARCORE program)

March 2019	Core session on 'Mentor-Mentee Relationships' (2 hrs, 40 participants)
Dec 2019	Core session on 'Fostering the Mentor-Mentee Relationship' (2 hrs, 29 participants)

Other Mentorship-focused Activities

- June 2018 RI IDeA Symposium: Co-facilitated a workshop entitled ‘*Research Mentoring: Raise Your Game!*’ (1 hr, with Michael Mello)
- Since 2018 Mentoring Night for Medical Students: Participate as senior faculty with a research career and evidence-based mentor training expertise (2 hrs, hosted by OWIMS)
- Jan 2019 Inclusive Mentoring Practices Luncheon: Participated in a discussion hosted by the Sheridan Center and HHMI for STEMM Faculty from Brown, URI, and Providence College
- Oct 2019 Mentoring Reception for NRMN-Trained Facilitators: Co-organized the event (2 hrs, with Audra van Wart, PhD) for Brown BioMed.

4B. NATIONALLY

CIMER’s Train-the-Trainer (Facilitator Training) Workshops

As a certified facilitator for the *Entering Mentoring* curriculum (see 4A above), I was invited by CIMER (located at the University of Wisconsin-Madison) to join their Facilitation Teams for on-line ‘Train-the-Trainer’ workshops, at which faculty from across the country gain the necessary facilitation skills to be eligible to implement this research mentoring training at their own institutions.

So far, I have supported three virtual ‘Train-the-Trainer’ workshops for the *Entering Mentoring* curriculum (in Jan 2023, May 2023, and Nov 2023). I served as a host for 3.5-hrs ‘small group facilitation practice sessions’ at which workshop participants i) gain confidence and become more comfortable in their facilitation skills for the curriculum, ii) experience a variety of activity types from the curriculum; and iii) give and receive feedback in a safe environment. I kept track of the time, facilitated the feedback discussions, and added my own feedback and practical tips based on my own experience as a Facilitator.

Abbreviations: Advance-CTR - Advance Clinical Translational Research; BEARCORE - Brown Ethics and Responsible Conduct of Research Education; CIMER – Center for the Improvement of Mentored Experiences on Research; HHMI - Howard Hughes Medical Institute; IDeA - Institutional Development Awards; NRMN – National Research Mentoring Network; OWIMS - Office of Women in Medicine and Science; RCR - Responsible Conduct of Research Course

HOSPITAL/UNIVERSITY TEACHING, ADVISING and MENTORING ROLES

1. JUNIOR FACULTY

Basic Science:

