

## Curriculum Vitae

Barth W. Wright, Associate Professor, Department of Anatomy, Kansas City University of Medicine and Biosciences, Kansas City, Missouri, Summer 2006 - present

### Education:

BA University of Colorado, 1991

MA University of Colorado, 1994

MA Thesis: "The Effects of Behavioral Enrichment and The Utilization of Tools Within and Between Captive Groups of Western Lowland Gorillas and Bornean Orangutans"

PhD University of Illinois, Urbana-Champaign, 2004.

PhD Dissertation: "Ecological Distinctions in Diet, Food Toughness, and Masticatory Anatomy in a Community of Six Neotropical Primates in Guyana, South America"

Postdoctoral appointment, Center for the Advanced Study of Hominid Paleobiology, Department of Anthropology, The George Washington University, Fall 2003-Summer 2006

### Professional Affiliations

Member, American Society of Primatologists.

Member, American Association of Physical Anthropologists

Member, International Primatological Society

Member, Society for Integrative and Comparative Biology

Association for Tropical Biology and Conservation

Research Associate, Iwokrama International Reserve, Guyana, S.A.

Member, IUCN/SSC Primate Specialist Group 2009-Present

Adjunct Faculty, Department of Anthropology, University of Kansas (2007-Present)

### Honors and Awards

Comprehensive exam, filling part of the requirement for

Masters of Arts in Anthropology, passed with distinction.

Exam conducted November 3rd and 4th (written) and 11<sup>th</sup> (oral), 1994.

Sherwood Washburn Award, presented by the American Association of Physical Anthropologists, for paper entitled, "Comparison of instantaneous and bout sampling methodologies: Case study of white-faced capuchins (*Cebus capucinus*) in a north eastern Costa Rican rain forest". 1996 Annual Meetings of the AAPA, Durham North Carolina.

### External Funding Received

Dissertation Improvement Grant from The National Science Foundation, USA (#BCS-9972603) entitled “Food Mechanics, Foraging Behavior, and The Evolution of “Robust” (*Cebus apella*) and “Gracile” (*Cebus olivaceus*) Capuchin Monkeys in Guyana”. Awarded Spring, 1999. coPI

Grant in aid of research from The L.S.B. Leakey Foundation entitled “Robust” and “Gracile” Masticatory Systems: Capuchin Food Mechanics in Guyana”. Awarded Spring, 1999. PI

Grant in aid of research from The National Geographic Society (#083-0370A-6025525) entitled “The Comparative Ecology of Tufted and Weeper Capuchins in Guyana”. Co-awarded with Kristin Wright, Fall, 1999. PI

Grant in aid of research from The National Geographic Society “Survey of Hatinh and Red-shanked Douc Langurs in Phong Nha-Ke Bang National Park, Viet Nam.” \$20,000 Project member (Herbert Covert, Project leader) 2005-06. coPI

Grant in aid of research from the National Science Foundation: “Collaborative Research: Conservation and Ecology of the Tonkin Snub-nosed Monkey at Khau Ca, Ha Giang Province, Vietnam. Start 10/31/07- End 11/1/08. PI. (BCS 0716259)

HOMINID (Human Origins: Moving in New Directions) Solicitation Award from the National Science Foundation entitled “Collaborative Research: Integrative Analysis of Hominid Feeding Biomechanics.” Start 7/1/07-End 6/30/12. PI. (BCS 0725136)

#### *Pending*

IPG-NSF Proposal: Collaborative Research: Integrative analysis of ingestive biomechanics and dental microwear using capuchins as a model organism. PI. Start date: 2/14/2014 (Pending)

### Internal Funding Received

Summer Travel Grant from the Department of Anthropology, University of Illinois, Urbana-Champaign, for a preliminary dissertation project entitled Anatomy, foraging behavior, and the evolution of sympatric Guyanese capuchin monkeys (*Cebus apella* and *Cebus olivaceus*). Awarded Spring Semester, 1997.

Predissertation Travel Award from the Graduate College of the University of Illinois, Urbana-Champaign, for a preliminary dissertation project entitled Anatomy, foraging behavior, and the evolution of sympatric Guyanese capuchin monkeys (*Cebus apella* and *Cebus olivaceus*). Awarded Spring Semester, 1997.

KCUMB Research funds in support of equipment acquisition for spectrophotometer, 2008.

KCUMB Intramural Research Grant. Proposal Title: Refining methods for finite element modeling and analysis of primate and other vertebrate skulls, 2/2010.

Summer 2013: \$3000.00 for the project "Biomechanical properties and anatomical variation of the anterior talofibular ligament". KCUMB Department of Research Supplementary Student Summer Research Fellowship Award (coPI Eric Czer MSI) Bibliography

Spring 2014: \$1000.00 Supplementary Travel Award for XXV Congress of the International Primatological Society. Hanoi, Vietnam. August 11- 16, 2014. KCUMB Department of Research.

A. Publications in journals and books

1996-2006 (Start date at KCUMB)

**Wright BW** (1995) A novel item enrichment program reduces lethargy in orangutans. *Folia Primatol* 65:214-218.

**Wright BW** (2005) Craniodental biomechanics and dietary toughness in the genus *Cebus*. *J Hum Evol* 48:473-492.

Richmond BG, **Wright BW**, Grosse I, Dechow P, Ross C, Spencer M, Strait D (2005) Finite element analysis in functional morphology. *Anat Rec* 283A:259-274.

Williams S, *Wright BW*, Truong VD, Vinyard CJ (2005) The mechanical properties of foods used in experimental studies of primate masticatory function. *Am J Primatol* 67:329-346.

2007

Le KQ, Nguyen AD, Vu AT, **Wright BW**, Covert HH (2007) Diet of the Tonkin snub-nosed monkey (*Rhinopithecus avunculus*) in the Khu Ca area, Ha Giang Province, Northeastern Vietnam. *Viet J Primatol* 1:75-84.

