CURRICULUM VITAE

Name: Robert George Gourdie

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Citizenship: US Citizen

Education:

University of Auckland, NZ,	1978-1981	BSc	Cell/Mol Biol
University of Auckland, NZ,	1981-1982	MSc (**1st class honors)**	Cell/Mol Biol
University of Canterbury, NZ,	1983-1990	PhD	Biophysics

Post-Doctoral Training:

Dept. Devel. Biol and Anatomy, University College London, United Kingdom 1990-1992

Faculty/Professional Appointments:

1983-1990	MAF/Tech, NZ Pre-Doctoral Fellow, WRONZ, Canterbury, New Zealand
1992-1995	British Heart Fellow (=Research Asst Prof), Dev. Biol. & Anat., UCL, UK
1995-1999	Assistant Professor, Cell Biol. &Anat., MUSC, SC USA
1999-2012	Associate Professor, Cell Biol. & Anat., MUSC, SC USA
2002	Tenure, Cell Biol. & Anat., MUSC, SC USA
2003	Adjunct Associate Professor, Clemson Univ., Dept. Bioeng, SC, USA
2004-2012	Professor, Regen Medicine and CBA, MUSC, SC USA
2008-2012	Co-Director, Cardiovascular Developmental Biology Center, MUSC
2008-2012	MUSC Board of Trustees' Eminent Scholar of Regen Medicine, MUSC, SC USA
2004-pres	Adjunct Professor, Clemson U., Dept. Bioengineering, SC, USA
2012-pres	Adjunct Professor, Cell Biol. & Anat., MUSC, SC USA
2012-pres	Professor and Eminent Scholar of Regenerative Medicine, Virginia Tech Carilion Research Institute, Virginia Tech, Virginia, USA
2012-pres	Director of Center for Heart and Regenerative Medicine Research, Virginia Tech Carilion Research Institute, Virginia Tech, Roanoke, Virginia, USA
2012-pres	Director of Emergency Medicine Research, Carilion Clinic, Roanoke, VA, USA
2012-pres	Professor, Virginia Tech-Wake Forest Regenerative Medicine Institute, School of Biomedical Engineering and Sciences, Virginia Tech, Blacksburg, Virginia USA

Administrative Appointments:

1992-1995	Director, Confocal and Digital Imaging Core, UCL, Dept. Devel. Biol and Anatomy
2008-2012	Co-Director Pharmacology Fellowship Training Program, MUSC, CBA/Pharmacology
2008-2012	Program Director, NIH/NICHD Program Project Grant (HD39946), MUSC
2003	Chair, URC Rodent and Transgenic Committee, MUSC

2008-2012	Co-Director, Cardiovascular Developmental Biology Center, MUSC
2008-2012	Chair, MUSC Intellectual Property Committee
2012-pres	Director of Center for Heart and Regenerative Medicine Research, Virginia Tech Carilion Research Institute, Virginia Tech, Roanoke, Virginia, USA
2012-pres	Director of Emergency Medicine Research, Carilion Clinic, Roanoke, VA, USA.
2012-pres	Member Wake Forest Virginia Tech School of Biomedical Engineering and Sciences Promotion and Tenure committee
2012-pres	Member Virginia Bioinformatics Core Advisory committee
2013-pres	Member of Executive Planning Committee of the VT Translational Biology Medicine and Health Graduate Program
2013-pres	Chair and Director of the Development, Aging and Repair Track of the VT Translational Biology Medicine and Health Graduate Program

Other Professional Experience:

1999	NIH Special Review Panel
1998-1999	National Science Foundation Developmental Mechanisms Review Panel
1998	Ad Hoc Grant Reviewer for the Austrian Science Foundation
1999	Ad Hoc Grant Reviewer for Swiss Medical Research Council
2000	Organizer and Chair. AAA session on “Gap Junctions and development”. EXP-2000/FASEB. Minisymposium organizer and session Chair, San Diego, CA
2000-	Ad Hoc Grant Reviewer for British Medical Research Council
2000	AdHoc Grant Reviewer for New Zealand Lottery Health Research Te Puna Tahua
2001	Chair, Developmental Biology AHA abstract peer review committee .
2000-2004	Member, National AHA Developmental Mechanisms review panel
2001-2011	AHA abstract peer review committee
2001-2002	Ad Hoc grant reviewer NIH study section - CDF-4
2001	Chair, Session on "Connexin Interacting Proteins", International Gap Junction Conference , Honolulu, Hawaii, USA.
2008-2012	Full Member, Hollings Cancer Center, MUSC
2008-2012	Faculty, MUSC MCBP Program (Cardiovascular, Genes and Development, and Cell Signaling tracks)
2001	Proposer, Novartis Meeting on "Conduction System Development", London,UK
2002	Chair, Session on "Conduction System Development", Weinstein Cardiovascular Development Conference , Boston, MA, May, 2003.
2003	Chair, Session on "Connexin Interacting Proteins", International Gap Junction Conference , Cambridge, UK, August, 2003.
2004	Chair, Session on "Conduction System Development", Weinstein Cardiovascular Development Conference, Leiden, Netherlands, 2004.
2004	Co-Organizer (with Michiko Watanabe), ExpBio 2004 two-day Symposium "The Cardiac Pacemaking and Conduction System", Washington, DC, April, 2004.
2004	Reviewer British National Institute of Medical Research, Developmental Biology Division, Mill Hill, UK.
2004	Special Emphasis Panel Member, NIH Myocardial Electrophysiology
2004	Special Emphasis Panel Member, NIH, Cardiac Gap Junctions
2004	Special Emphasis Panel Member, NIH, Cardiac Stem Cells

2004-pres	Reviewer USA-Israel Science Foundation
2004-2008	Full and Charter Member, NIH ESTA study section (2004-2008).
2005	National Institute of Health Study Section, ZRG1-CVS-K BRP review panel
2005-pres	Ad-Hoc member of the NIH Board of Scientific Counselors
2005	Co-Founder (with Dr Gautam Ghatnekar) FirstString Reseach Inc
2005	Chief Scientific Officer, FirstString Reseach Inc
2006	Chair, National Institute of Health Study Section, ZRG1-CVS-K Bioengineering Research Partnership panel
2006	Chair, Session on "Conduction System/Coronary Vessesl/Epicardium", Weinstein Cardiovascular Development Conference, Tampa, Florida, 2006.
2006-2009	Board of Directors, FirstString Research Inc
2007	Chair, Session on "Connexins & Heart Disease", Heart Rhythm Soc, Denver, Co.
2009	Chair, Session on "AV node Development", Heart Rhythm Society, Boston, Ma
2009	Chair, Session on "Connexins and Wound Healing", International Gap Junction Conference, 2009, Sedona ,Az.
2007-2010	Member National AHA Developmental Mechanisms review panel.
2009-pres	Emeritus Member NIH ESTA study section
2010-pres	Scientific Advisory Board, FirstString Reseach Inc
2010-pres	Ad Hoc, NIH ICI study section
2010 & 2011	NIH ZRG1 CVRS-F (03) Towbin PPG study section
2010	NIH ZRG1 CVRS Ideker PPG study section
2010-pres	Chair, National AHA Basic Cell—Regenerative Cell Biology review panel
2010-pres	Charter member of the CSR College Reviewers, appointed by Tony Scarpa (Chief, NIH Center for Scientific Review)
2011	Session Moderator, Keystone Symposium "Extracellular matrix and cardiovascular remodeling, Granlibaken Resort, Lake Tahoe, NV Jan 2011.
2011-pres	Member, NIH Small Business Grant ZRG1 MOSS-D12 study section
2011	NIH ZRG1 VH-C (02) M - Vascular Biology Study Section
2010-pres	Co-Organizer Internationational Gap Junction Conference, Charleston, SC July, 2013
2012 & 2013	Member, NIH Special Emphasis Panel: Delmar Program Project Grant, Aug 2012
2012-pres	Expert Panelist, FWO-Belgian Medical Cell Biology Grant Review Panel, Apr 2012
2012	Session Chair, American Heart Association, Scientific Sessions, LA, CA, Nov 2012.
2012-pres	Establishment of Center for Heart and Regen. Med. Research (CHARM) at the VTCRI
2011-pres	Chair, NIH/CSR Cardiovasc. and Respir. Sci Integrated Study Section,
2013	Session Chair, American Heart Association, Scientific Sessions, Dallas, Tx Nov 2013.
2014	Session Chair, Heart Rhythm, Scientific Sessions, San Francisco, CA, May, 2014.
2013-pres	Co-Organizer (with Drs Peter Kohl-Imperial College and Stefanie Dimmeler, University of Bonn), Keystone Meeting, Myocyte-Fibroblast Interactions Copper Mountain Resort, SC March, 2015
2014	Grant Reviewer for Dr Hawden Foundation (United Kingdom)

2014 Grant Reviewer for Welcome Trust (United Kingdom)

Editorial Positions:

1. Reviewer for; Science, Molecular Biology of the Cell, Journal of Cell Biology, Developmental Cell, Experimental Cell Research, Journal of Biological Chemistry, Development, Developmental Biology, Journal Cell Science , Developmental Genetics, Developmental Dynamics, American Journal of Physiology, American Journal of Pathology, Anatomical Record, Cell Adhesion and Communication, Journal Neuroscience, Cell Biology International, Journal of Histochemistry and Cytochemistry Anatomy and Embryology, Trends in Neuroscience, Microscopy Research and Technique, Journal of Comparative Neurology, Brain Research, Journal American College of Cardiologists, Journal of Biological Chemistry, Molecular Biology of the Cell, Cardiovascular Research, International Journal of Cardiology, Journal of Molecular and Cellular Cardiology, Trends in Cardiovascular Medicine, Circulation, Circulation: Arrhythmia and Electrophysiology Circulation, Circulation Research, The Lancet, New England Journal of Medicine, Science Translational Medicine, Journal of Neuroscience, Glia, Nature, Nature Medicine, Nature Reviews.

