USGIF SLAWG
Monthly Meeting

January 29, 2020
Agenda

• Introductions
• Geo-Resolution 2020 – Enbal Schacham
• Flash Talk: Gateway Global - Zekita Armstrong Asuquo
• Flash Talk: National Security Innovation Network – Jake Laktas
• GeoPlunge Update – Gladys Conaway
• GEOINT Update – Tara Mott
• GeoFutures Update – Andy Dearing
• Geosaurus Unleashed Update - Mark Tatgenhorst, Madeline Swanstrom
• SubCommittee Updates
  • University/R&D Subcommittee
  • Workforce Development - Enbal Shacham
  • K-12 Subcommittee Update - Sekhar Prabhakar
Introductions

• Name
• Organization
What is the SLAWG?

The SLAWG is a volunteer-based group formed under the U.S. Geospatial Intelligence Foundation (USGIF), a 501c3 educational nonprofit dedicated to supporting the geospatial intelligence tradecraft. It is a group of industry, government, academic and community partners with a goal to clarify pathways for education and training for geospatial careers and certifications in the St. Louis region, and identify needs for new pathways to integrate with existing efforts.
Calendar of Events

• **February**
  - **26** – USGIF SLAWG Monthly Meeting, T-Kartor hosting at Globe Building, 710 North Tucker Blvd, St. Louis, 2 – 4 pm

• **March**
  - **5** – GeoPlunge at SLU Campus
  - **25** – GeoResolution at SLU Busch Center, St. Louis (NO SLAWG MEETING)

• **April**
  - **22** – USGIF SLAWG Monthly Meeting, Geosaurus at T-Rex, 911 Washington, 2 – 4 pm
  - **26 – 29** – GEOINT 2020, Tampa, FL
Members & Community Publications

• GeoFutures Article:

• Government Matters – Inside N2W:
  • [https://govmatters.tv/inside-nga-west-part-1/](https://govmatters.tv/inside-nga-west-part-1/)

• T-Rex in the News:

• **Dick Fleming on The Gigabyte Corridor North of Tucker in STL MO**

• Vianney High school Cyber patriot 2019 team and individual award.
  • [https://www.vianney.com/cyberpatriot.html](https://www.vianney.com/cyberpatriot.html)

• **The Bottom Line: St. Louis sees growth in geospatial sector**

• NGA SBIR: [https://sbir.defensebusiness.org/topics?topicId=307335](https://sbir.defensebusiness.org/topics?topicId=307335)
  • Title: Generalization Bounds in Deep Learning
Geo-Resolution 2020 – Enbal Shacham
THE 21ST CENTURY
geospatial ecosystem

MARCH 25, 2020 | SAINT LOUIS UNIVERSITY, BUSCH STUDENT CENTER |
geo-resolution 2020
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY & SAINT LOUIS UNIVERSITY

SAINT LOUIS UNIVERSITY. Geospatial Institute
Mission Statement:
➢ The National Geospatial-Intelligence Agency (NGA) and Saint Louis University (SLU) are co-sponsoring Geo-Resolution 2020 to continue the collaboration of the government, academic and industry partners who are growing the Geospatial Ecosystem in the Greater St. Louis region.

Vision Statement:
➢ The 21st Century Geospatial Ecosystem will require the combined efforts of government, industry and academia to provide the enterprise data and services needed for informed decision-making, increase our knowledge of the world, and to improve quality of life and societal conditions.

➢ When: March 25, 8 a.m. – 3:30 p.m. (CDT)

➢ Where: Saint Louis University (SLU), Busch Student Center
Keynote Speakers
- Dr. James Reilly, Director, USGS
- Mr. Jack Dangermond, President and CEO, Esri
- Dr. Vint Cerf, Chief Internet Evangelist for Google

Panel Sessions
- Hydrography: Mapping the Waters
- Geospatial Ecology: Mapping the Living World
- Geospatial Ethics: Privacy, Persistent Surveillance and Connectivity
- A Year’s Progress for the Saint Louis Regional Geospatial Ecosystem
Attendees of the Geo-Resolution 2020 Conference registering as students are invited to participate in an industry career fair.

Recruiting representatives from the Intelligence Community, private companies, public utilities and consulting firms from 4:00 p.m. to 6:00 p.m. in the Saint Louis Room, Busch Student Center.

Come meet recruiters and learn about exciting career opportunities in all aspects of geospatial and mapping technologies, including remote sensing, open source analytics and national security.