2008

Strait D, Weber G, Neubauer S, Chalk J, Richmond B, Lucas P, Spencer M, Schrein C, Dechow P, Ross C, Grosse I, **Wright B**, Constantino P, Wood B, Lawn B, Hylander W, Wang Q, Byron C, Slice D, and Smith A (2008) The feeding biomechanics and dietary ecology of *Australopithecus africanus*. *Proceedings of the National Academy of Science (PNAS)* 106:2124-2129.

**Wright BW**, Sadler B, Proddan R, Ulibarri L, O'Brien J, Covert HH, Nadler T (2008) It's tough out there: Variation in the toughness of ingested leaves among four colobines in Vietnam. *Int J Primatol* 29:1455-1466.

**Wright BW**, Prodhon R, Wright KA, Nadler T (2008) Mandibular morphology as it relates to ingestive and digestive folivory in *Trachypithecus* and *Pygathrix*. *Viet J Primatol* 2:25-32.

2009

Constantino PJ, and **Wright BW** (2009) The importance of fallback foods in primate ecology and evolution. *Am J Phys Anthropol* 140:599-602.

Lucas P, Constantino PJ, Chalk J, Zicovici C, **Wright BW**, Fragaszy D, Hill DA, Lee JJ-W, Chai H, Darvell BW, Lee PK-D, Yuen TDB (2009) Indentation as a technique to assess the mechanical properties of fallback foods. *Am J Phys Anthropol* 140:643-652.

**Wright BW**, Wright KW, Chalk J, Verderane M, Fragaszy D, Visalberghi E, Izar P, Ottoni E, Constantino PJ, Vinyard C (2009) Fallback foraging as a way of life: using dietary toughness to compare the fallback signal among capuchins and implications for interpreting morphological variation. *Am J Phys Anthropol* 140:687-699.

2010

Chalk J, Richmond BR, Ross CF, Strait DS, **Wright BW**, Spencer MA, Wang Q, Dechow PC (2010) A finite element analysis of masticatory stress hypotheses. *Am J Phys Anthropol* Article first published online: 26 OCT 2010 DOI: 10.1002/ajpa.21416.

Strait DS, Grosse IR, Dechow PC, Smith AL, Wang Q, Weber GW, Neubauer S, Slice DE, Chalk J, Richmond BG, Lucas PW, Spencer MA, Schrein C, **Wright BW**, Byron CG, Ross CF (2010) The structural rigidity of the cranium of *Australopithecus africanus*: implications for diet, dietary adaptations and the allometry of feeding biomechanics. *Anat Rec* 293:583-593 .

Wang Q, **Wright BW**, Smith AA, Chalk J, Byron CD, Schrein C (2010) Mechanical impact of incisor loading on the primate midfacial skeleton and its relevance to human evolution. *Anat Rec* 293:607-617.

Wang Q, Smith AL, Strait DS, Byron CD, Grosse IR, **Wright BW** (2010) The global impact of sutures assessed in a finite element model of a macaque cranium. *Anat Rec* 293:1477-1491.

Liu Q, Fragaszy D, **Wright BW**, Wright KA, Izar P, Visalberghi E (2010) Wild bearded capuchin monkeys (*Cebus libidinosus*) place nuts in anvils selectively. *Animal Behaviour* 81:297-305

2012

Strait DS, Weber GW, Constantino P, Lucas PW, Richmond BG, Spencer MA, Dechow PC, Ross CF, Grosse IR, **Wright BW**, Wood BA, Wang Q, Byron C, Slice DE. 2012. Microwear, mechanics and the feeding adaptations of *Australopithecus africanus*. *J Hum Evol* 62:165-168.

Wang Q, Wood SA, Grosse IR, Ross CF, Zapata U, Byron CD, **Wright BW**, Strait DS. 2012. The Role of the Sutures in Biomechanical Dynamic Simulation of a Macaque Cranial Finite Element Model: Implications for the Evolution of Craniofacial Form. *Anat Rec* 295:278-288.

**Wright BW**, Willis MS. 2012. Relationships between the diet and dentition of Asian leaf monkeys. *Am J Phys Anthropol* 148:262-275. Invited Symposium Issue.

#### 2013

Fragaszy DM, Liu Q, **Wright BW**, Allen A, Brown CW, et al. 2013. Wild Bearded Capuchin Monkeys (*Sapajus libidinosus*) Strategically Place Nuts in a Stable Position during Nut-Cracking. *PLoS ONE* 8(2): e56182. doi:10.1371/journal.pone.0056182

Strait, D.S., Constantino, P., Lucas, P.W., Richmond, B.G., Spencer, M.A., Dechow, P.C., Ross, C.F., Grosse, I.R., Wright, B.W., Wood, B.A., Weber, G.W., Wang, Q., Byron, C., Slice, D.E., Chalk, J., Smith, A.L., Smith, L.C., Wood, S., Berthaume, M., Benazzi, S., Dzialo, C., Tamvada, K., Ledogar, J.A. Viewpoints: Diet and dietary-6-adaptations in early hominins: the hard food perspective. *Am. J. Phys. Anthropol.* 151:339-355.

