Caralina Marín de Evsikova
Department of Molecular Medicine
Morsani College of Medicine
12901 Bruce B Downs Blvd MDC07
University of South Florida
Tampa, FL 33612

POSITIONS

Assistant Professor, Department of Molecular Medicine, USF Health, Tampa Florida
The Jackson Laboratory, Bar Harbor Maine
Research Scientist 2007 – 2012
Associate Research Scientist 2006-2007

EDUCATION

The Jackson Laboratory, Bar Harbor, Maine
Postdoctoral Research Associate 2001–2005
Drs. Jürgen Naggert (genetics) & John Eppig (IVM/IVF training)
Research Areas: Developmental genomics, endocrinology, gene mapping & molecular genetics using forward and reverse genetic screens using *in vivo* physiology of obesity and metabolic disease, and impacts of assisted reproductive technology on health

Department of Veterinary & Animal Sciences, University of Massachusetts Amherst
Postdoctoral Student 9/2000-2/2001
Drs. Rafael Fissore & Deborah Good

University of California Santa Barbara
Dept. of Psychological & Brain Sciences and Neuroscience Research Institute
Doctor of Philosophy 1999, Neuroscience & Behavior Program
Master of Arts 1994

University of California Riverside
Bachelor of Science *cum laude*, Biology 1992

RESEARCH TRAINING

Marine Biological Laboratory, Woods Hole Massachusetts USA
Molecular Biology of Aging 2011
Directors: Drs. Gary Ruvkun & Steve Austad
Post-graduate summer course for scientists to train in molecular and genetics techniques in using *C. elegans*. Techniques: worm husbandry, experimental design, RNAi library screening, GFP reporter assays, drug, fat & longevity screens.

Marine Biological Laboratory, Woods Hole Massachusetts USA
Frontiers in Reproduction 1999
Directors: Drs. Gerald Schatten, Patricia Hunt, Mario Ascoli
Post-graduate summer course for scientists and physicians to train in molecular, cellular, & endocrine techniques in reproductive biology. Techniques: signal transduction, transcriptional regulation of gene expression, confocal imaging, *in situ*, IVF, transgenics, *in vitro* cell culture.

Neural Systems & Behavior 1995
Directors: Drs. Janis Weeks & Harold Zukon
This summer course focuses on neural systems regulating behavior from synapses to systems. My three independent projects included: electrophysiology (extra- & intracellular recording in *M. sexta flight neurons*); molecular biology (transgenic rescue of *C. elegans Unc5* mutants) and functional genomics (spatial memory transfer in acallosal mice).

FUNDING

Completed Grants

National Institutes of Health (AA017244) 9/1/09-8/31/11
Role: PI (de Evsikova)
Title: Effects of alcohol on gene expression & epigenetics of progeny
Goal: Impacts of teratogens exposure during the egg-to-embryo transition on gene expression, development and long-term impacts on energy balance and behavior in exposed offspring.

National Institutes of Health (ARRA funds) 9/1/10-8/31/11
Role: PI (de Evsikova)
Title: Effects of alcohol on gene expression & epigenetics of progeny
Goal: To test the hypothesis that alcohol alters epigenotype in offspring by exposing pregnant and ovulating mice carrying an epigenetic sensitive allele (A^{vy}) to environmental exposure to ethanol

National Institutes of Health (DK073267) 5/1/06-6/01/09
Role: PI (de Evsikova)
Title: Early Environmental Contributions to Adult-Onset Obesity
Goal: Investigate the impacts of maternal environment upon susceptibility to adult-onset obesity and metabolic disease in offspring

Chairperson's Travel Grant, Gordon Research Conference Neuroethology 1999
Regents Travel Grant, University of California Santa Barbara 1992, 1994, 1996
Sigma Xi Grants-in-Aid of Research, Sigma Xi Society 1994
President's Undergraduate Research Grant, University of California Riverside 1991
Research Minigrant, University of California, Riverside 1990 & 1991

