

Carl A. Pinkert, PhD

Education

1980-83 PhD University of Georgia; major – Animal Science/Reproductive Physiology
1976-77 MS Southern Illinois University; major – Animal Science
1975-76 Western Illinois University; major – Animal Science
1971-75 BS Colorado State University; major – Zoology

Postdoctoral Fellowship

1983-86 University of Pennsylvania; Animal Biology/Genetics

Professional Experience

2013-pres. The University of Alabama (UA), Vice President for Research and Economic Development (2014-pres.), Vice President for Research (2013-14), Professor of Biological Sciences, College of Arts and Sciences (2013-pres.)
2006-13 Auburn University (AU); Associate Vice President for Research (2009-13), Associate Dean for Research and Graduate Studies, College of Veterinary Medicine (2006-09), Professor of Pathobiology (2006-13), Interim Head, Dept. of Pathobiology (2013)
2000-06 University of Rochester (UR); Professor of Pathology and Laboratory Medicine; Director, UR Transgenics, School of Medicine and Dentistry
1991-00 University of Alabama at Birmingham (UAB); Associate Professor of Comparative Medicine, Director, UAB Transgenic Animal/ES Cell Resource, School of Medicine and Dentistry
1988-91 Embryogen/DNX Corporation; Director, Animal Biology Division and Animal Biology Research Center (1989-91), Director, Dept. of Animal Science (1988-89)
1986-88 University of Missouri (MU); Assistant Professor of Animal Sciences, College of Agriculture

Honors and Achievements

- Economic Development Partnership of Alabama (EDPA) Foundation, Board of Directors (2013-pres.)
- Southeastern Universities Research Association (SURA), Board of Trustees (2013-pres.)
- Tuscaloosa County Industrial Development Authority (TCIDA), Board of Directors (2013-pres.)
- American Association for the Advancement of Science, AAAS Fellow (2011)
- Rotary International, Member and Paul Harris Fellow (2010-pres.)
- Mississippi-Alabama Sea Grant Consortium, Board of Directors (2009-pres.)
- Phi Zeta, Veterinary Honorary (2006)
- Tenured (UAB, 1999; UR, 2000; AU, 2006; UA, 2013)
- Doerenkamp-Zbinden Prize (1997)
- Sigma Xi; 56th College of National Lecturers (1993-95)
- National Biological Impact Assessment Program (USDA) committee membership (1989-90)
- Blanchard Situational Leadership-II Management Training Program (1989)
- Gamma Sigma Delta – Agricultural Honorary (1982)
- Sigma Xi – Science Honorary (1982)

Editorships, Review Assignments and External Committees

- Editorships: *Transgenic Research*: American Regional Editor (1990-92), Editor (1992-2000)
- Editorial Boards: Service on 6 journal editorial boards
- Ad-hoc Reviewer: 25 state/federal/international agencies, 3 foundations, 5 universities, 33 journals and 5 publishers
- NIH Panel Reviews: Comparative Medicine Review Committee (RIRG-C) Study Section – standing review panel member and chair. Service on 69 review panels (chair of 37 panels)

- SEC: Academic Conference Advisory Committee (2011); Auburn's SEC Faculty Achievement Award Committee (2011-13), Visiting Faculty Travel Award Committee (2012-13)
- American Association of Veterinary Medical Colleges – Legislative Advisory and Associate Deans for Research Committees (2006-09)
- Association for the Accreditation and Assessment of Laboratory Animal Care, International, ad hoc specialist/site visitor appointments (2005-14)

Selected Administrative Responsibilities

2013-pres. Vice President for Research & Economic Development (VPRED), The University of Alabama

The VPRED is responsible for providing leadership and advancing UA's research and economic development goals and expanding the base of research funding from federal agencies, foundations, and the private sector. A \$14 million annual budget provides for oversight of university-wide research enhancement and compliance efforts, the formulation and advancement of research policies and guidelines, promotion and coordination of multidisciplinary research programs, development of research infrastructure, and oversight of technology transfer and economic development activities. The role fosters research collaboration between and among faculty and students at UA, the UA System and at other universities within and beyond Alabama. Additionally, collaborative research partnerships are promoted with the business community to expand UA's applied research capacity. The VPRED participates in the President's senior leadership of the university, with a close working relationship with the deans, associate deans for research, center directors and faculty.

