

# Curriculum Vitae

## ROBERT U. FISCHER JR.

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### Business Address:

College of Basic and Applied Sciences  
Middle Tennessee State University  
MTSU, Box 83  
Murfreesboro, Tennessee 37132

### Residence:

[REDACTED]

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### EDUCATION:

- Ph.D.** University of South Carolina, Columbia, South Carolina, 1994; Major--Evolutionary Biology  
**Thesis title:** Morphological, physiological, and life history changes of bluegill sunfish in response to thermal stress.
- M.A.** State University College at Buffalo, Buffalo, New York; 1984; Major--Environmental Biology, Physiological Ecology  
**Thesis title:** Behavioral thermoregulation of bluegill (*Lepomis macrochirus*) from a thermally stressed ecosystem
- B.S.** State University College of Environmental Science and Forestry, Syracuse, New York: 1982; Major--Ecology
- A.S.** Herkimer County Community College, Herkimer, New York; 1980; Major--Biology

### ACADEMIC POSITIONS:

**Dean and Professor, College of Basic and Applied Sciences, Middle Tennessee State University.**  
2012-present.

- **Administrative Duties:** Report to the Provost and Chief Academic Officer of the University, with responsibility for the strategic direction of the College of Basic and Applied Sciences (CBAS), enunciation of its vision, development and implementation of strategic plans, nurturing and growth of research programs, ensuring institutional integrity, promoting ethics in education and academia, planning and initiation of new curriculum and educational initiatives, prudently managing the CBAS budget, leveraging opportunities across the campus, our state, our nation, and globally, enhancing programs that foster diversity, strengthening global academic relationships, and fostering a collaborative and team-oriented spirit within our academic environment.
- **Selective Administrative Accomplishments:**
  - Successfully administer the College of Basic and Applied Sciences (\$33M budget; 200 faculty; 11 academic departments; several interdisciplinary programs; 5200 students; 25 Master's Programs and 3 PhD Programs; 5 Research Centers)
  - Administrative leadership experience in science education, involving all services from recruitment through enrollment and graduation to alumni relations and philanthropy, including collaborations with all academic and student affairs units.
  - Through careful management of financial resources, have been able to ensure that CBAS is on a fiscally sound footing while coping with budget cuts and/or expansion in terms of faculty and staff hiring.
  - Administrative leadership experience in advancing research and scholarship, involving mentoring of students and faculty, awarding grants, and designing exchanges and recognition events.
  - Strong commitment to mentoring faculty and providing high impact experiential experiences for students.

- Administrative leadership in, involving budgeting, philanthropy, faculty development, mentoring and evaluation, staff mentoring and supervision, outreach efforts, student recruitment and retention, envisioning and implementing change in an ever changing higher education environment
- Extensive experience in envisioning and implementing large-scale initiatives involving multiple constituencies, and building diverse teams to discover and implement common goals.
- Provide leadership for a Making Excellence Inclusive initiative to identify and remove barriers for students from underrepresented groups.
- Provide leadership for Experiential Learning initiatives in college by conducting research; constructing model curricular programs; conducting informational sessions for faculty councils.
- Created conversation structures for faculty in the college to address issue of interest, leading to development and strengthening of programs in interdisciplinary, course redesign, research exchange and inclusive excellence.
- Developing a culture of research by adjusting workloads related to research productivity, assigning space related to productivity and making available additional funds to support research and travel to dissemination the data.
- Guided the college's first long-range (5 years) strategic plan in its history.
- Worked with chairs and faculty to identify the strengths in their programs and research areas so that they can build on them for the advancement of the department and college. Have completed all department strategic planning initiative which also will include a 5-year hiring plan.
- Have developed an atmosphere that encourages faculty members to be active researchers and effective teachers by providing them with financial support and concrete opportunities and programs for development as teachers and researchers.
- Developed a new College Advising Center.
- Work collaboratively with colleague-deans at other TBR campuses, such as Tennessee State University and University of Memphis.
- Ensuring that our students, faculty and staff are well positioned to effectively function in a globalized environment that is the hallmark of the 21st century.
- Our advancement efforts have resulted in a 67% increase in gifts (total value) over the past three years. A careful multi-year strategy has been developed and is being implemented (with periodic reviews and course-corrections). There has been a very significant increase in (i) corporate gifts and fellowships, (ii) the number of donors, and (iii) the average donation.
- Re-shaped the CBAS advisory board to better address our needs in the 21st century. Today, the CBAS advisory board is an excellent team that is working hard to help us with our academic mission.
- Interaction and communication with our Department Chairs is quick, effective, efficient and transparent. We have a dynamic (almost real-time) communication strategy that is based on rapid responses to most questions, allows for timely dissemination of information and decisions. This process, coupled with a strategy of decentralization, strategic thinking and well-organized tactical implementation provides for lean administrative and management processes and procedures.
- Help build PhD graduate programs that not only continue to be interdisciplinary, but ones which also graduate first-rate, research-oriented scientists with credentials to compete successfully for first-tier university professorships at rates comparable to those of the elite programs in the nation.
- Stewarded the design and construction of the 147 million dollar New Science Building, guided a 23 million dollar building renovation project, and have overseen significant classroom and research space and technology upgrades. I also developed a college space allocation procedure and have helped resolve inter-department and inter-college space issues in a fashion that takes into account diverse perspectives and positions.
- The college has been able to hire strategically over the last six years tenure-track faculty to create areas of excellence that meet regional and societal needs. We were also able to offer on average \$120,000 start-up funds to all new tenure-track faculty including release time for research.
- Serve on the Deans Council, University Diversity Council, University Strategic Planning Committee, the Quality Enhancement Program Committee, FOCUS Committee, University Scheduling Committee, University Distance Education Committee, University Read Committee, University Workload Committee, and the University Technology Enhancement Fund Committee.
- Initiated the Dean's Award to recognize faculty for outstanding teaching, scholarship, and service.

**Chair and Professor, Department of Biology, University of Alabama at Birmingham.**  
2008-2012.

- **Administrative Duties:** Responsible for the all departmental activities including developing and reviewing long-range department goals and objectives, recruitment and evaluation of department faculty and staff, preparing and administering department budgets, preparation of course schedules and assignment of duties for faculty and staff and providing leadership in the development and implementation of policies and procedures related to the department.

**- Selective Administrative Accomplishments:**

- Managed day to day issues in a department with over 1,000 undergraduates, 60+ graduate students, 18 tenured/tenure-track faculty, 4 non-tenure teaching faculty, 5 adjunct faculty, 9 academic support professionals, and 3 administrative assistants.
- Have hired four faculty (3 are members underrepresented groups) and have helped promote 2 professors to rank of full professor.
- Managed on-going transition of Biology from the School of Natural Sciences and Mathematics to the College of Arts and Sciences
- Have lead the department through its first strategic plan and hiring plan in the last 15 years.
- Have help improve our recruitment techniques and materials which has increased the department's enrollment by 11% over the last 4 years.
- Improved 4 year retention to 74% by developing in house advising center, incoming freshman boot camp, supplemental instruction for required major courses, tutoring center and an open access biology computer lab.
- Procurement of a 2 Howard Hughes grants to offer a "hands on" 2-semester phage genomics class for incoming freshman and an upper division bioinformatics program.
- Development of a new 5th year master program with computer science in computational biology.
- Recently designed and proposed new undergraduate degree in Biomedical Sciences and Medical Scholars Program.
- Have made undergraduate research a central component of the undergraduates degree and have increased research participation to 67% of graduating senior will have had a year of research.
- Developed a BIOSCHOLARS Program that is available to incoming freshman that offers them a fast track to involvement in teaching and research in the department.
- Increased retention and graduation rates (ca. 80%) of graduate students also have lowered time to degree completion through changes in degree requirements.
- Developed a teaching certificate program for graduate students.
- Department has increased funding 24% and now receives the seventh largest amount of external grant funding at the University
- Developed a woman in science group for graduate students in all science areas.
- Increased the exposure of the research conducted by the faculty by creating a new website, developing a better relationship with CAS and UAB Media Relations leading to a large number of articles and interviews at the local regional and national levels and making an effort to present our research to a greater number and variety of audiences.
- Managed a total budget of over 4 million dollars.
- Developed a positive funding model for teaching summer semester.
- Obtained \$75,000 for greenhouse renovations.
- Reallocated funds internally to establish undergraduate travel and research fund to provide small grants for undergraduates participating in research projects.
- Funded modernization (cost share with Dean) of research and teaching laboratory space.
- Increased the number of graduate stipends offered by the department by 8%.
- Facilitated the core courses in biology being turned into online courses for inclusion in new online major programs on campus.
- Developed innovative programs such as Phage Genomics, BIOSCHOLARS, and Medical Scholars programs.
- Developed internship opportunities with the hospital such as the Emergency Medical Internship Program.
- Increased the department's space footprint by 15%.
- Renovated existing research, teaching and office space.
- Updated animal holding facilities.
- Developed a modern office suite for the Biology Department.
- Overall giving to the department increased 25%
- Utilized a targeted letter writing campaign to enhance alumni donations by 15%
- Endowed four new undergraduate scholarships with total funding of over 1 million dollars.
- Reinstated an online alumni departmental newsletter.
- Created an alumni presence on the new web site, which includes an opportunity to donate to the department
- Developed online assessment plans for the B.S. in Biology and M.S. and Ph.D. in Biology.
- The Biology major field test as well as an exit survey became a graduation requirement to be used as assessment tools.
- Instituted a one and five year survey to elicit responses from our alumni about quality of education.