AWARDS

Travel & Tuition Award, Molecular Biology of Aging, Ellison Medical Foundation 2011
Travel Award, Frontiers in Reproduction Symposium, 2008-2010
Scholarship, Short Course in Neuroscience, Med Associates Inc., 2006
Finalist, Trainee Presentation Competition, Society for the Study of Reproduction 2004
Lalor Foundation Research Merit Award, Society for Study of Reproduction 2004
Travel Award, Society for the Study of Reproduction 2004
Trainee Registration Award, Gordon Research Conference on Neuroethology 1999
Marine Biological Laboratory Scholar, American Society for Cell Biology 1999
C. Lalor Burdick Scholarship, Marine Biological Laboratory 1999
Summer Scholarship, Burroughs Wellcome Fund 1999
Society for Developmental Biology Fellowship, Marine Biological Laboratory 1999
Regents Fellowship, University of California, Santa Barbara 1998
Young Investigator Presentation Award, Society for Behavioral Endocrinology 1997
WIN Neuroscience Graduate Student Conference Award, Society for Neuroscience 1996
Young Investigator Presentation Award, Society for the Study of Ingestive Behavior 1996
Summer Scholar Award, American Society for Cell Biology 1995
Harriet Bishop Award for Biology, Marine Biological Laboratory 1995

Frank Lillie Scholarship, Neural Systems & Behavior, Marine Biological Laboratory 1995
Fellowship, Neural Systems & Behavior, Assn Neuro Dept & Prog/APA 1995
Woods Hole Marine Biological Laboratory SPINES Fellow 1993
Diversity Fellowship in Neuroscience, ANDP & APA 1993, 1994
Graduate Tuition Scholarship, University of California, Santa Barbara 1992
Chancellor's Scholarship, University of California, Santa Barbara 1992
Bischoff Scholarship in Neuroscience & Behavior, University of California 1992
UC President's Scholar Award, University of California 1991
Women in Science Scholarship, American Business Women Association, 1990-1993
Simon Bache Award for Women & Minorities in Science, 1990

PUBLICATIONS

1. Won J, **Marín de Evsikova C**, Smith R, Hicks WL, Edwards ME, Tiansen L, Naggert JK, Nishina PM. NPHP4 is necessary for normal photoreceptor ribbon synapse and outer segment formation and for sperm development. *Human Molecular Genetics* 20:482-496, 2011

2. Edwards ME, **Marín de Evsikova C**, Gifford E, Wu J, Hicks WL, Whiting C, Varvel NH, Lamb BT, Naggert JK, Nishina PM, Peachey NS. Photoreceptor degeneration, azoospermia, leukoencephalopathy and abnormal retinal pigment epithelial cell function in mice expressing an early stop mutation in CLCN2. *Investigative Ophthalmology and Visual Science* 51:3264-3272, 2010

3. DeMambro VE, Maynard JA, Kawai M, **Marín de Evsikova C**, Johnson KR, Canalis E, Beamer WG, Rosen CJ, Donahue LR. A novel spontaneous mutation of *Irs1* in mice results in hyperinsulinemia, with reduced growth, bone mass, and adipogenesis. *Journal of Endocrinology* 204: 241-253, 2010

4. Matsumura K, Kano K, **Marín de Evsikova C**, Young J, Nishina PM, Naggert JK, Naito K. Transcriptome analysis reveals an unexpected role of a collagen tyrosine kinase receptor gene as a regulator of ovarian function. *Physiological Genomics* 39:120-129, 2009

5. Evsikov AV, **Marín de Evsikova C**. Regulation of gene expression during the oocyte-to-embryo transition in mammals. *Molecular Reproduction and Development* 76:805-818, 2009

6. Yuan R, Tsaih S-W, Petkova S, **Marín de Evsikova C**, Xing S, Marion M, Bogue M, Mills K, Peters L, Bult C, Rosen C, Sundberg J, Harrison DE, Churchill GA, Paigen B. Aging in 31 inbred strains of mice: study design and interim report on median lifespan. *Aging Cell* 8:277-287, 2009

7. Evsikov AV, **Marín de Evsikova, C.** Evolutionary origin and functional analysis of the novel oocyte-specific eukaryotic translation initiation factor 4E in *Tetrapoda*. *Development, Genes, and Evolution* 219:111-118, 2009

