CORNELL UNIVERSITY
Postdoctoral Research Positions in Reproductive Genomics

Sponsored by the Training Program in Reproductive Genomics (NICHD). Two postdoctoral fellowships are available within the Cornell Center for Reproductive Genomics, a campus-wide center encompassing multiple departments throughout the Campus. Situated in picturesque Ithaca, NY, Cornell University boasts unprecedented core facilities and opportunities for collaborative interactions in an atmosphere that supports and nurtures young biomedical scientists of the highest caliber. Center members also enjoy highly productive collaborations with clinician-scientists at the Weill Cornell Medical College .

We are actively seeking the best quality postdoctoral candidates to compete for one of two postdoctoral fellowships and who may choose from one of many exciting projects available within the reproductive biology community. Competitive salary and benefits packages will be offered within the NIH scale, with salaries commensurate with the successful candidate's experience. **Applicants must be US citizens or permanent residents to satisfy training grant requirements**. Please send your cover letter, curriculum vitae, and a brief description (2-3 pages) of your research experience to: Dr. Mark Roberson, Training Grant Director and Chair of the Department of Biomedical Sciences, Cornell University, Ithaca NY 14853. Applications should be submitted electronically to reprogenomics@cornell.edu. In addition, please arrange to have three letters of reference sent electronically to the same address. Applications and letters must be received no later than **March 1st, 2013**.

PROJECTS

Genetic variation in germline stem cells (lab of Chip Aquadro): relevant projects include the use of evolutionary diversification to understand molecular and evolutionary processes that modulate fertilization and regulate germ line stem cell maintenance and differentiation in Drosophila. http://mbg.cornell.edu/cals/mbg/research/aquadro-lab/index.cfm

Genomic and bioinformatics approaches for addressing evolutionary hypotheses and understanding complex traits in canids (lab of Adam Boyko): projects include studying the unique recombination landscape of canids and its relationship with genomic instability and copy-number variation, understanding the evolution of reproductive genes after dog domestication, and identifying loci associated with speciation and reproductive incompatibility. http://www.vet.cornell.edu/biosci/faculty/Boyko/Adam.cfm

Investigating the effects of maternal choline supplementation during pregnancy on biochemical, genomic and physiologic endpoints in humans and animal models (lab of Marie Caudill): http://www.human.cornell.edu/bio.cfm?netid=mac379

Studies of DNA repair and recombination during mammalian gametogenesis (lab of Paula Cohen): projects include investigating the genetic interactions between crossover pathways for meiotic recombination; analysis of separation-of-function mutations for members of the DNA mismatch repair pathway; investigating small RNA regulatory pathways involved in mammalian gametogenesis. http://www.vet.cornell.edu/labs/cohen/homepage.html

Understanding the molecular mechanisms underlying hypertension, including the devastating pregnancy-induced cardiovascular syndrome pre-eclampsia (lab of Robin Davisson): We identified the first non-primate animal model that spontaneously develops the hallmarks of pre-eclampsia, and ongoing studies are focused on investigating the molecular causes and identifying potential biomarkers in this important disease model. http://www.vet.cornell.edu/labs/davisson/

Roles of stem cells in reproductive system regeneration and malignant transformation (lab of Alex Nikitin): Techniques include generation and characterization of mouse models for cell lineage tracing, comparative oncogenomics and stem cell pathology. http://www.alexnikitin.com/

Multidisciplinary approaches to assess issues relevant to maternal-fetal nutrient partitioning (Fe, Ca, vitamin D) in high risk pregnant populations (lab of Kimberly O'Brien): techniques include integrating biomedical mass spectrometry, animal models, placental physiology and fetal growth. http://www.human.cornell.edu/dns/obrien/

Examination of cell signaling determinants within the reproductive axis required for the control of fertility (lab of Mark Roberson): projects include analysis of the membrane raft-associated proteome coupled to the GnRH receptor; purinergic control of gonadotrope cell function; role of ERK signaling within the ovary. http://www.vet.cornell.edu/biosci/faculty/roberson/

Genetic analysis of gametogenesis and infertility (lab of John Schimenti): projects include henetic and molecular analysis of checkpoint control mechanisms in male and female meiosis in mice; pre-meiotic DNA replication and meiotic gene regulation; mouse modeling of human infertility mutations. http://schimentilab.vertebrategenomics.cornell.edu

Understanding cellular design—pathway compartmentalization and membrane microenvironments in sperm (lab of Alex Travis): projects include biomimicry of sperm glycolytic machinery for energy generation on a nanoscale (for which we won an NIH Pioneer Award), to applications for those enzymes in diagnostic devices; regulation of calcium channel activity and sperm function by local membrane lipids. http://bakerinstitute.vet.cornell.edu/faculty/view.php?id=184

Genome maintenance mechanisms in normal and neoplastic cells (lab of Bob Weiss): projects include analysis of cancer stem cells, tumor metastasis, and determinants of chemosensitivity in a testicular germ cell tumors; investigation of roles for DNA damage checkpoint pathways in meiotic recombination. https://faculty.cit.cornell.edu/rsw26/index.html

Molecular genetic dissection of the actions of seminal proteins, and of the egg-to-embryo transition in Drosophila (lab of Mariana Wolfner): projects include investigating how seminal proteins act in networks to induce post-mating changes in females; exploring conserved genetic pathways that coordinate the egg-to-embryo transition, focusing on proteins that are phospho-modulated. https://sites.google.com/site/wolfnerlab/