Curriculum vitae

CLINTON C. MACDONALD, PH. D.

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PERSONAL Born April 18, 1958, Memphis, Tennessee, USA

EDUCATION
Ph. D., Molecular Biology and Biochemistry, State University of New York at Stony Brook, Stony Brook, NY, 1990
B.A., Biology, Middlebury College, Middlebury, VT, 1980

PROFESSIONAL EXPERIENCE

2012–present	Professor with tenure, Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center
2015–2019	Associate Chair, Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center
2002–2012	Associate Professor with tenure, Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center
2003–present	Associate Professor, Program in Biotechnology, Texas Tech University Health Sciences Center
2000–2009	Director, Summer Undergraduate Biomedical Research (SABR) Program
1997–2002	Assistant Professor, Southwest Cancer Center, Texas Tech University Health Sciences Center
1995–2002	Assistant Professor, Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center
1993–1995	Associate, Howard Hughes Medical Institute, Princeton University
1990–1993	American Cancer Society Postdoctoral Fellow, Dr. Thomas Shenk, Department of Molecular Biology, Princeton University
1983–1989	Graduate Research Assistant, Dr. David L. Williams, Molecular Biology Graduate Program, State University of New York at Stony Brook

HONORS AND AWARDS

2018	TTUHSC Block Teaching Award for the Biology of Cells & Tissues
2013	Douglas M. Stocco Scholarship/Research Award
2012	Departmental Special Recognition Award, Cell Biology & Biochemistry
2011	TTUHSC President's Excellence in Teaching Award
2012–present	TTUHSC Teaching Academy
2009	TTUHSC Student Government Association Faculty of the Year Award
2003, 2006	TTUHSC Outstanding Teacher of the Year
2004–2007	Independent Scientist Award (K02), NICHD
1993–1995	Howard Hughes Medical Institute, Associate
1990–1993	American Cancer Society, Postdoctoral Research Award

AFFILIATIONS American Association for the Advancement of Science, American Society for Biochemistry and Molecular Biology, American Society for Microbiology, American Society of Andrology, The RNA Society, Sigma Xi, Society for the Study of Reproduction, TTUHSC Center for Translational Neuroscience and Therapeutics, TTUHSC Teaching Academy

UPDATED February 2020

RESEARCH INTERESTS Mechanisms of tissue-specific polyadenylation, mRNA processing, and gene expression; control of mRNA processing during development in male germ cells, stem cells, and brain; spermatogenesis and testicular development; evolution of male sex chromosome inactivation; stem cell biology; cancer biology; structure and function of RNA-binding proteins; oncogene activation by mRNA processing; mRNA stability; bioinformatics

TEACHING INTERESTS Molecular Biology; Cancer; Medical Biochemistry; Messenger RNA Processing; Mammalian Genetics, Genomics and Epigenetics; Male Reproductive Biology; Cancer Biology; Ethical Conduct of Research; Scientific Communication Skills

SERVICE INTERESTS Graduate Student Teaching; Graduate and Minority Student Recruiting; Undergraduate Research Experiences

GRANT SUPPORT

Active, Local Extramural

9/01/2018–08/31/2019 Grozdanov, P. N. and **MacDonald, C. C.** "τCstF-64 regulates splicing in male germ cells," South Plains Foundation, $15,000

Retired, Extramural, National

4/04/2011–01/31/2017 **MacDonald, C. C.,** National Institutes of Health, 2R01HD037109-11, "MRNA Processing in Reproduction and Fertility," $1,569,856

6/01/2002–05/30/2007 **MacDonald, C. C.,** National Institutes of Health, 2 R01 HD37109-04, "mRNA Processing in Reproduction and Fertility," $1,498,500

7/01/2004–06/31/2007 **MacDonald, C. C.,** Independent Scientist Award (K02), National Institutes of Health, 1 K02 HD047387-01, $481,515

6/01/2003–05/31/2005 **MacDonald, C. C.,** Minority student supplement to National Institutes of Health, 2 R01 HD37109-04, "mRNA Processing in Reproduction and Fertility" for Roberto Monarez, $84,107

6/01/2004–08/31/2004 Pressley, T. and **MacDonald, C. C.,** The CH Foundation, "Support for Summer Accelerated Biomedical Research (SABR) Intern Program," $21,120

9/27/1999–05/30/2002 **MacDonald, C. C.,** National Institutes of Health, 1 R01 HD37109-01, "mRNA Processing in Reproduction and Fertility," $439,819

5/01/1999–12/31/2004 **MacDonald, C. C.,** Investigator on Stocco, D. M., *et al.* Training Grant, "Regulation of Reproductive Processes," 5 T32 HD07271-15

7/01/1997–6/30/1999 **MacDonald, C. C.,** American Heart Association, Texas Affiliate, #97G-379, "Unconventional Polyadenylation Signals that Cause Alpha- and Beta-globin Thalassemias," $88,000

7/01/1997–6/30/1998 **MacDonald, C. C.,** Wendy Will Case Cancer Fund, "Unconventional mRNA Polyadenylation in Male Germ Cells," $20,000

Retired, Extramural, Local

9/01/2017–08/31/2018 **MacDonald, C. C.** and Grozdanov, P. N. "Cancer Cell Growth Control by an RNA Processing Protein," South Plains Foundation, March 24, 2017, $15,000

9/01/2008–08/31/2009 **MacDonald, C. C.,** South Plains Foundation, "Genetic Control of Alzheimer's Disease," $13,500

9/01/2005–08/31/2006 **MacDonald, C. C.,** South Plains Foundation, "Messenger RNA Processing and Testicular Cancer," 09/01/2005–08/31/2006, $9,985

9/15/2000–09/14/2001 **MacDonald, C. C.,** Co-investigator (with S. E. Ravnik), South Plains Foundation, Award, "Regulation of Basal Transcription during Meiosis in the Male," $5,000

9/15/2000–09/14/2001 **MacDonald, C. C.,** Co-investigator (with S. E. Ravnik), Houston Educational Institute, Award, "Regulation of Basal Transcription during Meiosis in the Male," $5,000

9/01/1999–8/31/2000 **MacDonald, C. C.,** Co-investigator (with S. E. Ravnik), South Plains Foundation, Award, "Regulation of Basal Transcription during Meiosis in the Male," $9,000

Retired, Intramural

9/01/2017–08/31/2018 **MacDonald, C. C.,** Latham, Michael P., and Grozdanov, Petar N. (Co-Investigators), Presidents' Collaborative Research Initiative, "Structural Basis for a Form of Mental Retardation," $50,000

3/15/2015–3/14/2016 **MacDonald, C. C.,** Arentz, C., Smith, L. A., and Grozdanov, P. N. "Histone mRNAs and CstF-64 as prognostic biomarkers in breast cancer," Texas Tech University Health Sciences Center SOM Collaborative Research Grant, February 15, 2015–February 14, 2016, $20,000

9/01/2013–08/31/2014 **MacDonald, C. C.** and Grozdanov, P. N. "Misprocessing of histone mRNAs as a prognostic biomarker in breast cancer," Laura W. Bush Institute for Women's Health/University Medical Center Seed Grant, $20,000

5/01/2010–4/30/2011 **MacDonald, C. C.,** Texas Tech University Health Sciences Center School of Medicine Seed Grant, "Polyadenylation of small genes in the testis requires τCstF-64," $20,000

1/11/2010–12/31/2010 **MacDonald, C. C.,** Texas Tech University Health Sciences Center Office of Academic Affairs 2010 QEP Grants for Interprofessional Teamwork, "Support for Graduate-level Interdisciplinary Course in Professionalism in the Basic and Biomedical Sciences," $2,500

1/1/2009–12/31/2009 **MacDonald, C. C.,** Texas Tech University Health Sciences Center School of Medicine Preliminary Data Grant Program, "Project to Demonstrate that τCstF-64 is Involved in mRNA Polyadenylation," $20,000

