

## CHRISTINE R. B. BOAKE

Associate Dean for Research and Facilities  
College of Arts and Sciences  
312 Ayres Hall  
The University of Tennessee  
Knoxville TN 37996

Professor,  
Department of Ecology & Evolutionary Biology

### **Education**

Ph.D. Cornell University, Neurobiology and Behavior 1982  
B.S. University of Wisconsin, Madison, Zoology 1974

### **UTK College of Arts and Sciences Associate Dean for Research & Facilities, 2010 - present**

*Service on standing committees:* Research Associate Deans, Research Council, Top 25 Research Subcommittee, Top 25 Faculty External Awards Subcommittee, Classroom Technology Upgrade Subcommittee, Space Committee, Core instrumentation facilities committee (ex officio and prodder), Safety Committee.

*Service on recurring temporary committees:*

For the Office of Research:

Committees to evaluate preproposals for IGERT, NSF PIRE, NSF MRI,  
NSF REU

Y-12 UTK Liaison Committee (2011-2012)

Division representative for Eureca

For the Research Council:

Committees to evaluate Centers (2010-2012), SARIF major equipment requests (2012)

Attend ORU hearings, participate in evaluation committee

*Responsibilities in relation to Facilities:*

Regular attention to ongoing major issues, discussed at biweekly meetings with Facilities Services

Close attention to Natalie Haslam Music Center construction process

Increasing attention to JIAM building construction process

Shepherded the academic side of programming 2 science buildings and the replacement for Melrose Hall

Shepherding the academic side of the design process for 2 science buildings

*Responsibilities in Relation to Research Support:*

Evaluate faculty Professional Development Award proposals 4x per year

Faculty international travel requests as needed

Annual evaluations for Faculty Computer Upgrade Program & Staff Computer Upgrade Program

Individual annual meetings with each department Head

NEH summer award preproposal evaluation

ORNL/UT JDRD program proposal evaluation

EURECA organization: student entries & organizing judges for Humanities, Nat Sci, & Soc Sci

Organized Top 25 subcommittee examining core instrumentation facilities

*College Responsibilities:*

Cabinet

P&T review

Lecturer promotion review

Budget hearings and synthesis

Ex officio service on committees to reappoint Heads

Research awards

*Professional Development*

SECAC Fellow, AY 2011-12

**UTK College of Arts and Sciences Associate Dean for Graduate Education, 2010-2013**

Standing committees: Graduate Associate Deans, Graduate Council, A&S Rep to Bredesen Center Board of Directors

Graduate travel requests 3x per year

Manage Chancellor's graduate top-off funds

**Prior Administrative Experience**

Head, Department of Ecology & Evolutionary Biology, UT

2002 – 2008

Associate Head, EEB

1998 – 2002

Chair, College of A&S Strategic Planning Committee

2007 – 2008

Committee to Reorganize Division of Biology

2006 – 2007

Chair, search committee for Head of MFL

2005-06

Participant, CCAS workshop for department chairs

2003

College of Arts and Sciences Promotion and Tenure Committee

1995-9

Executive Committee, EEB

1995- 2008

**Experience Relevant to Research Administration**

Program Manager, Division of Environmental Biology, National Science Foundation, Evolutionary Processes Cluster

2008 - 2010

Cluster Leader

Aug 2009–Feb10

IGERT Coordinating Committee

June 2009–June 10

CCLI panel manager

June 2009

ARI2 panel manager

October 2009

Panelist, NSF:

Population Genetics Panel	2006, 2008
Animal Behavior Panel	1996 - 2001
Dissertation Improvement Grants, Population Biol	1992 - 1994

Organized 4 international symposia and workshops relevant to research in behavior genetics

### **Experience Relevant to Graduate Training**

Graduate Committee, EEB (Co-Chair 1995-1999)	1995-2002
Ad hoc Graduate Curriculum Committee, EEB (Chair)	1995
Graduate Affairs Committee, Zoology Dept	1992-1995
Chair, Grad Research Grants competition, Animal Behavior Soc	1996

### **Academic Program Reviews**

Simon Fraser University	2013
UTK Anthropology Department	2009
Ohio State University	2006
Stony Brook University, committee chair	2005
University of Arizona	2003
UTK Electrical Engineering mid-cycle review	2001
UTK Electrical Engineering Dept, chair of internal review committee	1997