- **Research:** During my years of research, I have come to understand and appreciate a wide diversity of biological areas such as the fields of aquatic biology, fisheries biology, evolutionary biology, and physiological ecology. My approach within these fields of interest integrates theoretical and applied research on natural populations to answering questions concerning such topics as parental investment theory in ectotherms to determining the effects of environmental stressors on aquatic organisms. At the present time, my research focuses on the following two specific areas: 1) examining changes in morphology, physiology, behavior and life-history traits of bluegills and other aquatic organisms in response to environmental perturbation. This research involves both field and laboratory experiments utilizing state of the art laboratory equipment and procedures to answer questions concerning changes in body shape, performance traits, lipid cycles, reproductive cycles, metabolic rates, and age at sexual maturity in bluegills and other aquatic organisms from stressed sites, and 2) determining the effects of land-use practices on stream ecosystems. This research involves intense field analysis to answer questions related to the effects of flow regime and riparian zone changes on species diversity, species richness, biotic integrity and genetic structure of stream fish communities. Recent research projects have specifically examined 1) the effects of landscape processes on fish communities, 2) the effects of near stream habitat changes on the Index of Biotic Integrity (IBI), and 3) the effects of stream habitat fragmentation on the genetic diversity of stream fish populations. In addition, I am also conducting research aimed at determining the egg components and developmental process of fish and reptiles in relation to parental investment patterns.

- **University Service:** Member of the Engagement Summit Committee, Faculty Enrichment Committee, University Honors Program Council, Core Curriculum Evaluation Committee, Beckman Scholars Committee, Undergraduate Research Expo Committee, and Goldwater Scholarship Coordinator.

**Associate Chair and Professor, Department of Biological Sciences, Eastern Illinois University**  
2003-2008, Assistant professor (1994-1998), Associate professor (1998-2003), Environmental Biology Program Coordinator (1999-2003).

- **Administrative Duties:** The associate chair is responsible for assist the Chair in developing and reviewing long-range department goals and objectives, recruiting and evaluating departmental faculty and staff, in preparing and administering the department budget, preparation of course schedules and assignment of duties for faculty and staff, and assist the Chair in providing leadership in the development and implementation of policies and procedures related to the Department.

- **Selective Administrative Accomplishments:**

- Assisted the Chair in developing and reviewing long-range departmental goals and objectives.
- Assisted the Chair in developing long-range departmental staffing plan including the development and implementation of a visiting assistant professor position.
- Assisted the Chair in evaluation of departmental faculty and staff including preparation of written classroom evaluations and written evaluations for retention, promotion, and tenure.
- Assisted the Chair in administering the departmental budget.
- Assisted the Chair in preparation of course schedules.
- Assisted the Chair in the preparation of faculty and staff assignment of duties.
- Assigned new and transfer advisees to faculty advisors in the department.
- Processed waiver and substitution forms for Biological Sciences majors.
- Worked with College of Sciences and the Records Office to answer questions pertaining to the Biological Sciences major, options, and concentrations.
- Reviewed undergraduate and graduate catalog copy for the Biological Sciences program and course listings
- Developing and implemented 2+2 programs with Illinois Community Colleges.
- Coordinating renovation of Facilities in the Life Science Building (mouse house, dark room, computer laboratory, Buell Research Area, Generator installation, and research space.
- Coordinating repairs of Facilities in the Life Science Building.
- Coordinated the awarding of Biological Sciences scholarships.
- Represented the department during transfer registration, Open Houses and Academic Highlights Session.

## RESEARCH EXPERIENCE:

**Graduate Research Assistant (Ph.D.),** University of South Carolina, Columbia, South Carolina. 1990 - 1994--My research addresses the effects of environmental perturbation on aquatic organisms. The major goals of this research were to determine, using evolutionary theory, if bluegill from a thermally stressed ecosystem have responded to the perturbation by altering their behavior, physiology, morphology and/or life-history traits to increase survival and reproduction in an unpredictable environment. In addition, I have been investigating the bioenergetic cost of such changes and how it effects the allocation of finite resources to the compartment of growth, maintenance, reproduction, and storage. I have also been involved in field and lab studies addressing such topics as parental investment theory and life-history theory.

**Research Coordinator,** Savannah River Ecology Laboratory, Aiken, South Carolina. January 1986 - August 1994--Conducting research in the field of Physiological Ecology on a wide range of vertebrate ectotherms. The major focus of my research was to examine the effects of metal accumulation on the life-history traits of the yellow-bellied turtle, *Trachemys scripta*. This includes examining changes in reproductive rate, egg number, egg size and juvenile survival in relation to metal accumulation. I also worked on determining the egg components and developmental process of both snakes and alligators in relation to parental investment theory. Data was collected on the anaerobic capabilities of the American alligator to determine if the lack of anaerobic scope is responsible for limiting the alligator's northern range. Other projects include looking at the demographics, ecology and energetics of lizards, along with determining the effects of high calcium diets on turtle growth rates. My research skills range from the ability to use doubly labeled water to determine field metabolic rates to bomb calorimetry for determination of calories. I was also responsible for the development, set-up, maintenance, QA/QC, and safety of the Physiological Ecology Lab which includes instruments such as evaporative water loss chambers, O<sub>2</sub> and CO<sub>2</sub> analysis machines, macro-micro bomb calorimeters, soxhlet apparatus, and hormone analysis machine. I was also responsible for the expenditures and allocation of monies to projects from a budget in excess of forty thousand dollars. I also supervise technicians, graduate and undergraduate students along with collaborating on projects with visiting faculty from Penn State University, University of Alabama, University of North Carolina and The University of Toronto. Lastly, I was responsible for the data management (dBASE, Lotus 1, 2, 3+, Excel), data analysis (SAS on VAX and PC), and manuscript preparation (Word, WordPerfect, Power Point, Harvard Graphics and Sigma Plot) for projects being conducted in the laboratory.

**Research Assistant,** Department of Biology, University of North Dakota, January 1985 to January 1986--Assisting on a research project to examine predator-prey interactions, temperature profiles, and growth rates of stream fish. Seined and identified fish; constructed stream troughs for determining predator-prey interactions. Also designed and constructed a temperature gradient for determining preferred temperature and final preferendum. Compiled data and conducted preliminary statistics analyses on stream habitat use.

**Research Consultant,** Great Lakes Laboratory, State University College at Buffalo, September 1984 to January 1985--Supervised a project to determine the effects of chemical pollutants on the invertebrate fauna of a stream. Collected and identified invertebrates; used computers to compile data and conducted statistical analysis to determine the effects of pollutants. (Project 2) Participated in a field study to determine feeding habits and spawning locations of Lake Trout and Walleye. Seined and gill netted fish; examined and identified stomach contents; constructed a preliminary map of spawning locations on the Niagara River.

**Graduate Research Assistant (MA),** Department of Biology, State University College at Buffalo, September 1982 to August 1984--Studied thermoregulatory behavior of bluegill, *Lepomis macrochirus*, from a thermally stressed area. Designed and constructed a temperature gradient for determining preferred temperature and final preferendum. Also designed and constructed a shuttle box apparatus for determining upper avoidance temperature of prey species in the presence of predators. Developed automated electronic monitoring device for detecting fish movement and recording temperatures. Operated small boats on nuclear reactor cooling ponds. Used computers (SAS software) to compile data and conduct statistical analysis to detect changes in the thermoregulatory behavior of the prey species. Used word processor for writing and modifying reports.

**Research Assistant,** Department of Biology, State University College at Buffalo, September 1982 to May 1984--Prepared for and participated in a Department of Energy funded biotelemetric field experiments at the Savannah River Ecology Laboratory, Aiken, South Carolina. Constructed and calibrated single channel radio transmitters; tracked and collected data on free-swimming bass in a nuclear reactor-cooling pond.

