THE GEOINT 2015 SYMPOSIUM
MONDAY
JUNE 22, 2015
SHOWDAILY
BROUGHT TO YOU BY USGIF'S *TRAJECTORY* MAGAZINE

Creating Shared Consciousness

Gen. Stanley McChrystal's Prescription for Today's Complex World

While writing his memoir, *My Share of the Task*, Gen. Stanley McChrystal realized the most interesting part of the story was the transformation of Joint Special Operations Command (JSOC) during the war in Iraq.

"We fundamentally changed the way we operated and the culture of the organization," McChrystal said.

He set out to discover whether the lessons learned at JSOC were unique to the military or if they reflected a universal change that could be applied to government and business. This concept formed the basis for McChrystal's second book, *Team of Teams: New Rules of Engagement for a Complex World*.

McChrystal will give a keynote address at 12 p.m. June 23 during the GEOINT 2015 Symposium in Washington, D.C., to share with attendees the primary messages in his latest book.

McChrystal, a retired, four-star general, is the former commander of U.S. and International Security Assistance Forces (ISAF) Afghanistan and the former commander of JSOC. He is known for developing and implementing the current counter-insurgency strategy in Afghanistan, and for creating a comprehensive counter-terrorism organization that revolutionized the interagency operating culture.

Retired four-star general Stanley McChrystal will give a GEOINT Symposium keynote address June 23 at 12 p.m.

WHY BUILD A "TEAM OF TEAMS"

For the last 150 years, organizations have been built around the concept of efficiency, with a culture of clear-cut processes and organizational charts designed to produce ordered discipline and predictability.

see Creating Shared Consciousness p.9

> "We fundamentally changed the way we operated and the culture of the organization."
>
> —Gen. Stanley McChrystal

FROM THE

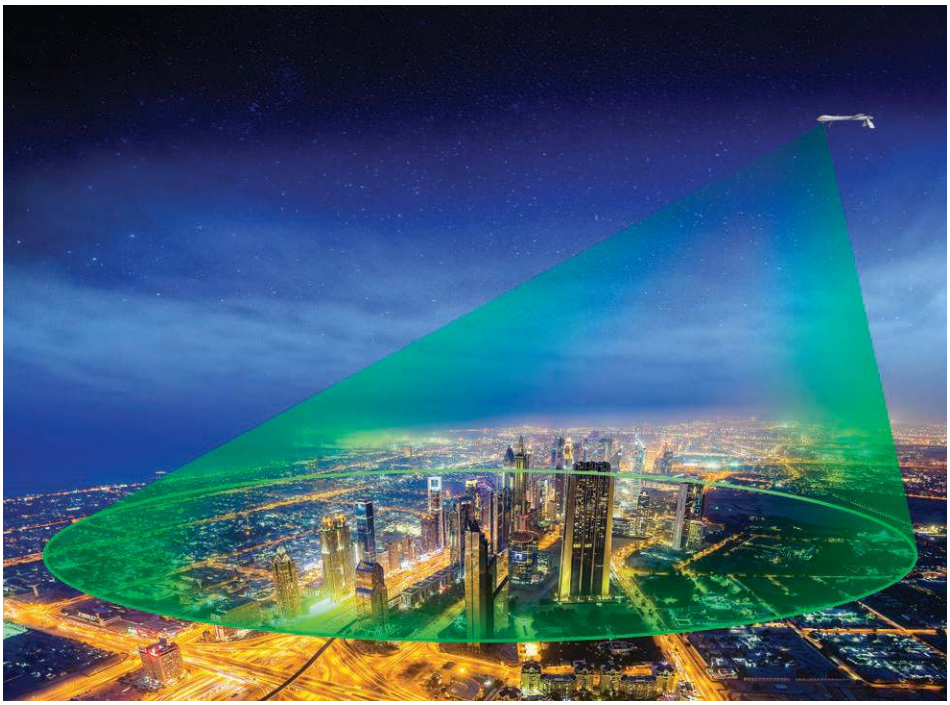


ILLUSTRATION COURTESY OF HARRIS

Harris' CorvusEye wide area motion imagery system captures high-resolution, color and infrared motion imagery of a city-sized area to provide surveillance by day and night.

CREATING A BETTER WORLD

Harris Showcases Enhanced Portfolio Post-Exelis Acquisition

HARRIS (BOOTH 4059) looks forward to discussing its expanded portfolio with GEOINT 2015 attendees following the company's recent acquisition of Exelis. According to Bill Gattle, vice president and general manager of the national business unit for Harris' government communications systems division, the integrated company makes Harris the eighth largest government contractor in aerospace and defense and has significantly expanded its commercial and international footprint.

Gattle described the two companies' products as complementary, noting with the addition of Exelis, Harris is now a "one-stop shop for all kinds of sensor technology."

Harris plans to feature the CorvusEye wide area motion imagery system, Geiger-mode LiDAR, object identification tracking, and more at its booth.

"We're trying to create what we're calling 'the intelligent Earth' or 'the world as it's meant to be seen,' Gattle said. "We can provide sensors of all kinds to monitor the Earth's condition, monitor activity on the Earth, and to characterize what the Earth is doing."

Gattle said the company is also moving toward predictive analysis.

"We're not just going to give somebody a picture of a bridge," he said "We can get to the predictive analytics and actually keep the critical infrastructure in place. We can characterize things to help customers make informed, highly efficient, protective types of decisions to make the world a better place."

PHOTO COURTESY OF NORTHEASTERN UNIVERSITY

ADVANCING TECHNICAL EXPERTISE

Northeastern University Highlights Program and Research Offerings

Northeastern University (Booth 2111) explores a wide range of topics and real-world training in its GEOINT curriculum. The Boston-based university offers an online master's degree in geographic information technology (GIT) through its College of Professional Studies. The program teaches students everything from project management to database design, and it is USGIF-accredited, allowing qualified students to also obtain a USGIF Geospatial Intelligence Certificate upon graduation. The university also offers online master's degrees in homeland security and security and resilience studies.

"Our classes are all online and geared toward working adults focused on expanding their professional knowledge," said Dr. Cordula Robinson, associate teaching professor with the GIT program. "Our goal is to deliver a combination of theory and practical training that will help students gain the essential skills and knowledge needed to succeed in their careers."

Visit the Northeastern University booth to learn about these programs and see presentations of student research on topics such as fatal accident analysis and underwater remote sensing.

On Tuesday, representatives from the GIT program will host a training session titled "Crisis Mapping for Humanitarian Action" as part of the GEOINT 2015 training and education offerings. The session will include demonstrations of three modules: short message service aggregators, open-data kit mobile surveys, and crowdsourced and micro-tasking methods.

Northeastern University will host a networking social for service members and veterans Wednesday from 5 to 7:30 p.m. at Del Campo, 777 I St. NW. The reception will feature retired U.S. Army Gen. David McKiernan, who served in Afghanistan as commander of the International Security Assistance Force.

FLOOR EXHIBIT HALL HIGHLIGHTS

DHS COMPONENTS EXHIBIT AT GEOINT 2015

Homeland Security To Have Significant Exhibit Hall Presence

USGIF has increased its engagement with the U.S. Department of Homeland Security (DHS) and the greater public safety community in the last year. The Foundation hosted its first National Security Workshop at last year's GEOINT Symposium, and conducted a daylong Homeland Security Community Exchange during the fall GEOINT Community Week.

