



## **TUESDAY MORNING**

8:30 AM - Keynote Address

**Dr. Ken Kvamme**

**SCE Auditorium**

9:30 AM Coffee Break

### **General Papers**

**General - GIS**  
**Room: SCE House**

- 9:50 AM **Caswell, Edward**, *An Analysis of Selected Variables that Affect the Production of Cost Surfaces*
- 10:10 AM **Becker, Daniel, Christian Willmes, Andreas Bolten, María de Andrés-Herrero, Gerd-Christian Weniger, Georg Bareth**, *Influence of Differences in Digital Elevation Models and their Resolution on Slope-Based Site Catchment Modelling*
- 10:30 AM **Beusing, Ruth**, *Temporal-GIS Tools for Mixed and Meso-Scale Archaeological Data*
- 10:50 AM **James, Vivian**, *Context as Theory: Towards Unification of Computer Applications and Quantitative Methods in Archaeology*
- 11:10 AM **Sharp, Kayeleigh**, *Testing the 'Small-Site' Approach with Multivariate Spatial Statistical and Archaeological Network Analysis*
- 11:30 AM **Groen, Mike**, *Geospatial Analysis, Predictive Modelling and Modern Clandestine Burials*
- 11:50 AM **Slayton, Emma, Jan Athenstädt, Corinne Hofman, Jan Hildenbrand**, *Seafaring with Mental Sign Posts: Connecting Materials with Canoe Routes in the Archaic Age Northern Lesser Antilles*

**Open Open Open. The Rise of Open Scientific Publishing and the Archaeological Discipline: Managing the Paradigm Shift**

**Education and Dissemination**  
**Room: SCE 216**

*Organizers: Arianna Traviglia, Xavier Rodier*

- 9:50 AM **Rocks-Macqueen, Doug, Tom Levy**, *The Last of the Publishers*
- 10:10 AM **Roued-Cunliffe, Henriette, Peter Jensen**, *What is Open Data in an Archaeological Context?*
- 10:30 AM **Brin, Adam, Francis Pierce-McManamon, Leigh Anne Ellison**, *The Challenges of Open Access for Archaeological Repositories*
- 10:50 AM **Kondo, Yasuhisa, Atsushi Noguchi**, *Best Practices and Challenges in Promoting Open Science in Archaeology: Two Narratives from Japan*
- 11:10 AM **Rodier, Xavier, Olivier Marlet**, *How to Combine Archaeological Archives, Linked Open Data and Academic Publication, a French Experience*
- 11:30 AM **Buard, Pierre-Yves, Elisabeth Zadora-Rio**, *Publishing an Archaeological Excavation Report in a Logician Workflow*
- 11:50 AM **Kansa, Eric, Anne Austin, Ixchel Faniel, Sarah Kansa, Ran Boynter, Jennifer Jacobs, Phoebe France**, *A Reality Check: The Impact of Open Data in Archaeology*

**Same as it ever was... Same as it ever was**

**Critical Reflections**  
**Room: SCE 217**

*Organizers: Hugh Corley, Lorna-Jane Richardson*

- 9:50 AM **Pageau, Hanna**, *An Inclusive Archaeology: Being Able in Archaeology*

- 10:10 AM **Foreman, Penelope**, *"Well, actually...": The Othering of Women in the Computing and Programming Communities and Its Effects on Digital Archaeology*
- 10:30 AM **Ni Chiobhain Enqvist, Delia**, *Whose (Maritime) Archaeology is It Anyway?*
- 10:50 AM **Hassett, Brenna, Suzanne Pilaar Birch, Victoria Herridge, Rebecca Wragg Sykes**, *TrowelBlazers: Raising Horizons for a Diverse Digital Archaeology*
- 11:10 AM **Corley, Hugh**, *Privilege and Digital Archaeology*
- 11:30 AM **Richardson, Lorna-Jane**, *Digital Archaeology and Digital Inequalities: A View from a Sociology Department*
- 11:50 AM *Discussion*

### Urbanism at the Micro, Meso and Macro Scales: Advances in Computational and Quantitative Methods to Study Cities and their Built Environments

**GIS**  
**Room: SCE Auditorium**

Organizers: Eleftheria Paliou, Adrian Chase

- 9:50 AM **Cabaniss, Andrew**, *Diversity from the Bottom Up: Modeling Cities as Communities of Diverse Households*
- 10:10 AM **Cesaretti, Rudolf**, *Re-Evaluating Settlement Population Estimation: An Analogue-Based Method for Modeling Patterned Variation in Population Density*
- 10:30 AM **Levine, Evan, Daniel Plekhov**, *Patterns of Urbanism in Bactria: Reevaluating a Paradigm Through Remote Sensing*
- 10:50 AM **Hermitt, Elijah, Erika Maxson, Kirk French, Damien Marken, Derek Shaffer, Timothy Murtha**, *Hydrologic Design in Three Maya Cities: Using Regional Topographic Data, Hydrologic Analysis in GIS and Archaeology for a Comparative Analysis of Palenque, Tikal, and El Peru*
- 11:10 AM **Baumanova, Monika, Ladislav Smejda, Heinz Ruther**, *The Streets of Timbuktu Old Town. Moving Goods, People and Ideas on the Coast of the Sahara*
- 11:30 AM **Shpuza, Ermal**, *The Effect of Gridiron Street Pattern on the Urban Growth of Adriatic and Ionian Coastal Cities 1800-2010*

- 11:50 AM **Crawford, Katherine**, *Unravelling Urban Religious Landscapes: Modelling Processions at Ostia*
- 12:10 PM **Klassen, Sarah, Jonathan Weed, Damian Evans**, *Discerning the Urban Morphology of Angkor Using a Semi-Supervised Algorithm for Manifold Learning*

### The Creation of Big Data Labs for Archaeology, Heritage, and Global Initiatives

**Broader View - Digital Archaeology and the Humanities**

**Room: SCW 460/462**

Organizers: Thomas Levy, Michael Decker

- 9:50 AM **Decker, Michael, Thomas Levy, Maurizio Forte, Ethan Watrall**, *Introduction*
- 10:00 AM **Decker, Michael**, *CVAST: The USF Center for Virtualization and Applied Spatial Technologies*
- 10:20 AM **Levy, Thomas, Margie Burton**, *The UC San Diego Center for Cyber-Archaeology and Sustainability*
- 10:40 AM **Forte, Maurizio**, *The Dig@Lab at Duke University*
- 11:00 AM **Watrall, Ethan**, *MATRIX: The Center for Digital Humanities & Social Sciences*
- 11:20 AM **Tanasi, Davide**, *Learning Through Objects: 3D Digital Imaging, 3D Printing and Haptic Technology for Public Outreach in Archaeology*
- 11:40 AM **Colobran, Miquel, Juan Antonio Barcelo, Igor Bogdanovic**, *Reusing Archeological Information to Improve Modeling and Research: An Interoperability Data Schema*
- 12:00 PM **Watrall, Ethan**, *Mbira: A Platform to Build, Serve, and Manage Mobile Heritage Experiences*

### NEH Roundtable on Advanced Challenges in Theory and Practice in 3D Modeling

**3D Acquisition / Object Modeling**  
**Room: SCW 464**

Organizers: Alyson Gill, Heather Richards-Rissetto, Lisa Snyder

- 9:50 AM **Carter, William**, *The Life of Attributes: Meta and Paradata as 3D Point and Object DNA for Heritage Providence*
- 10:10 AM **Clinton, Miriam**, *A Workflow to Integrate 3D Data Acquisition with Traditional Artifact Study? Lessons from Mouliana*

- 10:30 AM **Ulguim, Priscilla**, *3D Digital Models and Bioarchaeology: Challenges and Proposals for Practice*
- 10:50 AM **Massari, Lauren, William Rourk, Shayne Brandon, Jama Coartney, Worthy Martin, Chip German**, *Challenges in Processing, Delivering, and Archiving Large Amounts of 3D Data*
- 11:10 AM **Mudge, Mark**, *Computational Photography, Scientific Imaging, and the Preservation of 3D Digital Representations*
- 11:30 AM **Richards-Rissetto, Heather**, *Challenges of Peer-Review: Where Does 3D Archaeological Scholarship Fall under the Umbrella of Digital Humanities Scholarship?*
- 11:50 AM **Richards-Rissetto, Heather, Alyson Gill**, *Roundtable*

### **Rip – Model – Learn: Towards the Total Model**

#### ***Broader View - Digital Archaeology and the Humanities***

**Room: SCW 466/468**

*Organizers: Carlo Bianchini, Alfonso Ippolito, Carlo Inglese, Luca Senatore*

- 9:50 AM **Luce, Fabio**, *Digital Surveying and Ideal Reconstruction for Total Hybrid Model: The Case of Fort Presanella in Val di Sole.*

