
AUSTIN PUTZ

Curriculum Vitae

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PERSONAL SUMMARY

Austin grew up on a diversified family farm where he helped manage 600 acres that included row crops, cattle, horses, and pigs along with other species. As an undergraduate student at Iowa State University he worked in several molecular genetic labs to gain an understanding of molecular biology before moving to quantitative genetics. Internships with Fast Genetics, Smithfield Premium Genetics, and The Maschhoffs have been valuable as a future professional in the swine-breeding field. They have given him a real world perspective on genetic progress. At North Carolina State University he focused on learning numerous technical skills (e.g. R, Unix/Linux, LaTeX, SAS, and Python) along with quantitative genetics and animal breeding foundations. He has completed seven graduate level statistics courses and is currently taking two more that have given him an advantage in data analysis. He completed his Master's degree in the Spring of 2015 and took an internship with The Maschhoffs as a data analyst during the summer. Currently, he is pursuing his PhD at Iowa State University with Jack Dekkers focused on disease resistance in swine.

EDUCATION

Doctor of Philosophy 2018 (expected)
Iowa State University Ames, IA
Major: Animal Breeding and Genetics
Minor: Statistics

Master of Science July 2015
North Carolina State University Raleigh, NC
Major: Animal Breeding and Genetics
Minor: Statistics

Bachelor of Science May 2013
Iowa State University Ames, IA
Major: Animal Science
Summa Cum Laude

COMPUTER SKILLS

Advanced: R, Unix/Linux
Intermediate: LaTeX, SAS, BLUPF90 Programs
Beginner: Python, DMU, ASReml

WORK EXPERIENCE

Graduate Research Assistant Aug 2015 - Present
Iowa State University Ames, IA
PhD under Jack Dekkers working on disease resistance in swine.
Specifically porcine reproductive and respiratory syndrome
(PRRS) virus.

Genetics data analyst May 2015 – August 2015
The Maschhoffs Carlyle, IL
Worked on two projects with The Maschhoffs. The first was
analyzing conformation traits scored at off-test. The second was
to calculate a weaned pig value across farms.

Graduate Research Assistant Aug 2013 – July 2015
North Carolina State University Raleigh, NC
Master's degree started in the fall of 2013 working with
Smithfield Premium Genetics data. Worked on a new trait, litter
size at day 5, for their maternal line indexes.

Research and Development Intern Summer 2013/2014
Smithfield Premium Genetics Rose Hill, NC
Full-time intern summer 2013. Part-time summer 2014.

- ♦ Data management
- ♦ Variance component estimation
- ♦ Accuracy comparison
- ♦ Collected carcass traits in packing plant
- ♦ Assisted in data collection for growth curve study
- ♦ Final presentation

Research Assistant Aug 2012 – May 2013
Swine Molecular Genetics Lab Ames, IA
Worked for Dr. Chris Tuggle on 2 projects. 1) Prepared RNA
samples for subsequent RNA-Seq analysis on the residual feed
intake grant and 2) assisted in the development of allele-specific
PCR procedures to genotype SNPs associated with PRRS.

- ♦ DNA/RNA isolation
- ♦ Created cDNA
- ♦ PCR/qPCR
- ♦ NanoDrop for concentrations
- ♦ Bioanalyzer for RNA quality

Breeding and Farrowing Technician May 2012 – Aug 2012
Fast Genetics Cando, ND
6,000-head sow multiplying unit in North Dakota. Half the
summer was spent as a breeding technician and the second half
was spent in farrowing.

- ♦ Artificially inseminated main line sows and gilts

- ♦ Gave shots
- ♦ Daily feeding and observation
- ♦ Managed data
- ♦ Induced sows and gilts
- ♦ Delivered piglets

Lab Assistant

Jan 2012 – May 2012

Beef Molecular Genetics Lab

Ames, IA

Worked for Dr. James Reecy as a lab assistant.

