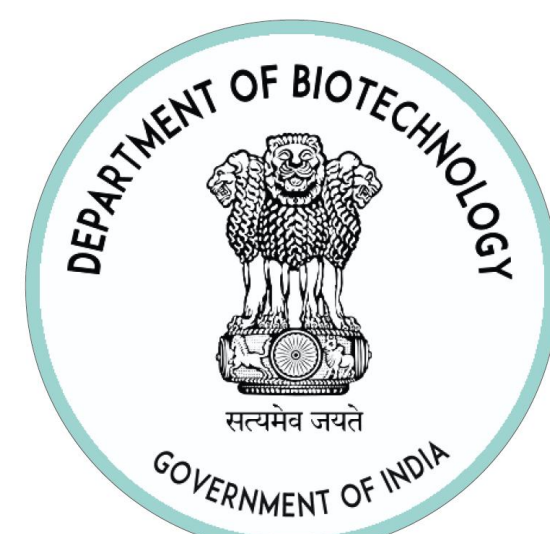
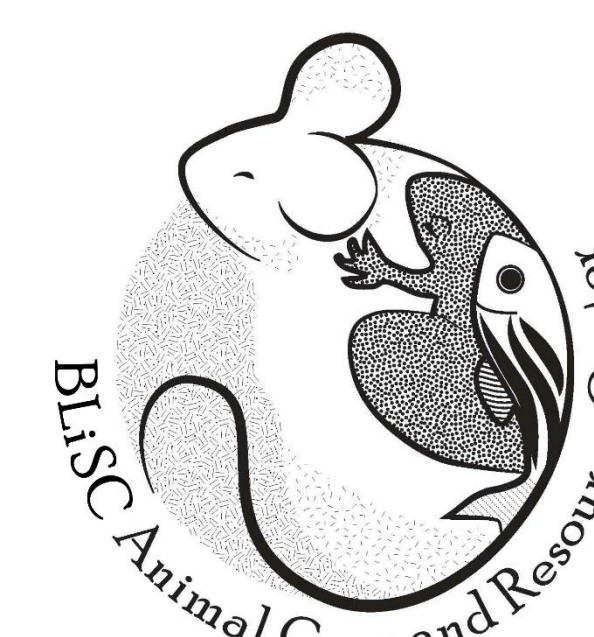
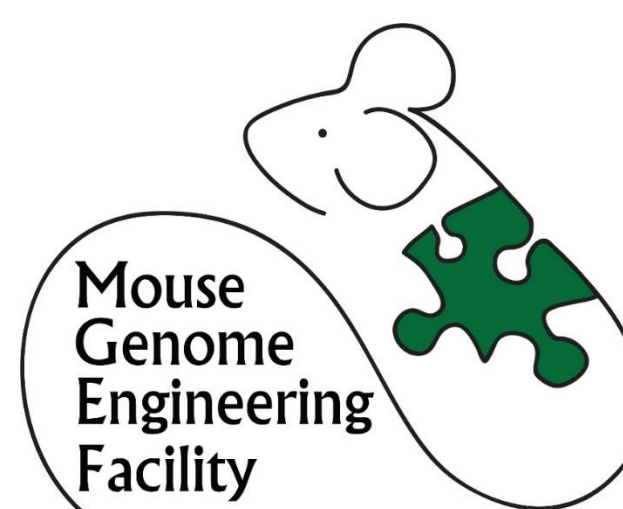


Mouse Genome Engineering Facility (MGEF) & Animal Care and Resource Centre (ACRC)

a DBT funded National Mouse Resource (NaMoR)

contact: acrcinfo@ncbs.res.in or visit www.ncbs.res.in/research-facilities/acrc



ACRC & MGEF MISSION:

With substantial support from the DBT National Mouse Resource (NaMoR) grant, the Mouse Genome Engineering Facility (MGEF) has been set up in a state-of-the-art 5900 individually Ventilated Cages [IVC] high-barrier Specific Pathogen Free (SPF) facility of the Animal Care and Resource Center (ACRC) on the inStem/NCBS Bangalore Life Science Cluster (BLISC) Campus.

Our mission is to offer a wide range of services, resources and training possibilities to the Indian scientific community with the scope to consolidate and facilitate access to local and international expertise in Mouse Model based design, research and technologies in India.

