

Holland C. Dougherty

hdougherty@ucdavis.edu * (515)-290-6720

Education

Iowa State University, Ames, IA – Bachelor of Science Degree: May 2013

Dual B.S.: Animal Science and Spanish

Cumulative Undergraduate GPA: 3.37/4.0

GRE Percentiles: Verbal – 95%, Quantitative – 90%, Writing – 99%

Minor: Ag Business

Major GPA: 3.56/4.0

Graduate School GPA: 3.64/4.0

Publications

● Dougherty, H.C. Kebreab, E., Little, B.A., Ingham, A. B., Hegarty, R.S., Pacheco, D., and McPhee, M.J. 2014. Overview of the Methane Prediction Module in the AusBEEF Rumen Model. (peer-reviewed abstract). *Animal Production Science*. 54:12 (online supplement)

http://www.publish.csiro.au/?act=view_file&file_id=ANv54n12abstracts.pdf

● Dougherty, H.C. Kebreab, E., Little, B.A., Ingham, A. B., Hegarty, R.S., Pacheco, D., and McPhee, M.J. 2014. Overview of the Methane Prediction Module in the AusBEEF Rumen Model. September 2014. Presented at the 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals – Cairns, Australia.

● Dougherty, H.C., and A.K. Johnson. 2012. Do Play Groups for Shelter Dogs Reduce In-Kennel Arousal and Excitability Levels? Animal Industry Report. A.S. R2782

<http://www.ans.iastate.edu/report/air/2013pdf/R2782.pdf>

● Ball, S., Den Herder, R., Dougherty, H.C., Johnson, A.K., and McAuliffe, M. 2012. Does Handling of Kittens Improve Over 5 Consecutive Days of Handling? Animal Industry Report. A.S. R2698

<http://www.ans.iastate.edu/report/air/2012pdf/R2698.pdf>

● Ball, S., Den Herder, R., Dougherty, H.C., Johnson, A.K., and McAuliffe, M. 2012. 5 vs. 10-d of Handling; Which One is Better? Animal Industry Report. A.S. R2699

<http://www.ans.iastate.edu/report/air/2012pdf/R2699.pdf>

● Ball, S., Den Herder, R., Dougherty, H.C., Johnson, A.K., and McAuliffe, M. 2012. Does Handling of Kittens Improve Over 10 Consecutive Days of Handling? Animal Industry Report. A.S. R2700

<http://www.ans.iastate.edu/report/air/2012pdf/R2700.pdf>

Teaching Experience

ANG 107 – Animal Breeding and Genetics – Dr. Michael Miller & Dr. Juan Medrano

Undergraduate Teaching Assistant – Animal Genetics,

Fall 2014

- Taught a weekly lab section
- Prepared and hosted exam review sessions
- Graded quizzes and exams
- Taught students how to use the dairy cow herd simulator

Lab of Dr. Matthew Ellinwood – Iowa State University, Ames, IA

Undergraduate Teaching Assistant – Companion Animal Science,

Spring 2012

- Prepared and set up activities for students
- Assisted in curriculum development and exam grading
- Proctored companion animal segment of 2012 Academic Quadrathlon

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International Experience

ISU Study Abroad – University of Extremadura - Cáceres, Spain

Spring 2011

- Attended classes and tutored university students in reading and spoken idioms in English
- Traveled and explored Spanish culture and history
- Wrote and presented speeches to student groups at local schools

Independent Studies

Lab of Dr. Anna Johnson – Iowa State University, Ames, IA

Independent study in Animal Behavior

Fall 2011

- Designed and implemented experiment to measure the effect of play groups on canine arousal levels
- Developed ethogram for measuring canine behavior during data collection
- Analyzed data and prepared Animal Industry Report based on the findings

Lab of Dr. Anna Johnson – Iowa State University, Ames, IA

Independent study in Ethics

Summer 2011

- Identified areas needing improvement in current ethical reassurance programs in the pork industry
- Proposed improvements to current ethical reassurance programs
- Presented findings via presentation to Animal Behavior Group and undergraduate pork researchers