2. 1996 Guest Editor. Microscopy Research and Technique. Special Issue – Microscopy of Intercellular Communicating Junctions in volume 31, pp337-468, number 5,

3. 2001 Guest Editor. Cell Adhesion and Communication. Special Section – Connexin Interacting Proteins.

4. 2003 Guest Editor. Cell Adhesion and Communication. Special Section – Connexin Interacting Proteins.

5. 2010-pres Editorial Board: Frontiers in Cardiac Electrophysiology

6. 2010-pres Editorial Board: Frontiers in Integrative and Regenerative Pharmacology.

7. 2013-pres Editorial Board: Journal of Cardiovascular Development and Disease

8. 2014 Book Editor. Regenerative Wound Healing. Molecular Biology Protocols: Methods and Protocols, 2nd Edition, 2 Volume, 40 chapter book from top scientists in Regenerative Medicine.

9. 2014 Guest Editor- FEBS Letters – Connexins, Pannexins and Innexins

10. 2015-pres Associate Editor-Challenges in Regenerative Medicine

Extramural Grants:

Active Grants

2016-2021 NIH/NHBLI 2 RO1 HL56728-14A2 (Gourdie, PI), 30 % effort NIH/NHLI Project Grant (RO1) $250,000. Gap Junctional Patterning in Arrhythmic Heart. Renewal October 2015, Renewed at 1st percentile 2016.

2010-2015 NIH/NHBLI 2 RO1 HL56728-10A2 (Gourdie, PI), 30 % effort NIH/NHLI Project Grant (RO1) $225,000. Developmental patterning of cardiac gap junctions. Renewal April 2010 at percentile = 7th

2010-2015 (Yost - PI, Gourdie -Sub Contract Project Leader), 20 % effort, $250,000, Sub-Contract $100,000. Enabling Technologies For Tissue Engineering and Regenerative Medicine.

2012-2016 NIH/NIDCR, F31 DE022224 (Gourdie Mentor for Ms Ongstad) 0.5 ca mths, $42,225 pa. Tissue Engineered Repair of Cranial Facial Muscle. 5 year pre-doctoral Ruth Kirschstein Pre-Doc Fellowship for Ms Ongstad.

2013-2015 AHA Post-Doc Fellowship (Gourdie Mentor for Dr Veeraraghavan) 07/01/2013-06/30/2014, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2015-2016 Carilion Clinic Research Acceleration Program (RAP) Funding (Moyer & Gourdie Co-PIs), $25,000, Implant Capsular Contracture after Breast Reconstruction.

2014-2015 Virginia Biosciences Health Research Corporation (Gourdie PI) 03/01/2014-02/31/2016, $200,000, Novel Regenerative Medicine Drugs.

2015-2016 Virginia Biosciences Health Research Corporation (Gourdie PI) 12/01/2015-11/31/2016, $300,000, Clinical trial of a novel brain tumor drug in dog patients.

2015-2016 Center for Innovative Technology Grant $200,000 04/01/14-12/31/16, Advanced Manufacture and Testing of a Brain Cancer Treatment

2016 NIH/ SBIR (PI: Lamouille, Gourdie Co-I) 09/01/2015 – 08/31/2016, $150,000, ACT1-loaded PLGA nanoparticles in GBM treatmen1DP7OD018428-01

2015-2019 NIH/ OD (MPI: Friedlander, Van Wart, Gourdie Faculty mentor) 9/20/2013-8/31/2018 0.12 calendar, $225,777, Mentorship and Development Program for Biomedical Trainees

HISTORY As Principal Investigator:

1993-1995 50 % effort British Heart Foundation £ (UK)116,797. Angiogenesis and the development of heart conduction tissues. FS92005.

1996-1998 50 % effort. March of Dimes, Basil O'Connor Starter Scholarship, $ (US)80,000. Vasculogenesis and the development of cardiac conduction tissues.

1996-1997 50 % effort. American Heart Association, Grant-in-Aid, $(US) 50,000. Developmental patterning of cardiac electromechanical coupling.

1998-2003. 5 % effort.. National Science Foundation Early Career Award. $ (US) 362, 066. NSF 9734406. Origins of organized activation in the chordate heart.

1999-2000 No % effort. National Science Foundation Equipment Grant $ (US) 75, 000. Dynamic imaging instrument.

2000 20 % effort. SC Commission of Higher Education $ (US) 70, 000 Development and tissue engineering of cardiac conduction tissues.

2001-2006 10 % effort. NIH/NICHD P01-HD39946 $(US) $663, 529 "Patterning by invasive mesenchyme". Project 1 – The genetic origin of structural and functional defects of atrioventricular conduction in humans. No cost extension 2006-2007.

2001-2006 20 % effort. NIH/NICHD P01-HD39946 $(US) $664, 694 "Patterning by invasive mesenchyme". Project 2 – Induction and pattern formation during conduction system development. No cost extension 2006-2007.

2001-2006 5 % effort. NIH/NICHD P01-HD39946 ($(US) $ 192, 736 "Patterning by invasive mesenchyme". Core A – Administrative. No cost extension 2006-2007.

2001-2006 20 % effort. NIH/NICHD P01-HL36059- ($(US) $ 224, 000"". Project 3– Cx43 gap junctions and neural crest.

2003 March of Dimes Conference Grant $5,000. Choreography of the Heart Beat: The Cardiac Pacemaking and Conduction System.

2003 NIH R13 Conference Grant $15,000. Choreography of the Heart Beat: The Cardiac Pacemaking and Conduction System.

1997-2015 30 % effort NIH/NHLI Project Grant (RO1) $250,000. Developmental patterning of cardiac gap junctions (retitled 2009 - Gap Junctional Patterning in Arrhythmic Heart). **Renewal reviewed October 2009 percentile = 7th**

2006-2010 20 % effort. NIH RO1, $250, 000, Function Of Cx43-Interacting Proteins In Neural Crest Migration

2006-2009 5 % effort NIH R41, $100, 000 Restoration of Skin Structure and Function Post-Wounding Phase I ($100, 000 DC – Gourdie PI) and Phase II ($750, 000 DC Gourdie Co-PI)

2009-2011 10 % effort. American Heart Association, Grant-in-Aid, $(US) 70,000. Cx43: A Novel Factor in Cardiac Injury Severity in the Diabetic

2006-2011 NIH/NIAMS R41 STTR (Ghatnekar PI, Gourdie Co-PI), 5 % effort, $750, 000 DC Restoration of Skin Structure and Function Post-Wounding.

2006-2011 NIH NCRR, 5P20RR016434-07, (Markwald, PI, Harris, Project Leader, Gourdie, Faculty Mentor for Dr Harris). 5% effort NIH NCRR SC COBRE for developmentally based cardiac diseases. Project 3: Molecular Development and Pathophysiology of the Atrio-ventricular Conduction System.

2010-2014 NIH/NHBLI 2 RO1 HL56728-10A2 (Gourdie, PI), 30 % effort NIH/NHLI Project Grant (RO1) $225,000. Gap Junctional Patterning in Arrhythmic Heart. Renewal April 2010, percentile = 7th

2009-2013 NIH/NHBLI, F30 HL095320-01, (Palatinus PI, Gourdie, Mentor), 5% effort, Connexin 43 Gap Junction Dynamics In The Diabetic Heart. 5 year pre-doctoral Ruth Kirschstein Pre-Doc Fellowship for Mr Palatinus.

2012-2017 NIH/NIDCR, F31 DE022224 (Gourdie Mentor for Ms Ongstad) 0.5 ca mths, $42,225 pa
Tissue Engineered Repair of Cranial Facial Muscle. 5 year pre-doctoral Ruth Kirschstein Pre-Doc Fellowship for Ms Ongstad.

2013 NIH/NHBLI R13 HL8529886 (Gourdie, PI), 0.5 ca mths, $20,000, International Gap Junction Conference 2013.

2013-2014 Heart Rhythm Society, Heart Rhy Soc Fellowship (Gourdie Mentor Dr Veeraraghavan), 0.5 ca mths, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2013-2015 AHA Post-Doc Fellowship (Gourdie Mentor for Dr Veeraraghavan) 07/01/2013-06/30/2014, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2013 AHA Cardiovascular Disease Scholarship (Gourdie Mentor for Ms Post), $2000, Cardiac Regenerative Repair Mechanisms

2014-2016 VBHRC (Gourdie PI) $200,000 04/01/14-03/31/16, Novel Wound Healing Drugs

2009-2013 NIH/NHBLI, F30 HL095320-01, (Palatinus PI, Gourdie, Mentor), 5% effort, Connexin 43 Gap Junction Dynamics In The Diabetic Heart. 5 year pre-doctoral Ruth Kirschstein Pre-Doc Fellowship for Mr Palatinus.