9/1/2007–8/31/2008 **MacDonald, C. C.,** Texas Tech University Health Sciences Center School of Medicine Seed Grant, "Transgenic mouse model to study oligoasthenoteratozoospermia and mRNA processing," $20,000

9/1/2004–8/31/2005 **MacDonald, C. C.,** Texas Tech University Health Sciences Center Seed Grant, "Discovery of a brain-specific polyadenylation protein variant," $17,579

5/01/2004–8/31/2004 **MacDonald, C. C.,** Faculty Initiative Program, "Purchase of Laptop Computer to Give Presentations at National Meetings" $2,500

9/01/1999–2/28/2001 **MacDonald, C. C.,** TTUHSC School of Medicine Research Seed Grant Program, "An Alternative Form of a Polyadenylation Protein in Brain," $19,228

9/01/1998–8/31/2000 **MacDonald, C. C.,** Investigator on Weitlauf, H. M., Porter, K. *et al.* "TTUHSC Center of Excellence in the Reproductive Sciences"

9/01/1997–8/31/1998 **MacDonald, C. C.,** TTUHSC School of Medicine Research Seed Grant Program, "Properties of an Extended α-helical Structure in a RNA-binding Protein" $7,560

3/01/1996–2/28/1997 **MacDonald, C. C.,** TTUHSC School of Medicine Research Seed Grant Program, "Germ Cell-specific Patterns of mRNA Polyadenylation," $4,725

TEACHING

Graduate Affiliations

2015–present Graduate School of Biomedical Sciences, Concentration in Biochemistry, Cellular and Molecular Biology (Primary); and Biotechnology Masters Program

1995–2014 Biochemistry and Molecular Genetics Ph. D. Program (Primary); Cell and Molecular Biology Ph. D. Program (Primary); and Biotechnology Masters Program

Teaching — Medical

2006–present Biology of Cells and Tissues (MSCI 5020), "Nucleic Acids, DNA Replication, RNA Transcription, and RNA Processing," 6 hours

2005–2006 Foundations of Medical Science II (MSCI 5020), "Molecular Biology," 9 hours

1998–2005 Medical Biochemistry (MCBA5082/GBCH5921/5621), "Molecular Biology," 31 hours

Spring 1997 Medical Embryology, "Genetic Engineering," 1 hour

Teaching — Graduate

2013–present Course Director, Biology of Cancer (GBTC 5340)

2011–present Course Director, Core III: Genes (GSBS 5373)

2016–present Graduate Seminar Course, Faculty (GBCM 7101), 11 hours

2018–present Biotechnology Seminar (GBTC 6101), 1 hour

2016–present Preparation for Graduate Learning and Teaching in Biology (BIOL 6202, Texas Tech University), 2 hours

2011–2014 Chair, First-Year Graduate Core Curriculum Coordinating Committee

2011–present Core III: Genes (GSBS 5373), "DNA Replication, Repair, and Recombination," "Gene Expression III: Messenger RNA Processing," "Gene Expression IV: Regulatory Non-coding RNAs," "Eukaryotic Genetics III: Mouse Genetics and Transgenesis," Exam Reviews in all areas, 15 hours

2008–2011 Course Director, Introduction to Biotechnology (GBTC/BTEC 6301)

2009–2010 Course Director, How To Be A Scientist: Professional Skills for the Biomedical Sciences Graduate Student (GSBS 5102)

2007–2010 Course Director, Molecular Genetics and Nucleic Acid Biochemistry (GBCH 6323)

2010 Faculty Mentor Grant Workshop, Advanced Cell Biology (GANM 6620)

2005–2010 Introduction to Biotechnology (GBTC/BTEC 6301), "RNA Synthesis and Splicing," "Organization and content of the human genome," "DNA Testing and Forensics," "Animal Transgenesis," 6 hours

1995–2011 Cell Structure and Function (GANM 6440), "RNA Processing," 6 hours

2003–2004 Responsible Conduct of Research (GSBS 5101), 32 hours

Fall 2004 Advanced Methods in Molecular Diagnostics (AHMP 5408), "RNA," 2 hours

1999–2005 Biochemistry Problem Solving (GBCH 6222), "RNA and Proteins," 4 hours

1996–2005 Mechanisms of Cellular Differentiation (GANM 5406), "mRNA Processing and Cellular Differentiation," 8 hours

1998–2004 Molecular and Cellular Pharmacology (GPHM 5336), "RNA Processing," Department of Pharmacology, Texas Tech University Health Sciences Center, 2 hours

1997–2004 Biology of Reproduction (GANM 5409), "Testicular Gene Expression," 4 hours

Teaching — Undergraduate

2010–present	Guest Lecturer, Summer Accelerated Biomedical Research (SABR) Program, 3 hours
Summer 2019	Science Camp Activity, "Intro to Science and the Scientific Method,"TTUHSC Science Camp, August 15, 2019, 1 hour
Fall 2016	Invited lecturer, "The World's Worst PowerPoint Presentation (And How You Can Avoid Giving It)," BIOL 6202, Texas Tech University Department of Biology, October 6, 2016, 1 hour
Fall 2015	Introductory Cell and Molecular Biology (BIOL 2120), "How To Form A Hypothesis, or How the CstF-64 Polyadenylation Protein Gets Into The Nucleus," Department of Biology, Texas Tech University, 1 hour
Fall 2013	Introductory Cell and Molecular Biology (BIOL 2120), "The World's Worst PowerPoint Presentation, And How You Can Avoid Giving It," Department of Biology, Texas Tech University, 1 hour
Fall 2013	Guest Lecturer, "How the CstF-64 mRNA Processing Protein Gets Into The Cell Nucleus," Lubbock Christian University, 1.5 hours, October 7, 2013
Spring 2013	The Honors College, "The World's Worst Poster Presentation, And How You Can Avoid Giving It," Texas Tech University Honors College, 1.5 hours
Fall 2011	Introductory Cell and Molecular Biology (BIOL 2120), "The World's Worst PowerPoint Presentation, And How You Can Avoid Giving It," Department of Biology, Texas Tech University, 1 hour
2001–2009	Director, Summer Accelerated Biomedical Research (SABR) Program
2006	Introductory Cell and Molecular Biology (BIOL 2120), "Testis-Specific Polyadenylation," Department of Biology, Texas Tech University, 1 hour
1997–2001	Molecular Biology, Department of Biology, Texas Tech University, "Splicing and Polyadenylation," 2 hours
Fall 1998	Guest lecture in Molecular Biology, "RNA Processing and Polyadenylation," Bucknell University, 1 hour
1993–1994	Junior Tutorial on RNA Processing, Princeton University, Princeton, NJ
Fall 1992	Processing of Eukaryotic mRNA (MICR 5210), "RNA Processing and Polyadenylation," UMDNJ—New Jersey Medical School, 2 hours
Spring 1992	Molecular Biology of Eukaryotes (MB506), "RNA Processing and Polyadenylation," Princeton University, Princeton, NJ, 8 hours

Teaching — Public

2017	Speaker, "How Do Scientists Come Up with those Crazy Ideas? The Scientific Method And How It Works" for the Osher Lifelong Learning Institute at Texas Tech University, March 22, 2017 (1.5 hours)

Trainees — Ph. D. (6)

2012–2014	Graduate Advisor: Bradford Youngblood (Ph. D., October 2014). Current position: Post-doctoral Researcher at University of California, San Francisco
2004–2009	Graduate Advisor: Ganesh Shankarling (Ph.D., May 2009). Current position: Scientist at Bristol-Myers Squibb, New Brunswick, NJ
2005–2007	Graduate Advisor: J. Andrew Hockert (Ph.D., August, 2007). Current position: Associate Professor in the Department of Biology, University of the Cumberlands, Williamsburg, KY
2001–2007	Graduate Advisor: K. Wyatt McMahon (Ph.D., January 2007). Current position: Faculty Research Associate at Johns Hopkins School of Medicine, Baltimore, MD