### **Professional Appointments**

UTK	
Professor (EEB)	1999
Associate Professor (Zoology)	1993
Assistant Professor, (Department of Zoology)	1988
University of Hawaii, Hawaiian Evolutionary Biology Program	
Assistant Researcher	1986
University of Chicago, Department of Biology	
Research Associate	1984
Postdoctoral Fellow	1981

### **Research Areas**

- 1) The relationship between sexual selection and speciation in *Drosophila*, *Nasonia*
- 2) Evolution of sexually-selected behavior
- 3) Animal communication: acoustic, vibrational, visual, chemical
- 4) Behavior genetics

### **Extramural Funding**

NSF. "Symposium for ABS: Behavior genetics for the next decade: Beyond Heritability."	
\$9,485.	2001
NSF. "Biotechnology and the Integration of Behavioral Science: workshop 2"	\$25,000.
	2000

- NSF. "Behavioral Isolation Between Two Interfertile Species". \$143,141.  
1996-2000
- National Geographic Society. "Ecological and Mating Behavior Differences in Closely-related Hawaiian *Drosophila* Species." \$5,930. 1992
- USDA. "Male Behavioral Influences on Female Reproductive Maturation in *Drosophila silvestris*". \$100,000. 1992-94
- NSF Instrumentation and Laboratory Improvement Award. "Undergraduate Genetics Laboratory and Independent Research". Co-PI with Bruce McKee (PI) and 3 others. \$26,400. 1992-94
- NSF. "Evolutionary Genetics of Reproductive Behavior," Co-PI with K. Kaneshiro. \$188,000 plus supplement of \$10,000 for collaboration with Dr. E. Craddock on hormonal control of female receptivity. 1986-89
- American Philosophical Society. \$1600. 1985
- NSF. "Genetic Analysis of a Chemical Communication System," Co-PI with M. Wade. \$25,000. 1983
- Animal Behavior Society travel award to attend International Ethological Conference in Brisbane. 1983
- Postdoctoral Fellow, University of Chicago Behavioral Biology Training Grant 1981
- NSF Doctoral Dissertation Improvement Grant. 1977
- George D. Harris Foundation. 1977
- Organization for Tropical Studies RIAS Grant. 1976

### **Internal Funding from UT**

- UTK Travel Awards to speak at international meetings 1996, 2005
- UTK EPPE Award 1998
- UTK Professional Development Awards for research 1989, 94, 97, 99
- UT Scholarly Activities Incentive Fund Graduate Research Assistantship, spring semester. \$3,000. 1994

### **Awards**

- UTK Science Alliance Member, 1993, 95 - 99
- UT Award for Research and Creative Achievement, 2000
- Animal Behavior Society: Fellow (elected 1999)
- Animal Behavior Society: Quest Award for a seminal contribution to the field, 2000
- 1975-76 Cornell Graduate Fellowship.

### **Publications** (\*with undergraduate students, \*\* with graduate students, \*\*\* with postdocs)

- Riddiford, L.M., A.M. Ajami, and C. Boake. 1975. Effectiveness of insect growth regulators in the control of populations of the German cockroach. *J. Econ. Entomol.* 68:46-48.
- Boake, C R.B. and R.R. Capranica. 1982. Aggressive signal in the "courtship" chirp of a gregarious cricket. *Science* 218:580-582.
- Boake, C.R.B. 1983. Mating systems and acoustic signals in crickets. In *Orthopteran Mating Systems: Sexual Competition in a Diverse Group of Insects*, ed. by D.T. Gwynne and G.K. Morris, pp. 28-44. Westview Press, Boulder, CO.

