

# Curriculum Vitae

## Chris Percival

06/25/13

**Address:** Department of Anthropology  
409 Carpenter Building  
University Park, PA 16802  
Email: cjp216@psu.edu

### Education:

2013, Ph.D., Pennsylvania State University, Anthropology  
2009, M.A., Pennsylvania State University, Anthropology  
2006, B.S. with Highest Honors, Rutgers College, Rutgers University, Evolutionary Anthropology and an Undergraduate Certificate in Environmental Geomatics

### Publications:

- In Preparation* Percival CJ, Pankratz T, Huang Y, Zhou X, Jabs EW, Li R, Richtsmeier JT, Early craniofacial bone growth and maturation of  $Fgfr2^{+P253R}$  mice and littermates.
- In Press* Percival C, Richtsmeier J, *Angiogenesis and Intramembranous Osteogenesis*, *Developmental Dynamics*
- 2012 Percival CJ, Wang Y, Zhou X, Jabs EW, Richtsmeier JT, *The effect of a Beare-Stevenson Syndrome Fgfr2 Y394C mutation on early craniofacial bone volume and relative bone mineral density in mice*, *Journal of Anatomy*. 221:434-442.
- 2012 Wang Y, Zhou X, Oberoi K, Phelps R, Couwenhoven R, Sun M, Rezza A, Percival CJ, Friedenthal J, Krejci P, Richtsmeier JT, Huso DL, Rendl M, Jabs EW, *p38 inhibition ameliorates skin and skull abnormalities in Fgfr2 Beare-Stevenson mice*, *Journal of Clinical Investigation*. 122(6):2153-2164.
- 2011 Percival CJ, Richtsmeier JT, *The epigenetics of dysmorphology: Craniosynostosis as an example*. In: B. Hallgrímsson and B.K. Hall eds., *Epigenetics: linking genotype and phenotype in development and evolution*. San Francisco: University of California Press.
- 2011 Xia J, Guo Z, Maslov K, Aguirre A, Zhu Q, Percival C, Wang LV, *Three-dimensional photoacoustic tomography based on the focal-line concept*. *Journal of Biomedical Optics*. 16(9).
- 2010 Martínez-Abadías N, Percival C, Aldridge K, Hill C, Ryan T, Sirivunnabood S, Wang Y, Jabs E, Richtsmeier J, *Beyond the closed suture in Apert mouse models: evidence of primary effects of FGFR2 signaling on facial shape at P0*. *Developmental Dynamics*. 239:3058-3071.
- 2010 Wang Y, Sun M, Uhlhorn VL, Zhou X, Peter I, Martinez-Abadias N, Hill CA, Percival C, Richtsmeier JT, Huso DL, Jabs EW, *Activation of p38*

- MAPK pathway in the skull abnormalities of Apert syndrome Fgfr2<sup>+P253R</sup> mice.* BMC Developmental Biology.
- 2010 Aldridge K, Hill CA, Austin JR, Percival C, Martinez-Abadias N, Neuberger T, Wang Y, Jabs EW, Richtsmeier JT, *Brain phenotypes in two FGFR2 mouse models for Apert syndrome.* Developmental Dynamics 239:987-997.
- 2006 Percival C, *A Study of GIS Techniques in the Analysis of Ancient Environments at Koobi Fora.* Henry Rutgers Undergraduate Thesis, Rutgers College, New Brunswick, NJ.

