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2016 ILGISA Annual Conference Program

SCHEDULE AT A GLANCE

Monday, October 17	8:00am - 5:00pm	Registration Desk Open
	8:00am - 9:00am	Continental Breakfast
	9:00am - 4:30pm	ESRI Instructor Led Training (Day 1)
	9:00am - 4:30pm	Full Day Workshops
	9:00am – 12:00pm	Morning Workshops
	10:15am - 10:30am	*Break*
	12:00pm - 1:30pm	Luncheon
	1:30pm - 4:30pm	Afternoon Workshops
	2:45pm - 3:00pm	*Break*
	5:00pm - 8:00pm	Monday Night Social Event
Tuesday, October 18	7:00am - 8:00am	Exhibitor Move-In
	8:00am - 5:00pm	Registration Desk Open
	8:00am - 9:00am	Breakfast with the Board
	9:00am - 10:00am	Conference Sessions A
	9:00am - 4:30pm	ESRI Instructor Led Training (Day 2)
	9:00am - 4:00pm	ESRI Hands On Learning Lab
	10:00am - 10:30am	*Exhibit Hall Grand Opening and Break*
	10:00am – 6:30pm	Exhibit Hall Hours
	10:30am - 11:30am	Conference Session B
	11:30am - 12:15pm	Luncheon
	12:15pm - 1:00pm	Keynote Address - *Charlie Catlett, Argonne*
	1:15pm - 2:15pm	Conference Session C
	2:15pm - 2:45pm	*Break in Exhibit Hall*
	2:45pm - 3:45pm	Conference Session D
	4:00pm - 5:30pm	Networking Reception & Silent Auction in Exhibit Hall
Wednesday, October 19	7:30am - 3:30pm	Registration Desk Open
	8:00am - 8:45am	Plenary Breakfast - *Scott Oppmann, Esri*
	8:00am - 3:00pm	Exhibit Hall Hours
	9:00am - 10:00am	Conference Session E
	9:00am - 2:15pm	ESRI Hand On Learning Lab
	10:00am - 10:30am	*Break in Exhibit Hall*
	10:30am - 11:30am	Conference Session F
	11:30am - 1:00pm	Awards Luncheon & ILGISA Annual Business Meeting
	1:15pm - 2:15pm	Conference Session G
	2:30pm - 3:00pm	*Grand Closing in the Exhibit Hall*
	3:00pm - 4:00pm	ILGISA Board of Directors Meeting

ILGISA reserves the right to modify the workshops, sessions and speakers

KEYNOTE SPEAKER - TUESDAY, OCTOBER 18

Charlie Catlett
Senior Computer Scientist
Argonne National Laboratory

PLENARY SPEAKER - WEDNESDAY, OCTOBER 19

Scott Oppmann
Local Government Project Manager
Software Solutions Division
Esri

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WORKSHOPS - MONDAY, OCTOBER 17

1. Bridging the surveyed gap: How land surveying data works with GIS (Full-day)

GIS professionals use a myriad of data to construct their databases and maps. And often times, some of that data is provided by land surveyors. But how is that data collected and what happens to it before the GIS professional gets it? This workshop will be an introduction to how land surveyors take measurements in the field and how that data can vary based on the processes utilized. It will include both discussions about field methods and hands-on opportunities with various instruments. Participants will collect their own data with instruments of varying accuracy to illustrate the differences between what seems acceptable during the data collection process and how that data is viewed during analysis. Previously collected data will also be utilized for similar purposes.

Specific topics include:
- Overview of land surveying terms
- Use of total stations and GPS
- Accuracy and precision assessment
- Round-table discussion

Instructors:
- **Kory Allred**, P.L.S., E.I., M.S., is a licensed Professional Land Surveyor in Illinois and the primary Geomatics Instructor at Northern Illinois University. Kory received his BS and MS in Civil Engineering from Southern Illinois University – Carbondale and is in the process of completing his doctoral studies in Geography at Northern Illinois University. Kory's professional experience comes from employment at both mid- sized and small companies in Chicago's western suburbs.
- **Todd Horton**, P.E., P.L.S., is an associate professor at Parkland College in Champaign, Illinois. He directs the land surveying and construction management associate degree programs. Beyond the campus, he presents continuing education seminars across the country for land surveyors and engineers. Mr. Horton has several years of experience in planning, surveying, design, construction, and maintenance of civil engineering projects, including commercial structures, residential subdivisions, airfields, utility systems and highways. His previous employers include the US Air Force, the Illinois Department of Transportation, and surveying firms in central Illinois.

2. Is Truly Understanding ArcGIS Online Possible? (Half-day AM)

ArcGIS Online will affect all GIS users in one way or another. We have tender-footed around its impact and mentioned it as a secondary application, it should no longer be viewed as additional to your GIS stack but a vital part of it. You may have "played around" but there are some best practices you should employ. Also, We'll address some questions about Portal, how it and federating servers (or services) will change your GIS. There is more than just crayon maps and simple apps. This workshop is aimed for GIS coordinators and managers, but everyone with a login will benefit.

Instructor:
- **Micah Williamson** worked in local government for 12 years until the fall of 2012 when he moved into the private sector with Cloudpoint Geographics. Now he clamors across the Midwest implementing best practice GIS. As an idealist, he truly thinks Geospatial technology can help make jobs easier.

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3. Getting Started with QGIS (Half-day AM)

- Quantum GIS (QGIS) is a completely free and highly capable open source geographic information system that is quickly gaining popularity among GIS professionals and within the academic community. This workshop will provide basic training in QGIS for GIS professionals. This workshop is intended for both beginning and experienced GIS users who are looking to familiarize themselves with a burgeoning open source community alternative to commercial GIS.

