

*Curriculum Vitae*

**TERRENCE B. RITZMAN**

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**EDUCATION**

- 2014      Ph.D. in Anthropology  
            Arizona State University  
            Dissertation Title: *A Comparative Radiographic Investigation of Facial Projection in Anthropoid Primates*
- 2005      M.A. in Anthropology  
            Colorado State University  
            Thesis Title: *Opening the Stone: A Multivariate Reassessment of the Neandertal Status of the Teshik-Tash Child*
- 1999      B.A. in Anthropology  
            University of Illinois at Urbana-Champaign

**EMPLOYMENT/APPOINTMENTS**

- Current      Assistant Professor  
                  Department of Neuroscience  
                  Washington University School of Medicine
- Assistant Professor  
                  Department of Anthropology  
                  Washington University in St. Louis
- Research Associate  
                  Human Evolution Research Institute  
                  University of Cape Town
- 2016-2017    Post-Doctoral Research Fellow  
                  Department of Neuroscience  
                  Washington University School of Medicine  
                  Supervisors: Kari Allen and Amy Bauernfeind
- 2014-2016    Post-Doctoral Research Fellow  
                  Department of Archaeology

University of Cape Town (Cape Town, South Africa)  
Supervisor: Becky Ackermann

## RESEARCH INTERESTS

Human and non-human primate anatomy and skeletal biology, paleoanthropology, primate craniofacial architecture, evolution of the human and primate brain, phylogenetic comparative methods, multivariate statistical methods, modern human origins, human and primate growth and development

## PEER-REVIEWED PUBLICATIONS

- 2019 K. Lewton, **T. Ritzman**, L. Copes, T. Garland, T. Capellini. Exercise-induced loading increases ilium cortical area in a selectively bred mouse model. *American Journal of Physical Anthropology* (DOI: 10.1002/ajpa.23770).
- 2018 R. Pickering, A. Herries, J. Woodhead, J. Hellstrom, H. Green, B. Paul, **T. Ritzman**, D. Strait, B. Schoville, P. Hancox. U-Pb-dated flowstones restrict South African early hominin record to dry climate phases. *Nature* (DOI: <https://doi.org/10.1038/s41586-018-0711-0>).
- 2018 C. Terhune, **T. Ritzman**, C. Robinson. Mandibular ramus shape variation and ontogeny in *Homo sapiens* and *Homo neanderthalensis*. *Journal of Human Evolution* 121:55-71.
- 2018 K. Warren, **T. Ritzman**, R. Humphreys, C. Percival, B. Hallgrímsson, R. Ackermann. Craniomandibular form and size variation of first generation mouse hybrids: A model for hominin hybridization. *Journal of Human Evolution* 116:57-74.
- 2017 **T. Ritzman**, N. Banovich, K. Buss, J. Guida, M. Rubel, J. Pinney, B. Khang, M. Ravosa, A. Stone. Facing the facts: The *Runx2* gene is associated with facial morphology in primates. *Journal of Human Evolution* 111:139-151.
- 2017 B. Schoville, J. Wilkins, **T. Ritzman**, S. Oestmo, K. Brown. The performance of heat-treated silcrete backed pieces in actualistic and controlled complex projectile experiments. *Journal of Archaeological Science: Reports* 14:302-317.
- 2016 **T. Ritzman**, C. Terhune, C. Robinson, P. Gunz. Mandibular ramus shape of *Australopithecus sediba* suggests a single variable species. *Journal of Human Evolution* 100: 54-64.
- 2014 C. Terhune, C. Robinson, **T. Ritzman**. Ontogenetic variation in the mandibular ramus of great apes and humans. *Journal of Morphology* 275(6):661-677.
- 2013 H. Smith, **T. Ritzman**, E. Otárola-Castillo, C. Terhune. A 3-D geometric morphometric study of intraspecific variation in the ontogeny of the temporal bone in modern *Homo sapiens*. *Journal of Human Evolution* 65(5):479-489.

- 2012 **T. Ritzman**, L. Stroik, E. Julik, E. Hutchins, E. Lasku, D. DeNardo, J. Wilson-Rawls, A. Rawls, K. Kusumi, R. Fisher. The gross anatomy of the original and regenerated tail in the green anole (*A. carolinensis*). *The Anatomical Record* 295(10):1596-1608.
- 2009 M. Glantz, S. Athreya, **T. Ritzman**. Is Central Asia the eastern outpost of the Neandertal range? A reassessment of the Teshik-Tash child. *American Journal of Physical Anthropology* 138(1):45-61.
- 2008 **T. Ritzman**, B. Baker, G. Schwartz. A fine line: A comparison of methods for estimating ages of linear enamel hypoplasia formation. *American Journal of Physical Anthropology* 135(3):348-361.
- 2008 M. Glantz, B. Viola, P. Wrinn, T. Chikisheva, A. Derevianko, A. Krivoshapkin, U. Islamov, R. Suleimanov, **T. Ritzman**. New hominid remains from Uzbekistan. *Journal of Human Evolution* 55(2):223-237.