**Research Assistant**, Department of Biology, State University College of Environmental Science and Forestry, March 1981 to June 1981--Examined effects of acid rain on fish, prepared and examined histological slides of small mouth bass (*Micropterus dolomieu*) of the New York State Adirondack region.

**Research Assistant**, Department of Biology, State University College of Environmental Science and Forestry, May 1981 to August 1981--Assisted in a research project examining predator prey interaction. Seined and identified fish; compiled data and conducted preliminary statistical analyses to detect temporal changes in population structure.

## TEACHING EXPERIENCE:

### University of South Carolina Aiken:

**Biology** (non-majors), Department of Natural Sciences, 1988-present--Prepared and administered lectures and laboratories on such topics as: cell structure and function; cell chemistry, cell division; genetics; gene expression and regulation; animal development; evolution; ecology. Used the text book *Biology: Concepts and Applications* and the lab manual *Perspectives In Introductory Biology*. Administered tests, graded exams and determined grades while advising students.

**Biology** (majors), Department of Natural Science, 1988-1990--Prepared and administered lectures and laboratories on such topics as the scientific method, biological chemistry, cell structure and function, genetics, population genetics, evolution, plant and animal diversity, growth, reproduction, physiology, and ecology. Used the text book *Biology: The Science Of Life* and the lab manual *Biology Laboratory*. Administered tests, graded exams and determined grades while advising students.

**Environmental Biology**, Department of Natural Sciences, 1991. Prepared and administered lectures on topics such as ecosystem processes, water and soil pollution, global changes, solid and hazardous wastes, and conservation. Used the text book *Environment*. Administered tests, graded tests, and determined grades.

**Beginning Algebra**, Department of Math, 1990-1991--Prepared and administered lectures and recitation to illustrate basic algebraic manipulations with rational expressions, and exponents; solutions of quadratic equations and systems of linear equations. Used text book *Beginning Algebra*. Administered test, graded exams and determined grades.

**Intermediate Algebra**, Department of Math, 1990-1991--Prepared and administered lectures on algebraic manipulations involving the quadratic equation, linear equations, matrices, vectors and linear programming. Used the text book *Intermediate Algebra*. Administered test, graded exams and determined grades.

### State University College at Buffalo

**Cold Blooded Vertebrate**, Department of Biology, 1984--Prepared lectures and laboratories on such topics as evolution, ecology, behavior, structure, and physiology of cold blooded vertebrates. Prepared equipment for and assisted during field trips, prepared lab practicums, administered tests, graded exams, and lab reports.

**Statistics**, Department of Biology, 1982-1984--Taught lectures and recitations in statistical problem solving using such techniques as regression analysis, model checking and analysis of residuals, analysis of variance including basic concepts, randomized block design, and covariance. Prepared and proctored exams; graded problem sets and exams.

**Zoology**, Department of Biology, 1983--Taught lectures and laboratories on topics such as vertebrate anatomy, development, and plant and animal classification. Prepared lab practicums, prepared and administered exams; graded exams and lab reports.

**Ecology**, Department of Biology, 1983--Conducted ecological laboratories on such topics as population structure and dynamics, organization and classification of communities, and nutrient and energy flows of ecosystems. Prepared equipment for and assisted during field trips, graded exams and laboratory reports.

## **GRADUATE RESEARCH SUPERVISED:**

### **MAJOR PROFESSOR**

- 1994 - Brett Eggert, Eastern Illinois University - Effects of inbreeding on fish physiology\*
- 1994 - Amy Moon, Eastern Illinois University - Effect of landscape processes on a fish communities\*
- 1994 - Mike Marlin, Eastern Illinois University - Parental investment theory\*
- 1995 - Amy Ragusa, Eastern Illinois University - Endangered species habitat analysis\*
- 1995 - Ann Hogan, Eastern Illinois University - Stream habitat analysis\*
- 1996 - Lori Rose, Eastern Illinois University - Habitat preference in larval fish\*
- 1996 - Ben Hausmann, Eastern Illinois University - Role of Bowfin in Fisheries Management\*
- 1997 - Colin Smith, Eastern Illinois University – Ayers Sand Prairie Nature Preserve box turtle study.\*
- 1998 - Mandy Dust, Eastern Illinois University - Heavy metal perturbation in dollar sunfish.\*
- 1998 - Steve Paglia, Eastern Illinois University - Turtle communities of the Illinois River.\*
- 1998 - Chris Diel, Eastern Illinois University – Life history of the European eel\*
- 1999 – Lori Queen, Eastern Illinois University – Energy components of turtle eggs\*
- 1999 - Rita Klien, Eastern Illinois University - Population isolation in greenside darters\*
- 1999 - Matt Gosses, Eastern Illinois University - Asymmetry in striped shiners and common stonerollers\*
- 2000 - Erin Casey, Eastern Illinois University – Genetic isolation in salamanders\*
- 2000 - Ross Wincdowski, Eastern Illinois University - Effects of habitat fragmentation on invertebrates\*
- 2001 – Shari Fanta, Eastern Illinois University – Effects of habitat fragmentation on primary productivity\*
- 2001 – Daphne Kampagn, Eastern Illinois University - Effects of habitat fragmentation on the microbial loop\*
- 2002 – Scott Seeley, Eastern Illinois University – Effects of Dan activity on invertebrate communities\*
- 2003 – Chris North, Eastern Illinois University – Developing Food web models in agricultural streams\*
- 2004 – Mark Finsel, Eastern Illinois University – Effect of flow regime on fish community structure\*
- 2004 – Bethany Bostrom, Eastern Illinois University – Effects on riffle remediation on stream biota\*
- 2004 – Marybeth Brey, Eastern Illinois University – Diet shifts in Lake Michigan lake trout.\*
- 2005 – Eden Effert, University of Illinois (Ph.D.) – Test of River Continuum Concept
- 2005 – Catherine Ciak, Eastern Illinois University – Effects of flow regime on macroinvertebrate communities\*
- 2006 – Jeff Butler, Eastern Illinois University – Development of a habitat model for Illinois
- 2006 – Jeff Fore, Eastern Illinois University – Effects of habitat changes on fish community structure\*
- 2006 – Steve Warrner, Eastern Illinois University – Effects of habitat changes on stream primary productivity\*
- 2007 – Danyelle Dehner, UAB – Effects of habitat fragmentation on fish life-history\*
- 2008 – Steve Padgett, UAB – Using GIS to assess stream habitat quality.\*
- 2009 – Jessica Etling, UAB – The effect of the release of environmental stressors on bluegill morphology\*
- 2010 – Japhia Jacobo, UAB – Effects of habitat fragmentation on fish communities.\*
- 2011 – Kimberly Dunham, UAB – The role of mitochondrial genetic background on energetic.\*
- 2011 – Kelly Breeland, UAB – Effects of riparian management on stream invertebrate communities.\*
- 2012 – Kate Walsh, MTSU – The effect of estrogen disruptors on the population ecology of Stonerollers.\*
- 2012 – Mellissa Pompillas, MTSU – Life history aspects of an invasive species.

### **COMMITTEE MEMBER**

- 1994 - Mike Dreslik, Eastern Illinois University - Natural history of the river cooter\*
- 1994 - Eric Kershner, Eastern Illinois University - Reproductive success of grassland birds\*
- 1994 - Matt Gilg, Eastern Illinois University - Reproduction and longevity in the giant waterbug\*
- 1994 - Kathy Falout, Eastern Illinois University - Small mammal population census\*
- 1995 - Ken Mager, Eastern Illinois University - Roost site selection in the red bat\*
- 1995 - Melissa N. Helton, Eastern Illinois University - Re-nesting in the Blue-gray Gnatcatcher\*
- 1995 - Dan Lloyd, Eastern Illinois University - Coyote populations in Illinois.\*
- 1996 - Jennifer Miller, Eastern Illinois University - Habitat preference in the Leopard Moth\*
- 1996 - Dezera Davis, Eastern Illinois University - Effect of the internet on science teaching\*
- 1996 - Eden Rawski, Eastern Illinois University - Effects of exotic species on invert communities\*
- 1996 - Mark Eskew, Eastern Illinois University - Land use practices in Illinois.\*
- 1996 - Dan Olson, Eastern Illinois University, - Effects of saline environments on salamanders.
- 1997 - Bart Lindsay, Eastern Illinois University - Removal study of the Halloween Pennant Dragonfly\*