Specific topics include:
- Map design
- Editing
- Geoprocessing
- Relational databases
- Python scripting

Instructor:
- **Barry J Kronenfeld** is Associate Professor of Geography at Eastern Illinois University. He is also Co-Director of both the GIScience Center and the Professional Science Master's degree program at EIU. His research focuses on spatial analysis, visualization and geospatial data modeling within complex physical and human landscapes. He has published over 20 peer-reviewed articles in journals and international conferences on topics including spatial interaction, cartograms, distance-based sampling and fuzzy geographical regions. Dr. Kronenfeld teaches courses related to GIS, programming and geospatial data modeling at EIU, and is currently serving as Past Chair of the Cartography Specialty Group of the Association of American Geographers and Associate Editor of the Journal of Maps.

4. Introduction to Python for ArcGIS (Half-day AM)

Programming tools are now a standard feature within GIS software packages and allow GIS users to automate, speed up, and become more precise in their data management and analytic work. This workshop is designed for GIS users who have little to no experience to computer programming and will cover core programming concepts related to GIS using the Python programming language. The workshop will focus on guiding attendees through hands-on exercises designed to provide the essential skills to programmatically manipulate data as part of a GIS workflow. *This workshop is designed to be preparation for the afternoon workshop on Advanced Python for ArcGIS but may be taken independently.*

Specific topics include:
- Core Python programming concepts
- Introduction to ArcPy site package for ArcGIS
- Working with geospatial data using Python and ArcPy
- Simple data management and geoprocessing tasks

Computing and Software Needs:
- Your own laptop (no tablets); computers will not be provided.
- PyScripter v. 2.6.0 (32-bit version)
- ArcGIS 10.2+ for Desktop (Standard or Advanced)

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Instructor:

- **James Whitacre** is the GIS Specialist in the Main Library at the University of Illinois at Urbana-Champaign. His primary role is to provide GIS consultation and research assistance for faculty, staff, and students. Additionally, he teaches a myriad of GIS workshops for beginner to advanced users and helps manage the Library's GIS data and software assets. He is also a central resource for the GIS community on campus to promote the use of GIS in research. Mr. Whitacre holds a Master of Science in Geography and was previously the GIS Manager for the Carnegie Museum of Natural History.

5. GISP 2.0: Putting GIS to the Test (Half-day PM)

This workshop discusses the evolution of certification for GIS Professionals by the GIS Certification Institute, paying particular attention to the recently introduced certification exam. The presentation will highlight the GIS Body of Knowledge and related skill sets that are evaluated through the exam. The goal of the workshop is to help participants to prepare for the GISP certification exam.

Instructor:

- **Nancy J. Obermeyer, MPA, Ph.D., GISP** earned her PhD at the University of Chicago and has held professional assignments in Illinois. As a Planning Analyst working for the Illinois State Planning Agency from 1979-80, she participated in a study to identify the state's most distressed cities that used SYMAP (and a computer programmer to run the analysis). Nancy helped to draft Illinois's first state energy plan (1980), and later (1985-86) served as a strategic planning coordinator for PACE (the suburban bus service in Chicago's suburbs) and as a project manager for the Illinois Department of Transportation's Public Transit Division (1986-87) in Chicago. Nancy was a research associate for the National Center for Geographic Information and Analysis (NCGIS) from 1988-1990, and has been on faculty at Indiana State University since 1990. In 2000, she was a visiting associate professor at the University of Illinois at Chicago College of Urban Planning and Public Affairs, teaching GIS classes there. Nancy was one of the co-founders of the GIS Certification Institute (GISCI). She was a member of the team that developed GISCI's Code of Ethics has served as GISCI's Ethics Officer (2008-9). Most recently, Nancy assisted in the development of GISCI's GISP certification exam.

6. Advanced Python for ArcGIS (Half-day PM)

Building on Introduction to Python for ArcGIS, but open to anyone with some programming experience, this workshop will expand Python skills to further use in ArcGIS. The workshop will focus on expanding data management and geoprocessing capabilities with Python scripts. Participants will learn to build multiple standalone geoprocessing scripts covering different GIS tasks and workflows, as well as how to create scripting tools in ArcGIS toolboxes for reuse and sharing. Participants will finish with the skills to explore more resources and options for utilizing Python in ArcGIS.

Specific topics include:
- Advanced work with the ArcPy site package for ArcGIS
- Advanced data management and geoprocessing
- Build and share stand-alone Python script tools for automation
- Learn tips and tricks for valid script syntax and error handling

Computing and Software Needs:
- Your own laptop (no tablets); computers will not be provided.
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- PyScripter v. 2.6.0 (32-bit version)
- ArcGIS 10.2+ for Desktop (Standard or Advanced)

Instructor:

- **James Whitacre** is the GIS Specialist in the Main Library at the University of Illinois at Urbana-Champaign. His primary role is to provide GIS consultation and research assistance for faculty, staff, and students. Additionally, he teaches a myriad of GIS workshops for beginner to advanced users and helps manage the Library's GIS data and software assets. He is also a central resource for the GIS community on campus to promote the use of GIS in research. Mr. Whitacre holds a Master of Science in Geography and was previously the GIS Manager for the Carnegie Museum of Natural History.

ESRI TRAINING (2 DAYS) - MONDAY, OCTOBER 17 & TUESDAY, OCTOBER 18

1. Introduction to ArcGIS Pro for GIS Professionals

Learn essential ArcGIS Pro terminology and get prepared to efficiently complete many different tasks related to mapping, editing, geoprocessing, and analysis. ArcGIS Pro, the newest application included with ArcGIS 10.3 for Desktop, is designed to help GIS professionals complete their projects and share their results more quickly and easily than ever before. With its modern ribbon interface and tight integration of 2D and 3D capabilities, ArcGIS Pro will streamline the way you do your GIS work.

Learn how to:

- Create an ArcGIS Pro project and assign tasks.
- Import MXD files and work with both local and online data.
- Edit 2D and 3D data.
- Perform geoprocessing and analysis tasks.
- Create 3D data and 3D scenes, and convert a 2D map to a 3D scene.
- Create and share multiple layouts from a single map.