#### 2014

##### *Accepted*

Smith, A.L., Benazzi, S., Ledogar, J.A., Tamvada, K., Smith, L.C., Weber, G.W., Spencer, M.A., Lucas, P.W., Michael, S., Shekeban, A., Al-Fadhalah, K., Almusallam, A.S., Dechow, P.C., Grosse, I.R., Ross, C.F., Madden, R., Richmond, B.G., **Wright, B.W.**, Wang, Q., Byron, C., Slice, D.E., Wood, S., Dzialo, C., Berthaume, M., van Castern, A., Strait, D.S. The feeding biomechanics and dietary ecology of *Paranthropus boisei*. *Anat. Rec.*

Smith, A.L., Benazzi, S., Ledogar, J.A., Tamvada, K., Smith, L.C., Weber, G.W., Spencer, M.A., Dechow, P.C., Grosse, I.R., Ross, C.F., Richmond, B.G., **Wright, B.W.**, Wang, Q., Byron, C., Slice, D.E., Strait, D.S. Biomechanical implications of intraspecific shape variation in chimpanzee crania: moving towards an integration of geometric morphometrics and finite element analysis. *Anat. Rec.*

Wright KA, **Wright BW**, Ford SM, Fragaszy D, Izar P, Norconk M, Masterson T, Hobbs, DG, Alfaro ME, Lynch Alfaro JW. The effects of ecology and evolutionary history on robust capuchin morphological diversity. *Molecular Phylogenetics and Evolution*.

##### *In Review*

Shaffer CA, **Wright B**, Wright K. Primate community structure at three flooded forest sites in Guyana. In: *Primates in Flooded habitats: Ecology and Conservation*. K Nowak, A Barnett and I Matsuda, Eds. Cambridge University Press.

Boyle S, Cleber A, Chism J, Defler T, Palacios E, Santos R, Wallace R, **Wright B**, Wright K, Barnett A. Conservation of primates in their flooded habitats in the Neotropics. In: Primates in Flooded habitats: Ecology and Conservation. K Nowak, A Barnett and I Matsuda, Eds. Cambridge University Press.

*In Preparation*

**Wright BW**, Vinyard CJ, Yamashita N, Vogel ER, Diaz FJ, Bimali M. Applying Extreme Value Analysis in Assessing the Material Properties of The Most Challenging Foods Consumed by Primates. J Hum Evol.

Persaud C, **Wright BW**, Veer F. Development of the Costochondral Approach to Pericardiocentesis and Instrument Analysis Utilizing Ultrasound. J Emerg Med.

Persaud C, **Wright BW**, Berbel GL. Laparoscopy as a Medical School Gross Anatomy Educational Tool. Med Ed.

Czer E, **Wright BW**. Mechanical properties and anatomical variation of the anterior talofibular ligament. Am J Sports Med.

*Peer reviewed symposium issues edited*

Symposium Title: The Importance of Fallback Foods in Primate Ecology and Evolution. 2008 annual meeting of the American Association of Physical Anthropologists. **Barth W. Wright** and Paul Constantino (George Washington University)- Organizers, Columbus, Ohio, April 9-13, 2008. Accepted for publication as an edited volume in the American Journal of Physical Anthropology.

*Non-peer reviewed journals*

Nguyen T, Nguyen LA, Le KQ, Covert HH, **Wright BW** (2007) Preliminary Nutrient Analysis of Selected Plants in the Diet of the Tonkin Snub-nosed Monkey (*Rhinopithecus avunculus*) in Khu Ca Area, Ha Giang Province, Vietnam Journal of Science, Vietnam National University, Hanoi 23(1S):187-191

*Book Reviews*

**Wright BW** (2007) Book Review - Title: Feeding ecology in apes and other primates. Am J Phys Anthropol 134:536-537.

*Symposia Reviews*

**Wright BW**, Wright KA (2008) Is Primate Conservation Essential to Ecosystem Conservation? Review of Primate Ecology and Conservation Session at the 2008 International Society of Tropical Biology Meetings, Paramaribo, Suriname. Evol Anthropol 17:203-204.

*Books*

*Authored/edited*

Odd-nosed Monkeys: Recent Advances in the Study of the Forgotten Colobines - Book in Series: Developments in Primatology: Progress and Prospects Series. Tan C, **Wright BW**, Grueter C (eds.). Springer Science+Business Media, LLC, New York. Agreement signed January 2010. In Prep.

*Edited book chapters*

*2006*

Strait DS, **Wright BW**, Richmond BG, Ross CF, Dechow PC, Spencer MA, Wang Q (2006) Premolar loading and its effect on strain patterns in the primate craniofacial skeleton: Implications for human evolution. In Vinyard CJ, Ravosa MJ and Wall CE, editors. Primate Craniofacial Function and Biology. Springer: New York. pp. 173-198.

Wang Q, Dechow PC, **Wright BW**, Ross CF, Spencer MA, Richmond BG, Strait DS (2006) Surface strain on bone and sutures in a monkey facial skeleton: an in vitro method and its relevance to Finite Element Analysis. In Vinyard CJ, Ravosa MJ and Wall CE, editors. Primate Craniofacial Function and Biology. Springer: New York. pp. 149-172.

*2008*

Covert HH, Le Khac Quyet, **Wright BW** (2008) On the brink of extinction: conservation and ecology of the Tonkin snub-nosed monkey (*Rhinopithecus avunculus*). Fleagle JG, Gilbert CC eds. Elwyn Simons: A Search for Origins. Springer: New York pp. 409-428.

*2009*

Norconk MA, **Wright BW**, Conklin-Brittain NL, Vinyard CJ (2009) Mechanical and nutritional properties of food as factors in platyrrhine dietary adaptations. In Garber PA, Estrada A, Bicca-Marques JC, Heymann E, and Strier K (Eds.) South American Primates: Comparative Perspectives in the Study of Behavior, Ecology and Conservation. Springer: New York. pp. 279-320.

*2010*

**Wright BW**, Ulibarri L, O'Brien J, Le KQ, Hoang MD, Wright KA 2010 Evolutionary and ecological implications of dietary toughness among odd-nosed monkeys: A case study of *Pygathrix* and *Rhinopithecus avunculus*. In Odd-nosed Monkeys: Recent Advances in the Study of the Forgotten Colobines. Tan C, Grueter C, Wright BW eds. New York: Springer Publishing (In Press).