2013 AHA Cardiovascular Disease Scholarship (Gourdie Mentor for Ms Post), $2000, Cardiac Regenerative Repair Mechanisms

2013 Carilion Clinic Research Acceleration Program (RAP) Funding (Moyer & Gourdie Co-PIs), $25,000, Implant Capsular Contracture after Breast Reconstruction.

2013 NIH/NHBLI R13 HL8529886 (Gourdie, PI), 0.5 ca mths, $20,000, International Gap Junction Conference 2013.

2013-2014 Heart Rhythm Society, Heart Rhy Soc Fellowship (Gourdie Mentor Dr Veeraraghavan), 0.5 ca mths, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2015-2016 VBHRC (Gourdie PI) $200,000 DC 01/01/14-06/31/16, Novel Wound Healing Drugs

2015-2016 Center for Innovative Technology Grant $200,000 04/01/14-12/31/15, Advanced Manufacture and Testing of a Brain Cancer Treatment

2016-2017 Carilion Clinic Research Acceleration Program (RAP), $25,000 DC, 04/01/15-10/31/16, Implant Capsular Contracture after Breast Reconstruction.

2016-2017 VBHRC (Gourdie PI) $290,000 DC 01/01/16-06/31/17, Clinical Trial for Dogs with Glioblastoma

1997-2021 NIH RO1 HL56728-14A1 (Gourdie, PI) 3 ca mths, $264,000 DC, Gap Junctional Patterning in the Arrhythmic HeartNIH/NHLBI

HISTORY As Co-Investigator:

1993-1997 20 % effort. NIH Project Grant (RO1) $(US)741,282. Myocyte Proliferation in the embryonic chick heart. R01-HL50582-01. Dr RP Thompson PI, 1993-1997.

1994. No % effort. Wellcome Trust Equipment Grant. £(UK)225,000. A confocal microscopy facility specialized for multilabelling.

1993. % effort NA. Wellcome Trust £(UK)1000. The relationship between the expression of ACAM and connexin43 during cardiac development. RGG supervising investigator for Dr Laeeq Kahn Summer Scholarship.

1994. % effort NA. Eotvos Hungarian State Fellowship. RGG supervising investigator for Dr Robert Sepp.

1995. % effort NA. Wellcome Trust Traveling Fellowship. RGG supervising inv. for Dr Brigitt Angst.

1996. % effort NA. Wellcome Trust Traveling Fellowship. RGG supervising inv. for Stephen Coppen

1996-1998 Wellcome Trust Project Grant. £(UK)45,214. Parturition and the expression of gap junctions in human myometrium. RGG co-inv with Drs Nick Severs PI.

1997-2000. % effort NA. British Heart Foundation Project Grant. Connexins in the developing heart. UKP 140, 000. RGG Co-investigator with Professor Severs PI

1997 % effort NA. British Biochemistry Society Traveling Fellowship. RGG supervising investigator for Dr S Coppen.

1998. 5 % effort. Grant-in-Aid, American Heart Association (SC-Affiliate). $(US) 25, 000. Approaches to the compact atrioventricular node. Dr K Hewett PI, 1996.

1997-1998 5 % effort. NIH/NHLBI $ (US) NRSA Fellowship for Dr Wanda Litchenberg.

2000-2002 5 % effort. AHA Post-Doctoral Fellowship for Dr Jacqui Bond.

2001 5 % effort - Fellowship declined . AHA $ (US) Post-Doctoral Fellowship for Dr Angela Edmondson (co-mentor with Dr Terrence X. O'Brien).

2001 No paid % effort. NIH/NHBLI Pharmocology Training Grant re-submission. RGG as Co-Director of the training grant a Contributing Committee Member.

2001 No effort. NIH Instrumentation award , Judson Chandler PI, Two Photon Confocal Microscope-RGG Major User.

2002 No effort. NIH Instrumentation award , Shailesh Patel PI, Genetic Analysis Core-RGG Major User

2004 2 % effort - AHA Post-Doctoral Fellowship for Dr Brett Harris

2004 2 % effort – NIH NRSA Post-Doctoral Fellowship for Dr Andrew Hunter

2005 2 % effort – NIH NRSA Pre-Doctoral Fellowship for Mr Matthew Rhett

2005 2 % effort - AHA Pre-Doctoral Fellowship for Mr Michael O'Quinn.

2006-2012 5% effort NIH NCRR SC COBRE for developmentally based cardiac diseases. Project 3: Molecular Development and Pathophysiology of the Atrio-ventricular Conduction System (Dr Brett Harris, Project Leader. Dr Gourdie, Faculty Mentor for Dr Harris).

2008-2010 2% effort NIGMS MUSC-Claflin Institutional Research and Academic Career Development Award. Support for Dr Andrew W. Hunter, post-doc fellow in Gourdie Lab.

2008-2010 2 % effort. NASA Pre-Doctoral Fellowship for Mr Matthew Rhett.

2009-2011 2% effort NHLBI Connexin 43 Gap Junction Dynamics In The Diabetic Heart. 5 year pre-doctoral NIH F30 fellowship for Mr Palatinus.

2012-2017 NIH/NIDCR, F31 DE022224 (Gourdie Mentor for Ms Ongstad) 0.5 ca mths, $42,225 pa, Tissue Engineered Repair of Cranial Facial Muscle. 5 year pre-doctoral Ruth Kirschstein Pre-Doc Fellowship for Ms Ongstad.

2010-2014 (Yost - PI, Gourdie -Sub Contract Project Leader), 20 % effort, $250,000, Sub-Contract $100,000. Enabling Technologies For Tissue Engineering and Regenerative Medicine.

2013-2014 Heart Rhythm Society, Heart Rhy Soc Fellowship (Gourdie Mentor Dr Veeraraghavan), 0.5 ca mths, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2013-2015 AHA Post-Doc Fellowship (Gourdie Mentor for Dr Veeraraghavan) 07/01/2013-06/30/2014, $42,225 pa, The Role of the Perinexus in Ephaptic Coupling between Cardiac Myocytes.

2013 AHA Cardiovascular Disease Scholarship (Gourdie Mentor for Ms Post), $2000, Cardiac Regenerative Repair Mechanisms

Pending Grant Applications

1R01HL132302-01	Ephaptic Mechanism of Cardiac Conduction	NIH/NHLBI	$1500000 DC	2016-2021	MPI:Gourdie, Poelzing 20%	Pending
1R01HL13236-01	Translation initiation in cardiac intercellular communication and cellular differentiation	NIH/NHLBI	$1250000 DC	2016-2021	PI: Smyth Co-I Gourdie	Pending
2R01HL102298-06	Role of the Extracellular Space as a Modulator of the Cardiac Gap Junction-Conduction Velocity Relationship	NIH/NHLBI	$1500000 DC	2016-2021	PI: Poelzing Co-I Gourdie	Pending
1R01NS096262-01	Targeting connexin 43 hemichannels as a new strategy to overcoming temozolomide resistance in glioblastoma	NIH/NCI	$1250000 DC	2016-2021	PI: Sheng Co-I Gourdie	Pending
1R21NS096536-01	Targeting glioblastoma cancer stem cells with a Connexin43 mimetic peptide	NIH/NCI	$275000 DC	2016-2018	PI: Lamouille Co-I Gourdie	Pending

Mentor on the following training grants:

- Pharmacology NIH Training Grant (Program Director Dr Don Menick),
- NIH Minority Research Training Grant (PI, B Ledford)
- Pediatric Cardiology NIH Training Grant (PI, P Saul)
- MUSC MSTP Training Grant (PI, P Halushka)

NIH Cardiovasc. Biology COBRE (PI R Markwald)
NIH F30 (mentor for J. Palatinus)
NIH F30 (mentor for E. Ongstad)

NIH K12 (mentor for AW Hunter)
NIH Best Award (MPIs, Drs M. Friedlander, A Van Wart)

Awards/Honors:

1983	MAFTech (NZ) Pre-doctoral Research Fellowship
1993	British Heart Foundation (UK) Research Fellowship
1994	British Young Medical Investigator of the Year-British Medical Research Society
1994	GLAXO Young Medical Investigator Medal-Runner-up, Glaxo UK Ltd.
1996	Basil O'Connor Scholar, March of Dimes Birth Defects Foundation
1997	MUSC Health Sciences Foundation, Developing Scholar Award
1998	National Science Foundation Early Career Scholar
1998	Nomination National Science Foundation Presidential Early Career Award
1999 and 2000	Markwald Award, Runner-up – NIH Weinstein Heart Devel. Conference
2000-2010	Full Member, AHA Developmental Mechanisms review panel.
2004	Nomination for Howard Hughes Investigatorship
2004	Charter Member, NIH ESTA study section (2004-2008).
2006	Prizewinner Charleston Business Journal Innovator of 2006
2008-2012	MUSC Board of Trustees' Eminent Scholar
2009	First Place Podium Award - Wake Forest Regenerative Medicine Conference
2010-pres	NIH CSR College of Reviewers
2010-pres	Chair, AHA Regenerative Cell Biology, review panel.
2012-pres	Commonwealth Research Commercialization Fund Scholar