- 10:10 AM **Filippucci, Marco, Fabio Bianconi, Federica Magi Meconi**, *Models and Parameterization of the Five Orders of Architecture*
- 10:30 AM **Eve, Stuart, Guy Hunt, Michael Johnson, Jessica Ogden, John Layt**, *10 Years of Online Archaeological Databases - Revolution, Convolution, Evolution*
- 10:50 AM **Empler, Tommaso**, *3D Modeling to Reconstruct a Paleontological Site: Museum of Casal de' Pazzi in Rome*
- 11:10 AM **Senatore, Luca, Michela Cigola, Arturo Gallozzi**, *New Methodologies for Knowledge and Valorization: The Digital Survey Made by Remote-Controlled Mobile Platform: The Case Study of the Roman Casinum City*
- 11:30 AM **Caldarone, Adriana**, *3D Printing and Augmented Reality: Integration, Methods and Communication for Cultural Heritage.*
- 11:50 AM **Bercigli, Monica, Stefano Bertocci**, *Digital Documentation of Masada Fortress in Israel: Integrated Methodologies of Survey and Representation*
- 12:10 PM **Carnevali, Laura, Marco Carpienci, Andrea Angelini**, *Problems Concerning Elaboration and Representation in Italian Rock-Hewn Architecture*

## **TUESDAY AFTERNOON**

### **Digital Archaeology - Where are We and How do We Fit In? / SIG Education and Outreach**

#### ***Critical Reflections*** **Room: SCE 216**

*Organizers: Paul Reilly, John Pouncett, Stephen Stead*

- 12:45 PM **Brin, Adam, Francis Pierce-McManamon, Leigh Anne Ellison**, *The Archaeological Data Lifecycle*
- 1:05 PM **Verhagen, Philip**, *Education, Training, and Outreach: A Call to Arms*

### **Archaeology In and Out of the Classroom: Digital Approaches to Archaeological Instruction**

#### ***Education and Dissemination*** **Room: SCE 216**

*Organizer: Jeffrey Emanuel*

- 2:00 PM **Gandolfi, Eleonora**, *Public Engagement in Compulsory-Age Education with MOOCs: A Case Study from the Italian and English Context*
- 2:20 PM **Rourk, Will, Andrew Johnston, Lauren Massari, Shayne Brandon, Arin Bennett, Jama Coartney, Worthy Martin**, *Cultural Heritage Data Synthesis for Architectural History Field Methods*
- 2:40 PM **Golubiewski-Davis, Kristina, Samantha Porter, Matt Edling, John Soderberg, Gilbert Tostevin**, *The Use and Reuse of 3D Scanned Lithic Refits*
- 3:00 PM **Galvin, Elizabeth, Jennifer Wexler**, *Virtual Viewing: Engaging Audiences with the African Rock Art Digital Collection at The British Museum*

### **Ground-penetrating Radar Advancements in the Americas**

#### ***Geophysics/Remote Sensing*** **Room: SCE 217**

*Organizer: Peter Leach*

- 2:00 PM **Morris, Isabel**, *Today's Surveys and Tomorrow's Inversions: GPR Attribute Analysis*
- 2:20 PM **Sturm, Jennie**, *Ground-Penetrating Radar in Chaco Canyon, New Mexico: 40 Years of Mapping Chaco's Buried Past*

- 2:40 PM **Lowry, Sarah, Shawn Patch**, *Mississippian Villages in East Tennessee: Geophysical Case Studies at Five Sites to Examine Community Layout and Land Use*

- 3:00 PM **Leach, Peter, Richard Boisvert**, *High-Frequency GPR for Real-Time 'Digital Bisection' of Archaeological Features*

### **Urbanism at the Micro, Meso and Macro Scales: Advances in Computational and Quantitative Methods to Study Cities and their Built Environments**

#### ***GIS***

#### **Room: SCE Auditorium**

*Organizers: Eleftheria Paliou, Adrian Chase*

- 2:00 PM **Chase, Adrian**, *Erasing the Garden City: Interpolation of Architectural Volume from LiDAR Derived DEMs*
- 2:20 PM **Prufer, Keith, Amy Thompson**, *Processes of Urban Development Among the Ancient Maya of Uxbenká and Ix Kuku'il, Southern Belize*
- 2:40 PM **Hare, Timothy**, *Mapping and 3D Modeling at the Household, Neighborhood, and Regional Levels Using UAVs, Photogrammetry, and LiDAR*
- 3:00 PM **Forte, Maurizio, Nevio Danelon, David Johnston, Katherine McCusker, Everett Newton**, *Vulci3000 Project - A Digital Challenge*
- 3:20 PM **Landeschi, Giacomo, Stefan Lindgren, Jesper Blid Kullberg, Henrik Gerding, Alcestis Papadimitriou, Jenny Wallensten, Nicolò Dell'Unto, Angeliki Kossiva**, *Integrated Digital Methods for Investigating a Hidden Cityscape: The Case of Ancient Hermion*
- 3:40 PM *Coffee Break*
- 4:00 PM **Kubicka, Anna**, *The Metrological Research of Machu Picchu Settlement: Application of a Cosine Quantogram Method for 3D Laser Data*
- 4:20 PM **Vadala, Jeffrey, Brian Denham**, *Virtual Reality as a Tool for Spatial Analysis at Cerro Maya, Belize (Ceros)*
- 4:40 PM **Goodwin, Graham, Heather Richards-Rissetto**, *Modeling Acoustics in Ancient Maya Cities: Moving Towards a Synesthetic Experience Using 3D Simulation*
- 5:00 PM **Hanus, Kasper**, *Understanding Urban Pattern of Silk Road Oasis-Cities Using Archival Aerial Images.*

5:20 PM Discussion

## The Creation of Big Data Labs for Archaeology, Heritage, and Global Initiatives

### Broader View - Digital Archaeology and the Humanities Room: SCW 460/462

Organizers: Thomas Levy, Michael Decker

- 2:00 PM **Johnson, Andrew, Steve Savage, Tom Levy**, *The ASOR Cultural Heritage Initiative-TerraWatchers Collaborative: Crowd-Sourced Monitoring of At Risk Cultural Heritage Sites in the Middle East*
- 2:20 PM **Banaszek, Łukasz, Kamila Oleś**, *Making Use of the Publicly Available Spatial Data and Bringing the Past to the People: A Case Study of the Pomeranian Wall, Poland*
- 2:40 PM **McCusker, Katherine, Maurizio Forte, David Johnston, Everette Newton**, *Adding the Aerial Multi-Spectral Perspective: A Holistic View of Vulci through Multi-layered Data Sets*
- 3:00 PM **Harrison, Laura**, *Mobilizing a Salvage Archaeology Dataset to Build a 3D Interpretive Visualization*
- 3:20 PM **Smitheram, Craig, George Pavlidis, Thomas Levy**, *The Center for Cyber-Archaeology and Sustainability (CCAS): Pedagogy and Student Engagement in At-Risk World Heritage Initiatives*
- 3:40 PM *Coffee Break*
- 4:00 PM **Lercari, Nicola, Jeffrey Weekley**, *Leveraging the UC Merced WAVE and Pacific Research Platform to Create At-Risk Global Cultural Heritage Networks*
- 4:20 PM **Frey, Jon**, *From Analog to Digital in Archaeological Archives*
- 4:40 PM **Spring, Adam**, *Solutions in Photogrammetric Selectivity: Optimizing High Fidelity Meshes from Casual Photography-The Trajan's Forum Project Examples*
- 5:00 PM **Forte, Maurizio, Nevio Danelon, Julia Liu**, *The Trajan's Forum Project: Dig@lab and the Framework of Big Data.*
- 5:20 PM **Liss, Brady, Matthew Howland, Thomas Levy**, *Running on Autopilot: Testing Google Earth Engine for the Automatic Identification of Archaeological Features in Satellite Imagery*

## Methods, Tools, Disruption ... : From Information Delivery to Interaction

### Broader View - Digital Archaeology and the Humanities Room: SCW 464

Organizer: Ian Johnson

- 2:00 PM **Gunn, Scott**, *Archaeological Field Data Collection Using Ruggedized Android Tablets and Free and Open Source Software*
- 2:10 PM **Brennan, Matthew, Bernard Frischer**, *Photomodeling for Rapid Documentation and Survey of Complex Urban Spaces and Archaeology*
- 2:20 PM **Laugier, Elise, Jesse Casana**, *Cultural Heritage Monitoring Using Time-Sequenced Satellite Imagery: A Case Study from the Syrian Civil War*
- 2:30 PM **Casana, Jesse, Jackson Cothren**, *The CORONA Atlas Project: Orthorectification and Analysis of Declassified, Cold War-Era Satellite Imagery*
- 2:40 PM **Meyer, Dominique, Eric Lo, Thomas Wypych, Dominique Rissolo, Falko Kuester**, *From Air to Model- A Workflow for Automated UAV Surveying, Data Transmission and Rapid Cloud Distributed Photogrammetry Processing*
- 2:50 PM **Tolle, Karsten, David Wigg-Wolf**, *Improving Data Quality by Rules – A Numismatic example*
- 3:00 PM *Discussion*

