

Latest Jump ARCHES awards focus on medical tech solutions to address vexing health care challenges

For Immediate Release

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(January 19, 2020/PEORIA/URBANA, ILLINOIS) – Twenty research projects are sharing slightly more than \$1.4 million in funding through the [Jump ARCHES research and development program](#) to address a variety of vexing medical challenges including neurological testing for children and athletes (such as concussions), migraines, and stress among nurses enduring pandemic challenges at home and at work. The Jump ARCHES program is a partnership between OSF HealthCare and the University of Illinois Urbana-Champaign (U of I) and the University of Illinois College of Medicine in Peoria (UICOMP).

The funding supports research involving clinicians, engineers, and social scientists to rapidly develop technologies and devices that could revolutionize medical training and health care delivery. Many of the awards represent new projects, while some will build on previously funded efforts.

“These projects highlight areas where OSF HealthCare and our partners are committed to making advancements, including: COVID-19 recovery, personalized medicine, data security, health literacy to underserved populations, support for those giving bedside care, as well as improvements in neurological diagnosis/treatment, according to Dr. John Vozenilek, vice president/chief medical officer, OSF Innovation & Digital Health. He adds, “We know digitally connected health systems, powerful data analytics, and new innovative approaches offer the promise of universal standard care and health knowledge for everyone we serve.”

“The grant awards reflect areas of tremendous research success on the U of I campus at the intersection of engineering and medicine, which began at our very own Health Care Engineering Systems Center,” said T. Kesh Kesavadas, director of the Health Care Engineering Systems Center at U of I Urbana-Champaign. “The Center has established itself as a leading innovator on campus where researchers solve problems faced by real clinicians in hospital settings with technology such as AI-based intubation and IoT sensor-based masks.”

Meenakshy Aiyer, MD, interim regional dean of UICOMP stresses collaboration and innovation are the key to advancing healthcare. “These Jump ARCHES grants showcase the exciting possibilities that exist when the best and brightest minds from across disciplines unite for the greater good.”

Highlight Project- Assessing Concussions in Two Minutes

Assessing concussions in both children and adults has been a challenging problem which relies on self-reported symptoms. Adam Cross, MD, FAAP is a pediatric hospitalist and clinical informaticist who directs the Jump Simulation and Education Center’s [Children’s Innovation Lab](#). He and his team have come up with a smart device application that uses a phone-based mixed-reality game to detect performance impairments such as those commonly seen in concussion. [Read the full story here.](#)

Here are summaries of [the full list of grant awards and projects.](#)

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OSF HealthCare is an integrated health system owned and operated by The Sisters of the Third Order of St. Francis, headquartered in Peoria, Illinois. OSF HealthCare employs nearly 24,000 Mission Partners in 150 locations, including 15 hospitals – 10 acute care, five critical access – with 2,089 licensed beds, and

two colleges of nursing throughout Illinois and Michigan. The OSF HealthCare physician network employs more than 1,500 primary care, specialist and advanced practice providers. OSF HealthCare, through OSF Home Care Services, operates an extensive network of home health and hospice services. It also owns Pointcore, Inc., comprised of health care-related businesses; OSF HealthCare Foundation, the philanthropic arm for the organization; and OSF Ventures, which provides investment capital for promising health care innovation startups. More at osfhealthcare.org.

Jump Trading Simulation and Education Center, a part of [OSF Innovation](https://osfinnovation.org), is a collaboration between University of Illinois College of Medicine at Peoria and OSF HealthCare. Jump replicates a variety of patient care settings to ensure novice and seasoned clinicians can practice handling medical situations in a real-world environment. Boasting six floors and 168,000 square feet, the center is one of the largest of its kind and provides space for conferences, anatomic training, virtual reality and innovation. For more information, visit www.jumpsimulation.org.

Partners in Jump ARCHES

University of Illinois College of Medicine Peoria (UICOMP) educates 244 medical students and nearly 300 physician residents annually. The College of Medicine is home to the Cancer Research Center, the Center for Outcomes Research and is a collaborator in Jump Simulation. Learn more about UICOMP at peoria.medicine.uic.edu.

Health Care Engineering Systems Center (HCESC) provides clinical immersion and fosters collaboration between engineers and physicians. HCESC designs collaborative solutions to improve health care outcomes utilizing their expertise in simulation technologies, smart health systems, data analytics, human factors and medical robotics. HCESC partners with Jump in this innovative relationship of Applied Research for Community Health through Engineering and Simulation (ARCHES). HCESC is a research center in The Grainger College of Engineering at the University of Illinois. Learn more about HCESC at healtheng.illinois.edu/.

University of Illinois Grainger College of Engineering is one of the world's top-ranked engineering programs with students, faculty and alumni that set the standard for excellence. The college is focused on driving the economy, reimagining engineering education and bringing revolutionary ideas to the world. They work to solve the world's greatest challenges and look toward the future to find ways to make the solutions reality. Learn more about the College of Engineering at engineering.illinois.edu/.

The Center for Social and Behavioral Science (CSBS) at the University of Illinois was created to help address some of the grand challenges facing society that can be answered using the deep social and behavioral science expertise housed at U of I. In particular, the CSBS focuses on three distinct areas: 1) solving poverty, 2) understanding the effect of technology on society and 3) the role of social and behavioral factors in health. More information can be found at csbs.research.illinois.edu/.