GEOINT's increasingly critical role in homeland security is further reflected by the four DHS components exhibiting at GEOINT 2015.

"Securing our homeland isn't a single agency, state or citizen effort," said David Lilley Jr., DHS geospatial portfolio manager. "Instead, effective homeland security and defense requires unified efforts that span all levels of government, industry, academia, and associations. USGIF's GEOINT Symposium provides an excellent target opportunity for these community members to come together to synchronize efforts, share ideas, and collaborate."

Be sure to stop by each booth to learn how DHS components apply GEOINT to meet their mission:

Booth 8130 Office of Border Patrol Geospatial Information Systems Branch (OBP-GIS), U.S. Border Patrol, U.S. Customs and Border Protection (CBP)
OBP-GIS plans, coordinates, and implements GIS services, standards, and programs supporting CBP and the communities it serves. Its role is to increase operational effectiveness, enhance officer safety, facilitate change detection, and promote efficient, cost-effective resource deployment. OBP-GIS has five core mission objectives: collection, cartography, analysis, tracking, and visualization.

Booth 8122 Department of Homeland Security Geospatial Management Office (DHS GMO)
The DHS GMO exercises executive leadership in establishing department-wide geospatial information and technology programs, directives, initiatives, standards, techniques, and applications. The DHS GMO is the executive steward for the Geospatial Information Infrastructure, which provides a shared sensitive but unclassified platform for users to access trusted geospatial data, map services, and applications.

Booth 8126 Department of Homeland Security Science & Technology Directorate
The Department of Homeland Security Science and Technology Directorate First Responders Group (FRG) works to strengthen the first response community's ability to respond to disasters and emergencies. Through the engagement of first responders the FRG pursues a better understanding of needs and requirements as well as develops innovative solutions to the emergency response community's most pressing challenges.

FEMA Corps members attended USGIF's Homeland Security Community Exchange during GEOINT Community Week 2014.

Booth 8128 Federal Emergency Management Agency (FEMA)
FEMA continues to expand the application and use of geospatial information and analytics throughout the spectrum of prevention, protection, response, recovery, and mitigation. The use and application of geospatial technologies is helping to meet disaster operations and national preparedness goals as defined by Presidential Policy Directive-8.

THE GEOMAKERS REVOLUTION

Become Part of an Online, Do-It-Yourself GEOINT Community

ARTWORK COURTESY OF GEOMAKERS

GEOMAKERS (BOOTH 10058) is looking for your "do-it-yourself" (DIY) ideas on how to improve geography. The recent rise of open-source design, 3D printing, and commodity GPS chips is helping deliver powerful, low-cost geospatial technology into the hands of individuals. "Makers," or those interested in the DIY culture, now have an online platform for the free exchange of open-source, location-aware hardware and software.

As a 501(c)(3) educational organization, GeoMakers hosts an online platform for users to build geo-related projects and coordinate fun collection activities. Schools and universities, community groups, businesses, nonprofit organizations, and government agencies are invited to join the movement and benefit from the GeoMakers platform.

"GeoMakers will dream, build, and implement open-source 'makers' projects that involve mapping, remote sensing, navigating, and understanding our world geographically," said Jared Novick, founder and CEO. "We're seeking to change how people see and interact with our world by using inexpensive DIY techniques."

GeoMakers will demonstrate its online platform to attendees at their booth and also highlight some of the work already completed by members of the maker community.

EXPLORING D.C.

History, Culture, Fine Dining, and More in the Nation's Capital

GETTING AROUND

Ditch traffic and take the historic and clean D.C. metro to the Convention Center or to your evening destination. The Mt. Vernon Sq/ 7th St-Convention Center station provides direct access to the Walter E. Washington Convention Center. Visit **wmata.com** for rates and maps. In the Convention Center neighborhood it is also easy to hail a cab, request an Uber ride via your mobile device, or walk to many downtown D.C. locations. Uber is also offering a special discount to GEOINT 2015 attendees who are first-time customers of the service—$20 off your first ride using the code GEOINT2015.

MUSEUMS

After you've toured the monuments on the National Mall, be sure to make time to visit one of the capital city's unparalleled museums. The 17 Smithsonian museums in the D.C. area, including art galleries and The National Zoo, are all free, making this city a premier destination for families. And if you're up for a drive, don't forget to check out the Smithsonian Air and Space Museum's Udvar-Hazy Center in Chantilly, Va., where you can see the space shuttle Discovery and other historic aircraft filling two huge hangars. Visit **si.edu** to learn more.

Other notable D.C. museums and attractions include the Newseum, The International Spy Museum, The United States Holocaust Memorial Museum, the National Archives Museum, the U.S. Capitol Visitor Center, and the National Arboretum.

DINING

Acadiana, part of the Passion Food Restaurant Group, features Louisiana cuisine in an elegant setting at 901 New York Avenue NW. If Cajun isn't your thing, but seafood is, check out **Passion Food's DC Coast** at 1401 K St. NW.

For traditional Italian served family style, visit **Carmine's** at 425 7th St. NW. For a less traditional take on Italian, there is **Graffiato**, know for its inventive comfort food, at 707 6th St. NW.

The Convention Center is also in proximity to many **José Andrés** restaurants, such as: **Jaleo** offering Spanish tapas at 480 7th St. NW; **Zaytinya** serving Mediterranean mezze at 701 9th St. NW; and **Oyamel** plating upscale Mexican at 401 7th St. NW.

For a more casual setting, visit **Hill Country Barbecue Market** at 410 7th St. NW or **Dangerously Delicious Pies** at 675 I St. NW.

AMERICA'S PASTIME

The Washington Nationals will be at home versus the Atlanta Braves each evening June 23-25. You may also join USGIF for the GEOINT 2015 Symposium Closing Celebration at Nationals Park June 25. Discounted tickets are available for purchase at registration, and each $30 ticket includes $15 of food and drink.

STUDENT INTERNS WIN FIRST GEOINT HACKATHON

Developers Challenged to Produce Predictive Analysis of Disease in West Africa

NEARLY 30 DEVELOPERS and data scientists turned out for the first USGIF GEOINT Hackathon June 12-14. Participants were tasked to determine why certain areas of West Africa were unaffected by the Ebola outbreak as well as predict where additional outbreaks might occur. However, this was their secondary goal—the primary goal

A team of four student interns won $15,000 and free GEOINT Symposium registration at the first USGIF GEOINT Hackathon.

was to expose their team's thinking and build in hooks so another team working with another geography or outbreak could modify the solution to a new set of conditions.

The first-place team included four student interns and was aptly named "Team Intern." Their solution focused on travel and revealed an "Ebola superhighway" along the coast of West Africa. They were awarded the $15,000 grand prize as well as complimentary registration to GEOINT 2015. Team Intern members are:

- **R. Blair Mason**, a member of the U.S. Naval Academy class of 2016 and a double major in computer science and aerospace engineering. Mason is currently interning with the Naval Research Laboratory.
- **Briana Neuberger**, a soon to be senior at Rochester Institute of Technology (RIT) double majoring in imaging science and industrial systems engineering. Neuberger is a SMART scholar and intern with the National Geospatial-Intelligence Agency (NGA).
- **Dan Simon**, a rising senior at RIT and intern at OGSystems.
- **Paul Warren**, a rising junior at Stanford University majoring in computer science as well as an OGSystems intern.

