

Geospatial Modeling & Visualization

A Method Store for Advanced Survey and Modeling Technologies

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CAST Projects and Collaborations

Archaeology & Natural Resources

CAST researchers collaborate on archaeological projects around the world, providing technical and practical expertise, and helping to find innovative solutions to archaeological problems. Collaborating on these projects provides opportunities to further our own methodological and archaeological research. Data from these projects, and the practical experience gained in carrying them out, is integral to the workflows, guides and data found on the GMV.

Modern Buildings & Environments

In addition to archaeological projects, CAST has a growing interest in using geospatial technologies in modern, urban settings. This research includes our CI-Train Field Schools and it continues with our ongoing collaboration with the University of Arkansas Facilities Management department. In these partnerships, CAST researchers attempt to apply evolving technologies and techniques to address real-world needs and to aid in the creation of consistent building information systems. Some of the projects from this research are listed below, and the resulting data and workflows can be examined in the appropriate sections throughout the GMV.

Selected Archaeo-geomatics field projects conducted by CAST and/or AIL are listed below.

Project	Location	Collaborating Investigator	Start Date	Instruments /Methods	Notes
Upper Missouri Archaeological Landscapes	South Dakota	Ken Kvamme, Jesse Casana, Jackson Cothren, AIL, CAST; Andrew Clarke, South Dakota	2013	Aerial Imaging, Photogrammetry, Geophysics	23
Mapping Archaeological Landscapes using Aerial Themographic Imaging	South Dakota; Dubai, UAE	Jesse Casana, Jackson Cothren, CAST	2012	Aerial Imaging, Photogrammetry, Thermal remote sensing	14
Rohwer Japanese Interment Camp	Arkansas	Kimball Erdman	2012	Terrestrial scanning	16
Gabii Project	Italy	Nicola Terrenato	2012	Photogrammetry	27
El Zotz Site	Guatemala	Steven Houston Brown University	2011	Photogrammetry and TLS	8
Kalavassos	Cyprus	Kevin Fisher	2011	TLS	2
Fort Clark	North Dakota, USA	Ken Kvamme, AIL	2011	Geophysics	18

Lose, Mmadipudi Hill, Nyungwe	Botswana	Carla Klehm, University of Texas, Austin	2011	Geophysics	15
Glenn Canyon	Arizona US	Thann Baker, National Park Service	2011	TLS, photogrammetry	16
Tsodilo World Heritage Site	Botswana	James Denbow, University of Texas, Austin	2011	Photogrammetry	15
Knowth, Bru na Boinne World Heritage Site	Ireland	Steve Davis, University College Dublin	2011	TLS, Photogrammetry	17
Chaco Canyon	New Mexico US	Rex Weeks, University of Arkansas	2011	TLS, close range scanning	2
Karanis Site, Fayum	Egypt	Willeke Wendrich, University of California, Los Angeles	2010	TLS	9
Villa Arianna, Stabiae	Italy	David Fredrick, Mathew Bell Restoring Ancient Stabia Foundation	2010	TLS, photogrammetry	10
Saronic Harbors	Korphos Greece	Philip Saperstein	2010	TLS	2
Porto Rafi	Greece	Georianna Moraitou, Greek Archaeological Eforia of Attica	2010	TLS	2
Rub al-Khali	Duabi	Jason Hermann University of Chicago	2010	Geophysics	12
Temple of Poseidon	Sounion Greece	Margaret Miles, American School of Classical Studies at Athens	2010	TLS	2
Zincirli	Turkey	David Schloen, Jason Hermann University of Chicago	2010	Geophysics, survey	14
QuFu	China	Li Min University of California, Los Angeles	2010	Geophysics, TLS	2
Eleusis	Greece	Evangelos Kyriakidis, Kent University	2010	TLS	9
Comanche National Museum	Oklahoma US	Phyllis Wahahrockah-Tasi, Director CNM	2009	Object Scanning	6
Kimball Site	Iowa, USA	Ken Kvamme, AIL	2009	Geophysics	19