### CONTRIBUTIONS TO EDITED VOLUMES

- 2014 Wiley-Blackwell Encyclopedia of Human Evolution, second edition (edited by Bernard Wood), contributing author

### MEETING PRESENTATIONS

- 2018 **T. Ritzman**, H. Glowacka, G. Schwartz. A reappraisal of the relationship between molar emergence age and brain mass in primates. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2018 in Austin, TX.
- 2018 N. Hlazo, L. Schroeder, **T. Ritzman**, R. Ackermann. The role of selection in shaping the craniomandibular morphology of *Paranthropus*. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2018 in Austin, TX.
- 2017 **T. Ritzman**, D. Katz, K. Willmore, J. Cheverud, J. Rogers, R. Ackermann. A three-dimensional geometric morphometric evaluation of shape variation in the hybrid baboon cranium. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2017 in New Orleans, LA. Abstract published in the *American Journal of Physical Anthropology*.
- 2017 N. Hlazo, **T. Ritzman**, R. Ackermann. An assessment of variation and its causes in the face of *Paranthropus*. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2017 in New Orleans, LA. Abstract published in the *American Journal of Physical Anthropology*.
- 2017 R. Humphreys, **T. Ritzman**, K. Warren, C. Percival, B. Hallgrímsson, R. Ackermann. Using a mouse model to understand the relationship between skeletal and soft tissue trait variation in mammalian hybrids. Poster presented at the

meeting of the American Association of Physical Anthropologists, April 2017 in New Orleans, LA. Abstract published in the *American Journal of Physical Anthropology*.

- 2017 K. Warren, C. Percival, **T. Ritzman**, B. Hallgrímsson, R. Ackermann. Of hybrid mice and hominins: disintegration key to understanding hominin hybrid morphologies. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2017 in New Orleans, LA. Abstract published in the *American Journal of Physical Anthropology*.
- 2017 B. Schoville, J. Wilkins, **T. Ritzman**, S. Oestmo, and K.S. Brown. Functional implications of backed piece morphology for prehistoric weaponry in the Middle Stone Age. Paper presented at the meeting of the Society for American Archaeology meetings, April 2017 in Vancouver, Canada.
- 2016 R. Ackermann, K. Warren, R. Humphreys, L. Schroeder, **T. Ritzman**, C. Percival, D. Katz, S. Kanthaswamy, T. Weaver, J. Rogers, J. Cheverud, B. Hallgrímsson. Of mice and monkeys: quantitative models for the hybrid phenotype. Paper presented at the meeting of the European Society for Human Evolution Annual Meeting in Madrid, Spain.
- 2016 **T. Ritzman**, R. Ackermann. An evaluation of integration in the hybrid baboon cranium. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2016 in Atlanta, GA. Abstract published in the *American Journal of Physical Anthropology*.
- 2016 K. Warren, L. Schroeder, **T. Ritzman**, C. Percival, B. Hallgrímsson, R. Ackermann. Using extant taxa to model variation in hominin hybrid populations. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2016 in Atlanta, GA. Abstract published in the *American Journal of Physical Anthropology*.
- 2016 K. Lewton, **T. Ritzman**, L. Copes, T. Garland, and T. Capellini. Effects of exercise-induced loading on internal bone morphology of the mouse ilium. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2016 in Atlanta, GA. Abstract published in the *American Journal of Physical Anthropology*.
- 2016 R. Humphreys, **T. Ritzman**, K. Warren, Percival, C., Hallgrímsson, B., Ackermann, R. Variation in the skeletal and ectodermal phenotype of mouse hybrids. Paper presented at the meeting of the American Association of Physical Anthropologists, April 2016 in Atlanta, GA. Abstract published in the *American Journal of Physical Anthropology*.
- 2016 R. Ackermann, L. Schroeder, K. Warren, R. Humphreys, **T. Ritzman**, C. Percival, J. Rogers, J. Cheverud, B. Hallgrímsson. The effects of hybridization on the skeleton of primates and other mammals. Paper presented at the meeting of the International Primatological Society, August 2016 in Chicago, IL.

