

Curriculum Vitae

Julie M. Winchester

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Employment

- Jul '22 – **Technical Director, MorphoSource 3D Data Repository.** Department of Evolutionary Anthropology. Duke University. 40 hrs/wk.
- July '17 – '22 **Product Manager and Lead Repository Developer, MorphoSource 3D Data Repository.** Department of Evolutionary Anthropology. Duke University. 40 hrs/wk.
- Dec '16 – 17 **Postdoctoral Associate.** Department of Evolutionary Anthropology. Duke University. 40 hrs/wk.
- Jun '13 – '16 **Instructor.** Occupational Therapy Program, College of Health Related Professions. State University of New York Downstate. 40hrs/wk, summer semester.

Other Appointments

- Feb '25 – **Research Affiliate.** Bioinformatics Division. Biodiversity Institute and Natural History Museum. University of Kansas.
- Jan '24 – **Specification Editor.** International Image Interoperability Framework (IIIF).
- Jan '10 – '12 **Visiting Researcher.** Developmental Biology Program. Institute of Biotechnology, University of Helsinki.

Education

- 2016 Ph.D., Anthropological Sciences (Concentration: Physical Anthropology). Stony Brook University.
- 2012 M.A., Anthropology. Stony Brook University.
- 2008 B.A. (with Honors), Anthropology. University of Arkansas.

Grants

- 2024 – 2027 NSF DBI-2311380: Building Capacity in MorphoSource through state-of-art, flexible data storage protocols for broader and more sustainable adoption by museums and other mass-data producers. Co-PI.
- 2022 – 2027 NSF DBI-2149257: Sustaining MorphoSource 3D data Repository - Supporting a Transformation in Research and Education Practices Relying on Biodiversity and Natural History Collections. Co-PI.
- 2013 NSF Doctoral Dissertation Improvement Grant: Molar topographic shape as a system for inferring paleoecology and developmental patterning in cercopithecoid evolution.
- 2010 NSF Nordic Research Opportunity Grant.

Publications

- 2024 Almécija S, Pugh KD, Anaya A, *et al.* Primate Phenotypes: A Multi-Institution Collection of 3D Morphological Data Housed in MorphoSource. *Scientific Data*, 11: 1391. <https://doi.org/10.1038/s41597-024-04261-5>
- 2024 Blackburn DC, Boyer DM, Gray JA, **Winchester JM**, *et al.* Increasing the impact of vertebrate scientific collections through 3D imaging: The openVertebrate (oVert) Thematic Collections Network. *BioScience*, 74(3): 169 – 186. <https://doi.org/10.1093/biosci/biad120>
- 2024 de Vries D, **Winchester JM**, Fulwood EL, St. Clair EM, Boyer DM. Dental topography of prosimian premolars predicts diet: A comparison in premolar and molar dietary classification accuracies. *American Journal of Physical Anthropology*, 185: e24995. <https://doi.org/10.1002/ajpa.24995>
- 2024 Gignac PM, Aceves V, Baker S, *et al.* The role of networks to overcome large-scale challenges in tomography: The non-clinical tomography users research network. *Tomography of Materials and Structures*, 5: 100031. <https://doi.org/10.1016/j.tmater.2024.100031>
- 2021 Fulwood EL, Shan S, **Winchester JM**, Gao T, Kirveslahti H, Daubechies I, Boyer DM. Reconstructing dietary ecology of extinct strepsirrhines (Primates, Mammalia) with new approaches for characterizing and analyzing tooth shape. *Paleobiology*, 47: 612 – 631. <https://doi.org/10.1017/pab.2021.9>

