

# NTSA Newsletter

[About NTSA](#)

## Headlines from the Modeling, Simulation & Training Industry

[2016 Simulation Innovation Workshop \(SIW\)](#)

[2016 NTSA Modeling & Simulation Awards - Call for Nominations](#)

[TSIS Continues to Attract Large Audience](#)



# I/ITSEC 2016

The World's Largest Modeling, Simulation & Training Conference

[I/ITSEC 2016 – Attendee Registration is Open / Helpful Planning Tools Available](#)

[Hotel Reservations for I/ITSEC – Beware of Imposters!](#)

## YouTube - I/ITSEC 2016 Trailer Video



International Training and Simulation Alliance  
(ITSA) News

[NATO Computer Assisted Exercise \(CAX\) Forum 2016 – NEW EVENT LOCATION](#)

[MIMOS News June 2016](#)

[IFTC Conference – London, UK, 27-28 September, 2016](#)

[Simulation Australasia Update - Fringe 30 – An Introduction](#)

## Upcoming Events

### [2016 Simulation Innovation Workshop \(SIW\)](#)

September 12-16, 2016

Florida Hotel and Conference Center  
Orlando, FL

### [I/ITSEC 2016](#)

November 28 - December 2, 2016

Orange County Convention Center  
Orlando, FL



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Simulation Professional  
THE DISTINCTION OF A TRUE M&S PROFESSIONAL

### EARNING THE CMSP DESIGNATION WILL:

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To learn more about the requirements, the CMSP exam, and the applications process, please visit

[WWW.SIMPROFESSIONAL.ORG](http://WWW.SIMPROFESSIONAL.ORG)

[TerraSim® Releases MaterialMAP 2](#)

[Aptima Wins \\$12M USAF Contract to Develop Virtual Training System](#)

[NATO Launches Crisis Management & Disaster Response Activity](#)

[D-BOX Launches New Generation of Motion-Cueing Systems](#)

[Jacobs Wins \\$427 Million T4S Contract from NAWCWD](#)

[StealthNet supports Cyber TASE](#)

## STEM Connector News

[The U.S. Army Announces National Winning Teams of the 2015-16 eCYBERMISSION Competition](#)

[100 CEO Leaders in STEM Spotlight](#)

[Raytheon awards \\$300,000 in MathMovesU middle school scholarships and grants](#)

[U.S. Must Expand Computer Science Education to Keep Up With Demand for Skilled Workforce, ITIF Finds in New Analysis](#)

## Full Articles

### HEADLINES FROM THE MODELING, SIMULATION & TRAINING INDUSTRY



**2016 Simulation Innovation  
Workshop (SIW)  
September 12-16, 2016  
Florida Hotel & Conference Center  
Orlando, FL**

**Registration is now open** for the 2016 Simulation Innovation Workshop (SIW) to be held September 12-16 at The Florida Hotel & Conference Center in Orlando, FL.

The SIW is sponsored and organized by SISO, the Simulation Interoperability Standards Organization. (NTSA assists SISO with the management of the SIW.)

A preliminary agenda for the 2016 SIW can be viewed on the SISO website at [www.sisostds.org/2016SIW](http://www.sisostds.org/2016SIW).

Some highlights of the 2016 SIW include:

- Peer-reviewed papers covering three tracks:
  - Acquisition Lifecycle and Technology Transfer
  - Services, Processes, Tools, and Data
  - M&S Specialty Topics
    - Emphasis on the application of M&S for Cyber

## Warfare, Space, and Future Training

- Numerous Working Group sessions on specific standards and technical topics
- Keynote Speakers
- Interactive Panel Sessions:
  - Standards on Parade
  - Future Technologies
  - Operation Blended Warrior
- Tutorials
  - Tutorials on a range of subjects will be offered on Monday, September 12. There is a \$75 fee to attend (unlimited) tutorials. Complete list of tutorials to be published shortly.

To see the preliminary agenda and complete details on registration and lodging, please visit [www.sisostds.org/2016SIW](http://www.sisostds.org/2016SIW).

To proceed directly to the Registration page, please visit [www.trainingsystems.org/events](http://www.trainingsystems.org/events).

[Top](#)

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### 2016 NTSA Modeling & Simulation Awards - Call for Nominations

**Nomination Deadline: Friday,**

**September 16, 2016**

Each year, NTSA presents awards for outstanding achievement in the development or application of models and simulations. Awards may be given for outstanding achievement in the following categories: Training, Analysis, Acquisition, Cross-Function (multiple uses) and Lifetime Achievement.

Nominations are now being accepted for the 2016 NTSA Modeling & Simulation Awards. **The nomination deadline is Friday, September 16, 2016.**

The awards will be presented at the annual NTSA Modeling & Simulation Awards Dinner (an invitation-only event) to be held on Tuesday, November 29, 2016, during I/ITSEC 2016 in Orlando, FL.

Submissions must be no more than 750 words, and should clearly explain why the nominated individual or team is worthy of special recognition. What was especially noteworthy about the individual's or team's work in terms of innovation, creativity, management of resources, timeliness, cost savings, etc.? You are strongly encouraged to include independent/customer references and testimonials, which should be e-mailed separately to [prowe@ndia.org](mailto:prowe@ndia.org) AFTER you submit your nomination.

Please remember that these awards are for outstanding achievement and/or innovation by individuals or teams of individuals. No product pitches, please. In addition, please do not enter the same nomination in multiple categories.

The NTSA M&S Awards are a true showcase for "the best of the best" in Modeling & Simulation. Please consider submitting a nomination for a team or individual who you feel is worthy of special recognition. (Self-nominations are common and perfectly acceptable.)

