21st Annual GIS/CAMA Technologies Conference

March 6–9, 2017 • Chattanooga Convention Center • Chattanooga, Tennessee

PROGRAM

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GIS/CAMA • Chattanooga, TN

IAAO · URISA

March 6–9, 2017

IAAO
INTERNATIONAL ASSOCIATION
of ASSESSING OFFICERS
Valuing the World

URISA
Fostering Excellence in GIS
www.URISA.org

The Conference for Professionals in Property Assessment, Tax Administration, Mapping, and Information Technology

Tracks Overview

The program features three concurrent education tracks offering 18 outstanding sessions, plus 3 general sessions, and the Esri Learning Lab. Attendees may choose the topic of greatest interest in educational sessions. Full conference attendees may attend any breakout sessions (no registration is required for individual sessions). The conference proceedings will be distributed to attendees approximately 6–8 weeks after the conference.

Modeling & Valuation Considerations ....Room 4

GIS Technologies ....Room 5

Assessment Administration: Best Practices ....Room 6

Esri Learning Lab....................Room 11

Take Esri training at your own pace in the hands-on Learning Lab. Each lesson includes a prerecorded presentation and exercises and is roughly 45 minutes in length. Esri staff will be on hand to answer questions. Come in when you can—no advance registration is required. A wide variety of topics are available for both GIS beginners and veterans. From getting started with Community Analyst, to editing parcels and creating web apps, there's something for everyone!

2017 GIS/CAMA Technologies Conference Committee

- ✧ Rachel Parrinello, GISP (Conference Chair), Boulder County, CO
- ✧ Dan Cypert, RES (Associate Chair), Arkansas Assessment Coordination Dept, AR
- ✧ Mazher Ahmed, GISP, Kane County, IL
- ✧ Deb Asbury, Retired, AR
- ✧ Bob Bates, Alachua County, FL
- ✧ Matt Bryant, DEVNET Inc.
- ✧ Billy Burle, Courthouse, USA
- ✧ Leighann Coates, Thimgan & Associates
- ✧ Logan Couch, Alachua County, FL
- ✧ Linda Cwiek, Town of North Kingstown, RI
- ✧ Susan Gullette, State of Tennessee, Comptroller of the Treasury
- ✧ Alex Hepp, Cyclomedia
- ✧ Brent Jones, Esri
- ✧ Bryan Kinsey, AAS, State of Tennessee, Comptroller of the Treasury
- ✧ Vijay Kumar, Farragut
- ✧ Robert McGee, Arkansas Assessment Coordination Dept.
- ✧ Sita Nanthavong, Washington County, AR
- ✧ Carol Neihardt, Tyler Technologies, Inc.
- ✧ Patrick O'Connor, O'Connor Consulting
- ✧ Christine Schluter, GISP, Bruce Harris & Associates
- ✧ William Stephenson, Washington County, AR
- ✧ Bill Wetzel, The Sidwell Company

Conference Staff
- ✧ Chris Bennett, IAAO
- ✧ Pat Francis, URISA
- ✧ Verlanda McBride, URISA
- ✧ Wendy Nelson, URISA
- ✧ Amy Westerman, IAAO
- ✧ Ron Worth, IAAO

Welcome to the 2017 GIS/CAMA Technologies Conference

Now in its 21st year, the grassroots GIS/CAMA Technologies Conference continues to annually offer amazing content and presentations, covering topics important to professionals in the property assessment, property valuation, and parcel mapping/GIS communities. The best part of meeting annually is learning from other attendees and connecting with others who share similar challenges. During the past two decades, our conference has built bridges between appraisal professionals, statisticians and modelers, geographic information professionals, information technology leaders, and elected officials from all over the world. I am passionate about the value this conference brings via fundamental education, networking opportunities, and discovering new technologies—all of which can be used to improve our work and understanding for our citizens.

Be sure to attend the keynote presentation by Greg Milner, author of *Pinpoint: How GPS is Changing Technology, Culture, and Our Minds*. He provides a unique perspective on how GPS technology, that we often take for granted, is influencing our modern world. The other plenary sessions provide perspectives on how we communicate, share information, and interact with each other in our rapidly- and ever-changing world. Visit our incredible vendors and share your ideas and vision for future products. By the end of this conference you will have an increased understanding of how technology serves our individual and shared goals. I look forward to the next 20 years of sharing knowledge, brainstorming, and friendship, which are hallmarks of this conference.

Welcome to Chattanooga,

Rachel Parrinello, GISP

About the Conference

The 21st Annual GIS/CAMA Technologies Conference helps assessment and appraisal professionals and GIS managers to work more effectively through the use of technology.

