



Research Assistant or Associate Professor, University of Nebraska-Lincoln

The Departments of Civil and Environmental Engineering and Mechanical and Materials Engineering seek to hire two research assistant or research associate professors, who will be closely affiliated with the Midwest Roadside Safety Facility (MwRSF), <https://mwrsf.unl.edu/>, a College of Engineering research center. These are non-tenure track, 12-month appointments. Successful applicants will have the requisite experience in MwRSF's core research areas to handle future proposals and projects from the U.S. DOT (FHWA), U.S. DOD (Air Force, Army Corps of Engineers, UARC/NSRI/USTRATCOMM, etc.), State Departments of Transportation, and private industry.

MwRSF has spent over 34 years developing its internationally recognized roadside safety research program. During the last 23 years, MwRSF has developed significant expertise and garnered remarkable international recognition in the area of motorsports safety. Further, MwRSF has also expanded into other related areas, such as vehicle behavior, handling, and occupant safety; force protection, physical security, and threat mitigation; crash reconstruction; rail crashworthiness and safety; and crash data analysis, vehicle-to-infrastructure systems, and connected vehicle safety technologies.

These research faculty positions will:

1. Manage, conduct, and participate in various research studies within fields of roadside safety, motorsports safety, force protection, physical security, threat mitigation, crash analysis, and other areas to be determined.
2. Serve as Principal Investigator (PI) or Co-Principal Investigator (Co-PI) on research studies.
3. Perform non-linear, dynamic, finite element analysis (FEA) and design for various research studies involving low- to high-energy impact events using LS-DYNA and other applicable numerical analysis methods/computer simulation codes.
4. Prepare and submit proposals/budgets to acquire new funding.
5. Meet with prospective clients to develop research partnerships and funded projects.
6. Prepare, write, review, and edit research reports, refereed journal articles, conference papers, research summaries, and status/progress reports.
7. Prepare and provide technical presentations for research sponsors.
8. Prepare, conduct, and manage structural analysis and material characterization studies.

Applicants are required to have a Ph.D. in Civil Engineering, Mechanical Engineering, or a closely related field, plus a minimum of 1.5 years of research experience in the areas of roadside safety, impact engineering, and crash mitigation. Candidates must have experience with non-linear, dynamic, finite element analysis (FEA) and design for use in research studies involving low- to high-energy impact events using LS-DYNA and other applicable numerical analysis methods/computer simulation codes. Some experience with material characterization studies is required, such as those involving dynamic loading with large soil deformations, steel fracture, concrete fracture, etc.

Preference will be given to candidates with working knowledge and/or research experience in two or more of the following areas: (1) computer simulation with vehicle dynamics codes, such as CARSIM, ADAMS, etc.; (2) crash reconstruction of vehicle collisions into roadside safety hardware and geometric features; (3) force protection, physical security, and threat mitigation strategies; (4) motorsports safety; (5) product development and innovation; (6) rail crashworthiness and safety; (7) run-off-road crash analysis; and (8) human biomechanics.

Preferred candidates should also have experience preparing and submitting proposals/budgets for new funding, presenting technical information for research sponsors, and have experience leading technical discussions and meetings with a variety of audiences. Professional registration/licensure within the field of engineering expertise is

preferred. Successful candidates without professional licensure will be expected to obtain licensure within two years of hire.

Review of application materials will begin April 18, 2023 and continue until the positions are filled. Applications must be submitted via <https://employment.unl.edu>, requisition F_210030. Complete applications will include a single-page cover letter explaining your interest in the University of Nebraska-Lincoln, your CV, research and diversity statements, and a list of three references. Please combine the research and diversity statements into a single document for upload. For more information on the requested candidate statements, please visit <https://engineering.unl.edu/candidate-statements/>.

As an EO/AA employer, the University of Nebraska considers qualified applicants for employment without regard to race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation. See <https://www.unl.edu/equity/notice-nondiscrimination>.