**B. Published Abstracts**

1994 Wright, B.W. A comparative analysis of the effects of behavioral enrichment and the utilization of tools within and between captive groups of western lowland gorillas (*Gorilla gorilla gorilla*) and Bornean orangutans (*Pongo pygmaeus pygmaeus*). Am J Phys Anthropol Suppl. 18:210.

1996 Wright, B.W. Comparison of instantaneous and bout sampling methodologies: Case study of white-faced capuchins (*Cebus capucinus*) in a north eastern Costa Rican rain forest. Am J Phys Anthropol Suppl. 22:180.

1998 Garber, P.A. and B.W. Wright Patterns of Positional Behavior in White-Faced Capuchin Monkeys (*Cebus capucinus*): An Analysis of Individual Locomotor Records and Sequences of Locomotor Bouts. Am J Primatol Vol. 45:181.

1998 Sauther, M.L., B.W. Wright, K.A. Orndorff A Preliminary Survey and Habitat Profile of The Primates Inhabiting the Northern Iwokrama Forest Reserve, Guyana. Am J Phys Anthropol Suppl 26:195

2001 Wright, B.W. Fruit tissue toughness as a determinant of masticatory "robusticity" and food utilization: A study of primates in central Guyana. Am J Phys Anthropol Suppl 32: 167.

2001 Wright, K.A. and B.W. Wright An ecological comparison of two primate communities on either side of the Essequibo River, Central Guyana. Symposium: The Biodiversity of Guyana: A global perspective for the future. Smithsonian Institution.

2003 Wright, B.W. The critical function of the "robust" jaws of tufted capuchins. Am J Phys Anthropol Suppl. 36: 228.

2004 Wright, B.W. Food mechanical properties and niche partitioning in a community of Neotropical primates. Am J Phys Anthropol Suppl. 38: 212.

2005 Quyet L.K., H. Covert, B.W. Wright A recently discovered population of Tonkin snub-nosed monkeys. Am J Phys Anthropol. Suppl. 40: 89.

2005 Wright, B.W. Dietary demand and niche breadth among six primates in Guyana, South America. Am J Phys Anthropol. Suppl. 40: 227.

2006 Covert, H.H., Le K.Q., Wright, B.W. A preliminary report of the positional behavior of the critically endangered Tonkin snub-nosed monkey (*Rhinopithecus avunculus*) at Du Gia Nature Research, Ha Giang Province, Vietnam. Int J Primatol. 27:306.

2006 Covert, H.H., Le K.Q., Wright, B.W. The positional behavior of the Tonkin snub-nosed monkey (*Rhinopithecus avunculus*) at Du Gia Nature Reserve, Ha Giang Province, Vietnam. Am J Phys Anthropol. Suppl. 42:78.

2006 O'Brien, J.A., Ulibarri, L., Wright, B. W., Wright, K.A., Covert, H.H., Nadler, T. A preliminary analysis of the mechanics, chemistry, and color of leaves ingested by four colobine species in Vietnam. Am J Phys Anthropol. Suppl. 42:140



2006 Ulibarri, L., O'Brien, J., Covert, H.H., Wright, B.W., Wright, K.A., Nadler, T. The toughness of foods selected by four closely related colobine species. *Am J Phys Anthropol Suppl.* 42: 179-180.

2006 Wang, Q., Dechow, P.C., Richmond, B.G., Ross, C.F., Spencer, M.A., Strait, D.S., Wright, B.W. Fusion of Craniofacial sutures in monkey skulls with special reference to Finite Element Analysis. *Am J Phys Anthropol Suppl.* 42:184-185.

2006 Wright, B.W., Le K.Q., Covert, H.H. The dietary ecology of the Tonkin Snub-nose monkey (*Rhinopithecus avunculus*) at Du Gia, Ha Giang Province, Vietnam. *Int J Primatol* 27:321.

2006 Wright, B.W., Ulibarri, L., O'Brien, J., Covert, H.H., Nadler, T. It's tough out there: Variation in the toughness of ingested leaves among four colobines in Vietnam. *Int J Primatol.* 27:321.

2007 Chalk, J.M., Richmond, B.G., Strait, D.S., Wright, B.W., Wang, Q., Ross, C.F., Dechow, P.C. Finite element analysis of masticatory stress hypotheses. *Am J Phys Anthropol. Suppl.* 43:26.

2007 Smith, A.L., Strait, D.S., Chalk, J.M., Wright, B.W., Wang, Q., Dechow, P.C., Richmond, B.G. Fill in the blanks: trabecular bone and the biomechanical consequences of having paranasal sinuses. Wright BW (4th of 9 authors). *Am J Phys Anthropol. Suppl.* 43:161.

2007 Strait, D.S., Weber, G.W., Neubauer, S., Chalk, J.M., Richmond, B.G., Wright, B.W., Smith, A.L., Wang, Q., Dechow, P.C., Ross, C.F., Spencer, M.A. Masticatory biomechanics in *Australopithecus africanus* examined using finite element analysis: a preliminary study based on Sts 5. *Am J Phys Anthropol. Suppl.* 43:168.

2007 Wang, Q., Strait, D.S., Smith, A.L., Chalk, J.M., Wright, B.W., Dechow, P.C., Richmond, B.G., Ross, C.F., Spencer, M.A. Crossing the lines: Suture biomechanics in the primate craniofacial skeleton examined using finite element analysis. *Am J Phys Anthropol. Suppl.* 43:184.

2007 Wright, B.W. Using food material properties for defining primate ecomorphological units. 8th International Congress of Vertebrate Morphologists, Paris. July, 2007.

2007 Wright, B.W., Le Khac, Q., Prodhan, R., Covert, H.H., Nadler, T. Does craniofacial variation among *Rhinopithecus* species follow an altitudinal cline? *Am J Phys Anthropol Suppl.* 43:193.

2007 Wright, B.W., Stevens, N.J., Ulibarri, L., O'Brien, J., Covert, H.H., Nadler, T. Relationships between leaf toughness and food processing behavior among four Vietnam leaf monkeys. *Integ. Comp Biol Suppl.* 1: 200.

