

**Curriculum Vitae: Karen Gellman**

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**D.O.B.** 4/22/59

**Education**

- 2001 Ph.D. Cornell University, locomotion biomechanics  
Dissertation: The role of the head and neck in equine locomotion
- 1995 D.V.M. Cornell University, College of Veterinary Medicine
- 1979 A.B. Cornell University, College of Arts and Sciences

**Post-Graduate Clinical Training**

- 1999 Veterinary Acupuncture, CSU, I.V.A.S. certified 2000
- 1998 Special Seminar in Physical Therapy for Athletic Animals, CCVM
- 1996 Veterinary Chiropractic, AVCA

**Honors and Grants**

- 1999 National Science Foundation Award: Differential Muscle Function in Locomotion: the Equine Forelimb as a Model System of "Gearing" in Running Gaits. \$175,000, authored grant proposal.
- 1997 Travers Research Award: The Role of the Spine in Equine Locomotion, \$5,000, authored grant proposal.
- 1995 Duke Physiology Prize, Cornell Veterinary Medicine.
- 1993 Physiology Departmental Research Award, *Research in sensory physiology with Dr. E. Loew.*
- 1993 NIH Training Award, Cornell Veterinary Medicine, *Research in respiratory exercise physiology with Dr. D. Ainsworth.*
- 1992 Leadership Training Program awarded, Cornell Veterinary Medicine, *Research in molecular biology with Dr. R. Cerione.*
- 1992 Graduate Research Assistantship awarded, Cornell Veterinary Medicine

## Teaching

- 2006-2008 Postural Rehabilitation, Maximum Horsepower LLC. Program director and primary instructor for veterinary continuing education courses: biomechanics, static and dynamic structure and function of the musculoskeletal system, neurophysiology and clinical applications of postural control. Developed 115 hours of RACE approved CE, researched, wrote and designed all course material, managed team of professionals (instructors), designed and maintained website ([www.posturalrehabvets.com](http://www.posturalrehabvets.com)), implemented and managed marketing database, interfaced with world-wide body of professional CE students through internet communications.
- 2008 Cornell University, College of Agriculture and Life Science. Lecturer, ALS 1140 Explorations in Biological Research and Health Professions, a seminar course in which didactic instruction or laboratory exercises are combined with guest speakers (researchers and clinicians) to explore career options in biology.
- 1997-2008 Cornell Summer College. Director of two educational programs for high school seniors: Explorations in Biological Sciences and Health Professions (see course above), Research Apprenticeship in Biological Sciences (RABS). RABS was created by Dr. Gellman to provide an opportunity for gifted and motivated students to experience the life of a biomedical research scientist. Selected students are placed in laboratories throughout Cornell University (primarily CALS, A&S, CVM) for six weeks, are responsible for their own project, give oral presentations and wrote papers. They are actively mentored by Dr. Gellman as well, who teaches seminars relevant to research success: The process of science, Study design and experimental bias, Effective graphical presentation of scientific data, How to put together an oral presentation.
- 2003 Tufts Veterinary College. Instructor for veterinary continuing education course, developed own course materials: Neurology, Structure and Function of the Head and Neck, Locomotion Biomechanics.
- 2001 Rutgers University, Department of Equine Science, Guest lecturer: *Locomotion Biomechanics, Role of Head and Neck in Equine Locomotion*.
- 1997-1999 Cornell University, CALS, Department of Animal Science, The Horse. Guest lecturer: *Complementary therapies in equine medicine*.
- 1999 Colorado State University, College of Veterinary Medicine, Clinical Sciences, Guest lecturer: *Gait analysis and Locomotion Biomechanics*; Continuing Education, Guest Lecturer: *Locomotion Biomechanics*.
- Ithaca College, Department of Sports and Exercise Science, Guest Lecturer: *Fundamental mechanisms of gait*.
- University of Guelph, College of Veterinary Medicine, Clinical Sciences, Guest Lecturer: *Gait analysis and Locomotion Biomechanics*, Invited speaker for Student Veterinary Association: *Complementary Therapies in Veterinary Medicine*
- 1998 Cornell University, Animal Locomotion course, Guest lecturer: *Fundamental gait mechanisms*.

University of Cordoba, College of Veterinary Medicine, Spain. Guest instructor: *Complementary therapies for treating back pain in horses.*

Equine Physical Therapy Certification Program, Bancroft, Ontario. Lecturer: *Biomechanics of animal locomotion and fundamental gait mechanisms.*

- 1996-97 Cornell University, College of Veterinary Medicine, Clinical Sciences, Equine Lameness course: *Diagnosing and treating back pain in horses.*
- 1995-1996 Developed teaching materials on Complementary and Alternative Veterinary Medicine for Dr. Allen Schoen, internationally recognized author and speaker.
- 1994-1995 The Princeton Review. Taught Biology and Verbal skills for MCAT preparation course.
- 1989-1991 City College of New York, Department of Chemistry. Tutored undergraduate chemistry students.