#### **Abstracts and Presentations:**

- 2013 Percival CJ, Pankratz T, Huang Y, Zhou X, Jabs EW, Li R, Richtsmeier JT, *Early craniofacial bone growth and maturation of Fgfr2<sup>+P253R</sup> mice and littermates.* 2013 Experimental Biology meeting abstracts, Abstract #963.10
- 2013 Percival C, Winkler A, Kawasaki K, Pankratz T, Jabs E, Wang L, Weiss K, Richtsmeier J, *Influence of angiogenesis on craniofacial bone morphology.* American Association of Physical Anthropologists, Annual Meeting 82.
- 2013 Richtsmeier JT, Aldridge K, Motch SM, Percival C, Martínez-Abadías N, Heuzé Y, Hill C, Wang Y, Holmes G, Jabs EW, *Craniofacial phenotypes in the FGFR-related craniosynostosis syndromes.* 12<sup>th</sup> International Congress on Cleft Lip/Palate and Related Craniofacial Anomalies, Orlando, FL.
- 2012 Percival C, Kawasaki K, Pankratz T, Jabs E, Weiss K, Richtsmeier J, *The influence of endothelial expression of an Apert syndrome mutation on craniofacial bone development.* 2012 Annual Mouse Molecular Genetics Conference, Pacific Grove, CA.
- 2012 Percival C, Wang Y, Zhou X, Jabs E, Richtsmeier J, *Individual craniofacial bone volumes and relative densities in postnatal mice provide valuable phenotypic information.* 2012 Experimental Biology meeting abstracts, Abstract #907.10
- 2012 Richtsmeier J, Martínez-Abadías N, Heuzé Y, Percival C, Motch S, Wang Y, Jabs E, Aldridge K, Ryan T, *Why the long face? Disease phenotypes as a window of evolutionary change.* American Association of Physical Anthropologists, Annual Meeting 81.
- 2012 Richtsmeier J, Martínez-Abadías N, Heuzé Y, Percival C, Motch S, Hill C, Ryan T, Wang Y, Aldridge K, Jabs E, *Making a head: diverse craniofacial outcomes in disease.* 2012 Experimental Biology meeting abstracts, Abstract #337.1
- 2012 Motch SM, Martínez-Abadías N, Pankratz T, Percival CJ, Jabs EW, Richtsmeier JT, *Development of the skull in Fgfr2<sup>+P253R</sup> and Fgfr2<sup>+S252W</sup> mouse models for Apert syndrome in late embryogenesis.* Society of Craniofacial Genetics and Developmental Biology Annual Meeting. San Francisco, California.

- 2011 Percival C, Wang Y, Zhou X, Jabs E, Richtsmeier J, *Alterations in postnatal craniofacial bone mineral density and volume in the Fgfr2<sup>Y394C/+</sup> Beare Stevenson cutis gyrata syndrome mouse model*. Society of Craniofacial Genetics and Developmental Biology Annual Meeting. Montreal, Quebec.
- 2010 Percival C, Wilmore K, Sirivunnabood S, Rogers J, Cheverud J, Buchanan A, Weiss K, Richtsmeier J, *Morphological changes associated with tooth loss and alveolar resorption in male baboons*. American Association of Physical Anthropologists, Annual Meeting 79.
- 2010 Richtsmeier J, Lambert B, Martínez-Abadías N, Wang Y, Jabs E, Percival C, Kawasaki K, Ryan T, Buchanan A, Weiss K, *An integrated approach to craniofacial development*. Society for Craniofacial Genetics Meeting. In: Sperber GH. 2011. The society of craniofacial genetics. Abstracts of the 2010 annual meeting. Am J Med Genet Part A 155:280-286.
- 2010 Martínez-Abadías N, Percival C, Aldridge K, Hill CA, Ryan T, Wang Y, Sun M, Ulhorn VL, Jabs EW, Richtsmeier JT, *From genetic mutation to a range of phenotypic variation: Craniofacial shape in Apert syndrome mouse models*. Gordon Conference on Craniofacial Morphogenesis & Tissue Regeneration.
- 2010 Richtsmeier JT, Martínez-Abadías N, Percival C, Ryan T, Neuberger T, Aldridge K, Hill C, Wang Y, Jabs EW, *Morphological variance and invariance in the heads of Fgfr2<sup>+S252W</sup> and Fgfr2<sup>+P253R</sup> Apert syndrome mice*. Gordon Conference on Craniofacial Morphogenesis & Tissue Regeneration.
- 2010 Aldridge K, Heuzé Y, Percival C, Stella J, Howell L, George I, Marsh J, Kane A, Ryan T, Richtsmeier J, *The relationship between hard and soft tissue: lessons for reconstructing virtual endocasts*. American Association of Physical Anthropologists, Annual Meeting 79.
- 2010 Richtsmeier JT, Martínez-Abadías N, Aldridge K, Percival C, Ryan T, Neuberger T, Wang Y, Jabs EW, *Phenotypic variance, invariance and integration in the heads of Apert syndrome mouse models*. European Society for Evolutionary Developmental Biology, 2010 Conference.
- 2010 Wang Y, Zhou X, Oberoi K, Friedenthal J, Percival CJ, Huso DL, Richtsmeier JT, Jabs EW, *Characterization and treatment of Beare Stevenson syndrome Fgfr2+/Y394C mouse model*. Presented at the Annual Meeting of The Society for Craniofacial Genetics, November, 2, 2010, Bethesda, MD.  
([http://craniofacialgenetics.org/files/2010\\_abstract\\_wang.pdf](http://craniofacialgenetics.org/files/2010_abstract_wang.pdf))
- 2010 Neuberger T, Aldridge KA, Hill CA, Austin JR, Ryan TM, Percival C, Martinez-Abadias N, Wang Y, Jabs EW, Webb AG, Richtsmeier JT, *Magnetic Resonance Microscopy and Micro Computed Tomography of Brain Phenotypes of Two FGFR2 Mouse Models for Apert Syndrome*. 2364, Proc. 18<sup>th</sup> ISMRM, Stockholm, Sweden.
- 2009 Percival C, Chimera M, Kim M, Kenney-Hunt J, Conley A, O'Connor C, Roseman C, Cheverud J, Richtsmeier J, *A study of 2D landmark data*

