APPLICATION DEADLINE: None; applications will be accepted on a rolling basis.

OVERVIEW: The Keck School of Medicine seeks to support high-quality research to better understand, treat and prevent COVID-19, the current pandemic caused by SARS-CoV-2. Toward that end, the School is seeking applications for research projects that address the pandemic at any level. Given the urgency of the pandemic and the pace at which new knowledge is being generated, the program will emphasize projects that can produce results quickly. Proposals can be for up to a year and must include specific milestones to be achieved during the first six months. Initial awards will be for six months; additional funding will be contingent on appropriate achievements of milestones.

ELIGIBILITY:
• Full-time KSOM faculty members at all levels, in all series at USC and CHLA are eligible to apply as principal investigator.
• Postdocs, residents, fellows, students, and faculty from other USC academic units, and community members can be included as co-investigator(s).
  o Collaborations with researchers outside of the Keck School is encouraged. However, funds from this program must remain within the Keck School. Work proposed by outside collaborators should be supported by matching funds.
• Faculty members who are not U.S. citizens/permanent residents must hold a visa to allow them to remain in the U.S. long enough to complete the proposed project.

SCOPE
The program is looking for promising ideas and approaches to understand and mitigate COVID-19 and its impact on individuals and society. We invite proposals from across the Keck School in three separate research categories: (a) mechanistic or applied research at any level, from basic discovery to community and population health, (b) development of sharable COVID-19 research resources, or (c) community education and engagement. Priority will be given to proposals with high potential for immediate impact. A non-exhaustive list of examples is attached at the bottom.

PROPOSAL SUBMISSION and FORMAT
Proposals should be submitted through the Keck School’s COVID-19 Research Portal
https://is.gd/ksomcovid19
The submission process will require entry of a number of structured elements (e.g. PI name, department, collaborators) in specified fields, plus a research proposal no more than five pages in length, using the format defined on the proposal submittal site.

BUDGET
Specific budget instructions appear in the submission portal. Of note:
• There is no specific limit to the budget. Requests should reflect the proposed work and be well justified in the Budget Justification.
• Fringe benefits on salaries for support personnel should be requested at the USC rate.
• The proposal can contain up to one year of work, with associated budget and justification. Budgets should be divided into two sections: (a) the first six months and (b) up to six additional months. Initial awards will be made for the first six months. Remaining funding will be contingent upon meeting milestones that must be described in the research proposal.

INITIAL REVIEW
Proposals will be reviewed on a rolling basis according to the following criteria for each of the three research categories listed under “Scope” above:

1) For proposals to conduct mechanistic or applied research:
   • **Significance**: With special emphasis on potential to mitigate the COVID-19 pandemic and/or its consequences
   • **Investigators**: Qualifications of PI and/or team to conduct proposed research; for collaborations outside of the Keck School, the value add of the collaborators and cost share from other school(s)
   • **Innovation**: Novelty and innovation compared to existing information and ongoing research
   • **Approach**
     a. Is hypothesis or purpose plausible/important?
     b. Strategy, methodology, and analyses appropriate to aims/goals?
     c. Is approach feasible, including milestones and time frame for achieving them?
     d. Are potential problems and alternative strategies addressed?
     e. For clinical trials: primary/secondary endpoints, key inclusion/exclusion criteria, sample size and power, specimens and use, operational feasibility, including recruitment approach and clinician engagement
     f. Will proposed analytical plan address the hypothesis/purpose of the study?
     g. Will next steps follow from proposed work/be impactful?
   • **Environment**: Are the resources and environment in place for the proposed work?
   • **Overall Impact**: Based on overall potential of success to advance the understanding, treatment and/or prevention of COVID-19 and its impact

