Welcome to GIFTSym5

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ARL-HRED

GIFTSym5, Orlando, Florida

10 May 2017

The Nation's Premier Laboratory for Land Forces

Announcements

- **WiFi – username = gift; password = tutoring**

- **Refreshments – next door (please see Kat to pay $5 for refreshments)**

- **Restrooms – outside in the main hall**

- **Lunch today is 12:00 pm to 1:20 pm**

- **We will end today at 4:30pm**

- **Social event begins at 5pm… more information later in this briefing**

- **Please see Kat to provide your email if you have not already done so… this is how you will be told the proceedings are available on GIFTSym5 (or through GIFTtutoring.org news item)**

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GIFTSym5 Program Committee

- **Kat Amaya**
- **Michael Boyce**
- **Keith Brawner**
- **Ben Goldberg**
- **Greg Goodwin**

- **Michael Hoffman**
- **Joan Johnston**
- **Jong Kim**
- **Rodney Long**
- **Jason Moss**

- **Scott Ososky**
- **Paul Shorter**
- **Anne Sinatra**
- **Bob Sottilare**

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Generalized Intelligent Framework for Tutoring (GIFT)

A free, modular, open-source tutoring architecture to:

– **capture best tutoring practices and support rapid authoring, reuse and interoperability of ITSs**

– **lower costs and entry skills needed to author ITSs**

– **enhance the adaptiveness of ITSs to support self-regulated learning (SRL)**

- **ontology**
- **tools**
- **methods**
- **standards**
- **exemplars**

Powered By

GiFT

Generalized Intelligent Framework for Tutoring
www.GIFTtutoring.org

- Automated Authoring
- Automated Instruction
- Accurate Learner Modeling
- Accurate Domain Modeling
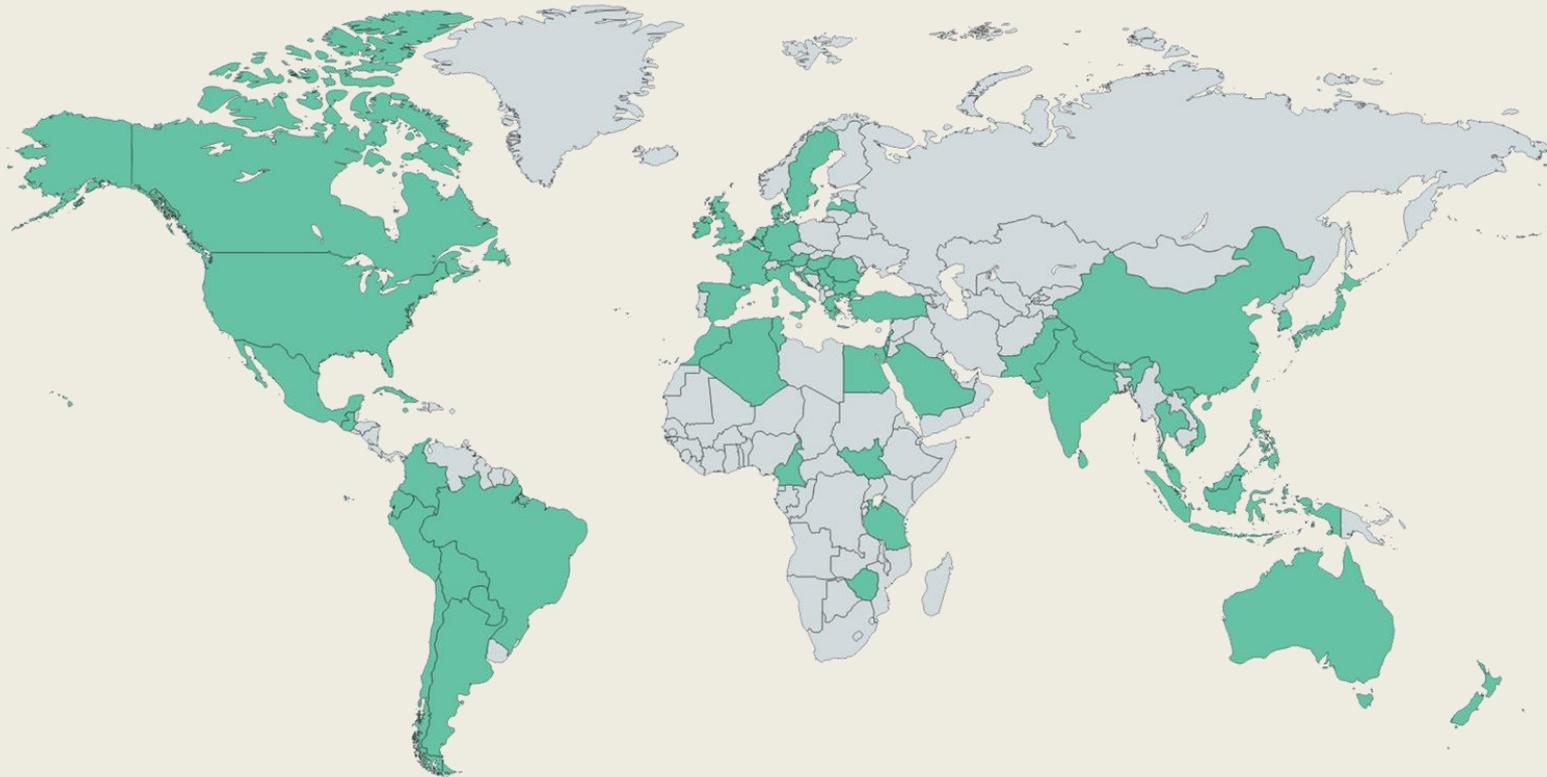- Evaluation Tools