- accuracy in representing 3D mouse skull form. American Association of Physical Anthropologists, Annual Meeting 78.
- 2008 Percival C, Hill CA, Sun M, Wang Y, Jabs EW, Richtsmeier JT, *Phenotypic variation within and between 'genetically homogeneous' mouse litters*. American Association of Physical Anthropologists, Annual Meeting 77.
- 2007 Richtsmeier JT, Jabs EW, Percival C, Hill C, Wang Y, Kane A, March J, Aldrdge K, *Developmental basis of morphological integration of brain and skull in craniosynostosis*. International Congress of Vertebrate Morphology 8.

### **Research Funding:**

- 2011 NSF Doctoral Dissertation Improvement: The Influence of Angiogenesis on Primate Cranial Vault Development and Evolution. BCS-1061554. \$19,680.
- 2010 Paul T. Baker Research Travel Fund in Human Biology and Anthropology, Anthropology Dept, Penn State University

### **Honors and Awards:**

- 2013 Alumni Association Dissertation Award, Penn State Alumni Association
- 2013-2007 Department of Anthropology Student Travel Award, Anthropology Dept, Penn State University
- 2011 genesis Excellence in Craniofacial Research Award (Student Poster award), Society of Craniofacial Genetics and Developmental Biology
- 2011 William S. Pollitzer Student Travel Award, American Association of Physical Anthropologists
- 2010 Matson-Benson Award, Anthropology Dept, Penn State University
- 2009 College of Liberal Arts Summer Scholarship, Penn State University
- 2006 Henry Rutgers Scholar with High Honors, Rutgers College Honors Thesis Program, Thesis: *A Study of GIS Techniques in the Analysis of Ancient Environments at Koobi Fora*
- 2006 Tuevo Airola Memorial Award in Environmental Geomatics, Center for Remote Sensing and Spatial Analysis, Rutgers University

### **Teaching Experience:**

- 2011 Lecturer, Intro to Biological Anthropology, Penn State University
- 2008, 2006 Teaching Assistant, Intro to Biological Anthropology, Penn State University
- 2007 Teaching Assistant, Skeletal Forensics, Penn State University
- 2007 Teaching Assistant, Intro to Cultural Anthropology, Penn State University
- 2007 Teaching Assistant, Aztec, Maya, and Incas, Penn State University

**Research Experience:**

- 2013-2008 Research Assistant, Richtsmeier Morphometrics Lab, Penn State University
- 2007-2006 Member, Richtsmeier Morphometrics Lab, Penn State University
- 2005 Student Participant, UNM Bioarchaeological Field School (Lab), Kampsville, IL
- 2004 Student Participant, Koobi Fora Field School, Koobi Fora, Kenya

**Areas of Interest:**

Patterns of Evolution and Development, Human Evolution, Human Variation, Skeletal Morphology, Computer Imaging and Image Analysis

