

**GARY T. SCHWARTZ**

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**PROFESSIONAL & ACADEMIC POSITIONS****Current:**

- 2008-present Associate Professor, School of Human Evolution & Social Change, Arizona State University.  
2004-present Research Scientist, Institute of Human Origins.

**Previous:**

- 2004-2008 Assistant Professor, Dept. of Anthropology, Arizona State University.  
2002-2004 Assistant Professor, Northern Illinois University, Department of Anthropology.  
1999-2002 Post-Doctoral Research Fellow, Smithsonian's National Museum of Natural History, Human Origins Program.  
1999-2002 Adjunct Research Scientist, The George Washington University, Dept. of Anthropology.  
1997-1999 Leverhulme Post-Doctoral Research Fellow, University College London, Dept. of Anatomy and Developmental Biology.  
1995-1996 University of the Witwatersrand, Dept. of Anatomical Sciences, Junior Lecturer.

**EDUCATION**

- 1997 Washington University, St. Louis, MO; Ph.D. (Biological Anthropology)  
1993 Washington University, St. Louis, MO; M.A. (Biological Anthropology)  
1990 Stony Brook University, Stony Brook, NY; B.A. (Anthropology)

**RESEARCH INTERESTS**

Growth & Development; Life History Evolution; Dental Histology; Primate & Human Evolution; Mammalian Evolution; Dental Anthropology; Evolutionary Developmental Biology.

**HONORS**

- 2018 *Excellence in Teaching Award*, School of Human Evolution & Social Change, ASU.  
2016 *Elected Fellow, American Association for the Advancement of Science*  
2010 *Faculty Achievement Award in Defining Edge Research*, President's Office, Arizona State University.  
2008 *Best Scientific Presentation*, XIVth Intl. Symposium on Dental Morphology, Greifswald, Germany.

**EXTERNALLY-FUNDED RESEARCH AWARDS**

National Science Foundation, “*Analyzing African monkey teeth to strengthen dietary inferences from enamel thickness, distribution, and prism orientation in paleoanthropology*” (2020-2021) - Co-PI (with Debbie Guatelli-Steinberg & Scott McGraw, The Ohio State University), Total Project Budget: **\$124,440** (Awarded)

John Templeton Foundation, “*The Evolutionary Foundations of Human Uniqueness: Recovering Patterns of Cognition, Cumulative Culture, and Cooperation*” (9/2014 – 8/2017) – project total: \$4.93M.

– **Total award on projects for which I am co-PI: \$732,656.**

1. Project: “*The challenge of marginal habitats in understanding complex behavior in the Pleistocene.*” (Total Project Budget: **\$87,760**). Co-PI (w/ Kaye Reed).
2. Project: “*The evolution of human life histories: comparative studies of dental development.*” (Total Project Budget: **\$225,409**). Co-PI (w/ Jay Kelley).

3. **Advanced Paleoanthropology Visualization Lab:** (Total Budget: **\$419,847**).  
 National Science Foundation Collaborative Research “Integrated Analysis of Hominid Feeding Mechanics” (9/2012 – 9/2014) – co-PI, project total: **\$51,336<sup>a</sup>**  
 Wenner-Gren Foundation (**\$29,000**, 2007-2013), International Collaborative Research Grant: “*Age and Dynasty in Ancient Maya Society*” – 25% Investigator (PI: Jane Buikstra).  
 National Science Foundation Collaborative Proposal (PI - **\$165,000**; 2003-2007) “*Dental Development and Life History of Malagasy Lemurs*,” BCS-0503988.  
 The Leakey Foundation – “*Evolutionary History of Canine Dimorphism in Primates*” (**\$4,500**, June 2001)  
 Smithsonian Post-Doctoral Research Fellowship (**\$96,000**, 1999-2002)  
 Grant-in-Aid of Research, Sigma Xi Research Society (1995)  
 Grant-in-Aid of Research, Boise Fund (1994)  
 The Leakey Foundation Research Grant “*A High-Resolution CT Analysis of Enamel Thickness in South African Hominids*” (**\$8,500**, 1994)

Notes: <sup>a</sup> The award was a collaborative grant for which U. of Albany was the lead institution. The award at ASU was originally granted to a colleague, who resigned his post from the university, appointing me PI to oversee completion of the work.

#### **EXTERNALLY-FUNDED RESEARCH AWARDS – in capacity as Primary Advisor**

- National Science Foundation Doctoral Dissertation Improvement (**\$22,077**; 2020-2021): “*Hard tissue correlates of primate growth rate variation*” (co-PI, Amanda McGrosky, PhD Student)  
 Wenner-Gren Foundation Doctoral Grant (**\$4,542**; 2015-2016): “*Growth of the Masticatory System and Biomechanical Constraints on Molar Emergence in Primates*” (co-PI, Halszka Glowacka, PhD Student)  
 National Science Foundation Doctoral Dissertation Improvement (**\$10,100**; 2015-2017): “*Skull Growth and Biomechanical Constraints on Molar Emergence in Primates*” (co-PI, Halszka Glowacka, PhD Student)  
 Leakey Foundation Grant (**\$15,000**; 2015-2017): “*Biomechanical Constraints on Molar Emergence in Primates*” (co-PI, Halszka Glowacka, PhD Student)  
 Wenner-Gren Foundation Doctoral Grant (**\$19,465**; 2012-2014): “*A dental topographic analysis of deciduous tooth wear in hominoids.*” – (co-PI Kierstin Catlett, PhD student).  
 National Science Foundation Doctoral Dissertation Improvement (**\$16,425**; 2012-2014): “*The Competitive Environment of the Origination and Early Diversification of Euprimates in North America.*” – (co-PI Laura Stroik, PhD student).  
 National Science Foundation Doctoral Dissertation Improvement (**\$14,080**; 2011-2013): “*The Influences of Brain Anatomy on Facial Positioning in Anthropoid Primates: Implications for Modern Human Origins.*” – (co-PI Terry Ritzman, PhD student).

#### **PEER-REVIEWED RESEARCH ARTICLES & BOOK CHAPTERS**

Bibliometric data as of: 1/10/2020

Google Scholar Citations: <http://scholar.google.com/citations?user=O7ZmaKgAAAAJ>

h-index: 26; i10-index: 38 (h-index since 2014: 18)

Total Citations: 2,588 (Total Citations since 2014: 993)

\*Indicates co-author was my graduate or undergraduate student, while † indicates co-author was my postdoctoral researcher, at the time of submission/publication.