MGEF SERVICES:

1) Generation of novel Genetically Modified Mouse Models (Tg, KI, KO, cKO)

- Via Oocyte Pronuclear or Cytoplasmic Microinjection of BACs, Plasmids, CRISPRs/Cas, ZFNs, TALENs, attP/attB...
- Currently establishing CRISPRs/Cas oocyte electroporation & 8cell embryo mESCs microinjections technologies.

2) Sperm Cryopreservation / Oocyte & Embryo vitrification

- Stock long term cryo-storage & back-up in the Indian Mouse Strain CryoBank & Repository

3A) Sperm Cryorecovery + in Vitro Fertilization + SPF Embryo Transfer Rederivation

- Quality control of cryopreservation procedures.
- Stock revival from cryo-sperm
- Rapid and synchronized amplification of desired stocks
- Enhancement of strains with poor breeding efficiencies.

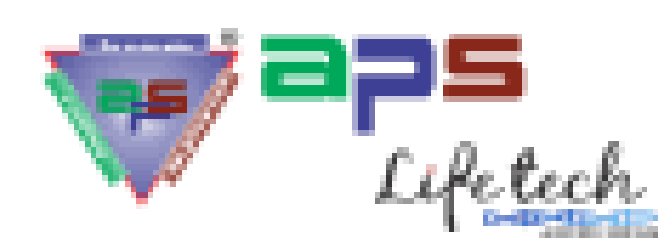
3B) Rederivation of Mouse Strains & Embryo Cryorecovery via SPF Rederivation

- Pathogen clearance of infected strains to highest SPF animal maintenance and breeding standards.
- Import of external mouse stocks

4) Providing Fresh or Cryopreserved SPF, mycoplasma free sperm, oocytes, pre- & post-implantation embryos for in Vitro procedures & MEFs isolation

- Isolation of High quality mycoplasma Free feeder layers for Human and Mouse Embryonic Stem cell cultures.
- Isolating and Providing Mouse Sperm and oocytes for Fertility assays and training on Assisted Reproductive Technologies (ARTs).

List of MGEF Clients :