1997 - Amy Greis, Eastern Illinois University, - Burrowing behavior in zebra mussels.\*  
 1998 - Shane Lowe, Eastern Illinois University - Assessment of prairie restoration techniques in Illinois.\*  
 1998 - Carol Johnson, Eastern Illinois University - prey response mechanisms.\*  
 1998 - Karen Schnake, Eastern Illinois University - Life history of the exotic zooplankton *D. lumholtzi*.\*  
 1998 - Kevin Wentworth, Eastern Illinois University - Population dynamics of the Dickcissel\*  
 1998 - Stephanie Stewart, Eastern Illinois University - Genetics of multiple queen bee colonies.\*  
 1998 - Derek Aday, University of Illinois - What causes stunted bluegill populations.\*  
 1999 - Beth Flitz, Eastern Illinois University - Hatchling survivorship in the ornate box turtle\*  
 1999 - Stan McTaggart, Eastern Illinois University - Beaver distributions in Illinois\*  
 2000 - Mark Druffle, Eastern Illinois University - Water quality of Lake Taylorville  
 2000 - Michelle Maher, Eastern Illinois University - Social organization of southern flying squirrels\*  
 2001 - Dan Cox, Eastern Illinois University - Beaver distribution in the Embarras River\*  
 2001 - Brian Towey, Eastern Illinois University - Effects of predation on amphibian populations  
 2002 - Kristin Thomas, Eastern Illinois University - The effects of flow regime on periphyton communities\*  
 2002 - Erin Cleere, Eastern Illinois University - Dispersal of juvenile beavers in the Embarras River\*  
 2002 - Matt Burmeister, Eastern Illinois University - The effect of the seed bank on old field succession\*  
 2002 - Nate Badget, Eastern Illinois University - Water chemistry of Lake Decatur\*  
 2002 - Jamie Jordan, Eastern Illinois University - Turtles as seed vectors\*  
 2002 - Brian Metzke, Eastern Illinois University - Feeding by game fish on an exotic zooplankton\*  
 2002 - Mike Garrard, Eastern Illinois University - Characteristics of Goshawk nest sites  
 2003 - Kathryn Yurkonis, Eastern Illinois University - Species turnover dynamics in plants\*  
 2003 - Sarahbeth Klueth, Eastern Illinois University - Population modeling of a threatened salamander\*  
 2003 - Luci Novoveska, Eastern Illinois University - Diatoms as indicators of mercury contamination\*  
 2004 - William Stewart, Eastern Illinois University - Effects of seed source on plant life history parameters\*  
 2005 - Ryan Conboy, Eastern Illinois University - Competition between native and exotic daphnia\*  
 2005 - Jay Gerber, Eastern Illinois University - The effect of flow regime on stream primary productivity  
 2005 - Jess Rasmussen, Eastern Illinois University - Development of phytoplankton integrity index\*  
 2005 - Lee Gross, Eastern Illinois University - Effects of agricultural runoff on amphibian populations\*  
 2005 - Melanie Olds, Eastern Illinois University - Winter ecology of the brown water snake\*  
 2005 - Tim Rye, Eastern Illinois University - Character traits in invasive plants\*  
 2005 - Caroline Powell, Eastern Illinois University - Effects of habitat complexity on predation rates.\*  
 2008 - Cristina Richardson, UAB - Effects of crowding on sea urchin cannibalism\*  
 2009 - Jennifer Mobley, UAB - Physiology and aquaculture of Tilapia\*  
 2009 - Katie Schoenfeld, UAB - Impacts of filamentous endophytic algae\*  
 2009 - Courtney Shin, UAB - Neuron development in sea urchins\*  
 2011 - Kevin Scribner, UAB - Effects of gulf oil spill on marine invertebrates\*  
 2013 - Haley Pimental, MTSU - Effects of toxicants on snake reproduction.\*  
 2013 - Megan Stallard, MTSU - Abiotic factors modulating presence of fecal indicator bacteria\*

\* degree completed

#### **UNDERGRADUATE STUDENT RESEARCH SUPERVISED:**

1986 - Donna Stangohr, Southeast Missouri State University - Parental Investment Theory  
 1987 - Christina DiFonzo, Mercyhurst College - Bluegill Lipid Cycles  
 1987 - Susan Edmonds, Carleton College - Lizard Life-Histories  
 1988 - Matt Beirne, SUNY College of ESF - Lizard Metabolic Rates  
 1988 - Howard Berna, Arizona State - Lizard Metabolic Rates  
 1989 - Amy Knight, Auburn University - Bluegill Morphology  
 1991 - Page Price, University of South Carolina at Aiken - Bluegill Performance Traits  
 1991 - Matt Brock, Duke University - TOBEC Validation  
 1992 - Peter Zani, Miami University - Turtle Energy Allocation  
 1993 - Evonne Hart, Westmont College - Ant Community Structures  
 1993 - Avery Groat, University of South Carolina at Aiken - Insect Biodiversity  
 1993 - Chris Salice, Drexel University - Aquatic Toxicology  
 1995 - Dylan Maddox, Eastern Illinois University - Genetic Variation of Fish Populations



1996 - Jennifer O'Brien, Eastern Illinois University - Habitat Analysis in the Embarras River

1996 - Shelbi Huff Lewis, Eastern Illinois University - Turtle metabolic rates

1997 - Jeff Harlan, Eastern Illinois University - Validation of TOBEC

1997 - Julia Nefczyk, Eastern Illinois University - Zebra Mussel Distribution in Illinois Lakes

1998 - Jamie Eades, Eastern Illinois University - Validation of TOBEC in game fish

1998 - Kim Elkin, Eastern Illinois University - Validation of a habitat model for predicting stream biota

1998 - Karen Popp, Eastern Illinois University - Effects of habitat fragmentation on fish communities

1998 - Neal Jackson, Eastern Illinois University - Effects of habitat fragmentation on fish growth

1998 - Bradly Poynter, Eastern Illinois University - Nesting behavior of the painted turtle

1998 - John Taylor & Ryan Dawson, Eastern Illinois University - Fish museum collecting

1999 - Krista Kirkham, Eastern Illinois University - Effects of habitat fragmentation on fish growth

1999 - Jesse Greenston, Washington University - Effects of habitat fragmentation on invertebrates

1999 - Maura Bozman, Virginia Tech – Fish dispersal between stream patches.

1999 - Carrie DuFrane, Eastern Illinois University - Critical thermal maximum of darters.

2000 - Krista Kirkham, Eastern Illinois University – Stream productivity and fish growth rates

2001 - Karen Scheidt, Eastern Illinois University – Genetic variation in darters species

2002 - Victoria Garcia, Texas A&M University – Effects of Rusty Crayfish on native crayfish species.

2003 - Matt Minich, Eastern Illinois University – Turtle energy allocation.

2003 - Kristin Gigillette, Eastern Illinois University – Refuge selection in the Rusty Crayfish

2004 - Jennifer Egli, Eastern Illinois University – Turtle egg energy allocation.

2007 - Amanda Steber, Eastern Illinois University – Darter movement patterns

2009 - Holly Gaines, UAB – Variation in energy allocation in turtle eggs.

2009 - Zac Crowder, UAB – Lipid cycles in stream fish.

2010 - Chelsey Matta, UAB – Field collection methods and laboratory culture of zooplankton

2011 - .Andres Ricards, UAB - Thermal Biology of *Daphnia Lumholtzi*

2011 - Vasuda Bangalore, UAB - Heat shock proteins in *Drosophila*

2011 - Madhuri Patel, UAB - Laboratory assays of heat death in *Daphnia*

2011 - Andres Ricards, UAB - Survival and reproduction of *Daphnia* in laboratory culture

2013: Jessica Marcy-Quay, MTSU – Thermal tolerance in native and exotic *Daphnia* species

2013-2015: Jeff White, MTSU – Occurrence of *Daphnia lumholtzi* in Tennessee River reservoirs

2013: Meagan Danish, MTSU – Using Scanning Electron Microscopy to Image *Daphnia*

2014: Sarah E. Bennett, MTSU – Microscopic Examination and Illustration of *Daphnia* anatomy

2014-2015: Thuy Huynh, MTSU – Modeling population growth of *Daphnia* in laboratory microcosms

2015: Zachary Grimes, MTSU – Growth and Reproduction of *Daphnia Lumholtzi* under short photoperiods

2015: Amanda Fox, MTSU - Growth and Reproduction of *Daphnia Lumholtzi* under long photoperiods

2015: Samantha Fann, MTSU - Growth and Reproduction of *Daphnia Lumholtzi* at high temperature

2015: Hannah Barker, MTSU – Life History Traits of *Daphnia Lumholtzi* in laboratory cultures

2015: Hunter Morrow, MTSU – Life History Traits of male *Daphnia Lumholtzi*

2015-2017: Cara Vielhauer, MTSU – Identifying *Daphnia* species by morphological traits and DNA barcoding