Conference Site

All conference events are at the Chattanooga Convention Center unless otherwise noted. Complimentary Internet service is available in the convention center and in the hotel rooms.

The hotel is located adjacent to the convention center in downtown Chattanooga. Free city shuttle buses provide access to many downtown attractions.

Continuing Education Credit

IAAO professional designees will earn 8 hours of recertification credit for attending a full day preconference workshop, 9 hours for attending all sessions of the regular conference program, and 3 hours for attending all three general sessions. GISCI Certification points earned for attending one workshop and this conference = .4 GISCI education points.

Registration Desk

Registration in Prefunction Area

Monday, March 6................ 7:30 am–5:00 pm

Tuesday, March 7................ 8:00 am–5:00 pm

Wednesday, March 8 .... 8:00 am–5:00 pm

Thursday, March 9 .... 8:00 am–11:30 am

Welcome & Keynote Address

Tuesday, March 7, 8:30–10:00 am

Ballroom HIJ

You will be welcomed by Conference Chair Rachel Parrinello, GISP, and IAAO and URISA leaders.

PinPoint: How GPS is Changing Technology, Culture and our Minds

Author Greg Milner will share his thoughts on how the global positioning system (GPS) has profoundly influenced the world and provided benefits in almost every aspect of life—but at a price.

Milner blends 50 years of historical perspectives on the origins of GPS with insightful examples of the consequences of a world dependent on this ubiquitous technology. What does the future hold for a world that has embraced GPS?

2017 Conference-at-a-Glance

Monday, March 6, 2017 (Registration in Prefunction Area • Exhibit hours 5:00–7:00 pm)

Time		
8:30 am–5:00 pm	Workshop: Basics of R Statistical Software—Rm 7 Instructor: Joshua Myers, Statistical Consultant, Josh Myers Valuation Solutions, Chesapeake, VA	Workshop: Deploying Mobile GIS—Rm 8 Tripp Corbin, GISP, CEO, eGIS Associates, Inc.
5:00–5:30 pm	Attendee Welcome Meeting—Rm 8	
5:00–7:00 pm	Opening Reception in Exhibit Hall—Ballroom EFG	

Tuesday, March 7, 2017 Exhibit hours 10:00 am–3:30 pm, Ballroom EFG • Esri Learning Lab—Rm 11, concurrent with breakout sessions

