



Post-Doctoral Fellow – Systems Agronomist (Crop Modelling)

The International Maize and Wheat Improvement Center, known by its Spanish acronym, CIMMYT®, is not-for-profit agricultural research for development organization with partners in over 100 countries. Please refer to our website for more information: www.cimmyt.org

CIMMYT is looking for an innovative, highly self-motivated, and results-oriented candidate to work on improving maize and wheat agri-food systems in sub-Saharan Africa and other parts of the developing world. A two-year position – Post-Doctoral Fellow – Crop modeler will work within Sustainable Agri-food Systems (SAS) program. The selected candidate will be a member of the SAS global team and mainly focuses on, but not limited to, the new One CGIAR initiative on Excellence in Agronomy (EiA) for Sustainable Intensification and Climate Change Adaptation. We are seeking crop modeler with a strong background in agronomy, ecology, soil science, or other related disciplines and proven proficiency in crop and spatial modelling. A candidate with an interest in disentangling the dynamics between crop production and climate change (adaptation and mitigation), using modelling techniques.

The specific research areas of this position include developing workflows to guide targeting of a group of predictive agronomy at scale using models to explore current and future climates and applying different modelling tools to new and existing agronomic and socioeconomic data in a spatially explicit manner. The candidate will be expected to utilize farming system models that have been extensively applied in the simulation of soil-crop-climate interactions. . The position may also focus on applying agro-advisory tools, precision cropping, advanced crop/soil diagnostics, geospatial analysis, and spatial modeling in the context of scaling agronomic innovations. The Fellow will contribute to conducting field trials with the use of operative experimental designs, and collection of spatially explicit biophysical and socio-economic data and conducting surveys, focusing mainly on sub-Saharan Africa.

The position will be based at CIMMYT office in Addis Ababa, Ethiopia.

Specific duties:

- Conduct a full review of existing methods on the application of cropping system modelling concepts for decision-support in agriculture.
- Develop new research questions that address core knowledge gaps, by leveraging new and emerging modelling methods, tools, and analytics.
- Develop scientific manuscripts and publish in high impact scientific journals.
- Contribute to agro-advisory systems across regions and EiA use cases.
- Contribute to the development and field evaluation of innovative soil health management strategies and extension recommendations.
- Use grided and remote sensing weather and soil data for modelling crop yields under different management and environmental scenarios.
- Design and conduct field experiments and collect spatially explicit data in formats that can be used for crop and environmental modelling.
- Contribute to on-going research programs in Ethiopia and East and Sothern Africa (ESA).
- Contribute to trainings and stakeholder engagement workshops.
- Provide guidance on applying farming system modelling frameworks to research for development that leads to more sustainable smallholder farming systems of target regions.
- Perform other duties as assigned by supervisor.

Required academic qualifications, skills and attitudes:

- PhD in quantitatively oriented sciences such as Plant Sciences, Ecology, Agroecology, Agronomy, Soil Science, Economics, Statistics, or any related discipline with strong background in crop modeling.
- Advanced R and/or Python programming skills, including multivariate analysis and (preferably) a background in one or more of mixed linear models.





- Advanced knowledge of common crop modelling environments such as DSSAT, APSIM, CERES, EPIC, WOFOST.
- Experience in crop modelling with hands on experience in applying cropping systems modeling to develop crop management recommendations and policy options.
- Experience with handling multi-source datasets and apply in systematic modeling of experimental and monitoring data.
- Experience with geospatial modelling, use of geospatial data, and remote sensing.
- Demonstrated ability to publish peer-reviewed papers.
- Extensive experience in implementing proven experimental designs for various cropping systems.
- Knowledge of crop physiology, crop models, and farming systems modelling methods.
- Demonstrated capability in field-based experimentation in maize- and wheat-based mixed farming systems.
- Proficiency in written and spoken English.
- Prior experience with smallholder farming systems is an asset.
- The selected candidate must exhibit the following competencies: Teamwork, Negotiation and Conflict Resolution, Critical Thinking, Client Orientation, and Communication.

The position is for an initial fixed-term for two (2) years, after which further employment is subject to performance and the continued availability of funds. CIMMYT's internationally competitive salary and benefits include housing allowance, car, comprehensive health and life insurance, assistance for children's education, paid vacation, annual home travel airfare, contribution to a retirement plan, and generous assistance with relocation shipment.

Candidates must [apply online](#) for **IRS22131_ Post-Doctoral Fellow – Systems Agronomist (Crop Modeller)**. Screening and follow up of applications will begin on **Friday, July 29th, 2022**. Applications must include a CV and a cover letter. Incomplete applications will not be taken into consideration. For further information on the selection process, please contact Yessica Castillo, at y.castillo@cgiar.org
Please note that only short-listed candidates will be contacted.
This position will remain open until filled.

CIMMYT is an equal opportunity employer. It fosters a multicultural work environment that values gender equality, teamwork, and respect for diversity. Women are encouraged to apply.