Prerequisites:

- Completion of ArcGIS 2: Essential Workflows or equivalent knowledge is required.

Complete course description is online at
http://training.esri.com/gateway/index.cfm?fa=catalog.courseDetail&CourseID=50133076_10.x.

Instructor:

- **Mike Jeggle**, Esri

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HANDS-ON LEARNING LAB BY ESRI - TUESDAY, OCTOBER 18 & WEDNESDAY, OCTOBER 19

Explore Esri software offerings and get free training at the Hands-on Learning Lab. The Learning Lab offers self-paced training sessions (approximately 45 minutes each) featuring a recorded presentation and an interactive exercise. An Esri instructor will be available to answer your questions.

10.3 Lesson topics include (*and are subject to change*):

- Advantages to Storing Your GIS Data in the Geodatabase
- Creating Presentation Quality Maps in ArcMap
- Editing and Maintaining Parcels Stored in a Parcel Fabric
- Editing GIS Data in ArcMap
- Exploring Health and Epidemic Patterns Using Spatial Statistics Tools
- Generating Web Applications for the GIS Novice
- Geocoding Street Addresses to Create Map Points
- Geoprocessing GIS Data Using Python
- Getting Started with Community Maps Data Preparation Tools
- Getting Started with GIS 1: Understanding the ArcGIS Platform
- Getting Started with GIS 2: Using ArcMap to Explore GIS Data
- Getting to Know ArcGIS Pro
- Importing and Preparing CAD Data for Use in ArcGIS
- Interpolating Sample Points to Create Rasters Using Spatial Analyst Tools
- Mapping Excel Data Using Esri Maps for Office
- Modeling Time and Distance Along Networks Using Linear Referencing
- Multi-user Editing Using Versioning
- Optimizing Transportation Routes Using ArcGIS Network Analyst
- Spatial Reference in Tactical Applications
- Sharing Maps and GIS Content Using ArcGIS Online
- Understanding Web Services Using ArcGIS for Server
- Working with Geometric Networks to Manage Utilities

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SOCIAL EVENTS - MONDAY, OCTOBER 17 & TUESDAY, OCTOBER 18

1. Monday Night Social Event - Trivia!

Monday, October 17, 5:00PM - 8:00PM

Due to popular demand, ILGISA will be hosting its 2nd Annual Trivia Night on the Monday evening of the Annual Conference! You will not want to miss this fun social event! Try to "Beat the Board" in trivia, while enjoying food and drinks.

Location: This year, Trivia Night will be held on-site at the Hilton Lisle/Naperville. The room will be announced as the Conference nears.

Tickets: Tickets to attend this event are $20/person. Tickets include trivia, hot & cold hors d'oeuvres, and 2 drink tickets. You may purchase tickets through the Conference registration link at www.ilgisa.org.

2. Tuesday Networking Reception in the Exhibit Hall

Tuesday, October 18, 4:00PM - 5:30PM

Relax after a day of sessions and network with your colleagues and exhibitors while enjoying free hors d'oeuvres, a cash bar, and entertainment. Stop by and bid on one of the SILENT AUCTION items too!

A GIS-Based Flood Risk Assessment for the City of Rockford

The Illinois State Water Survey, the Illinois Department of Natural Resources, and the City of Rockford partnered together to develop flood risk assessments for structures located in and near the floodplain in the City of Rockford and surrounding areas. For this risk assessment, a database was prepared with detailed survey data, assessor's data, and geospatial data for approximately 2400 structures within the floodplain. Using this geospatial data, coupled with FEMA's modeling software Hazus, we estimated the natural hazard exposure and losses threatening these properties. For the 2400 structures, this data includes: Hazus estimated losses from multiple flood scenarios, multi-frequency flood depths, first floor elevation, low entry elevation, and the chance of flooding over a 30 year period.

Lisa Graff
GIS Team Manager
Illinois State Water Survey

Brad McVay
GIS Specialist
Illinois State Water Survey

Clayton Ballerine
GIS Specialist
Illinois State Water Survey

A Study of the Usage Potential of a Proposed Expanded Commuter Rail Station at Chicago State University

Chicago State University is an urban campus, located on Chicago's far South Side. Public transportation options are reasonably good from within Chicago itself, but many students, staff commute from Chicago's southern suburbs, from which there are few commuting options to the campus. CSU's campus is surrounded by parking lots full of commuters, many of whom have few public transportation options. The 95th Street Metra stop is directly next to campus. The stop is on the "Metra Electric" line, which serves downtown Chicago, Hyde Park, areas of the south side, and the southern suburbs. However, while the train line has quite frequent service in general, the CSU stop itself is a flag stop on the Blue Island line, for which passengers must specially request to get on or off at. Service is available less than once an hour, and passengers to and from the southern suburbs must change trains. In addition, the station itself is unattended, old, accessed by a dark entryway in an underpass, and has been the site of multiple armed robberies. While a security camera has been added in recent years, the stop is still considered dangerous. This paper presents the results of a pre and post network analysis of access to CSU by the current transportation and with increased Metra access via an improved stop using ESRI Network Analyst and related software. An associated student current student transportation choices will also be presented.

Daniel Block
Professor
Chicago State University

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Tekleab Gala
Assistant Professor
Chicago State University

Accessing Accela Data through Your GIS Viewer

Planners, Engineers, Permit Techs and many other staff within your agency receive phone calls throughout the day from people with questions about specific properties. What's my zoning? How big is my lot? Were permits pulled for a building? Are there code cases on this property? Most agencies rely on GIS viewers to access information about specific properties, but sometimes have to access several different applications to find the answers. Learn how you can access property-specific Accela data within your agency's existing GIS viewer using the Accela Construct API.