2015 was the first full year of an office incorporating both research and economic development priorities. Efforts encompass a continuum of activities from student opportunities and leading the research enterprise to technology commercialization and workforce development. Leadership is provided in efforts to expand the base of research funding, promote collaborative partnerships, and to assist in the visibility of the Tuscaloosa business community and our applied research capacity.

Between 2014 and 2016, I led UA participation in a variety of university and community activities from establishment of a county-wide drug court and drug deferral program to development of a SANE (Sexual Assault Nurse Examiner) program with participation of the district attorney, law enforcement, district/circuit courts, and regional hospital. Through various mechanisms, I have built stronger interactions and accountability in various areas – from faculty and administrative opportunities (e.g., faculty senate interactions and programmatic growth working with Financial Affairs, Advancement, Community Affairs and Academic Affairs) to student relations (e.g., SGA and student program advocacy).

Selected Committees *President*, Executive Committee. *University*: Strategic Planning Council. *Search Committees*: President, Provost (chair).

2006-13 Auburn University

Professor and Associate Vice President for Research (AVPR) (2009-13)

As AVPR, I served as Chief Operating Officer for the Office of the Vice President for Research (OVPR) and a \$19 million annual budget. Responsibilities included a liaison role between the OVPR and faculty for academic research program development – through direct interaction with the Office of the Provost and University Senate. I worked frequently with the Provost and his team, and shared responsibilities for the Director of Undergraduate Research. My interactions with the Executive Vice President's Office (Financial Affairs), Office of General Counsel, Associate Deans and Deans provided an encompassing institutional perspective.

My primary duties included promotion of inter- and multi-disciplinary research initiatives across the Auburn and Montgomery campuses (including various initiatives (e.g., Health Sciences, Energy and the Environment, Science Technology Engineering and Mathematics [STEM], Food Systems, Cyber Systems, etc., as well as Core Facility oversight). I interacted with and coordinated meetings of the associate deans for research. Additionally, I served on all OVPR task forces and reviews associated with strategic academic initiatives. Working with faculty and various university constituencies, we developed and implemented the Intramural Grants Program to strengthen and dramatically enhance direct support for faculty. I facilitated draft guidelines for Compliance Committee selections, faculty startup packages, research center and institute guidelines and a host of policies and procedures to benefit faculty, programmatic activities and support mechanisms.

As AVPR, I interacted with internal/external stakeholders to implement strategic planning, represented the OVPR in various external roles in state and national arenas, advised on sponsored programming issues and assisted in efforts to identify and commercialize intellectual properties. I served on a number of space planning and facilities groups, in addition to my review of all Promotion and Tenure guidelines on behalf of the Provost.

Beginning in the summer of 2011, I met weekly with the Provost's leadership team (the Provost, Associate Provost for Administration, Associate Provost for Undergraduate Studies and Graduate School Dean). This opportunity provided me with a greater understanding of all aspects of AU's academic mission. I also served on the AU Strategic Planning Steering Committee, helping to craft an all-encompassing plan reflective of all of our constituencies.

Interim Head, Department of Pathobiology (2013)

During a transition in leadership in the department and college, I served as Interim Department Head from May to November. Here, I oversaw the department's academic mission and served as a member of the college's Executive Committee. My responsibilities included selection of members for college and departmental committees, faculty course assignments, and working with residents, students and trainees. I hired faculty, residents and trainees, recommended faculty for promotion and tenure (with dossier development) and performed annual performance/salary reviews. Various activities, some outside the norm, included nominations of faculty and students for awards, grief counseling, and disciplinary actions. I also provided interim project oversight, requiring select agent certification, with responsibility for a 31-person research project.