2008 Chalk, J., Wright, B.W., Lucas, P.W., Verderane, M.P., Fragaszy, D., Visalberghi, E., Izar, P. Ottoni EB. The mechanical properties of foods processed by *Cebus libidinosus* at Boa Vista, Brazil. *Am J Phys Anthropol.* Suppl 46. Pgs: 77

2008 Covert, H.H., Le, Q.K., Wright, B.W, Hoang, T.V. Looking toward the future: conservation of the Tonkin snub-nosed monkey in northern Ha Giang Province, Vietnam. *Int J Primatol.* Suppl 96:893.

2008 Le, Q.K., Covert, H.H., Wright, B.W. Conservation of the critically endangered Tonkin snub-nosed monkey (*Rhinopithecus avunculus*). *Int J Primatol.* Suppl 96:852.

2008 Wright, B.W., Nguyen, L.A.T., Le, Q.K, Nguyen, D.A. Mechanical and chemical properties of foods ingested by the Tonkin snub-nosed monkey (*Rhinopithecus avunculus*) at Khau Ca, Ha Giang Province, Viet Nam. *Int J Primatol.* Suppl 96:780.

2008 Conference on the Conservation of Primates in Indochina. November 26-30, Cuc Phuong National Park, Vietnam. "*Looking toward the future: conservation of the Tonkin snub nosed monkey in Ha Giang Province, Vietnam.*" H.H. Covert, P. Insua-Cao, Q.K. Le, B.W. Wright, Hoàng Văn Tuệ (Published in conference program).

2008 Conference on the Conservation of Primates in Indochina. November 26-30, Cuc Phuong National Park, Vietnam. "*Habitat structure and habitat use of the Tonkin snub-nosed monkey in the Khau Ca forest of Ha Giang province, northeastern Vietnam.*" L.K Quyet, N.A. Duc, V.A. Tai, KA Wright, BW Wright, HH Covert. (Published in conference program)

2008 Conference on the Conservation of Primates in Indochina. November 26-30, Cuc Phuong National Park, Vietnam. "*The physiochemical properties of the Tonkin snub-nosed monkey (Rhinopithecus avunculus) diet in Khau Ca Area, Ha Giang Province, Vietnam.*" B.W. Wright, T.L.A Nguyen, L.K. Quyet, H.H. Covert. (Published in conference program).

2009 Babcock, M., Wright, B.W., Wright, K.A., O'Brien, J., Ulibarri, L., Nadler, T. Chew before you swallow? Ingestive versus digestive folivory among species of *Pygathrix* and *Trachypithecus*. *Am J Phys Anthropol* 140, S49:85.

2009 Ham, N., Wright, K.W., Smith, E, and Wright, B.W. Do more manually dexterous non-human primates have a more human-like arrangement of carpal tunnel structures? Implications for the development of carpal tunnel syndromes. *Am J Phys Anthropol* S49:187.

2009 Spiess, K., Wright, B.W., Wright, K.A., Biondi, L., Fragaszy, D., Mattos, W., Visalberghi, E., Izar, P., Ottoni, E. Food selection among individuals in a group of brown bearded capuchins (*Cebus libidinosus*) at Boa Vista, Piaui, Brazil. *Am J Phys Anthropol* S49:351.

2010 Wright, B., Wright, K. You are how you eat: hard food feeding behavior in primates. *Am J Phys Anthropol* S50:248. This abstract is contributed to a symposium entitled: "Hard object feeding in primates: Biomechanics, behavior and the fossil record", organized by Callum Ross, Mark Teaford, and Andrea Taylor.

2010 Willis, M., Wright, B. Ecomorphological relationships among the ingestive and digestive systems of Southeast Asian leaf monkeys S50:245-246. This abstract is contributed to a symposium entitled: "Primate Dental Ecology: How Teeth Respond to the Environment", organized by Frank Cuzzo, Peter Ungar, and Michelle Sauter.

2011 Chalk, J., Wright, B., Lucas, P.W., Richmond, B.G., Frigaszy, D., Visalberghi, E., Izar, P., Ottoni, E. Feeding behaviors and food mechanics during *Cebus libidinosus* ontogeny. *Am J Phys Anthropol* S52:107.

2011 Wang, Q., Wood, S., Grosse, I., Strait, D., Zapata, U., Byron, C., Wright, B. Impact of sutures assessed in a finite element model of a macaque cranium using dynamic simulation. *Am J Phys Anthropol*. S52:304.

2012 Thomas PP, Fitzpatrick FA, Cox WJ, Wright BW, Wright KA, White RA, Adkison LR. Developing a foundation for evidence based learning. 16th Annual Meeting of the International Association of Medical Science Educators, Portland, OR.

2012 Smith AL, Benazzi S, Weber GW, Ross CF, Dechow PC, Grosse IR, Spencer MA, Richmond BG, Wang Q, Wright BW, Slice DE, Byron CD, Strait DS. Feeding biomechanics of OH 5 assessed using finite element analysis. *Am J Phys Anthropol* S54:272

2012 Wang Q, Grosse IR, Wright BW, Byron CD, Strait DS. Sensitivity of nonlinear elastic properties of zygomaticotemporal sutures in a macaque cranial Finite Element Model. *Am J Phys Anthropol* S54:297

2012 Wright BW, Godfrey LR, Pulaski D, Heller A, Grosse IR, Dumont ER. In silico comparisons of craniofacial biomechanics in platyrrhine and strepsirrhine destructive and extractive foragers to determine the diet and ingestive behavior of the subfossil *Archaeolemur*. *Am J Phys Anthropol* S54:306

2012 Wright KA, Wright BW, Ford S, Masterson TJ, Hobbs D, Lynch Alfaro JW. Morphological Diversity Among Tufted Capuchins. *Am J Phys Anthropol*. S54:307

2012 Ford SM, Wright KA, Wright BW, Hobbs DG. Capuchin postcranial adaptations. *Am J Phys Anthropol* S54:145

2012 Heller A, Hessel K, Wright BW. Gender differences in the lateral pterygoid muscle. KCUMB Research Symposium.

2012 Heller A, Stock S, Wright BW. Finite element analysis of chewing versus biting in the giant panda.

2012 Hessel K, Heller A, Wright BW. Extent of Styloid Process Elongation is not necessarily a predictor of Eagle's Syndrome: A presentation of two cases. KCUMB Research Symposium.