- 2016 C. Terhune, C. Robinson, T. **Ritzman**. Sexual dimorphism in the shape of the extant hominid mandibular ramus. Poster presented at the meeting of the Paleoanthropology Society, April 2016 in Atlanta, GA.
- 2015 **T. Ritzman**, R. Sithaldeen. Anatomical and genetic diversity in the southern African chacma baboon (*Papio ursinus*): A model for understanding the evolutionary forces shaping variation in a polytypic primate species. Paper presented at the Centre of Excellence in Palaeosciences Lecture Series, August 2015 in Johannesburg, South Africa.
- 2015 C. Terhune, **T. Ritzman** (co-first authors), P. Gunz, C. Robinson. A reassessment of the taxonomic validity of the *Australopithecus sediba* mandibles. Paper presented at the meeting of the American Association of Physical Anthropologists, March 2015 in St. Louis, MO. Abstract published in the *American Journal of Physical Anthropology*.
- 2015 C. Healy, C. Robinson, **T. Ritzman**, C. Terhune. Evaluating ontogenetic shape variation in the mandibular ramus of *Homo sapiens* and *Homo neanderthalensis*. Paper presented at the meeting of the American Association of Physical Anthropologists, March 2015 in St. Louis, MO. Abstract published in the *American Journal of Physical Anthropology*.
- 2015 K. Warren, **T. Ritzman**, C. Percival, B. Hallgrímsson, R. Ackermann. Mouse models for identifying hybridization in the hominin fossil record: preliminary results. Paper presented at the meeting of the American Association of Physical Anthropologists, March 2015 in St. Louis, MO. Abstract published in the *American Journal of Physical Anthropology*.
- 2014 **T. Ritzman**. Understanding Variation in Facial Projection in Anthropoid Primates: Implications for Modern Human Origins. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2014 in Calgary, Canada. Abstract published in the *American Journal of Physical Anthropology*.
- 2013 I. Maayan, **T. Ritzman**, E. Hutchins, J. Stapley, E. Lasku, W. Eckalbar, M. Huentelman, E. Bermingham, S. Hsieh, R. Fisher, K. Kusumi. Comparative appendicular osteology and evolutionary genetics of Panamanian anoles with divergent locomotor strategies. Poster presented at the meeting of the Society for Integrative and Comparative Biology, January 2013 in San Francisco, CA.
- 2012 H. Smith, **T. Ritzman**, E. Otárola-Castillo. A 3-D geometric morphometric study of intraspecific variation in the ontogeny of the temporal bone in modern *Homo sapiens*. Paper presented at the meeting of the American Association of Anatomists, April 2012 in San Diego, CA.
- 2012 C. Terhune, C. Robinson, **T. Ritzman**. Ontogenetic variation in the ascending ramus of great apes and humans. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2012 in Portland, OR. Abstract published in the *American Journal of Physical Anthropology*.

- 2011 N. Banovich, **T. Ritzman**, A. Stone. Genetic approaches to understanding craniofacial morphology. Poster presented at the meeting of the Society for Molecular Biology and Evolution, July 2011 in Kyoto, Japan.
- 2011 N. Banovich, **T. Ritzman**, A. Stone. The *Runx2* gene is an important determinant of facial morphology in primates. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2011 in Minneapolis, MN. Abstract published in the *American Journal of Physical Anthropology*.
- 2011 **T. Ritzman**, B. Schoville. Seasonality in the Middle and Later Stone Age of coastal southern Africa from comparative Cape fur seal (*Arctocephalus pusillus*) assemblages: reassessment and future directions. Poster presented at the meeting of the Paleoanthropology Society, April 2011 in Minneapolis, MN.
- 2010 **T. Ritzman**, L. Copes, K. Lewton. Correlation between measures of the lateral and midline basicranium: implications for understanding facial positioning in anthropoid primates. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2010 in Albuquerque, NM. Abstract published in the *American Journal of Physical Anthropology*.
- 2009 **T. Ritzman**, M. Spencer. Coronoid process morphology and function in anthropoid primates. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2009 in Chicago, IL. Abstract published in the *American Journal of Physical Anthropology*.
- 2009 **T. Ritzman**, L. Copes, K. Lewton. A comparison of midline and lateral measures of the middle cranial fossa in anthropoid primates. Poster presented at the meeting of the American Association of Anatomists, April 2009 in New Orleans, LA.
- 2007 **T. Ritzman**, B. Baker, G. Schwartz. A fine line: a preliminary study comparing methods of estimating ages at linear enamel hypoplasia formation. Poster presented at the meeting of the American Association of Physical Anthropologists, April 2007 in Philadelphia, PA. Abstract published in the *American Journal of Physical Anthropology*.
- 2006 M. Glantz, G. Tostevin, R. Suleimanov, **T. Ritzman**, J. Adams and K. Derr. The chronological context of Middle Paleolithic deposits at Anghilak Cave, Uzbekistan. Paper presented at the meeting of the Society for American Archaeology, April 2006 in San Juan, Puerto Rico. Abstract published in the *Society for American Archaeology supplement*.
- 2006 **T. Ritzman**, M. Glantz, S. Athreya. Opening the stone: A multivariate assessment of the Neandertal status of the Teshik-Tash child. Paper presented at the meeting of the Paleoanthropology Society, April 2006 in San Juan, Puerto Rico.