2017: Laura Warren, MTSU – Testing *Daphnia lumholtzi* as a model for DNA damage using the Comet Assay

2017: Camille Gilley, MTSU – Effects of environmental cues on dormant egg production in *Daphnia*

## PRESENTATIONS:

- 1983 State University College, Biology Department, Buffalo, New York. "Thermoregulatory Behavior of Bluegill, *Lepomis macrochirus*, in a Thermally Stressed Ecosystem."
- 1984 State University College at Buffalo Invited Speaker--Undergraduate Seminar Series, Buffalo, New York. "Thermoregulatory Behavior of Bluegill, *Lepomis macrochirus*, in a Thermally Stressed Ecosystem."
- 1984 State University College, Sigma Xi Mini-Symposium, Buffalo, New York. "Thermoregulatory Behavior of Bluegill, *Lepomis macrochirus*, in a Thermally Stressed Ecosystem."
- 1986 American Society of Ichthyologists and Herpetologists, University of Victoria, Victoria, British Columbia, Canada. "Thermoregulatory Behavior of Bluegill, *Lepomis macrochirus*, in a Thermally Stressed Ecosystem."
- 1986 The Herpetologist League and the Society for the Study of Amphibians and Reptiles, Southwest Missouri State University, Springfield, Missouri. (Poster) "Lipids and Reproduction in Cottonmouths."

- 1987 Association of Southeastern Biologists, University of Georgia, Athens, Georgia. "Developmental Energetics of the American Alligator."
- 1987 Association of Southeastern Biologists, University of Georgia, Athens, Georgia. "Lipid and Reproductive Cycles in Bluegill, *Lepomis macrochirus*, in a Nuclear Reactor Cooling Pond."
- 1988 American Zoological Society, Tulane University, New Orleans, Louisiana. "Parental Investment in the American Alligator."
- 1988 American Society of Ichthyologists and Herpetologists, University of Michigan, Ann Arbor, Michigan. "Lipid Cycle and Developmental Energetics of the Eastern Cottonmouth *Agkistrodon piscivorus*."
- 1988 University of South Carolina at Aiken Invited Speaker--Departmental Seminar Series, Aiken, South Carolina. "Effects of Heated Effluent on a Fish Population."
- 1989 Association of Southeastern Biologists, University of North Carolina at Charlotte, Charlotte, North Carolina. "Lipid Cycle and Developmental Energetics of the Eastern Cottonmouth, *Agkistrodon piscivorus*." 1989 American Fisheries Society, Anchorage, Alaska. "Lipid and Reproductive Cycles in Bluegill, *Lepomis macrochirus*, in a Nuclear Reactor Cooling Pond."
- 1990 State University of New York College at Buffalo Invited Speaker--Departmental Seminar Series, Buffalo, New York. "Effects of Environmental Perturbation on Bluegill Life-History Traits."
- 1990 Association of Southeastern Biologists, Towson State University, Baltimore, Maryland. "Effects of Environmental perturbation on Bluegill Lipid Cycles."
- 1990 American Society of Ichthyologists and Herpetologists, Colleges of Charleston, Charleston, South Carolina. "Developmental Energetics of the Eastern Cottonmouth, *Agkistrodon piscivorus*."
- 1991 University of South Carolina Invited Speaker -- Departmental Seminar Series, Columbia, South Carolina. "The Effect of Environmental Perturbation on Bluegill Morphology."
- 1992 Association of Southeastern Biologists, University of Alabama, Tuscaloosa, Alabama. "The Effect of Acute and Chronic Perturbation from a Nuclear Production Reactor on Bluegill Morphology."
- 1992 American Society of Ichthyologists and Herpetologists, University of Illinois, Urbana-Champaign, Illinois. "The Effects of Environmental Perturbation from a Nuclear Production Reactor on Bluegill Morphology."
- 1993 Savannah River Ecology Laboratory Invited Speaker - Seminar Series, Aiken, South Carolina. "Response of Bluegill to Acute and Chronic Thermal Perturbation from a Nuclear Production Reactor."
- 1994 Eastern Illinois University Invited Speaker - Seminar Series, Charleston, Illinois. "Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?"
- 1995 Illinois Natural History Survey Invited Speaker - Seminar Series, Champaign, Illinois. "Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?"
- 1996 American Society of Ichthyologists and Herpetologists, University of New Orleans, New Orleans, Louisiana. "Thirty years of thermal extremes: A case of rapid evolution in bluegill morphology."
- 1996 Annual meeting for the Study of Evolution and the Society of Systematics, Washington University, St. Louis, Missouri. "Thirty years of thermal extremes: A case of rapid evolution in bluegill morphology."
- 1996 Midwest Ecology and Evolution Conference, Michigan State University, East Lansing, Michigan. "Parental investment in the Red-Eared slider turtle."

- 1997 Midwest Ecology and Evolution Conference, University of Louisville, Louisville, Kentucky. Prairie Creek: Observations of Fish Diversity, Habitat Assessment and Application of Karr's Index of Biotic Integrity.
- 1997 Midwest Ecology and Evolution Conference, University of Louisville, Louisville, Kentucky. Determination of Stream Quality Using a Habitat Index."
- 1997 Midwest Fish and Wildlife Conference, Milwaukee, Wisconsin, Relationship between habitat variables and biotic integrity in Illinois streams.
- 1998 Midwest Ecology and Evolution Conference, Eastern Illinois University, Charleston, Illinois. The use of TOBEC to estimate total body composition of an aquatic organism.
- 1998 The Illinois State Academy of Sciences Meeting, Chicago, Illinois. The use of TOBEC to estimate total body composition of an aquatic organism.
- 1998 Midwest Ecology and Evolution Conference, Eastern Illinois University, Charleston, Illinois. Relationship between habitat variables and fish diversity in Illinois streams.
- 1998 The Illinois State Academy of Sciences Meeting, Chicago, Illinois. Relationship between habitat variables and fish diversity in Illinois streams.
- 1998 The Illinois State Academy of Sciences Meeting, Chicago, Illinois. The role of bowfin in multiple species fisheries management plans. (Poster)
- 1998 The Illinois State Academy of Sciences Meeting, Chicago, Illinois. Thirty years of thermal extremes: A case of rapid evolution in bluegill morphology.
- 1998 Bemidji State University, Invited Speaker - Seminar Series, Bemidji, Minnesota. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 1998 American Fisheries Society, University of Illinois Chapter, Invited speaker-Seminar Series, Champaign-Urbana, Illinois. "Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?"
- 1998 Midwest Fish and Wildlife Conference, Cincinnati, Ohio. Lipid and reproductive cycles of bluegills exposed to 35 years of elevated environmental temperatures.
- 1999 Illinois Chapter of the American Fisheries Society Annual Meeting, Starve Rock, Illinois. Lipid and reproductive cycles of bluegills exposed to 35 years of elevated environmental temperatures.
- 1999 The Illinois State Academy of Sciences Meeting, Carbondale, Illinois. The effects of habitat fragmentation on stream fish communities.
- 1999 The Illinois State Academy of Sciences Meeting, Carbondale, Illinois. The effects of stream patch formation on fish growth rates.
- 1999 Annual meeting for the Study of Evolution and the Society of Systematics, University of Wisconsin, Madison, Wisconsin. Lipid and reproductive cycles of bluegills exposed to 35 years of elevated environmental temperatures.
- 1999 Midwest Fish and Wildlife Conference, Chicago Illinois. Invited Symposium Presentation, The effects of habitat fragmentation on stream fish communities.
- 2000 Illinois Chapter of the American Fisheries Society Annual Meeting, Starve Rock, Illinois. The effects of habitat fragmentation on stream fish communities