- 2021 Fulwood EL, Shan S, **Winchester JM**, Kirveslahti H, Ravier R, Kovalsky S, Daubechies I, Boyer DM. Insights from macroevolutionary modelling and ancestral state reconstruction into the radiation and historical dietary ecology of Lemuriformes (Primates, Mammalia). *BMC Ecology and Evolution*, 21: 60. <https://doi.org/10.1186/s12862-021-01793-x>
- 2021 Rolfe S, Pieper S, Porto A, Diamond K, **Winchester JM**, Shan S, Kirveslahti H, Boyer DM, Summers A, Maga AM. SlicerMorph: An open and extensible platform to retrieve, visualize, and analyze 3D morphology. *Methods in Ecology and Evolution*, 12: 1816 – 1825. <https://doi.org/10.1111/2041-210X.13669>
- 2020 Boyer DM, **Winchester JM**, Silvertown E. MorphoSource: Creating a 3D web repository capable of archiving complex workflows and providing novel viewing experiences. *Europeana Pro Tech*, 14.
- 2019 Shan S, Kovalsky SZ, **Winchester JM**, Boyer DM, Daubechies I. ariaDNE: A robustly implemented algorithm for Dirichlet energy of the normal. *Methods in Ecology and Evolution*, 10: 541-552. <https://doi.org/10.1111/2041-210X.13148>
- 2019 Berthaume MA, **Winchester JM**, Kupczik K. Effects of cropping, smoothing, triangle count, and mesh resolution on 6 dental topographic metrics. *PLoS ONE*, 14(5): e0216229. <https://doi.org/10.1371/journal.pone.0216229>
- 2019 Berthaume MA, **Winchester JM**, Kupczik K. Ambient occlusion and PCV (portion de ciel visible): A new dental topographic metric and proxy of morphological wear resistance. *PLoS ONE*, 14(5): e0215436. <https://doi.org/10.1371/journal.pone.0215436>
- 2017 Wallace IJ, **Winchester JM**, Su A, Boyer DM, Konow N. Physical activity alters limb bone structure but not enthesal morphology. *Journal of Human Evolution*, 107: 14-18.
- 2016 Pampush JD, **Winchester JM**, Morse PE, Vining AQ, Boyer DM, Kay RF. Introducing molaR: a new R package for quantitative topographic analysis of teeth (and other topographic surfaces). *Journal of Mammalian Evolution*, 1-16.
- 2016 **Winchester JM**. MorphoTester: An open source application for morphological topographic analysis. *PLoS ONE*, 11(2): e0147649.

- 2015 Boyer DM, **Winchester JM**, Glynn C, Puente J. Detailed anatomical orientations for certain types of morphometric measurements can be determined automatically with geometric algorithms. *The Anatomical Record*, 298: 1816-1823.
- 2015 Boyer DM, **Winchester JM**, Kay RF. The effect of differences in methodology among some recent applications of shearing quotients. *American Journal of Physical Anthropology*, 156: 166-178.
- 2014 Zohdy S, Gerber BD, Tecot S, Blanco MB, **Winchester JM**, Wright PC, Jernvall J. Teeth, sex, and testosterone: aging in the world's smallest primate. *PLoS ONE*, 9(10): e109528.
- 2014 **Winchester JM**, Boyer DM, St. Clair EM, Gosselin-Ildari AD, Cooke SB, Ledogar JA. Dental topography of platyrrhines and prosimians: convergence and contrasts. *American Journal of Physical Anthropology*, 153: 29-44.
- 2013 Ledogar JA, **Winchester JM**, St. Clair EM, Boyer DM. Diet and dental topography in pitheciine seed predators. *American Journal of Physical Anthropology*, 150: 107-121.
- 2012 Godfrey LR, **Winchester JM**, King SJ, Boyer DM, Jernvall J. Dental topography indicates ecological contraction of lemur communities. *American Journal of Physical Anthropology*, 148: 215-227.
- 2011 **Bunn JM***, Boyer DM, Lipman Y, St. Clair EM, Jernvall J, Daubechies I. Comparing Dirichlet normal surface energy of tooth crowns, a new technique of molar shape quantification for dietary inference, with previous methods in isolation and in combination. *American Journal of Physical Anthropology*, 145: 247-261.
- 2011 Blatch S, Boyer DM, King SJ, **Bunn JM***, Jernvall J, Wright PC. Changes in orientation of attritional wear facets with implications for jaw motion in a mixed longitudinal sample of *Propithecus edwardsi* from Ranomafana National Park, Madagascar. *American Journal of Physical Anthropology*, 146: 116-133.
- 2009 **Bunn JM***, Ungar PS. Dental topography and diets of four old world monkey species. *American Journal of Primatology*, 71: 466-477.
- 2008 Ungar PS, **Bunn JM***. Primate dental topographic analysis and functional morphology. In: *Technique and Application in Dental Anthropology*. Irish JD, Nelson GC, eds. Cambridge, Cambridge Univ. Press, pp. 253-265.