On-line registration and same-day registration will be available.
Geo-Resolution 2020 Mentoring Lunch

❖ Attendees of the Geo-Resolution 2019 Conference registering as students are invited to attend a networking lunch with members of the NGA leadership in Room 253 from 11:30-12:45.

❖ Local leaders from industry, academia and government will join students to discuss local geospatial career opportunities, provide advice on the types of skill sets in demand and how we can continue to grow the Science, Technology, Engineering and Math (STEM) workforce.

❖ Registration will be limited, and a Conference-provided name tag will be required to attend.
NGA and SLU will be co-hosting another series of symposia in 2020

Led by researchers and analysts from NGA and SLU, explaining and de-mystifying fundamental concepts in mapping and geospatial analysis:

- February 3: Safety of Aviation
- March 16: Machine Learning/Artificial Intelligence

Salus Center Auditorium, 5:00 - 6:00 pm

Free registration will be through Eventbrite
The Saint Louis University Research Institute and the SLU Geospatial Institute
cordially invite you to

“The Machines are Watching Us; Who is Watching the Machines?”

featuring

Robert Cardillo

Robert Cardillo, Distinguished Geospatial Fellow at Saint Louis University, delivers this inaugural installment of the GeoSLU Speaker Series. Geospatial mapping technologies have tremendous potential for the common good. In an effort to promote broader ethical awareness and dialogue both at SLU and in the wider community, the GeoSLU Speaker Series will address the ethical aspects of emerging geospatial technologies.

Wednesday | January 29th | 4:30 pm

Doors open at 4:00 pm. Refreshments will follow the event.

COLLAB, Third Floor
4220 Duncan Ave.
St. Louis, MO 63110

Space is limited. Please RSVP to:
Kine Walker
314-925-3027
kine.walker@slu.edu
Flash Talk: Gateway Global - Zekita Armstrong Asuquo
Zekita Armstrong Asuquo
Founder & President

- Global Marketing Consultant – marketed wine (for clients) into China, Hong Kong, Thailand, Malaysia and other Asian markets
- Diversity Manager – oversaw $70M diversity spend portfolio with more than 300+ contracting consultants
- Director of Social Enterprise – built a social enterprise unit to help a local nonprofit generate revenue, oversaw operations, developed workforce development program for women re-entering the workforce
- Director of Operations – oversaw operations and finance at private, local middle and high school
- Published – by some of the most influential publications including ABC World News, The Root, Diversity Journal, Black Britain Magazine, and St. Louis American
- Media – appearances on local and national radio shows including Roland S. Martin Show (former CNN), Rebecca Roberts (DC), and Charlie Brennan (KMOX)
- Community board and committee memberships – Community Women Against Hardship, former HSSU Workforce Preparedness Advisory Council, Opera Theatre St. Louis Engagement & Inclusion Committee, former NAWBO St. Louis President, GeoFutures Committee (STL)
- Education – B.A. Sociology and Anthropology (concentrations in International Relations and Majority/Minority Relations, Maryville University MML in Business Candidate, World Trade Center Certification in International Trade
Gateway Global American Youth & Business Alliance

• Non profit federally tax exempt
• Recruits apprentices: high school students, high school graduates, and college students
• Offers training: technical and soft skills
• Facilitates Dept. of Labor registered Geospatial Specialist Apprenticeship program (Entry to Executive)
• Partners across STL region and the state

Gateway Global Data Logistics Co.

• For profit Missouri registered corporation
• Certified MBE Corporation eligible for small business contracting set asides to employ Geospatial Specialist Apprentices
• Specializes in both topography and activity based intelligence (human centric data)
• Creates jobs for Geospatial Analysts, Technicians, and DOL Registered Apprentices
• Ability to scale, create more jobs and train cohorts of apprentices annually

Partners include: St. Louis University (GeoSLU), USGIF (Academic Affairs), T-Rex, Southeastern MO Geospatial Council, KIPP High School, Normandy High School, Cape Girardeau (MO) School District and Jackson (MO) School District.
Problem
Challenges of U.S. Education System in a Rapidly Changing Global Marketplace