Academic Committees:

University:

1997-2000	URC Research Grant Committee
1998	HSF Developing Scholars Committee
2001-2012	MUSC Graduate Council
2001-	MUSC Post-Doctoral Policy Committee
2002-	MUSC Faculty Mentoring Committee
2003-2004	MUSC University Research Council
2003-2004	URC Rodent and transgenic animal committee (Chair)
2004-2012	MUSC Intellectual Property Committee
2008-2012	MUSC College of Medicine Promotion and Tenure Committee
2009-2012	MUSC Tenure Committee
2010-2012	Chair, MUSC Intellectual Property Committee
2010-2012	MUSC Strategic Plan Implementation Committee
2010-2012	Provost's Working Group on Conflict of Interest and Intellectual Property
2012-pres	Virginia Tech School of Health Sciences Advisory Board
2012-pres	Virginia Tech School of Health Sciences Translation Biology Medicine and Health Advisory Board
2012-pres	Virginia Bioinformatics Institute Core Advisory Board

Departmental

1995-2012 Member, Dept Cell Biology, MUSC, Molecular Imaging Core Advisory Committee
1998-2012 Member, Dept Cell Biology, MUSC, Space Committee
1999 Member, Dept Cell Biology, MUSC, Business Manager Selection Committee
1999-2012 Member, Dept Cell Biology, MUSC, Promotion and Tenure Committee
1999 Dept. Cell Biology Business Manager search Committee
2001-2006 Program Project P01-H39946 Executive Committee (Chair)
2011 Chair, Dept Cell Biology, MUSC, Promotion and Tenure Committee
2012-pres Member, Wake Forest Virginia Tech School of Biomedical Engineering and Sciences Promotion and Tenure Committee
2015-pres Chair, Virginia Tech, BEAM, honorifics committee

Major Teaching Responsibilities (Current):

Medical Student Lectures:
Medical Histology and Embryology CEL-609 2001-2010 (R Ogilivie course organizer) annual
#1 lectures/yr
#250 students/yr medical students

Undergraduate/Graduate Student Lectures:
Foundations in Molecular and Cell Biology -MCBP 721 1995-2000 (Barry Ledford course organizer)
#lectures/yr 3-5 x 1-2 hr lectures on viruses, membranes and signal transduction
#students/yr 20-30 MCPB and MSTP graduates per year.

Developmental Mechanisms -Cel-726 1995-2001 (RG Gourdie co-course organizer)
#lectures/yr 15-20 tutorial presentations per year
#students/yr 5-10 MCPB and MSTP graduates, medical students, post-docs and residents.

Cell biology Lecture series-Cel-760 1998-1999 (RG Gourdie course organizer)
#lectures/yr 15-20 seminar presentations
#students/yr 10-15 MCPB and MSTP graduates, medical students, post-docs and residents .

Essential Scientific Practices II: CGS 712 Scientific Writing, 2002-2012 (E.L. Krug, course organizer)
#students/yr Supervision of grant write-up of 5 MCPB and MSTP students.

Developmental Mechanisms : 2002-2012 (L. M. Eisenberg, course organizer),
#lectures/yr 2x1 hr lectures /biannually
#students/yr 10-15 MCPB and MSTP graduate students.

The Molecular Basis of Cardiovascular Disease: 2002-2012 MCBP 937 (Don Menick, course organizer),
#lectures/yr 1 hr lecture /biannually
#students/yr 10-15 MCPB and MSTP graduate students.

(vii) Integrative Biology of the Cardiovascular System, 2003-2012 (George Lindenmayer, course director),
#lectures/yr 2x2 hr lecture /biannually
#students/yr 5-10 MCPB and MSTP graduate students and post-docs.

Advanced Cell Biology: 2006-2012 MCBP (Ed Krug, course organizer),
#lectures/yr 6 hr lectures /annually
#students/yr 4-5 2nd year MCPB and MSTP graduate students.

Essential Scientific Practices I – Intellectual Property, Propriety Information and Biotech Startups: 2006-2012 CGS710 (Ed Krug, course organizer),
#lectures/yr 1 hr lecture /annually
#students/yr 30 1st year MCPB and MSTP graduate students.

Biomaterials/Tissue Engineering, Virginia Tech SBES
Cardiac Regeneration
2014-pres (Scott Verbridge, course organizer),
#lectures/yr 1 hr lecture /annually
#students/yr ~70 undergraduate students

Polymers in Medicine and Biology, Virginia Tech, SBES
Novel Wound Healing Drugs
2014-pres (Abby Whittington/Judy Riffle course organizers),
#lectures/yr 1 hr lecture /annually
#students/yr ~40 grad students

Global Health for Engineering Students, Virginia Tech, SBES
Heart Disease
2014-pres (Lissett Bickford course organizer)
#lectures/yr 1 hr lecture /annually
#students/yr ~12 undergraduate/grad students

Development, Aging and Repair Track, Virginia Tech, TMBH
2014-pres (Rob Gourdie, Rosalyn Moran, Mark Van Dyke course organizers
#lectures/yr 15 weeks Spring Term/ 4 x 2 hour blocks per week
#students/yr ~6 grad students

Research Mentoring:

High School Research Students and Undergraduate Research Students:

1995 **Thomas Palmatier.** Junior summer research project.
Project: Effect of monosodium glutamate on heart muscle cell contractility. 2nd place winner in Academic Magnet High School Science competition.

1996-1997 **Mikkel Johannsen.** Academic Magnet School, senior thesis project-primary. Grad.
Honors. Mentor. Project: Effect of neural crest ablation on differentiation on coronary vasculogenesis and cardiac conduction tissue differentiation.

1997 **Kerry Wilson.** (MUSC summer undergraduate program).
Project: Cx45 expression in the developing mouse heart.

1997-1998 **Shimon Frances.** Academic Magnet School, senior thesis project -primary mentor. Grad. Honors. Project: Computer modeling of gap junctional coupling in the developing heart.
Grad PhD MUSC 2011

1998 **Shantae James** (MUSC Minority summer undergraduate program).
Project: Induction of cardiac conduction cells in vitro.
Grad MUSC Med School MD PhD 2008

1999-2000 **Adria K. Holwell.** Summer research project
Project: Connexins in the Rabbit Terminal Crest .
Grad Med College Georgia 2005

2000-2001 **Will Bigelow.** Academic Magnet School, senior thesis project -primary mentor. Grad Honors
Project: Cx43 expression in the HF1b KO mouse.
Grad MUSC Med School 2009.

2002-2003 **Ursula Kelly**. College of Charleston. Summer undergraduate project.
Project:Cx43 and ZO-1 interactions in cultured cells.
Grad MUSC Med School 2008.

2003-2006 **Ching Zhu**. Academic Magnet School, Summer Research Program and Senior Thesis Project -primary mentor. Grad Honors. Project:Cx43 and ZO-1 interactions and gap junction size.
Honors: Won 2nd grand prize in INTEL International High School Science Competition, Seattle, WA. Prize included NASA naming an asteroid for Ms Zhu !!
Harvard College, Boston (Full Scholarship).
Entered Stanford Univ Med School 2011.

2008 **Minella Capelli** (MUSC Minority summer undergraduate program).
Project: Molecular Induction of Cx43 ZO-1 Interaction.
Entered Med School 2010

2011 **Hina Siddiqui** (MUSC Minority summer undergraduate program).
Project: 3D culture model of the cardiac infarct border zone.
Entered Med School 2013

2013 **Allison Post** (AHA Medical Scholarship).

Project: Cardiac Regeneration in Neonates

Graduate Students:

1996-1999 **Cheng Gang**. MCBP graduate program- Grad, 1999.
Project: Apoptosis and the developing heart. Winner NIH Weinstein Travel Award
Present: Research Assistant Professor, MUSC

1997-2000 **Lisa Norman** MCBP graduate school program. Grad 2000.
Gap junctional Cx45 in the developing heart. Winner : 1st prize MUSC student research day oral presentation and AAA Langman award at FASEB 2000 for best presentation by a student. Funded: NSF grant to RGG. Present: Ashley Hall Science Teacher, Charleston, SC

1997-2003 **Ralph Barker,** MSTP MD PhD graduate/medical school program. Successfully defended PhD thesis July 2003, Grad 2004.
Gap junctional patterning in the developing heart.
Funded: NIH MSTP training grant and Gourdie NIH RO1
Present: MUSC Chief Surgery Resident

2003-2009 **Michael O'Quinn,** MSTP MD PhD graduate/medical school program, MUSC primary mentor . Wnt11 expression in animal models of cardiac disease. Overall Winner MUSC Student Research Day.
Funded: AHA Pre-Doc Fellowship
Present: Completing MUSC Medical School as part of MD PH.D. program

2004-2012 **Matthew Rhett,** MUSC PhD graduate school program, MUSC primary mentor. ZO-1 regulation of Cx43 connexon aggregation. Sigma Psi MUSC Winner Student Research Day.
Funded: NIH T32 training grant and NASA pre-doc Fellowships.
Present: Post-Doc Gourdie Lab

2006-2010 **Abhijit Gurjarpadhye,** Clemson-MUSC Joint Bioengineering program (Masters of Engineering). MUSC primary mentor. Neural crest effect on conduction system development.
Funded: Clemson University Stipend.
Present: PhD Student University of Virginia, Bioengineering Program.