* Published under former name

Software, APIs, and Data Specifications Created, Developed, Maintained

- 2023 – International Image Interoperability Framework (IIIF) APIs and data specifications and IIIF-Commons tools. Specification editor, developer. <https://github.com/IIIF> and <https://github.com/IIIF-Commons>
- 2019 – Aleph and Aleph-r3f 3D viewers. Open source viewers for 3D mesh and volume data with annotation and measurement support. Developer, maintainer. <https://github.com/aleph-viewer>
- 2017 – MorphoSource 3D Data Repository and associated components. GitHub organization includes 28 repositories that together support MorphoSource. Creator, developer, maintainer. <https://github.com/MorphoSource/>
- 2015 – Personal GitHub software repository collection. Contains 66 repositories reflecting professional and personal development projects. Creator, developer, maintainer. <https://github.com/JulieWinchester>
- 2018 ToothAndClaw: A GitHub organization maintaining software output of Daubechies integrative biology and math working group. Includes code repositories for auto3dgm for Python and auto3dgm Slicer Extension (see above). Creator, developer. <https://github.com/toothAndClaw/>
- 2015 molaR: An R package for quantitative topographic analysis. Developer. <http://cran.r-project.org/web/packages/molaR/index.html>
- 2015 MorphoTester: An open source freeware software platform for the quantification of topographic shape in 3D data. Creator, developer. <http://morphotester.apotropa.com>

Technical Skills

Relevant frameworks, packages, techniques, or software in italics

- Team lead/product management Agile development methodology (*Sprint iterative timeboxing, Planning poker, User stories*)
- Issue/story tracking technologies (*Jira, Trello*)
- Team management (*Scrum leadership, team mentorship*)
- Hiring and team member supervision and evaluation
- Management of contract developers

Full stack web development	<p>Front end core technologies (<i>HTML, CSS, JavaScript</i>)</p> <p>Front end interactive/single page web application frameworks (<i>jQuery, AngularJS 1/2, React, Node</i>)</p> <p>Front end UI frameworks (<i>Angular Material, Bootstrap 3/4</i>)</p> <p>Front end mobile/responsive development</p> <p>Web 3D and graphics (<i>Three.js, WebGL, Paper.js, Raphael</i>)</p> <p>Back end core technologies (<i>Ruby, PHP, Python</i>)</p> <p>Back end server-rendered application frameworks (<i>Ruby on Rails, Python Flask, Node</i>)</p>
Database	<p>Core technologies (<i>SQL</i>)</p> <p>Database management systems (<i>SQL, NoSQL [Redis], PostgreSQL</i>)</p> <p>Database design</p> <p>Database administration</p>
Natural history data resources	<p>Specimen databases (<i>Specify, Arctos, Symbiota</i>)</p> <p>Data aggregators (<i>iDigBio, GBIF, Europeana, IPT technologies</i>)</p> <p>Discipline-specific databases (<i>MorphoSource, Paleobiology Database</i>)</p> <p>Taxonomic databases (<i>GBIF Backbone, Catalog of Life, World Register of Marine Species</i>)</p>
Metadata and structured data	<p>Metadata terms sets (<i>Dublin Core, Darwin Core, Audiovisual Core, DICOM, EXIF</i>)</p> <p>OWL-format data ontologies (<i>MorphoSource Data Vocabulary/Ontology, Uberon Anatomy Ontology</i>)</p>
Repository Development	<p>Hyrax Repository Application (<i>Samvera, Fedora, Redis, Apache Blacklight, Ruby on Rails</i>)</p> <p>MorphoSource 2.0.0+ Repository Platform (<i>Significantly customized Hyrax application</i>)</p> <p>MorphoSource v1.0 Repository Platform (<i>CollectiveAccess, Linux/Apache/MySQL/PHP stack</i>)</p>