2012 Hessel K, Olinger A, Wright BW. The anterior extralaryngeal Branch of the recurrent laryngeal nerve: variability in a cadaveric sample. 2012 Annual Meeting of the American Association of Anatomists.

2013 Wright BW, Vinyard CJ, Yamashita N, Vogel ER. Applying Extreme Value Analysis in Assessing the material properties of the most challenging foods consumed by primates. *Am J Phys Anthropol* S55:296.

2014 Dutra Fogaça M, Wright BW, Izar P. Which kinds of resources play an evolutionary role in masticatory selection? XXV Congress of the International Primatological Society. Hanoi, Vietnam. August 11- 16, 2014. (Accepted)

2014 Dutra Fogaça M, Wright BW, Izar P. How mechanically challenging are the foods choosing by black horned capuchins (*Sapajus nigritus*) of Carlos Botelho Statue Park, Brazil? *Am J Phys Anthropol*. S58:118-119.

2014 Ledogar JA, Smith AL, Benazzi S, Weber GW, Spencer MA, Carlsöö KB, McNulty KP, Dechow PC, Grosse IR, Ross CF, Richmond BG, Wright BW, Wang Q, Byron C, Slice DE, Carlson KJ, DeRuiter DJ, Berger LR, Tamvada K, Pryor Smith LC, Berthaume MA, Strait DS. Constraints on feeding biomechanics in *Australopithecus sediba*. *Am J Phys Anthropol*. S58:166-167.

2014 Villmoare BA, Ledogar JA, Smith A, Strait D, Senck S, Weber G, Benazzi S, Spencer M, Dechow P, Grosse I, Ross C, Wright B, Wang Q, Byron C, Slice D, Richmond B. Facial biomechanics of *Australopithecus afarensis* based on AL 444-2. *Am J Phys Anthropol*. S58:262-263.

Symposium Title: The Importance of Fallback Foods in Primate Ecology and Evolution. 2008 annual meeting of the American Association of Physical Anthropologists. Barth W. Wright and Paul Constantino (George Washington University)- Organizers, Columbus, Ohio, April 9-13, 2008. *Accepted for publication as an edited volume in the American Journal of Physical Anthropology (published 2009, see publication list).*

Symposium Title: Ecology, behaviour and conservation of odd-nosed monkeys. 2008 biannual meeting of the International Primatological Society. Chia Tan (San Diego Zoo), Cyril C. Grueter (Max Planck Institute), and Barth W. Wright organizers. Edinburgh, Scotland, August 3-8, 2008. *Accepted for publication as an edited book (Editors same as symposium organizers) for Springer Scientific (in prep).*

Roundtable Title: Detailing behavioral and ecological variation among tufted capuchins. 2008 biannual meeting of the International Primatological Society. Kristin A. Wright, Barth W. Wright, and Dorothy Fragaszy (Univ. of Georgia) – organizers. Edinburgh, Scotland, August 3-8, 2008.

### Public Presentations

1992 "The History of Behavioral Enrichment and Its Effects On Two Groups of Captive Great Apes", Lab in Introductory Physical Anthropology (ANTH 2030), Prof. Dr. Herbert Covert.

1993 "Behavioral Enrichment for Monkeys and Apes", Public Outreach at Crestview Elementary School, Boulder CO.

1993 "The History of Behavioral Enrichment and Its Effects On Two Groups of Captive Great Apes", The Denver Zoo Docent Program.

1994 "The History of Behavioral Enrichment and Its Effects On Two Groups of Captive Great Apes", Introductory Course in Primate Behavior (ANTH 3000), Prof. Susan Woods.

1994 "The History of Behavioral Enrichment and Its Effects On Two Groups of Captive Great Apes", Lab in Introductory Physical Anthropology (ANTH 2030), Prof. Dr. Herbert Covert.

1994 "Kong Toys, Boomer Balls and Fishing Boards: Enriching The Lives of Penned Primates", Anthropology Brown Bag, University of Colorado Anthropology Colloquium Committee

2000 "The feeding ecology of *Cebus apella* and *Cebus olivaceus* in the Iwokrama Reserve", Brown Bag Lecture Series, Headquarters of the Iwokrama International Reserve, Guyana.

2001 "The ecology of primates in Guyana", Friends of Iwokrama Lecture Series, Headquarters of the Iwokrama International Reserve, Guyana.

2001 "The feeding ecology of primates at Turtle Mountain, Iwokrama", Brown Bag Lecture Series, Headquarters of the Iwokrama International Reserve, Guyana.

2005 "Can techniques in primate sensory ecology help conserve primates in Vietnam" Workshop on the conservation of Vietnam leaf monkeys organized by Dr. Herbert Covert, Spring Semester.

2005 "The use of techniques in primates sensory ecology for the conservation of the Tonkin snub-nose monkey (*Rhinopithecus avunculus*)" Workshop on the conservation of the Tonkin snub-nose monkey. Ha Giang, Ha Giang Province, Vietnam.

2005 "Unexpected ecological diversity in Vietnam and its implications for primate conservation" (with Dr. Herbert Covert). Institute of Tropical Biology, Ho Chi Minh City, Vietnam.