## Rip – Model – Learn: Towards the Total Model

### Broader View - Digital Archaeology and the Humanities Room: SCW 466/468

Organizers: Carlo Bianchini, Alfonso Ippolito, Carlo Inglese, Luca Senatore

- 2:00 PM **Mancini, Matteo Flavio, Leonardo Baglioni**, *Integrated Surveying Techniques for Analysis of Archaeological Artifact*
- 2:20 PM **Gallozzi, Arturo, Leonardo Paris, Wissam Wahbeh**, *3D Models and Interactive Communication for Archaeology: The Nymphaeum Ponari in Cassino*
- 2:40 PM **Carpiceci, Marco, Carlo Inglese, Andrea Angelini**, *Survey, Representation, Analysis and Cataloguing of the Rock-Hewn Architecture in Cappadocia*

- 3:00 PM **Chiavoni, Emanuela, Daniela Esposito**, *The Archaeological Park of the Porto of Traian: Knowledge, Preservation and Fruition*
- 3:20 PM **Piumatti, Paolo, Rosa Tamborrino**, *3D Digital Modelling and Digital Urban History: A Methodology for Studying the Processes of Transformation of Nubian Temples and Landscape in the Site of Lake Nasser.*
- 3:40 PM *Coffee Break*
- 4:00 PM **Pirinu, Andrea**, *Graphic Analysis of Historic Documents, Architectural Survey, Applied Geophysics in Support of Archaeological Investigation: The Urban Wall of Cagliari (Sardinia, Italy)*
- 4:20 PM **Attenni, Martina, Alfonso Ippolito**, *Representing Intangible Heritage: Questions About Method*
- 4:40 PM **Inglese, Carlo, Carlo Bianchini, Alfonso Ippolito, Martina Attenni, Valeria Caniglia**, *Tradition and Innovation: From Worksite Plans to Digital Models*
- 5:00 PM **Porfiri, Francesca, Carlo Bianchini**, *The Microcosm of Tiberius's Cave in Sperlonga: Analysis, Investigation and Digital Reconstruction of the Ancient "Sculpture's Theatre"*
- 5:20 PM **Bianchini, Carlo, Alessandro Viscogliosi, giorgia potestà, Gaia Lisa Tacchi**, *Tradition and Hi-Tech in the Construction of a Total Model: The Complex of Pietrabbondante*

### The Technology Lag: A Panel Discussion Regarding the Use of the Computing Technologies Toolkit For Cultural Resource Compliance Projects

#### Critical Reflections Room: SCE 216

Organizers: Brian Seymour, Michael Scafuri, Sarah Kessick, Timothy Dodson

- 4:00 PM **Seymour, Brian**, *Introduction / Roundtable*

### Non Invasive Methods to Assess Above and Underground Spatial Pattern

#### Geophysics/Remote Sensing Room: SCE 217

Organizers: Michael Märker, Christian Sommer

- 4:00 PM **Märker, Michael, Ivano Rellini, Luigi Mucerino, Volker Hochschild**, *Assessment of Subsurface Neolithic/Palaeolithic Sites in the Southern Gargano Area, Apulia, Italy*
- 4:20 PM **Stavilă, Andrei**, *Bronze Age Tell or Not? Research Methods for Revealing the Internal Habitation Pattern of Alioș – „Valea Alioșu” Site, Timiș County, Romania*
- 4:40 PM **Pihokker, Matthew**, *Determining Spatial Relationships between Domestic Sites and Cemeteries of the Central Peloponnese*
- 5:00 PM **Hegy, Alexandru, Petru Urdea**, *2D and 3D Electrical Resistivity Tomography Imaging of Archaeological Structures - Case Studies from Romania*

### Geographic Relations in Databases on Cultural Heritage

#### Networks/Modeling Room: SCW 464

Organizers: Michael Märker, Volker Hochschild, Espen Uleberg, Mieko Matsumoto

- 4:00 PM **Perucchetti, Laura, Peter Bray, Mark Pollard**, *The Use of GIS to Understand the Circulation of Metal in the Prehistoric Alps.*
- 4:20 PM **Uleberg, Espen, Mieko Matsumoto**, *Display matters? Enhanced Visualization for Unique Aspects of Norwegian Stone Age Site Distribution*
- 4:40 PM **Willmes, Christian, Daniel Becker, Yasa Yener, Olaf Bubenzer, Georg Bareth**, *Open Science, e-Science and Geospatial Data Management to Support Research in Archaeology*
- 5:00 PM **Märker, Michael, Volker Hochschild, Christian Sommer**, *How to Integrate and Illustrate Aspects of Landscape Evolution and Human Evolution*
- 5:20 PM *Discussion*

## **TUESDAY EVENING**

Poster Sessions: 5:40 PM - 7:30 PM

Room: SCE House

### **Posters from The Creation of Big Data Labs for Archaeology, Heritage, and Global Initiatives**

**Elliott Smith, Rosemary, Carolyn Breeze, Taylor Harman, Arkin Gupta, Franklin Reece, Margie Burton, Thomas Levy,** *ArchaeoSTOR: A User-Friendly Archaeological Database*

**Lu, Qin-Qin, Zhengyao Jin,** *Scientific Database and the Big Data Approach for the Bronze Age of China*

**Du Vernay, Jeffrey,** *3D Mapping and Visualizing the Galerie de Paléontologie et d'Anatomie Comparée at the Muséum National d'Histoire Naturelle, Paris*

**McLeod, James,** *Three-Dimensional Documentation and Examination of a Medieval Period Cistern at Alarcos in the Castilla-La Mancha Region of Spain*

**Howland, Matthew,** *Developing a Standardized Workflow for Digital Preservation and Analysis of Archaeological Ceramics*

**Banaszek, Łukasz, Kamila Oleś,** *Data Hub for Early Medieval Architecture? Crossing the Borders of an Unfriendly Tradition*

### **General Posters**

**Bergervoet, Michael,** *Geospatial and Ethnographic Analysis of the Red Wing Stone Cairns*

**Brenningmeyer, Todd,** *Documenting Ephemeral Settlements of Modern Greece*

**Canela Grácia, Joan, Núria Otero Herraiz,** *Cultural Heritage preservation through Open Data and GIS: A methodological proposal for North-eastern Iberian Peninsula.*

**Dennis, L. Meghan,** *Reclaiming "Ethics" in a Post-GamerGate World: Participatory Standards and the Establishment of an Ethical Framework of Practice in Archaeogaming*

**Harper, Charlie, Jeremy Vause,** *Batten Down the Hatches! Digitizing and Displaying Finds from the Spanish Plate Fleet Wrecks*

**Holmes, Rachael, Ashely Green,** *Accounting for Environmental Factors: Approaches to enhancing horizontal resolution and interpretability in geophysical surveys*

**Jones, Steven, Eileen Ernenwein,** *Towards A More Efficient Approach To Grave Detection: Experiments Using Microtopography, Ground Penetrating Radar, Magnetometry, And Electromagnetic Induction*

**Lockhart, Jami, Timothy Mulvihill, Jeffrey Mitchem,** *A Multiscale Geospatial Analysis of a Protohistoric Mississippian Landscape.*

**Menzer, Jeremy, Jay Franklin,** *Geophysical Survey of Mississippian Mound Sites on the Upper Cumberland Plateau, Tennessee*

**Muccigrosso, John,** *Creating a Database of Roman Temples*

**Nicu, Ionut Cristi,** *Cultural heritage landscape vulnerability using analytical hierarchy process and geographic information systems. An approach to historical maps*

**Sea, Claiborne, Eileen Ernenwein,** *Landscape Scale Geophysical Survey of the Singer-Hieronymus Site Complex in Scott County, Kentucky: Determining the Development of Village Infrastructure Using Non-Invasive Techniques*

**Smith, Tyler, Greg Lewis, Allison Mueller,** *3D Scanning and Printing Ancient Greek Vases: From Deep Storage to Rapid Prototyping*

**Smith, Karen, Jun Zhou, Haoshou Yu, Song Wang, Colin Wilder,** *SnowVision 1.0: Toward the automatic matching of stamped pottery sherds to carved wooden paddle designs*

**Tankersley, William,** *An Approach to Digital Data Collection for Cultural Resource Management*

**Traviglia, Arianna,** *Automating detection of landscape patterning: a similarity-based approach*

**Velandria, Yoly,** *Pre-Hispanic agricultural technologies and water control systems in northwestern Venezuela*

**Whitmore, Deidre,** *Seeking Context: Archaeological Practices Surrounding the Reuse of Spatial Information*

**Wright, Holly, Gabriele Gattiglia, Michael Remmy,** *Archaeological Automatic Interpretation and Documentation of cEramics (ArchAIDE)*

**Yang, Yunyun,** *A Study of the Cultural Development and Landscape Distribution of the Majiayao Culture in Gansu and Qinghai Provinces in China*



