CURRICULUM VITAE

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Education:

Location	Degree	Year	Field
Utah State University Logan, Utah	B.S.	1974	Zoology/Chemistry
Indiana University Bloomington, IN	Ph.D.	1979	Physiology/Neuro-physiology

Professional Experience

2009 – present	Director of Remediation, COM
2008 - present	Assistant Dean/Curricular Affairs
2007 – 2012	Director, Physiology Course/Masters Program
2007 – 2010	Director Cardiopulmonary Section
2005 - 2007	Director, Renal Section
2004 - 2008	Director, Neuroscience Section
2002 - 2006	Coordinator, Internet Didactics Broadcasts
2000 - 2004	Director, Cardiovascular Section
2000 – 2009	Director, Medical Informatics Curriculum
1993- 2009	Asistant Dean for Academic Advancement
1992-present	Associate Professor, University of Health Sciences
1992-2001	Assistant Director of Grading Services
1990-present	Chairman, Department of Physiology, University of Health Sciences, College of Osteopathic Medicine
1989-1992	Assistant Professor, University of Health Sciences, College of

	Osteopathic Medicine, Dept. of Physiology
1981-1989	Associate Scientist, Biomedical Research Division, Lovelace Medical Foundation, Albuquerque, New Mexico.
1983-1989	Adjunct Assistant Professor, Department of Physiology, School of Medicine, University of New Mexico.
1982-1989	Director, Federal Student Work Study Program, Lovelace Medical Foundation.
1982-1989	Member, Institutional Review Board, Lovelace Medical Foundation.
1985-1989	Committee Chairman, E. Lee Coates, Ph.D. candidate (University of New Mexico)
1988-1989	Consultant, Ross Poultry Breeders, Inc.
1982-1987	Director, Animal Facility, Lovelace Medical Foundation.
1984-1988	Member, Animal Care and Use Committee, Lovelace Med. Fdn.
1986-1987	Program Director, Gas Transport, Lovelace Medical Foundation, Albuquerque, New Mexico.
1979-1981	Postdoctoral Fellow, Ohio State University, Columbus, Ohio.
1978	Visiting Lecturer, Department of Biology, Indiana University, Bloomington.
1974-1979	Associate Instructor, Indiana University, Bloomington, Indiana.

UHS Committee Service (does not include numerous subcommittee assignments)

1993 – present	Member, Deans' Council
2008 – present	Chair, Appeals Board
2006 – present	Board of Directors, OPTI
2002 - 2004	Chair, Acquiring, Creating and Applying Knowledge
1991- 2006	Educational Resources Committee, Currently Chair, 1991-93 Chair, 1999-00 Vice-Chair
1992-present	Curriculum Committee, 1994-97 Chair
2000-2001	Member, Internal Advisory Committee on Allied Health Programs
1999 - present	Student Accessability Committee
1998 - 2000	Member, Task Force on Research
1998 - 1999	Member, Committee on Institutional Assessment
1997 -1998	Member, Quality Team for Strategic Planning
1997 -1998	Co-Chair of Curriculum Committee Subcommittee on Instructional Methods
1997 - 2000	Member, Student Committee on Computer Issues
1996 -present	Member, Leadership Team for Strategic Planning
1994 -1997	Self Evaluation Steering Committee
1993 -present	Member, Deans= Council
1993	Served on the ad hoc executive committee for strategic planning
1993	Served on multiple ad hoc subcommittees for strategic planning
1990 -1992	Member, Promotion and Graduation

Major University Service

Designed and implemented first Medical Informatics Curriculum

Designed, contracted and oversaw purchase and implementation of first campus network including faculty and student services including more than 70 computers.

Facilitated innovative faculty educational methods including videodisc capabilities, software authoring, computer presentation modalities, PBL, etc.

Designed common use lab area for standardized patients, discussion groups, animal laboratories and small classroom/meeting room.

Led a curriculum revision process including self evaluation, investigation of alternative methods, faculty development etc.

Implemented self evaluation processes including course/instructor evaluations, student focus groups, surveys etc.

Promoted and negotiated a university Internet presence including student pages.