Manuscripts that are *Submitted* or are *In Review*:

Herries AIR, Leece AB, Martin JM, Adams JW, Boschani G, Joannes-Boyau R, Edwards TR, Mallett T, Murszewski A, Neubauer S, Oickering R, Strait DS, Armstrong B, Baker S, Caruana MV, Denham T, Hellstrom J, Moggi-Cecchi J, Mokobane S, Penzo-Kajewski P, Rovinsky DS, **Schwartz GT**,

Stammers R, Wilson C, Woodhead J, and Menter C (In Review) Age of new hominin crania from Drimolen and contemporaneity of *Australopithecus*, *Paranthropus*, and *Homo*.

Martin JM, Leece AB, Neubauer S, Baker SE, Mongle CS, Boschian G, **Schwartz GT**, Strait DS, and Herries AIR (In Review) A new subspecies of *Paranthropus robustus* and a lineage perspective on early hominin taxonomy.

Kelley, J and **Schwartz, GT** (2019, in revision). Age at first molar emergence in *Pan troglodytes verus* and variation in molar emergence among free-living chimpanzees. *Journal of Human Evolution*.

Ortiz, A<sup>†</sup>, Schander-Triplett, K\*, Bailey, SE, Skinner, MM, Hublin, J-J, and **Schwartz, GT**. (In Review). Enamel thickness variation in the deciduous dentition of humans and great apes. *American Journal of Physical Anthropology*.

Hogg, H, Lacruz, R, Dean, MC, Bromage, TG, Ramirez-Rozzi, and Schwartz, GT. A comprehensive survey of Retzius periodicities in fossil hominins and other great apes. (Revision submitted) *Journal of Human Evolution*.

Glowacka, H & **Schwartz, GT** (In prep., Submission in Jan./Feb. 2020). Biomechanical constraints and molar emergence across primates. *Proceedings of the National Academy of Sciences*

#### In Press:

Stone, AC and **Schwartz, GT** (In press). Food Digestive System Genes. In: *Evolution of the Human Genome II: The Genome and Genes*, N. Saitou (Ed.)

#### 2020:

**Schwartz, GT**, McGrosky, A\*, and Strait DS (2020) Fracture mechanics, enamel thickness, and the evolution of molar form in hominins. *Biology Letters* (Royal Society, London).

#### 2018:

Stroik, LK and **Schwartz, GT** (2018). The role of dietary competition in the origination and early diversification of North American euprimates. *Proc Roy. Soc. B*. Aug 1; 285(1884); DOI: 10.1098/rspb.2018.1230.

##### - Associated PR:

- ScienceDaily piece: <https://www.sciencedaily.com/releases/2018/08/180801084057.htm>
- ASU News: <https://asunow.asu.edu/20180801-competitive-edge-asu-researchers-find-dietary-competition-key-role-early-primates>

Ortiz, A<sup>†</sup>, Bailey, SE, **Schwartz, GT**, Hublin, J-J, and Skinner, MM (2018). Evo-devo models of tooth development and the origin of hominoid molar diversity. *Science Advances* Apr 11;4(4):eaar2334. DOI: 10.1126/sciadv.aar2334

##### - Associated PR:

- ScienceDaily piece: <https://www.sciencedaily.com/releases/2018/04/180411174159.htm>
- ASU News: <https://asunow.asu.edu/20180411-secret-life-teeth-evo-devo-models-tooth-development>

#### 2017:

Glowacka, H\*, McFarlin, SC, Vogel, ER, Stoinski, TS, Ndagijimana, F, Tuyisingize, T, Mudakikwa, A, and **Schwartz, GT**. (2017). Toughness of the Virunga mountain gorilla (*Gorilla beringei*

*beringei*) diet across an altitudinal gradient. *American Journal of Primatology* 79(8):e22661. DOI: 10.1002/ajp.22661

Miller ER, Gunnell GF, Seiffert ER, Sallam H, and **Schwartz GT**. (2017). Patterns of dental emergence in early anthropoid primates from the Fayum Depression, Egypt. *Historical Biology* 30:157-165. DOI: 10.1080/08912963.2017.1294169

2016:

Evans, AR, Daly, ES\*, Catlett, KK\*, Paul, KS\*, King, SJ, Skinner, MM, Nesse, HP\*, Hublin, J-J, Townsend, GC, **Schwartz, GT**, and Jernvall, J. (2016). A simple rule governs the evolution and development of hominin tooth size. *Nature* 530:477-480. DOI: 10.1038/nature16972

- Associated *Nature* News & Views article:
  - o Gómez-Robles, A. (2016). Paleoanthropology: What teeth tell us. *Nature* 530:425-426.
- Press releases:
  - o Eureka Alert: [http://www.eurekaalert.org/pub\\_releases/2016-02/asu-ort022216.php](http://www.eurekaalert.org/pub_releases/2016-02/asu-ort022216.php)
  - o ASU: <https://asunow.asu.edu/20160224-one-rule-grow-them-all-using-baby-teeth-predict-hominin-tooth-size>
- Reported on in over 40 international news and media outlets: (<http://www.nature.com/nature/journal/v530/n7591/nature16972/metrics/news> )

Glowacka, H\*, McFarlin, SC, Catlett, KK\*, Mudakikwa, A, Bromage, TG, Cranfield, MR, Stoinski, TS, and **Schwartz, GT**. (2016). Age-related changes in molar topography and shearing crest length in a wild population of mountain gorillas from Volcanoes National Park, Rwanda. *American Journal of Physical Anthropology* 160:3-15. Article first published online: 8 FEB 2016. DOI: 10.1002/ajpa.22943

2015:

Hogg, R, Godfrey, LR, **Schwartz, GT**, Dirks, WD, Bromage, TG (2015). Lemur biorhythms and life history evolution. *PLoS One*. Aug 12;10(8):e0134210. doi: 10.1371/journal.pone.0134210.

2013:

Godfrey, LR, **Schwartz, GT**, Jungers, WL, Catlett, KK\*, Samonds, KE, King, SJ, Muldoon, KM, Irwin, MT, Burney, DA. (2013). Anthropoid analogues? Life history variation in Madagascar's giant extinct lemurs. In: *Leaping Ahead: Advances in Prosimian Biology*, J. Masters, M. Gamba, and F. Genin (eds.), Springer. Pp. 51-60.

