

Graduate Research Assistant Positions (MSc and PhD)

Topic: Soil-Tractive Devices Interaction In-situ Testing and Prediction of Vehicle Performance; and Soil Compaction Management

IOWA STATE UNIVERSITY Agricultural and Biosystems Engineering

Job Opening	<p>The Department of Agricultural and Biosystems Engineering at Iowa State University, Ames, Iowa, has an opening for graduate research assistant positions (One MSc and One PhD). The successful applicants will work with the Physical Systems Modeling of Agricultural and Off-Road Machinery group. The research project will be to advance soil compaction measurement techniques at the interface of soil to tractive devices for vehicle performance, soil protection and crop management. There will be opportunities to work in close collaboration with industrial partners</p>
Qualification	<p>The MSc applicant must have a BSc degree and the PhD applicant must have a MSc degree in agricultural, mechanical, civil engineering; or related areas such as agronomy with relevant expertise</p>
Responsibilities	<p><i>Research activities will include</i></p> <ul style="list-style-type: none">• In-situ and laboratory (direct shear and tri-axial) tests for physical and mechanical soil properties under agricultural soil conditions• Field real-time measurement of soil stress at vehicle tractive soil interface, subsoil stress; and soil rut depth• Multi-year field crop production experiments of off-road agricultural equipment with new tire technologies• Machine and soil data analytics for predicting vehicle performance and soil compaction management• Publications in peer-reviewed journals and presentations at scientific meetings are expected and encouraged <p><i>A strong candidate may also possess</i></p> <ul style="list-style-type: none">• Experience in agriculture and construction manufacturing industry• Good communication skills and experience to support undergraduate students research in this area
Application Information	<p>The position is scheduled to start as soon as the selected candidate is available. The MSc position is for two years and a PhD for three to four years and subsequent funding is dependent on satisfactory performance</p> <p>Candidates should send their application materials including cover letter, CV and list of three references to Dr Mehari Tekeste at mtekeste@iastate.edu</p>