For complete details, and to submit your nomination, please visit: [www.trainingsystems.org/nomform.cfm](http://www.trainingsystems.org/nomform.cfm).

If you have any questions about the NTSA M&S Awards, please contact Patrick Rowe at [prowe@ndia.org](mailto:prowe@ndia.org) or (703)247-9471.

[Top](#)



## TSIS Continues to Attract a Large Audience

The 2016 Training & Simulation Industry Symposium (TSIS) was held 14-15 June at the Rosen Centre Hotel in Orlando, Florida. Always a highlight of the NTSA & NDIA Central Florida Chapter calendar, this year's event drew approximately 740 attendees from the Modeling, Simulation and Training industry.

TSIS 2016 featured a broad array of briefings from the Army, Navy, Marine Corps and Air Force, as well as panel sessions exploring areas such as Commercial Medical Simulation, Simulation Applications Beyond DoD, and Increasing FMS for TADSS thru Government and Industry Partnerships. Specific times were set aside for Q&A, as well as for attendees to meet individually with the presenters (Program and Product Managers).

We would like to thank this year's sponsors: Raytheon, PAE, Parsons, Lockheed Martin and Barco.

All breakfasts and breaks, as well as the reception, were held in the Exhibit Hall/Break Area, giving attendees plenty of time to visit the booths, reconnect with colleagues and make new contacts. The following sixteen (16) companies exhibited at TSIS: Advanced IT Concepts, Bren-Tronics, DiSTI, Education Management Solutions, Envision Innovation Solutions, Esterline, Frasca International, General Digital, MS&T Magazine, PLW Modelworks, Presagis, Quadrant Simulation Systems, Inc., Rapid Prototyping, Rave Computer Association, Inc., Senspex and VT MAK.

### Some of the featured speakers at the 2016 TSIS were:

- **CAPT Erik Etz, USN**, Commanding Officer, Naval Air Warfare Center Training Systems Division, NAWCTSD
- **BG Maria Gervais, USA**, Deputy, Commanding General, Combined Arms Center – Training, CAC-T, Fort Leavenworth
- **CAPT Jason Lopez, USN**, Program Manager, Aviation Training System, Program Office, (PMA-205), NAVAIR
- **Mr. Thomas E. Macia**, Chief, Training Simulations Division, HQDA DCS G-3-5-7

- **Col Daniel Marticello, USAF**, Chief, Simulators Division, Air Force Materiel Command
- **MG James E. Simpson, USA**, Commanding General, U.S. Army Contracting Command
- **Ms. Cherie Smith**, Deputy, Program Executive Officer for Simulation, Training and Instrumentation, PEO STRI
- **Col Walt Yates, USMC**, Program Manager, MARCORSYSCOM, PM TRASYS

The briefings from the event can be viewed here:

<http://www.trainingsystems.org/events/index.cfm> (*Scroll down to proceedings*)

As in years past, the event was co-located with several other events:

- The U.S. Army PEO STRI Change of Command ceremony was held on Thursday, 16 June.
- The AAAA Central Florida Chapter Scholarship Golf Tournament was held on Friday, 17 June
- The AUSA Sunshine Chapter Army Ball was held on Saturday, 18 June.

[Top](#)

## Headlines from the Interservice/Industry Training, Simulation & Education Conference (I/ITSEC)

### **I/ITSEC 2016 – Attendee Registration is Open / Helpful Planning Tools Available**

Registration is now open!

See [www.iitsec.org/registration](http://www.iitsec.org/registration) for complete details on registration for I/ITSEC 2016.

While you're on the website, see additional links for planning your trip to I/ITSEC here: [www.iitsec.org/attendees](http://www.iitsec.org/attendees)

Useful information includes:

- Attendee Justification Templates
- FAQs for New Attendees
- Assistance for International Attendees
- Agenda Overview
- Information on Accommodations
- Directions

[Top](#)

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### **Hotel Reservations for I/ITSEC – Beware of Imposters!**

Rogue companies continue to inaccurately represent themselves as our "housing vendor" when contacting individuals in the I/ITSEC

community. Specifically, they will offer to make hotel reservations within the I/ITSEC block on your behalf, and some will also claim to be calling from one of the I/ITSEC hotels. If you provide your credit card information to any of these unauthorized vendors, your card may be charged but you may not have a reservation when you arrive in Orlando.

Stick with our approved provider – “**OnPeak**” - or a company that you know and trust. Disregard unsolicited sales pitches claiming to have rooms available for I/ITSEC. **OnPeak** is the only provider approved by NTSA-I/ITSEC. Complete housing information is available at [www.iitsec.org/attendees/planningyourstay](http://www.iitsec.org/attendees/planningyourstay)

If you have any questions about the I/ITSEC hotel block, or general questions about I/ITSEC, please contact Barbara McDaniel at 703-247-2569 or [bmcdaniel@ndia.org](mailto:bmcdaniel@ndia.org). Complete information about the conference is also available online at [www.iitsec.org](http://www.iitsec.org).

[Top](#)

## International Training and Simulation Alliance (ITSA) News

### **NATO Computer Assisted Exercise (CAX) Forum 2016 – NEW EVENT LOCATION**

Due to unforeseen circumstances the German Air Force Officers School is no longer available as host for the NATO CAX Forum 2016. The new location will be the premises of IABG in Ottobrunn near Munich, which is the same as in 2010.