2012:

Kelley, J and **Schwartz, GT** (2012). Life-history inference in the early hominins *Australopithecus* and *Paranthropus*. *International Journal of Primatology* 33: 1332-1363.

**Schwartz, GT** (2012). Growth, development, and life history throughout the evolution of *Homo*. *Current Anthropology* 53 (Suppl. 6): 395-408.

O'Mara, MT\*, Gordon, AD, Catlett, KK\*, Terranova, CJ, **Schwartz, GT** (2011). Growth and the development of sexual size dimorphism in lorises and galagos *American Journal of Physical Anthropology* 147: 11-20.

2010:

Catlett, KK\*, **Schwartz, GT**, Godfrey, LR, and Jungers, WL (2010). “Life history space”: A multivariate analysis of life history variation in extinct and extant Malagasy lemurs. *American Journal of Physical Anthropology* 143: 391-404.

Kelley, J, and **Schwartz, GT** (2010). Dental development and life history in living African and Asian apes. *Proceedings of the National Academy of Sciences* 107:1035-1040.

Associated Media/Press Coverage:

- <http://www.sciencedaily.com/releases/2009/12/091228152350.htm>
- [http://asunews.asu.edu/20091228\\_greatapemolars](http://asunews.asu.edu/20091228_greatapemolars)
- <http://www.dental-tribune.com/articles/content/id/1254/scope/news/region/usa>

Copes, LE\*, **Schwartz, GT** (2010). The scale of it all: postcanine tooth size, the taxon-level effect, and the universality of Gould’s scaling law. *Paleobiology* 36:188-203.

2008:

Ritzman TB\*, Baker, BJ, and **Schwartz, GT** (2008). A Fine Line: A comparison of methods of linear enamel hypoplasia formation. *American Journal of Physical Anthropology* 135:348-361.

**Schwartz, GT** and Dean MC (2008). Charting the chronology of developing teeth. In: Irish, J.D. & Nelson, G.C., editors. *Technique and Application in Dental Anthropology*. (Series: Cambridge Studies in Biological and Evolutionary Anthropology), Cambridge University Press. Chapter 9, pp. 143-162.

Godfrey, LR, Jungers, WL, **Schwartz, GT**, and Irwin, MT (2008). Ghosts and orphans: Madagascar’s vanishing ecosystems. In: Fleagle, J.G. & Gilbert, C.C., editors. *Elwyn Simons: A Search for Origins*. pp. 361-395. Springer, New York.

2007:

Mahoney, P<sup>†</sup>, Smith, TM, **Schwartz, GT**, Dean, MC, and Kelley, J (2007). Molar crown formation in the late Miocene Asian hominoids, *Sivapithecus parvada* and *Sivapithecus indicus*. *Journal of Human Evolution* 53: 61-68.

Orr, CM\*, Delezene, LK\*, Scott, JE\*, Tocheri, M\*, and **Schwartz, GT** (2007). The comparative method and the inference of venom delivery systems in fossil mammals. *Journal of Vertebrate Paleontology* 27:541-546.

**Schwartz GT**, LR Godfrey, and P Mahoney<sup>†</sup>. (2007). Inferring primate growth, development, and life history from dental microstructure: The case of the extinct giant Malagasy lemur, *Megaladapis*. In: Bailey, S. & Hublin, J.-J., editors. *Dental Perspectives on Human Evolution: State of the Art Research in Dental Anthropology*. pp. 145-160. Springer Press.

2006:

Godfrey, L.R, Jungers, W.L, Burney, D.A, Vasey, N., Ramilisonina, Wheeler, W., Lemelin, P, Shapiro, L.J, **Schwartz, GT**, King, S.J, Ramarolahy, M.F, Raharivony, L.L, and Randria, G.F.N. (2006). New discoveries of skeletal elements of *Hadropithecus stenognathus* from Andrahomana Cave, southeastern Madagascar. *Journal of Human Evolution* 51: 395-410. (Citations: 1)

Godfrey, LR, **GT Schwartz**, KE Samonds, WL Jungers, and KK Catlett\*. (2006). The Secrets of Lemur Teeth. *Evolutionary Anthropology* 15: 142-154.

**Schwartz GT**, Reid DJ, Dean MC, and Zihlman AL. (2006). A faithful record of stressful life events preserved in the dental developmental record of a juvenile gorilla. *International Journal of Primatology* 27: 1201-1222.

Gebo DL, **Schwartz GT**. (2006). Foot bones from Omo: Implications for hominid evolution. *American Journal of Physical Anthropology* 129: 499-511.

Godfrey, LR, WL Jungers, **GT Schwartz**. (2006). Ecology and extinction of Madagascar's subfossil lemurs. In: Gould L. & Sauther, M., editors. *Lemurs: Ecology and Adaptation*. pp. 41-65. New York: Springer.

2005:

**Schwartz GT**, Mahoney P<sup>†</sup>, Godfrey LR, Cuzzo FP<sup>†</sup>, Jungers WL and Randria, G.F.N. (2005). Dental development in *Megaladapis edwardsi* (Primates, Lemuriformes): Implications for understanding life history variation in subfossil lemurs. *Journal of Human Evolution* 49: 702-721.

**Schwartz GT** and Dean MC. (2005). Sexual dimorphism in modern human permanent teeth. *American Journal of Physical Anthropology* 128: 312-317.

Godfrey, LR, GM Semperebon, **GT Schwartz**, DA Burney, WL Jungers, EK Flanagan, FP Cuzzo<sup>†</sup>, and SJ King. (2005). New insights into old lemurs: The trophic adaptations of the Archaeolemuridae. *International Journal of Primatology* 26:825-854.

**Schwartz GT**, Miller ER, Gunnell GF (2005). Developmental processes, life history and canine dimorphism in primate evolution. *Journal of Human Evolution* 48:97-103.

2003:

**Schwartz GT** and Godfrey LR (2003). The extinct sloth lemurs of Madagascar: Big bodies, fast teeth. *Evolutionary Anthropology* 12, 259.

**Schwartz GT**, Liu W, and Zheng L (2003). Preliminary investigation of dental microstructure in the Yuanmou hominoid (*Lufengpithecus huiensis*) Yunnan Province, China. *Journal of Human Evolution* 44,189-202.

