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DSSAT 2022



International Training Program

Assessing Crop Production,
Water and Nutrient Management,
Climatic Risk and Environmental
Sustainability with Simulation Models

May 16 - 21, 2022

A Joint Training Program of

DSSAT Foundation
University of Florida
Food Systems Institute
International Fertilizer Development Center



ABOUT THE TRAINING WORKSHOP

When the Workshop Begins

The program will start on May 16 and end May 21, 2022. It will be held on the Griffin Campus of The University of Georgia (UGA), located just south of Atlanta. International participants should plan to arrive two days prior to the start of the program to adjust to time zone differences and recover from travel fatigue.

Location and Directions to The University of Georgia, Griffin Campus

The University of Georgia, Griffin Campus is on the north side of Griffin and the east side of US Highways 19 and 41. You will find explicit directions to the Griffin Campus and other related information on the UGA Griffin Campus web site: <http://www.griffin.uga.edu/about/visit-the-campus>. When you register for the workshop, we will forward travel directions to you as part of your confirmation package.

Lodging and Accommodations

There are two hotels designated as preferred hotels: the Baymont Inn and Suites, located approximately one mile from the local business district and two miles from our campus and the Holiday Inn Express, which is a part of the business district and one mile from our campus. Both hotels serve a continental breakfast and have amenities such as WiFi, cable TV, iron/ironing board, coffee maker, microwave oven, and a small refrigerator. The special rate for the DSSAT conference is \$75 per night plus tax at the Baymont Inn and Suites and \$88 per night plus tax at the Holiday Inn Express. To receive these rates call the Baymont Inn and Suites in Griffin at 770.229.9900 or the Holiday Inn Express in Griffin at 678.408.6693. Note that you must make your own hotel reservation. We will provide transportation from these two hotels to the University of Georgia Griffin Campus.

Special Needs

If you have any special needs, please let us know in the space provided on the registration form or call the Continuing Education office for more information. We will do our best to assist you.

Qualifications for Application

Participants should be university graduates currently engaged in crop production or agro-ecosystems related research, teaching, extension, outreach, planning or business. They should have some understanding of crop and soil science and be relatively familiar with the terminology used in these fields. An in-depth knowledge, however, is not a prerequisite. Participants should be familiar with personal computers and the Windows operating environment. Lastly, participants must understand English.

Continuing Education Units (CEU)

On request, participants can receive 4.8 CEU and a Certificate from the University of Georgia certifying that they completed the program.

Visa Requirement

A visa is required to enter the United States. Each participant must obtain a visitor visa from the Embassy or Consulate of the United States in his or her country of residence prior to departure and is required to fulfill any required health formalities, including obtaining insurance. The Office of Continuing Education can provide a letter, confirming your participation in the workshop to facilitate your visa application. Allow ample time for the visa approval process.

For Workshop and Logistics Information contact:

Mr. Art Cain or Ms. Julie Peters
Office of Continuing Education
The University of Georgia
125 Stuckey Conference Center
1109 Experiment Street
Griffin, Georgia 30223, USA
Telephone: 1-770-229-3477; Fax: 1-770-233-6180
E-mail: conteduc@uga.edu

For Program Information contact:

Dr. Gerrit Hoogenboom
Preeminent Scholar and Professor
Department of Agricultural and Biological Engineering
University of Florida
184 Frazier Rogers Hall
Gainesville, Florida 32611, USA
Telephone: 1-352-294-1036; Fax: 1-352-392-4092
E-mail: gerrit@ufl.edu

Faculty

The following faculty will lecture in this training program:
Dr. G. Hoogenboom, The University of Florida
Dr. K.J. Boote, The University of Florida
Dr. C. Porter, The University of Florida
Dr. V. Shelia, The University of Florida
Dr. W. Pavan, International Fertilizer Development Center
Dr. U. Singh, International Fertilizer Development Center

Co-Sponsors

DSSAT Foundation
University of Florida
International Fertilizer Development Center



Assessing Crop Production, Nutrient Management,
Climatic Risk & Environmental Sustainability
Office of Continuing Education
Stuckey Conference Center, Room 125
1109 Experiment Street
Griffin, GA 30223

Assessing Crop Production, Water and Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models

AN OUTSTANDING TRAINING WORKSHOP

Rationale

Today more than ever, increased crop production depends on judicious use of resources. In addition, issues such as climate change, climate variability, soil carbon sequestration, biofuels, food security and environmental sustainability have become important. Computer simulation models of the soil/plant/atmosphere system can make a valuable contribution to both furthering our understanding of the processes that determine crop responses and predicting crop performance, resource use and environmental impacts for different environments and management scenarios. User-oriented simulation models greatly facilitate the task of optimizing crop growth and deriving recommendations concerning crop management. They can also be used to determine the potential impact of climate change on crop production and long-term soil carbon sequestration, or provide management scenarios for adapting to climate change and variability.

Program Goal and Objectives

The overall goal of this training program is to familiarize participants with a comprehensive computer model for the simulation of crop growth and yield, soil and plant water, nutrient and carbon dynamics and their application to real-world problems.