8. Kano K, **Marín de Evsikova C**, Young J, Wnek C, Maddatu TP, Nishina PM, Naggert JK. A novel dwarfism with gonadal dysfunction due to loss-of-function allele of the collagen receptor gene, *Ddr2*, in the mouse. *Molecular Endocrinology* 22:1866-1880, 2008

9. Ackert-Bicknell CL, Demissie S, **Marín de Evsikova C**, Hsu Y-H, DeMambro VE, Karasik D, Cupples AL, Ordovas JA, Tucker KL, Cho K, Canalis E, Paigen B, Churchill GA, Beamer WG, Ferrari S, Bouxsein M, Kiel DP, Rosen CJ. A *PPARG* by dietary fat interaction

influences bone mass in mice and humans. *Journal of Bone and Mineral Research* 23:1398-1408, 2008

10. Yuan R, Sundberg JP, Mills K, **Evsikova C**, Petkova SB, So MSY, Xing S, Tsaih S-W, Harrison DE, Paigen BJ. Current Directions in Studying the Mechanisms of Aging: Mouse models for spontaneous changes with age and haplotype analysis *Age* 29: 117, 2007

INVITED TALKS & SEMINARS

December 2012 TAILING TALES: A NEW MOUSE MODEL OF DIABESITY, Department of Molecular Medicine, University of South Florida

September 2012 BEHAVIORAL EPIGENETICS, Med Associates Inc, St. Albans Vermont

January 2011 DEVELOPMENTAL ORIGINS OF HEALTH & DISEASE, Department of Molecular Medicine, University of South Florida School of Medicine

June 2010 TERATOGEN EXPOSURE DURING EGG MATURATION CONTRIBUTES TO ADULT PHENOTYPE, FIR Symposium, Woods Hole, MA

May 2010 NUTRITIONAL PROGRAMMING OF OBESITY, Behavioral Neuroscience Program, Department of Psychology, University of North Carolina at Chapel Hill

November 2009: OBESITY: GENES & THE MATERNAL ENVIRONMENT, College of Medicine Graduate Center for Nutritional Science, University of Kentucky, Lexington

June 2009: TRANSCRIPTOME ANALYSIS REVEALS AN UNEXPECTED ROLE OF COLLAGEN TYROSINE KINASE RECEPTOR GENE, DDR2, AS A REGULATOR OF OVARIAN FUNCTION, FIR Symposium, Woods Hole, MA

June 2008: PHYSIOLOGICAL ANALYSIS AND COMPARATIVE GENOMICS OF EIF4E1B, A NOVEL OOCYTE-SPECIFIC EUKARYOTIC TRANSLATION INITIATION FACTOR IN VERTEBRATES, FIR Symposium, Woods Hole MA

April 2006: ALCOHOL EXPOSURE DURING EGG MATURATION INFLUENCES HEALTH OF PROGENY, Department of Biochemistry, Genetics & Development INSERM, Nice France

November 2005: MANIPULATION OF THE MATERNAL ENVIRONMENT LEADS TO ADULTHOOD OBESITY, Division of Reproductive Endocrinology & Infertility Children's & Women's Health Centre, University of British Columbia, Vancouver Canada

November 2004: Plenary Speaker, DETERMINATION ALONG A WINDING SCIENTIFIC PATH, Stem Network & New England Board of Higher Education, Massachusetts Institute of Technology, Boston

June 2004: ART IMPACTS: LONG-TERM INFLUENCE OF IN VITRO ENVIRONMENT, FIR Symposium, National Academy of Sciences Johnson Center, Woods Hole

June 2003: MEIOSIS ACTIVATING STEROL EFFECTS ON OOCYTE MATURATION, FIR Symposium, National Academy of Sciences Johnson Center, Woods Hole

September 2003: GENETIC APPROACHES UNRAVELING METABOLIC DISORDERS, Department of Biochemistry & Biophysics, University of Arizona, Tucson

September 2003: MAMMALIAN GENETICS TO UNDERSTAND ADULT-ONSET OBESITY, Department of Biology, Northern Arizona University, Flagstaff

SELECTED ABSTRACTS

Recent Abstracts (past 5 years)

Killeen A, Bahr M, Marin de Evsikova C, *C. elegans*: Establishing aA Model Organism System for the Fetal Origins of Adult Metabolic Disease Testing Obesogens, Molecular Medicine Retreat, May 2014