- Boake, C.R.B., D. Andow, and P.K. Visscher. 1984. Spacing of ant-lions and their pits. *Am. Midl. Nat.* 111:192-194.
- Boake, C.R.B. 1984a. Male displays and female preferences in the courtship of a gregarious cricket. *Anim. Behav.* 32:690-697.
- Boake, C.R.B. 1984b. Natural history and acoustic behaviour of a gregarious cricket. *Behaviour* 89:241-250.
- Boake, C.R.B. and M.J. Wade. 1984. Populations of the red flour beetle, *Tribolium castaneum* differ in sensitivity to their aggregation pheromone. *Environ. Entomol.* 13:1182-1185.
- Boake, C.R.B. 1985. Genetic consequences of mate choice: a quantitative genetic method for testing sexual selection theory. *Science* 227:1061-1063.
- Boake, C.R.B. 1986. A method for testing adaptive hypotheses of mate choice. *Am. Nat.* 127:654-666.
- Kaneshiro, K.Y. and C.R.B. Boake. 1987. Sexual selection and speciation: issues raised by Hawaiian *Drosophila*. *Trends Ecol. Evol.* 2:207-212.
- Heisler, I.L., J. Maynard Smith, M.B. Andersson, S.J. Arnold, C.R. Boake, G. Borgia, G. Hausfater, R. Lande, P. O'Donald, A.R. Thornhill, and F.J. Weissing. 1987. The evolution of mating preferences and attractive traits. Pp. 96-118, in Bradbury, J.W., and M.B. Andersson, eds. *Sexual Selection: Testing the Alternatives*. Dahlem Konferenzen. Chichester: John Wiley & Sons Limited.
- Boake, C.R.B. 1989. Correlations between courtship success, aggressive success, and body size in a picture-winged fly, *Drosophila silvestris*. *Ethology* 80:318-329.
- Boake, C.R.B. 1989. Repeatability: its role in evolutionary studies of mating behavior. *Evol. Ecol.* 3:173-182.
- Boake, C.R.B. 1991. Coevolution of senders and receivers of sexual signals: Genetic coupling and genetic correlations. *Trends Ecol. Evol.* 6:225-227.
- Poramarcom, R. & C.R.B. Boake. 1991. Behavioural influences on male mating success in the Oriental fruit fly, *Dacus dorsalis* Hendel. *Anim. Behav.* 42:453-460
- Craddock, E. & C.R.B. Boake. 1992. Onset of vitellogenesis in female *Drosophila silvestris* is accelerated in the presence of sexually mature males. *J. Insect Physiol.* 38:643-650.
- \*\*\*Schwartz, J. & C.R.B. Boake. 1992. Sexual dimorphism in remating in Hawaiian *Drosophila* species. *Anim. Behav.* 44:231-238.
- Moore, A.J. and C.R.B. Boake. 1994. Optimality and evolutionary genetics: Complementary procedures for evolutionary analysis in behavioural ecology. *Trends Ecol. Evol.* 9:69-72.
- Boake, C.R.B. 1994. Outlining the issues. Chapter 1 *Quantitative Genetic Studies of Behavioral Evolution*. University of Chicago Press.
- Boake, C.R.B. 1994. Evaluation of applications of the theory and methods of quantitative genetics to behavioral evolution. Chapter 15 *Quantitative Genetic Studies of Behavioral Evolution*. University of Chicago Press.
- \*Boake, C.R.B. and E. Adkins. 1994. Timing of male physiological and behavioral maturation in *Drosophila silvestris* (Diptera: Drosophilidae). *J. Insect Behav.* 7:577-583.
- Boake, C.R.B. 1994. Behavioral variation and speciation: Flexibility may be a constraint. In *Flexibility and Constraint in Behavioral Systems*, ed. by B. Greenspan and C. Kyriacou, pp. 259-268. New York: Wiley.