### **Employment**

- 1999-2008 Cornell Summer College, Program Director: Research Apprenticeship in Biological Sciences (RABS), Explorations in Biological Research and Health Professions.
- 1996-2008 Equine Sports Medicine, private practice, specializing in performance medicine for horses and dogs (designed website: [www.equinesportsmed.com](http://www.equinesportsmed.com)).
- 2004-2006 Examining veterinarian, Finger Lakes Racing, Farmington, NY.
- 1999 Laboratory manager, Dr. David Robertshaw, Biomedical Sciences, Cornell Veterinary Medicine. *Research on cardiovascular function in sheep during exercise.* Supervised high school, undergraduate and professional students in lab.
- 1992-1994 Laboratory assistant, Dr. Richard Cerione, Pharmacology, Cornell Veterinary Medicine, *Research on signal transduction.*
- 1991 Laboratory Assistant, Dr. Tom Kawula, Microbiology, Cornell Medicine. *Research on infectious disease.*
- 1991 Laboratory Assistant, Dr. Howard Shumer, Columbia College of Physicians and Surgeons, Microbiology, *Research on infectious disease.*

(Prior to 1991, worked as fashion designer in NYC for Christian Dior Lingerie)

### **Publications**

Manuscripts in preparation:

- Gellman K, Shoemaker JM. Posture and Occlusion, a review. *For submission to EVJ.*
- Gellman K, Shoemaker JM. Equine postural integration: the neurologic control of normal standing posture and postural rehabilitation. Chapter in Equine Manual Therapy, eds Haussler KK, Robinson NG, Publisher, Elsevier. *Revised and submitted to editors.*

- Gellman K, Shoemaker JM. The biomechanics of equine spinal support. Chapter in Equine Manual Therapy, eds Haussler KK, Robinson NG, Publisher, Elsevier. *Revised and submitted to editors.*
- Gellman K, Shoemaker JM. The neurophysiology of postural reflexes. Chapter in Equine Manual Therapy, eds Haussler KK, Robinson NG, Publisher, Elsevier. *Revised and submitted to editors.*
- Gellman K, Shoemaker JM. Biomechanical stresses in equine sport injury. Chapter in Equine Manual Therapy, eds Haussler KK, Robinson NG, Publisher, Elsevier. *Revised and submitted to editors.*

Gellman K, Shoemaker JM. Living with Gravity: Posture and the Stomatognathic System. (Abstract) Proceedings, American Veterinary Dental Forum, October 2007.

Gellman KS, Bertram JEA. The equine nuchal ligament 1: structural and material properties. *Veterinary Comparative Orthopaedics and Traumatology* 2002; 15:1-6.

Gellman KS, Bertram JEA. The equine nuchal ligament 2: passive dynamic energy exchange in locomotion. *Veterinary Comparative Orthopaedics and Traumatology* 2002; 15:7-14.

Gellman KS, Bertram JEA, Hermanson JW. Morphology, Histochemistry and Function of Epaxial Cervical Musculature in the Horse (*Equus caballus*). *Journal of Morphology* 251:182-194 (2002).

Haussler KK, Bertram JE, Gellman K, Hermanson JW. Segmental *in vivo* vertebral kinematics at the walk, trot and canter: a preliminary study. *Equine Vet J Suppl.* 2001 Apr;(33):160-4.

Haussler KK, Bertram JE, Gellman K, Hermanson JW. Dynamic analysis of *in vivo* segmental spinal motion: An instrumentation strategy. *Veterinary Comparative Orthopaedics and Traumatology* 2000;

Robertshaw-D; Rawson-R; Harper-B; Gellman-K; Maldonado-P; Harris-K. Cutaneous arteriovenous anastomoses remain closed during exercise. *FASEB-Journal*. [print] March 15, 2000; 14 (4): A322.

Gellman KS, Bertram JEA; Hermanson JW . The role of the head and neck during equine locomotion. (Abstract) *American-Zoologist*. 1999; 39 (5): 105A.

Gellman, K An integrated approach to diagnosing and treating back pain in horses. (Abstract) Proceedings of the Conference on Equine Sports Medicine and Science (CESMAS 1998).

### **Publications in Lay Press**

*What you must know about Equine Posture*, in The Ultimate Horse Lover, Health Communications Inc., publication date, November 2008.

*Standing up for Success: How to get the most out of your winter turn-out*, Equus Magazine, publication date, Fall 2008.

## **Current Research Activities:**

***Postural implications in the initiation of osteoporosis.*** Collaborators: Kenneth J. McLeod, PhD, chair of Bioengineering, SUNY Binghamton; John W. Hermanson, PhD, Biomedical Sciences, Cornell Veterinary Medicine; researchers at New York Chiropractic College. Submitting for NIH funding January 2009.

***Structure and function of equine masticatory muscles.*** Collaborators: John W. Hermanson, PhD, Biomedical Sciences, Cornell College of Veterinary Medicine; Susan H. Williams, PhD, Department of Biomedical Sciences, Ohio University. Preliminary investigations in progress.

***Effects of trans-cranial stimulation on stereotypic behaviors in confined horses.*** Collaborators: Katherine A. Hought, VMD, PhD, Dipl ACVB, Julia Albright, DVM, MA, Department of Clinical Sciences, Cornell Veterinary Medicine. Preliminary investigations in progress.

## **References:**

### **David Robertshaw, DVM, PhD**

Professor Emeritus, former chair of Physiology, Cornell Vet College. Was faculty mentor as vet student, hired as lab manager while in graduate school, has given seminars in Explorations programs since 1998.

Phone: (607) 253-3344      e-mail: dr11@cornell.edu.

### **Abby Eller**

Director of Cornell Summer College, College of Summer School and Continuing Education, Cornell University. Has been supervisor for RABS and Explorations programs since 1997.

Phone: (607) 255-6203      e-mail: ae12@cornell.edu.

### **Gayle Trotter, DVM, MS, Dipl ACVS**

Former head of equine surgery at Colorado State Veterinary School, has taken extensive Continuing Education training in Postural Rehabilitation.

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### **Judith M. Shoemaker, DVM**

World renowned clinician, co-instructor in Postural Rehabilitation, co-author in numerous publications.

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