DIRECTOR

Health Care Engineering Systems Center

The Grainger College of Engineering
University of Illinois Urbana-Champaign
About the Center

The Health Care Engineering Systems Center (HCESC) at UIUC was established in 2014 to provide clinical immersion and foster collaboration between engineers and physicians with expertise in the broad areas of simulation technologies, smart health systems, health data analytics, and medical robotics. HCESC has grown throughout the past seven years as a place where engineering meets medicine in innovative ways, designing and developing solutions that improve health care outcomes. The Center comprises a 5,800-square-foot facility with offices, a simulation lab, a robotics lab, and a virtual reality lab, and leverages other facilities across the College, such as the Coordinated Science Lab, the Materials Research Lab, and the Holonyak Micro & Nanotechnology Lab. The Center has forged partnerships with the OSF HealthCare System, The Carle Foundation, University of Chicago, Northwestern University, Mayo Clinic, and University of Washington. The Center also leads The Grainger College of Engineering’s partnership with the College of Applied Health Sciences and maintains a relationship with the Discovery Partners Institute.

HCESC stewards the strategically important Jump Applied Research for Community Health through Engineering and Simulation endowment (ARCHES) – an endowment partnership aimed at combating problems in the realm of health care – with the Jump Trading Simulation & Education Center at OSF HealthCare in Peoria, Illinois to provide funding for researchers working at the intersection of healthcare and engineering. Backed by an endowment and commitment from OSF, UIUC and DiSomma Family Foundation for Jump ARCHES of over $110M, the foci have expanded to include social science research that proposes to use engineering, technology, and computing to address community and population health challenges in both rural and urban America. The income from the endowment has been used to fund over 100 seed grant proposals since 2014, resulting in hundreds of publications and over 30 patent disclosures. ARCHES awardees continue to publish in peer-reviewed journals and present the results of their research at national and international events.

HCESC leads the Health Data Analytics Initiative for The Grainger College of Engineering. The initiative was established in 2017 to encourage health data analytics research projects led by engineering faculty to change the landscape of health care. The initiative currently has about 50 affiliated UI faculty members and has established a vibrant network of clinicians, medical researchers, and public health officials from the Illinois Department of Public Health, OSF HealthCare, the Carle Foundation, the Northwestern Feinberg School of Medicine, and the Mayo Clinic. The initiative conducts basic science and clinical and translational research that includes drug response prediction, AI-based diagnostics, and spatio-temporal analysis of public health challenges. The initiative has also received grants from Jump ARCHES to apply breakthroughs in AI to clinical practice, and has received external funding from NSF, FDA, and C3.ai.
HCESC also co-manages the Jump Simulation Center on the University of Illinois Urbana-Champaign campus, which develops simulation technology and provides simulation training for the Carle Illinois College of Medicine (CIMED) and other external organizations. The Simulation Center, in Everitt Laboratory (home of the Department of Bioengineering), occupies an additional 5,800-square-foot facility consisting of one operating room, four clinical skills rooms, two ICU rooms, one virtual reality room, one skills lab, and four debriefing rooms. It houses advanced software such as B-Line and equipment such as task trainers, high-fidelity manikins, and virtual- and augmented-reality simulators. HCESC has been leading the development of simulation curricula for the Carle Illinois College of Medicine since its establishment and has also received multiple University of Illinois College of Medicine Peoria Dean’s Awards to develop simulation curricula. A major effort in the growth of HCESC will be to expand the operation of the Jump Simulation Center to offer micro-certification courses and curriculum development to external organizations.

About the Director

The Director of the Health Care Engineering Systems Center reports to the Dean of The Grainger College of Engineering and provides overall leadership and direction for the Center, its staff, and its research programs. The Director formulates and articulates a vision for the Center, develops strategic plans, leads major initiatives, and coordinates large-scale efforts. In addition, the Director prepares and implements the annual budget, oversees administrative affairs, and serves as principal spokesperson for the Center.