2002–2004 Graduate Advisor: Ebtesam N. Attaya (Ph.D., September 2004, M. D., May 2009). Current position: Resident in the Department of Internal Medicine, Texas Tech University Health Sciences Center, Lubbock, TX

1996–2001 Graduate Advisor: Brinda Dass (Ph.D., August 2001). Current Position: FDA Biologist, Office of New Animal Drug Evaluation, U. S. Food & Drug Administration Center for Veterinary Medicine, Rockville, MD

Trainees — Masters (7)

2012–2016 Graduate Advisor: Eric Edwards (Masters, August 2016)

2008–2009 Graduate Advisor: Hsiang-Jui (Ray) Yeh (Masters, May 2009)

2003–2007 Graduate Advisor: Toni L. Denison (Masters, June 2007)

2003–2005 Graduate Advisor: Roberto R. Monarez (Masters, May 2005, M. D., 2009)

2004–2006 Graduate Advisor: Clayton Adams (Masters, May 2006)

2004–2005 Graduate Advisor: Joanna Schmidt (Masters, May 2005)

2002–2003 Graduate Advisor: Zane R. Huber (Masters, May 2003)

Trainees — Graduate Committees (57)

1995–present Graduate Dissertation Committees: Mohammad Abedi, Rajiv Agrawal, Jena-Claire Auten, Luis Bermudez, Rohini Boppana, Rachael Bradley, Yi-Seok Chang, Kim Chau, Ashish B. Chougule, Jason P. Cooper, Steven Coultrap, Swapneeta Date, Ben Elberson, Ahsan Farooqi, Morgan Fortner, Matthew Fox, Jimmy J. Fraigne, Sangeetha Gattam, Connor Hall, Sarah Hernandez, Lauren Hightower, Ashly Hindle, J. Andrew Hockert, Michael Holliday, Courtney Jarvis, Youngah Jo, Abdullatif Kassar, Workineh Torben Kite, Balakrishna Koneru, Srinivasan Krishnan, Wang Li, Andrew Lovering, Nicole Maciolek (External Examiner, Medical College of Wisconsin), Shawn Macha, Mariacristina Mazzitelli, Kyle G. Miller, Ismail Mohiuddin, Yadushyla Narasimhachar, Nirupama Nishtala, Somnath Pandey, Diego Pedroza, Bhagavathi Ramasubramanian, Bojana Ristic, Bradley Schniers, Max Schubert, Johnny Short, Jessica Smith, Douglas Swartz, Sherry Swift, Thinhh (Henry) Nguyen, Lea Ann Thompson, David Vartak, Dattesh Verlekar, Lance Walsh, Chaselynn M. Watters, C. Breann Williams

1995–present Graduate Advisor (rotations): Amanda Bryan, George Cai, Yi-Seok Chang, Wan-Hsi Chan, Ashly Hindle, Rachael Hirsch, Aruna Jahoor, Claudia Molina, Alyssa Nagle, Monica Sharma, Douglas Swartz, David Vartak, Fengru Wu

Trainees — Postgraduate (7)

2011–2015 Postdoctoral Advisor: Petar N. Grozdanov, Ph. D.

2009 Postdoctoral Advisor: Ganesh Shankarling, Ph. D.

2009 Postdoctoral Advisor: Yadushyla Narasimhachar, Ph.D.

2007 Postdoctoral Advisor: J. Andrew Hockert, Ph.D.

2006–2007 Faculty Mentor to Research Assistant Professor: Brinda Dass, Ph.D.

2002–2006 Postdoctoral Advisor: Brinda Dass, Ph.D.

2004–2005 Postdoctoral Advisor: Ebtesam N. Attaya, Ph.D.

1997–1998 Postdoctoral Advisor: José-Luis Redondo, Ph.D.

Trainees — Undergraduate (21 Undergraduate, including Medical)

1996–present Undergraduate Advisor: Atia Amatullah, Sabiha Armin, Amanda Arnold, Ahmad Awwal, Lori Bourassa, Sonya Brock, Amanda Bryan, Andrea Csejtey, D. J. Denby, Justin Ellis, Jaryse Harris, Benjamin Hirsch, Roberto R. Monarez,

K. Wyatt McMahon, Emily Oostveen, William Osorio, Deanna Patmore, Merrin Thomas, Adam Spencer, H. M. "Pete" Stellman, Stephen L. White

SERVICE

Departmental — Cell Biology & Biochemistry

1995–present Committees: Computer Users; Departmental Space (Chair, 2006–2008); Equipment (Chair, 2001–2002); Faculty Evaluation, Faculty Mentoring Group (Chair, 2006–present); CBB Faculty Search Committee (Chair, 2014–2016); BCMB Internal Review Committee (2015); Graduate Curriculum; Graduate Student Recruitment (Chair, 2002–present); Graduate Studies; Departmental Web Page (Chair, 1996–2006); Departmental Tenure & Promotions Committee (Chair, 2015–present)

Institutional — Graduate School of Biomedical Sciences

2011–present Core Curriculum Coordinating Committee, Graduate School of Biomedical Sciences (Chair 2011–2014)

2015 Member, Dean's Faculty Awards Selection Committee

2015 Member, Presidential Lecture Selection Committee

2013–2016 Member (elected), Cell and Molecular Biology Graduate Committee

2013–2014 Graduate School of Biomedical Sciences Implementation Task Force

2013 Graduate School of Biomedical Sciences Dean's Scholarship Award Committee

2002–2009 Director, Summer Accelerated Biomedical Research (SABR) Internship Program for Undergraduates

2008–2009 Chair, Program Review Committee for the Pharmacology & Neuroscience Graduate Program

2009–2012 Member, GSBS Competitive Stipends Selection Committee

2003–present Biotechnology Graduate Committee

2003–2008 Biochemistry and Molecular Genetics Graduate Committee

2003–2009 Graduate Recruiting Committee

2003–2008 Chair, Outstanding GSBS Graduate Student Selection Committee

2001–2005 Chair, Graduate Student Orientation Committee

1998–2001 Ad-hoc Advisor, Graduate Student Association

1997–present Judge, HHMI Student Research Days

1996–present Judge, Graduate Student Research Day

Institutional — Texas Tech University Health Sciences Center

2018 Member (ad hoc), Pharmacology and Neuroscience Departmental Tenure & Promotions Committee

2018 Member (ad hoc), Cell Physiology and Molecular Biophysics Departmental Tenure & Promotions Committee

2017–2019 Member, Search Committee for Associate Director for Operations, Laboratory Animal Research Center

2017–present Member, TTUHSC Information Technologies Research Committee

2016–present Chair, TTUHSC Embryonic Stem Cell Research Oversight (ESCRO) Committee

2016–present Member, TTUHSC Research Compliance Committee

2016 Chair, TTUHSC Stem Cells Policy Development Committee

2014–present Member, TTUHSC Tenure and Promotions Committee

2015 Member, TTUHSC Presidential Lecturer Selection Committee

2014–present Member, TTUHSC Research Support Committee

2012–present Faculty Research Committee (Chair, 2013–2014)

2013–present	Conflict of Interest Management Plan Subcommittee for the TTUHSC Cancer Center
2011–present	Member, TTUHSC SOM Cancer Center Steering Committee
2010–present	Institutional Animal Care and Use Committee
2009–present	Member, Texas Tech University Center for Biotechnology and Genomics Advisory Board
2013–2014	Faculty Teaching Academy Review Committee
2012	Research Enterprise System Committee
2011–2012	TTUHSC Preliminary Data Seed Grant Review Committee
2009–2010	Member, Laboratory Animal Research Center (LARC) Renovation Advisory Committee
2009	TTUHSC Presidential Scholarship Committee
2009–2010	Post-tenure Peer-review Committee (alternate)
2006–2008	Curriculum and Course Evaluation Committee
2007	Veterinarian/LARC Director Search Committee
2005–2006	Laboratory Animal Resources Advisory Committee
2003–2006	Faculty Mentor, Medical Student Biotechnology Club
2002–2006	Faculty Mentor, American Medical Student Association (AMSA)
2001–present	Grant Reviewer, TTUHSC Seed Grant Research Committee
2000–2001	LCME Medical School Basic Sciences Task Force Committee
1998–2000	Tenure & Promotion Strategic Planning Committee

Scientific Community

2009–present	Advisory Board Member, Texas Tech University Biotechnology and Genomics Center Core Facility
2009–2010	Steering Committee, Texas Forum on Reproductive Sciences, Baylor College of Medicine, Houston, TX
2011–present	Book reviews: J. Wilusz (Ed.) *Messenger RNA 3 'Formation and Polyadenylation: Mechanisms and Regulation,* for Wiley-Blackwell.