<i>Name</i>	<i>Year(s)</i>	<i>Institution* Rank (Department)</i>	<i>Mentoring Role(s)</i>	<i>Current Institution Current Rank (Dept.)</i>
Lazaros Kochilas, MD	2006 - 2008	RIH / Brown Univ. <u>Assistant Professor</u> (Pediatric Cardiology)	Grant Writing Career Development	Emory University School of Medicine <u>Associate Professor</u> (Pediatric Cardiology)
Ting C. Zhao, PhD	2007 - 2010	WIHRI / Brown Univ. <u>Assistant Professor</u> (Pediatrics)	Grant Writing COBRE Mentor	RWMC / Boston Univ. <u>Associate Professor</u> (Surgery)
Gaurav Choudhary, MD	2007 - 2012	PVAMC / Brown U. <u>Assistant Professor</u> (Medicine)	Scientific Advice Grant Writing Collaboration	PVAMC / Brown Univ. <u>Ruth and Paul Levinger</u> <u>Professor</u> (Cardiology)
Peng Zhang, MD, MS	2008 - 2019	RIH / Brown Univ. <u>Instructor</u> (Medicine)	Scientific Advice Grant Writing Career Development COBRE Mentor	PVAMC / Brown Univ. <u>Assistant Professor</u> (Medicine)
Bum-Rak Choi, PhD	2009 - 2013	RIH / Brown Univ. <u>Assistant Professor</u> (Medicine)	Grant Writing, Collaboration	RIH / Brown University <u>Associate Professor</u> (Medicine)
Yi-Tang Don Tseng, PhD	2010 - 2013	WIHRI / Brown Univ. <u>Assoc. Prof</u> (Pediatrics)	COBRE Mentor Career Development	?
Dmitry Terentyev, PhD	2011 - 2019	RIH / Brown Univ. <u>Assistant Professor</u> (Medicine)	Grant Writing	The Ohio State Univ. <u>Tenure-track Associate</u> <u>Professor</u>
Weiyang Li, PhD	2012 - 2014	RIH / Brown Univ. <u>Assistant Professor</u> (Medicine)	Grant Writing	Novartis Institutes for Biomedical Research <u>Investigator II</u>
Jun Feng, MD, PhD	2014 - 2016	RIH / Brown Univ. <u>Assistant Professor</u> (Surgery)	Grant Writing	RIH / Brown Univ. <u>Associate Professor</u> (Surgery)
Patrycja Dubielecka-Szczerba, PhD	2014 - 2015	Brown University <u>Assistant Professor</u> (Medicine)	Grant Writing	RIH / Brown Univ. <u>Associate Professor</u> (Medicine)
Qing Liu, PhD	2015 - 2016	PVAMC / Brown U. Associate Professor (Medicine)	COBRE Mentor Grant Writing	<u>NIH Program Officer</u>

Kareen Coulombe, PhD	2014 -	Brown University <u>Assistant Professor</u> (Engineering)	Grant Writing Collaboration	Brown University <u>Associate Professor</u> (Engineering)
Jin O'Uchi, MD, PhD	2016 -	Brown University <u>Assistant Professor</u> (Medicine)	Grant Writing Career Development Collaboration	Lillehei Heart Institute, U. of Minnesota <u>Assistant Professor</u>
Bong Sook Jhun, PhD	2016 -	Brown University <u>Assistant Professor</u> (Medicine)	Grant Writing Career Development Collaboration	Lillehei Heart Institute, U. of Minnesota <u>Assistant Professor</u>

* Abbreviations: PVAMC - Providence VA Medical Center; RIH - Rhode Island Hospital; RWMC - Roger Williams Medical Center; WIHRI - Women and Infants Hospital of Rhode Island

Clinical:

a) Mentorship to Faculty in the Cardiovascular Institute (CVI)

- In addition to supporting basic science faculty colleagues in the Cardiovascular Research Center, I have been providing **mentorship and professional development support** to 12 junior clinical faculty pursuing academic research since October 2018. Depending on their specific interests and needs, this support includes in-depth grantsmanship feedback for national and local grant applications, guidance on NIH Biosketch and Brown CV preparation, insights on resources and local support structures, providing connections to new faculty for additional mentoring, sponsorship and/or collaboration, and psychosocial support.
- In 2022, I was tasked by the Division Chief to develop the structure, framework and supporting materials for a **new Mentoring Program in CVI** that is intended to provide newly recruited junior clinical faculty with formalized mentorship support from a senior faculty mentor, in order to support and facilitate their professional development in the pursuit of a full-filling and successful career. In Jan 2023, I co-led the launch meeting with Dr. Poppas for the first cohort of 5 mentee-mentor dyads that introduced the year-long program and provided mentorship-related resources (including self-reflection tools, information on best practices and references). Over the course of the year, I conducted two check-ins with Mentees and Mentors to discuss their experience with the program (both in individual conversations and group meetings). Towards the conclusion of the first year, I designed a survey for program evaluation that was administered via Qualtrics and taken into consideration before the launch of the 2nd cohort (another 5 pairs).

b) Advance-K Scholar Career Development Program

Co-sponsored by Brown BioMed and Advance RI-CTR, I co-developed a year-long Career Development Program for junior faculty at Brown University and the University of Rhode Island (URI) in 2019 that provides individualized training to prepare extramural career development award applications (NIH K-series or VA CDAs). Advance-K Scholars follow a common curriculum focused on grantsmanship, professional development, and clinical and translational research competencies, along with a customized set of activities to meet individual learning goals.