Professor and Associate Dean for Research and Graduate Studies, College of Veterinary Medicine (2006-09)

My role as Associate Dean involved various aspects of policy development, positioning the CVM in prioritizing program development and federal initiatives, growing the Veterinary Biomedical Sciences (VBMS) Graduate Program, building summer scholar initiatives, and assisting in the oversight of animal programs within and beyond the CVM. The organizational structure of the Office of Research and Graduate Studies (ORGS) was revised and I was involved in fiscal oversight, including endowment and resource programs. Strategic planning included participation in a college-wide planning retreat through chairing the research committee. A number of initiatives facing the CVM and veterinary medicine, from infrastructure to diversity considerations resulted in my participation in Capitol Hill visits and various follow-up efforts. I established competitive Animal Health and Disease Research and Young Investigator grant guidelines, a grant mentoring program, and Summer Scholar Program opportunities for veterinary students, undergraduates, and high school students.

My efforts on graduate program initiatives targeted consolidation of 21 VBMS Graduate programs under a single graduate program umbrella (through three departmental affiliations with ten total concentrations). I was involved in space planning and development of space utilization metrics for the college.

Selected Committees University: Key Management Personnel (KMP; 2011-13). Provost: Consulting Award Committee (chair, 2009-10); Efficiency Task Force (chair of the Business Subcommittee; 2011-12); Strategic Planning Steering Committee (chair of the Research Subcommittee; 2012-13); Department Head Administrative Reviews (2; 2012-13). OVPR: University Research Council (2008-13), Research Task Force (chair, 2009-10), Creative Research and Scholarship Award Committee (2009-13), Energy and Environment Task Forces (2010-12), Council on Energy, Environment and Economic Research (2012-13); Research Advisory Board's Academic Affairs Committee (2009-13). Senate (*ex officio*): Faculty Research and Competitive Research Grants Committees (2009-13). Graduate School: Graduate Liaison and Graduate Program Officers Committees (2006-13). Search Committees: Assoc. Deans for Research (2), AU Huntsville Research Center (HRC) Exec. Director (chair) and HRC Director of Research (chair).

2000-06 Professor of Pathology and Laboratory Medicine; Director, UR Transgenics, University of Rochester

In addition to renovation and construction of a genetic engineering unit, I maintained financial oversight of an \$800,000/year budget that included institutional and NIH core facilities. Administrative/service responsibilities included service on the Dean's Core Oversight Committee and various departmental, school, and university-wide committees. Diverse assignments covered scholarly activities, student and faculty recruitment/mentoring/retention, fundraising, office of counsel actions and technology transfer. Sharing capabilities and capacities provided economies-of-scale while leveraging program and institutional resources.

Selected Committees Dean's Research Advisory Committee, School's Promotion and Tenure Committee (*ad hoc* reviewer); Center for Aging and Developmental Biology's Executive Committee; Faculty Development Committee, Pathways of Human Disease (Graduate Program) Steering Committee; Vivarium Master Planning Committee; Cores Oversight and Management Committee.

1991-00 Associate Professor of Comparative Medicine; Director, UAB Transgenic Animal/Embryonic Stem Cell Resource, University of Alabama at Birmingham

Administratively, I applied for and obtained support for five funded core programs under a central umbrella at UAB. These cores were the first to pass outside auditor reviews and were used as a model for accreditation reviews. I also designed and oversaw renovation of a 3,000 ft² transgenic barrier animal unit. With NIH support for key equipment purchases, the program became one of the largest providers of genetically modified rodent models. There were between eight and 15 full time employees in addition to students and trainees under my direction on soft-funding from 1993 through my transition to Rochester (with accommodations for all employees prior to my departure).