Please note that all past hotel reservations for the forum need to be cancelled or renewed respectively. Please find the updated hotel information on the website here: [www.iabg.de/cax2016](http://www.iabg.de/cax2016)

Please visit this web site frequently to learn about the conference details as soon as they will be released. The 11th NATO Computer Assisted Exercise Forum (NATO CAX Forum 2016) will be organized by the NATO Modelling and Simulation Centre Of Excellence (NATO M&S COE), and Industrieanlagen-Betriebsgesellschaft mbH (IABG) together with the German Bundeswehr from September 20th to 23rd 2016. We would appreciate your interest in this NATO-expert conference about CAX and wargaming.

This invitation message is specifically addressed to you, should you wish and be able to attend the event. We also encourage those who attend to participate by either giving presentations and/or demonstrations on CAX related topics. In this connection, dedicated booths will also be available for the demonstrations of CAX and simulation related products by commercial organizations, military and civilian entities.

As usual, a full session will be dedicated to National Simulation Centres, their activities and the possible synergies among them and main NATO training institutions like the NATO Joint Warfare Centre and the NATO Joint Force Training Centre.

Potential tracks that might populate the Forum program, in accordance with the previous year tracks, as follows:

- Collective Training and Exercises
- C2-Sim Interoperability
- NATO/ National M&S Tools
- Cyber Domain Sim
- Urban Environment Training Challenges
- Emergency/Crisis Management
- MSaaS for Training
- Human Capital in CAX
- CAX Lessons Learned Process
- Simulating Logistics and Sustainability
- Hybrid Warfare Modelling for Exercises
- Sim Centres Cooperation
- M&S V&V for Wargaming

We understand that you can't assure your participation right now, but we would be really grateful if you could only let us know your intention/possibility to attend the event. Your immediate feedback on this point will not be considered as a commitment at all from you, but it will allow us the appropriate arrangements accordingly.

Please note again that the conference week coincides with the first week of the famous "Oktoberfest". This essentially affects the availability as well as the prices of all accommodation in the Munich area. Immediate booking is strongly recommended.

To submit a proposal for a presentation or a demonstration please complete the form, and fax, mail or e-mail it to the following NATO M&S COE Points of Contact address below no later than August 26th , 2016:

Lt.Col. Stefano GIACOMOZZI/ Lt.Col. Jan HODICKY  
Address: Piazza Villoresi 1, 00143 Rome, Italy  
Commercial: +39 06 4691 4360/4363  
NCN: 039 202 4360/4363  
Fax: +39 06 4691 4299  
E-mail: [natocaxforum@mscoe.org](mailto:natocaxforum@mscoe.org)

The IABG organization team for the CAX Forum 2016 can be reached via:  
[cax@iabg.de](mailto:cax@iabg.de)

Apologies for this unforeseeable location changing inconvenience and we hope to see you nevertheless in September in OTTOBRUNN.

Warm regards,

The NATO CAX Forum Management Staff

[Top](#)



## **MIMOS Open Simulation Days**

The main objective of MIMOS is to create synergies among Industries, Academies and Institutional Agencies to foster new business opportunities going beyond the usual conference presentations. It can be done by means of specific multidisciplinary events where everyone can inform the audience, and stakeholders in particular, about its capabilities and projects in several fields of interest, allowing, at the same time, cross fertilization and networking possibilities.

In this perspective, MIMOS will organize some **Open Simulation Days** to apply the above concept. The first one of such event is planned for next **17th November**. A dedicated newsletter will follow as soon as the organizational details have been defined. The Open Simulation Days will be the approaching steps to the 15 Year Celebration of MIMOS on 2017 with a big event on Virtual Reality

## **Agreement signed between ETSA and MIMOS**

During last ITEC in London, MIMOS and European Training & Simulation Association (ETSA) signed a Memorandum of Agreement, which also implies the MIMOS President as member of the ETSA Board. The MIMOS Members will be allowed to benefit of the ETSA fee discount on partnered simulation events. For further information, please, visit <http://www.etsa.eu/>.

## **Survey on Italian Research Centers on Simulation and Virtual Reality**

MIMOS is distributing a survey to the Italian Research Centres involved in simulation and virtual reality fields in order to improve the services to the MIMOS members. Please check with your Directorate and Secretary, and in the case your organisation is interested and have not yet received the survey, please, send a request to [roma@mimos.it](mailto:roma@mimos.it).

## **Survey on Italian Companies dealing with Simulation and Virtual Reality**

The survey of the Italian companies involved in simulation and virtual reality fields is still open. In the case your company is interested and have not yet received the survey, please, send a request to [roma@mimos.it](mailto:roma@mimos.it).

## **MIMOS Award for Master and PhD Degrees on Simulation applications**

MIMOS have launched the **7th edition of the Master and PhD Thesis on Simulation and Virtual Reality Award** for Italian students degreed with a thesis on modelling, simulation, or virtual reality applications.

Application, contest rules and further information are published on <http://www.mimos.it/PremioMIMOS2016>

## **MIMOS Membership 2016**

MIMOS membership campaign is always open. Please, visit [www.mimos.it](http://www.mimos.it) at "Per Associarsi" section for further details



## Corporate News

Milan, 28 April 2016 – **Antycip Simulation**, subsidiaries of ST Electronics Training & Simulation Pte Ltd, main European supplier for high quality COTS software, simulation tools, projection systems and engineering competencies, announce a strategic partnership with **Capgemini Italia**, Capgemini Group' Company, a major worldwide player on counselling, technology and outsourcing, for mission planning systems and synthetic environment based training systems for Defense customers.

(<https://www.it.capgemini.com/antycip-simulation-sceglie-capgemini-italia-per-la-realizzazione-di-soluzioni-avanzate-di-modelling>)

Rome, 16 May 2016 - **Vitrociset**, Italian company leader on complex system integration, security, training and logistics support in Defense, national security, Space and Transportation, has been awarded for the best innovative product on Special Forces sector, presented during last "SOFEX - The Special Operations Forces Exhibition and Conference" held in Jordan and main event in Middle East related to defense and security.

