Bradley D. Reinhart

University of South Carolina Aiken
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EDUCATION

2000-2003 University of Georgia, Institute of Ecology, Athens, Georgia. M.S., Environmental Toxicology, Thesis: The Use of Small Mammals as Indicators of Heavy Metal Bioavailability in a Contaminated Riparian Zone. G.P.A. 3.6/4.0

1991-1996 University of South Carolina-Aiken, Aiken, South Carolina. B.S., Biology

EMPLOYMENT HISTORY

2006-Present Instructor of Biology and Lab Manager within the Department of Biology and Geology at the University of South Carolina-Aiken

2005-2006 Research Professional II, The University of Georgia's Savannah River Ecology Laboratory (SREL) Advanced Analytical Center for Environmental Sciences Program (AACES)

2004-2005 Research Technician III, The University of Georgia's Savannah River Ecology Laboratory (Wildlife Ecotoxicology and Physiological Ecology Program)

2000-2004 Research Technician III, The University of Georgia's Savannah River Ecology Laboratory (Wildlife Program)

1998-2000 Research Technician III, The University of Georgia's Savannah River Ecology Laboratory (AACES)

APPOINTMENTS & EXPERIENCE

2006-Present **Instructor of Biology and Lab Manager** University of South Carolina Aiken, Department of Biology and Geology

My duties as Instructor of Biology is to maintain regular office hours, teach six (6) contact hours per semester, engage in service to my Department and the community, engage in scholarship and professional development. At present time, I am advising 13 undergraduate Biology students. As Lab Manager, I am responsible for coordinating lab preps, supervising student employees (currently 8 undergrads), maintaining equipment and inventories, and ordering supplies. My responsibilities also include oversight of departmental supply budgets, start-up budgets for new faculty members, and coordinating the budget with the Department Chair.

2005-2006 **Research Professional II**, The University of Georgia's Savannah River Ecology Laboratory (AACES)

My research at SREL involved collaboration with Dr. Christopher Romanek's group (AACES). My work includes low-temperature and aqueous geochemistry with an emphasis on the stable isotope systematics of elements that play key roles in biogeochemical processes.

RESEARCH ACTIVITIES:

- Currently developing novel techniques for chemical and stable isotope analysis
  - · the micro-diffusion technique for the extraction of aqueous NH4 for nitrogen isotope analysis
  - · field based chemical assays for the analysis of labile compounds in hot springs, e.g., NH_4, DOX, and H_2S
- Process and prepare biological samples for chemical and isotopic analysis
  - · freeze drying, lipid extraction, cryo-grinding, bulk digestion, weighing, loading and analyzing samples
- Evaluating the spread of contaminants via isotopic analysis of bat hair samples

MANAGEMENT RESPONSIBILITIES:

- Responsible for coordinating laboratory inventory and purchasing of supplies, lab safety and chemical waste disposal

2004-2005 **Research Technician III**, The University of Georgia's Savannah River Ecology Laboratory (Wildlife Ecotoxicology and Physiological Ecology Program)

RESEARCH ACTIVITIES:

- Developed methods and procedures for evaluating heavy metal exposure
  - · Osprey *Pandion haliaetus*,
  - · Common Grackle *Quiscalus quiscula*
- Using existing techniques, processed and evaluated trophic transfer of contaminants in predatory vertebrates
  - · Mole Salamander *Ambystoma talpoideum*,
  - · Marbled Salamander *A. opacum*,
  - · Banded Water Snake *Nerodia fasciata fasciata*

MANAGEMENT RESPONSIBILITIES:

- Lab manager: custodian of laboratory equipment, e.g. freeze-driers, lipid extractors, glove boxes, balances, muffle furnaces and field equipment, e.g. nets, drift fences, kiddy pools
- Chemical coordinator: responsible for chemical inventory, ordering and storage of laboratory chemicals, responsible for lab safety and chemical waste disposal
- Supervision of temporary staff and coordinating projects for summer students/ involved in the advising and planning of graduate student research

2000-2004 **Research Technician III**, The University of Georgia's Savannah River Ecology Laboratory (Wildlife Program)

RESEARCH ACTIVITIES:

- Mobility, bioavailability, and trophic transfer of heavy metals in complex ecosystems
  - · Trapped small mammals in disturbed ecosystems
  - · Analyzed sediment, prey items and tissue samples for contaminant analyses
  - · Constructed drift fences, pit fall traps for invertebrate collections on contaminated sites
- The use of stable isotopes to determine contaminant movement within an observed ecosystem
  - · $\delta^{13}C$ and $\delta^{15}N$ values were used to determine plant food sources and trophic level respectively
- Assisted in the development and application of telemetry studies involving raptures on DOE land
  - · Constructed telemetry models involving different landscapes
  - · Worked with DOE and the United States Air Force to study flight behavior of the two vulture species found on DOE land
- Developed, organized and implemented survey techniques for general ecology of wood ducks located on DOE land
- Collected Data for Avian Vacuolar Myelinopathy (AVM; a disease afflicting Bald Eagle and waterfowl populations in the southeast)
  - · Collected coots from reservoirs on SRS
  - · Dissected coots for AVM samples
- Provided technical assistance for joint research with Consortion for Risk Evaluation with Stakeholder Participation (CRESP)
  - · Trapped, pit tagged and radio tracked Banded Water Snakes on the Savannah River Site (SRS)