## WEDNESDAY MORNING

### **Mechanics, Mods and Mashups: Games of the Past for the Future Designed by Archaeologists**

#### **Education and Dissemination Room: SCE 216**

Organizers: Erik Champion, Michael Nitsche

- 8:30 AM **Booker, Emily**, *"I Don't Want to Set the World on Fire": Ruin Interactions and Attitudes in Fallout 4*
- 9:00 AM **Bryant, Robert, Sandra Blakely, Joanna Mundy, Cole Furrh**, *Sailing with the Gods: Argonauts and Samothracians in an Ancient Sea*
- 9:30 AM **Eve, Stuart**, *How Waterloo was Won*
- 10:00 AM **Linde, Lennart**, *Blur the Lines – Games as Tools for Archaeological Research*
- 10:30 AM *Coffee Break*
- 10:50 AM **Underberg-Goode, Natalie**, *Arpilleras and Ayni: Roleplaying Reciprocity*
- 11:20 AM **Hiriart, Juan**, *Designing and Using Game Environments as Historical Learning Contexts*
- 11:50 AM *Discussion*

### **Automation is Here to Stay! The Hitch-hiker's Guide to Automated Object Detection and Image Processing in Remote Sensing**

#### **Geophysics/Remote Sensing Room: SCE 217**

Organizers: Arianna Traviglia, Dave Cowley

- 8:30 AM **Cowley, Dave, Arianna Traviglia**, *Hitching the Right Ride? Concepts and Issues for Developing Automated Object Detection and Image Processing in Remote Sensing Archaeology*
- 8:50 AM **Kramer, Iris**, *Creating a Future for Automation by Targeting Models to their End-Users*

- 9:10 AM **Zambanini, Sebastian, Simon Brenner, Robert Sablatnig**, *Adapting to the Problem at Hand: Image Registration and Object Detection for Automatic WW2 Aerial Photograph Processing*
- 9:30 AM **Green, Ashely, Paul Cheetham, Timothy Darvill**, *Information Systems and Ad Hoc Workflow Models as Viable Applications to Improve the Pre-excavation Detection of Characteristic Human Interments*
- 9:50 AM **Ramel, Jean-Yves, Clément Laplaige, Xavier Rodier, Shuo Bai**, *Extraction of Linear Structures from LIDAR Images Using a Machine Learning Approach*
- 10:30 AM *Coffee Break*
- 10:50 AM *Discussion*

### **General - Data Management and Textual Analysis**

#### **General Room: SCE 218**

- 8:30 AM **Bischoff, Robert**, *Moving Forward with Digital Databases: Current Opinions and Potential Solutions*
- 8:50 AM **Schroer, Carla, Mark Mudge**, *Digital Lab Notebook Creation for Computational Photography*
- 9:10 AM **Casey, Christian**, *Digital Demotic: Opportunities and Challenges*
- 10:30 AM *Coffee Break*
- 10:50 AM **Gad, Moataz, Yasmin Mohamed**, *Treatment of Lime Stone Colored with Egyptian Blue Pigment Using Different Techniques of Documentation*
- 11:10 AM **Bray, Peter, Mark Pollard**, *The Characterisation Hypothesis for Scientific Metallurgy: Classes of Structure in Chemical Datasets and their Visualisation*
- 11:30 AM **Sonnemann, Till, Jason Laffoon, Termeh Shafie**, *Enhancing Archaeological Material Provenance Studies by Manipulating Isoscapes*



11:50 AM **Foreman, Penelope**, *The Colour Out of Space: Digital Media as Mouthpieces for Material Agency*

**From Physical to Digital, From Interactive to Immersive: Uses of Three-Dimensional Representation, Mixed Reality, and More in the Sharing and Exploration of Archaeological Data**

**VR**

**Room: SCE Auditorium**

*Organizer: Jeffrey Emanuel*

- 8:30 AM **Vurpillot, Damien**, *Making Virtual Reality Real: What Can We Learn by Bringing Together Virtual Reality and Visual Attention Analysis?*
- 8:50 AM **Bremer, Thomas, Sebastian Plesch, Kay Kohlmeyer, Susanne Brandhorst, Arie Kai-Browne, Timo Falke**, *VR:TA - A Virtual Reality Toolset for Archaeologists*
- 9:10 AM **Hollis, Luke**, *MorgantinaVR: Cityscale Handheld AR and Cross-Platform VR for Visualizing Georeferenced Datasets as a Part of a Microservices Software Architecture*
- 9:30 AM **Burns, Bryan, Jordan Tynes**, *Excavation Progress and Artifact Manipulations in a Virtual Environment*
- 9:50 AM **Kamash, Zena**, *Digital Digestion: Roman Food and Digital Objects at Corinium Museum*
- 10:10 AM **Wescoat, Bonna, Arya Basu**, *On the Dynamics of Interactive Exploration over Animation as Methods of Experiential Simulation in the Sanctuary of the Great Gods on Samothrace*
- 10:30 AM *Coffee Break*
- 10:50 AM **Rudov, Ivan**, *Combined Method of 3D Model of Archaeological Objects Optimization for a Mobile App.*
- 11:10 AM **Löwenborg, Daniel, John Ljungkvist, Daniel Westergren, Sebastian Wiberg, Staffan Hagberg**, *Augmented History – A Virtual “Window to the Past”*
- 11:30 AM **Gonzalez-Perez, Cesar, Martin Pereira-Fariña, Chris Reed**, *Toward an Argument Evaluation System on Cultural Heritage Based on Anchoring Inference Theory*
- 11:50 AM *Discussion*

**Women in CAA**

**Critical Reflections**

**Room: SCW 460/462**

*Organizers: Katie Simon, Sara Gale, Lisa Fischer*

- 8:30 AM **Simon, Katie**, *Introduction*
- 8:40 AM **Ernenwein, Eileen**, *Implicit Gender Bias? What's That?*
- 8:50 AM **Rocks-Macqueen, Doug**, *Is Equality Enough?*
- 9:00 AM **Wendrich, Willeke**, *Bringing out the Best: Mentoring Women in Digital Archaeology*
- 9:10 AM **Wallrodt, John**, *Increasing Academic Approaches to CAA*
- 9:20 AM *Discussion*
- 9:50 AM **Fredrick, David**, *Collision Detection: Reflections on Gender from Game Space to Other Spaces*
- 10:00 AM **Gonzalez-Tennant, Edward**, *Cyberfeminist Perspectives on the Future of Digital Archaeology*
- 10:10 AM *Discussion*
- 10:30 AM *Coffee Break*
- 10:50 AM **Sturm, Jennie**, *Women in Business in the CAA fields*
- 11:00 AM **Lowry, Sarah**, *Technical Women in Cultural Resource Management: Amplifying the Importance of Non-Traditional Skill Sets in Modern Archaeology*
- 11:10 AM **Simon, Katie**, *That Was Not OK. Now What?*
- 11:20 AM *Discussion*
- 11:40 AM **Gale, Sara**, *How to Maintain an A-Game!: The Importance of Continued Education for Women in Technical Fields*
- 11:50 AM **Fischer, Lisa**, *A “Digital Divide”: Working to Close the Gender Gap*
- 12:00 PM *Discussion*
- 12:25 PM **Fischer, Lisa**, *Closing Remarks*

**Data, Theory, Methods, and Models. Approaching Anthropology and Archaeology through Computational Modeling**

**Networks/Modeling**

**Room: SCW 464**

*Organizers: Stefani Crabtree, Iza Romanowska, undefined undefined, Philip Verhagen*

- 8:30 AM **Crabtree, Stefani**, *An Introduction to Modeling*
- 8:50 AM **Allison, James**, *Agent-Based Modelling of the Relationships Among Kinship, Residence, and Exchange*
- 9:10 AM **Weaverdyck, Eli**, *Military Markets in Moesia Inferior: Using Location Analysis and Comparative Modelling to Identify Market Places on Rome's Lower Danubian Frontier*
- 9:30 AM **Coto-Sarmiento, Maria, Simon Carrignon, Xavier Rubio-Campillo, José Remesal**, *Identifying Social Learning Mechanisms in the Amphorae Production within Roman Empire*
- 9:50 AM **van Havre, Grégoire**, *The Dynamics of Brazilian Rock Art Landscape: An Agent-based Modelling Approach to Theories*
- 10:10 AM **Riris, Phil**, *Experiments in Modelling Environmental Impact: A Case Study of Post-Contact Piaroa (Wothuha) Land Use Patterns*
- 10:30 AM *Coffee Break*
- 10:50 AM **Kruse, Kristin**, *Spatial Pressure on Alpine Settlements? An Equation Based Case Study in the Silvretta Massif (Switzerland, Canton of Grisons)*
- 11:10 AM **Reynolds, Adam, Paul Hooper, Stefani Crabtree, Julia Clark**, *Optimizing Long Run Energy Harvesting Strategies in Central Asian Nomadic Pastoralists*
- 11:30 AM **Romanowska, Iza**, *Hominin Dispersal, Environmental Change and the Evolution of Behavioural Plasticity*
- 11:50 AM **Hölzchen, Ericson, Christine Hertler**, *Modeling Resource-Driven Out of Africa Hypotheses – Potential and Challenges*
- 12:10 PM **Davies, Benjamin, Simon Holdaway**, *Making Sense of the Surface: Using Spatial Simulation to Understand Stone Artifact Scatters*
- 12:30 PM **Barceló, Juan**, *When All Agents Die: Analyzing the Possible Failures of Agent-Based Models.*