2005 "Detailing the dietary diversity of Vietnam leaf monkeys: Integrating laboratory and field techniques. Salisbury University.

2007 "From Mouse Lemurs to Mandrills... and More!" Presentation to the Science Club of the HMS Beagle Science Store. Parkville, MO. June, 2007.

2007 & 2012 "A tough nut to crack: specialization and fallback food use in primate evolution" Presentation to the Adult Science Club of the HMS Beagle Science Store. Parkville, MO. Fall, 2007.

2010 & 2012 "From Mouse Lemurs to Mandrills... and More!" Presentation to the Science Club of the HMS Beagle Science Store. Parkville, MO. June, 2010.

2010 "3D Computer Modeling in Biology" Presentation to the High School Science Club of the HMS Beagle Science Store. October, 2010.

### Field Experience

7/92, 7/93, 7/94, 7/96 Field assistant to Dr. Herbert Covert, paleontological research in the Washakie Basin, Wyoming (early and middle Eocene deposits).

7-8/95 Attended The Primatological Field School at Estacion Biologica La Suerte in North Eastern Costa Rica. Dr. Paul A. Garber, Professor.

6/96 Pilot study of primate community at Mabura Hill Field Station, Mabura Hill, Guyana.

7-8/96 Teaching Assistant to Dr. Michelle Sauther, Primatological Field School at Estacion Biologica La Suerte in North Eastern Costa Rica.

12-1/96-97 Teaching Assistant to Dr. David Bergeson, Primatological Field School at Estacion Biologica La Suerte in North Eastern Costa Rica.

6/97-8/97 Assistant to Dr. Michelle Sauther, Survey of the primate community at Iwokrama Rainforest Reserve, Guyana.

10/99-12/00 Dissertation Research: "The Ecological and Morphological Implications of Variation in Dietary Demand Among Six Primates in Guyana". Iwokrama Reserve, Guyana, SA.

6/05-8/05 Survey and collection of dietary data on *Rhinopithecus avunculus* at the Du Gia Nature Reserve, northern Vietnam and *Pygathrix nigripes* in Ninh Thuan Province, southern Vietnam.

4/06-5/06 Assisting M.A. students Nguyen Thi Hien and Luu Tuong Bach in the development of phenology and census transects for a study of the cao vit gibbon (*Nomascus nasutus*) in the proposed Cao Vit Gibbon Conservation Area, Trung Khanh District, Cao Bang Province, northern Vietnam with Mr. Le Khac Quyet, Fauna and Flora International.

9/05-Present Phenology transect development and dietary data on *Rhinopithecus avunculus* at the Du Gia Nature Reserve, northern Vietnam with Mr. Le Khac Quyet, Fauna and Flora International.

9/05-Present Food mechanical properties of black-shanked doucs. Nui Chua National Park, South Vietnam with Dr. Hoang Minh Duc, Dr. Kristin Wright, and Dr. Herbert Covert.

9/07,6/08, 6/09 Preliminary observations of tufted capuchin (*Cebus libidinosus*) dietary ecology at Boa Vista, Gilbues, Piaui State, Brazil.

7/08 Preliminary visit to Brownsberg National Park, Suriname, to assess viability of the site for a study of tufted capuchin (*Cebus apella*) foraging behavior and food mechanics.

### Teaching Experience

A. As primary instructor

1998 Instructor Anthropology 143, The Biological Basis of Human Behavior. University of Illinois, Urbana-Champaign. Fall Semester.

1999 Instructor, Remedial Human Gross Anatomy. Northwestern University, Summer Session, 1999.

2003 Lecturer, Introduction to Human Anatomy. School of Continuing Studies, Northwestern University. Spring Semester, 2003.

2003-2004 Instructor, Anthropology 148: Primatology. The George Washington University. Fall Semesters.

2004 Instructor, Anthropology 142: Human Evolutionary Anatomy. The George Washington University. Spring Semester, 2003.

2006-present Assistant/Associate Professor, Human Gross Anatomy, lab instruction for all components and lecturer for Musculoskeletal: Lower Extremity. Kansas City University of Medicine and Biosciences, Medical School.

2006-present Assistant/Associate Professor, Human Gross Anatomy. Course director, lecturer, and laboratory instructor. Kansas City University of Medicine and Biosciences, School of Biosciences.

#### **B. Teaching assistantships – field courses**

1996 Teaching Assistant, Primate Ecology Course, La Suerte Biological Research Station, Limon, Costa Rica. Professor of Record: Michelle Sauther. 3<sup>rd</sup> Summer Session.

1996-1997 Teaching Assistant, Primate Ecology Course, La Suerte Biological Research Station, Limon Costa Rica. Professor of Record; Dave Bergeson. Winter Session.

1994-1995 Reader, Primate Behavior (ANTH 3000) University of Colorado, Boulder, Professor David Greene, Spring, Summer, and Fall Semesters.

1994-1996 Instructor, Introductory Lab in Physical Anthropology (ANTH 2030) University of Colorado, Boulder, Professors of Record: Herert Covert, David Greene, Darna Dufour Fall Semester.

#### **C. Teaching assistantships - classroom**

1996 Instructor, Introduction to biological anthropology and archaeology (ANTH 102, Discussion Section J) University of Illinois, Champaign-Urbana, Professors of Record; Linda Klepinger and Olga Soffer, Fall Semester.

1997 Online Teaching Assistant, Introduction to biological anthropology and archaeology (ANTH 102) University of Illinois, Champaign-Urbana, Professors of Record; Mark Jenike and Stanley Ambrose, Spring Semester.

1997 Teaching assistant Anthropology 143, The Biological Basis of Human Behavior. Dr. Paul Garber, University of Illinois, Urbana-Champaign. Fall Semester.

1998 Teaching assistant Anthropology 443, Primate anatomy, ecology, and behavior. Dr. Paul Garber, University of Illinois, Urbana-Champaign. Spring Semester.