Adaptive Training Systems

- Adaptive
- Affordable
- Effective

- Gritty
- Flexible
- Collaborative
- Critical Thinkers

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GIFT Users

Over 1000 registered users in 66 countries… including the USA

Algeria, Argentina, Australia, Austria, Belgium, Bolivia, Botswana, Brazil, Bulgaria, Cameroon, Canada, Chile, China, Colombia, Croatia, Cuba, Denmark, Ecuador, Egypt, France, Germany, Greece, Guatemala, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Latvia, Lebanon, Malaysia, Mauritius, Mexico, Morocco, Namibia, Nepal, Netherlands, New Zealand, Pakistan, Paraguay, Peru, Philippines, Romania, Saudi Arabia, Serbia, Singapore, South Korea, South Sudan, Spain, Sri Lanka, Sweden, Taiwan, Tanzania, Thailand, Tunisia, Turkey, United Kingdom, United States of America, Vanuatu, Vietnam, Zimbabwe

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5 years of GIFTSym

Proceedings of the
Second Annual
GIFT Users Symposium

June 2014
Carnegie Mellon University
Pittsburgh, Pennsylvania

GIFT

Edited by:
Robert Sottilare

Part of the Adaptive Tutoring Series

Proceedings of the
Third Annual
GIFT Users Symposium

June 2015
Orlando, Florida

GIFT

Edited by:
Robert Sottilare
Anne M. Sinatra

Part of the Adaptive Tutoring Series

AIED 2013 Workshops Proceedings
Volume 7

Recommendations for Authoring,
Instructional Strategies and Analysis for
Intelligent Tutoring Systems (ITS):
Towards the Development of a
Generalized Intelligent Framework for
Tutoring (GIFT)

Workshop Co-Chairs:

Robert A. Sottilare & Heather K. Holden
*Army Research Laboratory, Human Research and Engineering
Directorate, Orlando, Florida, USA*

