

# Research Chemist – postdoctoral research associate

Chemistry Research Unit

## Job Description:

The USDA-ARS [Chemistry Research Unit](#) at the Center for Medical, Agricultural, and Veterinary Entomology is seeking highly qualified candidates for a temporary full-time Post-Doctoral Scientist position in Gainesville FL. The position may be extended at the end of each year for maximum of four years. The overall goals of the assigned project are to identify and characterize compounds in maize or other crops involved in protection of plants from agricultural pests and determine how environmental stress impacts these chemicals. Specifically, the incumbent will use GC-MS and LC-MS based approaches to identify novel compounds, profile the production of known and unknown compounds in stress-treated plant tissues, perform bioassays to assess compound activities, and carry out metabolomics on plant-stressor systems. The incumbent will work closely with scientists in molecular biology, genetics, chemical ecology, and entomology to identify and functionally characterize genes and biochemical pathways involved in plant response or chemical defense production, with the objective of producing crops with enhanced resistance to pests and environmental stress. Position is a GS-11 with starting salary of \$64,649. This is a US federal government position. USDA-ARS is an equal opportunity employer and provider.

## Responsibilities:

As an investigator the incumbent helps design, develop, and implement independent research projects in support of ARS National Program (NP) 301 Plant Genetic Resources, Genomics, and Genetic Improvement. As a team member of the Research Project 6036-11210-001-00D, the incumbent designs, develops and implements projects to understand the molecular underpinnings of defense signaling in maize, with an emphasis on the regulation of chemical defense pathways by plant hormones, the genetic regulation of defense response pathways, and impact of environmental stresses on defense signaling. The incumbent will evaluate and interpret data and disseminate research findings in peer-reviewed journals. Specific skills the incumbent should possess include demonstrated expertise using HPLC, GCMS, and LCMS. Other skills could include professional knowledge of GWAS, CRISPR/Cas9, and VIGS.

## How to Apply:

Please send the following items to John Beck, Research Leader at [john.beck@usda.gov](mailto:john.beck@usda.gov)

- CV that includes education; invitations to present results at scientific/technical meetings; scientific society membership; and publications (please denote your corresponding author publications)
- Name, address, email, and phone number of three persons familiar with your contributions and expertise
- Cover letter (no more than 2 pages single space 12 font) that *specifically* addresses how your expertise will add to that of the Chemistry Research Unit and personnel

## Qualifications:

- Recent PhD (within 4 years) in analytical or organic chemistry, entomology, molecular biology, chemical ecology, or related discipline
- Demonstrated excellence in LC-MS and GC-MS
- Molecular biology knowledge and skills
- Experience analyzing large data sets
- Excellent communication skills

**Key words:** Analytical Chemistry, Chemical Ecology, Plant-Insect-Microbe Interactions, Molecular Biology

Applications will be reviewed as they are received. Start date anticipated for April-May 2022