"We developed an open-source python library to model the spread of disease as it's carried by contagious people through a network of nodes and edges using network theory," Warren said.

The second-place team produced what it calls "non-historic" predictive analysis and was awarded complimentary GEOINT 2015 registration. "Team Flo Hacks" members are:

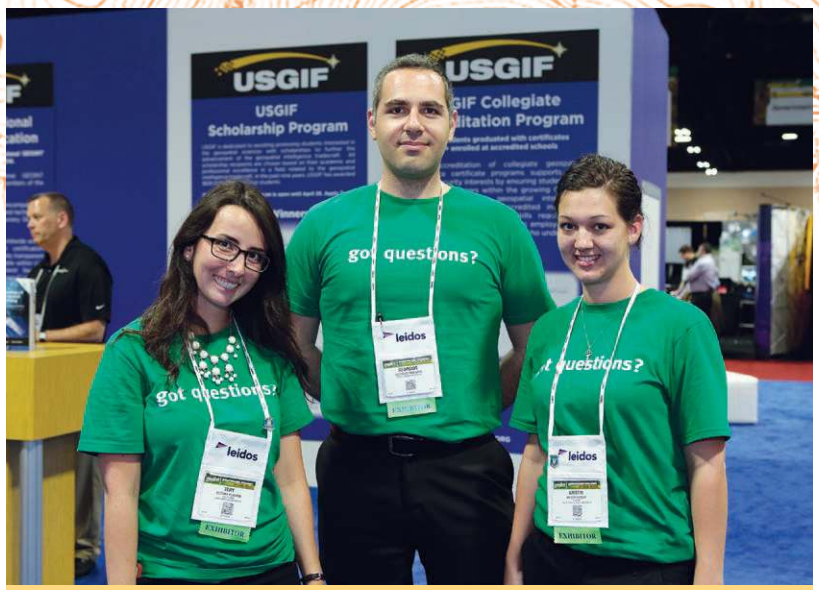
- **Boris Polania** of Hollywood, Fla., a software engineer with post-graduate studies in economics who moved to the U.S. from Venezuela six years ago. Polania recently helped found small software consulting firm V/F.
- **Armando Umerez** of Boca Raton, Fla., who recently moved back to the U.S. from Venezuela and is also a partner in V/F. Umerez is an electronic engineer with post-graduate studies in marketing, management, and sustainable development.

The third-place team developed an easy-to-use graphical user interface based on sanitation data such as access to water. They were awarded complimentary registration to GEOINT Foreword, the pre-GEOINT symposium science and technology day. "Team Agile" members are:

- **Nathan Currier**, an incoming senior at Colorado State University, Fort Collins majoring in computer science as well as an intern with Stinger Ghaffarian Technologies (SGT).
- **Jesse Pai**, a rising sophomore majoring in computer engineering at the University of Maryland, College Park. Pai is also an SGT intern.

The GEOINT Hackathon was sponsored by DigitalGlobe, Esri, and OGSystems, and included judges from USGIF, NGA, DigitalGlobe, Esri, and OGSystems.

Each year, GEOINT Symposium student assistants gain experience and valuable learning and networking opportunities.



AN IMMERSIVE GEOINT EXPERIENCE

Student Assistants from 13 Universities to Volunteer at and Attend 2015 Symposium

Student assistants representing 13 universities across the country have the unique opportunity to participate in GEOINT 2015. As part of USGIF's Student Assistant Program, these 14 students will work 20 hours throughout the Symposium by answering questions, directing individuals, monitoring sessions, and helping out at the USGIF booth in the exhibit hall.

"The USGIF Student Assistant Program introduces top students from USGIF-accredited or affiliated schools to the GEOINT enterprise, providing opportunities for networking and constructive conversations with professional GEOINT analysts, engineers, and scientists," said Dr. Maxwell Baber, USGIF's director of academic programs.

In addition to providing onsite support, students will have the chance to tour the exhibit hall, attend receptions, and network with government and industry attendees.

"The networking opportunity will be tremendous, but I am most looking forward to exploring the exhibit floor and discussing future trends of the geospatial tradecraft and areas of innovation," said Tyler Gill, a senior at the University of Missouri, Columbia and aspiring GEOINT analyst. "I hope to learn new spatial analysis techniques that will further enhance my undergraduate research."

Student assistants will wear Caribbean blue T-shirts throughout the week emblazoned with the phrase "got questions?". If you see a student, please say hello and share your experiences and advice about pursuing a career in the GEOINT Community.

These students' poster presentations will also be on display Monday from 8 to 10 a.m. outside room 146. Presentations will also feature the research of USGIF scholarship winners and students from other USGIF-affiliated universities. The posters will also be on display Tuesday through Thursday at the Academic Pavilion in the GEOINT 2015 Exhibit Hall.

THE NEXT GENERATION OF GEOINT

Young Professionals Program Offers Exclusive Symposium Access

The USGIF Young Professionals Golden Ticket Program offers the opportunity for exceptional young professionals to receive complimentary, full registration and access to exclusive GEOINT 2015 events.

"This is the fifth group of young professionals to receive the Golden Ticket to the GEOINT Symposium," said Carrie Drake, USGIF's senior manager of volunteer engagement. "Each year I am impressed with the participants and how they embrace this incredible experience."

This year's Golden Ticket program will include luncheons with NGA Director Robert Cardillo and co-author of *Rebels at Work* Carmen Medina, special mentoring sessions, the invitation-only USGIF Chairman's reception, and networking receptions. Golden Ticket winners will also participate in the GEOINT 2015 outreach project by hosting families for the first-ever ScavenGeo Dash in the exhibit hall Thursday from 1 to 3 p.m. Stop by the YPG Lounge in the USGIF booth to say hello to this outstanding group of future GEOINT leaders.

Intelligence Community senior leaders mentor young professionals in the YPG Lounge of the exhibit hall at GEOINT 2013*.

The GEOINT 2015 young professional selectees are:

- Mark Biggerstaff, Vencore
- Barry Bragg, RadiantBlue Technologies
- Desiree Brungard, DigitalGlobe
- Brittany Burgess, Vencore
- Andie Dodd, Spatial Networks
- Jace Ebben, Booz Allen Hamilton
- Joel Eichelkraut, Harris Corp.
- Jonathan Fentzke, OmniEarth Inc.
- Adesemowo Adetunji Francis, AAC Consulting
- Cullen Frye, Accenture Federal Services
- Ian Harvy, Pricewaterhouse Coopers
- Joshua Jackson, National Geospatial-Intelligence Agency
- Serena Kelleher-Vergantini, Institute for Science and International Security
- Scott Kozicki, Vencore
- Grace Lee, Accenture Federal Services
- Rose Lemire, PricewaterhouseCoopers
- Preston Mattox, Vencore
- Joel Max, Poudre Fire Authority/Fort Collins Office of Emergency Management
- Caitlyn Milton, DigitalGlobe
- Chris Rader, OGSystems
- Jonathan Rowe, OGSystems
- Kyle Smith, Courage Services
- Kyra Williams, Esri
- Brian Wood, S2 Analytical Solutions
- Emily Wu, PricewaterhouseCoopers

INTRODUCING THE INDUSTRY SOLUTIONS MARKETSPACE

USGIF Launches Commercial GEOINT Market Research Community

The United States Geospatial Intelligence Foundation (USGIF) invites you to join its Industry Solutions Marketspace (ISM) community. ISM is a digital, personal experience for industry and academia to showcase the functionality and interoperability of their solutions. ISM creates a channel—allowing anyone from industry and academia with or without government contracting experience—to show existing solutions to real-world GEOINT problems, all while protecting intellectual property.