Journal Reviewer (44 journals)

1991–present	*Andrology, Asian Journal of Andrology, BBA - Gene Regulatory Mechanisms, Biochemical Genetics, BioEssays, Biology of Reproduction, Biomolecules, BMC Developmental Biology, BMC Genomics, Cell, Cell Reports, Development, FEBS Journal, FEBS Letters, Gene, Genes & Development, DNA Research, Genome Biology, Genomics, Human Molecular Genetics, International Journal of Biochemistry & Cell Biology, International Journal of Molecular Sciences, Journal of Andrology, Journal of Biological Chemistry, Journal of Cell Biology, Journal of Clinical Investigation, Journal of Glycomics and Lipidomics, Journal of Virology, Mammalian Genome, Methods, MicroRNA, Molecular and Cellular Biology, Molecular Reproduction and Development, Nucleic Acids Research, PLoS Computational Biology, PLoS Genetics, PLoS ONE, Reproductive BioMedicine Online, RNA, RNA Biology, Scientific Reports, Steroids, Transgenic Research, WIREs RNA*

Editorial Boards

2005–2009, 2013–2016	Board of Reviewing Editors: *Biology of Reproduction*

Grant Reviews and Study Sections

2000–present	American Heart Association Basic Cell Genetics and Epigenetics 1 (GE2) Peer Review Study Group, May 9, 2017 American Heart Association, Basic Cell Genetics and Epigenetics GE 1, April 14, 2016

National Institutes of Health (NIH), Cellular, Molecular and Integrative Reproduction (CMIR) Study Section, 2012, 2014, 2016
National Institutes of Health (NIH), Integrative and Clinical Endocrinology and Reproduction (ICER) Study Section, 2014
Medical Research Council (MRC), United Kingdom, 2014
The Wellcome Trust, 2010
National Institutes of Health (NIH), National Institute of Child Health and Human Development, 2004–2008
National Science Foundation (NSF), Division of Molecular and Cellular Biosciences, 2000, 2005–2009, 2013, 2016
Louisiana State Board of Regents Research Competitiveness Program, 2003
The Lalor Foundation, 2005

Leadership Roles

2016–present	Chair, TTUHSC Embryonic Stem Cell Research Oversight (ESCRO) Committee
2015–2019	Associate Chair, Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center
2015–2019	Chair, Cell Biology & Biochemistry Departmental Tenure & Promotions Committee
2012–2014	Chair, Faculty Research Committee
2011–2014	Chair, Core Curriculum Coordinating Committee, Graduate School of Biomedical Sciences
2008–2009	Chair, Program Review Committee for the Pharmacology & Neuroscience Graduate Program
2000–2009	Director, Summer Undergraduate Biomedical Research (SABR) Program

Invited Talks and Lectures

2019 Invited Speaker, "How mRNA Polyadenylation Controls Human Intelligence and Brain Development" for the Department of Internal Medicine Alzheimer's Disease Seminar Series, Texas Tech University Health Sciences Center, Lubbock, Texas, July 9, 2019.

2018 Invited speaker, "A Mutation in the CstF-64 Polyadenylation Gene That Causes Intellectual Deficiency," Center of Excellence for Translational Neuroscience and Therapeutics, Texas Tech University Health Sciences Center, June 27, 2018.

2017 Invited speaker, "How Do Scientists Come Up with those Crazy Ideas? The Scientific Method And How It Works," Osher Lifelong Learning Institute at Texas Tech University, March 22, 2017.

2016 Invited lecturer, Translational and Clinical Research Course, "The Scientific Method — Or — How To Form A Hypothesis — Or — How the CstF-64 Polyadenylation Protein Gets Into The Nucleus," TTUHSC Office of Faculty Affairs and Development, October 6, 2016.

Invited lecturer, "The World's Worst PowerPoint Presentation (And How You Can Avoid Giving It)," BIOL 6202, Texas Tech University Department of Biology, October 6, 2016.

Invited lecturer, 7th Annual Graduate Student and Faculty Retreat, "How To Form A Hypothesis, or How the CstF-64 Polyadenylation Protein Gets Into The Nucleus," Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, September 23, 2016.

Invited Seminar Speaker, "How the Polyadenylation Proteins CstF-64 and τCstF-64 Control Testis, Brain and Heart Development," Fundamentals of Biomedicine Seminar Series, Department of Biomedical Sciences, Texas Tech University Health Sciences Center, El Paso, Texas, September 21, 2016

Invited lecturer, 7th Annual Graduate Student and Faculty Retreat, "How To Form A Hypothesis, or How the CstF-64 Polyadenylation Protein Gets Into The Nucleus," Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, September 23, 2016

Invited Seminar Speaker, "How the Polyadenylation Proteins CstF-64 and τCstF-64 Control Testis, Brain and Heart Development," Department of Immunology and Molecular Microbiology, Texas Tech University Health Sciences Center, Lubbock, Texas, February 10, 2016

Invited Speaker (with Dr. Susan Bergeson), "How to write an abstract and give an award winning poster presentation" for the Graduate Student Association and Medical Student Association, Texas Tech University Health Sciences Center, Lubbock, Texas, January 15, 2016

2015 Invited lecturer, Introductory Cell and Molecular Biology (BIOL 2120), "How To Form A Hypothesis, or How the CstF-64 Polyadenylation Protein Gets Into The Nucleus," Department of Biology, Texas Tech University, October 22, 2015

Invited Speaker, "The World's Worst PowerPoint Presentation (And How You Can Avoid Giving It)," Graduate Student Association, Texas Tech University Health Sciences Center, Lubbock, Texas, September 21, 2015

Invited Speaker, "How Polyadenylation Controls Gene Expression in Testis and Brain," XXIII North American Testis Workshop, Salt Lake City, Utah, April 17, 2015

Invited Speaker, "The World's Worst Poster Presentation (And How You Can Avoid Giving It)," Graduate Student Association, Texas Tech University Health Sciences Center, Lubbock, Texas, February 6, 2015

Invited Speaker, "How τCstF-64 Controls Messenger RNA Polyadenylation in Testis and Brain," University of Texas at San Antonio Cell & Molecular Biology Program, San Antonio, Texas, February 2, 2015

2014 Invited Speaker, "The World's Worst PowerPoint Presentation (And How You Can Avoid Giving It)," Graduate Student Association, Texas Tech University Health Sciences Center, Lubbock, Texas, September 22, 2014

Invited Speaker, "World's Worst Poster Presentation" for the GSA/Medical Student Journal Club, Texas Tech University Health Sciences Center, Lubbock, Texas, February 14, 2014.