2002:

**Schwartz GT**, Jungers WL, Samonds KE, Godfrey LR and Simons EL (2002). Dental microstructure and life history in subfossil Malagasy lemurs. *Proceedings of the National Academy of Sciences* 99, 6124-6129.

2001:

Dean MC, Leakey MG, Reid D, Schrenk F, **Schwartz GT**, Stringer C & Walker AC. (2001) Growth processes in teeth distinguish modern humans from *Homo erectus* and earlier hominins. *Nature* 414, 628-631.

**Schwartz GT** & Dean MC (2001). The ontogeny of canine dimorphism in extant hominoids. *American Journal of Physical Anthropology* 115, 269-283.

**Schwartz GT**, Reid DJ and Dean MC (2001). Developmental aspects of sexual dimorphism in hominoid canines. *International Journal of Primatology* 22, 837-860.

Halberg F, Cornélissen G, Appenzeller O, Wallace J, Acosta MA, **Schwartz GT** and Dean MC. (2001). Chronomics: different multiseptans in enamel of ancient and contemporaneous teeth.

Proc, 2nd Int. Symp., Workshop on Chronoastrobiology and Chronotherapy, Otemachi, Chiyodaku, Tokyo.

**Schwartz, GT** and Dean, MC (2000). Interpreting the hominid dentition: Ontogenetic and phylogenetic aspects. In: O'Higgins P. & Cohen, M., editors. *Development, Growth and Evolution: Implications for the Study of Hominid Skeleton*. London: Academic Press. pp. 207-233.

**Schwartz GT**, Reid DJ, Dean MC and Chandrasekera MS (2000). Aspects of tooth crown development in common chimpanzees (*Pan troglodytes*) with a note on the possible role of sexual dimorphism in canine growth. *Proceedings of the 11th International Symposium on Dental Morphology*. pp. 323-337.

2000:

**Schwartz GT** (2000a). Taxonomic and functional aspects of the patterning of enamel thickness distribution in extant large-bodied hominoids. *American Journal of Physical Anthropology* **111**, 221-244.

**Schwartz GT** (2000b). Enamel thickness and the helicoidal wear plane in modern human mandibular molars. *Archives of Oral Biology* **45**, 401-409.

1998:

Reid DJ, **Schwartz GT**, Chandrasekera MS, and Dean MC (1998). A histological reconstruction of dental development in the common chimpanzee, *Pan troglodytes*. *Journal of Human Evolution* **35**, 427-448.

**Schwartz GT**, Thackeray JF, Reid C and van Reenan JF (1998). Enamel thickness and the topography of the enamel-dentine junction in South African Plio-Pleistocene hominids with special reference to the Carabelli trait. *Journal of Human Evolution* **35**, 523-542.

1997:

**Schwartz GT** (1997). Re-evaluation of the Plio-Pleistocene Hyraxes (Mammalia: Procaviidae) from South Africa. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*. **206**, 365-383.

1996:

**Schwartz GT** and Kuykendall KL (1996). Enamel Structure and Development. *Evolutionary Anthropology* **5**, 150-151.

**Schwartz GT** and Conroy GC (1996). Cross-sectional geometric properties of the *Otavipithecus* mandible. *American Journal of Physical Anthropology* **99**, 613-623.

1995:

**Schwartz GT**, Rasmussen DT, and Smith RJ (1995). Body-size diversity & community structure of fossil hyracoids. *Journal of Mammalogy* **76**, 1088-1099.

## **PUBLISHED ABSTRACTS/CONFERENCE PRESENTATIONS**

### **2019 American Association of Physical Anthropology, Cleveland, Ohio –**

Glowacka, H. and Schwartz, G.T. The evolution of gape and bite-force potential in primates.

Schwartz, G.T., McGrosky, A., and Strait D.S. Through thick and thin: Tooth crown strength and enamel thickness variation in apes and fossil hominins.

Ortiz A., Bailey, S.E., Hublin, J-J., Skinner, M.M., and Schwartz, G.T. Enamel thickness in the deciduous dentition of humans and great apes

**2018 Society of Vertebrate Paleontology, Albuquerque, New Mexico –**

Locke E.M., Nengo I., and Schwartz G.T. Dental topographic change with wear in the stem cercopithecoid *Noropithecus bulukensis* (Primates, Victoriapithecidae) and a comparison with extant Cercopithecidae.

Daly E.S., Catlett K.K., Locke E.M., Morse P.M., Ortiz, A., and Schwartz, G.T. Scanning methodology and measurement error in dental topographic analyses: A comparison of microCT and surface light scanning methods.

**2018 American Association of Physical Anthropology, Austin, Texas –**

Glowacka H. and Schwartz G.T. A test of the ‘Brain Pleiotropy Hypothesis’ for the relationship between brain size and dental development using the Cayo Santiago rhesus macaque skeletal collation. Invited participants to symposium on “‘Macaques in the study of human conditions - In celebration of 80 years of Cayo Santiago’”

Ritzman T.B., Glowacka H., Kelley J., and Schwartz G.T. A reappraisal of the relationship between first molar emergence age and brain mass in primates.

Glaze E.S. and Schwartz, G.T. Application of a Developmental Model to Hominoid Supernumerary Molars

**2017 American Association of Physical Anthropology, New Orleans, Louisiana –**

Glowacka H. and Schwartz G.T. The ontogeny of masticatory efficiency and implications for hominin canine reduction.

McGrosky A., Kamilar J.M., Tecot S.R., and Schwartz G.T. A “hypophysis” to test: Comparative aspects of pituitary gland anatomy and its usefulness for reconstructing hominin life history.

Perry G., Kistler L., Schwartz G.T., Godfrey L.R., Orlando L. Covariation in life history, body and brain size, and molecular substitution rate across the diverse radiation of extant and extinct (megafaunal) lemurs.

Gunnell G.F., Miller E.R., Seiffert E.R., Sallam H.M., and Schwartz G.T. Early anthropoid dental emergence and development.

Daly E.S., Catlett K.K., King S., Samonds K., Godfrey L.R., Schwartz G.T., Evans A.R. Coordination of upper and lower primary postcanine tooth size in the haplorrhine primates by the inhibitory cascade.