Karandrea, S, Evsikov A, Marin de Evsikova C, Using Functional Genomics to Generate Insulin-Producing β-Cells from Mouse Pluripotent Stem Cells by Genetic Manipulation Molecular Medicine Retreat, May 2014

Raplee I, Marin de Evsikova C, Evsikov A. Retrotransposons as epigenetic marks of undifferentiated state and cancer Molecular Medicine Retreat, May 2014

Marín de Evsikova C (2013). Retrogenes: a putative driver of male infertility, Gordon Research Conference: Fertilization & Activation of Development

Marín de Evsikova C, (2013). Pre-conception ethanol exposure leads to enduring changes in gene networks directing early mouse development. Society for Developmental Biology Meeting, Nashville, USA

Marín de Evsikova C, Evsikov A, Bult C (2010). Finding the needle in the microarray haystack: using MouseCyc, a bioinformatic resource tool, to identify altered biochemical pathways. Society for Developmental Biology Northeast Meeting, USA

Marín de Evsikova C, Evsikov A. (2008) Evolutionary Origin and Phylogenetic Analysis of the Novel Eukaryotic Translation Initiation Factor 4E in Tetrapoda. *Society for the Study of Reproduction*, Kailua-Kona USA

Yuan R Sundberg J, Evsikova C, Petkova S, So M, Xing S, Tsaih S, Harrison D, Paigen B. Mouse Models for Spotaneous Changes with Age and Haplotype Analyses**,** *Current Directions in Studying Mechanisms of Aging*, San Antonio, Texas

Marín de Evsikova C. (2008) Maternal exposures during oocyte maturation contributes to adult-onset obesity in mice, *Embryogenomics*, Paris France

OUTREACH ACTIVITIES

CHAIRPERSON & JUDGE: Sections of Genetics/Genomics, Molecular Biology, & Zoology, *Society for Advancement of Chicanos and Native Americans in Science* (SACNAS) 2003-2008

ADVISOR & MENTOR: New England Board of Higher Education *on Science, Technology, Engineering & Mathematics (STEM) Science Network* 2002-2012

VOLUNTEER: Abbe Museum of Maine Native American Heritage, Bar Harbor, ME USA, in Education; Auctions & Fundraisers, 2001-2009

TEACHING EXPERIENCE

Frontiers in Reproduction, Marine Biological Laboratory, Woods Hole, MA, USA
Lecturer 2011 Bioinformatics Toolbox: Using computational biology for gene discovery

Frontiers in Reproduction, Marine Biological Laboratory, Woods Hole, MA, USA
Faculty Course Coordinator 2000
This is an intensive 6-week summer course for training physicians, scientists in modern molecular, cellular, and imaging techniques used in developmental biology. Duties: 1. Course manager, lecture, and laboratory support for entire course; 2. Organize

demonstrations, practica, & experiments; 3. Inventory of equipment & supplies; 4. Petty accounts, purchases & reimbursements for vendors

University of California, Santa Barbara, USA
Laboratory Instructor 1997-1999
Primary academic responsibility for laboratory classes ranging from 25-60 students. Duties included: generating exams & laboratory exercises, evaluation of reports/projects, assigning marks & grades in the following courses:

Endocrinology Laboratory, Laboratory in Neuroanatomy, Molecular Pharmacology Laboratory, Introductory Statistics & Experimental Design

Guest Lecturer 1997-1999: Delivered one-hour lectures on a variety of topics in the disciplines of behavioral neuroscience, physiology, and pharmacology for courses:

Brain & Behavior, Neuroendocrinology, Neuroscience, Reproduction, Molecular Pharmacology, Neuroanatomy, Pheromones & Behavior, Reproductive Physiology & Endocrinology

Teaching Assistant 1993-1995
Duties: Weekly summary lecture, assist with drafting & grading tests, maintaining records, presided weekly discussions, aid students to understand course material, 12 hr/wk student contact time for these courses:

Neuropharmacology, Psychopharmacology, Brain & Behavior, Behavioral Endocrinology, Development & Plasticity of the Brain, Regulatory Mechanisms

PERSONNEL

Christina Gagliardi, Research Assistant Internship for Non-traditional Students, 2009-2010: Mouse colony management, allele-specific PCR, DNA sequencing. *Outcomes*: Transgenic Genotyping Technician at the Jackson Laboratory 2010-2011, *Current*: graduate student in Neuroscience & Behavior Program at UMass, Amherst.

