The Flight and Ground Vehicle Simulation Course is a unique five-day program co-sponsored by the State University of New York at Binghamton and the American Institute of Aeronautics and Astronautics (AIAA) Modeling and Simulation Technical Committee. Their combined efforts have produced a program that addresses all major components and subsystems comprising today’s complex flight and ground vehicle simulators.

### Who Should Attend

Engineers, system hardware and software design specialists, managers, and simulation support personnel, including product sales/marketing representatives and other professionals associated with the specification/design, testing, implementation or acquisition of modern flight and ground vehicle simulators.

### Objectives

The course provides a comprehensive overview for professionals seeking a working understanding of the key components of flight and ground vehicle simulation. It serves as a major forum for practicing simulation engineers seeking state-of-the-art information about system design, applications and research trends.

### Main Course Instructors and Topics

- **Olen Atkins, Wegmann USA**
  - Computer Image Generation

- **Professor Frank Cardullo, Binghamton University**
  - Simulation Fundamentals
  - Motion and Force Cuing
  - Simulator Systems Integration

- **Dr. James L. Davis, Sagetech Corp.**
  - Visual Perception
  - Visual Display Systems

- **R. Thomas Galloway, Consultant, and David Gingras, Bihrle Applied Research Inc.**
  - Mathematical Modeling of Vehicle Dynamics
  - Simulation Validation and Evaluation of Flight Simulators

- **Dr. Valerie Gawron, MITRE Corp.**
  - Simulation Applications in Training

- **Roy W. Latham, CGS Development Corp.**
  - Real-Time Computing

- **Dr. Jeffrey Schroeder, Federal Aviation Administration**
  - Flight Simulator Qualification

- **James R. Takats, OPINICUS Corp.**
  - Flight Control System Simulation

- **Dr. Andreas Tolk, MITRE Corp.**
  - Distributed Simulation/High-Level Architecture Overview

### Specialized Short Courses

#### Visual System Specification and Acceptance Tests Course

- **January 25 – 26, 2016**
- **Roy W. Latham, CGS Development Corp.**
- Overview of specification process and database, real-time software, image generator and display specifications. Topics include: Protocol Data Units of DIS, Object Models and Templates (OMT), Modular and Real-time Platform Reference (RPR) Federation Object Models (FOMs), Runtime Interface Services and building a simple federation. All topics are supported by practical exercises utilizing supplied computers.

#### Visual Database Design Course

- **January 25 – 26, 2016**
- **Olen Atkins, Wegmann USA**
- Introduction to visual databases, “real-time” simulation, the database as a component of the visual system and of the simulation, database design, structure and development tools, database components, source data, optimization tricks and shortcuts.

#### Simulation Interoperability Standards

- **January 25–26, 2016**
- **Dr. Salkio V. Diao, Old Dominion University**
- This advanced course provides training and exercises on IEEE Standard 1516 for Modeling and Simulation (M&S) High Level Architecture (HLA) and an introduction to IEEE 1278 Distributed Interactive Simulation (DIS). Topics covered include: Protocol Data Units of DIS, Object Models and Templates (OMT), Modular and Real-time Platform Reference (RPR) Federation Object Models (FOMs), Runtime Interface Services and building a simple federation. All topics are supported by practical exercises utilizing supplied computers.

#### Next Generation Display System Requirements, Metrics, and Measurements

- **January 25–26, 2016**
- **Dr. Charles Lloyd, Visual Performance LLC**
- This two-day course focuses on those display system requirements that are the strongest drivers of task performance, training effectiveness, and system cost and complexity, while focusing on improved metrics that are enabled by modern measurement technologies. Topics include: training display system design goals, quantifying visual performance, limitations of the observer, and high level system requirements, methods for measuring display systems, and new metrics under development.

### Registration

Advance registration is mandatory as enrollments are limited to ensure instructional quality.

Best method to register: [flightsim.binghamton.edu](http://flightsim.binghamton.edu)

Questions: Call 607-777-2154 or e-mail wtsnindy@binghamton.edu.

Registration fees also include parking, morning and afternoon refreshments, lunches and a reception.

### Fees

**Fees (early bird fees through Oct. 14 / regular rate starts Oct. 15)**

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<tr>
<th></th>
<th>5-day course</th>
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<td>University or Government</td>
<td>$1,595/$1,695</td>
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In 1929, Edwin A. Link, “the Father of Flight Simulation,” received his first patent for his pilot trainer in Binghamton, N.Y. What Link started as a simple and ingenious way of training pilots has evolved into an integral part of the engineering design process. Simulation saves lives, time, money and the environment, and it provides a means to prepare for tasks that cannot be trained for on a real system.

2016 marks the 32nd year that Binghamton University has proudly hosted these Flight and Ground Vehicle Simulation courses. Technical training provides a significant return on investment and educates leaders in the field. Take advantage of this opportunity to have world-renowned simulation experts guide you and your staff during your visit to Binghamton, the “Cradle of Flight Simulation.”

REGISTER
Advanced registration is required; enrollment is limited to ensure instructional quality. For more information, call 607-777-2154 or send e-mail to wtsnindy@binghamton.edu.

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