The ISM community is established on OGSystems' recently developed commercial market research platform called JIVANGO, which provides rapid access to an extensive pool of untapped expertise to support dynamic requirements and needs. In partnership with OGS, USGIF recently launched the ISM community within JIVANGO.

ISM is an ecosystem for industry to create, deliver, and showcase solutions to both government and commercial clients who have opted in for a subscription to a continuous flow of innovation. There are two user types within the community: Explorers (potential customers) and Solution Providers. Explorers provide mission needs, challenges, and interaction with suppliers through crowdsource-style projects and challenges. This ecosystem creates an environment that fosters and proliferates transparency and marketing, online collaboration, immersive solution assessment, and business process modernization.

Solution providers are able to broadcast to explorers who they are, what they do, and what they have built. The ISM platform has a low barrier of entry, ensuring a wide range of solution and service providers are included. The platform also ensures its members are authorized to conduct business with the U.S. government.

ISM provides data protection and has been penetration tested so personally identifiable information (PII) such as IP addresses will be secure. Other PII such as names, email addresses, and telephone numbers will not be displayed unless explicitly requested or posted by the account owner.

To gain access to the ISM community, visit **www.jivango.com** and create an account using your organization's DUNS number. If you plan to attend USGIF's GEOINT 2015 Symposium, June 22-25, in Washington, D.C., look for ISM kiosks at GEOINT Foreword and in the GEOINT 2015 exhibit hall. If you have questions, please contact **ISM@usgif.org**.

TRAINING SNAPSHOT

This year, the GEOINT Symposium offers more than 80 hours of dedicated professional development. Attendees will receive 0.2 Continuing Education Units upon completion of certain sessions, courtesy of Riverside Research, an International Association for Continuing Education and Training Authorized Provider and USGIF mission partner in STEM education.

Tuesday, the following training sessions will be offered from 7 to 9 a.m. and again from 2 to 4 p.m.:

New Techniques in FMV Analysis for the GEOINT Analyst

Room 145A

Full-motion video (FMV) and GEOINT experts from the Air Force and Special Operations Communities will detail the potential and promise of FMV to empower the GEOINT Community.

The Five Habits of the Master Thinker

Room 145B

This educational session lays out the five critical thinking skills all geospatial professionals should master to protect against biased thinking, help spur imagination, and collaborate across agencies and disciplines to best protect the nation's security.

Making Sense of Object Behavior on the Ground Using the Full Power of Remote Sensing

Room 147A

This session covers various aspects of remote sensing including spatial, spectral, radiometric, and temporal resolutions. It touches upon aspects of tasking and collection of imagery and various imaging modes, as well as discusses how to process data and how imagery can be applied for a variety of military and civil applications.

Crisis Mapping for Humanitarian Action

Room 147B

Learn how to perform crisis mapping in the real world and reflect on ethical, political, and practical challenges that come from working in this field. This training covers three training modules: SMS aggregators, open data kit mobile surveys, and crowdsourced and micro-tasking methods. Attendees must bring a laptop and smartphone to participate.

Game Engines: The Next Step in Simulation with GEOINT Data

Room 149A

As warfighter applications become more reliant on game engine technologies and ever-expanding geographic areas and densities, this course explores opportunities for large-scale procedural intensification of GEOINT source data without requiring manual intervention.

Using LiDAR Data to Perform Seaport Risk and Vulnerability Assessments

Room 149B

This workshop teaches participants to use LiDAR data and imagery to perform a rapid geospatial assessment and mitigate potential high-interest merchant vessel threats. The demonstration teaches participants how to quickly extract feature data from aerial LiDAR and use the results to create a series of operational overlays and industry standard products.

Government, military, and industry attendees participate in training and education sessions at GEOINT 2013*.

Making Sense of Multilingual Social Media

Room 304

This session helps intelligence analysts and managers design a faster, better, and cheaper open-source intelligence social media exploitation strategy to keep pace with unique mission needs, satisfy security requirements, minimize contracting headaches, and optimize budgets.

DRIVING REAL GEOINT BREAKTHROUGHS

AFRL Senior Scientist To Address GEOINT Foreword Attendees

Today's GEOINT Foreword keynote speaker, Dr. Steven 'Cap' Rogers, is a senior scientist at the U.S. Air Force Research Laboratory (AFRL) serving as the Air Force's principle scientific authority for automatic target recognition and sensor fusion. Rogers' research focuses on Qualia Exploitation of Sensor Technology (QuEST) examining how to make an artificially conscious computer. After retiring from active duty in the Air Force, Rogers founded a company focused on developing practical applications of advanced information processing techniques for medical products. The company patented the world's most accurate computer aided detection system for breast cancer. He has more than 150 technical publications and 20 patents. The *GEOINT Symposium Show Daily* talked with Rogers earlier this month to learn more about him and his plans for speaking at GEOINT Foreword.

Why were you interested in speaking at GEOINT Foreword?

I talked to a group of GEOINT professionals who recently visited Wright-Patterson Air Force Base [during USGIF's Dayton Workshop] about the future of ISR in general and specifically how to develop solutions that scale in today's world where we are drowning in data. The talk focused on a vision called Sensing as a Service (SaaS) as well as AFRL's innovative approach for the development and demonstration of improved intelligence product generation, the Planning & Direction, Collection, Processing & Exploitation, Analysis & Production, and Dissemination Experimentation (PCPADx) program. That small group was so enthused by the information discussions, I was happy to receive an invitation to participate at GEOINT Foreword and have the opportunity to expose the broader GEOINT Community to the same information.

Why is geospatial intelligence important, and how does it relate to your role in the Air Force?

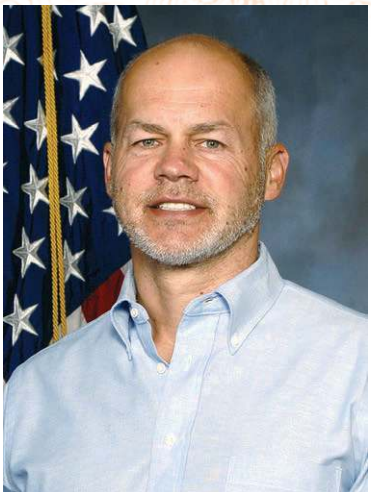
We often use a geospatial tapestry to synchronize/fuse/coordinate our information. When this is appropriate, reasoning over evidence in this geospatial representation has been a mainstay of achieving our decision advantage against our adversaries. Geospatial representations have provided a clear advantage in multi-sensor fusion, which is one technology focus for which I serve as the Air Force's principle scientific authority.

Could you provide a 'sneak peek' of what you plan to discuss in your GEOINT Foreword keynote?