Chad Bergeson
Accela Expert
Sidwell Co.

Airborne Geiger Mode LiDAR – Latest Advancements in Remote Sensing Technology

To cost effectively meet the increasing need for airborne point cloud data and derived products, sensor developers, data collectors, and production sources are looking for ways to improve the efficiency of their operations. Harris Corporation's Geiger-Mode LiDAR technology provides significant efficiency gains for airborne mapping when compared to traditional linear mode sensors. Geiger-Mode detectors are physically compact and single photon sensitive, so they can be packaged into large arrays and powered by readily available lasers with sub-nanosecond pulse widths. These two factors enable the development of Geiger-Mode systems that can collect very high density data at instantaneous rates of coverage greater than 1,000 km2 per hour. This presentation will describe: the processes and technologies Harris has developed over the past 15 years for efficiently producing high density point clouds from Geiger-Mode LiDAR data; how these capabilities can support GIS updating for cities, counties, statewide or specific commercial entities; how Harris ENVI LiDAR software can be used to quickly extract 3D features from Geiger-Mode LiDAR data.

Randy Rhoads
Geospatial Industry Manager
Harris Corporation

Apps, Apps and More Apps - Making the most of your GIS investment

This workshop will take you through an in-depth looks at the use of ArcGIS Online's GIS Web Maps and Apps, helping you find ways to make the most of your GIS investment.   Apps have taken over today's world. There are 175 million Americans with at least one mobile device and the US connected population is spending approximately 125 million hours per day on these devices. Smartphone owners ages 25-44 use the greatest number of apps per month (29 apps, on average), with 18-24 year-olds spending the most time on apps (37 hours, 6 minutes). This workshop will take you through all the ins and outs of ArcGIS Online's web maps and apps. This workshop will include handouts ("cheat sheets"), live demos and usable tips and tricks to better navigate through ArcGIS Online.

Mark Dupree
GISP
Trotter and Associates, Inc.

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ArcGIS for Land Records

Traditionally, parcel databases were the gateway for various departments within an organization to embrace GIS. Thus the maintenance of cadastral information became the lifeblood for GIS workflows everywhere. Fast forward to present day and the demand for this information is higher than ever. Additionally, the workers who provide this content are feeling the pressure as the evolution of mobile technology and the capability to gather information anywhere has produced the expectation that GIS and parcel information can follow suit. Because of budget restraints, workers are asked to do more with less even internally for analysis such as neighborhood assessment. The good news is that Esri has recognized the need for a complete and easily implemented Land Records solution, one that provides tools for streamlined data management, on time analysis, and fluid distribution. Please join us as we discuss our current and future solutions.

Jordan Miller
Solutions Engineer
Esri

Sarah Schrader
Solutions Engineer
Esri

ArcGIS Online at Logan Co

Logan County has gone from zero to hero with ArcGIS Online in just a few short months. See what they have been able to do with an ArcGIS Online organizational account. This session will give other Counties some ideas on what maps and apps to publish and share in order to promote data sharing throughout the organization.

Paul Stephenson
GIS Team Leader
Cloudpoint Geographics

Will D'Andrea
Zoning Officer
Logan County

ArcGIS Online vs. ArcMap: Comparing the Geoprocessing from Three Mini Case Studies

ESRI continues to enhance the functionality of ArcGIS Online to users that are not acquainted in using ArcMap. Existing geoprocessing tools that are used in ArcMap is now available to users who want to perform any type of analysis in ArcGIS Online. This presentation will compare and contrast the geoprocessing results from three mini case studies in the City of Wheaton, and to determine if there is a cost advantage in using the geoprocessing tools in ArcGIS Online than purchasing an extension in ArcMap.

Keith Darby
GIS Technician
City of Wheaton

ArcGIS Server Security

The basic theme of this presentation is how to tighten up your ArcGIS Server Security by hiding a service in the ArcGIS Server Services Directory.

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Thomas S. Nicoski
Chief of GIS-Technologies
Kane County Illinois

Building a Stream Service from a data feed

In this ever changing world it is important to track data in real time. Kane County Illinois GIS-Technologies is using the ArcGIS GeoEvent Extension to create Stream Services based on data feeds. Accessing data from XML, JSON, RSS, and ArcGIS Feature Services. This session will be an introduction into accessing these data feeds into ArcGIS GeoEvent and then implementing these stream services into applications.

Nicholas Krueger
GIS-Analyst
Kane County GIS-Technologies

Building GIS Applications from a Pre-Established Foundation

Do you have a need to develop useful GIS applications but not sure where and how to start? With the use of free and available focus based geodatabases, application templates and widgets, you will be provided with a solid foundation to spin off applications and tools in order to collect and or depict geospatial data. During this presentation, DuPage County GIS will show how the use of various ESRI databases, templates and widgets have provided them with a fast and easy method of creating focused based applications for use by County staff along with the public. This presentation will go over the various application development projects at the County using the free geodatabases, templates and widgets available through ESRI and the use of customization to the templates.

Tom Ricker
GIS Manager
DuPage County

Census Geographic Partnership Opportunities

The 2020 Census is still 4 years away. Will your government be ready? Learn more about the Census Bureau plans for geographic partnerships. Some key opportunities are just months away.

Craig Best
Geographer
U.S. Census Bureau

Citizen Reporter for DuPage County

Esri's Crowdsource Reporter is a configurable gallery application template that allows users to submit problems or observations they see in the community. While it is a relatively straight forward process to set up the services, webmaps, social media authentication, and source code using Esri's templates, there are still a lot of workflow considerations that an organization needs to address when implementing an app that is meant to serve as a communication medium between community residents and County resources. This presentation and demo will outline how the County extended the management capabilities of the Crowdsource Reporter through the use of python scripts, Windows Server scheduled tasks, custom geoprocessing tools, and Web App Builder for Developers, to create a management notification system for DuPage County's Citizen Reporter app. You can visit the current release of Citizen Reporter at

http://gis.dupageco.org/CitizenReporter on your phone or laptop, and it is also accessible through the "Navigate DuPage" app, downloadable from your phone's app store.