(<http://www.difesaonline.it/industria/litaliana-vitrociset-premiata-il-miglior-prodotto-innovativo-nel-settore-special-forces>)

## Events

### Summer Schools

**MISS2016** The 2016 IEEE Italy Section Medical Informatics Summer School (MISS), 13-17 September 2016, Trani (BA) Italy (<http://www.miss2016.it/>) - Full applications to attend IEEE MISS 2016 should be received by 20 June 2016. Applicants will receive notification of acceptance by 10 July 2016. Registration and payment should be completed by 31 July 2016.

### Imaginary's Wednesdays

Free Seminars on gamification, serious games and enabling technologies:

**22.06: "Serious games e gamification"**

**29.06: "Games for health"**

**06.07: "Games for training"**

The attendees will receive methodological information on games hands-on opportunities. It will be a chance to understand basic concepts and capabilities in the different application fields, such as health and education.

Info: [marketing@i-maginary.it](mailto:marketing@i-maginary.it)

### Conferences

The following is a list of events related to simulation and virtual reality, most of them with Call for Paper and Registration still open:

**Comets 2016** IEEE WETICE 2016 5th IEEE Track on Collaborative Modeling and Simulation, 13-16 June 2016, Paris, France (<http://www.sel.uniroma2.it/comets16>)

**MESAS** Modelling and Simulation for Autonomous Systems, 15-16 June 2016, Rome, Italy (<http://www.mesas.mscoe.org/>)

**SESAM** 22nd Annual Congress, 15-17 June 2016, Lisbon, Portugal

(<http://www.sesam-web.org/events/event/sesam-lisbon/>)

**SalentoAVR**, The 3rd International Conference on Augmented Reality, Virtual Reality and Computer Graphics, 15-18 June 2016, Otranto (LE), Italy (<http://www.salentoavr.it/>)

**SGAMES**, [6th EAI International Conference](#) on Serious Games, Interaction and Simulation, 16-17 June 2016, [Porto](#), Portugal (<http://sgamesconf.org/2016/>)

**IMMERSIVE ITALY**, University of Padua, 21-23 June 2016, Padua, Italy, (<http://ImmersiveEducation.org/i2016>)

**NT&S 2016**, Naval Training and Simulation 2016, 6-7 July 2016, London, UK (<http://www.navaltrainingsimulation.com/>)

**2016 MSC'S Simulation and Analysis Conference**, 14 July 2016, Naples, Italy (<http://campaign.mscsoftware.com/WL06aqA1Q0W0Csn00x0LN00>)

**SIMULTECH**, 6th International Conference on Simulation and Modeling Methodologies, Technologies and Applications, 29-31 July 2016, Lisbon, Portugal (<http://www.simultech.org/>)

**SIMUTOOLS**, [9th EAI International Conference](#) on Simulation Tools and Techniques, 22-24 August 2016, [Prague](#), Czech Republic (<http://simutools.org/2016/>)

[eLEOT, 3rd EAI International Conference on e-Learning e-Education and Online Training](#) 31 Aug - 2 Sep 2016, [Dublin](#), Republic of Ireland (<http://eleot.org/2016/>)

**EUROSIM 2016**, The 9th Eurosime Congress on Modelling and Simulation, 12-16 September 2016, Oulu, Finland (<http://eurosime2016.automaatioseura.fi/>)

**11th NATO CAX Forum 2016**, the NATO Computer Assisted Exercise Forum, 20 - 23 September 2016, Fürstenfeldbruck, Germany (<http://www.iabg.de/cax2016>)

**Military Flight Training**, 21-22 September 2016, London, UK (<http://www.smi-online.co.uk/defence/uk/conference/military-flight-training>)

**I3M**, The 13th International Multidisciplinary Modeling & Simulation Multiconference, 26-28 September 2016, Cyprus (<http://www.msc-les.org/conf/i3m2016/>), which includes

**EMSS**, The European Modelling & Simulation Symposium

**HMS**, The International Conference on Harbour, Maritime & Multimodal Logistics M&S

**MAS**, The International Conference on Modeling & Applied Simulation

**IMAACA**, The International Conference on Integrated Modeling and Analysis in Applied Control and Automation

**DHSS**, International Defense and Homeland Security Simulation Workshop

**I-WISH**, The International Workshop on Innovative Simulation for Health Care

**SESDE**, The International Workshop on Simulation for Energy, Sustainable Development & Environment

**FoodOPS**, The international Food Operations & Processing Simulation Workshop

**TECHNOLOGYforALL**, Innovation Forum on applied technology for Landscape, Cultural Heritage, and Smart City, 4-6 October 2016 Rome, Italy ([www.technologyforall.it/](http://www.technologyforall.it/))

**VALUETOOLS**, [10th EAI International Conference](#) on Performance Evaluation Methodologies and Tools, 26-28 October 2016, [Taormina](#), Sicily, Italy (<http://valuetools.org/2016/>)

**ESM'2016**, 30th European Simulation and Modelling Conference, 26-28 October 2016, University of Las Palmas, Spain (<https://www.eurosis.org/cms/?q=node/3115>)

**ITRUST**, 3rd Education and Simulation in Urology: sharing standards for patient safety, 17-19 November 2016, Rome, Italy (<http://www.itrusturology.com>)

**IITSEC**, Interservice/Industry Training, Simulation and Education Conference, 28 November - 2 December 2016, Orlando, FL, USA (<http://www.iitsec.org/>)

[Top](#)

---

## **IFTC Conference – London, UK, 27-28 September, 2016**

Unprecedented Global Training Demand

- [Real Solutions Driven by Necessity](#)

### [International Flight Crew Training Conference 2016](#)

London, United Kingdom  
27th – 28th September 2016

Early notification of this year's IFTC Conference:  
Don't forget the usual 10% ETSA discount applies!  
Use discount code ETSA-IFTC16

It's official – there is now an unprecedented shortage of well-trained airline pilots to support an unrelenting growth in the global propensity for people to travel by air.

