

Job Description

Scientific Director, [Mouse Genetics and Gene Targeting CoRE](#)
[Icahn School of Medicine at Mount Sinai](#)

Summary:

The Mouse Genetics and Gene Targeting Center of Research Excellence (CoRE) at the Icahn School of Medicine at Mount Sinai is an institutional resource that was established to aid investigators in the production of mutant mouse models through various approaches utilizing cutting-edge technology. The Scientific Director is responsible for the oversight and daily operations of this core facility. The position requires in-depth knowledge of pre-implantation mouse embryology and techniques required for the production of genetically-manipulated mice. In addition to the production of novel mutant mouse models, the director also oversees a robust sperm cryopreservation program, as well as an IVF rederivation program in collaboration with the Center for Comparative Medicine and Surgery (CCMS).

Responsibilities:

Science and Technology Expertise

- Keeping up to date with the latest advances in the field of mutant mouse production
- Refine and implement changes to standard protocols as the field advances
- Evaluate and implement relevant new technologies as they are developed in the field
- Consult with investigators on the design of individual projects, to define the best approach
- Advise core users on different genotyping strategies for their mutant mouse models
- Work with off-campus project collaborators or independent investigators to assist with the design, production, and genotyping of mouse models
- Attend and present at local, national, and international meetings
- Explore, refine, and introduce new technologies (CRISPR, etc.) into the CoRE

CoRE Operations

Direct the CoRE operations in collaboration with the facility manager to include the following:

- Initiating projects and communicating with investigators about project status
- Approve and monitor work-flow for service requests through iLab
- Isolation and culturing of pre-implantation stage embryos for the production of mouse models through various approaches
- Microinjection of one-cell mouse embryos for production of transgenic mice
- Microinjection of one- or two-cell mouse embryos for the production of gene-edited mice (CRISPR-Cas9 approach), for >1 kb donor templates
- Electroporation of gene editing (CRISPR-Cas9) reagents into one-cell mouse embryos (for <1 kb donor templates)
- Oversight of growth and expansion of gene-targeted mouse embryonic (ES) cells
- Microinjection of gene-targeted mouse ES cells into mouse blastocysts to produce mosaic mice for the establishment of novel gene-targeted lines
- Oversight of the sperm cryopreservation program used for cryobanking of novel mutant mouse lines
- Oversight of the institutional IVF Rederivation program, in collaboration with CCMS

- IVF Rederivation or Recovery of mouse lines from cryopreserved sperm
- Oversight of vasectomized male mouse colony used to produce pseudo-pregnant hosts (including vasectomy surgeries)

Work with CoRE Facility Manager and CoRE Advisory Committee to enhance services offered by the CoRE

Preparation of Institutional Animal Care and Use Committee (IACUC) protocols, submission of yearly progress reports and triennial renewals, and monitoring of mouse colony to assure that CoRE is in compliance with IACUC protocols

Prepare letters of support for users' grant submissions

Oversight of animal production room health status with CCMS veterinarians

Troubleshooting animal husbandry issues with CCMS veterinarians and/or animal husbandry supervisory staff

Human Resources Management

- Preparing job descriptions, interviewing and hiring staff
- Oversight of staff training and compliance with institutional policies
- Evaluation of staff performance
- Define weekly workflow for CoRE staff

Fiscal Management

- Annual preparation of budget with CoRE administrative staff
- Oversight of operational budget, including ordering of supplies and animals
- Monthly billing of services through iLab
- Preparation of invoices for external investigator projects

If you are interested, please submit a cover letter detailing your interest in the position and a resume to reflect your experience and expertise in the field of mouse genetics. Please submit the documents to shekhar.patil@mssm.edu