Software Design	Software architecture and modeling Metadata modeling (<i>MorphoSource 2.0.0+</i>) Web front end UI/UX design UI/UX design tools (<i>Justinmind</i>)
Data science/analytics	Numerical/analytical programming (<i>MATLAB, R, Python, Python packages including Numpy, Scipy, Pandas, Scikit-Learn</i>) Data visualization and communication (<i>Jupyter notebooks, Kaggle, Matplotlib, Plotly, Bokeh, ggplot</i>) Parallel computing (<i>Spark, Sun Grid Engine</i>)
Desktop app development	Python application development (<i>PyQt, Tkinter, Traits, Mayavi</i>)

Workshops Given and Working Meetings Managed

2025	Workshop: IIF 3D – Making the Scene and Canvas Anew with Prezi 4.0. <i>IIF Annual Meeting</i> . Leeds, England, UK.
2024	IIF 3D Birds of a Feather Workshop. <i>IIF Annual Meeting</i> . Los Angeles, CA.
2024	IIF 3D Technical Specification Working Meeting. National Gallery of Art, Washington, DC.
2023	IIF 3D Technical Specification Working Meeting. <i>DaSCHCon</i> . Basel, Switzerland.
2023	IIF 3D – Technical Specification Group Workshop. <i>IIF Annual Conference</i> . Naples, Italy.
2022	MorphoSource Management User and Team Training. Digital.
2020	Integrating Institutional Archives with Disciplinary Web Repositories. Durham, NC.

Conference Presentations and Invited Talks

2025	Winchester JM , Haynes R. Conference Plenary: IIF Presentation 4. <i>IIF Annual Conference</i> . Leeds, England, UK.
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- 2025 **Winchester JM**, Boyer DM. MorphoSource 3D Data Repository: Investing in IIF 4 to Create Interoperable 3D on the Web. *IIF Annual Conference*. Leeds, England, UK.
- 2025 **Winchester JM**, Boyer DM. MorphoSource: Past, Present, and Future. *NoCTURN Annual Meeting*. New York, NY.
- 2025 **Winchester JM**, Boyer DM. MorphoSource 3D Data Repository: Empowering Museum Collections to Mobilize Images Representing Physical Objects Through Community, Annotations, and Linkages. *SPNHC Annual Meeting*. Lawrence, KS.
- 2024 **Winchester JM**, Haynes R, Silverton E. IIF 3D: Expanded Dimensions and Collaborative Scenes for Prezi 4.0. *IIF Annual Meeting*. Los Angeles, CA.
- 2024 Boyer DM, **Winchester JM**. MorphoSource News and Updates. *NoCTURN Annual Meeting*. Gainesville, FL.
- 2024 **Winchester JM**. Introduction to IIF Technology, Community, and Consortium. *Advances in Digital Media Workshop Series: Yale*. New Haven, CT.
- 2024 **Winchester JM**, Boyer DM. MorphoSource 3D Data Repository. *Advances in Digital Media Workshop Series: Yale*. New Haven, CT.
- 2024 Boyer DM, **Winchester JM**. Sustaining the MorphoSource 3D Data Repository. *iDigBio Digital Data*. Lawrence, KS.
- 2024 **Winchester JM**, Boyer DM. MorphoSource 3D Data Repository: New Features and Capabilities Empowering Media Contributors and Consumers. *iDigBio Digital Data*. Lawrence, KS.
- 2023 **Winchester JM**, Boyer DM. IIF Display and Preview of Production-Scale 3D Data in the Digital Repository MorphoSource. *DaSCHCon*. Basel, Switzerland.
- 2023 Haynes R, Silverton E, **Winchester JM**. IIF and 3D: The IIF 3D Technical Specification Group. *DaSCHCon*. Basel, Switzerland.
- 2023 Haynes R, Silverton E, **Winchester JM**, Boyd M. IIF 3D – Evolution, Technical Specification, Future Metaverse? *IIF Annual Conference*. Naples, Italy.