The past five years has also seen a significant reduction in the number of new, well-selected airline pilot training enrollees globally against a backdrop of an escalating demand for pilots from both expanding and new entrant airlines. Supply and demand curves simply don't match; it's 'crunch time' and actions need to be taken urgently to improve the appeal, affordability and access to the

career of professional flying.

As the old saying goes “necessity is the mother of invention’ and airline training management in partnership with the pilot training industry is waking-up to the need to create long-overdue and creative solutions designed to address rapidly this very significant and escalating challenge.

View the aims of the conference [here](#).

For further information, please contact [conference@aerosociety.com](mailto:conference@aerosociety.com) or call +44(0)20 7670 4345

Forthcoming RAeS Events - [www.aerosociety.com/events](http://www.aerosociety.com/events)

07-08 June: Advances in Simulation - The Future of Flight Simulation<<http://www.aerosociety.com/Events/Event-List/2101/Advances-in-Simulation>>

22-23 November: [Simulation Based Training – The Key to Military Operational Capability](#)

[Top](#)

---



## **Simulation Australasia Update - Fringe 30 – An Introduction**

What is Fringe 30?

Leading for the future with creative, experimental, edgy and unusual ideas in simulation.

We don't deny the importance of scientific measure and rigor in modelling and simulation; it's just that sometimes you need to push the boundaries in order to meet the needs of your audience. The ASC Fringe 30 is an opportunity to share your ideas and developments to a wide audience without the usual academic constraints of presenting it in a set methods-results format.

In the Fringe 30 sessions you will hear about new and creative ideas in modelling and simulation that are 'outside the box' – using creative, experimental and edgy concepts to deliver simulation that meets the needs of any audience.

Expressions of Interest for Fringe 30

The ASC organising committee is looking for ideas in simulation delivery, technology and/or education that may not fit into the usual 'scientific categories' of simulation education and technologies – but have been developed to meet the needs of users and beneficiaries.

Presentations might include (but are not limited to):

- A quirky method or tool that enhances the simulation user experience (think moulage, apps, etc)
- Artistic and creative interpretations of simulation to meet learner needs
- Incorporating new ideas from other disciplines/subjects to enhance your simulation in new and unseen ways (i.e. exaptation or cross-cutting)
- Enhancing interoperability between concurrent running simulations
- New ideas for methods and technology that are a work in progress or have never been used before in simulation or modelling
- Use of modelling or simulation methods and tools in new disciplines or communities (think sports or other industries)

All ideas and topics are welcome to apply. No idea is off limits, nothing is too unusual, the edgier the better! You'll have roughly 8 minutes to present your 'Fringe' in a pre-programmed time slot in any format you like. Presentation, arts, demonstrations, interpretive dance (maybe not!) ...your imagination is the limit!

#### What to Do

In 100 words or less, please submit your Fringe 30 idea and how it is being used in modelling or simulation (including title, aim and proposed method of delivery). Email your submission to [admin@simaust.com](mailto:admin@simaust.com) by Wednesday 20 July 2016. In your submission, please include your name and organisation (not included in your 100 words).

[Top](#)

### NTSA Member News

#### **TerraSim® Releases MaterialMAP 2**

TerraSim is excited to announce the release of MaterialMAP 2, the latest version of its image classification and surface map generation software.

MaterialMAP is a stand-alone application that couples supervised classification technology with a unique understanding of multiple modeling and simulation runtime requirements to produce surface material maps from satellite imagery. The exported surface material maps are then used in visual, constructive, and serious game runtime applications to determine entity mobility and routing, display various runtime visual effects, and for terrain sensor simulation.

Prior to MaterialMAP, there were no easy methods for converting high-fidelity satellite imagery into surface material maps used in today's simulators. Surface maps were either produced from existing low-resolution land cover maps or were generated from vector GIS data. This resulted in low-quality surfaces that would not match the satellite imagery used to produce the terrain database. MaterialMAP's streamlined process for surface map generation greatly improves the visual quality of a terrain and

provides correlated output to maximize the utility of the surface map across multiple correlated simulation systems.

MaterialMAP 2 includes numerous interface improvements that optimize usability while offering faster image processing and classification. New features include: vector data import, reassignment tools to refine image classification, aggregation support for VBS3 extended surfaces, the ability to generate seasonally varied satellite imagery, and more.

Key MaterialMAP features include:

#### Project Preparation

- Import multi-spectral and value-mapped (palette) color imagery from standard formats including GeoTIFF, JPEG, and PNG
- Import existing vector data to supplement image classification

#### Image Classification and Refinement

- Create distinct sample classes for the surface materials visible in the satellite imagery
- Create and use new or existing vector data to define surface material classes
- Develop alternative classification strategies and rapidly visualize intermediate classification results
- Smooth classified imagery to further refine the output
- Reassign pixel classification in user-defined areas
- Use built-in history to review and select the best image classification results

#### Aggregation and Export

- Aggregate classification to meet runtime-specific surface material map attribution and requirements
- Export classified layers to common vector and image formats including Shapefile, GeoTIFF, JPEG, and PNG
- Export surface material maps for use in constructive and serious game runtime applications including JCATS, JSAF, OneSAF, Steel Beasts Pro, and VBS (VBS2, VBS3, VBS IG)
- Export surface material maps with extended surfaces for VBS3
- Export seasonally varied imagery using vegetation surfaces of any classified layer to guide the recoloration

Please visit the website for more details. For additional product information, including purchase inquiries or evaluation requests, please email [sales@terrasim.com](mailto:sales@terrasim.com).

