



**STRENGTHENING THE BIG DATA
& ANALYTICS ECOSYSTEM**
WAYNE STATE UNIVERSITY

September 19, 2018

Archaeology & Digital Humanities

The D.I.R.T. on Big Data

Krysta Ryzewski

Associate Professor of Anthropology
Anthropology of the City Initiative

BELOW THE SURFACE

THE ARCHAEOLOGICAL FINDS OF THE NORTH / SOUTHLINE



[See all objects →](#) [Read more about the project →](#)

CREATE YOUR OWN
DISPLAY WITH THE FINDS



ARCHAEOLOGY IS BIG DATA

*User experience design in
archaeology and
cultural heritage*

Designing Interfaces



About
GlobalXplorer^o

Saving the Past, for Our Future

Born Digital Data



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Archaeology & Digital Humanities

Collaborative & Interdisciplinary
Quantitative & Qualitative
Human-centered
Place-based
Community-facing
Design-oriented



Archaeology (Anthropology)

Sciences

Humanities



WSU archaeology students share their findings from Roosevelt Park, Corktown with the public



D.I.R.T.

- Big Data
- Big Ideas
- Big Research
- Big Teaching



WSU archaeology students on the Unearthing Detroit project share finds with the public at the Michigan State University Science Fest, Belle Isle



D.I.R.T.

Big Data

What happened on the “shop floor”?



Unearthing Detroit Project

Excavations at Roosevelt Park, Corktown



Michigan Central & Future Location of Roosevelt Park, 1915
(Detroit Saturday Evening)



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Dig Detroit



VIDEOS



Dig Detroit

Urban archeology in a disappearing city:
Detroit's Roosevelt Park excavation (6:23)



Clip: DIY PTM

Using a student-built device to see
normally invisible details (2:34)