As the Co-Director for this program since its launch in October 2019, I have been supporting 40 junior faculty (23 MD, 3 MD/PhD, 1 DO, and 13 PhDs) from Brown BioMed and affiliated hospitals (31),

Brown’s School of Public Health (3), and the University of Rhode Island (6) as Advance-K Scholars to date. Specific support included bi-weekly didactic sessions, individual consultations, in-depth grantsmanship and editorial feedback on proposal sections and the final draft, and internal (mock) study sections with content experts and faculty experienced with NIH and VA grant review processes.

Together with Drs. Audra van Wart (Co-Director) and Sharon Rounds (Senior Faculty Advisor), I was awarded Brown BioMed’s **2021 Dean’s Award for Faculty Research Mentoring** for the development and implementation of this program.

c) Advance-R Career Development Program

As part of the leadership team, I co-developed this new, Advance RI-CTR-sponsored Career Development Program for faculty at Brown and URI, which provides faculty planning to submit (or resubmit) their first R-award (or equivalent) an opportunity to have their proposals reviewed by an internal study section comprised of content experts and experienced NIH reviewers prior to external submission. Since the launch of the Advance-R program in Oct 2022, I have delivered content for the three didactic sessions that accompany this program, provided grantsmanship feedback, and co-organized internal study sections for 7 faculty in the first two cohorts (2 physician scientists from Brown’s Alpert Medical School and affiliated hospitals; 3 PhDs from Brown University, 2 PhDs from URI).

2. POSTDOCTORAL FELLOWS

<i>Name</i>	<i>Years</i>	<i>Current Position</i>
Michael Meister, PhD	1999 - 2001	Section Chief, Translational Research, Thoracic Clinic at the Academic Medical Center of Heidelberg University, Germany
Thomas Anger, MD	2000 - 2002	Physician-Scientist, University Hospital Erlangen, FRG
Wei Zhang, PhD	2000 - 2001 2003 - 2004	Staff Scientist, Genzyme, Framingham, MA
Agnieszka Gach, MD	2002 - 2004	Physician-Scientist, Polish Mother’s Memorial Hospital Research Institute (ICZMP), Department of Genetics, Lodz.
Jianming Hao, MD, PhD	2002 - 2005	Medical Devices Bureau, Cardiovascular Section, Health Canada, Ottawa, Canada
Christina Michalek, PhD	2003 - 2005	Senior Clinical Research Associate, Abbot, Frankfurt, Germany
Ming Zhu, MD, MSc	2001 - 2006	Research Scientist, Wyeth, Cambridge, MA
Marina Ayrapetov, PhD	2006 - 2007	Lecturer, University of Rhode Island, Kingston, RI
Jialin Su, MD, PhD	2003 - 2005 2007 - 2008 2011 - 2013	Assistant Professor, University of Florida - College of Medicine in Jacksonville, FL
Peng Zhang, MD, MS	2006 - 2008	Assistant Professor, Brown Medical School, Providence, RI
Celinda M. Kofron, PhD	2013 - 2017	Assistant Professor, Associate Director, Center for Biomedical Engineering, School of Engineering, Brown University

Awards to Postdoctoral Fellows:

