

Brian H. Kiepper

Curriculum Vitae

Title: Assistant Professor

Departments: Biological & Agricultural Engineering and Poultry Science

Academic Appointment: 65% Extension / 35% Research

Education:

- **Ph.D.** Poultry Science, 2007
The University of Georgia, Athens, Georgia
- **M.S.** Food Science, 2003
The University of Georgia, Athens, Georgia
- **B.S.A.** Animal Science, 1985
Tennessee Technological University, Cookeville, Tennessee

Professional Appointment:

- **May 2008 – Present** Assistant Professor, Graduate Faculty, College of Agricultural & Environmental Sciences, The University of Georgia, Athens, Georgia

Other Professional Position:

- **March 1998 – April 2008** Agricultural Research Engineer II, Engineering Outreach Service, The University of Georgia, Athens, Georgia

Professional Affiliations:

- **March 2009 - Present** UGA Faculty of Engineering, Engineering Member
- **February 2009 - Present** USDA-CSREES Southern Region Water Quality Planning Committee: Water Policy and Economics Team
- **January 2009 - Present** UGA Water Faculty
- **March 1998 - Present** Georgia Environmental Partnership
- **January 2005 - February 2009** UGA Faculty of Engineering, Affiliate Member

Non-Academic Experience:

- **1996 – 1998** Assistant Director – Wastewater Treatment and Technical Services
- **1994 – 1996** Manager – Industrial Pretreatment Program
Department of Water Resources
City of Conyers /Rockdale County, Conyers, GA
- **1994 – 1995** Laboratory Technician, Silliker Laboratories, Stone Mountain, GA
- **1991 – 1994** Mammal Keeper, Elephant Trainer, Zoo Atlanta, Atlanta, GA
- **1990 – 1991** Agricultural Produce Inspector, Georgia Department of Agriculture
State Farmers Market, Forest Park, GA
- **1989 – 1990** Assistant Editor, Henry Herald Newspaper, McDonough, GA
- **1988 – 1989** Sports Writer, Clayton News/Daily Newspaper, Jonesboro, GA
- **1985 – 1988** Store Manager. Revco Drug Stores, Inc., Atlanta, GA

Current Memberships in Professional Associations:

- Georgia Association of Water Professionals (GAWP)
Member of the GAWP Industrial Committee
- Poultry Science Association (PSA)
Member of the PSA Environmental Quality Committee
- Georgia Association of County Agricultural Agents (GACAA)

Publications:

Refereed Journal Articles (2)

Kiepper, B.H., Merka, W.C. and D.L. Fletcher. 2008. Proximate composition of poultry processing wastewater particulate matter from broiler slaughter plants. *Poultry Science* 87: 1633-1636.

Kiepper, B.H., Merka, W.C. and D.L. Fletcher. 2008. Effects of vibratory microscreening on proximate composition and recovery of poultry processing wastewater particulate matter. *Bioresource Technology* 99: 8593-8597.

Extension Publication (1)

Kiepper, B.H. 2009. Understanding Water and Sewer Rates and Rate Structures in Georgia. *Poultry Tips*. Extension Poultry Science, University of Georgia. January.

Conference Proceedings (4)

Kiepper, B.H. 2009. Using Innovative water reuse systems to meet water conservation goals in Georgia's poultry processing industry. In: *Proceedings of the 2009 Georgia Water Resources Conference*, Athens, Georgia. G.D. Carroll. ed. April 27-29, 2009.

Kiepper, B. H. and J. Pierson. 2009. Identification of effective BMPs for live animal processing facilities. In: *Proceedings of the 2009 Urban Water Management Conference*, Overland Park, Kansas. A. Godwin. ed. March 23-26, 2009.

Kiepper, B. H. and D.P. Geller. 2008. Using wastewater as a fuel source for poultry processing. In: *2008 National Poultry Waste Management Symposium (NPWMS) Proceedings*, Des Moines, Iowa. J. B. Hess, J.P. Blake, K.S. Macklin and C. Coufal, ed. October 21-23, 2008.

Kiepper, B. H. and D.P. Geller. 2008. Fat recovery from processing wastewater as an alternative fuel. In: *2008 Proceedings of the Georgia Poultry Conference*, Athens, Georgia. University of Georgia, Department of Poultry Science. October 1, 2008.

Accepted Conference Abstract (1)

Kiepper, B.H. 2009. Effects of poultry processing sanitation chemicals on biological wastewater treatment systems. 2009 Poultry Science Association Annual Meeting. Raleigh, NC. July 20-23, 2009.