https://gifttutoring.org/news/14

Proceedings of the
Fourth Annual
GIFT Users Symposium

May 2016

GiFT

Edited by:
Robert Sottilare
Scott Ososky

Part of the Adaptive Tutoring Series

Proceedings of the
Fifth Annual
GIFT Users Symposium

May 2017
Orlando, Florida

GiFT

Edited by:
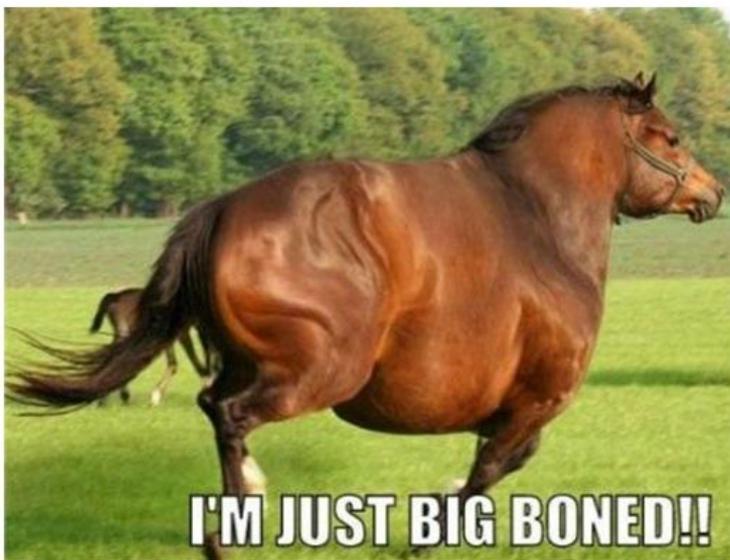Robert Sottilare

Part of the Adaptive Tutoring Series

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Wednesday, May 10, 2017					
8:30am- 9:00am	Opening Keynote: Dr. Robert Sottilare				
9:00am-9:20am	Session #1- Architecture Update: Dr. Keith Brawner				
9:20am- 9:40am	Session #2 - Authoring Tools Update: Dr. Scott Ososky				
9:40am-10:00am	Session #3 - Demo - GIFT Authoring Tools: Dr. Scott Ososky				
10:00am- 10:20am	Break				
10:20am-10:50am	Session #4 - Focused Authoring for Building GIFT tutors in Specialized Domains: Dr. Benjamin Bell				
10:50am- 11:20am	Session #5 - GIFT Course Creator Wizard - Cadets Murray, Pico and Redmon				
11:20am-11:40am	Session #6 - Development of an Integrated, User Friendly Authoring Tool for ITSs: Mr. Fleet Davis & Dr. Jennifer Riley				
11:40am-12:00pm	Session #7 - Demo - GIFT Wrap: Mr. Fleet Davis & Dr. Jennifer Riley				
12:00pm -1:20pm	LUNCH (on your own)				
1:20pm -1:40pm	Session #8 - Individual Learner Modeling Update: Dr. Gregory Goodwin				
1:40pm-2:10pm	Session #9 - Multi-level user modeling in GIFT to Support Complex Learning Tasks: Dr. Gautam Biswas				
2:10pm-2:30pm	Session #10 - Physiological Based Adaptive Training - Dr. Thomas Schnell				
2:30:pm-2:50pm	Session #11 - UPCATS Demonstration - Dr. Thomas Schnell				
2:50pm-3:20pm	Break				
3:20pm- 3:40pm	Session #12 - Team Tutoring Update: Dr. Anne Sinatra				
3:40pm-4:10pm	Session #13 - Building a Backbone for Multi-Agent Tutoring in GIFT: Dr. Benjamin Nye				
4:10pm-4:30pm	Session #14 - Wrap up and Adjourn Day 1: Dr. Robert Sottilare				

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Social Event

No-Host Social:

- **Rock & Brews Oviedo**
- **7131 Red Bug Lake Rd, Oviedo, FL 32765**
- **Wednesday: 5pm-7:30pm**

