Plant Epidemiologist – Cassava Program

The International Center for Tropical Agriculture (www.ciat.cgiar.org) works to reduce hunger and poverty, and improve human nutrition in the tropics through research aimed at increasing the eco-efficiency of agriculture. CIAT is a member of the CGIAR Consortium (www.cgiar.org), a global partnership that unites organizations engaged in research for a food secure future. The Center’s research focuses on increasing productivity of key crops (cassava, common bean, rice, and tropical forages), reversing soil and land degradation, and using information to foster better decisions about issues such as climate change and environmental management. Headquartered near Cali, Colombia, CIAT has regional offices in Nairobi, Kenya, and Hanoi, Vietnam, with staff posted in other developing countries as well.

CIAT’s Cassava Program works with a broad range of partners to develop technical interventions and capacity along the value chain from production to processing to markets. The program has worked for forty-five years developing crop and soil management practices for sustainable production toward improved livelihoods of smallholder farmers, especially in areas of pest and disease control, soil fertility management and erosion control in upland systems. Today, the program is looking at leading the future of cassava farming through better crop genetics focusing on developing and testing a theoretical framework to understand the mechanisms that control invasion, persistence, scaling and variability of pests and disease epidemics within constantly changing cassava agricultural and natural landscapes in Asia and Latin America. CIAT’s cassava program is developing a decision support system to predict the spread of pest and diseases and to identify and optimize economically and ecologically sustainable strategies for pest and disease management, improving varietal genetics, chemical applications, as well as, biological and cultural control methods.

The Position

CIAT is looking for an Agriculture Modeler/Mathematician with experience in Pests or Diseases with a keen interest in innovating on cassava-based production systems through implementing a decision support system that assist smallholder farmers in ASIA and LAC to deal with emerging epidemics. The cassava program’s goal on pest and disease management is to develop a monitoring system that estimates parameters for dispersal/transmission early enough to inform the models that are then used to compare the effectiveness of different control strategies before it is too late to respond. The plant epidemiologist will be primarily located in the CIAT Asia office in Hanoi, Vietnam; but, he/she will be actively coordinating research activities both in SE Asia and LAC with the program’s IPM team. The cassava program expect that the results of his/her work must have applications across the tropics with particular emphasis in SE Asia, Latin America and the Caribbean, and Sub-Saharan Africa.
Responsibilities

- Identify key target areas and partnerships for advancing cassava epidemiology research, especially emphasizing areas of current importance due to abrupt pest and disease outbreaks particularly in areas facing climate change challenges.
- Use advanced statistical methods to infer models that are used to compare the effectiveness of different control strategies to estimate parameters for dispersal and transmission of pest and diseases in SE Asia and LAC cropping systems.
- Enhance the understanding of what drives the emergence and expansion of pest and diseases of cassava outside its place of origin and domestication.
- Develop strategies for novel cassava pest and disease data sourcing.
- Work collaborative with other members of the crop protection team in the cassava program.
- Participate fully in the Root, Tuber and Banana CRP, especially in Flagships 3 and 5 for work on resilient and more productive cassava-based systems.
- Conduct research on the pest and disease management aspects of the development of cassava clean seed systems.
- Support capacity building and cross-learning among key partners.
- Link with public, private and NGO partners to develop scaling strategies for pest and disease crop management.
- Develop project proposals and fund-raise in support of strategic interests of cassava crop and pest and disease management.
- Represent CIAT, and specifically the Cassava Program at meetings of all levels, providing updated information or presentations on project work.

Requirements

- **PhD in Agriculture Modelling or related field** with a strong background in mathematics or related research areas is preferred.
- At least 5 years of experience in Agriculture modelling on pest or diseases management with emphasis in cassava is an advantage.
- Experience in implementing participatory small holder development projects.
- Ability to manage complex projects and build synergy among inter-ministerial teams.
- Capacity to assess environmental impacts of agricultural production.
- Crop simulation technologies using modelling approaches.
- Strong knowledge on mathematical, physical and statistical methods for vector born disease in plants.
- Strong background in machine learning (ML) algorithms, including the use of Java, R-codes and GIS platform.
- A demonstrated ability to produce high quality publications meeting international standards.
Desired Qualifications and Role Competencies

- Familiarity with cassava or other root and tuber crop smallholder farming systems in the tropics
- Ability to work effectively in a multi-disciplinary and multi-cultural team across institutions and levels of authority. Willingness to learn new research approaches integrating traditional and novel tools
- Strong communication skills, both written and oral, in English, and ability to work in a team

Terms of Employment

The position is internationally recruited and will be based in Hanoi, Vietnam, and reporting directly to the leader of the Cassava Program and to the Research Area Director Agrobiodiversity. The initial contract will be for up to two (2) years, subject to a probation period of three (3) months, and is renewable depending on performance and availability of resources.

CIAT offers a multicultural, collegial research environment with competitive salary and excellent benefits. CIAT is an equal opportunity employer, and strives for staff diversity in gender and nationality. Woman candidates from Latin America, Africa and Asia are particularly encouraged to apply.

Applications

Applicants are invited to send a cover letter illustrating their suitability for the above position against the listed qualifications, competencies, skills together with a detailed curriculum vitae, including names and addresses of three referees knowledgeable about the candidate’s professional qualifications and work experience. All correspondence should be addressed to the CIAT Human Resources Office to Natasha Marulanda (n.marulanda@cgiar.org) and should clearly indicate “Cassava Epidemiologist”.

Closing Date: February 10, 2018

We invite you to learn more about us at: http://www.ciat.cgiar.org