Registration in the Convention Center Atrium outside Ballrooms HIJ

Time			
8:30–10:00 am Ballroom HIJ	Welcome and Opening: Hear from Rachel Parrinello, 2017 Conference Chair, and leaders from IAAO and URISA. Keynote Address: Greg Milner, author of Pinpoint: How GPS is Changing Technology, Culture and our Minds		
10:00–10:30 am	Dedicated Exhibit Hall Break and Refreshment Break—Ballroom EFG		
10:30–Noon	**MODELING & VALUATION CONSIDERATIONS—RM 4**	**GIS TECHNOLOGIES—RM 5**	**ASSESSMENT ADMINISTRATION: BEST PRACTICES—RM 6**
	Traditional vs Modern Appraisal Philosophies This session combines aspects of traditional appraisal practices that rely on appraisal opinion and use of GIS technology to determine distance between properties to define location adjustments. Moderator: Heather Stevens, Stone County Arkansas Assessor *AVMs, BPOs, Evaluations and Appraisals: A Comparison* Jim Amorin, MAI, SRA, AI-GRS, President, Appraisal Institute, Chicago, IL *Travel Time vs. "As The Crow Flies" in CAMA Models and Comp Selection* Paul Bidanset, City of Norfolk, Virginia Beach, VA, and Ulster University	Using Analysis Tools for Automated and Improved Assessment This session discusses how multiple jurisdictions are using automated tools for integrating CAMA data and GIS to improve and expedite valuations. Moderator: Mazher Ahmed, GISP, Kane County, IL *Using GIS Analytics for Commercial Appraisals* Kelly Ratchinsky, Palm Beach County Property Appraiser, West Palm Beach, FL Steve Eagen, Palm Beach County Property Appraiser, West Palm Beach, FL *Automated Upload of CAMA GIS Data to Pictometry CONNECTExplorer* *Improving Assessments Using Python and ArcGIS for Server* Kevin Sadrak, GISP, Prince William County, Woodbridge, VA	Leadership and Getting the Results You Want Learn how emotional intelligence can be used in a leadership role. Learn about primal leadership and how EI can help. Moderator: Bryan Kinsey, State of Tennessee/Comptroller of the Treasury *Leading with Emotional Intelligence* Rebecca Malmquist, CAE, SAMA, City of Minneapolis, Minneapolis, MN
Noon–1:00 pm	Hosted Networking Lunch Buffet and Vendor Spark Session—Ballroom HIJ During lunch, learn about the products and services being highlighted by our exhibitors. Each exhibitor will have 1 minute to introduce their company.		
1:00–1:30 pm	Dedicated Exhibit Hall Break—Ballroom EFG (dessert served in the exhibit hall)		
1:30–3:00 pm	Cost Valuation vs Model Valuation Using GIS This session includes information about cost modeling and valuation models using GIS block face centroids. By analyzing various building cost structures, one of the presenters will discuss the development of a potentially more accurate approach to the cost value. The other presenter will emphasize the use of block face centroids in GIS as an alternative to individual lot center points to create location adjustments. Moderator: Robert Lee, Lee Law Firm, Mt. Juliet, TN *Getting Block Face Points and Their Application In Property Valuation Modeling* Jiuxu Cui, Department of Finance, New York, NY Min Zhu, Department of Finance, New York, NY *Improving Commercial Value Estimates Using a New Cost Model* J Wayne Moore, PHD, J Wayne Moore, LLC, Springfield, OH	Integrating GIS/CAMA Data: A La Carte or Buffet? Let us "Volunteer" Some Options Learn how the State of Tennessee is preparing GIS/CAMA data for multiple applications. The session will also explore the use of GIS data in a disconnected environment. Moderator: William Stephenson, Washington County, AR *Leveraging the Same GIS and CAMA Data for Multiple Applications* Ken Morrell, State of Tennessee, Comptroller of the Treasury, Division of Property Assessments, Nashville, TN TJ Muzorewa, State of Tennessee, Comptroller of the Treasury, Office of Local Government, Nashville, TN *Extracting and Preparing GIS Data for Disconnected Applications* Ken Morrell, State of Tennessee, Comptroller of the Treasury, Division of Property Assessments, Nashville, TN	Start to Finish This session starts with basic tips for cleaning data, then moves to topics that influence adoption of GIS technology in the assessor's office. The session closes with an overview of the sometimes complex relationship between tax rates, value, and local education funding. Moderator: Debra Asbury, Retired, North Little Rock, AR *Factors that Influence the Adoption of GIS Technology in the Assessor's Office* Daniel Fasteen, Dakota County, Hastings, MN *A Brief Analysis of Assessment Value, Tax Rates, and Funding in Local Education* Michael Mixon, State of Tennessee, Comptroller of the Treasury, Office of Local Government, Nashville, TN
3:00–3:30 pm	Dedicated Exhibit Hall Break and Refreshment Break—Ballroom EFG		
3:30–5:00 pm	Vertical Equity Decathlon: PRD vs. PRB Historically, the Price-Related Differential (PRD) has been the major tool used by assessors to determine the degree of vertical inequity in the underlying assessments. More recently, the Coefficient of Price-Related Bias (PRB) has been developed to likewise measure the degree of vertical inequity. This presentation will explore the mathematical properties of both measures, presenting the strengths and weaknesses of each in the process. Moderator: Carol Neihardt, Tyler Technologies *Vertical Equity Decathlon: PRD vs. PRB* Joshua Myers, Josh Myers Valuation Solutions, Chesapeake, VA	Multiuse Approach to Improving Assessment Workflow Learn how jurisdictions are using multiuse approaches and technology for improved workflow and increased efficiencies. The use of street-level imagery and GIS-centric applications will be showcased. Moderator: Linda Cwiek, Town of North Kingston, RI *A Multiuse Approach to Using Street Level Imagery* Daniel Fasteen, Dakota County, MN *Erie County Paperless Reappraisal—Digital Reappraisal with CAMA Integration* Richard Jeffery, Erie County Auditor, Sandusky, OH Mark Wroblewski, Erie County, Sandusky, OH	Harness the Heat for a Brighter Future This "extra hot" session combines fire risk modeling in Detroit and valuation of solar panels on residential properties. Two positive solutions to harness the heat for beneficial outcomes. Moderator: Rachel Parrinello, GISP, Boulder County, CO *The Forces Behind Fire: Fire Risk Modeling in Detroit* Jerry Paffendorf, LOVELAND Technologies *Valuation of Solar Panels on Residential Properties* Jake Parkinson, Tooele County, Tooele, UT
5:00–6:00 pm	Open Evening		