My talk will contain three main topics. The first is to articulate a vision for the future of ISR in the U.S. Air Force. Specifically, I will present SaaS as an approach to break the linear connection between collection, analysis, and dissemination. Breaking this linear relationship is key to scaling our ISR enterprise to break the 'drowning in data' bottleneck. The second part of the talk will focus on responsive sensing automation—a key tenet of SaaS. I will present a discussion on autonomy in general and specifically autonomy applied to the generation of geospatial intelligence. This effort is called QuEST and seeks to develop artificially conscious agents to process data in collaboration with human analysts. The last part of the talk will focus on the AFRL PCPADx effort.

What does innovation mean to you?

Innovation is a term mostly used by people who don't have answers and need a placeholder for where the research and development magic has to occur for a required mission capability to appear. To geeks like me who work in the trenches, innovation is the combining of information in unique ways to identify approaches to solve problems previously thought impossible to answer. SaaS is certainly innovative in that it attempts to change our ISR enterprise from one that is linear to one that is service-based where multiple customers are served by the collections and analyses. QuEST is innovative because it attempts to define the engineering characteristics of consciousness so we can develop computer-based solutions with the ability to respond to stimuli a designing engineer did not envision and thus could not pre-program a response to. Lastly, PCPADx is innovative as a new business model for AFRL. It is not about making one more tool or gadget, but focuses on foundational human-centered engineering to understand the needs of the human analyst; develop human-centered engineering material and non-material solutions; and demonstrate solutions using realistic environments, data, and mission improvements needed by real operators.



Dr. Steven "Cap" Rogers

"Geospatial representations have provided a clear advantage in multi-sensor fusion, which is one technology focus for which I serve as the Air Force's principle scientific authority."

What science and technology trends should GEOINT Symposium attendees keep their eyes on?

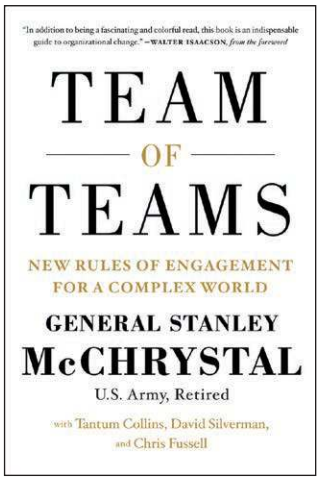
The science and technology trends in autonomy that are not reliant on just more processing power and/or algorithmic improvements will transform GEOINT and should be closely monitored. My talk will cover one such approach—artificial consciousness. In general, I advise GEOINT professionals to be fast adopters, which can only be done via close monitoring of approaches that don't rely on data-driven artificial intelligence (DDAI) alone. DDAI will be part of all future GEOINT solutions, but the real breakthroughs will combine DDAI with approaches that truly attack the autonomy issues associated with unexpected queries. ■

But in Iraq, McChrystal saw that all change when the opposition began leveraging 21st-century technology such as cellphones and computers in simple yet unpredictable ways.

"And that's what we're seeing right now with ISIS," he added. "ISIS, which shouldn't be nearly as effective as it is, is reaching 100 million people a day with their media efforts. It gives them the ability to exponentially leverage what amount of effectiveness they have."

Today, speed and interconnectedness are changing the world and the way everyone works—or should be working—toward their respective missions, whether in military, government organizations, or business.

"When [speed and interconnectedness] come together you get instead of a complicated world a complex world," he said. "A complex world touches us more directly and the essential quality of complexity is an inability to predict. It's not hard to predict, it's impossible to predict."



Basing organizations around efficiency when the requirements are unknown is a "fool's errand." In traditional hierarchies where decisions are made at the top then passed down, a decision is often ineffective by the time it is implemented because the situation has changed.

"What we found in JSOC is we had to enable our subordinate elements to act with smart autonomy because the situation was changing so fast, was so nuanced, that they had to be given the ability to do so … When they did they got remarkably better effects," McChrystal said.

He calls this method "shared consciousness," in which a level of transparency is created across an organization to deliver "contextual understanding." This often requires personnel across an organization to have access to information that was previously only available to seniors.

HOW TO BUILD A "TEAM OF TEAMS"

"A team of teams is really those things you do to connect small teams to create the same synergy between teams that you have within a small team," McChrystal said.

A team of teams is built by using the concepts of radical transparency and shared consciousness to not only empower, but also require subordinates to act with autonomy.

McChrystal shared an anecdote from 2007 in which he met a young analyst who said to him: "Last night we killed [a Taliban leader] in Afghanistan."

"The key thing was she said 'we,'" McChrystal said. "The analyst felt very involved, and just as much an owner of that activity as the people on the ground. And that was critical. That sense of ownership is what makes people part of a team."

The wars in Iraq and Afghanistan served as a "burning platform" or "forcing function" to drive better synergy, but McChrystal said he can now see organizations going back into their corners.

With a son who is a young civilian analyst in defense intelligence, McChrystal encourages young professionals to help break down traditional intelligence structures—to rethink the org chart, the cubicle, and the rigid chain of command.

"What we found in JSOC is we had to enable our subordinate elements to act with smart autonomy because the situation was changing so fast, was so nuanced, that they had to be given the ability to do so … When they did they got remarkably better effects."

"If this generation just accepts [those things] we will be right where we have been," he said. "We need this next generation to have the expectation that it's going to be completely different. It's doable and I saw it in place in Iraq and Afghanistan for a period. But changing [culture] back in D.C. and in other areas permanently is going to take the next generation taking ownership of it." ■

The *GEOINT 2015 Show Daily* is brought to you by *trajectory*, the official publication of the United States Geospatial Intelligence Foundation (USGIF).

For advertising inquiries, please contact:

Jeff Ley
Jeff.Ley@usgif.org
703-628-8696

Ashley Jones
ashley.jones@usgif.org
703-946-4834

website
trajectorymagazine.com

twitter *@trajectorymag*

PUBLICATION MANAGEMENT

GLC
847-205-3000
glcdelivers.com

WELCOME TO THE GEOINT REVOLUTION

A Conversation with USGIF CEO Keith Masback

USGIF CEO Keith Masback

GEOINT 2015 will be the first Symposium hosted in Washington, D.C. How will this new—and for many attendees, local—location shape this year's event?

It's incredibly exciting to bring the GEOINT Symposium to Washington for the first time. We've had 11 years of phenomenal events that have grown and changed over time and taken on more content and attracted different audiences. However, in a sequestration environment, travel has been a bit of challenge, certainly for more junior people. Being in D.C. means we have an opportunity for a larger cohort to experience all that the Symposium has to offer.

Beyond that, we also have an opportunity to reach a broader audience across the military, government, and other related activities. If you are part of the Department of Commerce or the Department of the Interior, for example, and you have remote sensing or GIS responsibilities as part of your job, you may not have been able in the past to convince your boss that what you do relates to a conference that on the surface appears to be solely about national security. Those of us in the business know remote sensing, GIS, and data analytics at their base solve all kinds of problems beyond national security. We have been able to reach out to those people who can maybe only initially attend when the Symposium is in D.C. We hope once they've experienced the event they can more readily justify their attendance in the future.

Our registrations already show that we're going to have the most diverse audience we've ever had in terms of the spectrum of agencies and organizations represented.

Is that why USGIF chose the theme of 'Opening the Aperture, Charting New Paths' for GEOINT 2015?