- 2004 M. Glantz and **T. Ritzman**. A reanalysis of the Neandertal status of Teshik-Tash. Poster presented at the meeting of the American Association of Physical Anthropology, April 2004 in Tampa, FL. Abstract published in the *American Journal of Physical Anthropology*.
- 2004 M. Glantz, T. Chikisheva, B. Viola, A. Krivoshapkin, A. Derevianko, U. Islamov, P. Wrinn, **T. Ritzman**. Move over Teshik-Tash: New hominid remains from Uzbekistan. Paper presented at the meeting of the Paleoanthropology Society, April 2004 in Montreal, Canada.
- 2004 **T. Ritzman**, L. Pyne, J. Adams, M. Glantz, R. Suleimanov. Preliminary analysis of the taphonomy at Anghilak Cave, Uzbekistan. Poster presented at the meeting of the Society for American Archaeology, April 2004 in Montreal, Canada. Abstract published in Society for American Archaeology supplement.
- 2003 **T. Ritzman**. Iliniwek Village Site lithic raw material analysis. Poster presented at the meeting of the Society for American Archaeology, March 2003 in Milwaukee, WI. Abstract published in Society for American Archaeology supplement.

#### **GRANTS, FELLOWSHIPS, SCHOLARSHIPS, & AWARDS**

- 2015-2016 Claude Leon Foundation Post-Doctoral Fellowship (\$35,000)
- 2015 National Research Foundation (South Africa), Support for Post-Doctoral Fellowship (awarded to Prof. Becky Ackermann) (\$10,700)
- 2014 Dissertation Completion Fellowship, Graduate Studies, Arizona State University (\$9,900)
- 2012 Dean's Advanced Scholarship, Arizona State University (\$4,300)
- 2011 National Science Foundation Doctoral Dissertation Improvement Grant, (\$14,090)
- 2011 Elizabeth Harmon Memorial Fellowship, Institute of Human Origins, Arizona State University (\$5,000)
- 2009 Travel Grant, Graduate and Professional Student Association, Arizona State University
- 2009 William S. Pollitzer Student Travel Award, American Association of Physical Anthropologists
- 2009 Student Travel Award, American Association of Anatomists
- 2005-2007 University Graduate Scholarship, Arizona State University (\$15,000)
- 2005-2007 Graduate Teaching Fellowship, Arizona State University

2004 Greenacre Scholarship, Colorado Archaeological Society (Northern Colorado Chapter)

## **TEACHING EXPERIENCE**

### **Gross Anatomy**

2016-2018 Medical Gross Anatomy, Washington University School of Medicine, Teaching Faculty

2018 Neuroscience, Washington University School of Medicine, Teaching Faculty

2012 Medical Gross Anatomy, Northern Arizona University Physician Assistant and Physical Therapy Programs, Head Teaching Assistant

2009-2012 Clinical Anatomy Block, University of Arizona College of Medicine Phoenix, Head Teaching Assistant

2009-2012 Medical Gross Anatomy, Arizona State University, Head Teaching Assistant

2008 Clinical Anatomy Block, University of Arizona College of Medicine Phoenix, Teaching Assistant

2008 BIO/ASM 506: Medical Gross Anatomy, Arizona State University, Teaching Assistant

### **Biological Anthropology**

2013 Bones, Stones, and Human Evolution (online course), Arizona State University, TA in charge of course development

2013 Human Origins (online course), Arizona State University, Teaching Assistant

2008 Fossil Hominids, Arizona State University, Teaching Assistant

2007 Human Osteology, Arizona State University, Teaching Assistant

2005-2007 Bones, Stones and Human Evolution, Arizona State University, Teaching Assistant (lab instructor)