The Director leads an enterprise of 12 academic support staff and professionals and plays a highly visible and impactful role at the University of Illinois Urbana-Champaign. The Director is responsible for providing the leadership and long-term vision to leverage the capabilities of the Center with broad expertise in simulation technology, virtual and augmented reality, health data analytics, and medical robotics both on and off campus, with external partners such as OSF HealthCare. The director also solicits partnerships and funding from industry and government entities.
Opportunities and Expectations for Leadership

The new Director – who should possess considerable leadership experience in academia, industry, or federal laboratory environments – will have an exceptional opportunity to help shape and influence research and education at one of the world’s academic leaders in health care engineering technology. The vision of the Center is to be a national and world leader in several emerging research areas with the highest societal and technological impact.

The Director is responsible for leading and supporting faculty in development of research, teaching, and public service, as well as engaging with industry, foundations, public and private sector organizations, and alumni to advance the success and excellence of the Center.

The successful candidate will:

• Shape the vision and capabilities of the Center and manage the Jump ARCHES endowment, the largest center-level endowment of any center on the University of Illinois Urbana-Champaign campus;
• Coordinate and lead large-scale, interdisciplinary research programs involving multiple faculty;
• Support the recruitment and success of high-caliber faculty and encourage their excellence in scholarship and education;
• Steward and advance cutting-edge equipment and research capabilities in accordance with a compelling strategic plan and research vision;
• Demonstrate leadership in collegiality, fairness, and diversity, and work with faculty and staff to promote these values throughout the Center;
• Leverage existing and foster new, long-term relationships with industry and other private and public sector organizations to maintain HCESC as a leader in cutting-edge research partnerships; and
• Direct the Center’s advancement efforts and establish strategic engagement and partnerships with foundations and private institutions that share the Center’s passion and vision of excellence.

Among the more immediate goals of the new Director will be to position HCESC as an international leader in emerging high-impact research fields and to enhance its reputation.
The new Director will take assertive efforts to expand the visibility of and build the reputation and image of HCESC beyond its academic peers – where it is highly regarded – through regular interactions with academic, industry, government, and scientific funding leaders. This work will include engaging with industry and key federal funding agencies in order to influence the national research agenda and funding priorities and to advocate for the Center.

Additionally, the new Director will lead HCESC in new directions. The HCESC Director will promote and reward deep interactions and teamwork among faculty and empower them to be fully engaged in laboratory, college, and university priorities and initiatives. HCESC needs a Director with the interpersonal skills, collaborative style, and leadership abilities to guide this behavior. The Director must possess strong organizational abilities and the personal qualities to encourage and enlist faculty and staff in launching new forward-looking initiatives, and to engage them in helping to advance the Center’s research portfolio in innovative ways.

The new Director will support the recruitment, development, and collaborative efforts of faculty – particularly early career-faculty – in partnership with the departments.

Research productivity is a hallmark strength of HCESC. The new Director will set the tone for achievement within the Center. He or she will work to create an intellectual environment that identifies and pursues new and emerging areas of scholarship that excite both faculty and students, that promotes interdisciplinary pursuits, and that supports and enhances standards of scholarly excellence. HCESC seeks a Director who can inspire a collective vision for outstanding research and scholarship and facilitate the conceptualization and creation of large-scale initiatives that will attract significant grant support.

The new Director must work to secure resources to upgrade HCESC facilities and must manage space strategically.
Professional Qualifications and Credentials
The University of Illinois Urbana-Champaign seeks a Director for HCESC who possesses broad intellectual insights, top-tier scholarly credentials, and the leadership and managerial capacity to actualize a bold vision for its future.

Candidates must show evidence of strong entrepreneurial, collaborative, administrative, and communication skills in order to effectively interact with college and campus administration, faculty, staff, and students. Ideal candidates include those who demonstrate evidence of a commitment to diversity, equity, and inclusion through research, teaching, and/or service endeavors.

Ideally, the successful candidates will bring the following background, skills, and qualities:

Academic and Research Requirements
- Eligible to hold a tenured full Professor position within The Grainger College of Engineering at the University of Illinois Urbana-Champaign.
- A proven record of accomplishments in science and engineering research, teaching, and leadership – within the context of academic, industry, or government environments – as well as a substantial record of acquiring support for research and administering research programs.