2013 Invited Lecturer, "How the CstF-64 mRNA Processing Protein Gets Into The Cell Nucleus," Lubbock Christian University, Lubbock, Texas, October 7, 2013

Invited Speaker, "The World's Worst Poster Presentation (And How You Can Avoid Giving It)," Texas Tech Honors College, Texas Tech University, Lubbock, Texas, March 21, 2013

2012 Invited Speaker, "How the CstF-64 mRNA Processing Protein Gets Into The Cell Nucleus," Texas Tech Chapter of Society for Advancement of Chicanos and Native Americans in Science (SACNAS), Science in 3-D talk, Texas Tech University, Lubbock, Texas, October 24, 2012

Invited Speaker, "How Polyadenylation Controls Male Reproduction and Tissue- Specific Gene Expression," Texas A&M Institute for Genomic Medicine, Texas A&M University, College Station, Texas, May 7, 2012

2011 Invited Speaker, "How Polyadenylation in Testis Might Have Something To Do With Cancer," South Plains Oncology Consortium Grand Rounds, Texas Tech University Health Sciences Center, Lubbock, Texas, March 9, 2011

2010 Invited Speaker, "The World's Worst PowerPoint Presentation (And How You Can Avoid Giving It)," Graduate Student Association Journal Club, Texas Tech University Health Sciences Center, Lubbock, Texas, October 1, 2010

2009 Invited speaker, "The World's Worst Job Interview (And How You Can Avoid Giving It)," TTU Postdoctoral Association, July 1, 2009

Invited speaker, "How Polyadenylation Controls Gene Expression, or How Andrew, Nicole, Ray and Ganesh Got Their Degrees." Texas Tech University Beta Beta Beta National Biology Society, March 26, 2009

Departmental seminar speaker, "How Polyadenylation Controls Gene Expression, or How Andrew, Nicole, Ray and Ganesh Got Their Degrees." Cell Biology & Biochemistry Departmental Seminar Series, March 12, 2009

2008 Invited seminar speaker, "Polyadenylation and the Control of Spermatogenesis." Center for Research on Reproduction and Women's Health, University of Pennsylvania, Philadelphia, PA, January 23, 2008

2007 Invited seminar speaker, "Developing an *In Vivo* Assay For Polyadenylation, or How Andrew and Nicole Got Their Ph. D.s," Department of Microbiology & Molecular Genetics, Medical College of Wisconsin, Milwaukee, WI, September 28, 2007.

2006 Invited seminar speaker, "Polyadenylation and the Control of Spermatogenesis." Department of Genetics and Developmental Biology, University of Connecticut Health Center, Farmington, CT, September 7, 2006

Invited platform speaker, "Polyadenylation and the Control of Spermatogenesis," Gordon Conference on The Biology of Post-Transcriptional Gene Regulation, Session: Transcription, splicing, and 3′end formation, The Queen's College, Oxford, UK, August 13–18, 2006

2005 Invited seminar speaker, "Testis-specific Messenger RNA Polyadenylation," Department of Immunology, University of Texas M. D. Anderson Cancer Center, September 13, 2005

Invited seminar speaker, "Male Germ Cell-specific Messenger RNA Polyadenylation," Department of Obstetrics, Gynecology & Reproductive Sciences, Yale School of Medicine, New Haven, CT, August 29, 2005

Invited seminar speaker, "Male Germ Cell-specific Messenger RNA Polyadenylation," The Jackson Laboratory, Bar Harbor, ME, August 23, 2005

Invited platform speaker, "Messenger RNA Polyadenylation in Germ Cells." XVIIIth North American Testis Workshop, American Society of Andrology, Seattle, WA, April 1, 2005

Invited seminar speaker, "Testis-specific mRNA Polyadenylation." Department of Biochemistry and Molecular Biology, New Jersey Medical School, University of Medicine & Dentistry of New Jersey, Newark, NJ, February 10, 2005

2004 Invited seminar speaker, "Testis-specific mRNA Polyadenylation." Department of Genetics, Case Western Reserve University School of Medicine, Cleveland, OH, November 3, 2004

Invited seminar speaker, "The World's Worst PowerPoint Presentation — And How You Can Avoid Giving It." Department of Genetics, Case Western Reserve University School of Medicine, Cleveland, OH, November 3, 2004

Alumnus Speaker, "Testis-Specific mRNA Polyadenylation," Department of Biology, Middlebury College, Middlebury, VT, October 1, 2004

Invited seminar speaker, "Testis-Specific mRNA Polyadenylation," Department of Microbiology & Molecular Genetics, University of Vermont, Burlington, VT, September 29, 2004

Invited platform speaker, "Testis-Specific mRNA Polyadenylation," Gordon Conference on "The Biology of Post-transcriptional Gene Regulation," Proctor Academy, Andover, NH, 8–13 August, 2004

Seminar, "Testis-specific mRNA Polyadenylation," Center for Reproductive Biology, Washington State University, Pullman, WA and University of Idaho, Moscow, ID, March 3, 2004

Invited Keynote Speaker, "The World's Worst Poster Presentation — And How To Avoid Giving It," Howard Hughes Medical Institute Undergraduate Research Workshop, Texas Tech University, January 29, 2004

2003 Seminar, "Testis-Specific mRNA Polyadenylation," Department of Physiology, Texas Tech University Health Sciences Center, April 4, 2003

Invited Keynote Speaker, "The World's Worst Poster Presentation — And How To Avoid Giving It," Howard Hughes Medical Institute Undergraduate Research Workshop and Dinner, Texas Tech University, January 30, 2003

2001 Invited symposium speaker, "Germ Cell-Specific mRNA Polyadenylation," Society for the Study of Reproduction 34th Annual Meeting, University of Ottawa, Ottawa, ON, Canada, 28 July–1 August, 2001

2000 Seminar, "Posttranscriptional gene regulation in germ cells of the testis," Departments of Animal Sciences and Veterinary Medicine, Reproductive Biology Forum, Texas A & M University, November 10, 2000

Seminar, "Splicing and polyadenylation," Department of Biology, Texas Tech University, March 22, 2000

1999 Symposium speaker, "Two forms of CstF-64 may allow unusual patterns of polyadenylation in testis." Eukaryotic RNA Processing Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, August 25–29, 1999

1998 Seminar, "Testis-Specific mRNA polyadenylation," Department of Biology, Bucknell University, October 30, 1998

Seminar, "Messenger RNA polyadenylation in somatic and reproductive cells," Department of Molecular Genetics and Biochemistry, University of Pittsburgh School of Medicine, October 27, 1998

Symposium speaker, "Unusual patterns of polyadenylation in male germ cells." Society for the Study of Reproduction 31st Annual Meeting, College Station, TX, August 10, 1998

1997 Seminar, "mRNA Signals for Polyadenylation," Department of Biology, Texas Tech University, October 22, 1997

Seminar, "mRNA Signals for Polyadenylation," Department of Physiology, Texas Tech University Health Sciences Center, February 14, 1997

Seminar, "mRNA Signals for Polyadenylation," Department of Microbiology & Molecular Genetics, UMDNJ—New Jersey Medical School, Newark, NJ, January 3, 1997

1996 Seminar, "mRNA Signals for Polyadenylation," Department of Pharmacology, Texas Tech University Health Sciences Center, December 4, 1996

Seminar, "Polyadenylation and mRNA Processing," Department of Microbiology and Immunology, Texas Tech University Health Sciences Center, February 19, 1996

1995 Session Chair, Molecular Biology Postdoctoral Symposium, Hoffmann-LaRoche, Inc., May 5, 1995

Seminar, "Control of mRNA polyadenylation: mapping of the second signal," Department of Cell Biology & Biochemistry, Texas Tech University Health Sciences Center, Lubbock, TX, March 27, 1995

1994 Seminar, "Control of mRNA Polyadenylation by Binding of a 64 kilodalton Protein at U-rich Elements Downstream of the Cleavage Site," Core Facilities Research Symposium, Princeton University, Princeton, NJ, September 9, 1994

Seminar, "Control of mRNA polyadenylation by binding of a 64 kilodalton protein at U-rich elements downstream of the cleavage site," Department of Biology, East Carolina University, Greenville, NC, May 2, 1994