2004 Human Origins and Variation, Colorado State University, Teaching Assistant

2004 Primate Behavior and Evolution, Colorado State University, Teaching Assistant

2004 Human Evolution, Colorado State University, Teaching Assistant



- 2004 Human Origins and Variation Laboratory, Colorado State University, independent instructor
- 2003 Human Osteology, Colorado State University, Teaching Assistant

### **Other Courses**

- 2013 Introduction to Global Health (online course), Arizona State University, Teaching Assistant
- 2009 General Biology for Majors II, Arizona State University, Teaching Assistant

### **TEACHING AWARDS**

- 2018 Stanley Lang Lecturer of the Year, Washington University School of Medicine
- 2013 Graduate and Professional Students Association, Arizona State University, Teaching Excellence Award
- 2013 School of Human Evolution and Social Change, Graduate Teaching Award

### **TEACHING AWARD NOMINATIONS**

- 2011 Graduate and Professional Students Association, Arizona State University, Teaching Excellence Award (for Medical Gross Anatomy)

### **LABORATORY RESEARCH EXPERIENCE**

- 2011-2012 Research Assistant, Fisher and Kusumi Labs, Arizona State University (Rebecca Fisher and Kenro Kusumi, principal investigators)
- 2010 Research Assistant, Molecular Anthropology Lab, School of Human Evolution and Social Change, Arizona State University (Anne Stone, principal investigator)
- 2010 Student lab worker, Handa Neuroendocrinology Lab, Department of Basic Medical Sciences, University of Arizona College of Medicine Phoenix (Robert Handa, principal investigator)
- 2008-2010 Research Volunteer, Fisher Lab, School of Life Sciences, Arizona State University (Rebecca Fisher, principal investigator)

### **FIELD EXPERIENCE & FIELD TEACHING EXPERIENCE**

- 2007-2011 Excavation team member at Pinnacle Point, South Africa (Southern Africa Paleoclimate, Paleoenvironment, and Paleoanthropology Project), Arizona State University, Institute of Human Origins (Curtis Marean, director)

- 2007 TA at Hadar Paleoanthropology Field School, Arizona State University, Institute of Human Origins (William Kimbel and Kaye Reed, directors)
- 2005 Archaeological survey team member in southern Kazakhstan, Colorado State University, National University of the Republic of Uzbekistan, Southern Kazakhstan State University (Michelle Glantz, director)
- 2003 Excavation team member, curation and laboratory assistant for Mashavera Paleolithic Project 4, Republic of Georgia, Harvard University, University of North Texas (Daniel Adler and Reid Ferring, directors)
- 2003-2004 Excavation team member, taphonomic analyst, and hominid fossil analyst at Anghilak Cave, Uzbekistan, Colorado State University, National University of the Republic of Uzbekistan (Michelle Glantz and Rustam Suleimanov, directors)

## **SERVICE**

### **Professional Service**

- 2017-2018 American Association of Physical Anthropologists, Student Prize Committee
- 2015-2018 American Association of Physical Anthropologists, Program Committee
- 2003 Young Scholars Program, Poudre Valley School District

### **University Service**

- 2014 Association of Southern African Professional Archaeologists, Student Development Workshop, featured lecturer
- 2009-2010 Becoming Human website, Institute of Human Origins, author and editor
- 2009 Graduate and Professional Student Association, research grant reviewer
- 2007-2010 Graduates in Earth, Life and Social Sciences, coordinator of session moderators
- 2006-2007 Association of Anthropology Graduate Students, secretary
- 2005 Graduate and Professional Student Association, research grant reviewer

### **Editorial Service**

- 2014-2018 Manuscript Reviewer: *Journal of Human Evolution*
- 2013-2015 Manuscript Reviewer: *American Journal of Physical Anthropology*
- 2013 Manuscript Reviewer: *International Journal of Osteoarchaeology*

2013 Grant Reviewer: Graduate Women in Science (USA)

### **WORKSHOPS/PROFESSIONAL DEVELOPMENT**

2015 FEI IMGRAD National Conference on Imaging with Radiation (Stellenbosch CT Facility, Stellenbosch University, South Africa); training on VG Studio Max and Avizo

2014 Analysis of Organismal Form, geometric morphometrics course, University of Manchester (directed by Chris Klingenberg)

2010 AnthroTree workshop on phylogenetic comparative methods, directed by Charles Nunn (funded by the National Science Foundation)

### **PROFESSIONAL MEMBERSHIPS**

American Association of Physical Anthropologists  
American Association of Anatomists