There's a little bit of whimsy in this year's theme. There are multiple ways to look at it. One, we are truly opening the aperture to broader audiences to engage people who we perhaps haven't been able to engage with before. There is a GEOINT revolution underway and the field is much bigger than the narrow national security space that it's traditionally been known for.

Another is looking at how GEOINT is transcending not just national security but indeed government in a larger sense. We're starting to see geospatial intelligence take its place alongside business intelligence. Location-based technologies, remote sensing, and analytics are becoming differentiators and game changers in the competitive nature of the business world, and those who are able to use these technologies and this tradecraft to their benefit will have a distinct advantage.

How does the theme of 'Opening the Aperture, Charting New Paths' also tie into the USGIF mission?

As GEOINT has grown as a discipline, as its technologies have proliferated, and as supporting, related technologies have matured, the idea of GEOINT has expanded. And it is vitally important for the Foundation to expand along with it. We would be remiss if we maintained a very defined, limited view of what GEOINT is and if we looked at it solely through the lens of national security because we know it has eclipsed that. Therefore, it's important that the Foundation takes on a broader set of challenges and looks at larger issues.

> "We would be remiss if we maintained a very defined, limited view of what GEOINT is and if we looked at it solely through the lens of national security because we know it has eclipsed that."

A perfect example is our strategic relationship with the Centre for Spatial Law and Policy. Law regarding remote sensing, UAVs, and location privacy is being created not from the top down in our country, but rather one gavel bang at a time, one case at a time in local, circuit, and state court rooms. The U.S. is sort of blindly wandering its way into how it's going to manage the law, policy, and regulation of these technologies and this broader idea of GEOINT. USGIF feels it's incumbent upon us to continue to provide thought leadership and to be the convening authority for discussion around these topics. By supporting the work of the Centre we are trying to catch up and maybe get out ahead of these decisions. We want courts to make decisions about GEOINT that are well-informed and future-leaning rather than reacting to technological change and thus, by definition, never catching up.

How is the content at GEOINT 2015 going to reflect this idea of 'Opening the Aperture?'

In the last 18 to 24 months there has been some foreshadowing of this expansion embedded throughout USGIF content in our events, *trajectory* magazine, social media engagement, and our web presence.

You've seen us dealing with issues that at first blush don't seem to have an obvious connection to GEOINT in traditional ways. But if you dig deeper when you ask, 'Why are there elephants on the cover of *trajectory*? Why is there an epidemiology panel at GEOINT 2015? Why is USGIF hosting a cyber-location nexus workshop?'—It becomes clear the things they're doing are using the same software, hardware, services, and tradecraft that we know as GEOINT. We will see a tremendously increased presence of the component organizations of the Department of Homeland Security in our exhibit hall this year. They're practicing something that we would look at and call GEOINT, and while they may not call it that, it is surely what they're doing in pursuit of public safety.

USGIF is changing the content we're presenting at GEOINT 2015 to make sure we are broadening our offerings in lockstep with the GEOINT revolution that is underway.

We are trying to make sure people get a great return on investment for their time, dollars paid for registration, and dollars paid to exhibit and interact with our unique audience. This is all about trying to be the most efficient and effective that we can be in a finite period of time to deliver a lot of meaningful content, create discussion, and continue thought leadership.

The training and education offerings at GEOINT 2015 have doubled since the last Symposium to total more than 80 hours. What prompted this increase?

We doubled these opportunities based on very enthusiastic feedback about the value proposition of the training our members provided at GEOINT 2013*. It's a testament to our member companies, organizations, and academic institutions that they so enthusiastically support training and education. No one presenting training is being paid by USGIF to do so. They're doing it because they see the value of contributing to a higher purpose. They see that the rising tide of the GEOINT profession raises all boats.

USGIF is also rolling out its revamped Individual Membership offering at GEOINT 2015. Why is now the right time to encourage individuals to join the Foundation?

USGIF was founded and has been supported throughout its first 11 years by corporate sponsorship dues and membership. We now have more than 240 member organizations and are humbled by their 11 years of support, but we are opening the aperture. We have 12 schools accredited to grant academic GEOINT certificates and more than 500 students who have achieved them over time. We are quickly headed toward $1 million in scholarships awarded to students pursuing GEOINT education. It's now time for us to step up to be the professional society for GEOINT practitioners. We have matured to the point where we are able to provide that service. We will soon launch our professional Universal GEOINT Certification, our online offerings and working groups are robust, and we have established *trajectory* as the chronicle of GEOINT. So, we're saying 'Be part of something larger than yourself and support your professional organization, because we collectively are going to leave this profession better than we found it for those who come behind us. ■

THE EDUCATION ECOSYSTEM

Q&A with USGIF Chairman of the Board the Honorable Jeffrey K. Harris

What are your thoughts as you approach the GEOINT Symposium as Chairman of the USGIF Board of Directors?

I probably view what we do more critically because today I see the opportunity for the GEOINT Community is so great, and I want to see us all running faster toward the bright capability light on the hill. It's really exciting for me to see how we showcase everything that the industry and government have been working on. The question I ask myself is, 'Can we accurately reflect everything that has been done or needs to be done in order to help our members, government, and industry maximize their potential so that we can evolve and transform our tradecraft?'

USGIF Chairman of the Board of Directors the Honorable Jeffrey K. Harris

So this year, not only do you have heightened responsibility but also the Symposium is different in that it's located in D.C. for the first time. How has this location been uniquely challenging and exciting?

We're certainly pleased to be in the District of Columbia where so much government is located. We know that everybody has to make tough scheduling choices every day—this year's location may make it easier for some attendees. What I love about the GEOINT Symposium is the compelling content on the main stage attracting a room full of attendees because informative dialogue is happening. At the end of the Symposium it's almost as if you've left a time warp because you are intensely focused from first light in the morning to the end of the evening, benefiting from the rich content and the comprehensive networking. At the end of the event you have seemingly squeezed a month's worth of work into a week.

The D.C. location also gives us the ability to engage rich content from important policymakers in the GEOINT universe because they don't have to commit to a day away from the office traveling. It is an exciting prospect to get content and conversations in the programming that may not be possible if it were not in Washington, D.C.

In addition to more diverse speakers, do you think the D.C. location also yields more diversity among attendees?

Yes. As we come to Washington we realize we are really able to share the GEOINT Symposium experience with attendees who have work and family commitments that preclude a business trip. In addition, we are seeing interest from first-time attendees who appreciate an easier way to engage with the event.

Throughout my career, I was pleased to discover the amount of decision-quality information I got from walking around having conversations versus briefings. These conversations would give me input that would affect my decision-making. For example, I would attend the GEOINT Symposium and be exposed to new thinking, engage with my current network that would introduce me to a larger network which then caused my thinking to mature—oftentimes much differently. So, as I think about adding new attendees, we end up with more depth and breadth of conversations that I'm really excited about. Ideas that may be borne from the presentations will also extend to the exhibit hall. What's interesting as I look at the exhibitor list this year, there are companies fighting to get onto our exhibit floor who have not yet discovered the additional value of USGIF membership. I would expect that their experiences this week will allow them to engage and more fully participate in the USGIF ecosystem. They stand to gain the understanding that I have: It's your booth and your company representatives combined with the booths adjacent to you, combined with the richness that took place on the main stage or government stage that proves the USGIF value proposition. On our exhibit floor it's about ideas and collaboration in mission space and not just about individual products.