Catlett K.K., Godfrey L.R., Samonds K., Daly E.S., Schwartz G.T., Evans A.R. An investigation of the inhibitory cascade in extant and extinct lemurs.

**2016 European Society of Human Evolution (ESHE), Madrid, Spain –**

Schwartz G.T., Daly, E.S., Catlett, K.K., Paul, K.S., King S.J., Skinner, M.M., Nesse, H.P., Hublin, J-J., Townsend, G.C., Evans, A.R., and Jernvall, J. Evolution of hominin tooth size explained through development-based models.



**2016 Society of Vertebrate Paleontology, Salt Lake City, Utah –**

Evans, A.R., Catlett, K.K., Daly, E.S., King S.J., Samonds, K., Godfrey, L.R., and Schwartz G.T. Integration of the mammalian dentition by the inhibitory cascade.

**2016 Paleoanthropology Society Meetings, Atlanta, Georgia –**

Daly, E.S., Catlett, K.K., Seyoum, C., Paul, K.S., King S.J., Skinner, M.M., Nesse, H.P., Hublin, J-J., Townsend, G.C., Jernvall, J., Evans, A.R., and Schwartz G.T. A developmental perspective on the postcanine dental proportions of *Homo naledi*.

**2016 American Association of Physical Anthropology, Atlanta, Georgia –**

Glowacka, H. and Schwartz, G.T. Developmental coordination of the masticatory system constrains molar emergence across primates.

Evans, A.R., Daly, E.S., Catlett, K.K., Paul, K.S., King S.J., Skinner, M.M., Nesse, H.P., Hublin, J-J., Townsend, G.C., Schwartz G.T., and Jernvall, J. The evolution and development of hominin tooth size is governed by the inhibitory cascade.

**2016 International Primatology Symposium, Chicago, Illinois –**

Lemmers, S.A., Setchell, J.M., Schwartz, G.T., Reid, D.J., Bernstein, R.M., Leigh, S.R., Ngoubangoye, B., Herbert, A., Dirks, W. Comparative study of dental development in African papionins.

**2015 Society of Vertebrate Paleontology, Dallas, Texas –**

Evans, A.R., Daly, E.S., Catlett, K.K., Paul, K.S., King, S. J., Skinner, M.M., **Schwartz, G.T.**, Jernvall, J. The evolution and development of hominin tooth size. *J. Vert. Paleo. Suppl.*:121.

**2015 American Association of Physical Anthropology, St. Louis, MO –**

Schwartz GT. The evolutionary history of hominin growth, life history and energetics. Invited talk for the symposium entitled “Energetics in Human and Non-Human Primate Evolution: Moving from Theory to Empirical Tests.” Co-organizers: C. Kuzawa & H. Pontzer.

**2014 International Symposium of Dental Morphology, Zagreb, Croatia –**

Glowacka H. & Schwartz GT. Biomechanical constraints on molar emergence.

Kelley J., Schwartz GT, and Smith TM. Dental development and life history variation across wild chimpanzee populations.

**2014 American Association of Physical Anthropologists, Calgary, AB, Canada –**

Glowacka H., Vogel E., Schwartz GT., Stoinski T., Ndagijimana F., Mudakikwa A., and McFarlin S.. Ecological variation in toughness and food selection in Virunga mountain gorillas. *Am. J. Phys. Anthropol. Suppl.*

Kelley J., Schwartz GT, and Smith TM. Variation in age at M1 emergence and life history in wild chimpanzees. *Am. J. Phys. Anthropol. Suppl.*

**2013 American Association of Anatomists, Boston, MA –**

Hogg, R., Godfrey, L.R., Schwartz, G.T., Dirks, W.D., Bromage, T.G. Lemur biorhythms and life history evolution.

**2013 American Association of Physical Anthropologists, Knoxville, TN –**

Glowacka, H., Catlett, K.K., Schwartz, G.T., Mudakikwa, A., Bromage, T.G., Cranfield, M.R. Fawcett, K.A., and McFarlin, S.C. Molar wear in a wild-population of known-age mountain gorillas from Volcanoes National Park, Rwanda. *Am. J. Phys. Anthropol. Suppl.* 56

**2012 American Association of Physical Anthropologists, Portland, OR –**

Glowacka, H., Schwartz, G.T., Kimbel, W.H. The role of canine reduction in diagnosing the earliest hominins: lessons from a Miocene ape. *Am. J. Phys. Anthropol. Suppl.* 54:151.

**2011 American Association of Physical Anthropologists, Minneapolis, MN –**

Catlett K.K., Schwartz G.T., Godfrey L.R. Do brain size and body size explain variation in the pace of dental development within the indriid-palaeopropithecoid clade? *Am. J. Phys. Anthropol. Suppl.* 52:106-107.

Green D.R., Glowacka H., Schwartz G.T., et al. Developmental variation in great ape molar crowns. *Am. J. Phys. Anthropol. Suppl.* 52:148-149.

Hogg R.T., Godfrey L.R., Schwartz G.T. et al. Metabolic rhythms in haplorhine and strepsirrhine primates. *Am. J. Phys. Anthropol. Suppl.* 52:165.

Schwartz G.T. Tales from the Crypt: tooth growth, dental development and the evolution of primate life histories. *Am. J. Phys. Anthropol. Suppl.* 52:267-268.

**2010 American Association of Physical Anthropologists, Albuquerque, New Mexico –**

Spence JE, Guatelli-Steinberg D, Schwartz GT, and Stojanowski CM. Growth and health status of Holocene occupants of Gobero, Central Sahara Desert: An analysis of linear enamel hypoplasias. *Am. J. Phys. Anthropol. Suppl.* 50:221.

**2009 American Association of Physical Anthropologists, Chicago, Illinois –**

L. Lucas, G.T. Schwartz, M.A. Spencer. Molarization in extant primates. *Am. J. Phys. Anthropol. Suppl.* 48:242.

J. Kelley, G.T. Schwartz. New ages at first molar emergence in extant great apes and a reassessment of early hominin first molar emergence ages. *Am. J. Phys. Anthropol. Suppl.* 48:219.

**2008 American Association of Physical Anthropologists, Columbus, Ohio –**

The scale of it all: postcanine teeth, the taxon-level effect, and the universality of Gould's scaling law. L. Copes, G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 46:82.