Research Project Final Report (1)

Kiepper, B.H. and D.P. Geller. 2008. Recovery and purification of fat from food processing wastewater for use as high-grade biodiesel blendstock. Georgia Food Processing Advisory Council (FoodPAC), Atlanta, GA.. Final Project Report.

Presentations:

Invited Conference Presentations (10)

(* Presentations associated with published proceedings previously listed)

1. *2009 Georgia Water Resources Conference. *Using Innovative Water Reuse Systems to Meet Water Conservation Goals in Georgia's Poultry Processing Industry*. Athens, Georgia. April 27, 2009. 25 Water academic/governmental professionals.
2. *2009 Urban Water Management Conference. *Identification of Effective BMPs for Live Animal Processing Facilities*. Overland Park, KS. March 25, 2009. 25 Stormwater professionals.
3. 2009 Georgia Association of Water Professional (GAWP) Industrial Conference. *Water Conservation and Reuse in Georgia's Poultry Processing Industry*. Callaway Gardens, GA. March 17, 2009. 55 Water industry professionals.
4. 2009 USDA-CSREES National Water Conference. *Innovative Uses of Water Reuse Systems by U.S. Poultry Processors to Meet Water Conservation Goals*. St. Louis, MO. February 10, 2009. 75 Water academic/industry professionals.
5. 2009 Animal Agriculture Environmental Sustainability Summit. *Water Conservation and Reuse*. Atlanta, GA. January 27, 2009. 80 Poultry industry professionals.
6. *2008 National Poultry Waste Management Symposium (NPWMS). *Using Wastewater as a Fuel Source for Poultry Processing*. Des Moines, IA. October 21, 2008. 150 Poultry industry professionals.
7. *2008 Georgia Poultry Conference. *Fat Recovery from Processing Wastewater as an Alternative Fuel*. University of Georgia, Athens, GA. October 1, 2008. 125 Poultry industry professionals.
8. Joint Annual Meeting of the SWCS, ASABE & IECA. *Water Conservation Implementation Plan (WCIP) Development in Georgia*. University of Georgia, Athens, GA. June 5, 2008. 25 Water industry professionals.
9. Carpet-Rug Institute (CRI) Water Conservation Seminar. *Georgia Comprehensive Statewide Water Plan*. Northwest Georgia Conference Center, Dalton, GA. May 13, 2008. 75+ Carpet industry professionals.
10. Carpet-Rug Institute (CRI) Water Conservation Seminar. *Watersheds 101: Stormwater and Why You Should Care*. Northwest Georgia Conference Center, Dalton, GA. May 13, 2008. 75+ Carpet industry professionals.

Other Invited Presentations (3)

1. University of Georgia Food Science & Technology Departmental Seminar. *Emergence of Water Reuse Systems in Meat Processing & Impacts on HACCP*. Athens, GA. February 12, 2009. 25 UGA Faculty and students.
2. Georgia Poultry Federation (GPF) Processing Working Group. *Recovery of fat from poultry processing wastewater for on-site fuel use*. Athens, GA. September 18, 2008. 35 Working group members and guests.
3. Georgia Food Processing Advisory Council (FoodPAC) Steering Committee. *Recovery and purification of fat from food processing wastewater for use as high-grade biodiesel blendstock*. College Park, GA. May 1, 2008. 25 Committee members and guests.

Conference Participation:

1. 2009 Georgia Association of Water Professional (GAWP) Industrial Conference. Moderator: Session 1 – Laboratory, Session 12 – Practical Operations. Callaway Gardens, GA. March 17-18, 2009.
2. U.S. Poultry & Egg Association. *Poultry Processors Workshop*, Atlanta, GA. May 21-22, 2008

Grants and Contracts Received:

Title	Granting Agency	Dates/ Duration	Amount	Investigator Status
Development of the Georgia Food Processor Alternative Fuels and Biodiesel Feedstock Database	Georgia Traditional Industries Program: FoodPAC Grant	7/1/2008 – 6/30/2009	\$ 100, 731	Co-PI
Water Conservation And Reuse In Food Processing and Agricultural Industries	Georgia Traditional Industries Program: FoodPAC Grant	7/1/2008 – 6/30/2009	\$ 52,900	Co-PI

Public Service Activities:

Workshops Coordinated (2)

Event	Location	Date	No. of Attendees
Water Conservation/ Reuse Workshop for Poultry and Meat Processors	NC State University Raleigh, NC	August 13, 2008	27
Water Conservation/ Reuse Workshop for Poultry and Meat Processors	University of Georgia Athens, GA	July 16, 2008	35

On-Site Technical Assistance - Georgia Poultry Clients (6)