What does the GEOINT 2015 theme 'Opening the Aperture, Charting New Paths' mean to you?

It seems each year is more exciting than the previous because we better understand the implications and import of the speed at which technology is coming at us. Things that were technically hard in 1960, such as taking pictures from space, are now in our lives through a variety of channels. The aligning of these new technologies within the market aperture of defense and intelligence is the sweet spot of the space USGIF operates in. We're able to take a good idea out of any vertical marketplace and leverage it to move it across into a mission solution. It's easy to talk about the traditional government markets of defense, intelligence, homeland security, and public health. What is transformative, for example, is to see how location-enabled social media is changing each of these verticals. The way we've designed the 'Opening the Aperture' Symposium theme is to say: 'Wake up, smell the roses, see what's really going on, see how these adjacencies can play into enhancing your vertical because the technologies are in reality horizontal. This enables the delivery of enhanced mission capability at speed.

USGIF is opening its aperture as well through the expansion or introduction of many initiatives. What are your thoughts on the future of the Foundation?

USGIF is first and foremost an educational foundation. We've now aligned with a dozen universities for our collegiate accreditation program, which awards students GEOINT certificates. Through the development of USGIF's professional Universal GEOINT Certification, we have specified the core competencies required for a 21st-century GEOINT workforce. By working with these universities and agreeing on education outcomes we are helping academia build tomorrow's GEOINT practitioners for government and industry.

I'm a university trustee and recently while working on its strategic plan, it occurred to me that by 2025 there's a marketplace demand for our sons and daughters to graduate from universities with a portfolio of attainments or credentials that better describe workforce competencies.

"Wake up, smell the roses, see what's really going on, see how these adjacencies can play into enhancing your vertical because the technologies are in reality horizontal. This enables the delivery of enhanced mission capability at speed." —The Honorable Jeffrey K. Harris

These competencies combined with critical thinking skills will define the 21st-century knowledge worker.

The Foundation's accredited certificates represent our contribution to the academic community. We enable university students with financial resources from the USGIF Scholarship Program. We will soon offer the Universal GEOINT Certification to help refine the professional workforce. Our training offerings are designed to increasingly provide a lifetime of learning. You can get a much better understanding of the USGIF educational framework at GEOINT 2015. Our Universal GEOINT Certification will be beta tested throughout the week. Young professionals will have a tailored program to engage with senior leaders. It's this educational ecosystem where USGIF helps to grow future GEOINT leadership.

Why is this experience rewarding for you personally?

During my career I worked with and learned directly from pathfinders. It's great to reflect on my career trajectory with the understanding that young people joining the workforce today have so many exciting opportunities. It's rewarding to have an organization like USGIF that can help guide young professionals at the beginning and midpoint of their careers with lifelong education, networking, and engagement to help advance the tradecraft and their careers. In the early '90s I helped to write the commercial remote sensing policy that allowed commercial high-resolution imaging from space. We envisioned an industry that would improve defense and intelligence capabilities through transparency while evolving the marketplace to create a new commercial industry. Today, we see how these steps are changing our understanding of the planet and its people. On a good day we are making it a really hard day for elephant poachers in Africa and helping stop the spread of infectious disease. Participating in this industry and watching the technology fuel new capabilities while helping to guide this wonderful organization is part of giving back. ■

8:00-10:00a
STUDENT POSTER SESSIONS, COFFEE AND NETWORKING (OUTSIDE ROOM 146)

10:00-1015a
WELCOME – DARRYL MURDOCK, VICE PRESIDENT OF PROFESSIONAL DEVELOPMENT (ROOM 146)

10:15-10:45a
GEOINT ANALYTIC CHALLENGES (ROOM 146)
- John Goolgasian, Director, NGA Source Directorate
- Paula Knepper, Program Director, Emerging Threats & Opportunities, Global Security, Los Alamos National Laboratory
- Eileen Preisser, Director of Air Force GEOINT Office, U.S. Air Force
- Gary Dunow, Director, NGA Analysis Directorate

10:45-11:45a
ANALYTIC CHALLENGE Q&A
(Rooms 145A, 145B, 147A, 147B) - Presenters will rotate through each of the four rooms allowing for all attendees to ask questions
- Daniela Moody Scientist, Intelligence and Space Research Division, Los Alamos National Laboratory
- Scott Webster, NGA Source
- Lon Haman, NGA Analysis
- Thomas Buist, Teresa Hofstetter, U.S. Air Force

11:45-12:30p
LUNCH BREAK

12:30-12:45p
MASTER OF CEREMONIES – THE HONORABLE JEFFREY K. HARRIS, CHAIRMAN, USGIF BOARD OF DIRECTORS (ROOM 146)

12:45-1:30p
KEYNOTE: QUEST FOR AUTONOMOUS GEOINT – SENSING AS A SERVICE AND PCPADX DR. STEVE ROGERS, AIR FORCE SENIOR SCIENTIST FOR AUTOMATIC TARGET RECOGNITION AND SENSOR FUSION, AFRL (ROOM 146)

1:30-1:45p
NETWORKING BREAK (ROOM 146)

1:45-3:00p
AFTERNOON CONCURRENT SESSIONS

145A: How to Train Your Data Scientists
Moderator: Josh Sullivan Partner, Strategic Innovation Group, Booz Allen Hamilton
- Kirk Borne, Principal Data Scientist, Booz Allen Hamilton
- Srinivas Prasad, Associate Professor of Decision Sciences George Washington University (invited)
- Philippe Rigollet, Associate Professor, MIT
- Casey Stella, Principal Architect, HortonWorks

145B: GEOINT Credentialing Panel
- Tim Hegarty, Chief Learning Officer, NGA
- Darryl Murdock, Vice President, Professional Development, USGIF
- Rich Schultz, Associate Director, GeoTech Center
- Diana Sinton, Executive Director, UCGIS

147A: Utilizing Commercial Space and Small Sat Assets
Moderator: Jessica Young, Mechanical Engineer, Lockheed Martin
- Thomas Doyne, GEOCOM Staff, NGA
- Wade Larson, Chief Executive Officer, UrtheCast
- Richard B. Leshner, Planet Labs
- Chris Ruf, Principal Investigator, Venture Mission NASA

147B: NGA Collegiate Research and Education
Moderator: Joan Vallancewhitacre, NARP Program Manager, InnoVision Directorate, NGA
- Todd Bacastow, Professor of Practice for Geospatial Intelligence, Penn State University
- Rakesh Malhotra, Assistant Professor, Fayetteville State University
- Shakila Merchant, Assistant Director, NOAA Cooperative Remote Sensing Science & Technology Center, City College of New York
- David Messinger, Interim Director, Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology

3:00-3:30p
NETWORKING BREAK (ROOM 146)

3:30-4:45p
AFTERNOON CONCURRENT SESSIONS

145A: Data Science Acquisition Models
Moderator: Saurin Shah, Chief Data Scientist, Booz Allen Hamilton
- Chris Bennight, Project Scientist, NGA
- Will Cukierski, Head of Competitions, Kaggle
- Dave Mattox, Director of Data Science, Altamira Technologies

145B: Universal GEOINT Essential Body of Knowledge
Moderator: Ayana Nickerson, Credentialing Manager, USGIF
- Chris Anderson, Research Analyst, GSX
- Max Baber, Director, Academic Programs, USGIF
- Joselito Lualhati, Director of Research and System Development, GSX