## 3D Digitization of Sculpture

### 3D Acquisition / Object Modeling Room: SCW 466/468

Organizers: Bernard Frischer, Gabriele Guidi

- 8:30 AM **Frischer, Bernard**, *Digitizing Sculpture: Where We've Been, Where We're Going*
- 8:50 AM **Vassallo, Valentina, Nicolò Dell'Unto, Sorin Hermon**, *A Quantitative Approach Using 3D Models for a Typo-Technological and Manufacturing Study of Terracotta Statuettes: The Case Study of the Ayia Irini (Cyprus) Small Figurines*
- 9:10 AM **Brennan, Matthew**, *The Prado Muses - Rethinking the Unity of a Statue Group with the Help of 3D Models*
- 9:30 AM **Kubicka, Anna, Aleksandra Brzozowska**, *3D Models of Architecture Remains in Archaeological Context: Visualisation as a Tool in Interdisciplinary Research of Polish Archaeological Mission in Kato Paphos on Cyprus.*
- 9:50 AM **Varner, Eric**, *Digitizing Ancient Sculpture at the Michael C. Carlos Museum, Emory University*
- 10:10 AM **Guidi, Gabriele, Umair Malik**, *Best Practices and Metrological Issues in Massive 3D Digitization of Sculptures*
- 10:30 AM *Coffee Break*
- 10:50 AM **Koutsoudis, Anestis, Georgios-Alexis Ioannakis, Christodoulos Chamzas**, *Incorporating Texture in the Retrieval Process of 3D Models Exploiting Spatial-Consistency of Texture Maps*
- 11:10 AM **Christiaisen, Leif**, *Seymour: Image-based Rendering Solution for High-resolution, Browser-based 3D Graphics*
- 11:30 AM **Burns, Bryan, Jordan Tynes**, *3D Models for Curatorial Dialogue and Undergraduate Education*
- 11:50 AM **Sherman, William**, *High-Throughput Computing for Large-Scale Digitization*
- 12:10 PM *Discussion*

## WEDNESDAY AFTERNOON

### Computer Applications in Archaeological Pedagogy: Best Practices for Teaching and Learning

#### **Education and Dissemination Room: SCE 216**

Organizers: Anna Agbe-Davies, Julia Chyla

- 2:00 PM **Watrall, Ethan**, *Building Scholars and Communities of Practice in Digital Heritage and Archaeology*
- 2:20 PM **Bollwerk, Elizabeth, Lynsey Bates, Leslie Cooper, Jillian Galle**, *Lessons Learned from Teaching and Training with the Digital Archaeological Archive of Comparative Slavery (DAACS)*
- 2:40 PM **Lockyear, Kris**, *Flippin' R*
- 3:00 PM **Martin-Rodilla, Patricia, Cesar Gonzalez-Perez**, *Educational Experiences in Archaeological Information Modelling with the Mind Maps and Object-Oriented Paradigms*
- 3:20 PM **Lambers, Karsten, Fulco Scherjon, Iza Romanowska**, *A Small Private Online Course on 'Modelling and Simulation in Archaeology' at Leiden University*
- 3:40 PM *Coffee Break*
- 4:00 PM **McMichael, A.L., Jon Frey, Tommy Truong, Eric Martin**, *Augmenting Art History: AR in the Survey Classroom*
- 4:20 PM **Pikov, Nikita**, *Augmented Reality (AR) and Digital Photogrammetry as a Way of Preserving and Popularization of Archeological Collections*
- 4:40 PM **Freeman, Mark, Jeanne Moe**, *Project Archaeology: Assessing Paper and Digital Approaches to Online Learning*
- 5:00 PM *Discussion*

### Differing Perspectives: The Wide World of Geophysical Prospection

#### **Geophysics/Remote Sensing Room: SCE 217**

Organizers: Christine Markussen, Petra Schneidhofer

- 2:00 PM **Kalayci, Tuna, Meropi Manataki, Apostolos Sarris**, *The More the Merrier? Two Conflicting Stances on Multi-Array Sensors*
- 2:20 PM **Casana, Jesse, Austin Hill, Elise Laugier**, *Advancing Methodologies for Archaeological Aerial Thermography*

- 2:40 PM **De Smedt, Philippe**, *The Interpretive Potential of Geophysical Landscape Archaeology: An Electromagnetic Perspective.*
- 3:00 PM **Herrmann, Jason**, *What to do with Ambiguous Anomalies?*
- 3:20 PM **Ernenwein, Eileen, Jeremy Menzer**, *3D Ground Truth: Integrating Above Ground Photogrammetry, Ground Penetrating Radar, and Subsurface Laser Scans of a Medieval Tunnel, Mourjou, France*
- 3:40 PM *Coffee Break*
- 4:00 PM **Cooper, Lorna**, *Relocating a Forgotten Asian Market Garden in Historic Perth (1833-1936): Using GIS to Integrate and Interrogate Excavated, Archival and Geophysical Information*
- 4:20 PM **Cannon, Cayla, Eileen Ernenwein, Jay Franklin**, *In Search of the People Who Lived Here Before: From Historic to Prehistoric Significance at a Tennessee State Historic Site*
- 4:40 PM **Miszk, Łukasz, Martina Seifert, Nikola Babucic, Ewdoksia Papuci-Władyka**, *Old or New? Human Impact and the Mapping of Ancient Nea Paphos*
- 5:00 PM **Grap, Rachel, Eileen Ernenwein**, *Big Geophysics with Small Tools: Looking for the Big Picture One Step at a Time at Tel Shimron*
- 5:20 PM *Discussion*

### General - 3D Modeling

#### **General Room: SCE 218**

- 2:00 PM **Johnson, Adam**, *Shifting Stones and Data Points: Using Terrestrial Laser Scanning to Assess Damage to Monumental Architecture in Hawai'i*
- 2:20 PM **Guidi, Gabriele, Laura Micoli, Sara Gonizzi Barsanti**, *Diachronic 3D Reconstruction of Historical Sites in Urban Context*
- 2:40 PM **Cennamo, Gerardo Maria**, *The Giusso Castle and the Foundation Area of Sicignano degli Alburni (SA): Survey and 3D Modeling for Social and Territorial Valorization Strategies*

## Visualization as Analysis in Archaeology

### Broader View - Digital Archaeology and the Humanities

Room: SCW 460/462

Organizers: Neha Gupta, Michael Carter

- 2:00 PM **Dallas, Costis**, *Curation at the Sensor's Gaze: Connecting Representation and Performance in Archaeological Visualization*
- 2:05 PM **Gupta, Neha, Rodolphe Devillers**, *Geographic Visualisation as Knowledge Generation in Archaeology*
- 2:10 PM **Huggett, Jeremy**, *Continuous Interactivity in Archaeological Visualisation*
- 2:15 PM **Carter, William**, *Making and Meaning-Making in Virtual Archaeology*
- 2:20 PM **Higginbottom, Gail, Vincent Mom**, *Place: The Physical Embodiment of Collective Information*
- 2:25 PM **Denham, Brian**, *Applied Technological Approaches in Heritage and Heritage Management: The Black Butte River Mapping Project*
- 2:30 PM **Kansa, Eric, Neha Gupta**, *Visualizing and Navigating Chronology in Large Digital Collections*
- 2:35 PM **Triplett, Edward, Emma Buckingham**, *Recontextualizing Decades-Old Excavation Materials through 3D Visualization*
- 2:40 PM **Kubicka, Anna, Aleksandra Brzozowska-Jawornicka**, *3D Models of Architecture Remains in Archaeological Context: Visualization as a Tool in Interdisciplinary Research of Polish Archaeological Mission in Kato Paphos on Cyprus.*
- 2:45 PM **Kotoula, Eleni, David Robinson, Matthew Baker, Clare Bedford, Devlin Gandy, David Wheatley, James Miles, Jennifer Perry**, *The Gordian Knot Project: An Integrated Approach for Rock Art Visualization*
- 2:50 PM **Pattee, Aaron**, *Analyzing the Medieval Landscape of the Pfalz—Castles in the Area of Kaiserslautern*
- 2:55 PM **Pattee, Aaron, Effie Athanassopoulos, Kami Ahrens, Cole Juckette**, *Campus Archaeology and 3D Modeling: An Archaeological Collection of Historic Artifacts from the University of Nebraska-Lincoln*

- 3:00 PM **Juckette, Cole, Effie Athanassopoulos, Aaron Pattee, Kami Ahrens**, *Campus Archaeology and Digital Mapping: Urban Space and Commerce in Lincoln Nebraska, 1870-1920s.*
- 3:05 PM **Kulhanek, Karin, Andreas Pastoors**, *Tracking in 3D*
- 3:10 PM *Discussion*
- 3:40 PM *Coffee Break*
- 4:00 PM **Kulhanek, Karin, Andreas Pastoors**, *Roundtable*