2006-2013 **Joseph Palatinus,** MSTP MD PhD graduate/medical school program, MUSC primary mentor . Mass spectroscopic analysis of naturally occurring alpha carboxy-terminal connexin peptides. Keystone conference travel award. Student Research Day Oral Prizewinner.
Funded: Ruth Kirschstein F30 Pre-Doc Fellowship
Present: Gourdie Lab, MUSC

2010-2012 **Erik Strungs,** MSTP MD PhD graduate/medical school program, MUSC rotation mentor . Cx43 expression in the ACE2 knockout mouse heart
Funded: NIH MSTP training grant.

Present: Gourdie Lab, MUSC

2010-pres **Emily Ongstad,** Clemson-MUSC Joint Bioengineering program (PhD), MUSC primary mentor . Targeting Cx43 and skeletal muscle regeneration
Funded: NIH F31 Ruth Kirschstein Award.
Present: Gourdie Lab, MUSC

2012-pres **Katherine E. Degen,** School of Biomedical Engineering Graduate Program (PhD), Virginia Tech, primary mentor. Development of Novel Drugs for Tissue Engineered Repair
Funded: VTCRI PhD Scholarship.
Present: Gourdie Lab, MUSC

2014-pres **Jade Montgomery,** School of Biomedical Engineering Graduate Program (PhD), Virginia Tech, primary mentor. Mechanisms of Cutaneous Scar Formation.
Funded: Gourdie lab.
Present: Gourdie Lab, MUSC

Post-doctoral Fellows

1995 **Robert Sepp, M.D.**
Project: Intercellular junction distributions in patients with hypertrophic cardiomyopathy. Dr Sepp received the *Hungarian* ***Young Cardiologist of the Year*** from work in Gourdie's lab.
Funded Eotvos State Fellowship.
Present: Senior Lecturer, University of Szeged Medical School, Hungary.

1996-1997 **Jocelyn Lee MD.**
Project: Connexin43 in heart failure.
Funded by NIH Training Fellowship in Pediatric Cardiology.
Present: Associate Professor, UCLA, CA, USA.

1997 **Brigitt D. Angst Ph.D.**
Project: Cell adhesion molecules and cardiac intercalated disk differentiation
Funded: Fellowship from the Wellcome Trust.
Present: Scientist, NIMR, London, UK

1997-1998 **Steven R. Coppen PhD**
Project: Cx45 expression in the conduction system
Funded: Fellowships from the Wellcome Trust and Biochemical Society.
Present: Senior Scientist, Prof Sir Madgi Yacoub's lab, Harefield Hospital, UK

1998-2002 **Jacqueline Bond PhD**
Project: Developmental origins of ventricular myocyte phenotypic heterogeneity.
1st prizewinner MUSC student research day – Post-Doc poster competition.
Funded: AHA Post-Doc Fellowship.
Present: Senior Scientist, FRI Institute, New Zealand

2001-2006 **Brett S. Harris, Ph D**

Project: Nkx-2.5 and conduction system development.
Funded: AHA Post-Doctoral Fellowship grant.
Present: Research Assistant Professor (as of July 1, 2006), Dept Cell Biology and Anatomy, MUSC

2003-2009 **Andrew W. Hunter, PhD**
Project: Connexin interacting proteins in regulation of gap junction size.
His paper from lab in 2005 nominated as Mol Biol Cell paper of the year. Winner Post-Doc oral presentation prize MUSC student research day.
Funded by NIH/NHLBI grant to RGG.

2004-2006 **Gautam Ghatnekar, DVM, PhD**
Project: Cx43 GJ and Neural Crest Migration.
Funded: NIH/NHLBI grant to RGG
Present: President and CEO, FirstString Research Inc.

2010-2012 **Alix Myers, PhD**
Project: Epithelial Mesenchymal Transition Priming of Stem Cells
Funded: NIH/NHLBI T32 training grant to MUSC

2011-2012 **Matthew Rhett PhD**
Project: ZO-1 regulation of Cx43 connexon aggregation.
Funded: Gourdie RO1

2012-pres **Sai Veeraraghavan PhD**
Project: Ephaptic Coupling in the heart
Funded: AHA Post-Doc Fellowship

2014-pres **Jingbo (Jenny) Jiang MD**
Project: aCT1 mediated S368 phosphorylation of Cx43
Funded: Chinese Academy of Science Fellowship

Graduate Thesis Committees:

1998-2004 **Laura Columbo** MCBP graduate student, Grad 2004.
2000-2004 **Brian Giles** MCBP graduate student, Grad 2004.
2001-2008 **Shantae James** MCBP graduate student.
2002-2008 **Christopher Crosby** MCBP graduate student -Thesis committee.
2002-2007 **Kristie Lindsay** MCBP graduate student -Thesis committee.
2003-2005 **Jessica Paulik** MCBP graduate student -Thesis committee.
2003-2006 **Xinkui Hao** Clemson/MUSCMCBP graduate student -Thesis committee.
2009-2012 **Daniel Grass** graduate student -Thesis committee.
2012-pres **Sharon George** Virginia Tech bioengineering grad student- Thesis committee.
2012-pres **Amara Greer-Short** Virginia Tech bioengineering grad stud.- Thesis committee.
2013-pres **Aboozar Monavarfeshani** Virginia Tech Dept Biol grad student- Thesis committee.
2014-pres **Kevin Pridham** Virginia Tech TMBH grad student- Thesis committee.

2014-pres **Jordan Darden** Virginia Tech TMBH grad student- Thesis committee.
2014-pres **Carissa James** Virginia Tech TMBH grad student- Thesis committee.

Other Teaching:

(i) Co-organizer of the MUSC/MCG heart development symposium 1996
(ii) Organizer of the Cell Biology External Seminar Series 1997-1998
(iii) Presenter at the MCBP orientation seminar series (Barry Ledford - convener) 1997-1999
(iv) Presenter at the Summer Undergraduate seminar series (Hank Martin-convener) 1997-1998
(v) Judge student MUSC student research day 1995-2012

External Lectures and Presentations:

1. Invited Speaker. Invited Fifth International Symposium on the Etiology and Morphogenesis of Congenital Heart Disease.Tokyo, Japan, Dec 1999.

2. Abstract invited for oral presentation by Dr Gourdie. Cellular and molecular mechanisms of cardiac conduction system development. Weinstein Cardiovascular Development Conference. University of Arizona, Tucson, Arizona USA, 1999.

3. Invited Seminar Speaker - Developmental Biology Program. Case Western Reserve University, School of Medicine, Cleveland, OH, 2000.

4.
5. Invited Seminar Speaker. Insitut de Biologie du Developpement de Marseille External Speaker Series. Marseille, France, 2000.
6. Abstract selected for oral platform presentation by Dr Gourdie. Remodeling of Cx43 gap junction pattern in HF1b ko transgenic model of ventricular arrhythmia. Weinstein Cardiovasc. Develop. Conference. St Louis, Washington, USA, 2000.

7. Invited Speaker. UCSD Cardiovascular Science Seminar Conference, San Diego, CA, 2000.

8. Invited Seminar Speaker. Dept. Physiol.Seminar Series. University of Calgary, Calgary, Canada, 2000.

9. Invited Seminar Speaker. Dept. Pharmocol. Program. UPR, San Juan, PuertoRico, 2000.
10. Invited Speaker, Molecular Medicine Seminar , Medical College of Georgia, Augusta, GA, 2001.
11. Invited Speaker. National Institute of Child Health and Development Annual Conference. National Institute of Health, Bethesda, Maryland, 2001.
12. Abstract selected for oral platform presentation. Remodeling of Cx43 gap junction pattern in HF1b ko transgenic model of ventricular arrhythmia. Int. Gap Junction Conf. Honolulu, Hawaii, 2001.

13. Invited Speaker. Centennial Einthoven Conference, Leiden, Netherlands, 2002.
14. Invited Speaker. Inaugural Texas Heart Institute Meeting. Coronary Artery Anomalies, Houston, Texas, 2002.
15. Invited Speaker. Novartis Foundation Meeting on Development of the cardiac conduction system, London, UK, 2002.
16. Invited Speaker. Royal Society of Medicine, London, UK, 2002.
17. Invited speaker. Cardiovascular Biology Graduate Program Seminar Series, Baylor College of Medicine, Houston, Texas, 2003.
18. Invited speaker. Cardiovascular Medicine Seminar Program, Harvard Medical School, Boston, MA, 2003.
19. Invited speaker. Division of Cardiovascular Science Program, Children's Hospital,, OH, 2003.
20. Invited speaker. Department Pharmacology Seminar Program, Columbia College of Physicians and Surgeons, New York, NY , 2003.
21. Invited speaker. National Heart Lung and Blood Institute Lab of Developmental Biology Seminar, NIH Campus, Bethesda , MD, 2003.
22. Invited speaker. Department Anatomy and Developmental Biology Seminar Program, University of South Carolina, Columbia SC, 2004.
23. Invited speaker. American Microscopical Society Annual Meeting Session on imaging in cardiac development and disease, ,Savannah, Georgia, Feb, 2004.
24. Invited Speaker. ExpBio 2004 AAA symposium on the cardiac pacemaking and conduction system symposium, Washington, DC, April, 2004.
25. Invited Speaker. National Institute of Child Health and Development Annual Conference. Washington University Med School, St Louis, MO, June, 2004.
26. Invited speaker . 14th World congress in Cardiac Electrophysiology. Cardiostim, Nice, France, June2004.
27. Invited speaker. Department Cell Biology Seminar Program, University of Kansas City, Kansas City, MO, 2004.
28. Invited speaker. Cardiovascular Research Center Seminar. Massachusetts General Hospital, Boston, MA, Feb 2005.
29. Invited Speaker. HEART RHYTHM SOCIETY. Advances in Connexin Biology, New Orleans, LA, May, 2005.
30. Invited Debater. HEART RHYTHM SOCIETY. CONTROVERSIES IN BASIC/TRANSLATIONAL SCIENCE: There Are Specialized Conducting Cells in the Pulmonary Veins, New Orleans, LA, 2005.
31. Abstract selected for oral platform presentation by Dr Gourdie. Neural Crest Cells are Necessary for Conduction Bundle Insulation. Weinstein Cardiovasc. Develop. Conference. Tucson, Az, USA, May, 2005.