Client	Business Type	Initial Contact	Activities
Pilgrim's Pride 2 (Athens, Clarke Co.)	Poultry slaughter plant	Feb 2009	New belt press sampling, process evaluation
Pilgrim's Pride (Gainesville, Hall Co.)	Poultry slaughter plant	Feb 2009	Evaluation of water and sewer billing, rate structure
Pilgrim's Pride 1 (Athens, Clarke Co.)	Poultry slaughter plant	Jan 2009	Offal recovery, wastewater stream evaluation
Tyson Foods (Cumming, Forsyth Co.)	Poultry Slaughter Plant	June 2008	Offal recovery system assessment. Wastewater system evaluation.
Sanderson Farms (Moultrie, Colquitt Co.)	Poultry Slaughter Plant	June 2008	EMS development. Plant water balance. Water conservation plan.
American Proteins (Cumming, Forsyth Co.)	Rendering Plant	May 2008	Poultry fat recovery from wastewater. Fat combustion.

On-Site Technical Assistance – Other Georgia Clients (14)

Client	Business Type	Initial Contact	Activities
Ecolab, Inc. (McDonough, Henry Co)	Chemical Manufacturer	March 2009	Water use balance, industrial pretreatment assessment
King & Prince Seafood (Brunswick, Glynn Co.)	Seafood Further Processor	Dec 2008	Recovery of wastewater and by-product fat samples for testing
Rich Foods, Inc. (Brunswick, Glynn Co.)	Food Processing Plant	Dec 2008	Recovery of wastewater and by-product fat samples for testing
Mission Foods (Pendergrass, Jackson)	Tortilla and Chip Manufacturer	Nov 2008	Recovery of wastewater and by-product fat samples for testing
1888 Mills (Griffin, Spalding Co.)	Textile Mill	Nov 2008	Wastewater permit and discharge evaluation
Elbert Co. Commission* (Elberton, Elbert Co.)	Local Government	October 2008	Education on land application of poultry processing by-products
Wilbros Organic Rec (Toccoa, Stephens Co.)	Waste Recovery and Recycling	Sept 2008	Wastewater treatment assessment. NPDES permitting.
City of Gordon (Gordon, Wilkinson Co.)	Wastewater Treatment Plant	August 2008	Plant Ammonia discharge assessment. Plant D.O. profile.
Alterra Bioenergy (Gordon, Wilkinson Co.)	Biofuels Manufacturing	August 2008	Evaluation of existing dormant wastewater treatment plants.
GA Botanical Gardens (Athens, Clarke Co.)	State Botanical Gardens	July 2008	Water use assessment. Water conservation plan.
Rapid Rooter, Inc. (Athens, Clarke Co.)	Commercial Pumper	July 2008	Development of grease trap waste treatment and recovery plant.
Moon River Brewery (Savannah, Chatham)	Brewery	July 2008	New plant development project. Wastewater system development.
City of Moultrie (Moultrie, Colquitt Co.)	Wastewater Treatment Plant	May 2008	RFQ development & review for WWTP upgrades. Plant P balance.
Farmland/National Beef (Moultrie, Colquitt Co.)	Beef Further Processing Plant	May 2008	Wastewater effluent assessment for P discharge. P minimization.

* Assistance provided through County Extension Office

On-Site Technical Assistance – U.S. Poultry Clients (3)

Client	Business Type	Initial Contact	Activities
Tyson Foods (Noel, MO)	Poultry Slaughter Plant	Feb 2009	Wastewater treatment system evaluation
Tyson Foods (Monett, MO)	Poultry Slaughter Plant	Feb 2009	Wastewater treatment system evaluation
Wayne Farms (Decatur, AL)	Poultry Further Processing Plant	Feb 2009	Wastewater treatment system evaluation

On-Site Technical Assistance – International Client

Client	Business Type	Initial Contact	Activities
Cargill, Inc. San Pedro Sula, Honduras	Poultry Slaughter Plant	July 2008	Water conservation plan. Wastewater treatment evaluation. 5-Day Site Visit November 2008