- Disconnect between academia, secondary education and economic development
- Limited alternatives to immediately attending a four-year college or university – for poor minorities and poor whites (this includes women across the spectrum)
- Lack of diversity in talent pipeline – attributed to lack of alternatives
- Outdated and non-innovative recruitment strategies for selecting talent
- Lack of focus on cultivating a workforce effectively in K-12
- In the U.S. there is a stigma associated with apprenticeships that is not seen in parts of Europe where traditional and non-traditional apprenticeships are successfully a large component of workforce development (ex. Germany, Switzerland, UK)
- Emphasis primarily on “coding” only which detracts interest from STEM based careers
- Using 20\textsuperscript{th} century programming and methodology for 21\textsuperscript{st} century issues
What We Found

• Apprenticeships are an attractive model to students who are not likely to attend four year college immediately after high school

• Students in our targeted demographic value an immediate income equally to higher education

• Most of this demographic would be excited about STEM careers if they understood more about them

• Most students in this demographic would eventually complete a college degree if they could get skilled and go to work at a high paying job first

• Most parents/guardians are in agreement that work is equally as important as higher education and would support a STEM based apprenticeship program for their students

• Most parents believe that apprenticeships in Science and Technology will help their students obtain the skills and education they need to be successful

• Most students that participated in the survey, signed their names stating that they were genuinely interested in learning more about the apprenticeship program
STEM Based Apprenticeships: Keeping U.S. Companies Globally Competitive
A Path Towards Diversifying Talent Pools and Pipelines in *Now and Next Generation* Science and Technology

**St. Louis Promise Zone High School**

- Students 9th – 12th

- **51.1**
  - Percent that said that both going straight to work to support themselves and enrolling in college was the most important thing to them after graduating high school.

- **57.5**
  - Percent that said that they would join a STEM based apprenticeship program if they could “earn while they learn” and earn credentials.

- **51.4**
  - Percent that said they would be more excited about a career in STEM if they actually understood why the work was important and how it fit into the big picture.

- **57.8**
  - Percent signed their names saying that they wanted to receive more information STEM based apprenticeships in their communities.

- **65.5**
  - Percent said that they would definitely go to college if they could start with a good paying job that would allow them to move up in their career.

**St. Louis Promise Zone Parents/Guardians**

- **85.3**
  - Percent that said they believe that Science and Technology (STEM) based apprenticeships would help poor, minority or female students obtain the education and skills they need to succeed.

- **75.4**
  - Percent that said that both going to straight to college and getting skills to work at a high paying job was most important for their child after high school graduation.

- **92.7**
  - Percent that said that it was important to them that their student/child became educated and qualified for careers in organizations like NGA and its contractors like Boeing, BAE Systems, Leidos, Harris Corp, and others.

- **92.8**
  - Percent that said that they would support a STEM based apprenticeship that could help their student/child gain credentials before going to college.

Source: Survey Data Sample by Gateway Global American Youth and Business Academies Inc.
Some Areas Where U.S. Will Fall Behind Globally Without Innovative Workforce and Education Solutions

- Sustainable Energy Solutions
- Outer Space
- Global Soft Power
- Advanced Fatal Weaponry
- Allied Infrastructure Assets
- 5G
- Artificial Intelligence
- Robotics
- Geospatial Intelligence
- High Speed Rail & other Sustainable Transportation
Solution
GGAYBA “Entry to Executive” STEM APPRENTICESHIP MODEL

Our I.D.E. method was designed to identify the workforce needs of employers, recruit young adults with an interest, but had barriers to entry, and finally, help move the region forward by using creative methods to help rapidly close the skills gaps by utilizing untapped talent sources to support efficiency, innovation and global competitiveness.

- Full recruitment cycle – High School students 11th – 12th, High School graduates, 2-year college students, 4-year college students
- Facilitation of skills training: technical, soft skills and industry awareness
- Assist with Cert. preparation and pairing with higher education programs
- Career pathway support and planning until age 24
- Apprenticeship Completed and Fully Employed with Corporate Partner

© 2019 Gateway Global American Youth and Business Academies Inc.
Geospatial Science converges with other critical industries like Artificial Intelligence, Network Security and Internet of Things (IoT)
Recruit High School Student (11th & 12th)

Student becomes member of GGAYBA joins Apprenticeship Academy

Begins Related Program Coursework (Soft/Tech Skills)

Apprentice earns industry credentials (GeoINT, Microsoft, GIS, AutoCAD, Esri Cert., etc)

Apprentice trains 2 years with GGAYBA post-secondary or with college enrollment

Begins Paid Apprenticeship Training (project contracted by GGAYBA from Industry Partner)