- 2023 Boyer DM, **Winchester JM**. Increasing Transparency and Usability of MorphoSource and its Data Model: New Resources and Upcoming Tools. *NoCTURN Annual Meeting*. Austin, TX.
- 2023 Boyer DM, **Winchester JM**. How MorphoSource, a Community 3D Data Repository, Uses Identifiers (Persistent and Otherwise). *Cambridge Symposium on Persistent Identifiers*. Cambridge, United Kingdom.
- 2022 **Winchester JM**, Boyer DM. Supporting and strengthening 3D morphometric data pipelines from production to analysis with MorphoSource digital repository infrastructure. *Workshop on Stochastic Morphometrics*. Copenhagen, Denmark.
- 2022 **Winchester JM**, Shepard M, Boyer DM. MorphoSource: A Digital Repository Solution for 3D, 2D, and AV Media. *AHRC Workshop on 3D Data Archiving and Curation*. London, United Kingdom.
- 2022 Boyer DM, **Winchester JM**. MorphoSource 3D Data Repository. *Assembling Continental Biotas from the Cretaceous of Gondwana*. Denver, CO.
- 2022 **Winchester JM**, Boyer DM. 3D data storage approaches used by MorphoSource. *iDigBio BioDigiCon*. Digital.
- 2022 Haynes R, **Winchester JM**, Silverton E. IIF 3D Showcase and Update. *IIF Annual Working Meeting*. Digital.
- 2021 **Winchester JM**. What does IIF look like in 4 years? IIF 3D Community Group update. *IIF Annual Working Meeting*. Digital.
- 2021 Silverton E, **Winchester JM**, Haynes R. IIF 3D: Regarding the Infinite Canvas. *IIF Annual Conference*. Digital.
- 2020 Rolfe S, **Winchester JM**, Pieper S, Boyer DM, Summers A, Magat M. SlicerMorpho: Retrieve, Visualize, and Analyze 3D Morphology with Open-Source. *Society for Integrative and Comparative Biology Annual Meeting*. Austin, TX.
- 2019 **Winchester JM**, Boyer DM, Ryan TM, McGeary T. How MorphoSource is helping museum collections to connect specimens to 3D and 2D media and to the broader world. *Joint Meeting of Ichthyology and Herpetology*. Snowbird, UT.
- 2019 **Winchester JM**, Ryan TM, Wisor J, Copes L, Brennan TK, Wagner MJ, Boyer DM. Appropriately managing archiving and access to culturally

- sensitive but scientifically valuable digital imagery. *88th Annual Meeting of the American Association of Physical Anthropologists*. Cleveland, OH.
- 2019 Wallace IJ, **Winchester JM**, Boyer DM, Konow Nicolai. New methods for quantifying enthesal shape and adaptation to functional loading. *88th Annual Meeting of the American Association of Physical Anthropologists*. Cleveland, OH.
- 2019 Boyer DM, **Winchester JM**, Sexton W, McGeary T. Preserving 3D data of physical objects: Standards, discoverability, value, and sustainability. *Tomography for Scientific Advancement North America Symposium*. Gainesville, FL.
- 2018 **Winchester JM**, Triplett J, Choy S, Boyer DM. Characterizing media acquisition processes for MorphoSource, a user-contributed 3D data repository. *Forum 2 of the Community Standards for 3D Data Preservation Working Group*. Ann Arbor, MI.
- 2018 Boyer DM, Snyder R, **Winchester JM**, Blundell J, Baskauf S. Enhancing Audubon Core for 3D images. *Forum 2 of the Community Standards for 3D Data Preservation Working Group*. Ann Arbor, MI.
- 2018 Triplett J, **Winchester JM**, Choy S, Boyer DM. Increasing the scope of physical objects represented by 3D data in MorphoSource: Implications for physical object record metadata. *Forum 2 of the Community Standards for 3D Data Preservation Working Group*. Ann Arbor, MI.
- 2018 Boyer DM, **Winchester JM**, McGeary T. MorphoSource: A virtual museum and digital repository for 3D specimen data. *Forum 1 of the Community Standards for 3D Data Preservation Working Group*. St. Louis, MO.
- 2018 Boyer DM, **Winchester JM**, McGeary T, Ryan T. MorphoSource: A library repository for 3D data. *American Library Association Annual Conference and Exhibition*. New Orleans, LA.
- 2018 **Winchester JM**, Boyer DM, McGeary T, Ryan T. Growing Up Digital: MorphoSource as a Case Study for Scaling a Digital Repository. *Digital Data in Biodiversity Workshop*. Berkeley, CA.
- 2018 Boyer DM, **Winchester JM**, Mukherjee S, McGeary T. Deposit your 3D data in a virtual museum: MorphoSource. *78th Annual Meeting of the Society of Vertebrate Paleontology*, Albuquerque, NM.
- 2018 Watkins-Colwell G, Love K, Randall Z, Boyer D, **Winchester JM**, Stanley E, Blackburn D. The Walking Dead: Status report, data workflow,