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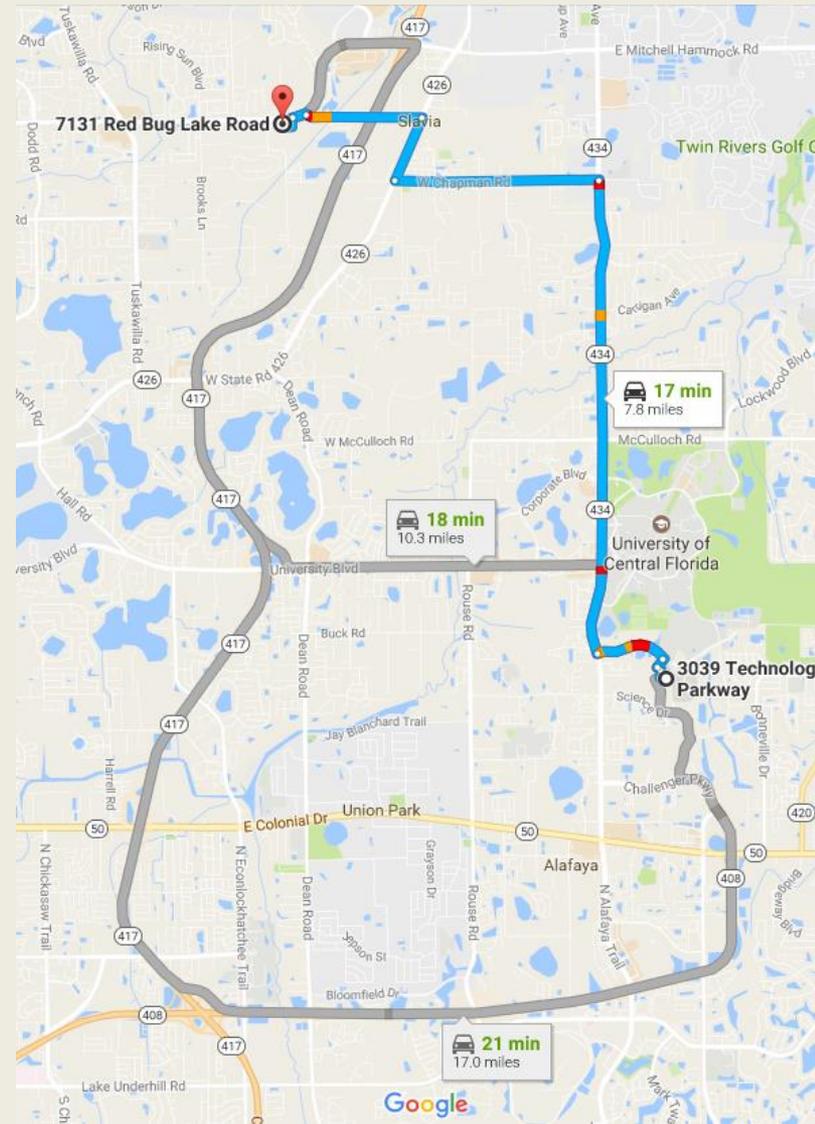
Thursday, May 11, 2017				
8:30am- 8:50am	Session #15 - Domain Modeling Update: Dr. Robert Sottilare			
8:50am-9:20pm	Session #16 - Authoring Augmented Reality Scenarios for ITSs with GIFT: Mr. Andres Vargas Gonzalez			
9:20am-9:50am	Session #17 - Science is Zarked: An ITS for Learning Research Methods: Ms. Samantha Warta			
9:50am-10:15am	Session #18 - Integrating MOOCs and ITSs: edX, GIFT and CTAT: Dr. Jonathan Sewall			
10:15am-10:45am	Break			
10:45am-11:15am	Session #19 - Educational Data Mining using GIFT: Dr. Alan Carlin			
11:15am-11:45am	Session #20 - A Data Analytics Framework to Support Training Effectiveness Evaluation: Mr. Michael Smith			
11:45am-12:15pm	Session #21 - Modeling Training Efficiency and ROI for Adaptive Training: Dr. James Niehaus			
12:15pm -1:40pm	LUNCH (on your own)			
1:40pm-2:00pm	Session #22 - Instructional Management Update: Dr. Benjamin Goldberg			
2:00pm-2:30pm	Session #22 - Developing a Pattern Recognition Structure to Tailor Mid-Lesson Feedback: Dr. JT Folsom-Kovarik			
2:30:pm-3:00pm	Session #23 - Integrating the outer loop: validated tutors for portable courses and competencies: Dr. Anne Sinatra			
3:00pm- 3:30pm	Session #24 - Toward Simulated Students for Reinforcement Learning-Driven Tutorial Planning in GIFT: Dr. Jonathan Rowe			
3:30pm-4:00pm	Session #25 - Wrap up and Adjourn Day 2: Dr. Robert Sottilare			

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New GIFT Activities - 2017

- **Center for Adaptive Instructional Sciences (CAIS)**
  - **Purpose – community development of adaptive instructional capabilities & standards**
  - **https://www.arl.army.mil/opencampus/centers/cais**

- **GIFT Summer Camp (pilot) – June 2017**
  - **Purpose – training GIFT users to author ITSs**
  - **Intent – open Summer Camp to public users in 2018**

- **GIFT Instructional Videos on YouTube – coming soon**

ARL Open Campus

Home » Centers » Center for Adaptive Instructional Sciences (CAIS)

Center For Adaptive Instructional Sciences (CAIS)

Background

As part of the Army Research Laboratory's Open Campus Initiative, ARL has established a Center for Adaptive Instructional Sciences (CAIS). The purpose of CAIS is to bring together government, industry, and academia to advance adaptive instructional science and technology for application in training and educational systems through a collaborative, innovative research ecosystem. Adaptive or tailored instruction in the form of Intelligent Tutoring Systems (ITSs) has been shown to be significantly more effective than traditional classroom instruction for both individual learners and teams. While the promise of adaptive instructional tools and methods are high, there remain significant technical challenges to its practical application in large organizations (e.g., US Army, large corporations, and universities).