The ontogeny of masticatory system configuration in humans and its influence on the timing of molar eruption. M.A. Spencer, G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 46:199.

**2007 Society of Vertebrate Paleontology, Austin, Texas –**

Gould revisited, yet again: the scaling of tooth size and body mass across Mammalia. L. Copes, G.T. Schwartz. *J. Vert. Paleo. Suppl.* 27

**2007 American Association of Physical Anthropologists, Philadelphia, Pennsylvania –**

"Life history space": A multivariate analysis of life history variation in extinct and extant Malagasy lemurs. (2007). K.K. Catlett, G.T. Schwartz, L.R. Godfrey, W.L. Jungers. *Am. J. Phys. Anthropol. Suppl.* 44: 84-85.

In memoriam: The megafauna of Madagascar. (2007). L.R. Godfrey, G.T. Schwartz, W.L. Jungers, M.T. Irwin, K.E. Samonds, K.K. Catlett, and D.A. Burney. *Am. J. Phys. Anthropol. Suppl.* 44: 114.

And the band played on: maintaining dental function across the life span in *Hadropithecus stenognathus*, an extinct giant lemur from Madagascar. (2007). S.J. King, A. Hitchcock, G.T. Schwartz, and L.R. Godfrey. *Am. J. Phys. Anthropol. Suppl.* 44: 143.

A comparative analysis of the ontogeny of body mass dimorphism in lorisooids. (2007). M.T. O'Mara, K.K. Catlett, C.J. Terranova, G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 44: 180.

A fine line: a preliminary study comparing methods of estimating ages of linear enamel hypoplasia formation. (2007). T.B. Ritzman, B.J. Baker, G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 44: 200.

**2006 Society of Vertebrate Paleontology, Ottawa, Canada –**

Anterior dental grooves and the inference of venom delivery systems in fossil mammals. (2006). C.M. Orr, L.K. Delezene, J.E. Scott, M.W. Tocheri, G.T. Schwartz. *J. Vert. Paleo. Suppl.* 26: 107A-108A.

**2006 American Association of Physical Anthropologists, Anchorage, Alaska –**

Across the ecological divide: Dental developmental diversity in Madagascar's giant lemurs. (2006). G.T. Schwartz, L.R. Godfrey, K.E. Samonds, W.L. Jungers, K.K. Catlett. *Am. J. Phys. Anthropol. Suppl.* 42: 160.

**2005 Society of Vertebrate Paleontology, Mesa, AZ –**

Dental development and life history in one of the largest subfossil Malagasy lemurs, *Megaladapis edwardsi*. (2005). G.T. Schwartz, P. Mahoney, L.R. Godfrey, W.L. Jungers. *J. Vert. Paleo. Suppl.* 25: 111A.

**2005 American Association of Physical Anthropologists, Milwaukee, WI -**

Age at death in a juvenile *Megaladapis edwardsi* (Primates, Lemuriformes): Implications for understanding life history variation in sub-fossil lemurs. (2005) P. Mahoney, G.T. Schwartz, L.R. Godfrey, F.P. Cuzzo. *Am. J. Phys. Anthropol. Suppl.* 40: 143.

Inferring primate growth, development, and life history profiles from dental microstructure. (2005). G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 40: 185.

Histologically determined age at first molar emergence in *Pongo pygmaeus*. (2005). G.T. Schwartz, J. Kelley. *Am. J. Phys. Anthropol. Suppl.* 40: 128.

New discoveries of *Hadropithecus stenognathus*, a subfossil lemur from Madagascar. (2005). L.R. Godfrey, W.L. Jungers, G.T. Schwartz, P. Lemelin, L.J. Shapiro, D.A. Burney, W.F. Wheeler, F.P. Cuzzo, N. Vasey. *Am. J. Phys. Anthropol. Suppl.* 40: 107.

**2004 American Association of Physical Anthropologists, Tampa, FL -**

Developmental basis of canine dimorphism in early Eocene Notharctines. (2004) G.T. Schwartz, E.R. Miller, G.F. Gunnell. *Am. J. Phys. Anthropol. Suppl.*

**2003 American Association of Physical Anthropologists, Tempe, AZ -**

Molar crown formation in Miocene hominoids: A preliminary synthesis. (2003). T.M. Smith, M.C. Dean, J. Kelley, L.B. Martin, D.J. Reid, G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 36: 196.

What were the “monkey lemurs” of Madagascar up to? (2003). L.R. Godfrey, G.M. Semprebon, G.T. Schwartz, D.A. Burney, W.L. Jungers, E. Flanagan, S.J. King. *Am. J. Phys. Anthropol. Suppl.* 36: 101.

**2001 Paleoanthropology Society, Kansas City, MO -**

Are the P4s of *Paranthropus* uniquely molarized? (2001). N.J. Silverman, G.T. Schwartz. B. Wood. *J. hum. Evol.* 40: A21.

**2001 American Association of Physical Anthropologists, Kansas City, MO -**

Dental microstructure and life history in subfossil lemurs. (2001). K.E. Samonds, G.T. Schwartz, W.L. Jungers, L.R. Godfrey. *Am. J. Phys. Anthropol. Suppl.* 32: 128.

Histological analysis of dental development in *Gorilla*. (2001). G.T. Schwartz, M.C. Dean, D.J. Reid, A.L. Zihlman. *Am. J. Phys. Anthropol. Suppl.* 32: 134.

**2000 American Association of Physical Anthropologists, San Antonio, TX -**

The ontogeny of canine dimorphism in extant hominoids. (2000). G.T. Schwartz, M.C. Dean. *Am. J. Phys. Anthropol. Suppl.* 30: 275.

**1999 American Association of Physical Anthropologists, Columbus, OH -**

Dental development and canine dimorphism in the common chimpanzee, *Pan troglodytes*. (1998). G.T. Schwartz, D.J. Reid, M.C. Dean. *Am. J. Phys. Anthropol. Suppl.* 28: 246.

**1997 American Association of Physical Anthropologists, St Louis, MO -**

Patterning of enamel thickness in the postcanine dentition of *A. africanus*, *P. robustus*, and early *Homo* from South Africa. (1997). G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 24: 206-207.

**1996 American Association of Physical Anthropologists Durham, NC -**

Cross-sectional geometric properties of the *Otavipithecus* mandible. (1996). G.T. Schwartz, G.C. Conroy. *Am. J. Phys. Anthropol. Suppl.* 22: 211.