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1. **MacDonald, C. C.** and Riley, M. (1983). "Cloning chromosomal *lac* genes of *Klebsiella pneumoniæ*." *Gene* **24,** 341–345.
2. Binder, R., **MacDonald, C. C.,** Burch, J. B. E., Lazier, C. B., and Williams, D. L. (1990). "Expression of endogenous and transfected apolipoprotein II and vitellogenin II genes in an estrogen responsive chicken liver cell line." *Mol. Endocrinol.* **4,** 201–208.
3. Takagaki, Y., Manley, J. L., **MacDonald, C. C.,** Wilusz, J., and Shenk, T. (1990). "A multisubunit factor, CstF is required for polyadenylation of mammalian pre-mRNAs." *Genes Dev.* **4,** 2112–2120.
4. Takagaki, Y., **MacDonald, C. C.,** Shenk, T., and Manley, J. L. (1992). "The human 64 kDa polyadenylation factor contains a ribonucleoprotein-type RNA binding domain and unusual auxiliary motifs." *Proc. Natl. Acad. Sci. USA.* **89,** 1403–1407.
5. **MacDonald, C. C.** and Williams, D. L. (1992). "Proteins associated with the messenger ribonucleoprotein particle for the estrogen-regulated apolipoprotein II mRNA." *Biochemistry* **31,** 1742–1748.
6. Niwa, M., **MacDonald, C. C.,** and Berget, S. M. (1992). "Are vertebrate exons scanned during splice site selection?" *Nature* **360,** 277–280.
7. **MacDonald, C. C.** and Williams, D. L. (1993). "RNase H/oligonucleotide-directed mRNA purification (ROMP) of apoII mRNA." *Nucl. Acids Res.* **21,** 765–766.
8. **MacDonald, C. C.,** Wilusz, J., and Shenk, T. (1994). "The 64 kilodalton subunit of the CstF polyadenylation factor binds to pre-mRNAs downstream of the cleavage site and influences cleavage site location." *Mol. Cell Biol.* **14,** 6647–6654.
9. Chen, F., **MacDonald, C. C.,** and Wilusz, J. (1995). "Cleavage site determinants in the mammalian polyadenylation signal." *Nucl. Acids Res.* **23,** 2614–2620.
10. Wallace, A. M., Dass, B., Ravnik, S. E., Tonk, V., Jenkins, N. A., Gilbert, D. J., Copeland, N. G., and **MacDonald, C. C.** (1999). "Two distinct forms of the 64,000 M_r protein of the cleavage stimulation factor are expressed in mouse male germ cells." *Proc. Natl. Acad. Sci. USA* **96,** 6763–6768.
11. Richardson, J. M., McMahon, K. W., **MacDonald, C. C.** and Makhatadze, G. I. (1999). "MEARA sequence repeat of human CstF-64 polyadenylation factor is helical in solution. A spectroscopic and calorimetric study." *Biochemistry* **38,** 12869–12875.
12. Veraldi, K. L., Edwalds-Gilbert, G., **MacDonald, C. C.,** Wallace, A. M. and Milcarek, C. (2000). "Isolation and characterization of polyadenylation complexes assembled in vitro." *RNA* **6,** 768–777.
13. Dass, B., McMahon, K. W., Jenkins, N. A., Gilbert, D. J., Copeland, N. G. and **MacDonald, C. C.** (2001). "The gene for a variant form of the polyadenylation protein CstF-64 is on chromosome 19 and is expressed in pachytene spermatocytes in mice." *J. Biol. Chem.* **276,** 8044–8050.
14. Dass, B., Attaya, E. N., Wallace, A. M. and **MacDonald, C. C.** (2001). "Overexpression of the CstF-64 and CPSF-160 polyadenylation protein mRNAs in mouse male germ cells." *Biol. Reprod.* **64,** 1722–1729.
15. Dass, B., McDaniel, L., Schultz, R. A., Attaya, E. and **MacDonald, C. C.** (2002). "The gene *CSTF2T* encoding the human variant CstF-64 polyadenylation protein τCstF-64 is intronless and may be associated with male sterility." *Genomics* **80,** 509–514.

16. Wallace, A. M., Denison, T. L., Attaya, E. N. and **MacDonald, C. C.** (2004). "Developmental differences in expression of two forms of the CstF-64 polyadenylation protein in rat and mouse." *Biol. Reprod.* **70,** 1080–1087.
17. Huber, Z., Monarez, R. R., Dass, B., and **MacDonald, C. C.** (2005). "The mRNA encoding τCstF-64 is expressed ubiquitously in mouse and rat tissues." *Ann. NY Acad. Sci.* **1061,** 163–172.
18. D'mello, V., Lee, J. Y., **MacDonald, C. C.,** and Tian, B. (2006). "Alternative mRNA polyadenylation can potentially affect detection of gene expression by Affymetrix GeneChip® arrays." *Applied Bioinformatics* **5,** 249–253.
19. McMahon, K. W., Hirsch, B. A., and **MacDonald, C. C.** (2006). "Differences in polyadenylation site choice between somatic and male germ cells." *BMC Mol. Biol.* **7,** 35, PMC1618850.
20. Monarez, R. R., **MacDonald, C. C.,** and Dass, B. (2007). "Polyadenylation Proteins CstF-64 and τCstF-64 Exhibit Differential Binding Affinities for RNA Polymers." *Biochemical J.* **401,** 651–658, PMC1770853.
21. Liu, D., Brockman, J. M., Dass, B., Hutchins, L. N., McCarrey, J. R., **MacDonald, C. C.,** Singh, P., and Graber, J. H. (2007). "Systematic variation in mRNA 3′-processing signals during mouse spermatogenesis." *Nucleic Acids Research* **35,** 234–246, PMC1802579.
22. Dass, B., Tardif, S., Park, J-Y., Tian, B., Weitlauf, H. M., Hess, R. A., Carnes, K., Griswold, M. D., Small, C. L., and **MacDonald, C. C.** (2007). "Loss of polyadenylation protein τCstF-64 causes spermatogenic defects and male infertility." *Proc. Natl. Acad. Sci., USA* **104,** 20374–20379, PMC2154438.
23. Shankarling, G., Coates, P. W., Dass, B., and **MacDonald, C. C.** (2009). "A family of splice variants of CstF-64 expressed in vertebrate nervous systems," *BMC Molecular Biology* **10,** 22, PMC2660332.
24. Hockert, J. A., Yeh, H-J. and **MacDonald, C. C.** (2010). "The hinge domain of the cleavage stimulation factor protein CstF-64 is essential for CstF-77 interaction, nuclear localization, and polyadenylation," *J. Biol. Chem.,* **285,** 695–704; PMC2804217. This manuscript was chosen as Paper of the Week by the Editors of the *Journal of Biological Chemistry.*
25. Tardif, S., Akrofi, A., Dass, B., Hardy, D. M., and **MacDonald, C. C.** (2010). "Infertility with impaired zona pellucida adhesion of spermatozoa from mice lacking τCstF-64." *Biology of Reproduction* **83,** 464–472 (doi: 10.1095/biolreprod.109.083238, PMC2924806).
26. Hockert, K. J., Martincic, K., Mendis-Handagama, S. M. L. C., Borghesi, L. A., Milcarek, C., Dass, B., and **MacDonald, C. C.** (2011). "Spermatogenic but not immunologic defects in mice lacking the τCstF-64 polyadenylation protein," *Journal of Reproductive Immunology,* **89,** 26–37 (doi: 10.1016/j.jri.2011.01.018, PMC3081895).
27. Li, W., Yeh, Hsiang-Jui, Shankarling, G. S., Tian, B., and **MacDonald, C. C.** (2012). "The τCstF-64 polyadenylation protein controls genome expression in testis." *PLoS ONE,* **7,** e48373 (doi: 10.1371/journal.pone.0048373, PMC3482194).
28. Shankarling, G. S. and **MacDonald, C. C.** (2013). "Polyadenylation site-specific differences in the activity of the neuronal βCstF-64 protein in PC-12 cells." *Gene,* **529,** 220–227 (doi: 10.1016/j.gene.2013.08.007, PMC3783208).
29. Hockert, J. A. and **MacDonald, C. C.** (2014). "The Stem-Loop Luciferase Assay for Polyadenylation (SLAP) method for determining CstF-64-dependent polyadenylation activity." *Methods in Molecular Biology* **1125,** 109–117 (doi: 10.1007/978-1-62703-971-0_9, PMC5417545).

