



Opportunity Details

JUMP ARCHES FALL 2020 RFP CALL

Description

The Jump Applied Research for Community Health through Engineering and Simulation (Jump ARCHES) endowment offers this Request for Proposals to members of the faculty of the University of Illinois at Urbana-Champaign, health care providers of the University of Illinois College of Medicine at Peoria, and/or OSF HealthCare clinicians.

Goals

The goal of this competitive grant is to improve the quality of health care and safety of patients through collaboration between researchers, engineers, clinicians, and social and behavioral scientists. The award is for 1 year of startup/seed money support up to \$75,000, and requests for continuing funding will be based upon reported progress. Proposals which identify future or matching funding from federal, state, county, or other governmental or non-governmental relief organizations will be regarded most favorably.

To achieve this goal and promote collaboration between institutions, OSF Innovation in Peoria and the Health Care Engineering Systems Center at the University of Illinois at Urbana-Champaign encourage applicants to inquire if their ideas require facilities or technologies that they cannot access at their home institution. Examples of such facilities and technologies may include simulation areas, robotics technology, 3D printing, or other prototyping and manufacturing needs. View these facilities on the [HCESC website](#), [Jump Simulation Center Urbana website](#), and [Jump Trading Simulation & Education Center Peoria website](#).

Focus Areas

This Request for Proposals concerns six focus areas: digital health, social and behavioral disparities, autism, neurological sciences, COVID-19, and simulation and education. Your application should address one or more of these areas. Phase II applications in any of these areas that have been previously funded by Jump ARCHES are also encouraged.

- I. **Digital Health:** This area concerns designing technologies to improve tele-medicine, data gathering, sensor design, designing assistive technologies, robotics and advancing the use of data science, AI, and machine learning to augment and assist in improving the costs, quality, and patient/provider experience.
- II. **Social and Behavioral Disparities:** This area concerns mitigating the impact of age, location, and social barriers in delivering quality health care to vulnerable populations. Special emphasis will be given to proposals that address racism, social

- justice, social and implicit biases, health equity, and access to complement the University of Illinois' Call to Action initiative from the new [Chancellor's Research Program to Address Racism and Social Injustice](#).
- III. **Autism:** This focus area concerns the diagnosis and treatment of Autism Spectrum Disorders (ASDs) through collaborative efforts with the OSF HealthCare Children's Hospital of Illinois. Emphasis will be on early diagnosis of ASDs, enhancement of social skills associated with ASDs, support of children and adults with ASDs as they integrate their unique sensorimotor and information processing patterns while navigating everyday life at home, in school, and in the workplace, and exploration of technologies to utilize unique skills of individuals with ASDs.
 - IV. **Neurological Sciences:** This special focus area addresses technologies to diagnose or monitor treatment of patients. Special solicitations will be offered involving the creation of novel technologies, systems and assistive devices for communication and immobility associated barriers experienced by people with neurological disorders and projects addressing the difficulties of their families and caregivers.
 - V. **COVID-19:** This area concerns the development of technologies that may address COVID-19, pandemics, or similar health crises. Topics related to diagnostics, sterilization, modeling, artificial intelligence, assistive devices, and surveillance will be of high importance. Social and economic impact on health care post-COVID and effects on children will also be of importance.
 - VI. **Simulation and Education:** This area concerns using simulation and other virtual or augmented reality technologies to train and evaluate current and future medical professionals. New modalities, AR/VR/MR, design of hardware-based simulators with a focus on Human Factors, Interprofessional Education, etc., will be given preference.

Jump ARCHES has over 70 projects at a total of \$4.75 million since 2014. View all funded projects [here](#).

Eligibility Information:

The Primary Investigator may be from any discipline. Proposals are REQUIRED to include one investigator from the Grainger College of Engineering at the University of Illinois at Urbana-Champaign and one investigator from either the health care providers of OSF HealthCare or the University of Illinois College of Medicine at Peoria Faculty.

Previously funded proposals which have demonstrated potential for significant impact may submit an application for continued funding.

Special Consideration to Social Topics: Keeping within the spirit of integrating social and behavioral topics in ARCHES, proposals led by Primary Investigators from social sciences will receive special consideration and additional support in this funding cycle. For more information about submitting to this special topic please contact Brent Roberts, Director of the [Center for Social and Behavioral Science \(CSBS\)](#) at: bwrobrts@illinois.edu.

Evaluation Criterion:

Proposals will be specifically evaluated for their respective alignment to program goals (relevance), the potential impact on patient and/or learner outcomes (impact), and the proposed plan and quality of the proposed team (approach). Proposals must include a brief (one paragraph) statement on the project's expected societal impact.

For the preparation of a responsive application, please contact Antonios Michalos, M.D., M.S., Associate Director (217) 244-4563

michalos@illinois.edu

For questions on the submission of the application, please contact Seth Stutzman, SS, BS, BS, ARCHES Program Coordinator (309) 308-9409

seth.t.stutzman@jumpsimulation.org

Sensors, Mobile Health, Social and Behavioral Health, Population Health, Industrial Design, Human Factors, Ergonomics, Applied Health Sciences, Advance Care, COVID-19, Autism, Machine Learning, Data Science, AR/VR, AI, Simulation, Neurological Sciences