Faculty Development Organization/Presentations

Educational Methodologies in Medical Education
Problem Based Learning - Advantages and Disadvantages
Problem Based Learning Demonstration
Facilitator Training for Problem Based Learning
Computer Authoring of Educational Material
Curriculum Evaluation - Faculty Retreat
Departmental Issues in Curriculum Renewal - Focus Groups
Clinical, Basic Science and Education Research in the Medical Education Setting
Lecture Presentation Techniques

Major Teaching Experience

1989- present	Lecturer (45 to 65/year) and laboratory coordinator in medical physiology on topics of gastrointestinal, skeletal muscle, proprioception, special senses respiratory and cardiovascular physiology.
1984- 1988	Guest lecturer in a graduate course in exercise physiology at the University of New Mexico. Approximately 5 lectures/year were

given on the topic of ventilatory control.

1981 Guest lecturer for the Dental School at the Ohio State University, Columbus. Seven lectures covering human neurophysiology

1978 Sole lecturer and laboratory coordinator for an honors course titled Comparative Animal Physiology at Indiana University.

Innovative Teaching Methods

Developed several internet based directed study modules.

Implemented use of Blackboard as a major, on-line curriculum tool.

Introduced and promoted computer based authoring to the UHS faculty which resulted in several departments utilizing computer generated materials in their courses as computer graphics, animation and self directed learning.

First freshman class instructor to utilize computerized presentations in the classroom including text, graphics, animation and sound.

Utilized the AReply@ system to determine the class preparedness, lecture effectiveness and to stimulate active learning.

Developed 5 problem/case based laboratories using small group discussion. To implement this protocol, numerous cases and problems were developed and the format of the discussions and assignments evolved to fit the unique faculty (facilitator) to student ratio.

Proposed and coordinated implementation of an interdisciplinary course in skeletal muscle. Later developed this course into an interdisciplinary course, AIntroduction to Cell and Molecular Biology@.

Proposed and facilitated a computerized question bank to aid in the instruction of Pulmonary Physiology.

Initiated a physiology list serv to improve student communication.

Honors and Memberships

American Medical Informatics Association, Member

American Osteopathic Association, Member
American Association of Medical Colleges, Member
Association of Chairmen of Departments of Physiology, Member
American Physiological Society, Member
Society for Neuroscience, Member
Recipient of an NIH New Investigator Award, 1981-1985
Bremer Foundation Postdoctoral Fellow, 1980-1981
Parker B. Francis Postdoctoral Fellow, 1979-1980
Indiana University Fellowship, 1978
Utah Boy's State Scholarship to Utah State University, 1969-1970

Guest Reviewer:	J. Appl. Physiol.: Respirat., Environ., and Exercise Physiol.Respiration Physiol.
Ad Hoc Reviewer:	NSF grant application
Reviewer:	AOA Focus Grant - 1994

Grants - Funded

1992	Marion Merrell Dow, UHS Computer Resource Center, (Author of the proposal used to negotiate the grant), $300,000.
1989	AHA, "Effect of pulmonary artery distension on vascular resistance", $12,000.00 annual direct.
1987-1988	NIH (BRSG), "Effect of exercise on cerebral blood flow", $5,000.00 annual direct.
1986-1987	AHA, "Control of pulmonary vascular impedance during exercise", $9,500 annual direct.
1982-1985	NIH, "Independent forcing of lung volume and CO_2 concentration", $34,000.00 annual direct.

Major Research Experience

Principal Investigator, AResidency Program Selection Process@, 1999-present. A study to detemine the basis of selecting residents,

Principal Investigator, APhysiology Curriculum Innovations@, 1994-1998. A study to develop problem based discussion groups using student tutors.

Co-Investigator (with Scalzi), AWireless, Interactive Classroom@, 1993-1995. A study to develop the means to evaluate, in real time, lecture effectiveness and student participation using a wireless communication system in the classroom.

Principal Investigator, "Control of Pulmonary and Cerebral vascular Resistance@, 1987-

1990. A study to investigate the mechanisms of the influence of blood gas concentration, pulmonary artery distension and exercise on the pulmonary and cerebral vascular systems.

Principal Investigator, "Control of Ventilation in the Lizard," 1981-1990. An investigation on the influence of lung CO_2 concentration and volume on ventilatory control.