Ryan Nosek
Senior GIS Analyst
DuPage County

Cloud Collaboration in the Interest of Nature

Organizations like the Forest Preserve District of Will County have critical missions to fulfill. One specific example was crafting a public-facing web application to help connect Will County residents and visitors to their natural landscapes and recreational opportunities. The deployment of such a tool presented the Forest Preserve District with GIS staff and infrastructure limitations to address the challenges that have been overcome through innovative Cloud-based collaboration with ROK Technologies. In this presentation, the audience will learn about this successful partnership, both as a GIS venture and as a means to bring Will County's people and nature together.

Cori Crawford
Planning and GIS Coordinator
Forest Preserve District of Will County

Emma Paz
GIS Analyst/Application Developer
ROK Technologies

Cook County Municipal Incorporation Inventory

Cook County GIS recently completed a project automating historical municipal boundary records dating back to the original municipal incorporation for all of its municipalities. Data captured through this effort provides a wealth of historical information as to the growth, development and jurisdictional responsibility of Cook County and its municipalities over time. The inventory consists of nearly 11,000 municipal boundary transactions (annexations, disconnections and original incorporations) as GIS polygons which are hyperlinked to scans of these transaction documents dating back to the 1830s. This GIS data should provide a valuable resource for our partner municipalities and agencies within Cook County.

Michael Hammer
Program Coordinator
Cook County GIS

Coordination of the Sharing of Vital Location Data

There have been many attempts to unify GIS operations in our state; the 1997 Illinois Geographic Information Counscil, the 2008 GIS Strategic Plan, and several other local and regional efforts to coordinate GIS work programs. The Membership Committee of ILGISA believes that it is imperative that IGLISA provide guidance to finally establish a system throughout Illinois to support standardized sharing of timely vital GIS data. Attend this session to discuss the task Illinois has infront of them.

Bill Faedtke
Representative
ILGISA Membership Committee

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Deployment techniques of Oblique Imagery

Oblique imagery is becoming a key part in any organization's GIS. This session will look at the various deployment methods available today to deploy oblique imagery to your stakeholders. With various open source and proprietary technology on the market today we will take a look at these various methods.

Trent Pell, GISP
Regional Technical Manager
Pictometry International

Dupage County Story Maps - Tell Your Story "With the Map"

When you need to tell a story about an event, issue, or a location a story map can assist in this. With the various story map templates available through ArcGIS Online, developers/ creators can present their information in a way that will lead the user/viewer down a story path utilizing write-ups, charts, photos, videos and maps in one application to tell a detailed story. DuPage County GIS will show how three different story maps they implemented were able to meet the needs of various departments in the county.

Tom Ricker
GIS Manager
County of DuPage

Engaging Residents through Interactive ArcGIS Online Story Maps

We often consider GIS a tool to collect and analyze data in making important decisions. However, it is becoming increasingly important to provide products that tells the stories contained within our data. In this presentation I will demonstrate the power of story maps to communicate important community information to residents and visitors. Whether it's a map showing the best way to avoid construction zones or highlighting all the restaurants in a community, story maps provide an engaging interface that encourages users to explore and interact with this information. I will be showing story maps from Deerfield, Des Plaines, Northbrook, Oak Park, Park Ridge, and Wheeling.

Mike Falkofske
GIS Specialist
MGP Inc.

Essence of Project Management

Every project wrestles with the elastic relationship between costs, time and quality. As technical persons we use technical tools like Microsoft's Project to build a map of the time-line. But regardless of the tools, we still have to pair up an activity with a time slot and that's both the good and bad news. The good news because the software manages the activity along with everything it is attached to. The bad news because the software offers a single plan without alternatives or the time to explore other pathways. Project management isn't a magical cure it is a discipline that requires hundreds of hours of practice. But like everything else you have to know what to practice. Practice the essence wherever you can and to understand the true essence of project management we will answer these universal questions: What does project management buy? What does project management minimize? What does project management maximize?

Jeff Palmer
Technical Training Consultant
Learning & Technical Strategies, Inc

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Fast field data collection and no maps required?

Do we really need map-centric products for efficient field data collection or can we incorporate the spatial attributes later? Take a look at three samples and variations of field data collection using off the shelf products that have minimized field data collection times for; Guard Rail End section inventory, ADA Ramps and bicycle sign inventory.

Kurt Lebo
IT / GIS Chief
Kane County Division of Transportation

FirstNet - Dedicated Data Communications in Illinois

FirstNet is Federal initiative to provide First Responders a high-speed broadband cellular data network dedicated to Public Safety. The features and bandwidth of FirstNet could potentially revolutionize how Emergency Management operates in the future. Our presentation will cover: Current Project Status, Implications for GIS, Technology, Potential Uses, Connection to NG-911, Implications for Land Mobile Radio, Funding & Schedule, and much more.

Bill Springer
Illinois FirstNet System Architect
Illinois Law Enforcement Alarm System (ILEAS)

Flying your Unmanned Aircraft Safely and Legally - Update from the FAA

Can I make money flying my drone? What are the new rules for flying my drone? Do I really need a pilot certificate? Where can I fly? Mark Foisy, FAA Regional UAS Specialist, will answer these questions and more.

Mark Foisy
UAS Specialist, Great Lakes Region
Federal Aviation Administration

From Mapping to Mugshot: Jaworowski Armed Robbery Analysis

Learn how Law Enforcement utilized Crime Analysis and GIS to identify and apprehend the offender in a series of 19 Armed/Attempted Armed Robberies.