## The Ups and Downs of Archaeological Simulation

### Networks/Modeling Room: SCW 464

Organizers: Iza Romanowska, Juan Barceló

- 2:00 PM **Rocks-Macqueen, Doug**, *The Long Road Ahead for Simulations in Archaeology*
- 2:20 PM **Linde, Lennart**, *Think Different! - Why "Model Thinking" Shaped the Archaeological Thought Beyond the Hype on ABM*
- 2:40 PM *Discussion*

## Quality Assurance and Quality Control in Image-Based Modeling

### 3D Acquisition / Object Modeling Room: SCW 466/468

Organizers: Adam Spring, George Bevan

- 2:00 PM **Sherman, William**, *Introduction*
- 2:20 PM **Bryan, Paul**, *Structure-from-Motion (SfM) – A Reliable Survey Tool for Archaeology or an Unreliable Black-Box?*
- 2:40 PM **Bevan, George, Jason Birch**, *Some Considerations on Semi-Global Matching for High-Accuracy Heritage Recording Applications*
- 3:00 PM **Seguin, Maxime**, *Training with Free and Open-Source Photogrammetric Softwares: One of the Answers to Rectify the Situation?*
- 3:20 PM **Bevan, George, Jones Kristen**, *An Analytical Stereoplotting Workflow for Archaeological Excavation: Reviving a 20th-Century Photogrammetric Technique for the 21st.*
- 3:40 PM *Coffee Break*

4:00 PM **Meyer, Dominique, Danielle Mercure, Eric Lo, Jamie Hodgkins, Dominique Rissolo, Falko Kuester**, *Evaluating Photogrammetric Reconstructions of Faunal and Lithic Artifacts Compared to Traditional Microscopic Observation, Structured Light Imaging, Laser Scanning, Magnetic Resonance Imaging and Computerized Tomography Scanning*

4:20 PM **Kleinkemper, Larry**, *The Key to Creating a GREAT Model from Laser Scanning and Photogrammetry*

4:40 PM **Liu, Julia, Adam Spring**, *From Scan to Sculpture: Ensuring Quality Control in Digital Restoration.*

5:00 PM **Peters, Caradoc**, *Using Inscribed Stone Surfaces To Examine Low Cost 3D imaging*

## Decolonising Digital Archaeology

### Critical Reflections

Room: SCE 218

Organizers: Andrew Dufton, Jessica Ogden

4:00 PM **Sheldrick, Nichole**, *Accessing Archaeology: Creating an Open-Access Heritage Database for the Endangered Archaeology in the Middle East & North Africa (EAMENA) Project*

4:20 PM **Huntsman, Theresa, Eric Kansa**, *Context and Community: Accountable, Open Presentation of Digital Archaeology*

4:40 PM **Kamash, Zena**, *'Postcard to Palmyra': Exploring Visitor Responses to the Replica of the Triumphal Arch from Palmyra in Trafalgar Square, London*

5:00 PM **Bianchini, Carlo, Mohammed El Khalili, Nizar Al Adarbeh, Alekos Diacodimitri**, *Survey, 2D and 3D Modelling of the Roman Nymphaeum in Amman: a Multilateral, Cooperative Research Experience*

5:20 PM **Heitman, Carrie**, *Decolonizing an Archive of Archives?*

## Path Modelling and the Materiality of Movement

### GIS

Room: SCE Auditorium

Organizers: Philip Verhagen, Laure Nuninger, Axel Posluschny

4:00 PM **Caswell, Edward, Michelle De-Gruchy, James Edwards**, *Walking Across Beach Sand is Hard and Other Discoveries: First Results of Assessing the Time Cost of Moving through Various Terrains*

4:20 PM **Kalayci, Tuna**, *The Volume of Ancient Movement: A Satellite Remote Sensing Approach*

4:40 PM **Field, Sean**, *Least Cost Path Modelling: Computing Functional Correlations in Chacoan Road Systems*

5:00 PM **Rothenberg, Miriam**, *Do All Roads Really Lead to Rome? Modelling Mobility in the Ager Veientanus and the Sangro Valley, Italy*

5:20 PM *Discussion*



## THURSDAY MORNING

### **Web-based Infrastructure as a Collaborative Framework across Archaeological Fieldwork, Lab Work, and Analysis**

#### **Collaborative Data Management Room: SCE 216**

Organizers: *Fabrizio Galeazzi, Heather Richards-Rissetto*

- 8:30 AM **Johnson, Ian**, *Building Web-Based Integration from Data Model through Tablet Data Collection to Analysis*
- 8:50 AM **Jensen, Peter**, *Semantically Enhanced 3D: Introducing a Web-Based Platform for Spatial Integration of Excavation Documentation*
- 9:10 AM **Cuy, Sebastian, Jan Wieners, Daniel de Oliveira**, *iDAI.Field 2.0 - A Modern & Open Framework for Field Recording*
- 9:30 AM **Landeschi, Giacomo, Danilo Marco Campanaro, Nicolò Dell'Unto**, *A 3D Web-Aided Resource for Pompeian Studies (3D WARPS)*
- 9:50 AM **Zerbini, Andrea**, *Building a Heritage Management Platform for Endangered Archaeology in the Middle East and North Africa*
- 10:10 AM **Lang, Matthias, Michael Derntl**, *Spacialist – A Virtual Research Environment for the Spatial Humanities*
- 10:30 AM *Coffee Break*
- 10:50 AM **Pouncett, John, Chris Green, Chris Gosden, Mark Pollard**, *A Tale of Two Projects: The Role of Web-GIS in Collaborative Research*
- 11:10 AM **Karenowska, Alexy**, *What do Web-Based Platforms Mean for the Ambitions of Archaeology?*
- 11:30 AM **Wright, Holly**, *One Size does not Fit All: Reflections on Online Research Infrastructures*
- 11:50 AM **Opitz, Rachel**, *Publishers and Archives as Fieldwork Collaborators*
- 12:10 PM *Discussion*

### **3DVR Caveats and Accomplishments**

#### **VR Room: SCE 217**

Organizer: *Willeke Wendrich*

- 8:30 AM **Wendrich, Willeke**, *3DVR Caveats and Accomplishments - Introduction*
- 8:50 AM **Elgewely, Eiman**, *Evaluation and Enhancement of the Virtual Experience: The Case Study of the "Reviving Karanis in 3D" Project*
- 9:10 AM **Mezzano, Michela, Noemi Mafriaci**, *Saving the Nubian Temples: The Study of the History through Digital Tools*
- 9:30 AM **Champion, Erik**, *PublicVR and its Relevance to 3DVR and Virtual Heritage*
- 9:50 AM **Payne, Angie, Vance Green, Fred Limp**, *History Erased and History Recovered: (Re)Creating the Rohwer Japanese Internment Camp*
- 10:10 AM **Wolter, Thomas**, *Photogrammetric Feature Documentation and Cave Modelling*
- 10:30 AM *Coffee Break*
- 10:50 AM **Vurpillot, Damien**, *Exploring Massive Point Clouds: How to Make the Most Out of Available Digital Material*
- 11:10 AM **Kuester, Falko, Vid Petrovic**, *Giga-Point Rendering for 3D VR*
- 11:30 AM **Follett, Forrest, Kyle Urquhart**, *A 3D Visualization of Ceramic Materials from Gabii, Italy*
- 11:50 AM *Discussion*

### **Mobile GIS and Field Survey - Current Possibilities, Future Needs**

#### **GIS Room: SCE Auditorium**

Organizers: *Nazarij Bulawka, Julia Chyla*

- 8:30 AM **Knoop, Peter**, *Best Practices for Mobile GIS and Information Technology in the Field*

- 8:50 AM **Hill, Austin**, *Low Cost, High Accuracy Drone Survey Methods*
- 9:10 AM **Chyla, Julia, Miłosz Giersz, Wiesław Więckowski, Patrycja Prządka-Giersz, Roberto Pimentel-Nita**, *One Step Further beyond Field Survey*
- 9:30 AM **Misz, Łukasz, Wojciech Ostrowski, Weronika Winiarska**, *Urban sprawl vs. Archaeological Site: A View from Paphos.*
- 9:50 AM **Pethen, Hannah**, *Accessing the Inaccessible: Detailed 'Off-Site' Archaeological Survey using Satellite Imagery and GIS at the Hatnub Travertine Quarries, Egypt*
- 10:10 AM **Buławka, Nazarij**, *Ancient Landscapes and Present-day Agriculture – On the Example of Tejen River (Turkmenistan)*
- 11:30 AM **Johnson, Phyllis**, *How Can Something so Small Cost so Much? Cost- and Time-Efficiency in Microartifact Analysis*
- 11:40 AM **Eriksen, Kristin**, *3D-models in Archaeology*
- 11:50 AM **Romanowska, Iza**, *Everything Wrong with Archaeological Models*
- 12:00 PM **Cooper, Catriona**, *Everything Wrong with Acoustical Modelling*
- 12:10 PM *Discussion*