1988-91 Director, Department of Animal Science (1988-89), Director, Animal Biology Division and Animal Biology Research Center (1989-91), Embryogen/DNX

With promotion to Director of Animal Biology and the Animal Biology Research Center, I had oversight of Ohio operations at four sites in and around Athens, Ohio. There were 17 to 25

employees with a four member administrative staff. Responsibilities involved program and budget design/implementation, inter- and multi-institutional as well as public-private consortium development, and facility planning/renovation/ construction. During this period, I was an adjunct Associate Professor of Biological Sciences, with laboratory space at OU and a funded research program that included two full-time graduate research assistants.

1986-88 Assistant Professor of Animal Sciences, University of Missouri

As an early career stage faculty member at MU, I had oversight of a laboratory budget, responsibility for technicians and student employees, undergraduate and graduate students, and all compliance-related requirements/documentation.

Selected Invited Lectures (Total: internal 98, external 163)

- Chamber in Session: State of the Economy (keynote speaker), Tuscaloosa AL, 7-30-15
- NanoBio Summit 2013 (keynote speaker), Montgomery AL, 10-18-13
- 8th Intl. Conf. on Mitochondrial Physiology and Pathology; Bordeaux, France, 9-6-11
- 7th Asian Soc. for Mitochondrial Research and Medicine; Fukuoka, Japan, 12-17-10
- Tuskegee Univ. 9th Ann. Biomedical Res. Symp. Tuskegee AL, 9-17-08
- Distinguished Scientist Lecture – Univ. of South Alabama, Mobile AL, 2-6-08
- Animal Science Days 2003 (keynote speaker), Univ. of Zagreb, Porec Croatia, 9-23-03
- Am. College of Laboratory Animal Medicine, ACLAM Forum, Savannah GA, 4-16-02
- Transgenic Animal Res. Conf. III (speaker & program committee), Tahoe City CA, 9-9-01
- 2nd Intl. Conf. on Transgenic Animals (plenary speaker & scientific chair), Beijing, 10-27-98
- Society of Environmental Journalists (SEJ) and the Radio and Television News Directors Association (RTNDA), Conf. Panel on Cloning Technologies, Chattanooga TN, 10-10-98
- Engineered Animal Models: Advances and Applications, IBC Conf. (speaker & chair), Washington DC, 9-22-97
- Transgenic Systems in the Pharmaceutical Industry (speaker & conf. chair), London, 11-29-96
- Howard Hughes Medical Institute (HHMI) Future Life Science Scholars Conference (keynote speaker), Auburn Univ., Auburn AL, 7-21-93
- Transgenic Animals - Model Systems and Applications, Taipei, Taiwan, 11-19-92
- The New York Academy of Sciences, New York NY, 10-24-89

Teaching Activity

Teaching is an integral part of our academic mission. I was an instructor and/or coursemaster at 6 universities. Undergraduate level: physiology, reproduction, animal science and nutrition courses. Professional and graduate levels: physiology, endocrinology, reproduction, toxicology, pathology, animal science, grantsmanship and ethics courses.

Graduate Committees

Elected to the graduate/doctoral faculty at 6 universities; I served on 32 graduate committees and as committee chair or major professor on 14 committees. Six postdoctoral trainees worked in my lab, and 14 graduate students undertook research rotations as well as a large number of professional and undergraduate students.

Certifications

AU Select Agents and Toxins Training, Select Agent Project Director/Principal Investigator (PD/PI), and Security Risk Assessment (SRA) approval through Criminal Justice Information System (CJIS) (2013). Security clearance information available on request.

Patents

- Logan, J.S., S.H. Holtzman, J.K. O'Donnell, S.H. Pilder, C.A. Pinkert, M.E. Swanson, H. Keller, A. Sharma, C.T. Parsons, R. Kumar, S.P. White. 1998. Production of human hemoglobin in transgenic pigs. Australian Patent 687743.

Grant Activity

Research and academic efforts were continuously funded from 1987 through my departure to UA. Extramural funding exceeding \$31 million was awarded by NIH, USDA, NSF, HHMI, foundations and industry (\$20 million as PI/PD or core director and \$11 million as co-PI/co-I).