- 2000 The Illinois State Academy of Sciences Meeting, Rock Island, Illinois. Effects of Riparian zone fragmentation on primary productivity and fish growth rates.
- 2000 American Fisheries Society Annual meeting, St Louis, Missouri. The effects of habitat fragmentation on stream fish communities.
- 2000 Purdue University Invited Speaker—Departmental of Forestry and Natural Resources, West Lafayette, Indiana. “The effects of environmental stressors on fish morphology and community structure.”
- 2000 Midwest Fish and Wildlife Conference, Minneapolis Minnesota. The use of TOBEC to estimate total body composition of an aquatic organism.
- 2001 Milliken University Invited Speaker – Biology Department, Decatur, Illinois. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2001 Illinois Renewable Natural Resources Conference, Peoria, Illinois. The use of TOBEC to estimate total body composition of an aquatic organism.
- 2001 Annual Phi Sigma – Biological Sciences Research Symposium, Bloomington, Illinois. The effects of riparian zone fragmentation on primary productivity and fish growth rates.
- 2001 Annual Phi Sigma – Biological Sciences Research Symposium, Bloomington, Illinois. The effect of habitat fragmentation on the dispersal and genetic variability of darters.
- 2001 The Illinois State Academy of Sciences Meeting, Macomb, Illinois. “Effects of Riparian zone fragmentation on primary productivity and fish growth rates”
- 2001 The Illinois State Academy of Sciences Meeting, Macomb, Illinois. Effects of habitat fragmentation on fish developmental stability.
- 2000 The Illinois State Academy of Sciences Meeting, Macomb, Illinois. The effects of habitat fragmentation on dispersal rates and genetic diversity in darters.
- 2001 Midwest Fish and Wildlife Conference, Peoria, Illinois. The effects of habitat fragmentation on dispersal rates and genetic diversity in darters.
- 2001 Annual meeting for the Study of Evolution and the Society of Systematics, University of Tennessee, Knoxville, Tennessee. “Changes in bluegill life history in response to elevated environmental temperatures
- 2001 Ohio State University Invited Speaker—Departmental of Forestry and Natural Resources, Columbus, Ohio. Impacts of aquatic habitat fragmentation on fish species and communities.
- 2002 Illinois Chapter of the American Fisheries Society Annual Meeting, Springfield, Illinois. The effects of habitat fragmentation on dispersal rates and genetic diversity in darters.
- 2002 Illinois State Academy of Sciences Meeting, SIUE, Edwardsville, Illinois. The response of Macroinvertebrate communities to riparian zone changes.
- 2002 Purdue University Invited Speaker – Department of Biology, West Lafayette, Indiana. Teaching Strategies in General Education Courses.
- 2002 Midwest Fish Conference, Davenport, Iowa. The effects of habitat fragmentation on dispersal rates and genetic diversity in darters.

- 2002 Illinois Department of Natural Resources Invited Speaker – Watershed Division, Springfield, Illinois. The effect of land use changes on stream biota.
- 2003 Illinois Chapter of the American Fisheries Society Annual Meeting, Rend Lake, Illinois. The effects of habitat fragmentation on fish developmental stability.
- 2003 Paul Smith College Invited Speaker – Department of Biology, Paul Smith, and New York. The Effects of Environmental Stressors on Fish Morphology and Community Structure.
- 2003 Illinois State Academy of Sciences Meeting, Illinois State University, Normal, Illinois. The effects of habitat fragmentation on fish developmental stability.
- 2003 Midwest Fish and Wildlife Conference, Kansas City, Missouri. The effects of streambank stabilization structures on stream channel morphology and fish community structure.
- 2004 Illinois State University, Invited Speaker - Biology Seminar Series, Bloomington, Illinois. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2004 Arkansas State University, Invited Speaker - Biology Seminar Series, Conway, Arkansas. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2004 Eastern Michigan University, Invited Speaker - Biology Seminar Series, Ypsilanti, Michigan. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2004 Illinois Chapter of the American Fisheries Society Annual Meeting, Champaign, Illinois. The effects of streambank stabilization structures on stream channel morphology and fish community structure.
- 2003 Savannah River Ecology Laboratory, Invited Speaker - Biology Seminar Series, Aiken, South Carolina. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2004 Midwest Fish and Wildlife Conference, Indianapolis, Indiana. Changes in Bluegill Life History in Response to 35 Years of Thermal Extremes.
- 2004 Southwest Missouri State University, Invited Speaker - Biology Seminar Series, Springfield, Missouri. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2005 Illinois Chapter of the American Fisheries Society Annual Meeting, Moline, Illinois. The effects of agricultural land-use on stream food webs: a field test of food web theory using stable isotope techniques.
- 2005 Rochester Institute of Technology, Invited Speaker - Biology Seminar Series, Rochester, New York. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2006 Midwest Fish and Wildlife Conference, Grand Rapids Michigan. The effects of agricultural land-use on stream food webs: a field test of food web theory using stable isotope techniques.
- 2006 Stephen F. Austin University, Invited Speaker, Biology Seminar Series, Nacogdoches, Texas. The effects of habitat fragmentation on stream processes.
- 2006 Illinois Chapter of the American Fisheries Society Annual Meeting, Rend Lake, Illinois. The effectiveness of artificial riffles as an aquatic habitat restoration technique.
- 2006 American Fisheries Society Annual Meeting, Lake Placid, New York. The effects of streambank stabilization structures on stream channel morphology and fish community structure.
- 2006 Midwest Fish and Wildlife Conference, Omaha, Nebraska. The effects of streambank stabilization structures on stream channel morphology and fish community structure

- 2007 Lamar University, Invited Speaker, Biology Seminar Series, Beaumont, Texas. The effects of habitat fragmentation on stream processes.
- 2008 University of Alabama Birmingham, Invited Speaker, Biology Seminar Series, Birmingham Alabama. Aquatic resources: theoretical and applied research.
- 2009 Association of Southeastern Biologists, Birmingham, Alabama. Changes in bluegill life history in response to 35 years of thermal extremes.
- 2008 Ecological Society of America Annual Meeting, Milwaukee, Wisconsin. The influence of riparian forest on stream community structure and ecosystem function in an agricultural watershed.
- 2010 Midwest Fish and Wildlife Meetings, Springfield Illinois. Conducted a workshop on evaluating in-stream restoration practices.
- 2009 Midwest Fish and Wildlife Meetings, Springfield Illinois. Conducted a workshop on evaluating in-stream restoration practices.
- 2009 Midwest Fish and Wildlife Meetings, Springfield Illinois. The effectiveness of artificial riffles as an aquatic habitat restoration technique.
- 2009 National Meeting of the American Fisheries Society, Nashville, Tennessee. Influence of riparian and watershed land use on fish and macroinvertebrate community structure and function.
- 2010 Marist College, Invited Talk, Biology Seminar Series, Poughkeepsie, New York. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2010 National Meeting of the American Fisheries Society Pittsburgh, PA. Influence of riparian and watershed land use on fish and macroinvertebrate community structure and function.
- 2010 Morehead State University, Invited Talk, Biology Seminar Series, Morehead, Kentucky. Response of bluegill to 30 years of thermal extremes: a case of rapid evolution?
- 2010 Midwest Fish and Wildlife Meetings, Minneapolis, Minnesota. The effects of streambank stabilization structures on stream channel morphology and fish community structure.
- 2011 University of West Georgia, Invited Talk, Biology Seminar Series, Carrollton, Georgia. Parental investment theory: Is bigger really better?
- 2013 Annual Meeting of the Association of American Colleges and Universities, Atlanta, GA. We fail our students by not teaching them to fail.
- 2014 Tennessee Academy of Sciences, Knoxville, Tennessee. Incidence and thermal biology of the invasive *Daphnia lumholtzi*.
- 2014 Tennessee Academy of Sciences, Knoxville, Tennessee. Identifying zooplankton communities in southeastern estuaries and reservoirs.
- 2015 Tennessee Academy of Sciences, Murfreesboro, Tennessee. The Effects of Temperature on an Exotic Zooplankton Species.
- 2015 Tennessee Academy of Sciences, Murfreesboro, Tennessee. Identifying *Daphnia* species using morphology and DNA barcoding.
- 2016 Annual Meeting Association of American Colleges & Universities, Washington, D.C. Q.E.D.: Incorporating Quality, Equity, and Diversity in Student Success Initiatives (workshop).

- 2016 Weeks Bay National Estuarine Research Reserve Research Symposium, Weeks Bay, AL. Identifying *Daphnia* Species Using DNA Barcoding.
- 2016 Association of Southeastern Biologists Annual Meeting, Concord, NC. Thermal Tolerances of the Exotic *Daphnia lumholtzi* and Native *Daphnia* from an Alabama Estuary.
- 2017 Association of Southeastern Biologists Annual Meeting, Montgomery, AL. Thermal Tolerances of the Exotic *Daphnia lumholtzi* and Native *Daphnia* from an Alabama Estuary.
- 2017 Annual Meeting of the LBGT College Conference, Murfreesboro, Tennessee. Removing Obstacles to Inclusion. (Panel discussion).
- 2018 Association of Southeastern Biologists Annual Meeting, Myrtle Beach, SC. The Effects of Temperature on Exotic and Native *Daphnia* from the Mobile-Tensaw Delta.
- 2018 Society for Freshwater Science Annual Meeting, Detroit, MI. Effects of Temperature on Native *Daphnia* and the Exotic *Daphnia lumholtzi* from the Alabama River Delta.