Brian P. Clarke
Criminal Investigator
Arlington Heights Police Department

Getting Drone Imagery into a GIS using Drone2Map

Drone technology is fundamentally changing long-held field work practices and business models, and enterprises are learning how to effectively leverage this emerging technology. With Drone2Map for ArcGIS, drones become more than just image capture devices – they are enterprise GIS productivity tools. During this session we will demonstrate how to create orthomosaics, point clouds and 3D meshes with Drone2Map for ArcGIS. We'll also discuss ways to maximize the value of your processed drone imagery by bringing it into a GIS.

Mark Romero
Imagery Specialist
Esri

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GIS at Fermilab

The Fermi National Accelerator Lab ("Fermilab") is America's particle physics and accelerator laboratory located 30 miles west of Chicago, IL near Batavia, IL. The lab is one of 17 U.S. Department of Energy labs in the US and one of 10 stewarded by the Office of Science. Fermilab's mission is 'science'. Fermilab is situated on 6800 acres of land with over 400 above ground structures, miles of utility and road infrastructure, acres of highly sensitive ecological land, diverse wildlife, agricultural practices and over 1 million square feet of underground tunnels and enclosures. The presentation will provide an overview of GIS solutions (focusing on the GIS domain areas of facility, infrastructure, ecological and emergency management) currently implemented at Fermilab to manage this content in support of lab operations and the science mission.

Dawn McWha
GIS Manager
Fermi National Accelerator Lab

GIS Cloud Solutions for GPS Data Collection

Cloud GIS offers a range of new possibilities to GIS users. More than ever, we can quickly distribute GIS data to people throughout our organization by utilizing standard web interfaces and smart device applications. As a result, Cloud GIS has provided a new way of field data collection for GPS users. Smart devices are becoming GIS and GPS data collection tools. This presentation will focus on the advantages and benefits of using Cloud GIS apps, such as Esri's Collector and Trimble's TerraFlex, as well as some limitations that these applications offer in relation to traditional GPS mapping software platforms. Also, we will explore high-accuracy GPS receivers that can enhance our smart device location accuracy, such as the Trimble R1 and R2 GNSS Receivers.

Tom Krohn
Mapping Sales Representative
Seiler Instrument

GIS Enhanced Field Data Collection

With continuously failing infrastructure, land surveyors face an exponential need to collect accurate, detailed and valuable field data in order for engineers to analyze, prioritize and implement effective capital improvement programs. We will discuss a comprehensive and streamlined system to load, collect, edit and process data in an effective and quality-driven means through the integration of GIS, cloud software, and high-accuracy field devices. Audience members will learn about ways to enhance the land surveying process using modern GIS/GPS technology in effort to save time and resources.

Milan Cukvas
Field Operations Manager
Urban GIS, Inc.

GIS Field Applications- City of Joliet

Getting data out of the silo of GIS professionals and into the hands of the users has been a priority for the City of Joliet. The City encompasses over 64 square miles and has spent several years surveying and digitizing their water, sanitary and storm utilities into an enterprise GIS database. Once all of the information had been collected, Ruettiger, Tonelli & Associates helped the City turn that information into tools that could be used in the field and office. Mobile and web applications provide field technicians, managers and contractors access to accurate real time information. The City used the new utility information to create a mobile hydrant

inspection application for the Fire Department personnel to use in the field and a repair application for the Water Department personnel to inspection information to perform the required repairs.

Michael Dahm GISP, AICP
GIS Director
Ruettiger, Tonelli & Associates, inc.

Jonathan Hall, P.E.
Capital Program Engineer
City of Joliet

How to customize Configurable Map Viewer

Configurable Map Viewer (CMV) is a free JavaScript application template that consumes ArcServer map services to create easy-to-use internet based interactive mapping applications. Cook County GIS has customized the Configurable Map Viewer for numerous mapping applications. In the workshop Cook County GIS will present some of the applications developed in-house, show where to download the basic CMV, demonstrate some of the simple configuration, and show some custom tools.

David Arfa
GIS Analyst
Cook County Government

Gregory Roberts
GIS Analyst
Cook County Government

Wig Ingente
GIS Analyst
Cook County Government

Hybrid LiDAR for Positive Train Control (PTC)

Positive Train control is required for all commuter rail and hazard materials rail by December 31,2018. Recently, Merrick & Co., Maser, and Xorail conducted a PTC job for Metra in the chicago area. The presentation will cover what PTC is and how to develop a PTC computer system for trains. IT will explain the collection of four different types of remote sensed data and how that is transformed into the database used for PTC. Also, The discussion will include how that database is verified prior to full PTC implementation. Examples of the data data will be displayed during the presentation.

Jamie Young
Senior Geomatics Technologist
Merrick & Company

Illinois Airborne LiDAR Data: What Will It Take to Cover the State?

When will LiDAR data be available for the entire State?"" ... is a frequent question posed about airborne LiDAR data collections for Illinois. In order to create a cohesive plan, it's necessary to first address other relevant questions. These include: ""what data already exist?"", ""who has paid for data acquisitions to date?"", ""how current are existing collections?"", ""what data products should be acquired in the future?"" This

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presentation will provide an overview of the history of airborne LiDAR data acquisitions for Illinois and open a discussion on plans for enabling future data acquisitions.

Sheena Beaverson
Illinois State Geological Survey

Infogroup Data

Infogroup is the leading provider of business and residential data. Founded in 1972, we have 40 years of experience in data compilation. Not only do we compile our data from the ground up, our dedicated verification team makes over 90,000 calls a day to verify our data is the most accurate data available. Unlike other providers, we have the ability to update our database on a monthly basis, ensuring all of our information is the most accurate. Infogroup Government Services specializes in providing custom solutions to State and Local government offices across the nation. We work directly with Departments of Transportation, COGs, Economic Development and Emergency Management Planning --just to name a few. We provide a variety of services specifically for government agencies including: • Access to our all inclusive database • Customizable raw data files • Historically data • Data processing • Telephone/Email surveys • Geo-coded and mapping data Our data powers the top five search engines and 90% of the in car navigation systems in the U.S. If you are in need of quality data to enhance your current and future projects; you can trust Infogroup.