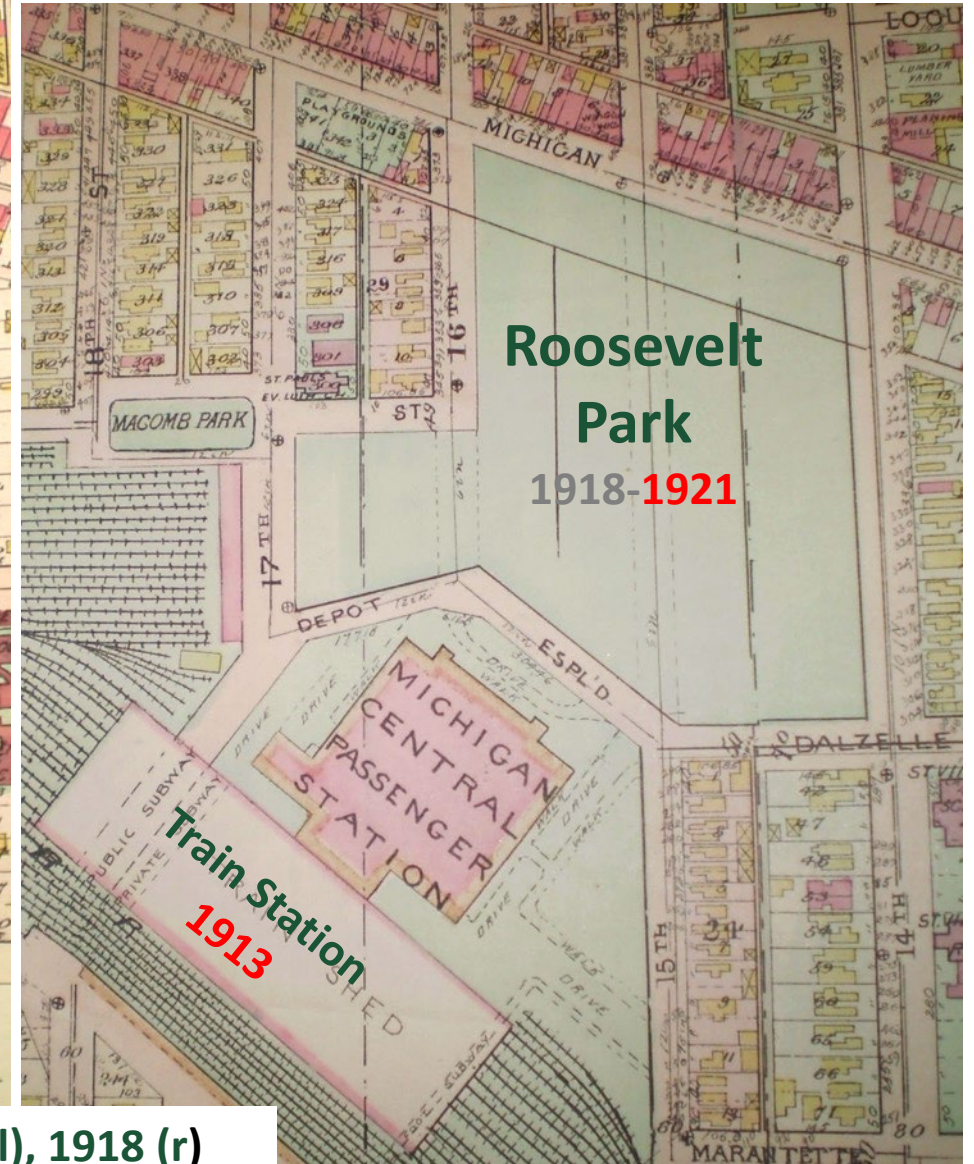
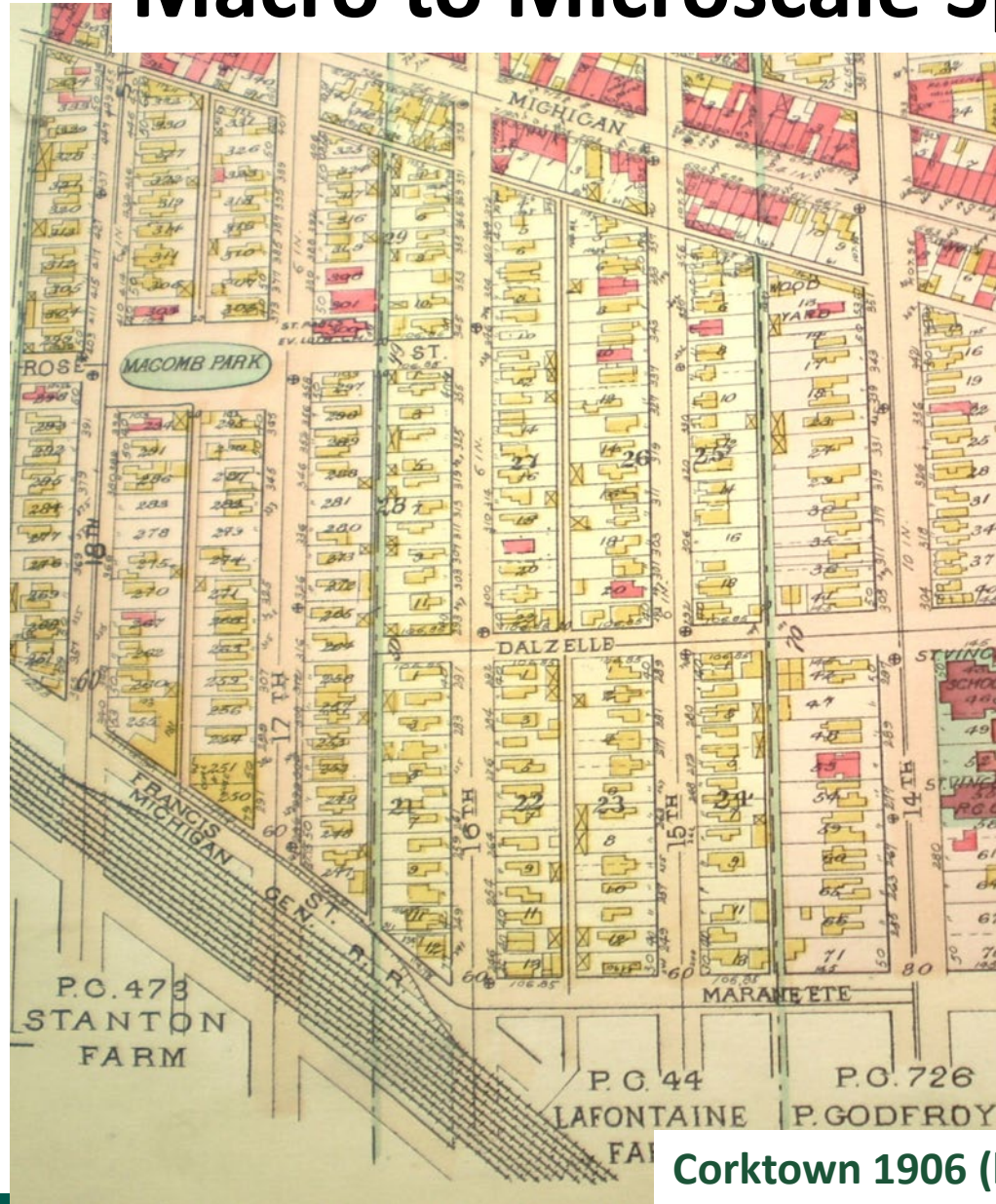