<http://www.terrasim.com/products>

[Top](#)

## System

Aptima has won a \$12.4 million US Air Force (USAF) contract to develop a virtual training environment for its Distributed Common Ground System operations (DCGS). The DCGS is the Air Force's primary platform for collecting and analyzing intelligence, surveillance and reconnaissance (ISR) to support its missions. The virtual training system will better prepare Air Force operators tasked to produce actionable intelligence from its globally networked systems and sensors.

DCGS operators currently rely on live, on-the-job training during missions and USAF expects the transition to a scenario-based simulator will enhance the development of individual positional skills and crew competencies for Airmen who process, analyze, and share actionable intelligence from a variety of video, geospatial and other data sources.

The weapon systems trainer will incorporate Aptima's A-Measure® software that measures trainee performances in live, virtual and constructive environments (LVC); and its Advanced Learning Management platform that adapts instruction to optimize each trainee's learning.

Aptima will team with Leidos on the contract. The project is being funded through a Phase III Small Business Innovation Research contract, transitioning previous research and development Aptima completed in Phases I and II for a Distributed Weapons Systems Trainer.

[Top](#)

---

## **NATO Launches Crisis Management & Disaster Response Activity**

In March 2016, the Collaboration Support Office (CSO) of NATO's Science and Technology Organization has started MSG-147, an activity which is developing a technical platform capable of supporting and conducting crisis management and disaster response (CMDR) exercises and analysis.

The new activity takes into account the current security environment, which is marked by persistent conflicts and uncertainty regarding man-made crises. Examples include providing logistical services when normal peacetime infrastructures break down, reinforcing civilian authorities and police under times of increased terrorist alert, enforcing law and security in the aftermath of major disasters, cleaning up beaches after oil spills and so forth. These are all things that the military is not designed to do, but for which society often has no other resources when it happens. Success in such operations requires enhanced interaction amongst the military and civil actors at all levels before and during operation.

The aim of MSG-147, which will last three years, is to provide a distributed simulation environment; automated data collection; an

engine for modelling with defined triggers; C2 Crisis/Disaster Response; and prognosticate and analyse climate change.

For further information about MSG-147 contact Cdr Federico Santiago Perez-Dueñas, Head, M&S Coordination Office ([federico.perez-duenas@cs0.nato.int](mailto:federico.perez-duenas@cs0.nato.int)) or the group's chairman, Col. Orlin Nikolov ([orlin.nikolov@cmdrcoe.org](mailto:orlin.nikolov@cmdrcoe.org)).

[Top](#)

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## **D-BOX Launches New Generation of Motion-Cueing Systems**

D-BOX Technologies Inc. has introduced "D-BOX Gen II" (for 2nd generation) actuators for the training and simulation community. This latest evolution of its motion-cueing solutions gives adopters an unprecedented range of creativity and flexibility.

Once integrated, the D-BOX Gen II actuators are able to generate motion cues both vertically and horizontally giving integrators the capability of building a great freedom of movement in three-dimensional space (6 DOF) platforms.

In keeping with its long-standing commitment to give customers the ability to build on their investment, D-BOX designed the new Gen II to be retro compatible with all existing D-BOX Motion Code software. In addition, by making their motion-cueing solutions more flexible and expansive, D-BOX gives their clients the power to scale up on their existing software and bring the immersive simulation and training experience to a whole new level.

D-BOX Gen II will be officially available on September 15th, 2016, however early adopters can get advance access prior to the launch.

[Top](#)

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## **Jacobs Wins \$427 Million T4S Contract from NAWCWD**

Jacobs Engineering Group Inc. has won a \$427 million contract to provide the US Naval Air Warfare Center Weapons Division (NAWCWD) with test and evaluation/training threat/target systems (T4S) for warfighter training and debriefing systems.

Under the five-year contract, Jacobs is expected to assist NAWCWD in its efforts to research, develop, deliver, sustain and upgrade its threat systems; range instrumentation equipment; range command and control equipment; data routing, storage and display equipment; and provide software for pre-deployment aircrew warfighter training and weapons systems test and evaluation.

[Top](#)

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## StealthNet supports Cyber TASE

In 2010, SCALABLE Network Technologies was awarded a project from the Test & Evaluation / Science & Technology Program at the Test Resource Management Center. Named StealthNet, the project provides a real-time, hardware-in-the-loop capability for simulation of cyber threats to the entire net-centric infrastructure.

StealthNet has been used in recent efforts with the Test Resource Management Center (TRMC) to add cyber model capabilities to JNE Live-Virtual Constructive emulation. Cyber TASE will expand these capabilities through developing a library of network, mission and cyber models applicable to Army, Air Force, Navy, and DISA and the simulation instrumentation and visualization environment to expedite the simulation analysis process.

Check out this article to learn more about taking cyber test analysis and simulation to the next level:

<http://www.doncio.navy.mil/CHIPS>

[Top](#)

### NTSA Member News

#### **The U.S. Army Announces National Winning Teams of the 2015-16 eCYBERMISSION Competition**

The U.S. Army is pleased to announce the 2015-16 national winners of the 14th annual [eCYBERMISSION](#) competition. The winning teams were announced this afternoon at the National Judging and Educational Event (NJ&EE) awards luncheon.

