

# C. Seth Parker

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## Education

B.A. Media and Communications, Asbury University, May 2010.

Ph.D. Computer Science, University of Kentucky, Expected Summer 2023.

## Employment

- 2014–present    Researcher and Project Manager, Department of Computer Science, University of Kentucky, Lexington, KY.
- 2011–2018      Video Production Coordinator, Center for Visualization and Virtual Environments, University of Kentucky, Lexington, KY.

## Projects and Software

- Parker, C. Seth.** *OpenABF. A single-header C++ library of angle-based flattening algorithms.* Comp. software. Jan. 2021. DOI: [10.5281/zenodo.4483858](https://doi.org/10.5281/zenodo.4483858).
- Parker, C. Seth,** Kristina Gessel, and Stephen Parsons. *Volume Cartographer. A cross-platform C++ library and toolkit for the recovery and restoration of damaged cultural artifacts.* Comp. software. Mar. 2021. DOI: [10.5281/zenodo.4604881](https://doi.org/10.5281/zenodo.4604881).
- Parker, C. Seth.** *Structured Metadata Engine and Graph Objects Library.* Comp. software. Oct. 2020. DOI: [10.5281/zenodo.4134987](https://doi.org/10.5281/zenodo.4134987).

## Publications

### *Journal Articles*

- Dilley, Paul C, Christy Chapman, **C Seth Parker**, and W Brent Seales. "The X-Ray Micro-CT of a Full Parchment Codex to Recover Hidden Text: Morgan Library M.910, an Early Coptic Acts of the Apostles Manuscript". In: *Manuscript Studies: A Journal of the Schoenberg Institute for Manuscript Studies* 7.1 (2022), pp. 162–174.
- Chapman, Christy Y., **C. Seth Parker**, Ali Bertelsman, Kristina Gessel, Hannah Hatch, Kyra Seevers, James H. Brusuelas, Stephen Parsons, and W. Brent Seales. "The Digital Compilation and Restoration of Herculaneum Fragment PHerc.118". In: *Manuscript Studies: A Journal of the Schoenberg Institute for Manuscript Studies* 6.1 (2021), pp. 1–32. DOI: [10.1353/mns.2021.0000](https://doi.org/10.1353/mns.2021.0000).
- Parker, Clifford Seth,** Stephen Parsons, Jack Bandy, Christy Chapman, Frederik Coppens, and William Brent Seales. "From invisibility to readability: Recovering the ink of Herculaneum". In: *PLOS ONE* 14.5 (May 2019), pp. 1–17. DOI: [10.1371/journal.pone.0215775](https://doi.org/10.1371/journal.pone.0215775).

Parsons, Stephen, **C. Seth Parker**, and W. Brent Seales. "The St. Chad Gospels: Diachronic Manuscript Registration and Visualization". In: *Manuscript Studies: A Journal of the Schoenberg Institute for Manuscript Studies* 2.2 (2017), pp. 483–498. DOI: 10.1353/mns.2017.0022.

Seales, William Brent, **Clifford Seth Parker**, Michael Segal, Emanuel Tov, Pnina Shor, and Yosef Porath. "From damage to discovery via virtual unwrapping: Reading the scroll from En-Gedi". In: *Science Advances* 2.9 (2016). DOI: 10.1126/sciadv.1601247.

Segal, Michael, Emanuel Tov, William Brent Seales, **Clifford Seth Parker**, Pnina Shor, and Yosef Porath. "An Early Leviticus Scroll from En-Gedi: Preliminary Publication". In: *Textus* 26.1 (2016), pp. 29–58. DOI: 10.1163/2589255X-02601004.

### Conference Proceedings

Chapman, Christy, **Seth Parker**, Stephen Parsons, and W. Brent Seales. "Using METS to Express Digital Provenance for Complex Digital Objects". In: *Metadata and Semantic Research*. Ed. by Emmanouel Garoufallou and María-Antonia Ovalle-Perandones. Cham: Springer International Publishing, Mar. 2021, pp. 143–154. ISBN: 978-3-030-71903-6. DOI: 10.1007/978-3-030-71903-6\_15.

Parsons, Stephen, Jacob Chappell, **C. Seth Parker**, and W. Brent Seales. "Machine Learning Infrastructure on the Frontier of Virtual Unwrapping". In: *Proceedings of International Symposium on Grids & Clouds 2021 (ISCG2021)*. Academia Sinica Computing Centre (ASGC), Taipei, Taiwan (Online): Proceedings of Science, Mar. 2021, p. 15. DOI: 10.22323/1.378.0015.

Gessel, Kristina, Stephen Parsons, **Clifford Parker**, and William Seales. "Towards Automating Volumetric Segmentation for Virtual Unwrapping". In: *Proceedings of the 25th International Conference on Cultural Heritage and New Technologies 2020*. Nov. 2020.

Parsons, Stephen, Kristina Gessel, **Clifford Parker**, and William Seales. "Deep Learning for More Expressive Virtual Unwrapping". In: *Proceedings of the 25th International Conference on Cultural Heritage and New Technologies 2020*. Nov. 2020.

Ganio, Monica, Stephen Parsons, **Seth Parker**, Marie Svoboda, Brent Seales, and Catherine Schmidt Patterson. "Unbending light: new computational methods for the correction of 3D effects in scanning XRF". In: *Optics for Arts, Architecture, and Archaeology VII*. Conference Proceedings of SPIE Volume 11058. 2019. DOI: 10.1117/12.2525038.

Parsons, Stephen, **C. Seth Parker**, Frederik Coppens, and W. Brent Seales. "Revealing "Invisible" Signals in CT with Machine Learning". In: *Bruker Micro-CT User Meeting*. Abstract Book. Mechelen, Belgium, June 2019, pp. 20–22.

**Parker, C. Seth** and W. Brent Seales. "Enhanced CT Analysis Using Volume Flattening". In: *Bruker Micro-CT User Meeting*. Abstract Book. Brussels, Belgium, June 2017, pp. 15–16.

**Parker, C. Seth**, W. Brent Seales, and Gregory Heyworth. "Reading the Invisible Library". In: *Bruker Micro-CT User Meeting*. Abstract Book. Mondorf-les-Bains, Luxembourg, May 2016, pp. 58–59.

**Parker, Clifford Seth**, William Brent Seales, and Pnina Shor. "Quantitative Distortion Analysis of Flattening Applied to the Scroll from En-Gedi". In: *Art & Archaeology, 2nd International Conference*. 2016.

### Books and Anthologies

Seales, W. Brent, **C. Seth Parker**, and Christy Chapman. "4.1.1.7 Virtual Unwrapping: A Computational Approach for Reading Damaged Manuscripts". In: *Textual History of the Bible*. Ed. by Armin Lange. Vol. 4. 2017. Chap. 1.1.7. DOI: 10.1163/2452-4107\_thb\_COM\_225869.

### *Lectures and Presentations*

**Parker, C. Seth.** “Metadata-enabled computational graphs”. Presented at the University of Kentucky Dept. of Computer Science Keeping Current Seminar. Oct. 7, 2020.

**Parker, C. Seth.** “Reading the Invisible Library: Noninvasive Recovery of Text From Damaged Manuscripts”. Presented at R-CHIVE Conference 2017. June 2017.

### Honors and Awards

Outstanding Student Paper Award, “From invisibility to readability: Recovering the ink of Herculaneum”, University of Kentucky, Department of Computer Science, April 2021

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