

Anne Gutmann Art

Illustration & Design

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Education

Ph.D., *Medical Science*, biomechanics, University of Calgary, anticipated spring 2010

Graduate Certificate, *Science Illustration*, UC Santa Cruz, 2007

M.S., *Theoretical & Applied Mechanics*, biomechanics, Cornell University, 2007

B.S., *Materials Science & B.A., Physics*, Alfred University, 2002

Illustration & Design Experience

Harvard University Press (Cambridge, MA, current)

- illustrated popular science book about using engineering principles to understand the way animals work

Beike International (Shenzhen, China, 2009)

- created image for website banner and designed medical forms for company's biotechnology division

Northern Arizona Kung Fu (Flagstaff, AZ, 2008)

- designed and constructed website for a local martial arts association (www.flagstaffkungfu.org)

Greenprints (Fairview, NC, 2008)

- created illustrations showing human-plant interaction to accompany short stories about gardening

The Wild Center: Natural History Museum of the Adirondacks (Tupperlake, NY, 2007)

- illustrated displays about solar panels, green roofs, and ecopavers for the new "Bio Building"

St. Eustace Episcopal Church (Lake Placid, NY, 2006-2007)

- designed and illustrated a brochure and poster about water purification for the St. Eustace Church Dominican Republic Mission

Center for Agroecology and Sustainable Food Systems (Santa Cruz, CA, 2006)

- created pen & ink blueberry illustration for "The Cultivar" newsletter

Bartók Society (Saranac Lake, NY, 1997)

- sculpted a ceramic bust of Hungarian composer Béla Bartók

Illustration & Design Skills

Digital Media

- proficient in Adobe Photoshop, Illustrator, InDesign, Flash, AfterEffects, and GoLive

Traditional Media

- comfortable using graphite, pen & ink, scratchboard, colored pencil, water color, gouache, and acrylic

Information Graphics

- experienced in creating charts, graphs, tables, etc. to graphically convey information

Science Experience

Ph.D. *Dissertation* (University of Calgary, 2007-current)

- studied how metabolic cost and mechanical & physiological constraints influence human gait selection

- wrote custom data collection and analysis software in Labview and Matlab

- designed protocol for oxygen consumption testing

- conducted metabolic and force testing on human subjects

Science Experience (*continued*)

Research Assistant (University of Calgary, 2007- current)

- designed and built custom forceplates for dog gait analysis for canine arthritis study
- wrote custom data collection and analysis software in Labview and Matlab
- trained dogs to run over forceplates for data collection trials

Master's Thesis (Cornell University, 2002-2005)

- studied how metabolic cost influences gait selection in running and hopping for M.S. project
- designed protocol for oxygen consumption testing
- ran metabolic tests on human subjects

Science Teaching Experience

Biomedical Engineering TA (University of Calgary, 2008)

- designed assignments for physiology modeling course
- worked with class organizer and guest lecturers to determine assignment content
- created assignments and solution keys

Engineering TA (Cornell University, 2002-2004)

- presented review material for Intro. to Dynamics
- supervised Intro. to Dynamics Lab
- held office hours for Intro. to Dynamics and Vector Calculus

Science Papers

Bertram, J.E.A., and Gutmann, A.K. (2009) Motions of the running horse and cheetah revisited: fundamental mechanics of the transverse and rotary gallop. *J. R. Soc. Interface.* **6**:549-559.

Gutmann, A. K., Jacobi, B., Butcher, M., and Bertram, J.E., (2006). Constrained optimization in human running. *J. Exp. Biol.* **209**: 622-632.

Morales, A.M., Pitchumani, R., Garino, T.J., Gutmann, A.K., and Domeier, L.A., (2005). Fabrication of ceramic microstructures via microcasting of nanoparticulate slurry. *J. Am. Cer. Soc.* **88**: 570-578.

Morales, A.M., Garino, T.J., Boyce, B.L., Domeier, L.A., Gutmann, A. K., and McLean, D. E. (2003). Micro-molding and Sintering of Nanoparticle Preforms. pp. 430-439, *Proceedings of SPIE*, Vol. 4979 Micromachining and Microfabrication Process Technology VIII, Edited by Yasaitis, J.Y., Perez-Maher, M.A., and Karam, J.M.

Awards/Honors

- NSF Graduate Research Fellowship (scientific promise)
- GE Fellowship (academic excellence)
- SUNY Chancellor's Award (academic excellence)
- Natasha Goldowski Renner Award (excellence in physics)
- National Merit Scholar (academic excellence)

Professional Affiliations

- Guild of Natural Science Illustrators
- Society for Integrative & Comparative Biology
- International Society of Biomechanics