32. Invited Speaker. HEART RHYTHM SOCIETY, Advances in Connexin Biology, Boston, Ma, May, 2006.

33. Invited Speaker. The 4nd Larry & Horti Fairberg Workshop, Interactive & Integrative Cardiology April, 2006, Charleston, SC, USA, 2006.

34. Invited Seminar Speaker. Dept. of Anatomy and Cell Biology Seminar Series. Indiana University School of Medicine, Indiananapolis, Indiana, 2006.

35. Invited Seminar Speaker. Cell Biology, Neurobiology and Anatomy Seminar Series. Medical College of Wisconsin, Milwaukee, Wisconsin, 2006.

36. Invited Seminar Speaker. NHBLI Intramural Seminar Program. Bethesda, MD, 2006.

37. Invited Seminar Speaker. New York University (NYU) Medical School, Grand Rounds, New York, NY, 2006.

38. Invited Seminar Speaker. Albert Einstein College of Medicine, New York, NY, 2007.

39. Invited Seminar Speaker. Medical College of Milwaukee, Wi, 2007.

40. Invited Presenter at Minisymposium on Cardiac Neural Crest. Weinstein Cardiovascular Development Conference. Indiananapolis, Indiana, USA, 2007

41. Invited Speaker. Gordon Research Conference on Cardiac arrhythmias. Ventura Beach Marriott Ventura, CA, May 2007.

42. Invited Speaker. HEART RHYTHM SOCIETY, Development of AV node, Boston, Ma, May, 2008.

43. Invited Speaker. American Heart Association Scientific Sessions, New Orleans, La, 2008.

44. Invited Speaker. FASEB-EXP Bio08, Tissue Engineering Session New Orleans, La, 2008.

45. Invited Seminar Speaker. University of Pittsburgh, Pa, 2008.

46. Invited Seminar Speaker. Columbia University, NY, 2008.

47. Invited Speaker. American Heart Association Scientific Sessions, Channel Trafficking. Orlando Fa, 2009.

48. Invited Speaker. International Gap Junction Conference, Cx43-ZO-1 interactions and arrhythmia Sedona, Az, August, 2009.

49. Invited Seminar Speaker. University of Central Florida, Orlando, Fa 2009.

50. Invited Seminar Speaker. University of Michigan Ann Arbor, Mi, 2009.

51. Invited Speaker. Heart Rhythm Society, Scientific Sessions, Denver, Co 2010.

52. Invited Seminar Speaker. Vanderbilt University Medical School, Tn, 2010.

53. Invited Speaker. American Heart Association Scientific Sessions, Chicago, Il 2010.

54. Invited Seminar Speaker. Department of Medicine Seminar Series, University of California San Diego, Ca, 2010.

55. Keynote Speaker. Medical Sciences Congress, Queenstown, New Zealand, 2010

56. Invited Speaker. Keystone Symposia Conference- Extracellular Matrix and Cardiovascular Remodeling. Tahoe City, California Jan 2011.

57. Invited Seminar Speaker. Department of Molecular Physiology and Biophysics Graduate Seminar Series, University of Virginia, Charlottesville, VA, May, 2013.

58. Invited Speaker. Second "Heidelberg-Heart" Workshop on "Cell and Molecular Biology of the Adhering Junctions and Functions in Heart Tissues", Univ. of Heidleberg, Germany, Sep 2011

59. Invited Speaker. Morphology 2011, Charles University, Prague, Czech Republic, 2011.

60. Invited Seminar Speaker. Developmental Biology Seminar Series, University of Pittsburgh, Pittsburgh, PA, Jan, 2012

61. Plenary Session Speaker., 7th Ascona International Workshop on Cardiomyocyte Biology**,** Centro Stefano Franscini, Mt. Verite, Switzerland, April, 2012.

62. Page Morton Hunter seminar speaker. Department of Bioengineering, Clemson University, Clemson, SC, August, 2012.

63. Invited Seminar Speaker. Virginia Tech Carilion Research Institute, Roanoke, VA, August, 2012.

64. Invited Seminar Speaker. Welcome Trust Center for Human Genetics, Roanoke, University of Oxford, UK, August, 2012.

65. Invited Speaker. 5th Asia Pacific Heart Rhythm Society Scientific Session, Taipei, Taiwan, October, 2012.

66. Invited Seminar. Chinese Academy of Science, Guangzhou Institute of Biomedicine and Health, October, 2012.

67. Invited Seminar. Department of Medicine, MacKay Medical College, Taipei, Taiwan, October, 2012.

68. Invited Seminar. Department of Opthalmology, University of Auckland Medical School, Auckland, New Zealand, October, 2012.

69. Invited Seminar Speaker. Drug Discovery Seminar Series, Virginia Tech, Blacksburg, VA, September, 2012.

70. Invited Speaker. Wake Forest Institute of Regenerative Medicine Seminar Series, Winston-Salem, September, 2012.

71. Invited Speaker, American Heart Association, Scientific Sessions, Los Angeles, CA, November, 2012.

72. Invited Speaker, Gordon Conference-Cardiac Arrhythmias, Feb, 2013.

73. Invited Speaker, Center for Cardiovascular Developmental Biology Meeting, MUSC, Charleston, SC March, 2013.

74. Keynote Speaker, Carilion Clinic Research Day 2013, Roanoke, VA, April, 2013.
75. Invited Speaker, Gordon Conference-Cardiac Arrhythmias, Feb, 2013.
76. Invited Speaker. *University of Virginia Molecular Medicine Graduate Program* Seminar Series, University of Virginia, Charlottesville, VA, May, 2013.
77. Invited Seminar Speaker, Burn and Shock Trauma Research Institute, Loyola University, Nov, 2013.
78. Invited Speaker, American Heart Association, Scientific Sessions, Dallas, Tx, November, 2013.
79. Invited Speaker, Center for Cardiovascular Developmental Biology Meeting, MUSC, Charleston, SC March, 2014.
80. Keynote Speaker, Symposium on Gap Junctions and Hemichannels, University of Ghent, Belgium, May, 2014.
81. Invited Lecturer, Czech Academy of Sciences, Institute of Physiology of the Czech Academy of Sciences 60th Anniversary Lecture.
82. Invited Speaker, American Heart Association, Scientific Sessions, Chicago, Tx, November, 2014.
83. Invited Seminar Speaker, Department of Pharmacology, Vanderbilt University, November, 2014.
84. Invited Speaker, Keystone Meeting, Myocyte-Fibroblast Interactions, Copper Mountain Resort, Colorado, February, 2015.
85. Participating Speaker, Astra Zeneca-Virginia Brain State Initiative, Fairfax, VA, Feb, 2015
86. Invited Seminar Speaker, Department of Medicine, Cleveland Clinic, Cleveland, Ohio, March, 2015.
87. Invited Seminar Speaker, Department of Biology, Old Dominion University, Norfolk, Virginia, October, 2015.
88. Invited Seminar Speaker, Department of Molecular Biology, University of Nebraska Medical School, Omaha, NebraskaMarch, 2015.
89. Invited Speaker, Asia Pacific Heart Rhythm Society, Myocyte-Fibroblast Interactions, Melbourne, Australia November, 2015.
90. Invited Seminar Speaker, University of Auckland Medical School, Auckland, New Zealand, , November, 2015.
91. Invited Keynote Speaker, Workshop on the interface between connexin/pannexin biology and therapeutics, Paris, France, March 3-4, 2016,

Publications: Hirsch Index (Gourdie RG) = 42 Citations = 6828

Peer-Reviewed Publications:

1. Orwin DFG, Gourdie RG, Woods JL, Geenty K. Measuring staple strength of New Zealand Romney and Corriedale wools. **New Zealand Journal Experimental Agriculture** 15: 303-308, 1987.

2. Green CR, Harfst E, Gourdie RG, Severs NJ. Analysis of the rat liver gap junction protein: clarification of anomalies in its molecular size. **Proceedings Royal Society London B** 233: 165-174, 1988.

3. Gourdie RG, Harfst E, Severs NJ, Green CR. Cardiac gap junctions in rat ventricle: localization using site-directed antibodies and laser scanning confocal microscopy. **Cardioscience** 1: 75-82, 1990.

