Tenure-Track Faculty Position: Distributed Work in Multi-Scale Human-Machine Systems

Department of Integrated Systems Engineering
Search Chair: W.S. Marras

The Department of Integrated Systems (ISE) at The Ohio State University, one of the nation's top ten public universities, invites applications for a tenure-track position focusing on Multi-Scale Human-Machine Systems, primarily at the Assistant or Associate Professor rank. An earned doctorate in a field relevant to this research focus and closely related to Industrial Engineering or Systems Engineering is required. ISE offers degrees (BS, MS and Ph.D.) in Industrial and Systems Engineering, and its undergraduate and graduate programs are consistently among the top programs ranked by USNWR. The ISE Department has a long history of research and teaching in human factors, including a 30+ year history of performing leading edge research on the integrated design of distributed multi-level work systems. The Cognitive Systems Engineering (CSE) group teaches Undergrad and Grad courses on this theme and related areas including the design of distributed work systems, resilient systems engineering and human systems integration. OSU offers a wealth of collaboration opportunities through cross-disciplinary programs with artificial intelligence, ethics, data analytics, cognition & decision making, and industrial design.

Modern systems are distributed and complex with multiple human and multiple machine agents flexibly coordinating their activities as they jointly sense changing conditions, contexts, and priorities given anomalies and surprising events. Such emergent system behaviors create career-defining research opportunities for innovators in facilitating performance at new scales of operation while avoiding the unintended effects of the accompanying complexity. The CSE group has extensive experience in multiple high-complexity settings, including transportation, aviation, space, energy, health care, financial systems, security, defense, web engineering, and disaster response, among others. The successful candidate can build on Ohio State's major related initiatives including: CSE/ISE's collaboration with our medical center as it embarks on a new $2 billion hospital; the College of Engineering's partnership in the Columbus Smart Cities initiative (with $50 million in new USDOT and state funding) and operation of OSU's commercial airport; OSU's participation in the Transportation Research Center with its new $50 million autonomous testing track, which will be the largest in the world.

This position should leverage an interdisciplinary integrated systems approach to create innovative techniques and models to study and assess how multi-agent and multi-scale distributed work systems change, grow, and adapt. This approach could draw on work in areas such as cyber-physical systems, complex adaptive human systems, resilience engineering, cognitive systems, team cognition, joint cognitive systems, human computer interaction, human factors engineering, and socio-technical systems.

This position will have the option to focus on a wide range of research contexts and partnerships, includes complex safety-critical and business-critical applications in fields such as air and ground transportation, cybersecurity, finance, web engineering/operations, and healthcare, as well as open, social systems facilitated by consumer products utilizing advances in connectivity, automation and access to knowledge (e.g., social media, the Internet of Things). Central Ohio also provides opportunities for local partnerships with organizations such as American Electric Power, Battelle, Cardinal Health, Chase Bank, Honda, Huntington Bank, IBM Advanced Analytics Center, Nationwide Insurance, NetJets, and Wright Patterson Air Force Base.

This faculty member will teach undergraduate and graduate courses in ISE, attract research funding from federal, state and industry sources, supervise graduate student research, and disseminate research through peer-reviewed publications.

Interested candidates should submit an application via Academic Jobs Online at https://academicjobsonline.org/ajo/jobs/11834. Applications must include a cover letter, curriculum vitae, a statement of current and future research interests, a statement of teaching philosophy, contact information for three to five references, and at least three published papers.

The Ohio State University College of Engineering is strongly committed to promoting diversity and inclusion in all areas of scholarship, instruction and outreach. **In the cover letter, describe experiences, current interests or activities, and/or future goals that promote a climate that values diversity and inclusion in one or more of these areas.**

The application deadline is October 1, 2018. Review of applications will begin on October 1, 2018 and will continue until the position is filled.