Wednesday, March 8, 2017 (Exhibit hours 10:00 am–4:00 pm, Ballroom EFG • Esri Learning Lab—Rm 11, concurrent with breakout sessions)

Time	
9:00–10:00 am	General Session: Chattanooga GIG City: Players in the Local Economy, Ballroom HIJ *Chattanooga: A Middle-America Innovation Economy* Andrew Rodgers, The Enterprise Center, Chattanooga, TN *What is TVA?* Scott Fiedler, Tennessee Valley Authority, Chattanooga , TN
10:00–10:30 am	Dedicated Exhibit Hall Break—Ballroom EFG

10:30 am–Noon	MODELING & VALUATION CONSIDERATIONS—RM 4	GIS TECHNOLOGIES—RM 5	ASSESSMENT ADMINISTRATION: BEST PRACTICES—RM 6
	High Tech Forestry Valuation and Detection of Selective Reappraisal of Residential Property Session includes information about the use of statistics for valuation and quality review. Traditional forestry valuation goes high-tech through the use of GIS, ortho imagery and statistics to generate MRA based values of commercial timberland. The second presenter will discuss the differences in the distributions of percentage changes in assessment year over year for sold and unsold properties using statistical tests such as Mann-Whitney and Wilcoxon. Moderator: Robert McGee, Arkansas Assessment Coordination Department, AR *Mass Appraisal of Commercial Timberlands* Alberto Ugas, U.S. Department of the Interior, Office of Appraisal Services, Albuquerque, NM Stephen Wilson, Department of the Interior, Office of the Special Trustee for American Indians, Rapid City, SD *Detecting Biased Samples in Residential Ratio Studies* Robert Denne, MBA, MA, Almy, Gloudemans, Jacobs & Denne, Palatine, IL	**CAMA-GIS Integration** This session discusses the basics of CAMA and GIS integration. Learn more about the process, the benefits and the options through real world examples. Moderator: Matt Bryant, DEVNET Inc. *GIS and CAMA Integration 101* Brent Jones, , Esri *Efficiently Manage Parcel Transactions in GIS and CAMA* Van O'Brien, The Sidwell Company, Inc. *Seeing Assessor Data with New Eyes* Greg Galarneau, Pro-West & Associates	**TIFs Are Tough, National Compliance is Tougher** Explore tax increment financing (TIF) basics using the examples of Cook County suburbs, which have 293 TIF districts, Chicago, which has 146, and several other prime examples of TIFs in action. The presentation focuses on the publicly accessible GIS system interface that visually identifies each district. Next, learn about Jamaica's national efforts to increase taxpayer compliance rates by analyzing localities and determining the best way to focus resources. Moderator: Bill Wetzel, The Sidwell Company *Tax Increment Financing: A Primer and Recommendations for the Future* Margie Cusack, Research Manager, IAAO, Chicago, IL David Merriman, University of Illinois at Chicago, Chicago, IL *Exploring the Attitude: Behavior Profiles of Jamaican Property Taxpayers* Tina Beale, BSc, MSc., University of Technology, Jamaica
Noon–1:30 pm	Lunch on your own or optional vendor lunch sessions—Esri, Rm 7/8 • Tyler Technologies Rm 9/10		
1:30–3:00 pm	**Geographically, Temporally and Characteristically Weighted Regression** GTCWR is an extension of geographically weighted regression. Using test data, this presentation will outline the theoretical and statistical foundations of GTCWR, and will demonstrate that this methodology achieves more uniform valuations than other locally weighted regression approaches currently used in the assessment industry. Moderator: Dan Cypert, RES, Arkansas Assessment Coordination Dept, AR *Geographically, Temporally, and Characteristically Weighted Regression (GTCWR)* Paul Bidanset, City of Norfolk, Virginia Beach, VA and Ulster University	**Modernizing GIS for Land Records** These sessions explore and process the challenges and the rewards experienced with modernizing a Cadastral GIS. Various jurisdictions offer their different perspectives of migration into the standardized Parcel Fabric maintenance model. Moderator: Christine Schluter, GISP, Bruce Harris & Associates *How Lafayette Parish has Modernized their GIS and What it Means Going Forward* Conrad Comeaux, Lafayette Parish Assessor's Office, Lafayette, LA Arthur Robinson Jr., Bruce Harris & Associates *The Benefits of the ESRI ArcGIS Parcel Editing Solution* Frank Conkling, GISP, PSM, Panda Consulting	**Data Sharing through GIS** This policy-level session covers GIS integration in two venues, the state of Tennessee and Denmark. The Tennessee effort seeks to find better ways to share data with public officials across multiple disciplines. The Denmark effort is a complete remake of national infrastructure to create a more efficient system. Moderator: Susan Gullette, State of Tennessee, Comptroller of the Treasury *Engaging Public Officials with GIS* Matthew Hill, The Comptroller Office of Local Government, Nashville, TN Derrick Hughes, The Comptroller Office of Local Government, Nashville, TN Ned Phillips, State of Tennessee, Comptroller of the Treasury, Knoxville, TN *Integration of GIS with a New Property Appraisal System in Denmark* Richard Kotapish, GISP, Geo-centric Consulting, Inc. Travis Gregorich, Bruce Harris & Associates, Inc.
3:00–4:00 pm	Exhibit Hall Break & Raffles—Ballroom EFG Sponsored by Patriot Properties		
4:00–5:00 pm	**Join us for GIS/CAMA 2017 Parcel Jeopardy!—Ballroom HIJ** A great way to wind down after a full day of sessions. Join us for GIS/CAMA 2017 Parcel Jeopardy! Learn a bit, enjoy some snacks, and play along before heading out for a fun evening at Southside Social. Nancy von Meyer, GISP, Fairview Industries; David Salzer, GISP, Axiomatic; Patrick Santoso, GISP, Axiomatic; Brent Jones, Esri		
6:00–10:00 pm	Social Event at Southside Social, 1818 Chestnut St, Chattanooga, TN		