Nancy Spidle
Senior Account Manager
Infogroup

Law Enforcement's Cell Phone Analysis Using the ArcGIS Cell Phone Analysis Toolkit

Learn how Law Enforcement Analyzes Cell Phone Data utilizing the ArcGIS Cell Phone Analysis Toolkit.

Brian P. Clarke
Criminal Investigator
Arlington Heights Police Department

Mapping Good Hope Cemetery

This project will focus on the mapping and subsequent creation of a geodatabase for the Village of Good Hope cemetery. The Western Illinois University (WIU) GIS Center will be mapping each tombstone using a mapping grade GPS unit while recording any relevant information. The Center will also map plot boundaries and the various phases of expansion. Once recorded, these features will be digitized into a GIS platform and integrated into an online mapping service which is available to the public seeking to find relatives and researchers specializing in genealogy.

Keisuke Nozaki
GIS Specialist
Western Illinois University GIS Center

Missing Maps Mapathon

According to the organization Missing Maps, "Each year, disasters around the world kill nearly 100,000 and affect or displace 200 million people. Many of the places where these disasters occur are literally 'missing' from any map and first responders lack the information to make valuable decisions regarding relief efforts." Missing Maps is an "open, collaborative project in which you can help to map areas where humanitarian organisations are trying to meet the needs of vulnerable people." Maptime Chicago invites you to learn how

you can easily contribute to a world map to benefit vulnerable communities everywhere. You'll learn how to create your own OpenStreetMap account and begin using the simple map editing tools. We'll focus on a specific project, somewhere in the world, and contribute to the map collectively. To participate in the mapathon, all you need is a laptop; no prior knowledge of OpenStreetMap is required. If you would like to create an OSM account beforehand, you can do so here: https://www.openstreetmap.org/user/new. You can learn more about Missing Maps here: http://www.missingmaps.org/.

Emily Zvolanek
Senior GIS Analyst
Argonne National Laboratory

Moving towards automation: Extraction of polygon features from point clouds

LiDAR and Semi-Global Matching (SGM) point clouds contain unprecedented amounts of information, much of which goes go un- or under-utilized. Locked away within these seas of points are representations of buildings, trees, bridges, parking lots, and other features that hold great value when extracted. A key to unlocking the potential of these datasets is through accurate classification of the point cloud and processing routings that turn the points into actionable information. In this half-hour talk we will discuss methods of optimizing routines to properly classify the raw points and subsequent processes that turn them into polygon data layers which can be leveraged in GIS software.

Mike Seidel
GIS Specialist
Ayres Associates

Matt Vinopal
LIDAR Supervisor
Ayres Associates

Municipal Asset Management Review

This presentation will review and discuss the interaction between GIS and asset management at the City of Naperville and the City of Wheaton. Learn the story of how GIS first became integrated with asset management and how the systems have evolved over time.

Jason Sheldon
GIS Coordinator
City of Naperville

Pat Keegan
GIS Coordinator
City of Wheaton

PINMAP, Property Information Management

PINMAP, Property Information Management is how Cook County efficiently manages property of over 1.8 Million Parcels and over 1,000 Taxing Districts.

Raymond Gottner

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GIS Project Manager
Cook County Clerk

Luis Castellanos
Senior GIS Analyst
Cook County Clerk

Project Management - The Basics

Ever work on a project that seems to never end or work on a team with that one person who seems to derail the objective at every turn? In this session we are going to explore the purpose and components in a Project Charter. A tool that can aid anyone in managing a technical project, increase accountability of the team, and help realize success.

Keith Nightlinger
GIS Manager
City of St. Charles

Providing Workflow Efficiencies through ArcGIS Collector and Web App Builder.

Eliminating inefficient workflows, along with inaccurate data and lack of upfront data to back office staff was a goal by DuPage County Department of Transportation staff. DuDOT staff needed a workflow and application for fast and accurate sign inventory and maintenance data collection along with a back office analysis of this road sign data. This presentation will cover the old workflow and it's inefficiencies due to paper work, multiple data entries to pre-existing applications, along with the lack of viewing and or analyzing this sign data real-time by the back office staff. Using the ArcGIS Collector application along with ESRI's Web App Builder, DuPage County GIS will show how the development and use of these two applications have provided DuDOT staff a manner to collect data in one easy step and where that new data can be viewed directly real time by back office staff.

Tom Ricker
GIS Manager
DuPage County

Ryan Nosek
GIS Analyst
DuPage County

Public Safety – Statewide Collaborative Data Sharing

All GIS professionals are encouraged to attend this panel discussion to gain further knowledge on collaborative data sharing between STIC, PRI-ISGS, and local agencies. Through information sharing, we are hoping to provide local agencies with extra tools. These tools can assist local agencies in protecting public safety. We will be covering issues discussed at the February meeting and proposed ideas to address these issues.

Nicholas Gray
Disaster Intelligence Officer
Statewide Terrorism & Intelligence Center (STIC)

Mark Yacucci

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Head-Geoscience Information
PRI-ISGS

Pamela Brooks
Geographic Information Specialist
Illinois Emergency Management Agency

Southern Appalachian Region Presettlement Land Survey Record Tree Observations

By studying presettlement survey records one can reconstruct the location of different tree species such as chestnut and beech. Because of their different resistances to fire, these species can give insight into how indigenous people affected the landscape. However, records from KY, VA, TN, NC, SC have not been analyzed due to lack of standardization of survey methods and irregular geometry of the surveys. By utilizing volunteer data found in the Deed Data Pool I will attempt to map key species in this region. Specifically, I will organize the data into a structured geodatabase, create an automated script to parse species names from survey corner descriptions, and count total survey corners containing chestnut and beech in each county. The results will show the county distribution of chestnut and beech throughout the mid-Atlantic and southern Appalachians during the mid to late 1700s.