Apprentice placed in permanent role with GGDL or employer partner

GGAYBA assists former apprentice identify higher education program

Post-program follow up, surveying
Win for Business, Win for Workers

- Providing free technical (Esri) and soft skills training to youth ages 16-24 automatically qualifies them for entry level production

- Targeting both Urban Centers and Rural Communities as partners increases the number of skilled young workers and expedites closing skills gaps in critical Now and Next Generation Technologies

- At the end of the apprenticeship, employers receive trained and experienced workforce that can bypass entry level roles and take on more responsibility

- Recruitment across school districts and connecting counties increases diverse talent pipelines – racially and socioeconomically

- Contracting projects to GGAYBA contributes to competitive advantage by familiarizing talent pipeline with company’s mission, vision, values, goals and stakeholders early on
Contact Us!

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Web: www.gatewayglobaldl.com
Flash Talk: National Security Innovation Network – Jake Laktas
GeoPlunge Update – Gladys Conaway
GeoPlunge Tournament 2020

- March 5, 2020 – 9 AM to 1 PM
- St. Louis University Busch Student Center
- Four Schools Participating
  - Columbia Elementary
  - Eagle Prep
  - Hodgen Elementary
  - Shenandoah Elementary
- Competing in Border Up and Play the Ranks

Sponsors: SAIC, Esri, Leidos, C-Edge
USGIF Programs Team Update

January 2020
Upcoming Activities/Events

• **USGIF Annual Report.**
  ❖ Input due to Lindsay Mitchell by 24 January

• **GEOINT 2020 Innovative Tradecraft Competition** (new)
  ❖ First round 4 Feb @ TEC, final round on the main stage at GEOINT

• **Commercial GEOINT Working Group** (new focus)
  ❖ Chairs: Paul Sartorius and Sam Unger
  ❖ **Commercial GEOINT Workshop** (new), 25-26 Feb @NCE

• **GEOINTeraction Tuesday** @ TEC 10 March

• **Symposium Sneak Peak** March, Location and Date TBD

• **GEOINT Symposium** Tampa, 26-29 April

• **Acquisition Workshop @TEC** 9 June (new)
  • Call for topics and speakers due 31 January

• **AI ML Workshop @ St. Louis** TBD last week of June (new)
  • Call for topics and speakers due 7 February
Thank you for the input for content and speakers
- Many of the suggestions are being incorporated into the program

**GEOINT 2020: New Decade, New Challenges, New Strategies**
- 26 April: GEOINT Foreword
- 27-29: GEOINT Symposium 2020
- 30 April: Classified Day (Invitations were distributed to corporate and lifetime members in mid-December; contact Alicia Jackson for membership information).

**Symposium registration is open!**
- Secure your spot today

**Working Group Break Out Sessions**
- Days and time determined
- Program title and outline due 31 January
- Please coordinate any proposed NGA speakers with Ronda and/or Lindsay before sending invitation
- Program speakers locked down by 29 February
GeoFutures Update – Andy Dearing
GeoFutures Update
January 29, 2020 - SLAWG Meeting
Quick Review of GeoFutures
GeoFutures Background

- We are taking advantage of the NGA move to North St. Louis in 2025.
- SLAWG- identified many activities occurring in St. Louis around geospatial / education / workforce development
- Expanding upon SLAWG work, GeoFutures is bringing in the Economic Development component and working with regional stakeholders / institutions / organizations to assemble a strategic roadmap.
- GeoFutures is taking a play from the Plant and Life Sciences Cluster Strategy from 20 years ago.
- The goal: foster job creation / industry growth through this cluster initiative that identifies and leverages existing regional industry strengths.
GeoFutures Progress Update
GeoFutures: Current Progress Update

Elements of building a Strategic Roadmap for the Geospatial Hub / Economic Cluster

Situational Assessment:
Integrate Data Analysis & Stakeholder Input
• Identify Strengths & Challenges
• Gather Stakeholder Ideas

Discussion of Key Elements Informing Strategic Roadmap:
• Vision of Success
• Near- and Longer-term Roadmap Objectives
• Strategic Priorities
• Organizational Approaches to Align, Enhance and Invest

Focus Group Discussions:
• National Security
• Transportation & Logistics
• Precision Agriculture
• K-12 STEM & Workforce
• University Research & Education
• Entrepreneurial, Community and Economic Development