- Krubitzer, L., R. Belew, C. Boake, E. Boncinelli, E. Brenowitz, S. de Belle, J. Edwards, W. P. M. Geraerts, C. Kyriacou, G. Miklos, F. von Schilcher. 1994. How do evolution and behavior interact? In *Flexibility and Constraint in Behavioral Systems*, ed. by B. Greenspan and C. Kyriacou, pp. 295-305. New York: Wiley.
- Boake, C.R.B. & A. Hoikkala. 1995. Courtship behaviour of wild-caught *Drosophila silvestris* males. *Anim. Behav.* 49: 1303-1313.
- \*\*\*Price, D.K. & C.R.B. Boake. 1995. Behavioral reproductive isolation between *Drosophila silvestris*, *D. heteroneura*, and their F1 hybrids (Diptera: Drosophilidae). *J. Insect. Behav.* 8: 595-616.
- Boake, C.R.B., T. Shelly, & K. Y. Kaneshiro. 1996. Sexual selection in relation to pest management strategies. *Annu. Rev. Entomol.* 41: 211-229.
- Boake, C.R.B. & S.J. Moore. 1996. Acceleration of ovarian development in *Drosophila silvestris*: What is the stimulus? *J. Insect Physiol.* 42: 649-655.
- \*\*Fraser, I. & C.R.B. Boake. 1997. Behavioral reproductive isolation, test designs, and Kaneshiro's hypothesis. *Am. Nat.* 149:527-539.
- \*Boake, C.R.B. & T. Poulsen. 1997. Correlates versus predictors of courtship success: Courtship song in the flies *Drosophila silvestris* and *D. heteroneura*. *Anim. Behav.* 54: 699-704.
- \*\*Boake, C.R.B., M. DeAngelis, & D. Andreadis. 1997. Is sexual selection and species recognition a continuum? Mating behavior of the stalk-eyed fly *Drosophila heteroneura*. *Proc. Natl. Acad. Sci. USA* 94:12442-12445.
- \*\*\*Boake, C.R.B., D. Price, & D. Andreadis. 1998. Inheritance of behavioral differences between two interfertile, sympatric species, *Drosophila heteroneura* and *D. silvestris*. *Heredity* 80:642-650.
- Gavrilets, S. & C.R.B. Boake. 1998. On the evolution of premating isolation after a founder event. *Am. Nat.* 152:706-716.
- Boake, C.R.B. & L. Konigsberg. 1998. Inheritance of male courtship behavior, aggressive success, and body size in *Drosophila silvestris*. *Evolution* 52:1487-1492.
- Bloch Qazi, M. C, C. R. B. Boake & S. M. Lewis. 1998. The femoral setiferous glands of *Tribolium castaneum* males and production of the pheromone 4,8-Dimethyldecanal. *Ent. Exp. & Appl.* 89: 313-317.
- Boake, C.R.B. 2000. Flying apart: Speciation in Hawaiian *Drosophila*. *BioScience* 50:501-508.
- \*Boake, C.R.B., D.K. Andreadis, A. Witzel. 2000. Behavioural isolation between two closely-related Hawaiian *Drosophila* species: the role of courtship. *Anim. Behav.* 60: 495-501.
- Boake, C.R.B. 2002 Sexual signaling and speciation, a microevolutionary perspective. *Genetica* 116: 205-214.
- Boake, C.R.B., S.J. Arnold, F. Breden, L. M. Meffert, M. G. Ritchie, B. J. Taylor, J. B. Wolf, and A. J. Moore. 2002. Genetic tools for studying adaptation and the evolution of behavior. *Am. Nat.* 160: S143-S159.
- \*Boake, C.R.B., K. McDonald, S. Maitra, and R. Ganguly. 2003. Forty years of solitude: life-history divergence and behavioural isolation between laboratory lines of *Drosophila melanogaster*. *J. Evol. Biol.* 16: 83-90.
- Boake, C.R.B. 2005. Sexual selection and speciation in Hawaiian *Drosophila*. *Behavior Genetics* 35 (3): 297-303.

- \*\*Leonard, J. and C.R.B. Boake. 2006. Site-dependent aggression and mating behaviour in three species of *Nasonia* (Hymenoptera: Pteromalidae). In press, *Anim. Behav.*
- \*\*Leonard, J. and C.R.B. Boake. In Press. Associations between male courtship and female polyandry in three species of *Nasonia* (Hymenoptera: Pteromalidae). *Anim. Behav.*

### **Edited Book & Symposium Issue**

- Boake, C.R.B. (Ed.). 1994. *Quantitative Genetic Studies of Behavioral Evolution*. University of Chicago Press.
- Boake, C.R. & A. J. Moore (Eds.) 2002. Behavior Genetics for the next decade: beyond heritability. *Am. Nat.* 160: Supplement 2

### **Unrefereed, Miscellaneous Publications**

- Boake, C. R. B. 1994. Quantitative genetic studies of behavioral evolution in natural populations. *Proc. 5th World Congr. Genet. Appl. to Livestock Prod.* 20: 138-145.
- Boake, C. R. B. 1994. Review of *The Ant and the Peacock*, by H. Cronin. *Ethology* 97:253-254.
- Boake, C. R. B. 1996. Review of *Hawaiian Biogeography: Evolution on a Hot Spot Archipelago*, ed. by W. L. Wagner & V. A. Funk. *Trends Ecol. Evol.* 11:265-266.
- Boake, C. R. B. 1996. Review of *Behavioral Mechanisms in Evolutionary Ecology*, ed. by L. A. Real. *Amer. Sci.* 84:609.
- Boake, C. R. B. 1998. Review of *Handbook of Ethology*, by P. Lehner. *Q. Rev. Biol.* 73:248-249.
- Andreadis, D. K. & C. R. B. Boake. 1999. An inexpensive method for recording *Drosophila* sounds. *Dros. Inf. Serv.* 85:95-97.

