

LSU AgCenter – Plant-Pathogen Interactions Laboratory (Fungal Genetics Research)
Spring Summer, & Fall 2023
Supervisor/Mentor:
Dr. Ely Oliveira-Garcia (Assistant Professor) Profile: https://www.lsu.edu/agriculture/plant/about/faculty-staff/oliveira-garcia.php
Job Description:
<p>The intern will focus on the assessment of the genetic diversity of <i>Fusarium</i> species causing Fusarium Head Blight (FHB) in wheat in the U.S.A. Laboratory experiments will focus on fungal pathogen isolation from diseased samples, microbial culture, fungal DNA extraction, molecular characterization of <i>Fusarium</i> strains, phylogenetic analyses, determination of the genetic diversity through SSR markers. Greenhouse/growth chamber experiments will focus on assessment of the virulence of <i>Fusarium</i> species in wheat.</p> <p>Special Activities:</p> <ol style="list-style-type: none"> 1. Disease Sampling and Processing <ul style="list-style-type: none"> · Fungal isolation from diseased wheat samples, and culturing in microbial growth chambers as well as microscopy analyses. 2. Molecular characterization of <i>Fusarium</i> strains <ul style="list-style-type: none"> · Fungal strains isolated (Specific Activity 1) will be classified into different <i>Fusarium</i> species through PCR-based methods established in the Oliveira-Garcia lab. The genetic diversity of these strains will be characterized through SSR markers and phylogenetic analyses. 3. Fungal Virulence/Host Resistance Trials <ul style="list-style-type: none"> · Set-up of greenhouse experiments to evaluate FHB resistance on wheat breeding lines · Inoculation of wheat varieties with <i>Fusarium</i> isolates for pathogen virulence and race assignment
Responsibilities/Roles:
Students will be responsible for conducting experiments related to the Specific Activities 1-3 under the supervision of Dr. Oliveira-Garcia and with the support of a Research Associate (technician) and graduate students.
Requirements/Qualifications:
Bachelors in Biology, Chemistry, Agronomy or close related fields.
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