Technical Guidance Activities

Client	Business Type	Initial Contact	Activities
Woodruff & Howe (Canton, GA)	Environmental Engineering Firm	Apr 2009	FOG content in industrial wastewater
Carpet- Rug Institute (Dalton, GA)	Non-Profit Trade Association	Apr 2009	Industry-wide water conservation study
Waffle House (Norcross, GA)	Company-Owned Restaurant Chain	Mar 2009	Grease trap installation & maintenance information
David Hurst (Snellville, GA)	By-Product Utilization	Feb 2009	Waste feathers and egg shell information
Joseph Collins (Athens, GA)	UGA Student	Feb 2009	Egg shell strength information
Carter & Slope (Macon, GA)	Environmental Engineering Firm	Feb 2009	Constructed wetlands information
Pak-Lite (Suwanee, GA)	Commercial Packaging	Feb 2009	Industrial pretreatment information
Cobb – Caribe* (Santiago, Dom. Rep.)	Poultry Production	Jan 2009	Water quality analytical testing
FPL Foods (Augusta, GA)	Beef Processing	Jan 2009	Water / solids waste reduction in processing
Alcimed, Inc * (Paris, France)	Business Development Firm	Jan 2009	Poultry processing waste stream information
Air Products (Allentown, PA)	Cryogenic Air and Chemical Company	Jan 2009	Poultry processing wastewater information
Griffin Industries (Thomasville, GA)	Renderer	July 2008	Grease trap pumping information
Bain & Company (Chicago, Illinois)	Consulting Firm	May 2008	Poultry processing industry information
Environ. Mgmt. Corp. (O'Fallon, MO)	Environmental Engineering Consulting	May 2008	Poultry processing industry information
Georgia Poultry Fed. (Gainesville, GA)	Georgia Poultry Industry Advocate Group	May 2008	Summer leadership workshop information

* International Contacts

Technology Transfer Activities

Event	Location	Date(s)	Activities
International Poultry Exposition	Atlanta, GA	Jan 28-29, 2009	UGA Poultry Science and Engineering Exhibit
Sunbelt Agricultural Expo	Moultrie, GA	Oct 13-15, 2008	Water Conservation in Poultry Processing Display
Georgia National Fair	Perry, GA	Oct. 10, 2008	Poultry World Exhibit
Georgia COC Environmental Conf	Savannah, GA	Sept 27-28, 2008	UGA Biofuels Display
BEAD II (USDA Bioenergy Awareness Days II)	Washington, D.C.	June 19-22, 2008	Fat from Poultry Processing Wastewater Display

Service Committee Activities

Organization	Committee	Initial Contact	Activities
US Poultry & Egg Association	Clean Water Awards	January 2009	Four (4) processing plant visit to MO, AL, GA in February 2009
US Poultry & Egg Association	Family Farm Environmental Stewardship Award	October 2008	Nationwide application evaluation, on-site review of SE Region finalists
Ga Dept of Natural Resources / Environ. Protection Division	Water Conservation Implementation Plant (WCIP) Commercial/Industrial	May 2008	Development of Draft WCIP for Commercial/ Industrial Sector

Other Public Service Activities

- Georgia 4-H Poultry Judging Regional Contests: Athens, Dalton, Tifton, Statesboro, GA. April 20-23, 2009.
- Georgia FFA State Poultry Judging Contest. Athens, GA. March 14, 2009.
- Georgia FFA Poultry Field Days. Dalton, GA. January 3, 2009.
- Guest Speaker. Morgan County Middle School, Madison, GA. November 25, 2008. Georgia's Water Resources. 112 Eighth-grade students.
- Guest Speaker. Morgan County Primary School, Madison, GA. September 24-25, 2008. Georgia Waterways. 195 Second-grade students.
- Judge. Georgia 4-H State Congress. DPA in Engineering Science. Atlanta, GA. July 23, 2008.
- Guest Speaker. Morgan County Middle School Career Day. Madison, GA. May 8, 2008. 120+ Students
- Georgia 4-H State Poultry Judging Contest. Athens, GA. May 6, 2008

Contributions to Instruction

- **Guest Instructor.** PS 3790. Poultry Science – Poultry Seminar. Spring 2009. Professor: Dr. Scott Russell
- **Guest Lecturer.** PS 4860-6860. Poultry Science – Poultry Processing. Fall 2008. Professor: Dr. Scott Russell. *Lecture/Lab Topics: Introduction to Poultry Processing, Environmental Impacts of Poultry Processing.*
- **Visiting Scholar Faculty Host.** Gaukhar Shegebayeva, Ph.D. Student in Chemistry at Eurasian National University (Astana, Kazakhstan) October – December 2008.
- **Graduate Student Instruction.** David Keiser, M.S. Student in Agricultural Economics, CAES, University of Georgia. *Topics: Poultry slaughter process, wastewater generation and treatment, Phosphorus generation and treatment.* October 2008.

Journal Manuscript Reviewer

- *Bioresource Technology*. S.C. Ricke. Ed. Number of Manuscripts Reviewed: 1

Popular Press Article Interviews

- Karapetian, A. 2008. Tech Connection: In the Plant Water Management. *Water works. Meetingplace*, December 2008, p.78.
- Keefe, L.M. 2008. Tech Connection: Test the Waters. Plants find recycling their wastewater pays benefits, financial and otherwise. *Meetingplace*, October 2008, p.79.