Clip: Detroit women

Clues to the lives and professions of
women in late 19th century, early 20th
century Detroit (1:43)

Macro to Microscale Spatial & Temporal Data

City
|
Neighborhood
|
Property
|
Household
|
Individuals
|
Objects
|
Micro-artifacts
|
Soils

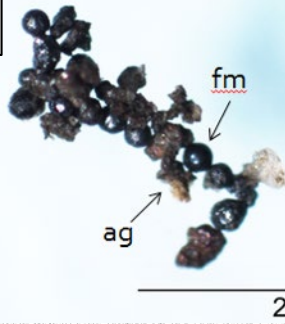


Corktown 1906 (l), 1918 (r)



Geochemistry

airborne
particulates



2mm

Macro to Microscale

Sanborn Map, 1915

Foy Family household
1903-1917

Excavation

Sarah Foy, aged 22
died of lung disease in 1907

Archival Research



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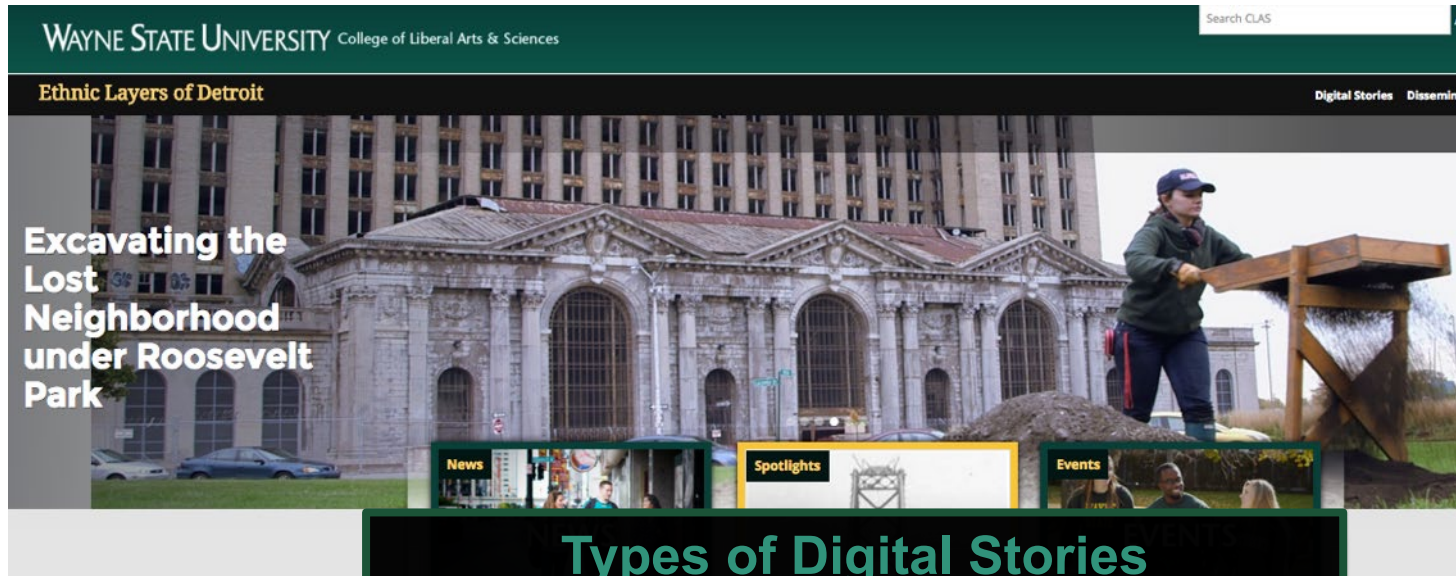