## PUBLICATIONS:

- 1987 Fischer R.U., E.A. Standora, and J.R. Spotila. Predator induced changes in preferred temperatures of bluegill, *Lepomis macrochirus*, from a thermally altered ecosystem. Can. J. Fish. Aquat. Sci. 44:1629-1634.
- 1991 Fischer R.U., F. Mazzotti, J.D. Congdon, and R.E. Gatten Jr. Developmental energetics and parental investment in the American alligator *Alligator mississippiensis*. Journal of Herpetology 25:(2) 253-256.
- 1991 Gatten, R.E., J.D. Congdon, F.J. Mazzotti, and R.U. Fischer. Glycolysis and swimming performance in hatchling alligators. Journal of Herpetology 25:(4) 406-411.
- 1991 Coleman, M.R. and R.U. Fischer. Brood size, Male Fanning effort and the energetics of a nonshareable parental investment in Bluegill sunfish, *Lepomis macrochirus* (Teleostei: Centrarchidae). Ethology 87:177-188.
- 1993 Avery, H., J. R. Spotila, J. D. Congdon, R. U. Fischer, E. A. Standora, and S. B. Avery. Roles of diet protein and temperature in the growth and nutritional energetics of juvenile slider turtles, *Trachemys scripta*. Physiological Zoology 66:902-925.
- 1994 Fischer, R.U., Scott D.E., S.A. Busa, and J.D. Congdon. Mass dynamics during embryonic development and parental investment in cottonmouth snakes. Journal of Herpetology 28:364-369.
- 1995 Scott, D.E., R.U. Fischer, S.A. Busa, and J.D. Congdon. Whole body lipid dynamics and reproduction in the eastern cottonmouth *Agkistrodon piscivorus*. Herpetologica 51:472-487.
- 1995 Jenssen, T. A., J.D. Congdon, R.U. Fischer, R. Estes, D. Kling and S. Edmands. Morphological characteristics of the lizard *Anolis carolinensis* from South Carolina. Herpetologica 51:401-411.
- 1995 Congdon, J.D., R.U. Fischer and R.E. Gatten. The effects of incubation temperature on characteristics of hatchling American Alligators. Herpetologica 51:497-504.
- 1996 Fischer, R. U., M. Brock, and J. D. Congdon. The use of total body electrical conductivity (TOBEC): A tool to estimate non-polar lipids of an aquatic organism. Copeia 1996(2):459-462.
- 1996 Jenssen, T. A., J.D. Congdon, R.U. Fischer, R. Estes, D. Kling, S. Edmands, and H. Berna. Behavioral, thermal, and

- metabolic characteristics of a wintering lizard (*Anolis carolinensis*) from South Carolina. *Functional Ecology* 10:201-209.
- 1998 Fischer, R. U., J. Aho, C. Di Fonzo and J. D. Congdon. Reproduction and whole body lipid cycles of bluegill fish from heated and normothermic habitats. *Thermal Biology* 23(6):359-367.
- 2000 Fischer, R. U and M. Marlen. Parental investment in the Red-Eared slider turtle. *Journal of Herpetology* 3(2):306-309.
- 2002 Ann M. Hogan and R. U. Fischer. Relationship between habitat variables and biotic integrity In Illinois streams. *Journal of Freshwater Ecology*. 17(3):475-483.
- 2002 Nancy A. Schable, R. U. Fischer and T. C. Glen. Tetranucleotide mirosatellite DNA loci from the dollar sunfish (*Lepomis marginatus*). *Molecular Ecology Notes* 2:509-511
- 2003 Nagle, R. D., M.V. Plummer, J. D. Congdon, and R. U. Fischer. Parental investment, embryo growth, and hatchling lipids in softshell turtles (*Apalone mutica*) from Arkansas. *Herpetologica* 59:145-154.
- 2003 Fischer R. U. and B. Hausmann . The role of bowfin in multiple species fisheries management plans. *Illinois State Academy of Sciences* 96:154-162.
- 2004 Kirkham, K and R.U. Fischer. The effects of riparian zone fragmentation on algal growth potential and fish growth rates. *Bios* 75: 2-11.
- 2006 Fischer, R.U and J.D. Congdon. The effects of 30 years of thermal extremes on bluegill (*Lepomis macrochirus*) morphology. *Ecology of Freshwater Fishes* 16:406-418.
- 2006 Day, A.M. Holtrop, H. Dodd, R. Smogor, R. Fischer, and M. Short. A guide to operation and assembly of an electric seine. *Illinois Natural History Publication (technical report 2172)*
- 2008 Erin D. Casey, Mark E. Mort, and Robert U. Fischer. Phylogeography of the Seal salamander (*Desmognathus monticola*) as inferred from Intersimple Sequence Repeat (ISSR) data – *Journal of Herpetology* 42 (2): 251-259.
- 2010 Warrner Stephen S, Robert U. Fischer, Ann M. Holtrop, Leon C. Hinz, Jr. and James M. Novak. Evaluating the Illinois Stream Valley Segment Model as an Effective Management Tool. *Environmental Management* 46:761-770
- 2018 Fischer, R. U., Klein, R. M and James Novak. Isolation effects of aquatic habitat fragmentation on greenside darters. *Journal of Fish Biology* (In Review).
- 2018 Fischer, R.U and J.D. Congdon. Changes in bluegill life history in response to thermal extremes. *Journal of Thermal Biology* (In Review).
- 2018 Dehner, D. N. and R. U. Fischer. The effects of agricultural disturbance on the life history of the central stoneroller (*Campostoma anomalum*). *American Midland Naturalist* (In Review).
- 2018 Eden L. Effert-Fanta, Robert R. Fischer, and David H. Wahl. Effects of riparian forest buffers and agricultural land use on macroinvertebrate and fish community structure. *Environmental Management* (In Review).

## MANUSCRIPTS IN PREPARATION:

Fore, Jeffery, Fischer, R. U., Klein, R. M and James Novak. Effects of agriculture on fluvial geomorphology and fish assemblages: Implications for ecosystem conservation, *Transactions of American Fisheries Society*



Novak J.M., R.U. Fischer, O.E. Rhodes, and H.A. Avery. The effect of heterozygosity on digestive rates in the red-eared slider. *Functional Ecology*.

Fischer, R.U., J.D. Congdon and B. S. Bostrom. Differences in lipid accumulation in bluegill (*Lepomis macrochirus*) from two thermally distinct areas, *Thermal Biology*

## **PROFESSIONAL ORGANIZATIONS:**

American Fisheries Society, Evolution Society, American Society of Ichthyologists and Herpetologists, Tennessee State Academy of Sciences, Association of Southeastern Biologists, Association of American Colleges & Universities, and Council of Colleges of Arts and Sciences.

## **GRANTS:**

2018-2023 National Science Foundation – Tennessee Louis B Stokes Alliance. \$485,685

2013-2018 National Science Foundation – Tennessee Louis B Stokes Alliance. \$220,000

2012-16 US Department of Education – Middle Tennessee Education Talent Search (METS). \$207,000

2011-13 Department of Energy and Weyerhaeuser Company – Investigate the effects of cutting regimes on stream communities. \$85,000

2010-12 Howard Hughes Medical Institute National Genomics Research Initiative - \$250,000

2010-12 US Fish and Wildlife Service Grant to investigate the effects of stream habitat fragmentation on sensitive species. \$132,000

2009-11 UNCF- Merck Undergraduate Science Research Department Grant – used to fund undergraduate research and travel. \$40,000

2007-10 Illinois Department of Natural Resources State Wildlife Grant to investigate the effects of stream habitat fragmentation on sensitive species. \$120,000

2007-10 Sanitary District of Decatur Grant to conduct a biotic assessment of water quality in a stretch of the Sangamon River receiving effluent from the Sanitary District of Decatur. \$188,000 (Co-Principle Investigator)

2006-10 Illinois Department of Natural Resources State Wildlife Grant to develop a multi-metric habitat index for wadeable streams. \$200,000

2007-08 Illinois Department of Natural Resources Grant to investigate using geomorphology to predict fish assemblages in Illinois streams. \$2,000

2007-08 Illinois Department of Natural Resources Grant to assess the validity of valley segments as determinants of stream habitat quality. \$2,000

2006-07 Illinois Department of Natural Resources Grant to investigate the effects of flow rates on macroinvertebrate communities in Illinois streams. \$2,000

2006 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on aging. Presented by Dr. Steve Austed, University of Texas. \$500.00

2005-06 Illinois Department of Natural Resources Grant to investigate the effectiveness of artificial riffles in Illinois streams. \$2,000

2005-06 Illinois Environmental Protection Agency Grant to conduct an intensive basin survey on the Embarras River. \$16,576