**Employment:**

- 2013-2008 Research Assistant, Richtsmeier Morphometrics Lab, Department of Anthropology, The Pennsylvania State University
- 2011 Lecturer, Department of Anthropology, The Pennsylvania State University
- 2008-2006 Teaching Assistant, Department of Anthropology, The Pennsylvania State University
- 2006 GIS Graduate Associate, New Jersey Highlands Council, The State of New Jersey
- 2006-2003 Senior Consultant, Rutgers Computer Helpdesk, New Brunswick

**Synergistic Activities:**

- 2013-2010 Member, American Association of Physical Anthropologists
- 2013-2008 Member, Society for Craniofacial Genetics and Development
- 2013-2012 Member, American Association of Anatomists
- 2012-2010 Chair, 2<sup>nd</sup>-3<sup>rd</sup> Annual Penn State Anthropology Film Festival
- 2012-2010 Committee Member, Colloquium Committee, Anthropology Department, Penn State University
- 2012, 2011 Presenter, AGSA outreach to State College High Anatomy Classes
- 2011 Host, Dr. Patricia Wright, Huck Institutes of the Life Sciences Distinguished Speaker.
- 2011-2010 Organizer, Take Our Daughters and Sons to Work Day, Anthropology Department, Penn State University
- 2010-2009 President, Anthropology Graduate Student Association, Penn State University
- 2010-2009 Committee Member, 1<sup>st</sup> Annual Penn State Anthropology Film Festival
- 2010 Participant, Symposium on Computational Methods for Automated Analysis of Virtual Hominid Endocasts, American Association of Physical Anthropologists, Annual Meeting 79.
- 2009 Co-Presenter, Anthropology Department Presentation, College of Liberal Arts Bicentennial Celebration, Penn State University

- 2009-2008 Undergraduate Training and Research Coordinator, Richtsmeier Lab, Penn State University
- 2009 Co-Presenter, Anthropology Department Colloquium Presentation on Temperature Dependent Chondrogenesis, Penn State University
- 2008-2007 Volunteer, Steps to Safety 5k Fundraiser, Center County Women's Resource Center
- 2008 Panel Member, Graduate School Discussion, Undergraduate Anthropology Club, Penn State University
- 2007 Children's Day Presenter, Matson Museum of Anthropology, Penn State University
- 2006 Open House Guide, Center for Remote Sensing and Spatial Analysis, Rutgers University
- 2006-2005 President, Undergraduate Anthropology Club, Rutgers University
- 2005-2004 Treasurer, Undergraduate Anthropology Club, Rutgers University
- 2005 President, Rutgers University Outdoors Club
- 2004-2003 Vice President, Rutgers University Outdoors Club

**Collaborators:**

Richtsmeier Lab, Penn State University: Joan Richtsmeier, Professor; Nandini Singh, Postdoctoral Fellow; Yann Heuzé, Postdoctoral Fellow; Kevin Flaherty, Graduate Student; Neus Martínez-Abadías, Previous Postdoctoral Fellow; Talia Pankratz, Research Assistant; Katherine Wilmore, Previous Postdocotoral Fellow; Brenda Frasier, Previous Doctoral Candidate; John Starbuck, Previous Doctoral Candidate  
 Weiss Lab, Penn State University: Ken Weiss, Professor; Kazuhiko Kawasaki, Senior Research Associate; Anne Buchanan, Senior Research Associate; Sam Sholtis, Research Associate.

Timothy Ryan, Assistant Professor, Penn State University.

Patrick Drew, Assistant Professor, Penn State University.

Ethylin Wang Jabs, Professor, Mount Sinai School of Medicine

Runze Li, Professor, Penn State University; Yuan Huang, Doctoral Candidate, Penn State University.

OIL Lab, Washington University, Lihong Wang, Professor; Amy Winkler, Previous Postdoctoral Fellow; Jun Xia, Postdoctoral Fellow.

Aldridge Lab, University of Missouri: Kristina Aldridge, Assistant Professor; Cheryl Hill, Previous Postdoctoral Fellow.

Jim Cheverud, Professor, Washington University School of Medicine

Roger Reeves, Professor, Johns Hopkins University School of Medicine

**Graduate Advisor:**

Joan Richtsmeier, Professor of Anthropology, Penn State University