and best practices of the oVert Thematic Collections Network. *Joint Meeting of the Society for the Preservation of Natural History Collections and Biodiversity Information Standards*. Dunedin, New Zealand.

- 2017 **Winchester JM**, Boyer DM, Frank L, Maga M. Integrating MorphoSource, a community digital repository for 3D specimen data, with morphometric analysis pipelines. *Annual Meeting of the Geological Society of America*. Seattle, WA.
- 2017 Boyer DM, **Winchester JM** (presenter), Gunnell GF, McGeary T. MorphoSource: A virtual museum and digital repository for 3D specimen data. *Annual Meeting of the Geological Society of America*. Seattle, WA.
- 2017: **Winchester JM**, Gunnell GF, Kaufman S, McGeary T, Boyer, DM. MorphoSource: A virtual museum and digital repository for 3D specimen data. *Tomography for Scientific Advancement North America Symposium*. Portsmouth, United Kingdom.
- 2017 **Winchester JM**, Gunnell GF, Kaufman S, McGeary T, Boyer DM. MorphoSource: A virtual museum and digital repository for 3D specimen data. *Tomography for Scientific Advancement North America Symposium*. Austin, TX.
- 2017 **Winchester JM**, Boyer DM, O’Leary M, Sessa JA. The importance and challenges of database integration: MorphoBank, MorphoSource, and the Paleobiology Database. *Digital Data in Biodiversity Workshop*. Ann Arbor, MI.
- 2017 Fulwood E, **Winchester JM**, Gao T, Boyer DM, Daubechies I. Automated shape specification using digital data. *Digital Data in Paleontological Research Workshop*. Berkeley, CA. (Co-presented with Fulwood E.)
- 2017 Fulwood E, Gao T, Daubechies I, Boyer DM, **Winchester JM**. Automatic segmentation of morphological structure into biologically corresponding features: implications for systematics and ecomorphology. *86th Annual Meeting of the American Association of Physical Anthropologists*. New Orleans, LA.
- 2017 Patel BA, Boyer DM, Perchalski BA, Ryan TM, St. Clair EM, **Winchester JM**, Seiffert ER. New fossils and the paleobiology of *Karanisia clarki* from the late Eocene of Egypt. *86th Annual Meeting of the American Association of Physical Anthropologists*. New Orleans, LA.
- 2016 **Winchester JM**. Topographic complexity of second mandibular molars increases with a wear proxy in five species of cercopithecoid primates.

85th Annual Meeting of the American Association of Physical Anthropologists. Atlanta, GA.