## Archaeological Networks: Uncertainty, Missing Data, and Statistical Inference

### Networks/Modeling Room: SCW 464

Organizers: Tom Brughmans, Matt Peeples

### Everything wrong with...

#### Critical Reflections Room: SCW 460/462

Organizers: Doug Rocks-Macqueen, Stefani Crabtree, Philip Riris

- 8:30 AM **Dennis, L. Meghan**, *Ethics? Ethics? Anyone?*
- 8:40 AM **Crabtree, Stefani**, *Communicating Archaeological Research to the Press and the Public*
- 8:50 AM **Rocks-Macqueen, Doug**, *F\*ck Public Archaeology*
- 9:00 AM **Huggett, Jeremy**, *Everything Wrong With ... Digital Archaeology*
- 9:10 AM **Gruber, Ethan**, *Challenges in Analysing Sensitive or Uncertain Data in a Semantic Web Environment*
- 9:20 AM **Graham, Shawn**, *Everything Wrong with Bots: On Algorithmic Madness*
- 9:30 AM **Riris, Phil**, *"Twitter is Actually Stupid" - @fart*
- 9:40 AM **Layt, John**, *Open Source: You're Doing it all Wrong*
- 9:50 AM *Discussion*
- 10:30 AM *Coffee Break*
- 10:50 AM **Newhard, James**, *Turning the Ship without Rocking the Boat: Establishing Archaeological GIS within an Undergraduate Experience*
- 11:00 AM **Brughmans, Tom**, *Everything Wrong with Exploratory Network Analysis of Archaeological Similarity Networks*
- 11:10 AM **Walthew, Jessica**, *The Aura as Metadata, The Aura of Metadata*
- 11:20 AM **Opitz, Rachel**, *How We Measure Shape*
- 8:30 AM **Blair, Elliot**, *Social Networks of Mission Santa Catalina de Guale: Comparing and Contrasting Unimodal and Bimodal Approaches*
- 8:50 AM **Upton, Andrew**, *Frontier Networks: Cultural Transmission and Multiple Relations at the Intersection of Mississippian and Oneota Worlds*
- 9:10 AM **Munson, Jessica, Viviana Amati, Habiba Habiba, Jonathan Scholnick, Matthew Looper, Yuriy Polyukhovych, Martha Macri**, *Diffusion Networks and the Transmission of Dynastic Rituals in Classic Maya Society*
- 9:30 AM **Golitko, Mark**, *Historical Contingency in Network Data: Examples from Museum Collections Research*
- 9:50 AM **van Havre, Grégoire**, *Networks as a Theoretical Framework for Rock Art Studies in Northeast Brazil*
- 10:10 AM **Johnson, Kent**, *Social Network Analysis of Ancient Families: Exploring the Effects of Known Unknowns using Phenotypic Data from Documented Collections of Human Skeletal Remains*
- 10:30 AM *Coffee Break*
- 10:50 AM **Crabtree, Stefani**, *Analyzing Trophic Networks among the Ancestral Pueblo*
- 11:10 AM **Groenhuijzen, Mark, Philip Verhagen**, *Continuity and Discontinuity in Transport Networks of the Dutch Limes Zone*
- 11:30 AM **Prignano, Luce, Sergi Lozano, Ignacio Morer, Francesca Fulminante**, *Comparing Network Models for the Evolution of Terrestrial Connections in Central Italy (950–500 BC ca)*
- 11:50 AM **Brandes, Ulrik, Tom Brughmans**, *New Methods for Visibility Networks in Landscape Archaeology*

12:10 PM *Discussion*

## Close Range 3D Data Acquisition, Processing, Querying and Presentation in Cultural Heritage

### 3D Acquisition / Object Modeling Room: SCW 466/468

Organizers: Dirk Rieke-Zapp, Vera Moitinho de Almeida, Diego Jiménez-Badillo

8:30 AM **Kampel, Martin, Juraj Sarkisjan,**  
*Feasibility Study of Consumer Electronic Scanning Devices for Pottery Documentation*

8:50 AM **Filippucci, Marco, Fabio Bianconi, Sofia Catalucci, Gianluca Rossi,**  
*Drawing, Survey, Measure to Analyzing the Reliability of Photomodelling for Cultural Heritage*

9:10 AM **Kristensen, Steinar, Magne Samdal,**  
*One Stone, Two Men, Three Methods: Different Methods – Different Data? Rockart Analysis Testing RTI, Photogrammetry and Laserscan*

9:30 AM **Krohn, Anna, Miriam Clinton, Ian Roy,**  
*One Size Does Not Fit All: A Comparison of 3D Data Capture*

9:50 AM **Noble, Tommy, Neffra Matthews,**  
*Good Photogrammetry, Good Data, Good Science*

10:10 AM *Discussion*

10:30 AM *Coffee Break*

10:50 AM **Rossi, Maria Laura, Carlo Inglese, Antonio Pizzo, Leonardo Paris,**  
*Geometry as Matrix of Construction of Roman Stone Bridges. The Augustus Bridge in Narni.*

11:10 AM **Scafuri, Michael,**  
*The Integration of Multiple 3D Documentation Methodologies in the Modeling and Analysis of an American Civil War Submarine.*

11:30 AM **Mudge, Mark, Carla Schroer,**  
*Challenges and Insights from the Photogrammetric Capture of a Large-Scale Diego Rivera Fresco*

11:50 AM **Johnson, Tyler,**  
*3D User Interfaces at the Nexus of Technical Processing and Creative Design in Digital Archaeology*

12:10 PM **Kai-Browne, Arie, Thomas Bremer, Kay Kohlmeyer, Julia Gonnella, Sebastian Plesch, Susanne Brandhorst,**  
*Contextualizing Cultural Heritage – The Cupola of the Torres de las Damas in the Alhambra*

## Contributions to Settlement Theory? Archaeological Location Analysis and Modelling

### GIS

#### Room: SCE Auditorium

Organizer: Kenneth Kvamme

10:50 AM **Smith, Karl,**  
*Locations in Experience: Visibility, Seafaring, and the Placement of Pembrokeshire's Iron Age Coastal Promontory Forts*

11:10 AM **Negre, Joan,**  
*A Geographically Based Ripley's Function to Assess Settlement Patterning*

11:30 AM **Zipser, Jan,**  
*Possible Strategy of Land Use by the Przeworsk Culture People in Widawa Basin (South-Western Poland) and the Probable Settlement Processes*

11:50 AM **Micle, Dorel,**  
*Landscape and Economics: A GIS Location Analysis of Middle Age Water Mills from Banat Region (Romania)*

12:10 PM *Discussion*



## THURSDAY AFTERNOON

### **Corpus of Analysis in the Research on Ancient Eastern Mediterranean and Western Asia: Encoding, Information Collection, Digital Collaboration, and Investigating Strategies**

#### **Collaborative Data Management Room: SCE 216**

Organizers: Vanessa Juloux, Alessandro di Ludovico

- 2:00 PM **Di Ludovico, Alessandro**, *Data Description and Integrated Study of Ancient Near Eastern Works of Art: The Potential of Cylinder Seals*
- 2:20 PM **Ramazzotti, Marco**, *Landscape Archaeology and Artificial Intelligence: The Neural Hypersurface of the Mesopotamian Urban Revolution*
- 2:40 PM **Prosser, Miller**, *Digital Philology in the Ras Shamra Tablet Inventory Project: Text Curation through Computational Intelligence*
- 3:00 PM **Eraslan, Doğu**, *Epigraphic Interoperability in/of Encoded Ancient Texts: Some Principals and Deliverables at the Current State of our Encoding Schemes Based on an Encoding of Quadrilingual Vase of Darius I and Some Prospects for the Future*
- 3:20 PM **Pagé-Perron, Émilie, Terhi Nurmikko-Fuller, Vanessa Juloux**, *Enhancing Collaboration between Digital Assyriology Projects Through Open Access Practices*

### **3D Technologies Applied to Music and Sound**

#### **VR Room: SCE 217**

Organizers: Bernard Frischer, Jared Katz

- 2:00 PM **Till, Rupert**, *Integrating Accurate Interactive Acoustics, Music and Soundscapes into Interactive 3D Models of Archaeological Sites and Landscapes*
- 2:20 PM **Kolar, Miriam, José Cruzado Coronel**, *Auralizing Ancient Spaces: Sonic Re-Presentation from Architectural Models, In-Situ Measurements, and Experimental Analogues*
- 2:40 PM **Katz, Jared**, *3D Maya Music: Use of 3D Models for the Creation of Typologies and for Public Outreach*

- 3:00 PM **Puglisi, Julia**, *Acoustics of the South Theatre at Hadrian's Villa: A Preliminary Study using I-Simpa*
- 3:20 PM **Kimber, Andres**, *Sound and Vision of Cup-marked Stones in Rebala Heritage Reserve, Estonia*
- 3:40 PM *Coffee Break*
- 4:00 PM **Koller, Jared**, *Multi-Sensory Landscape Analysis of Spanish Mission Building Practices in the Philippines*
- 4:20 PM **Cooper, Catriona**, *Listening to the Commons: Acoustically Modelling the Pre-1834 House of Commons, Westminster*
- 4:40 PM *Discussion*