<i>Name</i>	<i>Year(s)</i>	<i>Type of Award, Institution</i>
Christina Michalek, PhD	2004 - 2005	Research Fellowship, Deutsche Forschungsgemeinschaft, Germany
Jianming Hao, MDPhD	2003 - 2005	Postdoctoral Fellowship, American Heart Association
Celinda Kofron, PhD	2013 - pres.	Honorable Mention: Translational Science Category, 22 nd Annual Lifespan Research Symposium, Providence, RI
Celinda Kofron, PhD	2015	Postdoctoral Fellowship Award, American Heart Association (returned after 5 months to accept F32 NRSA)
Celinda Kofron, PhD	2015	Short Talk Invitation at the at the Keystone Conference on “Cell Biology of the Heart: Beyond the Myocyte-centric View”; Copper Mountain, CO; March 2015
Celinda Kofron, PhD	2015 - 2016	Postdoctoral F32 National Research Service Award (NRSA), National Institutes of Health (NHLBI)
Celinda Kofron, PhD	2016	Best Presentation Award, Gordon Research Seminar, New London, NH, June 2016

3. GRADUATE STUDENTS

<i>Name</i>	<i>Years</i>	<i>Program</i>	<i>Mentoring Role</i>	<i>Current Position</i>
Barbara (Violet) Dancheck, PhD	2007 - 2010	MPP	PhD thesis committee member	AAAS Science and Technology Policy Fellow at U.S. Agency for International Development, Washington, DC
Cindy Park, BA	2007 - 2012	MPP	PhD thesis advisor	Scientist, Research and Pre-clinical Studies, Applied Genetic Technologies Corp., Cambridge, MA
Adam P. Rago, MS	2007 - 2008	MPP	Masters thesis committee member	Business Development and Alliance Management, Takeda, Cambridge, MA
Bethany Desroches, MS	2008 - 2009	ABC	Masters thesis advisor	Minimally Invasive & Robotic Urologic Surgery Fellow at Hackensack Meridian Health, New York
Leroy L. Cooper, BS	2009 - 2013	MPP	PhD thesis committee chair	Assistant Professor, Vassar College, Poughkeepsie, NY
Jennifer Mitchel, BS	2012 - 2013	BME	PhD thesis committee member	Research Associate, Harvard School of Public Health, Boston, MA
Amen Okundaye, BS	2015 - 2017	Biotech.	Masters thesis advisor	Medical Student, Loyola University Medical School

Nedyalka (Nelly) Valkov, MS	2013 - 2017	MPP	PhD thesis committee member	Postdoctoral Fellow, Massachusetts General Hospital / Harvard, Boston, MA
Elizabeth Leary, BS	2014 - 2018	BME	PhD thesis committee member	Not known
Cassady Rupert, BA	2015 - 2019	BME	PhD thesis committee member	Postdoctoral Fellow, Yale University, Boston, MA
Jessica Severson, BA	2018 - 2020	Neuro-science	PhD thesis committee member	Postdoctoral Fellow, UC Santa Cruz, CA
Aurora Washington, BA	2019 - 2022	Biotechnology	PhD thesis committee chair	Postdoctoral Fellow, U. North Carolina, Chapel Hill, NC

Awards to Graduate Students:

<i>Name</i>	<i>Year(s)</i>	<i>Type of Award, Institution</i>
Cindy Park, BA	2009 - 2010	Pre-doctoral Fellowship Award, American Heart Association
Cindy Park, BA	2010	Best of Specialty Conference Poster, American Heart Association Scientific Sessions, 2010
Cindy Park, BA	2011	Short Talk Invitation at the “RGS/AGS in Physiology and Disease” Symposium, ASPET, Washington DC, April 2011
Cindy Park, BA	2011	Winner (New Investigator Competition Basic Science Category) at Lifespan’s 19th Annual Research Celebration, Providence, RI

