

# R. Kyle Bocinsky, PhD

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## Contact Information

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## Research Interests

*Computational archaeology; complexity; GIS; cyber-infrastructures; southwestern US prehistory; paleoenvironments and human dimensions of climate change; plant and animal domestication*

## Education

**Washington State University**, Pullman, Washington

PhD, Anthropology, December 2014

Dissertation title: *Landscape-based Null Models for Archaeological Inference*

Graduate GPA: 3.84

MA, Anthropology, May 2011

Thesis title: *Is a Bird in Hand Really Worth Two in the Bush? Models of Domestication on the Colorado Plateau*

**University of Notre Dame**, Notre Dame, Indiana

BA, Anthropology, May 2008

Thesis title: *Rodent Stable Carbon-isotope Ratios as a Measure of Maize Production*

Overall GPA: 3.414. Major GPA: 3.66

## Employment

**Crow Canyon Archaeological Center**, Cortez, Colorado

January 2016—present Director of Sponsored Projects, Crow Canyon Research Institute

Develops research collaborations between Crow Canyon archaeologists and external researchers; manages a >\$1 million portfolio of grant-funded research projects; conducts cutting-edge interdisciplinary research on ancient agricultural practices, climate change, and global sustainability

Summer 2012 Field Intern, Basketmaker Communities Project

Excavation and education at the Dillard Site, a Basketmaker III community; Gave public talks on Pueblo prehistory to visitors of all ages. Directed by Shanna Diederichs

**Washington State University**, Pullman, Washington

2015 Post-doctoral Researcher, *Synthesized Knowledge of Past Environments*

Worked to bring paleoenvironmental data to scientists and the general public; collaborated on the development of web mapping services; integrated environmental data with cultural data to gauge impacts of climate change on humans. Directed by Timothy A Kohler

Aug 2008–Dec 2014 Research Fellow, Department of Anthropology

Agent based modeling with the Village Ecodynamics Project; documented and debugged code and expanded study areas; coordinated data storage and delivery among 4 institutions and 16 researchers. Directed by Timothy A Kohler

Fall 2014, Spring 2013, Spring 2012 Instructor, Department of Anthropology

Developed and taught three courses at the undergraduate level; 15–90 students

**Mesa Verde National Park**, Colorado

Summers 2009, 2011, 2012 Field Technician, The Mesa Verde Community Center Survey

Visited and documented large aggregated villages in MVNP; developed iPad-based site-recording workflows integrated with mapping tools in AutoCAD and Adobe Illustrator; Drafted survey final report in L<sup>A</sup>T<sub>E</sub>X. Directed by Donna M. Glowacki

Field Museum of Natural History, Chicago, Illinois

Summer 2008 Collections Intern

Facilitated access to collections for visiting researchers, analyzed ceramics, and constructed protective housing for ceramics. Directed by Scott Demel

## Experience & Achievements

### Grant Achievements

- Co-PI on *Developing and Deploying SKOPE—A resource for Synthesizing Knowledge of Past Environments*, funded through a National Science Foundation special competition, *Resource Implementations for Data Intensive Research in the Social Behavioral and Economic Sciences* (SMA-1347973). Part of a collaborative research grant between Washington State University, Arizona State University, and the University of Illinois at Urbana-Champaign. \$254,189 awarded to WSU/CCAC, \$1,339,658 total
- Secured \$180,000 in competitive masters and doctoral funding from the National Science Foundation and Washington State University resources, plus full tuition waivers from WSU for the duration of graduate school
- Secured \$16,800 in research funding from the National Science Foundation in support of travel and materials
- Collaborated in developing proposals with budgets ranging from \$300,000 to \$1.5 million

### Research Collaborations

- Extensive experience collaborating with large, interdisciplinary teams of researchers from academic, public, and private sectors
- Managed and coordinated data acquisition, storage, and delivery between team members using Subversion and Git repositories with local and cloud-based storage
- Authored 14 peer-reviewed research articles published in journals including *Science*, *Nature Communications*, *Science Advances*, and *American Antiquity*, four book chapters, three technical reports, and one technical paper

### Software Development

- Developed two packages in *R*—*FedData* and *PaleoCAR*—for downloading and processing geospatial and climate data from federated data sources
- Packages are being adopted by academic researchers (at Washington State University and Arizona State University) and in the public sector (Natural Resources Conservation Service); *FedData* downloaded over 6,300 times since release
- Lead developer in the *Village Ecodynamics Project*—built agent-based geospatial simulations of ancient Pueblo human-environment interaction using the *RePAST* simulation framework (in the Java computer language)

### Classroom Management

- Developed curricula and taught three courses at introductory and advanced levels, and managed class sizes ranging between 15 and 90 students
- Emphasized a science-based comparative approach to anthropological research
- Created collaborative assignments designed to enhance leadership, management, and presentation skills among students
- Challenged students to apply anthropological perspectives to real-world problems

## Computer Experience

*Statistical Packages:* R, SAS, Stata

*Languages:* R, Java, Python, Bash, C++, Objective C

*Applications:* ArcGIS, GRASS GIS, QGIS, MS Office, Adobe Illustrator, Final Cut Pro,  $\LaTeX$

*Web Frameworks:* Bootstrap, Jekyll, Liquid, Shiny, GH-Pages

*Agent Based Modeling Frameworks:* RePAST (J, S), Swarm

*Version Control:* Git, Subversion

*Operating Systems:* macOS, Windows, Ubuntu Linux

## References

### Timothy A. Kohler

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### Mark D. Varien

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### Jade d'Alpoim Guedes

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### William D. Lipe

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### Shanna R. Diederichs

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### Ian Kuijt

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### Scott G. Ortman

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### Stefani A. Crabtree

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