Sponsored by the U.S. Army, one of several science, technology, engineering and math initiatives offered by the Army Educational Outreach Program (AEOP) and administered by the [National Science Teachers Association \(NSTA\)](#), the web-based competition challenges 6th-9th graders with proposing solutions to real-world problems.

“The U.S. Army is committed to answering the nation’s call for increased STEM education opportunities for students,” said Louie R. Lopez, Program Manager for eCYBERMISSION.

“Congratulations to the 2016 national winners and STEM-in-Action grant recipients for your commitment to solving community issues.”

The winning teams were chosen from 20 national finalist teams, which were selected from more than 7,000 teams that entered the 2016 competition. Since the program’s inception in 2002, eCYBERMISSION has awarded state, regional and national competition winners over \$10 million in U.S. Savings Bonds.

“The national winners represent an outstanding group of students whose remarkable projects not only demonstrate an advanced aptitude in STEM, but also serve as an inspirational reminder of the ingenuity that comes from igniting students’ natural curiosity,” said Dr. David Evans, NSTA executive director. “We congratulate the student winners and commend their advisors for engaging and

empowering the students to make a real difference in the world around them.”

Each member of the four national winning teams received an additional \$5,000 in U.S. E.E. Savings Bonds (matured value), bringing the total received to \$9,000 each. The 2015-16 national winning teams are:

**Sixth grade: Las Chicas de Puerto Rico, Aguadilla, Puerto Rico**

**Bria Roettger, Janat Khan, Janeliz Guzman Acevedo, and Luz Figueroa-Rodriguez** from Ramey School worked with team advisor **Ingrid Rapatz-Roettger** and investigated the effects of Saharan dust levels on local respiratory issues and how to create an effective warning system for people who suffer from asthma in Puerto Rico.

**Seventh grade: Silver Bullet, Whiteface, Texas**

**Blade Henry, Elizabeth Casarez, Kaden Moses, and Kaylah Deavours** with Science Rocks U worked with team advisor **Laura Wilbanks** and looked for cost effective ways to heal wounds in a world with antibiotic-resistant bacteria. Team results identified colloidal silver as the material with the largest zone of inhibition and greatest ability to fight bacteria.

**Eighth grade: Artemis, Frisco, Texas**

**Ashwin Koduri, Rushil Chander, and Sonya Ganeshram** from Academic Center of Science worked with **Bhagyashri Chander** and developed a new safety device for the hearing impaired to help notify a user of dangers. Their application can convert emergency light signals (strobe lights) and gas leak detection information into an SMS text alert as well as into a vibratory response for a device worn by a person who is hearing impaired.

**Ninth grade: Myto-Critters, Taos, New Mexico**

**Ashley Martinez, Sierra Ferguson, Zachary Ginn** from Taos Middle/High School worked with **Laura Tenorio** and investigated the impact of antibiotics on mitochondrial function and health in comparison to natural antibiotics. They determined that the antibiotics tested had indications of mitochondrial toxicity while none of the natural antibiotics had any impact on the mitochondria. Team research indicates that natural antibiotics could be better for reducing mitochondrial toxicity and improving health.

NJ&EE is a weeklong event that focuses on educational opportunities and team building exercises. This year’s event featured a STEM Challenge, where students participated in various STEM demonstrations and hands-on activities. Other highlights included a visit to Capitol Hill to meet with members of Congress, sightseeing at the National Mall, and a live-streamed National Showcase where students displayed and demonstrated their winning ideas.

For more information about the eCYBERMISSION competition, visit [www.ecybermission.com](http://www.ecybermission.com) or contact Mission Control at 1-866-GO-CYBER (462-9297) or via email

at [missioncontrol@ecybermission.com](mailto:missioncontrol@ecybermission.com).

### **About Army Educational Outreach Program**

The AEOP Cooperative Agreement was formed by the U.S. Army Educational Outreach Program (AEOP) and includes Virginia Tech as the lead organization, the Academy of Applied Science, American Society for Engineering Education, the Technology Student Association, the University of New Hampshire and NSTA. AEOP is charged with addressing national needs for a STEM literate citizenry through a portfolio of educational opportunities which includes unique experiences, competitions, and high school internships that aim to spark an interest in STEM and encourage participants to pursue college and careers in STEM fields. The Army is committed to increasing the STEM talent pool in order to ensure our national security and global competitiveness. For more information on AEOP, visit [www.usaeop.com](http://www.usaeop.com).

### **About NSTA**

The Arlington, VA-based [National Science Teachers Association](http://www.nsta.org) is the largest professional organization in the world promoting excellence and innovation in science teaching and learning for all. NSTA's current membership includes approximately 55,000 science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in science education.

[Top](#)

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### **100 CEO Leaders in STEM Spotlight:**

#### **An interview with Wes Bush, President & CEO of Northrop Grumman**

"A critical step in building a diverse, STEM student pipeline is making science and math fascinating and applicable for students. We must particularly reach out to women and minority students, where the lack of STEM involvement is detrimental to our society. To do that, we need to support educators who are excited about what they do and can bring unique learning opportunities into their classroom. That is where Northrop Grumman has focused its efforts."

Click here to read the full interview text: <http://stemconnector.org>

[Top](#)

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### **Raytheon awards \$300,000 in MathMovesU middle school scholarships and grants**

**150 middle school students nationwide receive scholarships; schools receive matching grants for math education initiatives**

[Raytheon Company](http://www.raytheon.com) awarded \$300,000 in scholarships and grants to middle school students and their schools as part of

its [MathMovesU](#)® program, an initiative designed to engage middle school students in math and science. Each of the 150 middle school students from across the United States will receive a \$1,000 MathMovesU Middle School Scholarship to be used for a math, science or technology camp or program, or saved for the first year of college. Additionally, each recipient's school will receive a matching grant from Raytheon.