Specifically the program will focus on:

- Operation of the Windows-based Decision Support System for Agrotechnology Transfer (DSSAT) Version 4.8 software (www.DSSAT.org)
- Description of the DSSAT-Cropping System Model (CSM) and its modules, such as CROPGRO and CERES, and the science embedded in the models
- Minimum data requirements and experimental data collection for systems simulation
- Integration of crop simulation models with data base management and Geographic Information Systems
- Application of the DSSAT-CSM model to improve management of cropping systems

- Participants will receive the Windows-based DSSAT Version 4.8 Cropping System Model
- Participants will receive the book *Understanding Options for Agricultural Production*
- Focus crops include alfalfa, bahia, barley, bell pepper, brachiaria, cabbage, canola, cassava, chia, chickpea, cotton, cowpea, drybean, faba bean, green beans, maize, millet, peanut, pigeon pea, pineapple, potato, quinoa, rice, safflower, sorghum, soybean, sugarbeet, sugarcane, sunflower, sweet corn, tanier, taro, tef, tomato, velvet bean, and wheat

DSSAT Version 4.8

PROGRAM HIGHLIGHTS

The program will:

- Describe a practical approach for simulating effects of soil, weather, management, and pest factors on crop production;
- Demonstrate how processes of crop growth and development, water use, uptake of water and nutrients and carbon dynamics can be simulated;
- Make extensive use of hands-on sessions that apply the DSSAT-CSM model to cropping systems in various regions of the world;
- Describe procedures for collecting and managing crop, weather and soil data for model evaluation;
- Give participants the opportunity to work with their own data and determine the accuracy of the models for application to specific problems;
- Analyze management alternatives for single seasons or over long-term crop rotations;
- Concentrate on specific applications that include irrigation, fertilizer and nutrient management, climate change, soil carbon sequestration, climate variability, and precision management, and
- Assess economic risks and environmental impacts associated with agricultural production.

Applications include:

- Precision management
- Climate change and variability
- Food security
- Feed stock for bio-fuel
- Soil carbon sequestration
- Gene-based modeling
- Environmental impact
- Sustainability
- Ecosystem services

Cropping System Model & DSSAT

The program will make extensive use of the DSSAT-Cropping System Model (CSM). CSM is a general cropping system model for simulating crop growth and development and soil and plant water, nitrogen, phosphorus and carbon dynamics. CSM is comprised of the CROPGRO module for soybean, peanut, common bean, chickpea, faba bean, cowpea, and other grain legumes; the CERES module for maize, sorghum and millet; the CERES-Rice module for rice; the SUBSTOR module for potato; the CROPSIM-CERES module for wheat and barley; the CROPGRO module for tomato, bell pepper, canola, chia, cotton, green bean, and quinoa; the Perennial Forage module for alfalfa, brachiaria, and bermuda; the CANEGRO model for sugarcane, and the MANIHOT module for cassava. The CENTURY model for the simulation of soil carbon and nitrogen has also been incorporated in CSM. DSSAT version 4.8 is Windows-based and includes the CSM model as well as tools and utility programs for managing soil, weather, genetic, crop, economic and pest data, and application and analysis programs.

REGISTRATION INFORMATION

Registration Fee

The registration fee is \$1,500 if you register by April 3, 2022, and \$1,800 if you register after April 3, 2022. It covers resource material including the DSSAT version 4.8 software and the book *Understanding Options for Agricultural Production*. It also includes AM/PM breaks and lunch on training days, and registration services. It does not cover breakfast, dinner, lodging, health insurance, or transportation. Each participant is responsible for these costs. If you register by April 3, 2022, you are assured of receiving a confirmation package. Enrollment is limited to 50 participants.

How To Register: 5 Easy ways

Online: Go to www.ugagriffincontinuinged.com. Click the DSSAT link at the top of the page. Payment is by credit card only.

By mail: Mail your registration and payment to The University of Georgia, Griffin Campus, Office of Continuing Education, 1109 Experiment Street, Stuckey Conf. Center, Room 125, Griffin, GA 30223 USA.

In person: Come to the Office of Continuing Education, which is located in the Stuckey Conference Center, Room 125, on the Griffin Campus. Business hours 8 am-5 pm, M-F.

By telephone: Our telephone number is 1-770-229-3477. Payment is by credit card only.

By fax: Fill out your registration form and fax it to 1-770-233-6180. Payment is by credit card only.

Payment by Wire Transfer: If you are not able to pay using the options given above, you may be able to wire transfer funds to the University of Georgia. Contact the Office of Continuing Education for information on this payment option.

Cancellations, Refunds, and Substitutions

You may cancel up to April 3, 2022, and receive a partial refund. However, there is a \$250 per person charge if you cancel. If you cancel after April 3, 2022, you will not be eligible for a refund. Pre-registrants who fail to attend are liable for the full registration fee. You may, however, substitute another person in your place. Notify our office if you want this option. If the program is canceled by The University of Georgia, you will receive a 100% refund. However, The University of Georgia will not be responsible for any cancellation changes or charges assessed by airlines, travel agencies, or third-party entities related to your travel plans.



Please return to: Assessing Crop Production with Simulation Models

The University of Georgia, Griffin Campus
Office of Continuing Education
1109 Experiment Street, Stuckey Conf. Center, Room 125
Griffin, GA 30223 USA
1-770-229-3477 (Phone); 1-770-233-6180 (Fax)

Registration Form

Please register one (1) person per form. Copy the form as needed.
Pre-payment is required to guarantee your registration.

Name: _____
(First) (MI) (Last)

Mailing Address: _____
(street address: please check if home or business)

(city) (state) (zip) (country)

Name: _____
preferred name on badge

Phone: _____ Fax: _____

E-mail: _____

Special Needs: _____

Registration Fee:

Method of Payment:

- \$1,500 if postmarked on or before April 3, 2022
- \$1,800 if postmarked after April 3, 2022

By check (Make check payable to: University of Georgia)

- Personal Cashiers Money order

By credit card

- American Express VISA MC Discover

Name on Credit Card: _____
Credit Card No.: _____ Expires: ____/____

Authorized Signature: _____

Computer Requirements: Participants are REQUIRED to bring their own laptop and U.S. power adaptor.

- Lodging:** I plan to stay at the Baymont Inn & Suites, Griffin, GA.
- I plan to stay at the Holiday Inn Express, Griffin, GA.