Co-Investigator (with Kunz and Michal), "Control of Avian Respiration," 1979- 1981. A postdoctoral project to determine the variables responsible for the regulation of respiration.

Principal Investigator (with Suthers), "Single Unit Studies in the Nucleus Intercollicularis of the Pigeon," 1976-1979. A graduate project to partially fulfill the requirements of the Doctor of Philosophy degree at Indiana University.

Publications

1. Ballam G.O. Visual, somatosensory and auditory response characteristics of single units in the nucleus intercollicularis of the pigeon. Doctoral Dissertation, Indiana University, Bloomington, Indiana, 1979.

2. Ballam G.O. Bimodal and bilateral interactions of visual and somatosensory inputs to the pigeon's midbrain. Brain. Res. 245:27-34, 1982.

3. Ballam G.O., Clanton T.L., Kunz A.L. Ventilatory phase duration in the chicken: role of mechanical and CO_2 feedback. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 53:1378-86, 1982.

4. Clanton T.L., Ballam G.O., Moore R.K., Kunz A.L. Rapid ventilatory responses to changes in insufflated CO_2 in awake roosters. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 53:1371-77, 1982.

5. Ballam G.O. Ventilatory response to inspired CO_2 in the lizard Tupinambis nigropunctatus. Comp. Biochem. Physiol. 78:757-62, 1984.

6. Ballam G.O., Clanton T.L., Kunz A.L. Ventilatory pressure loading at constant pulmonary F_{CO2} in Gallus Domesticus. Respirat. Physiol. 58:197-206, 1984.

7. Ballam G.O., Clanton T.L., Kunz A.L. Effect of sinusoidal forcing of air sac volume on avian breathing frequency. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 59:991-1000, 1985.

8. Ballam G.O. Breathing response of the tegu lizard to 1-4% CO_2 in the mouth

and nose or inspired into the lungs. Respirat. Physiol. 62:375-86, 1985.

9. Coates E.L., Ballam G.O. Upper airway CO_2 receptors in tegu lizards: localization and ventilatory sensitivity. J. Comp. Physiol. B 157:483-89, 1987.

10. Coates E.L., Caton T.M., Ballam G.O. Ventilatory response of the tegu lizard to upper airway hypoxia and hyperoxia during normocapnia on hypercapnia. In: Olfaction and Taste IX ed. B. Boland, NY Academy of Science, New York, NY. pp 236-38, 1987.

11. Ballam G.O., Donaldson L.A. Effect of venous (gut) CO_2 loading on intrapulmonary gas fractions and ventilation in the tegu lizard. J. Comp. Physiol B 158:591-600, 1988.

12. Coates E.L., Ballam G.O. Breathing and upper airway CO_2 in reptiles: role of the nasal and vomeronasal systems. Am. J. Physiol. 256:R91-97, 1989.

13. Ballam G.O., Coates E.L. Effect of upper airway CO_2 pattern on ventilatory frequency in the tegu lizard. Am. J. Physiol. 257:R156-161, 1989.

14. Coates E.L., Ballam G.O. Olfactory receptor response to CO_2 in bullfrogs. Am. J. Physiol. 258:R1207-1212, 1990.

15. Reeves J.T., Ballam, G.O., Hofmeister, S., Pickett, C., Morris, K., Peacock, A. Improved arterial oxygenation with feed restriction in rapidly growing broiler chickens. Comp. Biochem. Physiol. 99A:481-485, 1991.

16. Coates, E.L., Furilla, R.A., Ballam, G.O., Bartlett, D. Jr. A decrease in nasal CO_2 stimulates breathing in the tegu lizard. Respiration Physiology. 86:65-75, 1991.

17. Ballam, G.O., Guillory V.J. Residency program selection criteria. In preparation.

18. Ballam, G.O., Karius D.R., Alderman J.L., Morrill C.G. Examination evaluated impact on discipline content acquisition in transition from traditional to systems curriculum. In preparation

19. Ballam, G.O., Pead J

Abstracts

1. Ballam, G.O. Multimodal responses of single units in the nucleus intercollicularis of the pigeon. Federation Proceedings 38:897, 1979.

2. Ballam, G.O. Somatosensory and visual receptive field characteristics of single units in the nucleus intercollicularis of the pigeon. Society for Neuroscience 5:776, 1979.