SpOvum® Technologies Pvt. Ltd.
Technology Enhanced to Create Lives



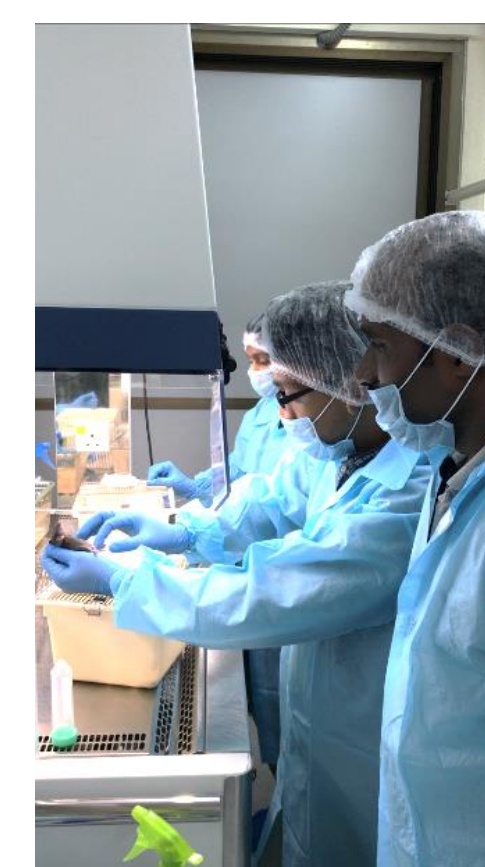
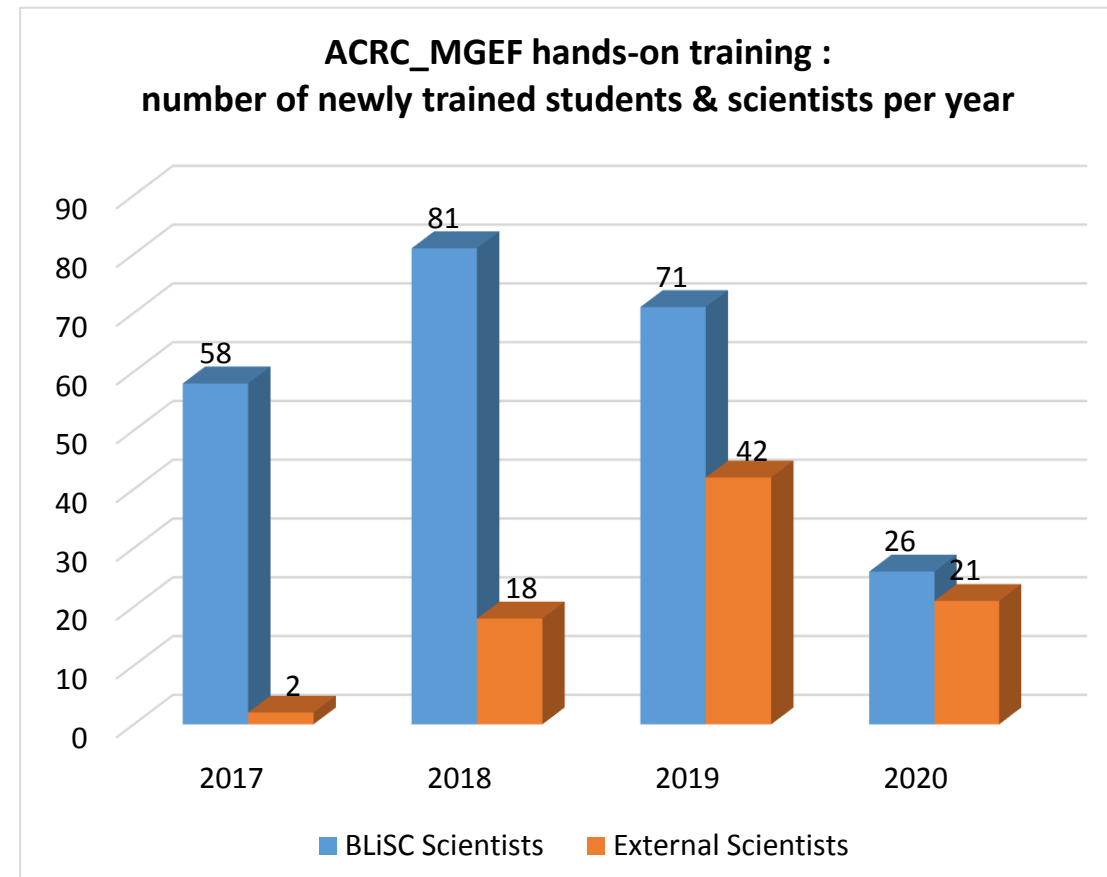
ORIGIO



भारत सरकार - राष्ट्रीय पशु पोषण एवं शरीर क्रिया विज्ञान संस्थान
ICAR - National Institute of Animal Nutrition and Physiology



ACRC / MGEF Outreach and Training activities across India

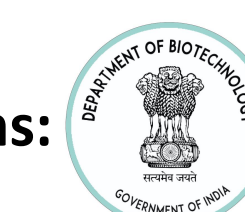


Types of outreach programs:

- yearly Hands-on training workshops (Cryo/IVF , genome engineering & Microinjection, animal care & handling ...)
- provided personalized training programs for external students, Veterinarians & Animal Facility staff of other Indian Institutes.
- Outreach courses and consulting services to external institutions in order to expand the expertise and increase the numbers of Mouse resource centers across India.