**1995 Society of Vertebrate Paleontology, New York, NY –**

A “new” species of Plio-Pleistocene hyrax from South Africa. (1995). G.T. Schwartz. *J. Vert. Paleo.*

**1995 American Association of Physical Anthropologists, Oakland, CA -**

Taxonomic relevance of enamel cap shape in extant hominoids and Plio-Pleistocene hominids. (1995). G.T. Schwartz. *Am. J. Phys. Anthropol. Suppl.* 20: 193.

**1993 Society of Vertebrate Paleontology, Albuquerque, NM –**

Body-size diversity and community structure of fossil hyracoids. (1993). G.T. Schwartz, D.T. Rasmussen, R.J. Smith. *J. Vert. Paleo.*

**INVITED SEMINARS, SYMPOSIA, WORKSHOPS, ETC. - INTERNATIONAL**

- “Hominid Feeding and Facial Biomechanics” Workshop, Banff, AB, Canada. Participant and presenter. April, 2014.
- Wenner-Gren Special Symposium, Sintra, Portugal, 2011 – The biology of early *Homo*.
- XXII<sup>nd</sup> International Primatological Society Congress, Edinburgh, Scotland, 2008 – “*The context for being human: social behaviour of early hominins from the perspective of primate socioecology*”
- XIV<sup>th</sup> International Symposium on Dental Morphology, Greifswald, Germany, 2008 – “*The ontogeny of masticatory system configuration and its influence on the timing of molar eruption.*”
- Max Planck Institute for Evolutionary Anthropology, 2005 – *Advances in Dental Anthropology* Conference.
- University College London, Department of Anatomy, London, 2001.
- University of Colorado, Boulder, Department of Anthropology, 2001.
- Universität Zürich-Irchel, Switzerland, Anthropologisches Institut, 1998.
- University of Cambridge, UK, Department of Biological Anthropology, 1998.

- Center for Ecology & Evolution Workshop, “*Ontogeny & Phylogeny: Implications for the Study of Human Evolution*”, Linnean Society, London, 1998.
- University College London, Department of Anatomy & Developmental Biology, 1998.
- University College London, Department of Physics and Astronomy, 1998.
- UMDS, Guy’s Hospital, London, 1998.
- University College London, Evolutionary Anatomy Unit, 1997.
- “Enamel Structure & Development” Workshop, Paris, Invited Participant, 1996.
- Röntgen Centenary Congress, Society of Radiographers of South Africa, 1995.
- University of the Witwatersrand, South Africa, Department of Anatomical Sciences, 1995.

#### **INVITED SEMINARS, SYMPOSIA, WORKSHOPS, ETC. - NATIONAL**

- Radcliffe Institute for Advanced Study Workshop: “The Wisdom in Teeth: Exploring the Use of Teeth as Fossil Records of Early Stress Exposure and Future Neuropsychiatric Risk,” Harvard University, Oct. 2019.
- University of Texas, Austin, Department of Anthropology, Apr. 2019
- Washington University, Department of Anthropology, Oct. 2017.
- “Energetics in Human and Non-Human Primate Evolution: Moving from Theory to Empirical Tests.” Co-organizers: C. Kuzawa & H. Pontzer. AAPA, 2014, St Louis, MO.
- Univ. of California at Davis, Dept. of Anthropology, 2013.
- New York University, Center for the Study of Human Origins, 2009.
- Univ. of California at Santa Cruz, Dept. of Anthropology, 2004.
- Arizona State Univ., Dept. of Anthropology, 2004.
- Univ. of Iowa, Iowa City, 2003.
- Univ. Massachusetts, Amherst, 2003.
- Univ. of Wisconsin, Whitewater, 2003.
- NIU, Dept. of Biology, 2003.
- Harvard University, Department of Anthropology, 2002.
- Northeastern Ohio Universities College of Medicine (NEOUCOM), Dept. of Anatomy, 2002.
- Northern Illinois University, Department of Anthropology, 2002.
- Florida Atlantic University, Department of Anthropology, 2002.
- The George Washington University, Department of Anthropology, 2001, 1998.
- Pennsylvania State University, Department of Anthropology, 1999.
- The George Washington University Medical School, Department of Anatomy, 1999.
- Stony Brook University, Department of Anatomical Sciences, 1998.

#### **GRADUATE STUDENT TRAINING – Primary PhD Advisor, Completed**

Laura Stroik, PhD (2014), primary advisor. Now Assistant Professor of Biomedical Sciences at Grand Valley State University.

Terrence Ritzman, PhD (2014), primary advisor. Now Assistant Professor of Anatomy at Washington University School of Medicine.

Kierstin Catlett, PhD (2016), primary advisor. Now Senior Research Analyst at UnitedHealth Group, St. Paul, MN.

Halszka Glowacka, PhD (2017), primary advisor. Now Assistant Professor of Anatomy at University of Arizona School of Medicine, downtown Phoenix campus.

#### **GRADUATE STUDENT TRAINING – Primary PhD (in progress)**

Susanne Daly, Amanda McGrosky, Amber Jaeger (PhD students) – serving as primary advisor.

#### **GRADUATE STUDENT TRAINING – PhD Committee Member, Completed (alphabetical order):**

Lynn Copes, Lucas Delezene, Hallie Edmonds, Neysa Grider-Potter, Kristi Lewton, Lynn Lucas, Teague O’Mara, Stephanie Meredith, Kathleen Paul, George “PJ” Perry, Teresa Rodriguez,

Samantha Russak, Jeremiah Scott, Melissa Schaeffer, Amy Shapiro, Daryn Stover, Claire Terhune – PhD committee member.  
 Maire Malone (U Michigan, cmplt. 2019) – external PhD committee member  
 Cinzia Fornai (PhD Student, U. Vienna, 2015) – external examiner  
 Carlos Munoz, Kiersten Catlett (MA student) – served as primary advisor.  
 Eileen Off, Ivor Jankovic, Erin Rodriguez, Gabriela Schwartzman (MA students) – primary committee member.

**GRADUATE STUDENT TRAINING – PhD Committee Member, In Progress** (alphabetical order):

Ellis Locke, Amy Peterson, Amanda Slotter - PhD committee member.  
 Mackie O'Hara (Ohio State U.) – external PhD committee member.