- ♦ Data collection on farm and in packing plants
- ♦ Basic data management
- ♦ NanoDrop
- ♦ Basic lab chores

Lab Assistant

May 2011 – Dec 2011

Soils Microbiology Lab

Ames, IA

- ♦ Micro-balanced
- ♦ Sampled soil and gas
- ♦ Processed soil
- ♦ Ran enzyme analyses
- ♦ Managed data
- ♦ Basic lab chores

Barn Crew Member

Aug 2010 – May 2011

Iowa State University Veterinary School

Ames, IA

- ♦ Strict biosecurity
- ♦ Maintained horse wards, bovine, ICU, and isolation
- ♦ Disinfected stalls after animal departure
- ♦ Regular maintenance of stalls

**TEACHING
EXPERIENCE**

Teaching Assistant

Jan 2014 – April 2014

North Carolina State University

Raleigh, NC

Teaching assistant for the undergraduate reproductive physiology class under Dr. Whisnant.

- ♦ Set up labs
- ♦ Assisted in teaching
- ♦ Lectured genetic improvement lab
- ♦ Checked weekly assignments and quizzes

Organic Chemistry Tutor

Jan 2012 – May 2012

Iowa State University

Ames, IA

Tutored two students in Chem 331.

- ♦ Reviewed class notes
- ♦ Solved review problems together
- ♦ Helped review for exams

REFEREED JOURNALS

Putz, A. M., K. A. Gray, C. Maltecca, F. Tiezzi, and M. T. Knauer. 2015. Variance component estimates for alternative litter size and traits in swine. *J. Anim. Sci.* 93.

ABSTRACTS

Putz, A. M., K. A. Gray, M. T. Knauer. 2014. Variance component estimates for alternative litter size and piglet mortality traits. Presented orally at ASAS Midwestern Section.

Putz, A. M., K. A. Gray, C. Maltecca, F. Tiezzi, and M. T. Knauer. 2015. Accuracies of genomic and pedigree based predictions for swine litter size traits in Large White and Landrace breeds. Presented orally at ASAS Midwestern Section.

PROJECTS

man pages for BLUPF90 programs

Developed Unix/Linux based man (manual) pages for the BLUPF90 family of programs. This allows new and old users a way of accessing documentation from within a terminal window. Additional information was added for things not documented precisely by the UGA group.

vim syntax highlighting for BLUPF90 programs

Created a basic syntax-highlighting file for use with the BLUPF90 family of programs. This will allow users to easily identify mistakes that could be extremely detrimental to running variance components or genomic analyses.

HONORS

<i>Miller Graduate Fellowship</i>	August 2015
Iowa State University	Ames, IA
\$5,000 fellowship for 3 years	

<i>National Pork Board Scholarship</i>	April 2013
National Pork Board	Clive, IA
\$3,500 as the second ranked applicant in the 2013 pool.	

<i>Arthur Molln Scholarship</i>	August 2012
Iowa State University	Ames, IA

<i>Kenneth and Ruth Wagner Scholarship</i>	August 2012
Iowa State University	Ames, IA

<i>Lane Wells Scholarship</i>	August 2011
Iowa State University	Ames, IA

SHORT COURSES

<i>Programming and computer algorithms in animal breeding with focus on genomic selection and single-step GBLUP</i>	
University of Georgia	May 2014

REFERENCES

Jack Dekkers

Iowa State University
Distinguished Professor
Phone: 515-294-7509
Email: jdekkers@iastate.edu

Dr. Mark Knauer

North Carolina State University
Assistant Professor
Master's Committee Chair
Phone: 919-515-8797
Email: mtknauer@ncsu.edu

Clint Schwab

The Maschhoffs
Director of Genetics
Phone: 618-335-6386
Email: clint.schwab@pigsrus.net

Dr. Kent Gray

Smithfield Premium Genetics
Director of Research and Development
Master's Committee Member
Phone: 910-282-4227
Email: kent.gray@spgenetics.com

Dr. Chris Tuggle

Iowa State University
Professor
Phone: 515-294-4252
Email: cktuggle@iastate.edu