The [150 scholarship recipients](#) were selected from a pool of 6th, 7th and 8th grade student applicants who created multimedia presentations that illustrate the importance of math in the world around them. Student submissions were evaluated on creativity, originality, time commitment and the use of math equations to demonstrate an enthusiasm for the subject.

The MathMovesU Middle School Scholarships are just one way Raytheon highlights the importance of math to the 21st century workforce. Raytheon engages with the MathMovesU community of educators, parents, non-profit partners, policy-makers and students to explore the different efforts under way to improve STEM education and inspire the next generation of innovators.

### **About Raytheon**

Raytheon Company, with 2015 sales of \$23 billion and 61,000 employees, is a technology and innovation leader specializing in defense, civil government and cybersecurity solutions. With a history of innovation spanning 94 years, Raytheon provides state-of-the-art electronics, mission systems integration, C5I™ products and services, sensing, effects, and mission support for customers in more than 80 countries. Raytheon is headquartered in Waltham, Mass. Visit us at [www.raytheon.com](http://www.raytheon.com) and follow us on Twitter [@Raytheon](#).

[Top](#)

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### **U.S. Must Expand Computer Science Education to Keep Up With Demand for Skilled Workforce, ITIF Finds in New Analysis**

Computer skills are in high demand among employers in a wide range of industries, not just tech-related fields, yet despite growing interest in the subject, a [new report](#) from the [Information Technology and Innovation Foundation \(ITIF\)](#) finds that too few U.S. students are taking quality computer science classes at the high school and university levels. ITIF, a leading tech policy think tank, makes the case for public action to support and maintain the groundswell of interest in computer science and capture the economic and social benefits that will come from fostering a more highly skilled workforce.

“Despite the growing use of computers and software in every facet of our economy, computer science education is just beginning to gain traction in American school systems. It should be an urgent priority to make much greater progress,” said Adams Nager, an ITIF economic policy analyst and the report’s lead author.

“Computer science is the most important STEM field for the modern economy, but it is not even represented in the acronym, and it is the discipline that the fewest high school students study. It is encouraging that the number of high school students taking AP computer science has more than doubled in recent years, from about 20,000 in 2010 to almost 50,000 in 2015. But that figure pales in comparison to the number of students taking AP calculus—and in California, there are still more kids taking ceramics.

“We need to shift perceptions of computer science,” Nager said. “We should stop treating it as a fringe, elective offering, or just a skills-based course, and start viewing it as a core science on par with more traditional subjects like biology, chemistry, and physics. Universities also need to expand their course offerings to accommodate growing demand for computer skills among both students and employers in all sectors of the economy.”

Co-authored by ITIF President Robert D. Atkinson, the report explains that computer science education is still considered secondary to the standard high school science track of biology, chemistry, and physics—which was first established in the 1890s. Among the findings:

- Only half of states count computer science as a math or science credit rather than an elective, and the majority (29 states) do not have computer science teacher certification programs.
- The computer science Advanced Placement exam represents only 1.1 percent of all AP exams offered, has the largest gender disparity of any AP exam, and underrepresents minority students. In fact, only 22 percent of students taking AP computer science are female, less than 10 percent are Hispanic, and less than 4 percent are black.
- High school students take five times more AP biology exams than AP computer science exams; they take nine times more AP calculus exams; and they take 20 times more AP English exams.

At the university level, the United States boasts strong computer science programs, but universities still aren't keeping up with demand. Nager and Atkinson cite two main causes for this: First, computer science, like most STEM-concentrated degrees, costs more for schools to provide than majors in the liberal arts or social sciences. Second, universities and colleges often face resistance from within when they try to change departments' size and number of course offerings to reflect students' demand for a particular major, especially if such efforts are not met with a growing student body for the university. Universities, particularly state schools that have faced funding cuts, have few incentives to take on these additional costs by encouraging or enabling more students to take courses. Schools also lack incentives to improve diversity in their computer science departments, as the number and share of women in computer science majors has dramatically declined from a decade ago.

The report points to several tactics universities use to deal with their inability to meet growing demand for computer science courses, including restricting the size of the major, discouraging non-majors from taking courses, and charging a premium for computer science classes.

Nager and Atkinson say the outlook for computer science education is improving, however. Spearheaded by nonprofit initiatives, the importance of coding and computer science has led to concerted efforts to increase the number of students taking computer science courses, provide teachers with resources, and generate interest in the field. Additionally, many states and local governments are recognizing the importance of computer science to both students and employers, and are working to put computer science in all K-12 schools.

The authors offer a series of recommendations for federal and state policymakers to leverage this momentum:

- Reform curricula for existing technology classes to focus on core concepts of computer science in primary and secondary schools;
- Allow computer science to count as either a math or science requirement in high school;
- Teach computer science in all high schools;
- Increase the number of qualified computer science teachers by providing resources to train and recruit;
- Establish more STEM-intensive public charter high schools; and
- Create incentives for universities to expand their offerings in computer science and prioritize retaining students interested in majoring, minoring, or taking courses in the field.

“Graduates with skills in computer science are an incredibly valuable resource for the U.S. economy,” said Atkinson. “It is not enough to rely on the ‘market’ to determine the number of workers with computer science skills, if for no other reason than because key educational institutions do not adequately respond to market signals. It is incumbent on states and the federal government to require or incentivize educational institutions to further develop their ability to train a broader group of students in computer science. Expanding computer science education should be considered an essential component of U.S. innovation and economic growth policy.”

[Top](#)



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