2005-07 Sanitary District of Decatur Grant to conduct a biotic assessment of water quality in a stretch of the Sangamon River receiving effluent from the Sanitary District of Decatur. \$108,372 (Co-Principle Investigator)

2004-05 Illinois Environmental Protection Agency Grant to conduct an intensive basin survey on the Illinois River. \$18,576

2003-05 Sanitary District of Decatur Grant to conduct a biotic assessment of water quality in a stretch of the Sangamon River receiving effluent from the Sanitary District of Decatur. \$105,242 (Co-Principle Investigator)

2002-04 National Science Foundation REU Grant to examine the ecology, behavior and physiology of exotic species. \$164,786 (Co-Principle Investigator)

2002-03 Illinois Environmental Protection Agency Grant to conduct an intensive basin survey on the Kaskaskia River. \$22,673

2002-03 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on sociobiology and the evolution of sex. Presented by Dr. William Shields, SUNY College of Environmental Science and Forestry. \$1,000.00

2002-03 Eastern Illinois University Council for Faculty Research Grant to examine the effects of land use/land cover on abiotic factors and heterotrophic microorganisms in a freshwater stream system. \$3,000

2002-03 Eastern Illinois University Foundation Redden Fund for the Improvement of Undergraduate Instruction to purchase limnology sampling equipment. \$1,500

2001-03 Sanitary District of Decatur Grant to conduct fish population determination and quantitative habitat assessment on the Sangamon River. \$88,500 (Co-Principle Investigator)

2002 Eastern Illinois University Technology-Enhanced and Delivered Education Grant to investigate the use of PDA technology to diverse curriculum. \$5,115.

2001-02 Eastern Illinois University Council for Faculty Research Grant to examine the effects of aquatic habitat fragmentation on nutrient spiraling and primary productivity. \$3,600.00

2001 Eastern Illinois University Council for Faculty Research Summer Grant to examine the effects of aquatic habitat fragmentation on dispersal rates and genetic diversity of darters. \$4,000.00

2001 Eastern Illinois University Technology-Enhanced and Delivered Education Grant to enhance the general education course Environmental Life Sciences. \$3,971.45

2001 Eastern Illinois University College of Science Seed Grant to investigate the phylogeny of the sunfish family \$1200.00.

2001 Eastern Illinois University Foundation Redden Fund for the Improvement of Undergraduate Instruction to purchase aquatic sampling equipment. \$1,000

2000-01 Department of Commerce and Community Affairs Renewable Energy Resources Program grant to investigate alternative energy use in Illinois. \$15,180

2000-01 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on diamondback terrapins. Presented by Dr. Willem Roosenburg, Ohio University. \$400.00

2000-01 Eastern Illinois University Council for Faculty Research Grant to examine the effects of habitat fragmentation on fish developmental stability. \$2,736.

2000 Eastern Illinois University Foundation Redden Fund for the Improvement of Undergraduate Instruction to purchase instructional software. \$1,000

- 2000 Eastern Illinois University Council for Faculty Research Summer Grant to examine the effects of varying degrees of aquatic habitat fragmentation on macroinvertebrate communities. \$4,000.00
- 1998-01 Illinois Department of Natural Resources Conservation 2000 grant to investigate the response of channel characteristics and fish populations to the installation of a Bendway Weir Field: Embarras River near Greenup. \$52,800 (Co-Principle Investigator)
- 1999-00 Eastern Illinois University Council for Faculty Research Grant to examine the effects of stream habitat fragmentation on fish growth rates. \$3,500
- 1999-00 Illinois Department of Natural Resources grant to determine the Illinois River Turtle Community. \$4,000
- 1999 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on habitat fragmentation in urban areas. Presented by Dr. Margaret Brittingham, Penn State University. \$1,100.00
- 1998-99 Sanitary District of Decatur Grant to conduct fish population determination and quantitative habitat assessment on the Sangamon River. \$41,900 (Co-Principle Investigator)
- 1998-99 National Science Foundation REU Grant to conduct Conservation Biology in the Agricultural Midwest. \$104,000 (Co-Principle Investigator)
- 1998-99 Illinois Department of Natural Resources grant to determine the Illinois River Turtle Community. \$3,500 (Co-Principle Investigator)
- 1998 Eastern Illinois University, Untenured Small Grant to evaluate a non-destructive method for determining lipid stores in aquatic organisms. \$300.00
- 1999 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on bluegill adaptive morphology. Presented by Dr. Tim Ehrlinger, University of Wisconsin Milwaukee \$700.00
- 1998 Eastern Illinois University College of Sciences Visiting Scholars Grant to sponsor a talk on habitat fragmentation in the tropics. Presented by Dr. Robert Bierregaard of the University of North Carolina at Charlotte. \$700.00
- 1998 Eastern Illinois University College of Science Seed Grant to develop a technique for determining DNA breakage in aquatic organisms. \$900.00
- 1997 Eastern Illinois University Council for Faculty Research Summer Grant to examine the use of Total Body Electric Conductivity as a Fisheries Management tool. \$2,500
- 1996-97 Eastern Illinois University Graduate School Grant to fund a seminar series on the effects of habitat fragmentation on biodiversity. \$1,000
- 1996-97 Illinois Environmental Protection Agency Grant to conduct fish population determination and quantitative habitat assessment on the Embarras River. \$23,000
- 1996-97 Eastern Illinois University Foundation Redden Fund for the Improvement of Undergraduate Instruction to purchase aquatic sampling equipment. \$500
- 1996 Eastern Illinois University Council for Faculty Research Summer Grant to examine the effects of land use practices on stream biotic integrity. \$2,500
- 1995-96 Eastern Illinois University Council for Faculty Research Grant to examine the association of DNA damage to concentrations of heavy metals in bluegills. \$3,600

- 1994-95 Eastern Illinois University Council for Faculty Research Grant to examine the effects of flow regime and juvenile abundance on the assemblage structure of stream fishes. \$4,000.
- 1990-94 Savannah River Ecology Laboratory Research Fellowship to examine the effects of environmental perturbations on Bluegill Life - History traits. \$50,000.
- 1992-94 Department of Energy Research Fellowship to examine the effects reservoir draw-down conditions on a fish community. \$20,000.
- 1993 Department of Energy Set Aside Grant to examine the spatial distribution of harvester ant in an old field. \$4,000.
- 1982-84 Oak Ridge Associated Universities travel contract to study the thermoregulatory behavior of bluegill *Lepomis macrochirus* in a thermally stressed ecosystem. \$12,000.

## **AWARDS:**

- 2018 Middle Tennessee State University LGBT+ Advocate of the Year
- 2011 Dean of Graduate Schools Excellence in Mentorship Award
- 2008 Eastern Illinois Distinguished Faculty Member
- 2007 College of Sciences Outstanding Service Award
- 2005 Best Professional paper at the Illinois Chapter of the American Fisheries Society Annual Meeting
- 2004 Best Professional paper at the Illinois Chapter of the American Fisheries Society Annual Meeting
- 2003 Eastern Illinois Faculty Excellence Award for Research
- 2003 Graduate School Commencement Marshall
- 2003 College of Sciences Teacher/Scholar Award
- 2002 Eastern Illinois Outstanding Graduate Faculty Mentor
- 2002 Best Professional paper at the Illinois Chapter of the American Fisheries Society Annual Meeting
- 2001 Eastern Illinois Faculty Excellence Award for Research
- 2000-01 Eastern Illinois University Faculty Laureate
- 2000 Outstanding Faculty in the College of Sciences
- 2000 Interfraternity Council and Panhellenic Council Outstanding Faculty of the Month (March)
- 2000 Best Professional paper at the Illinois Chapter of the American Fisheries Society Annual Meeting
- 1999 Eastern Illinois Faculty Excellence Award for Balance (Excellence in teaching, research and service)
- 1999 Mortar Board Distinguished Faculty Award
- 1998 Distinguished Honors Faculty Award for Teaching
- 1997 Eastern Illinois Faculty Excellence Award for Teaching

- 1996 Eastern Illinois Faculty Excellence Award for Teaching
- 1995 Visiting Faculty Summer Fellowship. Savannah River Ecology Laboratory. University of Georgia
- 1992 Eugene P. Odum Award for Outstanding Ecological Student Paper. Association of Southeastern Biologists Annual Meeting.
- 1992 Frederick H. Stoye Award for Outstanding Student Paper (Genetics, Development, and Morphology Division). American Society of Ichthyologists and Herpetologists Annual Meeting.
- 1990 Outstanding Student Paper (Herpetology Division) American Society of Ichthyologists and Herpetologists Annual Meeting.