• For proposals to develop shareable COVID-19 research resource(s)
  • **Significance**: Major emphasis will be placed on filling an unmet need, the scope of potential users, potential to support work that mitigates the COVID-19 pandemic and/or its consequences, importance to research in the Keck School and then USC
  • **Investigators**: Qualifications, of PI and/or team to establish and support the proposed shared resource; value-add of any collaborators and cost share from other school(s)
  • **Innovation**: Novelty and innovation of the resources, lack of overlap with available resources
  • **Approach**
    a. Technical capabilities and details for developing the resource
    b. Approach to making the resource available, including support personnel, if needed
    c. Governance and access, including scientific review and prioritization of users
    d. Business and sustainability plan
    e. Next steps, if any
  • **Environment**: Are the resources and environment in place for the proposed work?
  • **Overall Impact**: Based on the potential for the proposed resource(s) to support important work in the Keck School to address COVID-19
• For proposals to conduct community education and engagement
  • Significance: Major emphasis will be placed on the potential to inform communities and foster behaviors that will mitigate the pandemic and/or its consequences
  • Investigators: Qualifications, of PI and/or team to develop, deliver and evaluate the impact of the proposed education and/or engagement; if investigators from other schools are proposed, the cost share that will be provided
  • Innovation: Innovation will be valued primarily in the context of potential impact on the community(ies) proposed for engagement and/or education
  • Approach
    a. The content or structure of the proposed education or engagement
    b. Target community/population, including known risks and impact of the COVID-19 epidemic
    c. Methods for delivery, including match to target community(ies)
    d. Approach to evaluation of impact
    e. Next steps, if any
  • Environment: Are the resources and environment in place for the proposed work?
  • Overall Impact: based on probability of important contributions to mitigating of COVID-19 and/or its impact at the community level

SIX MONTH REVIEW
Funded projects that propose more than six months of work will be expected to submit a progress report after the first six months. Progress reports should summarize progress toward scientific goals and pre-specified project milestones. Awarding of additional funding will be contingent upon appropriate progress, including meeting those milestones.

ADDITIONAL INFORMATION
For additional information or questions regarding this program please contact Aileen Dinkjian at Aileen.Dinkjian@med.usc.edu.
Keck School of Medicine of USC COVID-19 Research Fund

Examples (for guidance only, not intended to be exhaustive)

A) Mechanistic and Applied COVID-19 Research

Basic Virology and Immunology to understand how the basic biology of viral infection and host responses that lead to transmission, morbidity and mortality. Examples include, but are not limited to: mechanisms for infectivity and effects of viral genetic variation; impact of host genetic variation on infectivity; screening of potential therapeutics using animal models; use of lung organoid models to three dimensional infectivity and tissue injury; metabolic profiling of host cell response to virus; and temporal patterns of cytokine release.

Diagnosis and Treatment to support observational and interventional studies to identify patients at high risk for serious COVID-19 disease and treatments to prevent or reverse it. Examples include genome sequencing to relate viral variants to disease severity; phase 2 studies of antiviral and immunomodulatory drugs; mesenchymal stem cell therapy to mitigate cytokine response; convalescent serum to treat severe and moderate disease; antibody testing to aid in return-to-work decisions; AI/machine learning to identify early predictors (e.g. cytokines) that predict deterioration; chatbot for remote screening of symptoms and triaging to in-person vs. telehealth care; use of mobile health technologies to monitory and track COVID-19-related symptoms and disease progression; economic cost of the epidemic on patients and the health system; and using machine learning to enhance analysis of radiographic studies (X-ray, CT, MRI) to predict acute and chronic health outcomes.

Epidemiology and Population Health to better understand patterns of viral transmission, social and environmental risks, racial disparities in disease rates and impact. Examples include convalescence and impact; modeling, simulation, and prediction for COVID-19 propagation and efficacy of interventions; predicting infection rates within neighborhoods and "hot spots" in LA County; predicting spread using contact tracing data; predictors of susceptibility, symptoms and disease severity; studies of impact of COVID-19 in racial/ethnic populations, including access to testing and health care; use of social media to track the impact of COVID-19 on behavioral and mental health; and impact of pandemic on diet, physical activity, food insecurity (via USC Understanding America Study).

B) Development of Shareable COVID-19 Research Resources and Infrastructure

Projects should support development of critical research resources such as expansion of viral, cell and animal model capabilities in our high containment BSL3 lab, where live COVID virus studies can be conducted. NOTE: Development of a COVID-19 biorepository and a COVID-19 healthcare worker surveillance cohort are already underway and should not be proposed.

C) Community Education and Engagement

Proposals should engage our local communities to provide accurate information about COVID-19, provide healthy behaviors, and help to address socioeconomic consequences of the epidemic. Examples include developing and disseminating culturally tailored, language specific messaging about health practices; dispelling dangerous myths; advising on access to health care; providing food in the face of rising job loss in the service sector; and studying how socioeconomic status influences rates and impact of infection in different communities.