Professional Qualifications and Skills
High-impact and visionary leadership:
- Strategic capacity, including the ability to develop a compelling direction for the Center and to galvanize key constituencies.
- Administrative experience and people management skills gained within an academic, industrial, governmental, or other professional organizational context.
- Consensus-based engagement of stakeholders in pursuit of shared goals and outcomes that can enhance the competence and reputation of HCESC.
- Excellent written and spoken communication skills that can effectively showcase the Center in public as well as engage people individually and collectively.
- Effective listening skills.
- Strong interpersonal skills: the ability to connect with the members of the HCESC community and to work effectively across the campus and with external groups.
- Entrepreneurial spirit: the mindset and personality to stimulate growth and change.
- Commitment to interdisciplinary work, and the wide-ranging intellectual interests needed to appreciate and support the varied work in the Center.
- Genuine interest in – and capacity for – fund-raising and building relationships and strategic partnerships.
Thought leadership within education and research:

- An extensive record of sponsored research: deep knowledge of the internal and external mechanisms required to sustain and expand a top-tier research program.
- Accomplished in working effectively and collaboratively with faculty with respect for diverse areas of scholarship and the balance between traditional academic scholarship and practical engineering applications.

Commitment to operational excellence and high-quality execution:

- Demonstrated success in recruiting, developing, and retaining distinguished scholars, accompanied by an appreciation of the culture of a research faculty.
- Evidence-driven decision-making style.
- Inclusive and transparent approach to strategic and operational planning.
- Effective delegation, while instilling a high degree of responsibility and accountability.
- Sense of creativity, entrepreneurship, and willingness to explore innovative ways of achieving targeted objectives.
- Effectiveness in managing conflict and managing needs and interests across diverse stakeholder groups, while maintaining mutual respect and inclusive decision-making.

Personal qualities:

- Intellectual heft necessary to build strong relationships with faculty and personal qualities needed to connect with, engage, and mentor them.
- Engaging and approachable leadership style.
- Ability to articulate a vision, inspire others, attract partners, and generate enthusiasm with varied constituencies.
- Demonstrated commitment to ethics, transparency, and integrity.
- Demonstrated commitment to – and appreciation for – diversity, equity, and inclusion at all levels of the academic and workforce pipeline.
Procedure for Application

The desired start date for this position is Fall 2022. The Search Committee intends to host first-round interviews in April 2022 and on-campus interviews in May 2022.

To apply for this position, a candidate should create a profile at https://jobs.illinois.edu. The application package should include: 1) a curriculum vitae, 2) a statement of teaching goals and interests, 3) a statement of previous research accomplishments and future research plans, 4) a statement on commitment to diversity, 5) a publications list, and 6) names and contact information of four references (no letters), all in a single PDF file. The statement on diversity should address past and/or potential contributions to diversity, equity, and inclusion through research, teaching, and/or service.

To ensure full consideration, applications should be received by March 31, 2022; applications will be accepted until the position is filled. Salary is negotiable and commensurate with skills and experience. The Director appointment carries a 12-month administrative stipend for full-time effort and is accompanied by a full-time, tenured faculty appointment with full University benefits.

The University of Illinois conducts criminal background checks on all job candidates upon acceptance of a contingent offer. The University of Illinois System requires candidates selected for hire to disclose any documented finding of sexual misconduct or sexual harassment and to authorize inquiries to current and former employers regarding findings of sexual misconduct or sexual harassment. For more information, visit “Policy on Consideration of Sexual Misconduct in Prior Employment.”

As a qualifying federal contractor, the University of Illinois System uses E-Verify to verify employment eligibility. The University of Illinois must also comply with applicable federal export control laws and regulations and, as such, reserves the right to employ restricted party screening procedures for applicants.

For further information regarding application procedures, please address questions to Lori Willoughby at rairden@illinois.edu.

*The University of Illinois is an Equal Opportunity, Affirmative Action employer that recruits and hires qualified candidates without regard to race, color, religion, sex, sexual orientation, gender identity, age, national origin, disability or veteran status. For more information, visit [http://go.illinois.edu/EEO](http://go.illinois.edu/EEO).*