3. Ballam, G.O., A.L. Kunz, R.K. Moore, E.K, Michal, and C.W. Smith. A method for independently forcing lung [CO_2] and air sac volume in unidirectionally ventilated birds. Federation Proceedings 39:373, 1980.

4. Ballam, G.O., A.L. Kunz, R.K. Moore, E.K. Michal and C.W. Smith. Pacing avian ventilatory effects by oscillating air sac volume at constant [CO_2], Proceedings of the International Union of Physiological Sciences 14:310, 1980.

5. Clanton, T.L., A.L. Kunz, G.O. Ballam and R.K. Moore. Breathing rhythm in birds: Responses to step changes in lung [CO_2]. Federation Proceedings 40:453, 1981.

6. Ballam, G.O., A.L. Kunz, T.L. Clanton and E.K. Michal. A stretch reflex in chickens at constant F_LCO_2. Federation Proceedings 40:453, 1981.

7. Clanton, T.L., G.O. Ballam, R.K. Moore and A.L. Kunz. Effects of changes in lung [CO_2] on the timing and amplitude of the ongoing breath in awake roosters. Physiologist 24(4):131, 1981.

8. Michal, E.K., G.O. Ballam and A.L. Kunz. Effects of CO_2 and air sac volume on the activity of medullary respiratory neurons of the chicken. Physiologist 24(4):131, 1981.

9. Ballam, G.O., T.L. Clanton, and A.L. Kunz. Effect of [CO_2] changes on volume time threshold (VTT) curves in the chicken. Physiologist 24(4):132, 1981.

10. Clanton, T.L., G.O. Ballam and A.L. Kunz. Information processing in respiratory control: An experimental model for separating mechanoreceptor and chemoreceptor inputs. Proceedings of International Symposium: Central Neural Production of Periodic Respiratory Movements 101-102, 1982.

11. Ballam, G.O. Ventilatory response to elevated inspired CO_2 in the lizard: Evidence for upper airway receptors. Federation Proceedings 42:470, 1983.

12. Ballam, G.O. and J.W. Hicks. The effect of phasic and mean changes of pulmonary CO_2 (L_{CO2}) on ventilation in the Tegu lizard. Physiologist 26(4):A-49, 1983.

13. Kunz, A.L., R.P. Kaminski, D.A. Rittinger, T.L. Clanton, and G.O. Ballam. Unified model explaining normal breathing, volume pacing and CO_2 pacing in birds. Federation Proceedings 43:431, 1984.

14. Ballam, G.O. Ventilatory response to non-inspired environmental CO_2 in the Teju lizard. Physiologist 27:284, 1984.

15. Clanton, T.L., A.L. Kunz, G.O. Ballam, and R.P. Kaminski. Respiratory waves (RW) in the blood pressure of birds. Physiologist 27:286, 1984.

16. Pacheco R.M., Coates E.L., Arman R., Ballam G.O. Ventilatory response to pulsed and mean CO_2 in the nares of the tegu lizard. Federation Proceedings 44:849, 1985.

17. Coates E.L., Pacheco R.M., Ballam G.O. Localization of upper airway CO_2 sensitive receptors in the tegu lizard Tupinambis nigropunctatus. Federation Proceedings. 44:1348, 1985.

18. Donaldson L., Charlton J., Ballam G.O. Pulmonary gas concentrations and ventilatory response to gut-loading CO_2 in the tegu lizard. Federation Proceedings 44:1348, 1985.

19. Coates E.L., Caton T.M., Ballam G.O. Upper airway (Nasal?) chemoreceptors in a boid snake: ventilatory response to 0_2 and CO_2. International Symposium on Olfaction and Taste 42, 1986.

20. Coates E.L., Ballam G.O. Upper airway CO_2 receptors in reptiles: are they located in the nasal cavities or the vomeronasal organ. Physiologist 30:225, 1986.

21. Coates E.L., Ballam G.O. Olfactory receptor response to upper airway CO_2 in the bullfrog. Physiologist 31:A28, 1988.

22. Ballam G.O., Coates E.L. Breathing frequency is depressed with elevations of environmental but not expiratory CO_2 in the upper airways of the tegu lizard. FASEB J., 1989.