### **Invited Conference Participation, International**

- 2005 ESEB X, Krakow, Poland
- 2004 First Gordon Conference on Genes and Behavior
- 1996 6th International Behavioral Ecology Congress, Canberra
- 1995 24th International Ethological Conference, Honolulu
- 1994 5th World Congress on Genetics Applied to Livestock Production. Guelph, Ontario
- 1993 Dahlem Workshop, "Flexibility and Constraint in Behavioral Systems." Berlin
- 1992 Royal Society Discussion Meeting, "The Evolution and Design of Animal Signalling Systems." 27 - 28 October, London. Poster presentation
- 1987 "Quantitative Genetics of Natural Populations," satellite symposium in conjunction with the 2nd International Quantitative Genetics Conference, Raleigh, NC
- 1986 Dahlem Workshop, "Sexual Selection: Testing the Alternatives." West Berlin

### **Invited Conference Participation, USA**

- 2006 Society for the Study of Evolution, Stony Brook, NY
- 2001 Fellows Lecture, Animal Behavior Society, Atlanta, GA
- 1998 Animal Behavior Society, Carbondale, IL
- 1994 Midwest Regional Animal Behavior Conference, SIU, Carbondale

- 1991 Entomological Society of America, Reno, NV
- 1990 American Society of Naturalists, College Park, MD  
Animal Behavior Society, SUNY at Binghamton -- Symposium organizer and speaker
- 1988 Midwest Population Biology Meeting, Madison, WI
- 1987, 1988 Winter Animal Behavior Conference, Park City, Utah
- 1983 Symposium, "Invertebrate Behavior and Neurophysiology," Midwest Regional Animal Behavior Society, St. Louis
- 1980 Symposium, "Mating Systems of Orthoptera," Entomological Society of America, Atlanta, GA

### **Symposium Organizer**

- 2001 "Behavior Genetics for the Next Decade: Beyond Heritability." Animal Behavior Society, Corvallis, OR
- 1990 "Quantitative Genetic Analyses of the Evolution of Behavior," Animal Behavior Society, Binghamton, NY. Co-organizer: A. Hedrick

### **Workshop Organizer**

- 2001 Writing workshop, "Behavioral and Genetic Model Systems" Corvallis, OR,
- 2000 NSF Workshop, "Animal Behavior and the Integration of Biotechnology, Workshop II" Washington DC,

### **Invited Workshop Participation**

- 2005 Metadata II; Cornell University
- 2004 Metadata standards for databases of animal behavior; Cornell University
- 2002 "Ethoinformatics" workshop on developing behavior databases, Bloomington, IN.
- 2000 ABS mini-summit on the future of the field, Bloomington, IN  
*Quality Education for Minorities Network.*  
Panelist, Workshop on Research Progress for Junior Faculty at HBCUs.  
Nashville, TN.
- 1999 NSF Workshop "Animal Behavior and the Integration of Biotechnology,"  
Washington DC
- 1998 NSF Workshop "Women in Ecology and Evolution," University of Kentucky,  
Lexington

### **Invited Lectures while at UT**

- 2006 US National Science Foundation
- 2004 University of Wisconsin, Madison
- 2003 Max Planck Inst. for Bird Behavior, Seewiesen, Germany
- 2002 Bowling Green State University, Bowling Green, OH  
Simon Fraser University, BC, Canada
- 2001 University of Kentucky, Lexington  
Pennsylvania State University, State College
- 2000 Indiana University, Bloomington  
Simon Fraser University, BC, Canada  
University of Maine, Orono
- 1999 Duke University, Durham, NC