Lab of Elizabeth Snella – Iowa State University, Ames, IA

Fall 2010

Independent study in Behavior and Cognition

- Recorded experimental data during experiments on mouse cognition and navigational cues

Work Experience

UC Davis – Sustainable Agricultural Modeling Lab (Dr. Ermias Kebreab)

PhD Student

Fall 2013- present

- Currently working on describing the AusBeef rumen model and preparing it for publication, as well as incorporating lipid and nitrate supplementation terms and performing sensitivity analysis on the rumen model
- Presented a poster on the AusBeef methane prediction module at the 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals
- Presented a poster on the methane prediction module in the AusBeef rumen model at the 8th International Workshop on Modelling Nutrient Digestion and Utilisation in Farm Animals

CrossingsCon 2016 – Davis, CA

Treasurer

Summer 2013- present

- Co-founded science fiction convention dedicated to the works of Diane Duane
- Filed and maintained state and federal paperwork for startup nonprofit
- Contacted vendors and arranged vendor contracts
- Contacted guests of honor and arranged guest contracts
- Maintained financial records and filed for IRS 501c(3) nonprofit status
- Organized and administrated fundraising campaign via Indiegogo

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Lab of Dr. Anna Johnson – Iowa State University, Ames, IA

Undergraduate Research Assistant,

Summer 2011

- Collected field data and samples for pork transport study
- Analyzed recorded data from previous sow lameness studies
- Prepared Animal Industry Reports for publication
- Served as in-field interpreter during field data collection

IQ America – Gilbert, IA

Curriculum Developer/Student Instructor,

September 2006 – February 2010

- Taught at after-school/weekend/summer programs for talented and gifted students
- Presided over knowledge bowls, spelling bees, and ACT/SAT preparation classes for students

USDA – Ames, IA

Research Assistant,

August 2007 – December 2007

- Entered and analyzed data on corn genomic expression
- Collected and prepared corn seeds for shipping to other labs

USDA – Ames, IA

Field Technician,

Summer 2006

- Assisted in research examining the effects of diet on animal emissions
- Performed basic medical procedures on swine
- Collected and prepared samples, tested molarity of solvents, performed nitrogen digestion
- Analyzed feed/gain rates for statistical review of the experiment

Honors

Lee Baldwin Award for Modelling of Animal Nutrition – June 2015

Henry A. Jastro Graduate Research Award – June 2014

UC Davis Graduate Scholars Fellowship – 2013-2014

Leonard Hermanson Family Scholarship for Agricultural Entrepreneurship – Spring 2013

Dean's List – Fall 2010, Fall 2011, Spring 2012, Fall 2012, Spring 2013

ISU President's Leadership Class – 2008 – 2009

Activities

Animal Rescue League of Iowa (ARL-IA)

Volunteer,

July 2011- August 2013

- Provided social enrichment to relinquished animals
- Assisted potential owners with animal selection and adoption
- Represented ARL at fundraisers and public activities
- Gave tours to visiting groups of children and adults as part of community outreach program

Women in Science and Engineering (WISE) – Ames, IA

Fundraising Chair,

Spring 2009 – Spring 2010

- Organized and planned fundraising opportunities and WISE events
- Coordinated and assisted speakers at meetings and seminars
- Worked with local businesses to organize donations and sponsorships of WISE events

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Technical Skills

- Experimental design and data analysis in R
- Linear regression and model analysis in R
- Mechanistic and dynamic model development and simulation in R
- Mechanistic modeling in VISSIM using an editable C++ pseudocode
- Animal handling and preparation for medical procedures
- Animal behavior analysis
- Fluent in Spanish
- Significant experience with Spanish <-> English translation
- Experienced in data analysis and report preparation
- Some experience in animal phlebotomy and medical procedures
- Very familiar with current ethical reassurance programs