30. Grozdanov, P. N. and **MacDonald, C. C.** (2014). "High-throughput sequencing of RNA isolated by crosslinking and immunoprecipitation (HITS-CLIP) to determine sites of binding of CstF-64 on nascent RNAs." *Methods in Molecular Biology* **1125,** 187–208 (doi: 10.1007/978-1-62703-971-0_17, PMC5417547).
31. Youngblood, B. A., Alfano, R., Pettit, S., Zhang, D., Dallmann, H. G., Huang, N., and **MacDonald, C. C.** (2014). "Application of recombinant human Leukemia Inhibitory Factor (LIF) produced in rice *(Oryza sativa* L.) for maintenance of mouse embryonic stem cells." *Journal of Biotechnology* **172,** 67–72 (doi: 10.1016/j.jbiotec.2013.12.012, PMC3947499).
32. Alfano, R., Youngblood, B. A., Zhang, D., Huang, N., and **MacDonald, C. C.** (2014). "Human Leukemia Inhibitory Factor produced by the ExpressTec method from rice (*Oryza sativa* L.) is active in human neural stem cells and mouse induced pluripotent stem cells," *Bioengineered* **5(3),** 180–185 (doi: 10.4161/bioe.28996, PMC4101010).
33. Youngblood, B. A., Grozdanov, P. N., and **MacDonald, C. C.** (2014). "CstF-64 supports pluripotency and cell cycle progression in embryonic stem cells through histone 3′end processing." *Nucleic Acids Research* **42(13),** 8330–8342 (doi: 10.1093/nar/gku551, PMC4117776).
34. Youngblood, B. A. and **MacDonald, C. C.** (2014). "CstF-64 is necessary for endoderm differentiation resulting in cardiomyocyte defects." *Stem Cell Research* **13(3A),** 413–421 (doi: 10.1016/j.scr.2014.09.005, PMC4319989).
35. Grozdanov, P. N. and **MacDonald, C. C.** (2015). "Generation of plasmid vectors expressing FLAG-tagged proteins under the regulation of human elongation factor-1α promoter using Gibson assembly." *Journal of Visualized Experiments* **96,** e52235 (doi: 10.3791/52235, PMC4354628).
36. Grozdanov, P. N., Amatullah, A., Graber, J. H., and **MacDonald, C. C.** (2016). "TauCstF-64 mediates correct mRNA polyadenylation and splicing of activator and repressor isoforms of the cyclic AMP-responsive element modulator (CREM) in mouse testis." *Biology of Reproduction* **94(2),** 1–12 (doi: 10.1095/biolreprod.115.134684, PMC4787626).
37. Harris, J. C., Martinez, J. M., Grozdanov, P. N., Bergeson, S. E., Grammas, P., and **MacDonald, C. C.** (2016) "The *Cstf2t* polyadenylation gene plays a sex-specific role in learning behaviors in mice." *PLoS ONE* **11,** e0165976–19 (doi: 10.1371/journal.pone.0165976, PMC5094787).
38. Karamysheva, Z. N., Tikhonova, E. B., Grozdanov, P. N., Huffman, J. C., Baca, K. R., Karamyshev, A., Denison, R. B., **MacDonald, C. C.,** Zhang, K., Karamyshev, A. L. (2018) "Polysome Profiling in Leishmania, Human Cells and Mouse Testis." *Journal of Visualized Experiments* **134,** e57600 (doi: 10.3791/57600, PMC5933418).
39. Grozdanov, P. N., Li, J., Yu, P., Yan, W., and **MacDonald, C. C.** (2018) *"Cstf2t* Regulates Expression of Histones and Histone-like Proteins in Male Germ Cells." *Andrology* **6,** 605–615 (doi: 10.1111/andr.12488, PMC6105451).
40. Grozdanov, P. N., Masoumzadeh, E., Latham, M. P. and **MacDonald, C. C.** (2018) "The Structural Basis of CstF-77 Modulation of Cleavage and Polyadenylation through Stimulation of CstF-64 Activity," *Nucleic Acids Research* **46(22),** 12022–12039 (doi: 10.1093/nar/gky862, PMC6294498).

Reviews and Commentaries

41. **MacDonald, C. C.** and Redondo, J-L. (2002). "Reexamining the polyadenylation signal: were we wrong about AAUAAA?" *Mol. Cell. Endocrinol.* **190,** 1–8.

42. **MacDonald, C. C.** and McMahon, K. W. (2003). "The Flowers that Bloom in the Spring: RNA processing and seasonal flowering." *Cell* **113,** 671–672.
43. **MacDonald, C. C.** and McMahon, K. W. (2010). "Tissue-specific mechanisms of alternative polyadenylation: testis, brain and beyond," *WIREs RNA* **1,** 494–501 (doi: 10.1002/wrna.29, PMC5417544).
44. **MacDonald, C. C.** and Grozdanov, P. N. (2017) "Nonsense in the Testis: Multiple Roles for Nonsense-Mediated Decay Revealed in Male Reproduction (Mini-review)," *Biology of Reproduction* **96(5),** 939–947 (doi: 10.1093/biolre/iox033, PMC5803779).
45. **MacDonald, C. C.** (2019) "Tissue-specific mechanisms of alternative polyadenylation: testis, brain and beyond (2018 Update)," *WIREs RNA,* e1526 (doi: 10.1002/WRNA.1526, PMC6617714).

BOOK CHAPTERS

46. Shelness, G. S., Binder, R., Hwang, S-P. L., **MacDonald, C. C.,** Gordon, D. A., and Williams, D. L. (1987). "Sequence and structural elements associated with the degradation of apolipoprotein II messenger RNA." In "Molecular Biology of RNA: New Perspectives" (M. Inouye and B. S. Dudock, eds.), pp. 381–399. Academic Press, New York.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

47. Li, J., Deng, S.-P., Zhang, F., Joffin, N., Grozdanov, P. N., Li, Z., Islam, M. S., LaSalle, J. M., Goh, E., **MacDonald, C. C.,** Scherer, P. E., Jin, P., and Yu, "A comprehensively curated RNA-Seq resource of splicing factors: applications to Rett syndrome and thermogenesis research," *in review.*
48. Grozdanov, P. N., Masoumzadeh, E., Latham, M. P., Chelly, J., Kalscheuer, V. M., and **MacDonald, C. C.** "A Point Mutation in the RNA Recognition Motif of CSTF2 Associated with Intellectual Disability in Humans Causes Defects in 3′End Processing," *in review;* <https://www.biorxiv.org/content/10.1101/2020.01.02.893107v1>

ARTICLES IN THE POPULAR PRESS

1. **MacDonald, C. C.** (2000). "We Do It For Others… And For Ourselves." Health Opinion article in the *Lubbock Avalanche-Journal* on Friday, September 1, 2000.
2. McMahon, W., Attaya, E., Denison, T., Hockert, A. & Shankarling, G. (2006). "Thank you, Professor MacDonald," *Nature* **440,** 1242 <https://www.nature.com/naturejobs/science/articles/10.1038/nj7088-1242b>
3. Gonzalez, Ellysa (2014). "Inactive protein may be the cause of male infertility," interview in the *Lubbock Avalanche-Journal* on Tuesday, July 1, 2014.
4. Research Highlights of 2014, *Lubbock Avalanche-Journal* online, December 24, 2014 <http://lubbockonline.com/slideshow/2014-12-23/research-highlights-2014#slide-7>
5. Cisneros, Suzanna (2015). "DNA Research May Lead to Male Infertility Treatment," Discoveries: Research and Scholarly Activities profile in *PULSE Magazine,* alumni magazine for Texas Tech University Health Sciences Center, Winter 2015 <http://legacy.ttuhsc.edu/alumni/pulse/documents/Winter2015.pdf>
6. Bowman, Amanda (2017) "Mechanical Engineering Faculty Member Awarded Grant by National Institutes of Health," *Texas Tech Today,* November 2, 2017 <http://today.ttu.edu/posts/2017/11/snoeyink>