MANAGEMENT RESPONSIBILITIES:

- Responsible for coordinating laboratory inventory and purchasing of supplies, lab safety and chemical waste disposal
- Implemented independent research projects for students involved in SREL's Research Experience for Undergraduate (REU) program

1998-2000 **Research Technician III**, The University of Georgia's Savannah River Ecology Laboratory (AACES)

RESEARCH ACTIVITIES:

- Implemented and maintained the following laboratory, greenhouse, and field experiments concerning the phytoremediation and revegetation of eroded land, and acidic mine spoils:
  - · The effects of Ni, Cd, Pb, uptake in Poplar trees
  - · The effect of Flue-Gas Desulfurization by-product on establishment, growth, and elemental composition of agricultural crops

- The effects of low and high pH on uptake of Mn, Fe, Al, in *Paspalum* grasses
- The uptake of heavy metals by certain *Pinus* species in coal reject piles
- The effect of biosolids, surfactant and topsoil amendment in reducing acid mine drainage and encouraging re-vegetation

MANAGEMENT RESPONSIBILITIES:

- Chemical coordinator: responsible for chemical inventory, ordering and storage of laboratory chemicals, responsible for lab safety and chemical waste disposal
- Supervision of temporary staff and coordinating projects for summer students; responsible for the hiring of technical help to meet upcoming deadlines

PUBLICATIONS

B.D. Reinhart – M.S. University of Georgia / SREL – Thesis: The Use of Small Mammals as Indicators of Heavy Metal Bioavailability in a Contaminated Riparian Zone. (In Prep)

DeVault, T.L., W.L. Stephens, **B.D. Reinhart**, O.E. Rhodes, Jr., and I.L. Brisbin, Jr. 2003. Aerial telemetry accuracy in a forested landscape. Journal of Raptor Research 37: 147-151.

DeVault, T.L., **B.D. Reinhart**, I.L. Brisbin, Jr., and O.E. Rhodes, Jr. 2005. Flight behavior of black and turkey vultures: implications for reducing bird-aircraft collisions. Journal of Wildlife Management 69: 592-599.

PRESENTATIONS

The Wildlife Society annual meeting 2004 in Calgary:

"Home ranges and flight behavior of sympatric black and turkey vultures in South Carolina" T.L. DeVault, **B.D. Reinhart**, I.L. Brisbin, Jr., O.E Rhodes, Jr.

Conference presentations at the 90th annual American Society of Agronomy in Baltimore:

"Land utilization of Dry Fluidized Gas Desulfurization (FGD) Gypsum" D.C. Adriano, J. Weber, **B.D. Reinhart**, T. Punshon.

"Rehabilitation of severely eroded site using chicken litter and high rates of coal fly ash" J. Weber, D.C. Adriano, **B.D. Reinhart**, T. Punshon.

TRAINING EXPERIENCE

Field:

- Organizing and operating earth-moving machinery and trial size agricultural machinery (i.e. tractors, bobcats and lifts)
- Airboat operation
- ATV operation

Laboratory:
- Gamma Ray Spectroscopy using EG&G Ortec Gammavision
- TC/EA Elemental Analyzer
- Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
- CEM Microwave digestion (Mars Xpress, Mars 5, and MDS-2000)
- pH, EC, lysimeter, colorimeter, freeze dry systems, hot kits

COURSEWORK AND PROFESSIONAL DEVELOPMENT

*All listed clearances are current and pertain to the **Department of Energy's (DOE) Savannah River Site (SRS)** located in Aiken, SC*

- General Respiratory Protection
- Initial Negative Pressure Respirator Training
- Hazardous Material Training (Initial and Recurrent)
- Radiological Worker II (Initial and Recurrent) Full Presentation
- Lead Work
- 40-hr HAZWOPPER Training
- Resource Conservation and Recovery Act (RCRA) Training for Hazardous Waste Workers
- SRTC Technical Area Facility Access Training
- Radiological Containment Training
- Full Body Harness Training
- Worker Fall Protection
- Person In Charge (PIC) Training
- Sealed-Source Training

Computer:
- ArcGIS / ArcView
- SAS
- Microsoft Office/Spreadsheet, word processing and presentation software

References Available Upon Request