VIRGINIA
BIOINFORMATICS
INSTITUTE
AT VIRGINIA TECH

VBI

2008 VBI Summer Institute

June 16–27
**Simulation-Assisted Reasoning
for Public Health Epidemiology**

July 14–16
**Plant-Associated Microbe
Gene Ontology (PAMGO)
Training Workshop**

July 16–18
**Oomycete Bioinformatics
Workshop**

July 22–24
COPASI 2008 User Workshop

July 30–31
**What You Need to Know About
Information Security**

VirginiaTech
Invent the Future

About the Workshops

The Virginia Bioinformatics Institute (VBI) at Virginia Tech is a research institute dedicated to the study of biological sciences. Work at VBI involves collaboration in diverse disciplines such as mathematics, computer science, biology, plant pathology, biochemistry, systems biology, statistics, economics, and synthetic biology.

As a new outreach initiative, VBI has designed five summer professional development programs for the 2008 VBI Summer Institute. The workshops are held the last two weeks of June through the month of July at VBI, located on the Virginia Tech campus. For registration information, refer to the web sites included in the workshop descriptions.

For more information about the
Virginia Bioinformatics Institute, visit:
http://www.vbi.vt.edu/

For More Information

For further information about the 2008 VBI Summer Institute, contact:
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Simulation-Assisted Reasoning for Public Health Epidemiology
June 16–27, 2008

Instructors: Henning Mortveit and **Stephen Eubank**

Simulations are used to better understand a wide range of complex phenomenon, ranging from urban transport planning to financial markets and global warming. In this two-week workshop, participants experience a comprehensive program showcasing this scientific method in the context of computational epidemiology.

The lecture series focuses on the entire range of topics required to understand such simulations and how they are used. Specific topics include public health decision making, network epidemiology, discrete dynamical systems, algorithms, validation and verification.

Participants attend lectures describing the background and the state-of-the-art material in this exciting field. Problem solving sessions with computations and hands-on experience running actual simulations are also included.

Objectives: Learn about modeling, simulation as a scientific method, awareness of limitations and assumptions, and be able to critically assess outcomes.

Who should attend: Senior undergraduate students with strong background in mathematics and computation; graduate students.

Cost: $235
For registration information, visit:
http://ndssl.vbi.vt.edu/education.php

Lodging: Air-conditioned dormitory rooms have been reserved on campus at the rate of $39.00 + tax per person, per night. Participants are responsible for making their own lodging reservations at
http://www.online.studentprograms.vt.edu/conferences/

For more information about lodging, please call (540) 231-5721.

Plant-Associated Microbe Gene Ontology (PAMGO) Training Workshop
July 14–16, 2008

Instructor: Brett Tyler

The PAMGO Training Workshop provides two days of lectures on genome annotation covering such topics as evaluating the reliability of gene models produced by gene prediction software, evaluating functional predictions produced by annotation software, understanding Gene Ontology and PAMGO, and using the Gene Ontology to accurately describe the functions of gene products. The third day is devoted to hands-on experiences in the annotation of genes involved in host-associated microbes. Examples used for annotation will be chosen based on the interests of the participants. The workshop is valuable to researchers involved with animal-microbe interactions as well as plant-microbe interactions.

Cost: PAMGO is supported by grants from the National Science Foundation and the National Research Initiative of the United States Department of Agriculture–Cooperative State Research, Education, and Extension Service (USDA-CSREES). Applications for funding assistance are due by **May 1**.

Lodging: Rooms have been reserved at the Courtyard by Marriott in Blacksburg at the rate of $85.00 + tax per night. Participants are responsible for making their own lodging reservations by calling (540) 552-5222 by **June 22**.

For application and registration information, visit:
www.cpe.vt.edu/vbi-genome/index.html

Oomycete Bioinformatics Workshop
July 16-18, 2008

Instructor: Brett Tyler

The goals of the Oomycete Genomics Research Collaboration Network are (i) to provide training to oomycete molecular genetics researchers, especially those from smaller institutions, in the use of bioinformatics and genomics resources; (ii) to promote the participation and training of new investigators in the field of oomycete genomics, particularly junior faculty and faculty from institutions under-represented in the United States research infrastructure; and (iii) to promote communication and collaboration, and minimize duplication of effort, within the worldwide oomycete genomics community. This workshop provides a day of lectures introducing the wide variety of oomycete genomics and bioinformatics resources currently available, followed by a two-day "mini-jamboree" in which participants carry out in-depth comparisons of genes from the four oomycete genome sequences currently available: *Phytophthora sojae*, *Phytophthora ramorum*, *Phytophthora infestans*, and *Hyaloperonospora parasitica*.

Cost: The Oomycete Genomics Research Collaboration Network is supported by a grant from the National Science Foundation. Applications for funding assistance are due by **May 1**.

Lodging: Rooms have been reserved at the Courtyard by Marriott in Blacksburg at the rate of $85.00 + tax per night. Participants are responsible for making their own lodging reservations by calling (540) 552-5222 by **June 22**.

For application and registration information, visit:
www.cpe.vt.edu/vbi-genome/index.html

COPASI 2008 User Workshop
July 22-24, 2008

Instructors: Pedro Mendes and **Stefan Hoops**

This user workshop provides hands-on experience with COPASI's main capabilities. During this three-day course, participants learn how to create models within COPASI and use its powerful simulation and analysis features.

COPASI's features will be introduced with known existing models such as the Circadian Clock or Calcium Oscillation. Real experimental lab data is used to analyze and fit enzyme kinetic models. Some of the features highlighted during this case-based approach are:
Stochastic Simulation • Sensitivities • Scans • Optimization • Reports • Plotting • Histograms • Batch Processing

Who should attend: Graduate students and scientists in the life science area who are interested in using COPASI as a modeling tool. Prior knowledge of COPASI is not required.

Desktop computers in the training room are provided, but participants may also bring their own laptops and network access will be provided.

Cost: $100
For registration information, visit:
http://www.copasi.org/UserWorkshop2008/

Support: Partial reimbursement of travel cost will be available for graduate students. This program is partially funded by the National Science Foundation.

Lodging: Air-conditioned dormitory rooms have been reserved on campus at the rate of $39.00 + tax per person, per night. Participants are responsible for making their own lodging reservations at
http://www.online.studentprograms.vt.edu/conferences/

For more information about lodging, please call (540) 231-5721.

What You Need to Know About Information Security
July 30-31, 2008

Instructors: Clark Gaylord and **Randy Marchany**

This course provides an introduction to the major areas of information security. Participants receive information on network and system fundamentals, risk analysis strategies, vulnerability assessments, and sensitive data classification. TCP/IP basics, Windows, Unix, and Mac security issues are covered in some detail. This is a hands-on course and each participant will learn how to use basic tools to evaluate and test network and system security.

Who should attend: Bioinformatics specialists interested in information system security and system administration.

Cost: $195
For registration information, visit:
http://infosec08.vbi.vt.edu