10EL462	Idaho, USA	Ken Kvamme, AIL	2009	Geophysics	20
Huff Village, Knife River Quarries	North Dakota, USA	Ken Kvamme, AIL	2009	Geophysics & topographic mapping	18
Amarna	Egypt	Barry Kemp, Cambridge University and the Amarna Trust	2009	Geophysics, TLS, object scanning	7
10EL217	Idaho, USA	Ken Kvamme, AIL	2008	Geophysics	20
Chief Looking's Village, Menoken Village	North Dakota, USA	Ken Kvamme, AIL	2008	Geophysics	21
Nodena Site	Arkansas US	Fred Limp, University of Arkansas	2008	Object scanning	5
Ostia Antica World Heritage Site	Italy	David Fredrick, University of Arkansas	2007	TLS, object scanning	4
Fort Pierre-Chouteau	South Dakota, USA	Ken Kvamme, AIL	2007	Geophysics	23
Sites in Uttarakhand	India	Ken Kvamme, AIL and Vinod Nautayal, HNB Garhwal University	2007	Geophysics	22
El Fuerte de Samaipata,	Bolivia.	Christopher Goodmaster	2006	TLS	2
Iglesia de Tiahuanaco	Bolivia	Christopher Goodmaster	2006	TLS	2
Larson Site	North Dakota, USA	Ken Kvamme, AIL	2006	Geophysics & topographic mapping	21
Boley Site	North Dakota, USA	Ken Kvamme, AIL	2005	Geophysics	21
Machu Picchu World Heritage Site	Peru	Vladimir Davila and Fernando Astete <i>Instituto Nacional de Cultura</i>	2005	Terrestrial laser scanning (TLS)	3
Tiwanaku World Heritage Site	Bolivia	Alexi Vranich, University of Pennsylvania	2004	TLS, geophysics, photogrammetry	3
Kasita Town	Georgia US	Ken Kvamme, University of Arkansas	2002	Geophysics	1
Silver Bluff	South Carolina US	Ken Kvamme, University of Arkansas	2002	Geophysics	1
Pueblo Escondito	New Mexico US	Eileen Ernenwein University of Arkansas	2002	Geophysics	1
Fort Clatsop	Oregon, USA	Ken Kvamme, AIL	2002	Geophysics	25
Army City	Kansas US	Ken Kvamme,	2002	Satellite and aerial R/S,	1

		University of Arkansas		geophysics, thermal imaging	
Double Ditch	North Dakota, USA	Ken Kvamme, AIL	2001	Geophysics, Thermal Infrared, topographic mapping	21
Sylvester Manor	New York, USA	Ken Kvamme, AIL	2000	Geophysics	24
On-A-Slant, Huff Village	North Dakota, USA	Ken Kvamme, AIL	1999	Geophysics	26, 21

Selected Modern Buildings & Environments field projects conducted by CAST are listed below.

Project	Location	Collaborating Department	Start Date	Instruments /Methods	Notes
3D Recording and Visualization Training Field School	University of Arkansas	Geography & Geophysics Departments	2010	Terrestrial Scanning	28
Recording, Visualizing, and Analyzing the Urban Setting Field Schools	Northwest Arkansas	Geography & Geophysics Departments, Schools of Architecture	2011	TLS, Photogrammetry, Geophysics	28
University of Arkansas FAMA Plant Buildings	University of Arkansas	U of A, Facilities Management & Planning	2011	Terrestrial Scanning	29
University of Arkansas Senior Walk	University of Arkansas	U of A, Facilities Management & Planning	2011	Photogrammetry and Geophysics	29
University of Arkansas Vol Walker Hall	University of Arkansas	U of A, Facilities Management & Planning	2011	TLS, Photogrammetry, Geophysics	29

Notes: Funding sources for fieldwork and processing

1. SERDP (DoD)
2. Leica Geosystems Chair Foundation
3. NSF IIS 0431070
4. University of Arkansas Honors College
5. Arkansas Natural and Cultural Heritage Commission
6. Comanche Nation
7. UCLA Cotsen Institute Field School and Amarna Trust
8. Brown University
9. UCLA Cotsen Institute
10. Stabia Foundation
11. ESTCP (DoD)
12. Emirate of Dubai and UA MEST Program
13. Michael Gagarin
14. National Endowment

15. NSF BCS 1115148
16. National Park Service
17. Office of Public Works (Ireland)
18. State Historical Society of North Dakota
19. Office of the State Archaeologist, Iowa
20. Idaho Power Company
21. PaleoCultural Research Group
22. HNB Garhwal University
23. State Historical Society of South Dakota
24. University of Massachusetts-Boston
25. U.S. National Park Service
26. University of North Dakota
27. NEH, University of Michigan
28. NSF awarded CI-TRAIN project, Grant 091897
29. University of Arkansas Facilities Management

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