Artifact
Analysis

Musterole: medicine to
treat respiratory ailments,
ca. 1906

Ethnic Layers of Detroit

- Experiencing place through digital storytelling
- Using digital humanities to interpret, share, teach and design human-centered & place-based Big Data



Types of Digital Stories

- Built environment (buildings, bridges, etc)
- Landscapes / neighborhoods
- Personal stories
- Ephemera (festivals, parades, etc)
- Absences
- Material culture

Watch ELD digital stories and learn about the colorful and dynamic history of Detroit!

Digital stories are accompanied by a video, a video transcript, a longer narrative, site location, and images.



Abick's Bar

Story of the oldest family-owned bar in Detroit

Storyteller: Alina Klin
Keywords: Abick's Bar, Manya Abick, POLISH.



Ambassador Bridge and Ralph Modjeski

Ralph Modjeski's contributions to the field of engineering and bridge building

Storyteller: Alina Klin
Keywords: Ralph Modjeski, Bridge, Engineering, Helena Modjeska, Poland, POLISH.



Anthony Wayne: Wayne State's Namesake and Batman's Ancestor

Anthony Wayne Connection to Detroit and Michigan

Storyteller: Julie Koehler
Keywords: Wayne, WSU, Batman, Revolutionary War, Detroit, IRISH.



Arbeiter Hall

The Leland building now contains lofts, but it was once a school for disabled children near Black Bottom.

Storyteller: Felecia Lucht
Keywords: GERMAN



Brewster-Douglass Homes

First federally-funded housing project for the African American community in the US. Demolished in 2014

Storyteller: Krysta Ryzewski
Keywords: African-Americans, neighborhood, housing project, innovation, ruin.



Cass Tech & Polish American Musicians

History of Cass Tech, Polish-American musicians

Storyteller: Alina Klin
Keywords: Cass Tech, Detroit, Music, Polish-American Musicians, Ted Gornulka, Stas Wisniach, Club Alicia, Decca, POLISH



Charles Lindbergh Birthhouse

Charles Lindbergh's connection to Detroit

Storyteller: Julie Koehler
Keywords: Lindbergh, Detroit, Aviation, Cass Tech, SWEDISH



Scaling Up and Out



The Unearthing Detroit Project's Archaeology graduate students featured at the UM3 Detroit symposium, University of Michigan Ann Arbor, 2017



Ethnic Layers of Detroit project co-directors: Alina Klin, Laura Kline, Sangeetha Gopalakrishnan, Krysta Ryzewski, Julie Koehler, and Kim Schroeder (not pictured)



D.I.R.T.