**GRADUATE STUDENT TRAINING – MA Advisor, Completed**

Anastasia Misheva, Evelyn Glaze – served as primary advisor

**POSTDOCTORAL RESEARCH TRAINING**

Frank Cuozzo (2003-2004) – now researcher at Lajuma Research Centre, South Africa.  
 Patrick Mahoney (2004-2005) – now Senior Lecturer at Univ. of Kent, UK.  
 Alejandra Ortiz (2016-2019) – currently a postdoctoral researcher at New York University.

**TEACHING EXPERIENCE**

**INSTRUCTOR OF RECORD** (courses at Arizona State University): “Bones, Stones, and Human Evolution (ASM 104),” “Human Osteology (ASM 341),” “Fossil Hominids (ASM 344),” “Dental Anthropology (ASM 452/552),” “Evolutionary History of Human Growth & Development (ASM 460/560),” “Human Sexuality (ASB 150),” “Primate Paleobiology” (ASM 552).

**LECTURER**, “Human Gross Anatomy/Embryology,” Department of Anatomical Sciences, University of the Witwatersrand Medical School, South Africa, 1995-1996. Lectures and lab supervision provided to over 200 medical, dental and nursing students.

**INSTRUCTOR**, “Human Gross & Functional Anatomy,” School of Medicine (1993), School of Physical Therapy (1994-1996), and School of Occupational Therapy (1994), Washington University. Lab supervision and mini-lectures to 105 students. **PART-TIME INSTRUCTOR**, Gross Anatomy Laboratory, The George Washington University Medical School, 2000-2001.

**COURSES PREPARED TO TEACH AND/OR HAVE TAUGHT**

Primate and Human Functional/Developmental Anatomy, Human Osteology, Human Embryology, Primate Evolution, Human Evolution, Primate/Human Growth and Development, Life History Evolution, Analytical Methods, Introduction to Bioanthropology, Human Anatomy.

**FIELDWORK AND OTHER RESEARCH EXPERIENCE**

- Drimolen Cave Research Project, Krugersdorp Valley, South Africa, 2019-
- Northwest Coast, South Africa Paleoanthropological Survey Project, 2009; 2015-2016
- Co-Director, Makapansgat Paleoanthropology Summer Field School, South Africa, 2002-2005.
- Paleoanthropology & Mammalian Paleontology, Makapansgat Valley, South Africa, 1995.
- Researcher, Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, 1994.
- Paleoanthropology & Mammalian Paleontology, Gladysvale, South Africa, 1993.
- Forensic Consultant, Triad Unmarked Human Burial Recovery Team, St. Louis, Missouri (Bi-State Co.), 1993.
- Mammalian Paleontology, mid-Miocene, Namibia, 1993.
- Mammalian Paleontology, Eocene-Oligocene, Uinta Basin, Utah, 1993.

- Mammalian Paleontology, Eocene-Miocene, Montana/Idaho, 1993.
- Mammalian Paleontology, Eocene, Wind River Basin, Wyoming (with CMNH), 1991-1992.
- Forensic Lab Assistant: Craniometric analysis of a Native American burial site, Southold, NY, 1990.
- Lab Assistant (with FE Grine & LB Martin): Quantitative microwear analysis and enamel microstructure of hominoids and early hominins, Stony Brook University, 1989-1990.

### **EDITORIAL SERVICE**

Associate Editor, *American Journal of Physical Anthropology* (2013-2017)

Associate Editor, *Journal of Human Evolution* (2005-2008)

Manuscript Reviewer: *Science*, *Proceedings of the National Academy of Sciences*, *Nature-Scientific Reports*, *American Journal of Physical Anthropology*, *Journal of Human Evolution*, *Journal of Anatomy*, *Archives of Oral Biology*, *Evolutionary Anthropology*, *International Journal of Osteoarchaeology*, *Earth and Planetary Science Letters*

Grant Reviewer: *The National Science Foundation*, *The Leakey Foundation*, *The Wellcome Trust UK*

### **UNIVERSITY/UNIT SERVICE**

ASU CLAS Student Affairs and Grievance Committee, 2019-

SHESC Executive Committee, 2016-2019

Co-Chair, Pleistocene Archaeologist Search Committee, SHESC (2018-2019)

CLAS Committee on Committees, 2015-2018

Museum Curatorial Search Committee, SHESC (2018)

SHESC Personnel Committee, 2015-2016

Sociocultural/Linguist Search Committee, SHESC (Spr. 2015)

Center for Evolutionary Medicine Hiring Steering Committee (Spr. 2015)

SW Archaeology Search Committee, SHESC (Spr. 2015)

CLAS Faculty Senator, Fall 2014

Physical Anthropology Approach Convener, SHESC, ASU (2008-2012).

Origins Project, ASU, Associate Director (2010-2011)

Executive Committee, SHESC, ASU (2008-2012).

Undergraduate Curriculum Committee (2005-2006), ASU College of Arts & Sciences

Departmental Colloquium Organizer (2004-2006)

### **COMMUNITY SERVICE / PUBLIC OUTREACH**

Public Templeton Lecture (Oct., 2015)

STEAM lecture series, the Gary K. Herberger Young Scholars Academy, 2016

IHO Public Talks (several since 2005)

Interviewed for NPR's RadioLab piece on the Taung Child, 2014.

SHESC Museum Exhibition for the Institute of Human Origins: "Becoming Human: 30 Years of Research and Discovery", 2013

Paleoanthropology Exhibit: "Tools of the trade: How biological anthropology is done." Maxwell Museum of Anthropology; Univ of New Mexico. May 25-Nov 3, 2007

Spirit of the Senses, Local Phoenix Area Salon Talk, 2005.

### **SERVICE TO THE DISCIPLINE**

*American Journal of Physical Anthropology*, Associate Editor, Editorial Board member (2013-2017)

AAPA's Cobb Professional Development Grant Committee (2015-current)

Invited participant, AAPA's Committee on Diversity Women's Initiative's Graduate Student Women's Workshop (April, 2016)

*Journal of Human Evolution*, Associate Editor, Editorial Board member (2004-2006)

**PROFESSIONAL MEMBERSHIPS**

American Association of Physical Anthropologists, Society of Vertebrate Paleontology,  
Paleoanthropology Society, American Association for the Advancement of Science