Thursday, March 9, 2017   (Esri Learning Lab—Rm 11, 8:30–10:00 am)

8:30–10:00 am	MODELING & VALUATION CONSIDERATIONS—RM 4	GIS TECHNOLOGIES—RM 5	ASSESSMENT ADMINISTRATION: BEST PRACTICES—RM 6
	Concepts of an Eastern City and Western City This session explores ways that two large jurisdictions solve modeling and valuation concerns. One jurisdiction will discuss the way they include revaluation based on an MRA model, ultimately creating more efficient workflow processes. The other jurisdiction will share the method they use to determine sub-market boundaries. Moderator: Angela Hill, Faulkner County Arkansas Assessor *Integrating Predictive Model Markup Language (PMML) into a CAMA System: Experiences from the Maricopa County Assessor's Office* David Whiterell, RES, Maricopa County Assessor's Office, Phoenix, AZ Jennifer Rearich, Maricopa County Assessor's Office, Phoenix, AZ *Sub-neighborhood Determination and Baseline Value Based on Geographical Grouping* Min Zhu, New York City Department of Finance, New York, NY Jiuxu Cui, New York City Department of Finance, New York, NY	**When Disaster Strikes** This presentation looks at applying GIS/CAMA data to support efforts both before and after disaster strikes. Real-world examples being developed, and others already implemented, will be shared. Are collaboration and financial and political incentives the keys to success? Moderator: Alex Hepp, CycloMedia *Sevier County Wildfires* Stacey Whaley, Sevier County, TN *Developing a Natural Hazard Mitigation Plan with Parcel Data* Professor Yu Zhou, Bowling Green State University, Bowling Green, OH	**Dark Stores** Learn from two presentations and a panel discussion on the Dark Store Theory tax appeals of big box properties. This hot topic has recently attracted wide interest in both the U.S and Canada. The session will include two parts. One will review recent case decisions including strategies that assessing jurisdictions can consider to defend their values. The other will review the theory on valuation rights related to these properties. Moderator: Pat O'Connor, O'Connor Consulting, Plano TX *Dark Sales Theory: Is it the Property Valuation Method?* Robert Lee, Lee Law Firm, Mt. Juliet, TN *Tax Appeal Appraisals on Triple Net Big Box Properties* Ben Sellers, MAI, Sellers & Associates, Clinton, TN
10:30–11:30 am	Closing Plenary Session: National Parcel Database Summit—Ballroom HIJ *Panel:* *Pat Santoso, GISP, Axiomatic* *Nancy von Meyer, GISP, Fairview Industries* *Brent Jones, Esri* *Neal Carpenter, The Sidwell Company, Inc.* *Jerry Paffendorf, LOVELAND Technologies* **Extra Incentive:** Thimgan & Associates is offering prizes to attendees again this year! Everyone attending this session will receive a raffle ticket for a great prize drawing at the close of the conference. Win one of three awesome prizes (noise canceling wireless Beats by Dre headphones, an IPad Air 2, and UE Boom portable speaker)!		
	Optional tour–Chickamauga Battlefield		

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