Big Ideas

Big Research



SAUS: Spatial Analytics in Urban Settings

Synthesizing Big Data digitally to address past, present, and future challenges in urban settings with respect to **environmental**, **cultural**, and **historical** issues

Outcomes: engage with a wide variety of stakeholders, from local neighborhood residents to government agencies, in order to affect positive transformations in cities



HGIS [Historical Geographic Information Systems]
visualizing large historical data sets in space



HSDI [Historical Spatial Data Infrastructure]
interactive data infrastructure (geographic data, users, metadata, tools)



Deep Maps
flexible inquiry, research questions, participatory, anchored in place, space, people. Citizen historians, citizen scientists



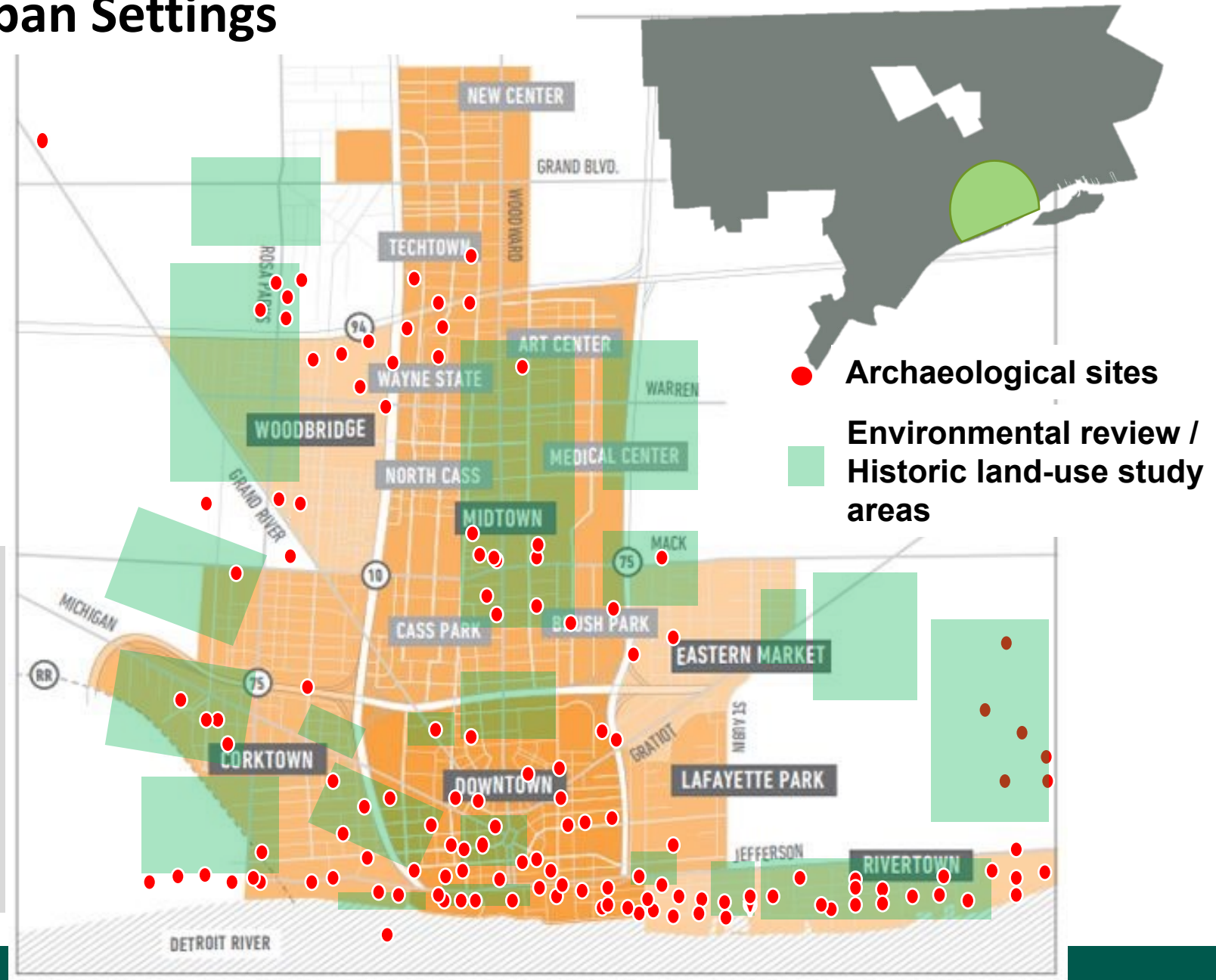
SAUS: Spatial Analytics in Urban Settings