147A: Swimming in the Data: Modeling, Simulation, Analysis and GEOINT
Moderator: Dan Maxwell, President, KaDsci
- Ryan McAlinden, Associate Director, Institute for Creative Technology, University of Southern California
- Samuel Chambers, Joint Staff J-7
- Bobby Chamberlain, NRO
- Earl Miller, USSOCOM

147B: NGA/USGS Centers of Academic Excellence Program
Moderator: Edward Cope, Director of IB, InnoVision Directorate, NGA
- Frank Avila, National GEOINT Officer – Imagery Science, NGA Analysis Directorate
- Kari Craun, Director of National Geospatial Technical Operations Center, USGS
- Brian Hagan, NGO for Geography & Cartographic Content, Source Directorate, NGA
- Justin Poole, Director, Xperience Directorate, NGA
- Ernest Reith, Deputy Director of IT Services, NGA

4:45-5:00p
NETWORKING BREAK (ROOM 146)

5:00-6:15p
AFTERNOON CONCURRENT SESSIONS

145A: Analytics and Change Management
Moderator: Angela Zutavern, Vice President, Strategic Innovations Group, Booz Allen Hamilton
- Andy Hock, Senior Developer of Advanced Technology Programs, Skybox
- Ezmeralda Khalil, Principal, Strategic Innovations Group, Booz Allen Hamilton
- Chris Rasmussen, Unclassified GEOINT Pathfinder Program Manager, and Public Open Source Software Development Lead, NGA

145B - GEOINT Analytics Lexicon

Moderator: Chris McLean, Los Alamos National Laboratory; and Daniela Moody, Scientist, Intelligence and Space Research Division, Los Alamos National Laboratory

- Eric Anderson, Executive Director, CaGIS
- Stuart Blundell, General Manager and Director of Sales, Exelis Geospatial Intelligence Solutions
- Kari Craun, Director of National Geospatial Technical Operations Center, USGS
- Michael Hauck, Executive Director, ASPRS
- Darryl Murdock, VP of Professional Development, USGIF
- Kevin Pomfret, Executive Director, Centre for Spatial Law and Policy
- Diana Sinton, Executive Director, UCGIS

147A - Creating and Posting Open Source Apps

Moderator: Ben Conklin, Lead Military and Intelligence Solutions, Esri; and David Waldrup, Strategic Advisor, TASC

- Steven C. Christopher, Lead for GEOINT Services, Analysis Directorate, NGA
- Shana Simmons, NGA
- Tom Suder, President, MobileGov
- Todd Smith, Director of Geospatial Technology, AGI

147B - Interoperability and Improving Integration with Standards, Models, and Data

Moderator: Teri Dempsey, Director of Geospatial Systems ISAS, TASC

- Ray Bauer, Innovation Lead of Architecture and Integration, NGA
- Mike Lokuta, Chief Engineer of Defense & Security, CAE
- Mike Thompson, Manager of Geospatial R&D, CACI

6:15-7:30p
EMERGING TECHNOLOGIES LIGHTNING TALKS & NETWORKING RECEPTION (ROOM 146)

Emerging Technologies Lightning Talks

Moderator: Chris Powell, NT Concepts

- Joseph Guay, Lecturer, Northeastern University — Geospatial Technologies for Humanitarian Action: harnessing mobile solutions, the power of the crowd, and commercial remote sensing in low-resource, high-risk settings—a conceptual framework
- Lawrence Brown, Solutions Architect, NVIDIA — Graph Analytics at Scale for GEOINT
- Sam Gordy, President of Integrated Systems Group, Leidos — Context, Content and Consequence via Real-Time Integration of Multiple Sources
- Andrew Doyle, Senior Engineering Manager, CACI — The EMBERS Predictive Analytics System
- Cordula Robinson, Director of GIT Program, Northeastern University — Enabling faster delivery of GEOINT: Situational Awareness via secure data links: Example from the Boston Marathon, 2015.
- Garrett Kenyon, Scientist, Los Alamos National Laboratory — A Massively Scalable Multi-INT Processor
- Ryan Smith, Senior Manager, DigitalGlobe — Calculating High Resolution Global Scale Geospatial Analytics with MapReduce Geospatial (MrGeo)
- Harold Trease, Chief Scientist, DataFission — Next Generation Information Content Analysis Tools — Applied To Unstructured, Multi-INT Sensor Data
- Claire Giordano, Senior Director of Emerging Storage Markets, Quantum — Connecting Dots In Today's World—Crayons Not Included

» TUESDAY JUNE 23 AT-A-GLANCE

EXHIBIT HALL OPEN 10:00-5:00P

7:00-9:00a	**TRAINING & EDUCATION SESSIONS**
9:00-9:15a	**PRESENTATION OF COLORS** (Hall C)
9:15-9:30a	**WELCOME – THE HONORABLE JEFFREY K. HARRIS, CHAIRMAN, USGIF BOARD OF DIRECTORS** (Hall C)
9:30-9:45a	**MASTER OF CEREMONIES – JOAN A. DEMPSEY, USGIF BOARD OF DIRECTORS** (Hall C)
9:45-10:15a	**KEYNOTE – THE HONORABLE ROBERT WORK, DEPUTY SECRETARY OF DEFENSE** (Hall C)
10:00-5:00p	**EXHIBIT HALL OPEN** (Halls A-B)
10:15-11:00a	**KEYNOTE - ROBERT CARDILLO, DIRECTOR, NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY** (Hall C)
11:00-11:30a	**NETWORKING BREAK - SPONSORED BY MCR** (Outside Hall C)
11:30-12:00p	**KEYNOTE – THE HONORABLE MICHAEL D. LUMPKIN, ASSISTANT SECRETARY OF DEFENSE FOR SPECIAL OPERATIONS AND LOW-INTENSITY CONFLICT (SO/LIC)** (Hall C)
12:00-12:30p	**KEYNOTE – GEN. STAN MCCHRYSTAL, U.S. ARMY (RET.), FORMER COMMANDER, U.S. AND INTERNATIONAL SECURITY ASSISTANCE FORCES (ISAF)** (Hall C)
12:30-2:00p	**LUNCH BREAK AND EXHIBIT TIME** (Halls A-B)
1:30-4:00p	**GOVERNMENT PAVILION STAGE** (Hall B, Booth 8105)
2:00-3:30p	**BREAKOUT DISCUSSION - ASSURING SPACE RESILIENCE** (Room 146)
2:00-4:00p	**TRAINING AND EDUCATION SESSIONS**
2:45-3:15p	**AFTERNOON REFRESHMENT BREAK - SPONSORED BY JUNIPER NETWORKS & TECHNICA** (146)
4:00-5:00p	**EXHIBIT HALL RECEPTION** (Halls A-B)
4:00-5:00p	**YPG LOUNGE MENTORING SESSION** (Hall A, Booth 1033)
5:00-8:00p	**GEOINT 2015 WELCOME CELEBRATION** (The Carnegie Library at Mt. Vernon Square)

DOWNLOAD THE OFFICIAL

GEOINT 2015 SYMPOSIUM APP

for the most up-to-date event information

The event app features a full agenda, exhibitor listings, speaker information, social media, and much more. App users also have the option to create a profile and interact with other GEOINT 2015 attendees within the app.