4. Gourdie RG, Severs NJ, Green CR. Gap junction distribution in adult mammalian myocardium revealed by an anti-peptide antibody and laser scanning confocal microscopy. **Journal Cell Science** 99: 41-55, 1991.

5. Gourdie RG, Smith P, Severs NJ, Green CR. Quantitative stereology of human intercalated disks with antibodies against gap junction protein. **Scanning** 13: 104-105 1991.

5. Brizzolara AL, Tomlinson A, Gourdie RG, Burnstock G. Sex and age as factors influencing the vascular reactivity in Watanabe heritable hyperlipidemic (WHHL) rabbits. **Journal Cardiovascular Pharmacology** 195: 86-95, 1992.

6. Gourdie RG, Green CR, Severs NJ, Thompson RP. Immunolabelling patterns of gap junction connexins in the developing and mature rat heart. **Anat and Embryology** 85: 363-378, 1992.

7. Gourdie RG, Orwin DFG, Ranford S, Ross DA. Wool fibre tenacity variation between sheep and its relationship to staple strength. **Australian Journal Agricultural Research** 43: 1759-1776, 1992.

8. Gourdie RG, Green CR, Severs NJ, Anderson RH, Thompson RP. Evidence for a distinct gap-junctional phenotype in conduction tissues of the developing and mature avian heart. **Circulation Research** 72: 278-289, 1993.

9. Jones SJ, Gray C, Sakamaki Arora M, Boyde A, Gourdie RG, Green CR. The incidence and size of gap junctions between the bone cells of rat calvaria. **Anatomy and Embryology** 187: 343-352, 1993.

10. Green CR, Peters NS, Gourdie RG, Rothery S, Severs NS. Validation of immunohistochemical quantification by laser scanning confocal microscopy. **Journal Histochemistry Cytochemistry** 41: 1339-1349, 1993.

11. Gourdie RG**,** Severs NJ, Green CR, Rothery S, Germroth P, Thompson RP. The spatial distribution and relative abundance of gap junctional connexin40 and connexin43 correlate to functional properties of the components of the cardiac atrioventricular conduction system. **Journal Cell Science** 105: 985-991, 1993.

12. Kilarski WM, Severs NJ, Gourdie RG, Rezapour M, Backström T, Roomans GM, Ulmsten U. Gap junction density in human myometrium at term revealed by an anti-peptide antibody and laser scanning confocal microscopy. **Folia Histochemica Cytobiologica** 31: 155-160, 1993.

13. Severs NJ, Gourdie RG, Harfst E, Peters NS, Green CR. Intercellular junctions and the application of microscopical techniques: the cardiac gap junction as a case model. A review. **Journal Microscopy,** 169: 299-328, 1993.

15. Gourdie RG. Biological Confocal Microscopy. Review. **Trends in Neuroscience,** 17: 354-355, 1994.

16. Gourdie RG, Mima T, Thompson RP, Mikawa T. Terminal diversification of myocyte lineage generates Purkinje fibers of the cardiac conduction system. **Development** 121: 1423-1431, 1995.

17. Gourdie RG**,** McCabe CF, Cole CJ. Thompson RP. Spatiotemporal distribution of the developmentally regulated neural protein EAP-300 during cardiac development. **Developmental Dynamics** 203: 51-60, 1995.

18. Germroth PG, Gourdie R**G**, Thompson RP. Confocal microscopy of thick sections from acrylamide embedded embryos. **Microscopy Research and Technique** 30: 520-530, 1995.

19. Hall J, Gourdie RG. The spatial organization of gap junctions can effect access resistance. **Microscopy Research and Technique** 31, 452-467, 1995.

20. Gourdie RG. A map of the heart: gap junctions, connexin diversity, and retroviral studies of conduction myocyte lineage. Glaxo/MRS Young Investigator Prize Review. **Clinical Science,** 88: 257-262, 1995.

21. Mikawa T, Gourdie RG. Pericardial mesoderm generates a population of coronary smooth muscle cells migrating into the heart along with the ingrowth of the epicardial organ. **Developmental Biology**, 174, 221-232, 1996.

22. Gourdie RG. Connexin diversity in the human atrioventricular conduction system. **Journal Cardiovascular Electrophysiology** 7: 382, 1996.

23. Sepp R, Severs NJ, Gourdie RG. Altered patterns of cardiac intercellular junction distribution in hypertrophic cardiomyopathy. **British Heart Journal** 76: 412-417, 1996.

24. Eisenberg CA, Gourdie RG, Eisenberg LM. WNT-11 is expressed in early avian mesoderm and is required for the differentiation of the quail mesoderm cell line QCE-6. **Development**, 124:2525-536, 1997.

25. Angst BD, Khan LUR, Whitley K, Rothery S, Severs NJ, Magee AI, Gourdie RG. Dissociated spatial patterning of gap junctions and cell adhesion junctions during postnatal maturation of ventricular myocardium. **Circulation Research**, 80:88-94 1997.

26. Rezapour M, Kilarski WM, Severs NJ, Gourdie RG, Rothery S, Backstrom T, Roomans GM, Ulmsten U. Quantitative immunoconfocal analysis of human myometrial gap junction connexin43 in relation to steroid hormone levels at term labor. **Human Reproduction**, 12, 159-166, 1997.

27. Ewart JL, Cohen MF, Wessels A, Gourdie RG, Chin AJ, Park SMJ, Lazatin S, Villabon S, Lo CW. Heart and neural tube defects in transgenic mice overexpressing the Cx43 gap junction gene. **Development**, 124:1281-1292, 1997.

28. Kilarski WM, Dupont E, Coppen S, Hung-I Y, Masoumeh R, Roomans GM, Gourdie RG, Severs NJ. Identification of two further gap junctional proteins, connexin40 and connexin45, in Human myometrial smooth muscle at term. **Eur Journal Cell Biology**, 75, 1-8, 1998.

29. Gourdie RG, Litchenberg WH, Eisenberg LM. Gap junctions and heart development. Invited review. In: **Cardiac Gap Junctions: Health and Disease Perspectives**, (ed, WC De Mellow), Kluwer, pp 19-45, 1998.

30. Gourdie RG, Wei Y, Klatt S, Mikawa T. Endothelin-induced conversion of heart muscle cells into impulse conducting Purkinje fibers. **Proc. Nat. Acad. of Science**, 95: 6815-6818, 1998.

31. Gittenberger-de Groot AC, Vrancken Peters M-P, Gourdie RG, Poelmann RE. Epicardial derived cells contribute a novel population to the myocardial wall and AV cushions. **Circulation Research**, 81: 1043-1062, 1998.

32. Coppen SR, Severs NJ**,** Gourdie RG. Cx45 Expression delineates and extended conduction system in the embryonic and adult rodent heart. **Develop Genetics** 9 82-91, 1999.

33. Gourdie RG, Kubalak S, Mikawa T. Conducting the embryonic heart. Orchestrating development of specialized cardiac tissues. **Trends Cardiovascular Medicine**, 9 17-25, 1999.

34. Becker DL, Cook JE, Davies CS, Evans WH, And Gourdie RG. Expression of major gap junction connexin types in the working myocardium of eight chordates. **Cell Biol Int,** 22, 527-543, 1999.

35. Cheng Gang, Thompson RP, Gourdie RG**.** Improved Detection Of B-Galactosidase. **Biotechniques,** 27, 438-440, 2000.

36. Hyer J, Johannsen M, Wessels A, Kirby MI, Gourdie RG**,** Mikawa T. Induction Of Purkinje Fiber Differentiation By Arterialization. **Proc. Nat. Acad. Sci,** 96, 13214-13218, 1999 (Gourdie Corresponding Author).

37. Cheng G, Litchenberg WH, Mikawa T, Thompson RP Gourdie RG**.** Development Of the Conduction System Involves Recruitment Within A Multipotent Cardiomyogenic Lineage. **Development,** 126, 5041-5049, 1999.

38. Litchenberg WH, Norman LW, Hewett K, Gourdie RG**.** Pattering Of Coupling Determines Increasing Anisotropy Of Activation During Postnatal Development Of The Terminal Crest **Cardiovascul. Res,** :379-387, 2000.

39. Takebayashi-Suzuki K, Yanagisawa M, Gourdie RG, Kanzawa, N Mikawa T. Induction of Cardiac Purkinje Fiber Differentiation by Co-Expression of Preproendothelin-1 and Endothelin Converting Enzyme-1, **Development,** 127, 3523-3532, 2000.

40. Gourdie RG, Lo CW. Cx43 gap junctions in development and disease. **Gap Junctions** (ed. C Perrachia), Academic Press, pp 581-602, 2000.

41. Nguyen-Tran, VTB, S Minamisawa, SW Kubalak, C Fiset, S Barrere-Lemaire, KC Wollert, AB Brown, M Buckingham, LW Norman, Gourdie RG, Rahme MM, Feld GK, Clark RB, Chien KR. A novel genetic pathway for sudden cardiac death via defects in the transition between ventricular and conduction system cell lineages. **Cell,** 102, 671-682, 2000.

42. O'Brien TX, Edmonson AM, Rackley MS, Benson DW, Gourdie RG. Role of the cardiac transcription factor Nkx2.5 in the cardiac conduction system. **Circulation** 2001;14:II-288.

