**USDA-ARS-PPI-Process and Product Quality Enhancement Program, Chemistry/Biochemistry Research Assistant:**

DESCRIPTION: The USDA-ARS Food Science and Market Quality & Handling Research Unit located in the Department of Food, Bioprocessing, and Nutrition Sciences at NC State University, Raleigh, NC is seeking a summer intern or part-time research assistant to conduct analyses of samples in support of our agreement with Pickle Packers International, titled, "Biochemical and microbiological analyses of pickled vegetable samples to facilitate technology transfer and address stakeholders' troubleshooting and processing needs." The chemistry/biochemistry research assistant job requires duties to be performed in a precise and accurate manner. The research assistant will report directly to Dr. Suzanne Johanningsmeier, Research Food Technologist. Under the general guidance of Dr. Johanningsmeier, they will independently perform diffusion plate assays for polygalacturonase activity in pickling brines and pickled vegetable products; measure pH, calcium, total chlorides; and conduct texture and color analysis; and may operate the HPLC for quantification of acids and sugars. They will also be responsible for compiling results, keeping detailed records of experimental analyses, preparing brief reports of the data, and contributing to the standard operating procedure (SOP) documentation for the lab.

QUALIFICATIONS (Required):

- Bachelor's degree in Food Science, Chemistry, Biochemistry or closely related field (OR Junior/Senior standing with some lab experience in one of the aforementioned fields)
- Responsible, reliable, and organized
- Able to calculate and prepare chemical solutions
- Able to produce accurate and reliable data
- Strong verbal and written communication skills
- Self-motivated and able to work independently

QUALIFICATIONS (Desirable):

- Knowledge of chromatographic methods for the chemical characterization of foods
- Experience with texture and color measurements
- Demonstrated ability to work in a team environment using shared space and equipment

OUTLINE OF DUTIES:

1. Follow all laboratory safety regulations & assist in maintaining a safe working environment.
2. Identify the hazards associated with chemicals used in a laboratory setting and apply appropriate storage, containment and disposal protocols.
3. Record the receipt, handling and analysis of samples and store biological materials appropriately such that the integrity is maintained for the component(s) of interest.
4. Order & maintain laboratory supplies and materials necessary for analyses.
5. Prepare all needed stock solutions and store properly to ensure accuracy of results.
6. Set up, perform routine care and maintenance, and calibrate standard chemistry equipment and instrumentation (such as pH meter, balances, pipettes, burettes, and texture analyzer).
7. Perform standardized chemical or biochemical tests and analyses on a broad range of samples.
8. Apply sound problem-solving skills to challenges met in setting up or conducting analysis of samples.
9. Maintain clean and tidy work areas.
10. Record observations in laboratory notebooks, accurately record and organize data in spreadsheets, and write laboratory reports of experimental procedures and results.
11. Complete analyses within projected timeframes and communicate progress regularly to Dr. Johanningsmeier.

For more information, contact Suzanne Johanningsmeier at suzanne.johanningsmeier@usda.gov