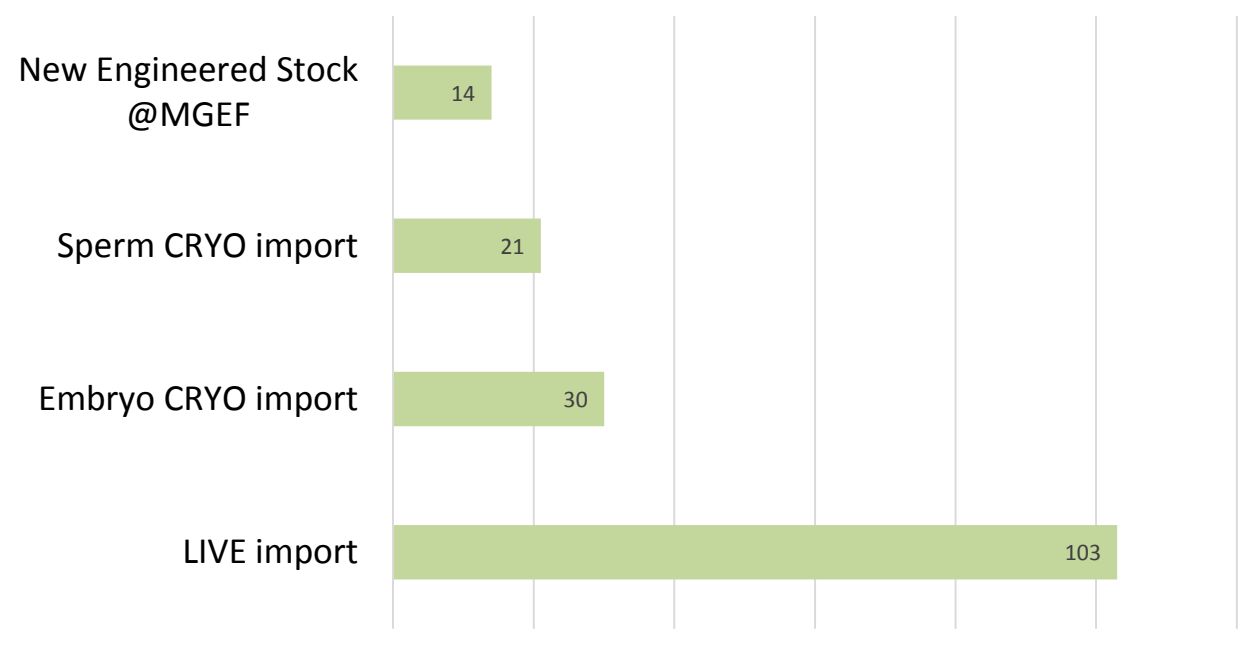


Sponsors & Collaborators of our Outreach & Training programs:

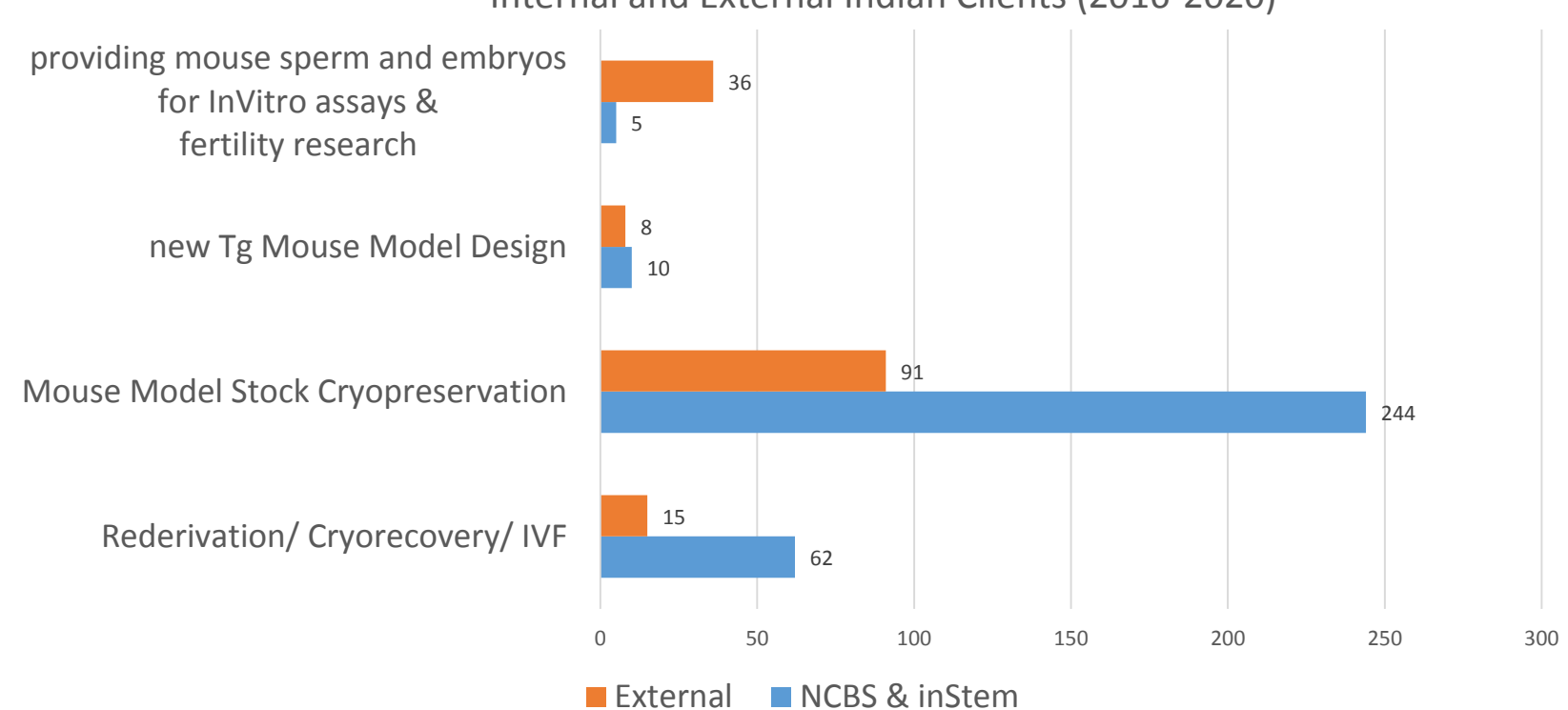


ACRC & MGEF Importing, archiving & engineering new rodent models for biomedical research

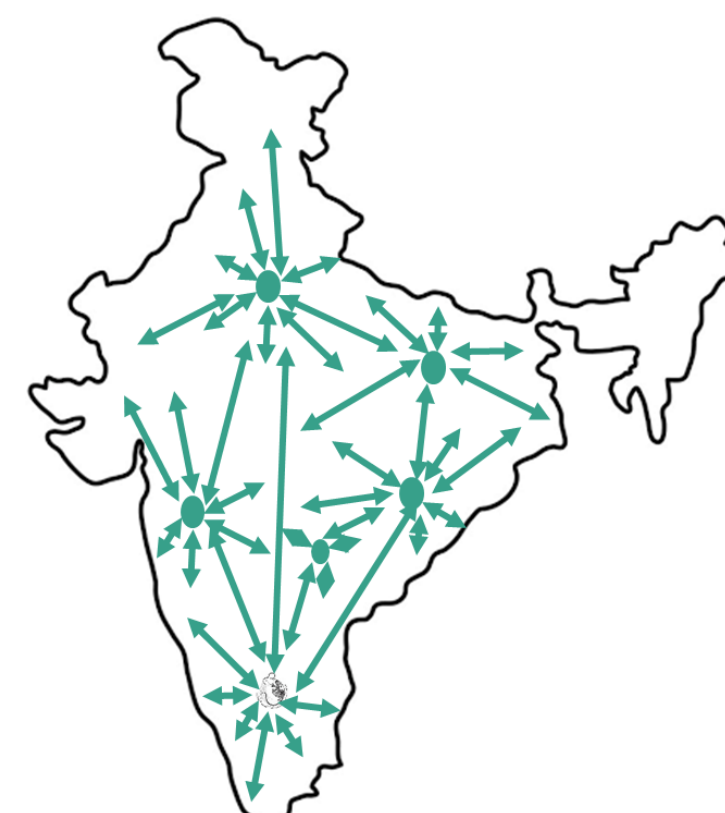
Number of new mouse Strains added to the ACRC Repository from 2018-2020



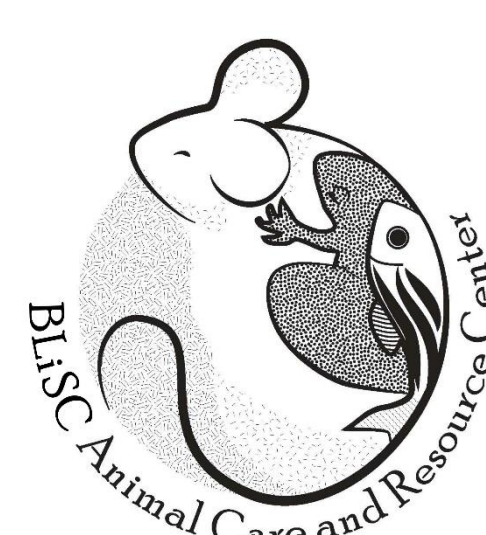
of MGEF projects catered for Internal and External Indian Clients (2016-2020)



Conducting Workshops and Trainings to enhance the sharing of resources across India



National Repository & Database ~300 Laboratory Rodent Stocks archived or maintained at ACRC



<https://www.ncbs.res.in/transgenic/>

Cryo-Archiving and Maintenance of laboratory mouse & rat models with highest international standards of Laboratory Animal Care and SPF colony management services.

Redistribution across India



number of ACRC animals donated to external scientists (2017- 2020)