43. Thomas PS,. Yacoub MH, Izumo S, Kasahara H, Barton P, Gourdie RG. Elevated expression of Nkx-2.5 the developing cardiac conduction system. **Anatomical Record** 206, 307-313, 2001 (Journal Cover).

44. Gourdie RG, Gang Cheng Mikawa T. Retroviral Cell Lineage Tracing and Heart Development. **Methods in Molecular Biology.** 135, 297-304, 2000

45. Barker RJ, Price RL, Gourdie RG. ZO-1-Cx43 interaction is increased in Disocciated Myocytes. **Cell Adhesion and Communication**, 8, 4-6, 2001.

46. Coppen SR, Gourdie RG, Severs NJ. Cx45 is the first connexin expressed in the central conduct. system. **Exp Clin Cardiol,** 6, 7-23, 2001.

47. Gang C, Gourdie RG, Wessels A, Thompson RP. Apoptosis in the developing chick heart. **Developmental Dynamics**, 223, 119-133, 2002.

48. Barker RJ Price RL, Gourdie RG. Increased ZO-1-Cx43 interaction is associated with myocardial gap junction remodeling. **Circulation Research** 90:317-324, 2002.

49. Pennisi DJ, Rentschler S, Gourdie RG, Fishman GI, Mikawa T. Development of the cardiac conduction system. Induction and patterning of the cardiac conduction system. **Int J Dev Biol** 46:765-75, 2002.

50. Barker RJ, Gourdie RG. JNK bond regulation. Why does the mammalian heart invest in Cx43? Invited editorial. **Circulation Research,** 91: 556-558, 2003.

51. Sedmera D, Reckova, D deAlmeida, A Sedmerova, M Biermann M, Volejnik J, Sarre A, Raddatz E, McCarthy R, Gourdie RG. Functional evidence of specialized ventricular conduction tissue in fish and frog heart. **Am J Physiol Heart Circ Physiol.**, 284(4):H1152-60., 2002.

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Main Patents Awarded

1. Compositions And Methods For Promoting Wound Healing And Tissue Regeneration A - COMPOSITION OF MATTER DIVISIONAL. USPTO No. 60/638,366, filed 12/21/2004.

(Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded August 2010.

2. Compositions And Methods For Promoting Wound Healing And Tissue Regeneration B – METHODS OF USE DIVISIONAL-Peptides. USPTO No. 60/638,366, filed 12/21/2004. (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded October 2010.

3. Compositions And Methods For Promoting Wound Healing And Tissue Regeneration C – METHODS OF USE DIVISIONAL-cDNA. USPTO No. 60/638,366, filed 12/21/2004. (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded October 2010.

4. Compositions And Methods For Promoting Wound Healing And Tissue Regeneration. filed 12/21/2004. (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). New Zealand patent awarded October 2010.

5. Compositions And Methods For Tissue Engineering, Tissue Regeneration And Wound Healing. U.S. Provisional Application No. filed 09/01/09 (Inventors: Robert G. Gourdie and Jay D. Potts-USC).

6. Alpha Connexin C-Terminal (Act) Peptides For Treating Age-Related Macular Degeneration. Provisional Application No. PCT/US2008/067944. Filed 06/21/2007. (Inventors: Robert G. Gourdie and Barbel Rohrer). Awarded January 2014 in Japan. Pending US. Licensed to FirstString Research Inc 2007.

7. Periostin inhibitory compositions for myocardial regeneration, methods of delivery, and methods of using same. USPTO Applicaton #: 20100291188, filed 12/06/2008 (Inventors: Russell A. Norris, Robert G. Gourdie, Michael P. O'Quinn, Roger R. Markwald), granted April 2015.

8. Methods for treating corneal injury. US patent 8,859,733, (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded 2014.

9. Methods for treating chronic wounds. US patent 8,916,515, (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded 2014.

10. Methods for treating lung injury and disease. US patent 8,809,257, (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). USPTO patent awarded 2014.

11.

Main Patents Pending (from ~50 Worldwide)

1. Alpha Connexin C-Terminal (Act) Peptides For Treating Age-Related Macular Degeneration. U.S. Provisional Application No. PCT/US2008/067944. (Inventors: Robert

G. Gourdie and Barbel Rohrer). Pending in US. Licensed to FirstString Research Inc 2007, patent filed 2009

2. Compositions and Methods for Ameliorating Clinical Electrical Disturbances. USPTO Applicaton #: 20100286762, (Inventors: Robert G. Gourdie Michael P. O'Quinn J. Matthew Rhett), patent filed 2009

3. Compositions and Uses for Protein Kinase CT Mimetics. Provisional USPTO Applicaton #: 61/436,583 (Inventors: Robert G. Gourdie, Jane Jourdan, Joseph Palatinus). Patent filed 2011

4. Compositions And Methods For Wound Healing And Tissue Repair. USPTO Applicaton #: 61638094, Patent filed 04/25/12, (Inventors: Robert G. Gourdie, J. Matthew Rhett, Michael S. Yost, Edie Goldsmith, Jane Jourdan).

5. Methods of treating a cancer through targeted disruption of alpha connexin 43-zonula occludens-1 (zo-1) interaction. (Inventors: Zhi Sheng | Robert Gourdie), PCT International Application No.: PCT/US2014/042528, June 16, 2014, Priority Filing Date: August 02, 2013

6. Methods for Personalized Medicine: GBM Diagnosis and Treatment. (Inventors: Zhi Sheng | Robert Gourdie), VTIP 15-082, provisional patent filed 2015.

7. Methods for cancer treatment. USPTO application # 14/542,151, (Inventors: Robert G. Gourdie, Gautam Ghatnekar, and Jane Jourdan). Patent filed 2014

Other Professional Activities

2004- Co-Founder FirstString Research Inc (with Dr G. Ghatnekar DVM, PhD). A clinical stange Biotech Company based in Charleston, SC. FirstString currently has 5 employees. The company President and CEO Dr Ghatnekar is a former Gourdie lab post-doc. FirstString completed phase I clinical trials on alphaCT1, the lead compound invented in Gourdie lab in 2009 and licensed by the company from MUSC. Patents for composition of matter and utility for alphaCT1 were issued by the USPTO in 2010 and 2012. FirstString Research Inc, has obtained Investigational New Drug status for alphaCT1 Granexin™ gel. In 2013 FirstString completed three Phase II human clinical trials for safety and efficacy for alphaCT1/ Granexin™ gel for scar reduction of acute surgical wounds and the treatment of chronic wounds; Diabetic Foot Ulcers and Venous Leg Ulcers. Granexin™ showed significant and clinically meaningful improvements in wound healing and scar reduction in all 3 clinical trials. For patients undergoing laparoscopy a highly significant 47 % reduction in scar appearance on the Vancouver scale (the clinical standard for scar assessment) was observed. Papers reporting these trials were published in *J Inv Derm (Nature)* and *Wound Regeneration and Repair* in 2015. The FDA approved alphaCT1 for advancement to pivotal phase III clinical trials in 2016, where it is set to be tested on more than 1000 patients with chronic slow healing skin wounds.

Personal Statement:

My research of the last 25 years has centered on the cell and developmental biology of cardiac conduction, with a growing interest of the last 5 years in the areas of wound healing and regenerative medicine. I have authored more than 150 scientific publications on topics including connexin biology, development of the cardiac conduction system, and wound healing. In 2012 I became Professor and Commonwealth Research Commercialization Fund Eminent Scholar at the VTCRI. I serve as the inaugural Director of the Center for Heart and Regenerative Medicine and in collaboration with the Carilion Clinic, the Director of Emergency Medicine Research. My former posts were as Professor of Regenerative Medicine at the Medical University of South Carolina and Co-Director of the MUSC Cardiovascular Developmental Biology Center. My experience includes mentorship of numerous MD PhD and PhD graduate students. I have also trained and mentored post-docs, junior faculty and medical fellows and residents. I served as Co-Director of the MUSC NIH T32 training grant on Cardiovascular Pharmacology, was a 12-year member its Graduate School council and chaired the Departmental Promotion and Tenure committee. I have managed numerous Federal grants as PI over 15 years, including an ongoing and longstanding RO1 (began 1997), three other RO1s, a National Science Foundation Career Scholarship grant, a Basil O'Connor Scholarship from the March of Dimes Birth Defects Association and a number of American Heart Association grants. I was funded and served as Program Director of a NIH/NICHD Program Project Grant on birth defects for seven years. Over the last 17 years I have participated as a reviewer on NIH study sections, NSF and AHA review panels and other grant committees, including as a charter member and as study section chair. I am co-organizer of the 2013 International Gap Junction Conference in Charleston, SC and a 2015 Keystone Conference with Dr Peter Kohl (Univ of Oxford and Imperial College). Based on IP from my lab, in 2005 I co-founded the biotech company *FirstString Research Inc* (FSR) with my post-doc Dr Gautam Ghatnekar. I did a 9-month stint as Chief Scientific Officer for FirstString in 2005 when it was in the startup phase, was a member of Board of Directors between 2005 and 2009 and continue as a member of its Scientific Advisory Board of the company.

Section D Statement:

There are no life events breaks in positions, publications, or support that require explanation.