Overall Strategic Roadmap:
• Shared Assessment & Vision
• Detailed Action Plan
• Implementation Plan
Envisioning St. Louis GeoFuture

Proposed Objectives for Near-Term and Longer-Term Success

**Today: GeoFutures 1.0**
St. Louis’ strong legacy in mapping, geospatial analysis; extensive activities primarily related to Nat’l Security & Defense

**Next 5 years: GeoFutures 2.0**
Preeminent hub for Nat’l Security, GeoINT
+ Major Center for Geo-related Tech & Applications in:
  - Transportation & Logistics
  - Precision Ag
  - Smart Cities community-led activities in North City neighborhoods

**Next 10 years: GeoFutures 3.0**
Establish STL as globally-renowned center of geospatial excellence across business functions, smart city applications, and a leader in the 4th Industrial Revolution
Successful Roadmaps embrace strategies that are bigger than any individual institution, so collaboration is key to success!

Collaboration, though, is generally not a natural phenomenon, but one that needs to be intentional and requires hard work at facilitation and engagement

Best Practice Examples: BioSTL; Cortex; Nashville Healthcare Council; Arizona Biosciences Roadmap; Milwaukee Water Council

Brookings’ “Rethinking Cluster Initiatives” Case Study of St. Louis Agriculture Technology

- BioSTL, which was formerly named the Coalition for Plant and Life Sciences, … serves as the primary venue for setting the strategic vision of the cluster and fosters the “collaborative, trustful environment”

- The implementation of the agtech cluster effort is distinguished by the fact that the region took a **broad approach from the very beginning**, with parallel strategies focused on every major area of need: capital, talent, facilities, and networks

- The region has made significant progress on each front over the past 15 years, in large part because it had **“comprehensive approach and patient support including philanthropic capital.”**
GeoFutures- Next Steps
GeoFutures Path Forward

- Finalizing all inputs / report writing (Feb / Mar 2020)
- Launch of report: March 24, 2020
- Execution of plan / next steps: April 2020 (start)
- GEOINT 2020- Critical Mass
THE FUTURE OF GEOSPATIAL IS

STLMADE
University/R&D Subcommittee Updates

Patricia Hagen, PhD, Subcommittee Chair
Geosaurus Unleashed Update - Mark Tatgenhorst, Madeline Swanstrom
Workforce Development Subcommittee Updates

• Met January 15

• Focused effort on developing catalog of training in the region
  • Please send enbal.shacham@slu.edu your programming

• State job postings have availability to post jobs with geospatial search teams (and do!)

• Identify and share geospatial-related industry in region
  • Received from SLDC/Teconomy report
Next Steps

- Catalog current training opportunities
  - Identify potential expanded training throughout region

- Plan promotion of training programs at GEOINT and throughout our region
  - Identify important gaps and develop partnerships to fill
After the last SLAWG meeting, we realized that an effort our members or a subcommittee can take on could be a "Needs" database. We would view this as a supply and demand approach for registered efforts people are taking on in the community.

Example, Bobby from After School Labs clearly needs assistance, and while his presentation showed plenty of work and needs for the community with a lot of visions for the future, the thoughts tend to go away post meeting.

I would think that by registering your needs project with data about the need dates and expectations and opportunities for the community, we can marry the suppliers with the consumers.
K-12 Subcommittee Update

Sekhar Prabhakar, Subcommittee Chair
Takeaways

Career Opportunities (Full-Time/Internships)
• Submit opportunities for marketing to the chairs for distribution, primarily tmott@esri.com or justin@geodatait.com

Events/Messaging
• Submit calendar events to Tara Mott
• Flashtalks for the Next Meeting?
• Want to join the group? Email WorkingGroups@usgif.org

Members should look to join at least one sub committee and share GEOINT Opportunities!
Next Meetings

• February 26, T-Kartor hosting at Globe Building
  • 710 N Tucker Blvd, St. Louis, 2 to 4 pm

• March 25, No SLAWG – GeoResolution!
  • Busch Student Center, Saint Louis University Campus

• April 22, T-Rex Geosaurus for GEOINT Sendoff
  • 911 Washington, 2 to 4 pm

• May 27, St. Louis Regional Chamber
  • One Metropolitan Square, Suite 1300, 2 - 4 pm (social afterwards)

• June 24, Washington University
  • Library, 1 - 3 pm
Thank You for Attending!