Collaborative Focus

CAIS is currently focused on identifying and leveraging talent, facilities, and resources across government, industry, and academia to conduct transformative science which enhances capabilities in three broad areas:

- Authoring tools for Adaptive Instructional Systems
- Instructional Management (tailoring & delivery)
- Evaluation tools and methods (effect size)

Benefits

- Collaborative work with CAIS partners
- Shared data, technology, and activities related to the Learning in Intelligent Tutoring Environments (LITE) Laboratory
- Facilitation in formalizing collaborative relationships defining intellectual property issues
- Participation in strategic and technical discussion through targeted workshops and open formats
- Opportunity to significantly impact the technical projects and management of the CAIS
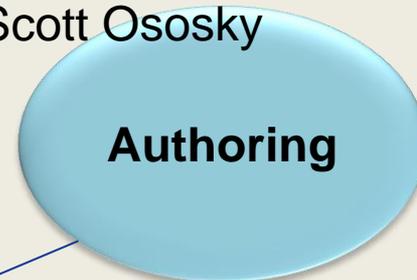
Website

A centerpiece of the CAIS:

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New GIFT Capabilities

Ben Goldberg
Instructional Management

Scott Ososky
Authoring

Anne Sinatra
Team Modeling
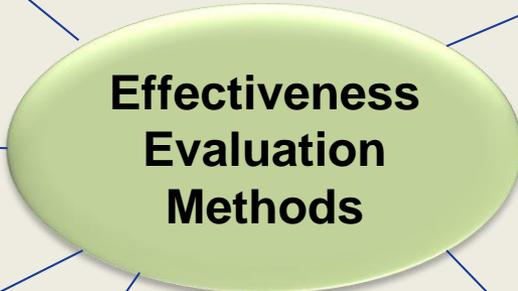
Effectiveness Evaluation Methods

Keith Brawner
Architecture & Ontology

Domain Modeling

Bob Sottilare
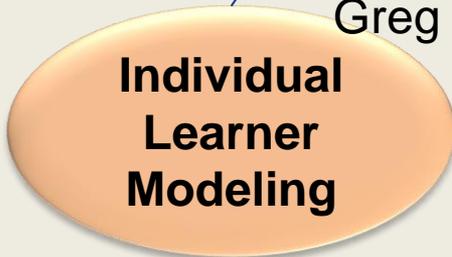
Greg Goodwin
Individual Learner Modeling

Standards

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Emerging Capabilities

- **Team Tutoring Approaches - Anne Sinatra, Joan Johnston & Bob Sottilare**

- **Metacognitive Instructional Approaches to Complex Learning Tasks - Ben Goldberg & Gautam Biswas**

- **Automated Scenario Generation – Bob Sottilare & Keith Brawner**

- **New Learning Environments**
  - **Augmented Reality - Jason Moss, Pat Garrity & Joe LaViola**
  - **Adaptive MOOCs – Vincent Aleven, Ryan Baker & Rodney Long**
  - **Psychomotor Domains – Bob Sottilare & Jong Kim**

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Emerging Capabilities

- **Agent-based Architecture for GIFT - Ben Nye, Bob Sottilare & Keith Brawner**

- **Collaborative Authoring – Scott Ososky, Mike Hoffman & Rodney Long**

- **Accelerated Learning – Bob Sottilare**

- **ITS Standards - Bob Sottilare, Xiangen Hu & Art Graesser**

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- **GIFTSym6 will be expanded to three days**
  - **Presentations and Demonstrations of GIFT capabilities**

- **GIFTSym6 Program Committee will be expanded beyond ARL**
  - **Interested in serving… contact Bob Sottilare**

- **ARL Post Doctoral Fellow at USMA**
  - **Part of the ARL-USMA Simulation & Training Cell**
  - **Focus on accelerated learning through adaptive instruction research**

- **CAIS organizational structure will be formalized**
  - **ARL and external participants will elect board members (government, academia, industry, international) in 2018**
  - **CAIS will become responsible for GIFTSym in 2018**

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Interested in learning more...

Books, technical papers and research information are freely available at:

- **www.GIFTtutoring.org/documents**

- **Google Play**

- **Facebook, ResearchGate & LinkedIn**

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