- University of Delaware, Newark  
Western Carolina University, Cullowhee, NC  
University of Maryland, College Park  
1998 Tufts University, Boston  
Clark University, Worcester, MA  
1997 University of Georgia, Athens  
1996 Monash University, Melbourne, Australia  
Centre College, Danville, KY  
1995 University of Illinois, Urbana  
1994 University of Southwestern Louisiana, Lafayette  
1993 University of Oregon, Eugene  
University of Vermont, Burlington  
University of Kansas, Lawrence  
University of Kentucky, Lexington  
East Tennessee State University, Johnson City  
1992 University of Arkansas, Fayetteville  
Mahidol University, Bangkok, Thailand  
Appalachian State University, Boone, NC  
University of Connecticut, Storrs  
1991 Vanderbilt University, Nashville, TN  
Mt. Lake Biological Station, VA  
1990 Indiana University, Bloomington  
Bowling Green State University, Bowling Green, OH  
1989 SUNY at Stony Brook

**Contributed Talks while at UT**

- 2003 Society for the Study of Evolution, Chico, CA (poster)  
1999 Society for the Study of Evolution, Madison, WI  
Littlejohn Symposium, Columbia, MO  
1998 Southeastern Ecological and Population Genetics Group, Abingdon, VA  
1997 Society for the Study of Evolution, Boulder, CO  
Southeastern Ecological and Population Genetics Group, Townsend, TN  
1996 Animal Behavior Society, Flagstaff, AZ  
Society for the Study of Evolution, St. Louis, MO (presented by DeAngelis)  
1995 Animal Behavior Society, Lincoln, NE  
1994 Animal Behavior Society, Seattle, WA  
1993 Southeastern Ecological and Population Genetics Group, Winston-Salem, NC  
1992 Society for the Study of Evolution, Berkeley, CA  
1991 Animal Behavior Society, UNC at Wilmington, NC  
1989 Society for the Study of Evolution, Penn State University, PA  
Animal Behavior Society, N. Kentucky Univ., KY  
1988 Southeastern Ecological Genetics Group, Highlands, NC  
Society for the Study of Evolution, Asilomar, CA

**Teaching**

*Graduate course topics:* Classic papers in evolution, evolutionary genetics, population biology, preparing grant proposals, evolution of new species, ecological genetics, population genetics, behavior genetics, animal signals, sexual selection

*Undergraduate course topics:* General genetics, evolution and society, advanced genetics lab, field ecology (Univ. of Chicago)

## **Service**

### *Editorial Board*

*The American Naturalist* (2000-2004)

*Journal of Insect Behavior* (1996- )

*Journal of evolutionary Biology* (1997-2000)

*Animal Behaviour* (1996-1997)

### *UT Division of Biology*

1995-1996 Undergraduate Core Curriculum Committee

1993-2002 Genetics instructors committee

### *UT Ecology & Evolutionary Biology*

1995-2002 Executive Committee

1995-2002 Graduate Committee (Co-Chair 1995-1999)

1995 Ad hoc Graduate Curriculum Committee (Chair)

### *UT Zoology*

1992-95 Graduate Affairs Committee.

1992-93 Search committee, physiologist position.

1989-90 Seminar Committee (Chair, calendar year 1990)

1989-90 Search committee, physiologist position.

1988-94 Ethology Program seminars: organizer and presenter

### *Other University of Tennessee Service*

2005-06 Chair, Search Committee for Head of MFLL

Ad hoc committee to choose College Research Award recipient

2005 Ad hoc committee on supervision of postdoctoral fellows

ORAU Powe awards internal review committee

2004 Academic review board

Committee to choose Distinguished Service Professors

2003 Ad hoc committee on evaluation of Heads

2001 Panel on tenure and promotion, Assoc. of Women Faculty

1998 Faculty development award review committee

### *Tenure/Promotion Reviews outside UT*

2005 Tufts University, promotion

1999 University of Maryland, tenure

1998 University of Vermont, promotion

Washington State University, promotion

1995 University of Hawaii, promotion

1994 Hobart and William Smith College, tenure/promotion  
University of Vermont, 2 tenure/promotion  
University of Kentucky, 1 tenure/promotion

*International*

1992 Consultant on methods for behavioral testing in relation to the identification and management of pest fruitflies of the genus *Dacus*. Sponsored by Office of Atomic Energy for Peace and Mahidol University, Bangkok, Thailand.