ABSTRACTS

1. **MacDonald, C. C.** and Williams, D. L. (1986). "Isolation and characterization of the chick apolipoprotein II mRNP particle." *J. Cell. Biol.* **103,** 314a.
2. **MacDonald, C. C.** and Williams, D. L. (1988). "Isolation of proteins associated with the apolipoprotein II mRNA." RNA Processing Meeting, May 11–15, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
3. Binder, R., Hwang, S-P. L., **MacDonald, C. C.,** and Williams, D. L. (1988). "Degradation of the induced mRNA for chick apolipoprotein II occurs via cleavages at AAUs within loop structures of the 3′non-coding region." RNA Processing Meeting, May 11–15, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
4. Takagaki, Y., **MacDonald, C. C.,** Wilusz, J., Shenk, T., and Manley, J. L. (1990). "Purification and characterization of a factor required for efficient 3′end formation." RNA Processing Meeting, May 16–20, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
5. **MacDonald, C. C.** and Shenk, T. (1992). "Phosphorylation of the 64 kilodalton CstF protein in polyadenylation." RNA Processing Meeting, May 27–31, Keystone, CO.
6. **MacDonald, C. C.,** Ruebenacker, C. A., Wilusz, J., and Shenk, T. (1993). "The complex-associated 64-kilodalton polyadenylation protein of CstF binds to U-rich sequences downstream of the cleavage site." RNA Processing Meeting, May 19–23, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
7. Chen, F., **MacDonald, C. C.,** and Wilusz, J. (1995). "Cleavage site determinants of the mammalian polyadenylation signal." RNA Processing Meeting, May 17–21, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
8. Dass, B., Wallace, A. M. and **MacDonald, C. C.** (1998). "Male germ cell-specific polyadenylation: a role for CstF-64 protein." Society for the Study of Reproduction 31st Annual Meeting, August 8–11, College Station, TX.
9. **MacDonald, C. C.,** Redondo, J-L., Dass, B. and Wallace, A. M. (1998). "Unusual patterns of polyadenylation in male germ cells." Society for the Study of Reproduction 31st Annual Meeting, August 8–11, College Station, Texas. Platform talk.
10. Dass, B., Wallace, A. M., McMahon, K. W. and **MacDonald, C. C.** (1999). "Germ cell-specific polyadenylation and CstF-64." Eukaryotic RNA Processing Meeting, August 25–29, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. Poster presentation.
11. **MacDonald, C. C.,** Dass, B., Redondo, J-L., and Wallace, A. M. (1999) "Two forms of CstF-64 may allow unusual patterns of polyadenylation in testis." Eukaryotic RNA Processing Meeting, August 25–29, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. Platform talk.
12. Dass, B., Wallace, A. M., and **MacDonald, C. C.** (1999). "Germ cell-specific polyadenylation and CstF-64." The American Society for Cell Biology 40th Annual Meeting, December 9–13, San Francisco, CA. Poster presentation.
13. Dass, B., Wallace, A. M. and **MacDonald, C. C.** (2000). "Mammalian germ cell-specific polyadenylation: the role of CstF-64." 2000 Gordon Conference on Mammalian Gametogenesis and Embryogenesis, 1–6 July, New London, CT. Platform talk.
14. Dass, B. and **MacDonald, C. C.** (2001) "Two forms of CstF-64 may allow unusual patterns of polyadenylation in testis." Second International Conference on Proteins That Bind RNA, 4–7 March, Austin, TX. Poster presentation.

15. **MacDonald, C. C.** (2001) "Germ cell-specific mRNA polyadenylation." Society for the Study of Reproduction 34th Annual Meeting, 28 July–1 August, University of Ottawa, Ottawa, ON, Canada. Invited speaker.
16. McMahon, K. W. and **MacDonald, C. C.** (2002) "Polyadenylation of male germ cell mRNAs." Germ Cells, 9–13 October, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. Poster.
17. Attaya, E. N., Wallace-Shannon, A. M., Frisbie, P., **MacDonald, C. C.,** and Ravnik, S. E. (2003) "Cks2 is the predominant meiotic Cks and may alter Cdk2/Cyclin A1 activity." American Society of Andrology 28th Annual Meeting and Testis Workshop, 26 March–1 April, Phoenix, AZ. Poster presentation.
18. McMahon, K. W., Hirsch, B. A., and **MacDonald, C. C.** (2004) "Male germ cell-specific mRNAs are inefficiently polyadenylated in somatic cells." Gordon Conference on The Biology of Post-Transcriptional Gene Regulation, Proctor Academy, Andover, NH, August 8–13.
19. **MacDonald, C. C.** "Messenger RNA Polyadenylation in Germ Cells." XVIIIth North American Testis Workshop, American Society of Andrology, Seattle, WA, March 30–April 2, 2005.
20. Attaya, E. N., Ravnik, S. E., and **MacDonald, C. C.** "CKS2 Represses CDK2/CCNA1-Associated Kinase Activity." ASA 30th Annual Conference, Seattle, WA, April 2–April 6, 2005.
21. Attaya, E. N., Dass, B., and **MacDonald, C. C.** "τCstF-64 is Necessary for Spermatogenesis," ASA 30th Annual Conference, Seattle, WA, April 2–April 6, 2005.
22. Monarez, R. R., Dass, B., and **MacDonald, C. C. "**RNA Binding Affinities of CstF-64 and τCstF-64," RNA 2005: Tenth Annual Meeting of the RNA Society, Banff, Canada, May 24–29, 2005.
23. Dass, B., Attaya, E. N., and **MacDonald, C. C. "**Normal Mammalian Spermatogenesis Requires τCstF-64 Protein," RNA 2005: Tenth Annual Meeting of the RNA Society, Banff, Canada, May 24–29, 2005.
24. Liu, D., Dass, B., McCarrey, J. R., **MacDonald, C. C.,** Graber, J. "Computational Characterization of mRNA 3′-Processing in Mouse Spermatogenesis." ISMB 2005, International Society for Computational Biology, Detroit, MI, June 25–29, 2005.
25. **MacDonald, C. C.** "Polyadenylation and the Control of Spermatogenesis," Gordon Conference on The Biology of Post-Transcriptional Gene Regulation, Session: Transcription, splicing, and 3′end formation, The Queen's College, Oxford, UK, August 13–18, 2006.
26. Shankarling, G. S., Dass, B., and **MacDonald, C. C.** "An Evolutionarily Conserved Splice Variant of CstF-64 in Mouse Nervous System." Eukaryotic RNA Processing Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. August 22–26, 2007.
27. Grozdanov, P. N., Youngblood, B. A., Hoque, M., Tian, B., and **MacDonald, C. C.** "Molecular roles of the testis-expressed cleavage stimulation factor-64, τCstF-64, involved in the 3′-end processing of mRNAs during mouse spermatogenesis." Cold Spring Harbor Laboratory Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY, August 20–24, 2013.
28. Youngblood, B. A., Grozdanov, P. N., and **MacDonald, C. C.** "CstF-64 Regulates Cell Cycle Progression and Histone mRNA Processing in Mouse Embryonic Stem Cells." Cold Spring Harbor Laboratory Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY, August 20–24, 2013.
29. Grozdanov, P. N., Amatullah, A. Youngblood, B. A., and **MacDonald, C. C.** "Investigating Histone mRNAs as a New Biomarker in Breast Cancer." Gender-Specific Medicine & Women's

Health Symposium, Texas Tech University Health Sciences Center, Lubbock, Texas, October 24, 2014.

30. **MacDonald, C. C.** Platform speaker, "How Polyadenylation Controls Gene Expression in Testis and Brain," XXIII North American Testis Workshop, Salt Lake City, Utah, April 17, 2015.
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