Experts in:

Archaeology & Anthropology
Urban Planning & Design
Geographic Information Systems
Computer Science and Engineering
Archival, Library & Information Sciences
Public History
Foreign Language
Instructional Design
Environmental Sciences
Communications

Competencies Needed:

HGIS / HSDI
Design
Preservation / Heritage
Multimedia Development
Digital Archives
Database Management
Museum Collections



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D.I.R.T.

Big Teaching



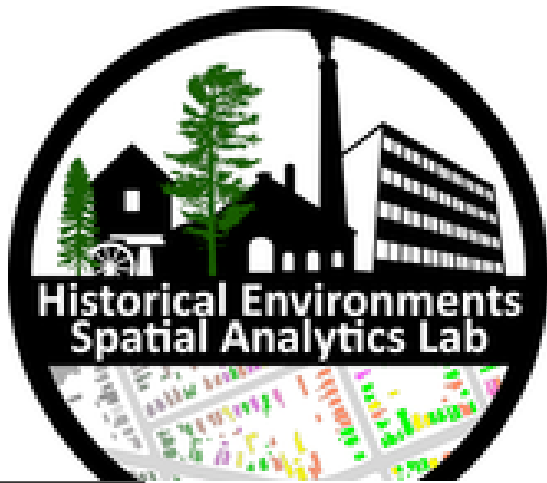
CENTER FOR DIGITAL HUMANITIES
AND SOCIAL SCIENCES

MATRIX



Institute for Cultural Heritage
Preservation (ICHiP)

CMU
CENTRAL MICHIGAN
UNIVERSITY



**MS DEGREE IN HUMAN-CENTERED
DESIGN & ENGINEERING**



**Michigan
Technological
University**



**Community Engagement:
Collaborating for Change**



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Big Teaching

& small(er) training?

Teaching Big Classes

Global Detroit
Digital Storytelling Class
History Communication
Business Anthropology
Design Studies
Global Health
Ecology and the Environment
Geology and the Environment
Urban Studies
Computer Science



Ethnic Layers of Detroit project hosts a digital storytelling workshop for students and community partners

Teaching Competencies Learning by Doing

Qualitative Research Methods
Anthropology Practicum (industry partnerships)
Geographic Information Systems
Archaeology Lab Methods / Fieldwork
Museum Studies
Cultural Resource Management
Public History
Oral History
Foreign Languages
Digital Archival Management
Community Engagement
T-RUST Courses



Who Cares about Big Data?

- Who does our data serve?
- How can we make Big Data research & training accessible, accountable, sustainable?
 - What can applied social sciences and digital humanities bring to Big Data?

Archaeology is Big Data, A Foundation for:

- working with communities
- revitalizing and redesign cities
- examining health issues in diachronic view
- understanding environmental changes
- using the past to inform future-making
- boosting tourism
- promoting development and investment
- inspiring pride of place
- informing tech innovation
- educating students



Unearthing Detroit project team introduces archaeological science to local middle school students via the Time Jumpers program





NETWORK DETROIT

[Home](#)[2018 Conference Registration](#)[2018 Schedule](#)[Travel Information](#)[About ▾](#)[Archive ▾](#)[DHatWayne](#)

Digital Humanities & Activism: Communities in Motion

2018 Schedule

Friday, September 21st

All Network Detroit 2018 activities in Room 91 of Manoogian Hall unless otherwise noted

8:30-9:00

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Special Thanks

Office of the Provost, Wayne State University
Department of Anthropology, Wayne State University
Students and Volunteers on the Unearthing Detroit Project
Ethnic Layers of Detroit Project
Office of the State Archaeologist, SHPO, Lansing



WAYNE STATE
UNIVERSITY
Gordon L. Grosscup
Museum of Anthropology