### **Contributions to Settlement Theory? Archaeological Location Analysis and Modelling**

#### **GIS Room: SCE Auditorium**

Organizer: Kenneth Kvamme

- 2:00 PM **Tsonev, Tsoni**, *Complexity of Mesolithic Settlements in Northeastern Bulgaria*
- 2:20 PM **Higginbottom, Gail, Roger Clay**, *Human Scale and its Impact on Location Modelling*
- 2:40 PM **Whitley, Thomas**, *Blurring the Lines Between Prediction and Interpretation: Some Thoughts on the Contributions of Energetics, Mobility, and 3D Models to Settlement Theory.*
- 3:00 PM **Shaffer, Derek, Timothy Murtha, Charles Golden, Bruce Cook, Elijah Hermitt**, *Sites, Landscapes, and LiDAR in the Maya Lowlands: Leveraging High Resolution Regional LiDAR for Improved Predictive Models.*
- 3:20 PM **Hobbs, Elizabeth, Michael Bergervoet**, *Designing Locational Models to Test Settlement Theory*
- 4:00 PM *Discussion*
- 4:20 PM **Verhagen, Philip, Antonin Nüsslein, Laure Nuninger**, *To Boldly Go Where No One Has Gone Before: Integrating Socio-cultural, Environmental and Temporal Factors in Site Location Analysis and Predictive Modelling*
- 4:40 PM **Kvamme, Kenneth**, *The Dimensions of Settlement Choice*
- 5:00 PM **Cuthbertson, Patrick**, *A Landscape-Based Approach Assessing Hominin Occupation and Dispersal in Lower-Middle Pleistocene Central Asia*
- 5:20 PM *Discussion*

## Structural Analysis for Cultural Heritage

### 3D Acquisition / Object Modeling Room: SCW 460/462

Organizers: Falko Kuester, Michael Hess, Dominique Rissolo

- 2:00 PM **Ippolito, Alfonso, Carlo Inglese, Martina Atteni, Valeria Caniglia**, *Quantity vs Quality: Advantages and Disadvantages of Imaged Based Modelling*
- 2:20 PM **Guidi, Gabriele, Sara Gonizzi Barsanti**, *A Novel Pipeline for the Structural Analysis of 3D Digitized Cultural Heritage*
- 2:40 PM **Napolitano, Rebecca, Tim Michiels, Branko Glisic**, *Digital Workflow for Structural Analysis of Discontinuous Media*
- 3:00 PM **Hess, Michael**, *Non-Destructive Techniques for the Structural Health Assessment of Historic Buildings*
- 3:20 PM **Wittich, Christine, Tara Hutchinson**, *Seismic Response of Geologic and Heritage Structures: Geometry Acquisition, Numerical Modeling, and Probabilistic Interpretation*
- 3:40 PM *Coffee Break*
- 4:00 PM **Wood, Richard, M. Ebrahim Mohammadi**, *Lidar Damage Evaluation of Historic Temple after the 2015 Gorkha Earthquake*
- 4:20 PM **Schubert, Lutz, Keith Jeffery**, *Interpreting Shell Middens through Physics Simulation*
- 4:40 PM **Miles, James**, *The Potential of Structural Analysis in Archaeological Simulation and Interpretation: A Case Study of Medieval Winchester Cathedral Close*
- 5:00 PM **Gil, Ana**, *A Methodology for Architectural Heritage's Digital Reconstructions: Lisbon Religious Houses as Case Study*
- 5:20 PM **Meyer, Dominique, Gianmarco Guerra, Eric Lo, Michael Hess, Davide Forcellini, Falko Kuester**, *Comparing Measured Frequency Responses of the Third Tower of San Marino to Simulation Derived Frequency Responses from a Photogrammetry and LIDAR Acquired 3D Model*
- 5:40 PM **Rissolo, Dominique, Michael Hess, Jose Huchim Herrera, Eric Lo, Vid Petrovic, Dominique Meyer, Falko Kuester, Fabio Amador**, *Preliminary Structural Assessment of a Unique Maya Building Platform at Oxkintok, Yucatan*

## Archaeological Networks: Uncertainty, Missing Data, and Statistical Inference

### Networks/Modeling Room: SCW 464

Organizers: Tom Brughmans, Matt Peeples

- 2:00 PM **Rivals, Cécile**, *The Modeling of Urban Spatial Dynamics in Long Time Spans*
- 2:20 PM **Habiba, Habiba, Viviana Amati, Jessica Munson, Jonathan Scholnick, Yuriy Polyukhovych, Matthew Looper, Martha Macri**, *Inferring Influence Networks of Grapheme Innovation in Classic Maya Hieroglyphic Writing*
- 2:40 PM **Gjesfjeld, Erik**, *Centrality Measurements and their Application to Archaeological Data*
- 3:00 PM **Peeples, Matthew, John Roberts**, *Bootstrap Methods for Assessing Variability in Archaeological Networks*
- 3:20 PM **Cardinal, James**, *Unscrambling the Egg: Quantitative, Assemblage-Based Component Consociation Methods for Densely Mixed or Disturbed Contexts*
- 3:40 PM *Coffee Break*
- 4:00 PM **Collins-Elliott, Stephen**, *Accounting for Sample Size: Measuring Cultural Distinction through Monte Carlo Approximations of Hellinger Distances*
- 4:20 PM **Gauthier, Nicolas**, *Assessing the Impact of Parametric Uncertainty in a Simple Model of a Social-Ecological Network*
- 4:40 PM **Gravel-Miguel, Claudine**, *Using an ABM to Evaluate the Impact of Missing Links on our Interpretation of Social Networks*
- 5:00 PM *Discussion*

## Close Range 3D Data Acquisition, Processing, Querying and Presentation in Cultural Heritage

### 3D Acquisition / Object Modeling Room: SCW 466/468

Organizers: Dirk Rieke-Zapp, Vera Moitinho de Almeida, Diego Jiménez-Badillo

- 2:00 PM **Rieke-Zapp, Dirk**, *Quantitative Analysis Based on 3D data - Examples*
- 2:20 PM **Pakhunov, Alexander, Ekaterina Devlet, Alexander Popov**, *How Can We Trace Translocated Boulders with Petroglyphs at the Riverbank?*
- 2:40 PM **McKee, Arlo**, *A Glimpse at Site Formation Processes from 3D Laser Scanning Ceramic Sherds in East Texas*

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| 3:00 PM | <b>Porter, Samantha, Morgan Roussel, Marie Soressi</b> , <i>A Comparative Analysis of Châtelperronian and Protoaurignacian Blade Core Technology Using Data Derived from 3D Models</i>      | 4:00 PM | <b>Athanassopoulos, Effie, Kim Shelton</b> , <i>Archaeological Practice and 3D Modeling: A Medieval Ceramic Assemblage from Nemea, Greece</i>   |
| 3:20 PM | <b>Murray, Michael</b> , <i>Practical Applications of Underwater Laser Scanning in Maritime Archaeology Compared to Micro-Bathymetry Sonar and Photogrammetry</i>                           | 4:20 PM | <b>Isaksen, Leif, Rainer Simon, Elton Barker, Valeria Vitale, Rebecca Kahn</b> , <i>Supporting Community Annotation with Recogito 2</i>   |
| 3:40 PM | <i>Coffee Break</i>   | 4:40 PM | <b>Rabinowitz, Adam, Ryan Shaw, Patrick Golden, Elijah Fleming, Lorraine Haricombe</b> , <i>In Search of Common Ground: Time, Tradition, and Temporal Reconciliation in PeriodO2</i>  |
| 4:00 PM | <b>Jiménez-Badillo, Diego, Salvador Ruíz-Correa, Mario Canul-Ku, Rogelio Hasimoto-Beltrán</b> , <i>Application of a 3D Morphing Technique to Analyze the Style of Archaeological Models</i> | 5:00 PM | <b>Schmidle, Wolfgang, Sebastian Cuy, Nathalie Kallas, Florian Thiery, Jan Wieners</b> , <i>Analyzing Reasons for Different Datings of Periods using the ChronOntology Time Gazetteer</i>                                       |
| 4:20 PM | <b>Hanes, Laurence, Tim Collins, Sandra Woolley</b> , <i>Classifying the Surfaces of Virtual Cuneiform Tablet Fragments</i>   | 5:20 PM | <b>Kondo, Yasuhisa, Akira Saito, Nozomi Mizota, Tomoko Koyama</b> , <i>Synergistic Collaboration between Data Visualization Experts and Historians in Developing a Geodatabase of Forced Resettlement in the Colonial Andes</i> |
| 4:40 PM | <b>Mara, Hubert</b> , <i>Revealing Degraded Script in High Resolution 3D Measurement Data with GigaMesh</i>   | 5:40 PM | <i>Discussion</i>   |
| 5:00 PM | <i>Discussion</i>   |         |   |

## Exploring the Symbiotic Relationships of Archaeology and Spatial Humanities

***Broader View - Digital Archaeology and the Humanities***  
**Room: SCE 216**

*Organizers: Armin Volkmann, Heather Richards-Rissetto*