Miles Dwiggins
Graduate Student
Eastern Illinois University

Barry Kronenfeld
Associate Professor
Eastern Illinois Unviersity

The Professional Remote Pilot: Capturing Drone imagery for GIS

Unmanned Aircraft have the unique ability to capture high ground resolution imagery, providing the quality data that's required for processing highly detailed orthomosaics, terrain models and 3D maps. Thus, this technology has drawn a great deal of attention from GIS Professionals. Automation and the integration of advanced stabilization has allowed nearly anyone to fly Unmanned Systems with little or no training. The recently established regulations governing the use of sUAS (Part 107) have established a Remote Pilot Certification, allowing previously non-certified pilots an opportunity to fly sUAS commercially. This certification requires the applicant to pass a knowledge test with no requirement to demonstrate any flying skill or proficiency. Despite this, it requires an operator with a professional skill set to fly both safely and legally. Earning an FAA Remote Pilot Certification is just the beginning. A professional Remote Pilot must also have the understanding of their system in order to capture the required data. More importantly, the professional Remote Pilot must be able to recognize problems with aircraft operations, isolate potential hazards and take steps to avoid mishaps that could result in catastrophic property damage or injury to people. This presentation will focus on the data gathering process from the pilot's perspective and assess the need of establishing a high standard of performance for the Remote Pilot. We will examine the steps required to earn the Remote Pilot Certificate under Part 107 and how to attain and maintain the skills and proficiency of a professional Remote Pilot through a specialized pilot training program.

Vince Donohue
President
Vortex UAS

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The Two Sides of the Funding Equation

As a GIS professional, you will be called upon from time to time to develop proposals for funding and contracts, write Requests for Proposals (RFPs), and evaluate responses to those RFPs. Join Brandon Nolin, Noah Temaner Jenkins and Valerie F. Leonard for a lively discussion. You will learn the do's and don'ts of writing and responding to RFPs, how to write effective funding proposals, and what funders are looking for.

Noah Temaner Jenkins
Temaner and Associates

Valerie Leonard
Community and Organizational Development

Brandon Nolin
Senior Planner
CMAP

UAV Panel Discussion

Drones have become very popular in the last couple of years. With this popularity has come a lot of questions with what technologies to use, what it takes to be a pilot, and what regulations there are for being a pilot. This panel will bring all those aspects to one table for an hour long discussion. The panel will be made up of Mark Foisy of the FAA, Mark Romero with ESRI Drone2Map, Heena Lee of Village of Algonquin and Drone2Map user, Chad Sperry of Western Illinois University who is a drone pilot and Drone2Map user. Come join the discussion to learn more about this quickly growing technology.

Mark Romero
Imagery Specialist
Esri

Mark Foisy
Aviation Safety Inspector - UAV Specialist
FAA

Heena Lee
Innovation Coordinator
Village of Algonquin

Chad Sperry
Western Illinois University
ce-sperry@wiu.edu

Using Web Maps to Measure the Development of Global Scale Cognitive Maps

Students in a college-level World Geography course used a custom-developed web mapping tool based on Leaflet as a mechanism to learn country locations. Interactions with the system were tracked, allowing for the exploration of the ways in which students dynamically construct global cognitive maps. Presentation will focus on the methodology of building such maps, the results of the study in relation to theories of spatial cognition, as well as the importance of such tools in geography education.

Thomas Pingel

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Assistant Professor
Department of Geography

Web GIS for Emergency Response at US EPA
The US Environmental Protection Agency is working in partnership with federal, state and local agencies to address lead in the drinking water in Flint, Michigan. EPA's GIS staff have developed several interactive applications to collect and communicate water sampling data since February 2016. This session will highlight and demonstrate four tools (iForms tablet data collection, ArcGIS Online, Qlik data visualization software and Storymaps) that have been central to how EPA shares information with the public and interested parties. Paisly Kauth, Jan Krysa, Dave Rebot and Lucy Stanfield will share their experiences developing these tools and the challenges of publishing and sharing map and data services with state and local partners.

Lucy Stanfield
GIS Specialist
US EPA Region 5

Paisly Kauth
GIS Coordinator
US EPA Region 5

Jan Krysa
GIS Analyst
US EPA Region 5

Dave Rebot
GIS Research Associate
US EPA Region 5

Web GIS Portals - Portal for ArcGIS and ArcGIS Online
The ArcGIS platform revolves around the concept of a portal, a collaborative geospatial content management system, and Esri offers two options for a portal – Portal for ArcGIS and ArcGIS Online. The presentation will introduce each of these and their roles within ArcGIS to organize and share information throughout your organization via maps and apps. Learn the considerations and configuration options of how to configure your portal so members of your organization and the public can discover, use, make, and share maps and information products.

Jordan Miller
Solutions Engineer
Esri

Sarah Schrader
Solutions Engineer
Esri

WIU Drone Update - FLIR for SAR

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Latest developments regarding UAS's at WIU. This presentation will start with a brief discussion of recent FAA regulatory changes from a user's perspective. The session will then delve into the newly acquired FLIR Vue Pro thermal sensor and applications to Search and Rescue and Emergency Response at WIU.

Chad Sperry
Director
WIU GIS Center

Josh Anderson
Teachers Supporting Assistant
Department of Health Sciences and Social Work, Western Illinois University

Working Together: GIS in Emergency Operations
The City of Rockford and WinGIS have come together to create a map application for use in emergency operations in Winnebago County. This app is used for damage assessment as well as search and rescue operations during and after various disasters.

David Peters
GIS Administrator
WinGIS

Tara DeRosa
GIS Coordinator
City of Rockford, IL

Michael Montana
Sr. Engineering Technician
City of Rockford, IL