STUDENT MENTORING

Alexis Killen, Major Professor, Biomedical Sciences Doctoral Program, University of South Florida, 2013

Timothy Legare, Professor, Masters in Biomedical Sciences Program, University of South Florida, 2013, entering medical school at University of Central Florida

Shpetim Karandrea, Major Professor, Biomedical Sciences Doctoral Program, University of South Florida, 2014

Isaac Raplee, co-Major Professor, Biomedical Sciences Doctoral Program, University of South Florida, 2014

Anna Vesely, The Jackson Laboratory Student Program, 2011, Thesis title "Functional evolution of mammalian retrogenes" sponsored by Barbara H. Sanford Scholarship Fund, The Clark Foundation, and The Horace W. Goldsmith Foundation.

Aleah Kenner, Program for Urban Minority High School Students by Howard Hughes Medical Institute (HHMI) & The Jackson Laboratory, 2009. Project: A novel mutation in leptin receptor causes obesity and diabetes in female mice. *Outcome*: Attending Widener University (PN) with Major in Biomedical Engineering

Elizabeth Clore, The Jackson Laboratory Undergraduate Program2007, Thesis title:

Metabolism during Aging: role of neuropeptide Y. Outcome: Laboratory Manager at Beth Israel Deaconess Center, Boston, MA

Joel Moncur, undergraduate, University of California, Santa Barbara, 1997. Thesis title: *Effects of thermogenic agent BRL 35135 on brown adipose tissue and colonic temperature in rats*. Outcome: MD/PhD Dartmouth University 2005, residency at Massachusetts General Hospital, MA

Michelle Minovina, undergraduate, University of California, Santa Barbara 1996. Thesis: *Effects of kainic acid lesion of the mediobasal hypothalamus on metabolic rate and food intake in obese Zucker rats*. Outcome: Accepted at University of Hawaii Medical School 1998

Dave Johnson, undergraduate, University of California, Santa Barbara, 1996. Thesis: *Effects of kainic acid lesions of the arcuate nucleus on thermoregulation in male rats*. Outcome*:* Accepted at University of Washington Medical School in 1998

Debra Shiver, undergraduate University of California, Santa Barbara, 1995. Thesis: *Reversing the effects of neuropeptide Y-induced obesity with thermogenic agent BRL35135 in male rat*s. Outcome: Completed Dental School at University of Southern California, Private practice in 2000

SERVICE

PROFESSIONAL

CONFERENCE CO-ORGANIZER: Frontiers in Reproduction Symposia, Boston MA, USA 2000. Duties: local transport & accommodations, accounts payable, printing

JOURNAL REVIEWER**:** *Ad hoc* reviewer for**:** Developmental Biology, Biology of Reproduction, Lab Animal, Mechanisms of Ageing, Physiology & Behavior

GRANT REVIEWER**:** Superfund Special Emphasis Joint Panel for National Institute of Environmental and Health Science (NIEHS) & Environmental Protection Agency (EPA)

SOCIETAL MEMBERSHIPS Society for Developmental Biology, International Developmental Biology Society, Research Society on Alcoholism, Society for the Study of Reproduction, Society for Neuroscience, Society for the Advancement of Chicanos and Native Americans in Science

UNIVERSITY

DIRECTOR, MOUSE METABOLIC PHENOTYPING CORE, UNIVERSITY OF SOUTH FLORIDA, 2013-PRESENT

DEPARTMENT REPRESENTATIVE COMMITTEE ON CONTINUING PROFESSIONAL DEVELOPMENT, UNIVERSITY OF SOUTH FLORIDA, 2013-2016

GRADUATE STUDENT ASSOCIATION REPRESENTATIVE University of California Santa Barbara 1994-1997 (annually elected)

CERTIFICATE IN AMERICAN INDIAN/FIRST NATIONS HERITAGE: Teacher of traditional beadwork techniques, Josephine White Eagle Center, University of Massachusetts 2001