Selected Peer-reviewed Publications (total 154 published articles, 24 reports, 184 abstracts and 3 edited texts) Note: Within the life sciences, the first author is the individual doing the majority of work. Many times, it is awarded to a trainee responsible for generating data and preparing an initial draft. Senior authorship, reserved for the principal investigator, is usually the last author listed.

- Irwin, M.H., W.H. Moos, D.V. Faller, K. Steliou and C.A. Pinkert. 2016. Epigenetic treatment of neurodegenerative disorders: Alzheimer and Parkinson diseases. *Drug Devel. Res.* 77:109-123.
- Parameshwaran, K., M.H. Irwin, K. Steliou, V. Suppiramaniam and C.A. Pinkert. 2015. Antioxidant-mediated reversal of oxidative damage in mouse modeling of complex I inhibition. *Drug Devel. Res.* 76:72-81.
- Dunn, D.A. and C.A. Pinkert. 2015. Allotopic expression of mtATP6 in transgenic mice. In: V. Weissig and M. Edeas (Ed.) *Mitochondrial Medicine, Vol. II, Manipulating Mitochondrial Function*, Ch. 18, Springer 1265:255-269.
- Cannon, M.V., M.H. Irwin, M.C. Kohn, T.D. Brandebourg, D. Đikić and C. A. Pinkert. 2015. Mitochondrial DNA sequence and phylogenetic evaluation of geographically disparate *Sus scrofa* breeds. *Anim. Biotechnol.* 26:17-28.
- Pinkert, C.A. (Ed.) 2014. *Transgenic Animal Technology: A Laboratory Handbook*. 3rd ed., Elsevier, London. ISBN: 978-0-12-410490-7, eBook ISBN: 978-0-12-409536-6.
- Parameshwaran, K., M.H. Irwin, K. Steliou and C.A. Pinkert. 2012. Protection by an antioxidant of rotenone-induced neuromotor decline, reactive oxygen species generation and cellular stress in mouse brain. *Pharmacology, Biochemistry and Behavior* 101:487-492.
- Ingraham, C.A., L.S. Burwell, J. Skalska, P.S. Brookes, R.L. Howell, S.-S. Sheu and C.A. Pinkert. 2009. NDUFS4: Creation of a mouse model mimicking a Complex I disorder. *Mitochondrion* 9:204-210.
- Takeda, K., M. Tasai, M. Iwamoto, A. Onishi, T. Tagami, K. Nirasawa, H. Hanada and C.A. Pinkert. 2005. Microinjection of cytoplasm or mitochondria derived from somatic cells affects parthenogenetic development of murine oocytes. *Biol. Reprod.* 72:1397-1404.
- McKenzie, M., I.A. Trounce, C.A. Cassar and C.A. Pinkert. 2004. Production of homoplasmic xenomitochondrial mice. *Proc. Natl. Acad. Sci. USA* 101:1685-1690.
- Pinkert, C.A., M.H. Irwin, L.W. Johnson and R.J. Moffatt. 1997. Mitochondria transfer into mouse ova by microinjection. *Transgenic Res.* 6:379-383.
- Irwin, M.H., R.J. Moffatt and C.A. Pinkert. 1996. Identification of transgenic mice by PCR analysis of saliva. *Nature Biotechnol.* 14:1146-1149.
- Pinkert, C.A. 1990. A rapid procedure to evaluate foreign DNA transfer into mammals. *Biotechniques* 9:38-39.
- Pursel, V.G., C.A. Pinkert, K.F. Miller, D.J. Bolt, R.G. Campbell, R.D. Palmiter, R.L. Brinster and R.E. Hammer. 1989. Genetic engineering of livestock. *Science* 244:1281-1288.
- Pinkert, C.A., G.B. Rampacek and R.R. Kraeling. 1988. Serum concentrations of prolactin, oestrogen and LH during the perioestrous period in prepubertal gilts induced to ovulate and mature gilts. *J. Reprod. Fertil.* 83:471-478.