LGR Innovation Awards

The LGR Innovation Awards are one-year research grants to support the labs across UCSF and UC Berkeley campuses that are interested in developing highly innovative ideas into early proofs of concept across the field of functional genomics.

Funding Areas
Functional genomics is defined as a multi-disciplinary approach to solving previously intractable biology questions through high throughput and high dimensional functional analysis of genes and other genetic elements in the human genome. The goal of the Awards is to identify and support the development of broadly applicable novel platform technologies or methods rather than the applications of existing ones, in areas including but not limited to:

CRISPR genome editing:
- Novel scalable CRISPR genome editing methods
- Discovery and optimization of novel Cas homologues through molecular evolution
- Cas protein fusion or engineering for new effector functions

Advanced preclinical model and assay technologies:
- High-dimensional assays involving single cell & spatial genomic or proteomic profiling
- Novel cell imaging and flow cytometry methods
- Advanced preclinical models such as human iPSC, primary cells, and organoids
- Robust genetic or chemical iPSC differentiation protocols
- Improved translation of human disease biology to *in vitro* and *in vivo* preclinical models
- Functional validation of GWAS human genetic variants

High throughput screening technologies:
- Innovative pooled or arrayed CRISPR screening methods
- High throughput engineering, lab automation, and microfluidic technologies
- Efficient viral and non-viral delivery methods for CRISPR machinery

Computational biology & statistics:
- Statistical algorithms for functional genomic screening data analysis
- Bioinformatic tools for guide selection, screening library design, and hit identification
- Database architecture to drive convergence of multi-omics data and fast hit prioritization
- AI/ML-assisted experimental design, complexity reduction, and hypothesis generation

Note: research proposals involving the use of tissues or cell lines derived from human embryo or fetus will not be considered.

Award Benefits
- $100,000 grant for one year (indirect cost and term extension are not allowed)
- Access to state-of-the-art equipment and facilities at the LGR (499 Illinois St.)
- CRISPR and other functional genomics reagents available for use
- Expert technology consultations provided by LGR staff

Application Eligibility
Faculty or faculty-equivalent status with primary appointments at UCSF and UC Berkeley are eligible to apply

Application Materials & Instructions
1. Cover letter
2. One-page research proposal
3. One-page support figures (optional)
4. Budget proposal and justification
5. Principal Investigator Biosketch (NIH format)

*Prepare application materials in a single PDF document and submit to **Application Web Portal**. Proposals from UC Berkeley applicants must be submitted via **Phoebe** to the Industry Alliances Office before submitting applications to the **Application Web Portal**.*

Application Deadline: October 11, 2021
Awards will be announced in November for a term of January 1 – December 31, 2022.

Contact Information
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About the LGR
The Laboratory for Genomics Research (LGR) is a novel hybrid academic-industry partnership between UC Berkeley, UCSF, and GSK that join forces together under one roof in an immersive collaborative R&D environment to discover and validate novel therapeutic targets and bring better medicines faster to patients with unmet medical needs. The LGR strives to build advanced CRISPR-based genome editing and functional genomics platforms that are enhanced by human genetics and computational biology. We aim to discover novel drug targets with high probability of success and expand our knowledge on the human genome in various disease contexts through mechanistic investigation into previously unknown genes and their networks. We innovate and industrialize CRISPR functional genomics to provide world-class technology solutions and research tools to UC, GSK, and the broad scientific community. For more information, please visit http://lgr.bio.

URL
Application Web Portal: https://webportalapp.com/appform/login/innovation2021
Phoebe: https://phoebe.rac.berkeley.edu
LGR: http://lgr.bio