1999-2003 Teaching assistant, Human Gross Anatomy. Dr. Larry Cochard, Northwestern University. Winter and Spring Quarters.



1999 Teaching assistant and guest lecturer, Introduction to Human Anatomy. Kristin Wright, Northwestern University - University College. Summer Session, 1999.

2001-2003 Teaching assistant, Human Gross Anatomy. Dr. Ronald Singer, University of Chicago. Summer Quarters.

2001-2002 Lecturer, Human Gross Anatomy. Dr. Alya Nayvelt, University of Illinois, Chicago. Fall Semesters.

2004 Instructor, Human Gross Anatomy. The George Washington University. Fall Semester, 2004.

### Thesis Commitees

2008 Jennifer Krangle – “Early detection and treatment of cleft lip and palate.” M.S. awarded Summer 2008. Kansas City University of Medicine and Biosciences – College of Biosciences. Advisor, Barth Wright.

2008 Matthew Austin – “Evaluation of bariatric surgery for obese adolescents.” M.S. awarded Summer 2008. Kansas City Unviersity of Medicine and Biosciences – College of Biosciences. Advisor, Barth Wright

2008 (PhD completed 2011) Janine Chalk – “Food mechanical properties and the ontogeny of the masticatory system in *Cebus*.” Graduate Program in Hominid Paleobiology, George Washington University. Advisor, Brian Richmond.

2009 (PhD completed 2013) Jacqueline Prime – “Hand manipulation skills in gibbons.” Department of Anthropology, University of Southern Illinois. Advisor, Susan Ford.

2009 (PhD completed 2014) Mariana Dutra Fogaça – Feeding ecology and food mechanics of tufted capuchins. Department of Experimental Psychology, University of São Paulo.

2010 (work ongoing) Justin Ledogar – Craniodental adaptations and biomechanics in saki monkeys. University of Albany. Advisor, David Strait.

2010 (PhD completed 2014) Le Khac Quyet – Positional behavior and support use of the Tonkin snub-nosed monkeys (*Rhinopithecus avunculus*) in Khau Ca Forest, Ha Giang Province, Vietnam. University of Colorado, Boulder. Advisor, Herbert Covert.

2012 (PhD completed 2014) Jonathan O'Brien – The ecology and conservation of black-shanked douc (*Pygathrix nigripes*) in Cat Tien National Park, Vietnam. University of Colorado, Boulder. Advisor David Strait.

### Relevant Professional Experience

1995 Co-author with Dr. Herbert H. Covert of the manual for the Introductory Lab in Physical Anthropology (ANTH 2030). Support from NSF. University of Colorado, Boulder.

1995 Graduate Representative for Physical Anthropology. University of Colorado, Boulder.

1998 Committee for the admission of new graduate students to the University of Illinois Department of Anthropology. University of Illinois, Urbana-Champaign.

2003 Assisted in coordinating National Science Foundation review by Abt of the CASHP program at The George Washington University.

### Programming and Other Relevant Computer Experience

1996-1997 Research Assistant, HTML programmer for Anthropology 102 website. Fall and Spring semesters. Dr. Steven Leigh, University of Illinois, Urbana-Champaign.

1997 HTML programmer and web site designer for the Department of Slavic Languages and Literature. Spring semester. Dr. Olga Soffer, University of Illinois, Urbana-Champaign.

1997 Online teaching assistant for Anthropology 102 via FirstClass software. Spring semester. Dr. Mark Jenike and Dr. Stanley Ambrose, University of Illinois, Urbana-Champaign.

Fall 1997 Computing assistant for Anthropology 143. Assistant for the implementation of Mallard interactive software. Dr. Paul Garber, Instructor.

2003-2004 Use of the Blackboard educational platform in Anthropology 148: Primatology and Anthropology 142: Human Evolutionary Anatomy at The George Washington University.

2004-2005 Use of 3D modeling and CAD/CAM software for finite element analysis and modeling as a post-doctoral research associate for Dr. Brian Richmond at the George Washington University.

2010 Finite Element Analysis in Biology. Workshop hosted by Dr. Elizabeth Dumont and Dr. Ian Grosse, University of Massachusetts.

### Relevant Experience with Non-human Primates

1993 Assisted with the care and socialization of an infant western lowland gorilla (*Gorilla gorilla gorilla*) at the Cheyenne Mountain Zoo, Colorado Springs, CO. (January through March).

1995 Attended the Primate Ecology Course at the La Suerte Biological Field Station, Costa Rica, taught by Dr. Paul Garber (summer session).

1999 Attended course on the anesthetization and care of anesthetized primates conducted by Safe Capture Inc. (Spring).

Collaborators (Past 48 months):

Herbert Covert (University of Colorado), Paul Dechow (Baylor College of Dentistry), Dorothy Fragaszy (University of Georgia), Ian Grosse (University of Massachusetts), Peter Lucas (University of HongKong/George Washington University), Tilo Nadler (Endangered Primate Rescue Center), Marilyn Norconk (Kent State University), Le Khac Quyet (Flora and Fauna International), Brian Richmond (George Washington University), Callum Ross (University of Chicago), Mark Spencer (Arizona State University), David Strait (SUNY Albany), Van Den Truong (North Carolina State University), Christopher Vinyard (North East Ohio University College of Osteopathic Medicine), Qian Wang (Baylor College of Dentistry), Kristin Wright (Johns Hopkins Medical School), Patricia Izar (University of São Paulo), Eduardo Ottoni (University of São Paulo), Elizabetta Visalberghi (Institute of Cognitive Sciences and Technologies, Rome), Peter Ungar (University of Arkansas), Mark Teafora (Johns Hopkins University), Paul Constantino (George Washington University), Susan Ford (Southern Illinois University), Mary Willis (University of Nebraska), Dr. Elizabeth Dumont (UMass), Dr. Laurie Godfrey (UMass).