- 2016 De Vries D, **Winchester JM**, St. Clair EM, Boyer DM. Dietary inference from P₄ topography in prosimians. *85th Annual Meeting of the American Association of Physical Anthropologists*. Atlanta, GA.
- 2015 **Winchester JM**, St. Clair EM, Boyer DM. Folivores, frugivores, and *Theropithecus*: diet and dental topography in cercopithecoids. *84th Annual Meeting of the American Association of Physical Anthropologists*. St. Louis, MO.
- 2015 **Winchester JM**. The dentition. Guest lecture for Stony Brook University course Human Osteology.
- 2014 **Winchester JM**, Boyer DM, Jernvall J. Cercopithecoid molar size and shape variability in an evolutionary-developmental framework. *83rd Annual Meeting of the American Association of Physical Anthropologists*. Calgary, Canada.
- 2011 **Winchester JM**, Zohdy S, King SJ, Wright PC, Jernvall J. Testing for tooth wear resistant measures of diet in primates. *71st Annual Meeting of the Society of Vertebrate Paleontology*, Las Vegas, NV.
- 2011 **Winchester JM**. The fossil record of the genus *Paranthropus*. Guest lecture for University of Helsinki course The Human Fossil Record.
- 2011 **Bunn JM***. Comparing ontogenetic molar wear in *Paranthropus robustus* and *Australopithecus africanus*. *80th Annual Meeting of the American Association of Physical Anthropologists*, Minneapolis, MN.
- 2011 Boyer DM, Cooke SB, **Bunn JM***, St. Clair EM, Ledogar JA. Dental topographic variables (orientation patch count, relief index, Dirichlet energy) of platyrrhine second mandibular molars. *80th Annual Meeting of the American Association of Physical Anthropologists*, Minneapolis, MN.
- 2011 Ledogar JA, **Bunn JM***, St. Clair EM, Boyer DM. Dental topographic analysis of pitheciine (*Pithecia*, *Chiropotes*, *Cacajao*) second mandibular molars. *80th Annual Meeting of the American Association of Physical Anthropologists*, Minneapolis, MN.
- 2010 Blatch S, Boyer DM, King SJ, **Bunn JM***, Jernvall J, Wright PC. Do old siafakas (*Propithecus edwardsi*) chew differently? *79th Annual Meeting of the American Association of Physical Anthropologists*, Albuquerque, NM.

- 2010 Godfrey LR, King SJ, Muldoon KM, Blanco MB, Boyer DM, **Bunn JM***. Dental complexity, topographic relief, and dietary reconstruction in subfossil lemurs. *79th Annual Meeting of the American Association of Physical Anthropologists*, Albuquerque, NM.
- 2010 **Bunn JM***. Dirichlet normal energy as a tool for quantifying molar tooth shape. Björn Kurten Paleontology Club, University of Helsinki.
- 2009 **Bunn JM***, Boyer DM, Lipman Y, Jernvall J, Daubechies I. Who cares which way is up? An orientation and landmark-free quantification of tooth shape. *69th Annual Meeting of the Society of Vertebrate Paleontology*, Bristol, United Kingdom.

* Published under former name

Teaching Experience

- 2013 – 2016 Course Director, ANAT-5001 Human Gross Anatomy. State University of New York Downstate. Lecture and cadaver dissection instruction for occupational therapy graduate students.
- 2015 Teaching Assistant, ANP 404 Human Osteology. Stony Brook University. Exercise-based laboratory course.
- 2008 – 2016 Lab Instructor, ANP 300 Human Anatomy. Stony Brook University. Regional anatomy instruction for undergraduate students based on models, osteology, and virtual dissection.
- 2009 Lab Instructor, HBA 461/561/540 Regional Human Anatomy. Stony Brook University. Cadaver dissection course for allied health professional students (physical therapy, physician assistant, occupational therapy).
- 2008 Lab Instructor/Teaching Assistant, ANP 120/121 Introduction to Biological Anthropology. Stony Brook University. Exercise-based laboratory course.

Professional Working Group Membership

- IIIF Specification Editor (2024 – Present)
- IIIF 3D Technical Standards Group, co-chair (2022 – Present)
- IIIF 3D Community Group, co-chair (2020 – 2022)
- NoCTURN, member (2023 – Present)
- Audiovisual Core 3D Standards Working Group, member (2019 – Present)
- Community Standards for 3D Data Preservation, member (2019 – 2021)

Professional Society Memberships

American Association for the Advancement of Science
American Association of Physical Anthropology
Society of Vertebrate Paleontology

Journals Refereed

American Journal of Physical Anthropology, Anatomical Record, Annales Zoologici Fennici, Biological Journal of the Linnean Society, Evolutionary Anthropology, International Journal of Primatology, Nature Communications, PLoS ONE.

Languages

English (fluent), Spanish (advanced)