4. UNDERGRADUATE STUDENTS

<i>Name</i>	<i>Year(s)</i>	<i>Degree</i>	<i>Mentoring Role</i>	<i>Current</i>
Nandan Nath	2007 - 2009	ScB	Research mentor & Honors thesis advisor	Vascular Surgery Resident, UPMC Heart and Vascular Institute, Pittsburgh, PA
Bethany Desroches	2007 - 2008	ScB	Honors thesis advisor	Minimally Invasive & Robotic Urologic Surgery Fellow at Hackensack Meridian Health, New York
Yousuf Qureshi	2008 - 2009	BS	Honors thesis advisor	Dermatologist, Allegheny General Hospital, PA
Sae-Hoon (Nate) Oh	2008 - 2009	BS	Research mentor	Dental Student at Columbia, New York, NY
Olusola (Justin) Ayankola	Summer 2009	BS	Research mentor	Psychiatry Resident, Yale School of Medicine, New Haven, CT
Julius Ho	2009 - 2010	BS	Research mentor	Not known

Lisa Rickey	2009 - 2011	BS	Research mentor & Honors thesis advisor	Pediatric Resident, Children's National Medical Center, Washington DC.
Bryant Yang	2010 - 2011	ScB	Honors thesis advisor	Internal Medicine Resident, Cedar Sinai Medical Center, Los Angeles, CA
Jennie Yoo	2011 - 2012	ScB	Honors thesis committee member	Psychiatry Resident at LAC & USC Medical Center, Los Angeles, CA
Julia Dooner	2013 - 2014	ScB	Research mentor	Medical Student at Brown, Providence, RI
Amy Landi	Summer: 2015 & 2016	BS	Research mentor	QA Specialist II at SeraCare Life Sciences, Milford, MA
Jessica Cao	2015 - 2016	ScB	Research mentor	Medical Student at Brown, Providence, RI

Awards to Undergraduate Trainees:

<i>Name</i>	<i>Year(s)</i>	<i>Type of Award, Institution</i>
Nandan Nath	Summer 2007	Undergraduate Teaching & Research Award (UTRA), Brown Univ.
Bethany Desroches	Summer 2007	UTRA, Brown University
Nandan Nath	Summer 2008	UTRA, Brown University (declined)
		Undergraduate Summer Fellowship, American Heart Association
Justin Ayankola	Summer 2008	Brown University Summer Research - Early Identification Program (Leadership Alliance R25)
Lisa Rickey	Summer 2010	UTRA, Brown University
Julia Dooner	Summer 2014	UTRA, Brown University (declined)
		Undergraduate Summer Fellowship, American Heart Association
Jessica Cao	Summer 2016	Program in Medical Liberal Education (PMLE) Summer Research Assistant Ship, Brown University (declined)
		UTRA, Brown University (declined)
		Undergraduate Summer Fellowship, American Heart Association

5. RESEARCH ASSISTANTS

<i>Name</i>	<i>Years</i>	<i>Position</i>	<i>Current Position</i>
Julie Zhang, MD	2000 - 2001	Research Assistant	Staff Scientist, Millenium, Boston, MA
Xiaomei Xu, MD	2002 - 2005	Research Assistant	Research Associate II, EMD Lexigen (Merck), Billerica, MA
Angel Maldonado Lopez, BS	2008 - 2011	Sen. Research Assistant	Scientist, Takeda Oncology, Cambridge, MA

Michelle King, BA	2005 - 2007 2008 - 2018	Research Assistant Sen. Research Assistant	Lab Manager, Vascular Research Laboratory Providence VA Medical Center, Providence, RI
Feng Feng, BS	2014 - 2017	Research Assistant	Senior Research Assistant, Lillehei Heart Institute, Minneapolis, MN

6. ORGANIZATION OF RESEARCH SEMINARS

<i>Seminar Series</i>	<i>Frequency</i>	<i>Years of Organization</i>
Cardiovascular Research Center (CVRC) Data Club*	weekly	2006 - 2018
Cardiovascular Research Multi-Lab Data Club*	monthly	2006 - 2008
Basic Methodologies in Cardiovascular & Pulmonary Research [#]	twice a month	2008 - 2015

* Hosted by the Cardiovascular Research Center at Rhode Island Hospital and open to the entire research community at Brown University and its affiliated hospitals.

[#] Educational lecture series of the Brown CardioPulmonary Research Training Program (T32 HL094300)