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# 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 among others 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 and Smithfield Premium Genetics have been valuable as a future professional in the field. At North Carolina State University he has focused on learning numerous technical skills (e.g. R, Unix/Linux, SAS, Python, and LaTeX) along with basic quantitative genetics and animal breeding. He has already completed five graduate level statistics courses that have given him an advantage in data analysis. His goal is to complete his Master's degree in the Spring of 2015 and begin his PhD in the Fall of 2015 after completing another internship next summer.

### EDUCATION

*Master of Science* May 2015 (expected)  
**North Carolina State University** Raleigh, NC  
Major: Animal Breeding and Genetics  
Minor: Statistics  
GPA: 4.0

*Bachelor of Science* May 2013  
**Iowa State University** Ames, IA  
Major: Animal Science  
Summa Cum Lauda  
GPA: 3.93

### COMPUTER SKILLS

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

### WORK EXPERIENCE

*Graduate Research Assistant* Aug 2013 - Present  
**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*  
**Smithfield Premium Genetics**

Summer 2013/2014  
Rose Hill, NC

Full-time intern summer 2013. Part-time summer 2014.

- ♦ Data management
- ♦ Variance component estimation
- ♦ GWAS
- ♦ 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 and 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

	<i>Lab Assistant</i> May 2011 – Dec 2011 <b>Soils Microbiology Lab</b> Ames, IA
	<ul style="list-style-type: none"> <li>♦ Micro-balanced</li> <li>♦ Sampled soil and gas</li> <li>♦ Processed soil</li> <li>♦ Ran enzyme analyses</li> <li>♦ Managed data</li> <li>♦ Basic lab chores</li> </ul>
	<i>Barn Crew Member</i> Aug 2010 – May 2011 <b>Iowa State University Veterinary School</b> Ames, IA
	<ul style="list-style-type: none"> <li>♦ Strict biosecurity</li> <li>♦ Maintained horse wards, bovine, ICU, and isolation</li> <li>♦ Disinfected stalls after animal departure</li> <li>♦ Regular maintenance of stalls</li> </ul>
<b>TEACHING EXPERIENCE</b>	<i>Teaching Assistant</i> Jan 2014 – April 2014 <b>North Carolina State University</b> Raleigh, NC Teaching assistant for the undergraduate reproductive physiology class under Dr. Whisnant. <ul style="list-style-type: none"> <li>♦ Set up labs</li> <li>♦ Assisted in teaching</li> <li>♦ Lectured genetic improvement lab</li> <li>♦ Checked weekly assignments and quizzes</li> </ul>
	<i>Organic Chemistry Tutor</i> Jan 2012 – May 2012 <b>Iowa State University</b> Ames, IA Tutored two students in Chem 331. <ul style="list-style-type: none"> <li>♦ Reviewed class notes</li> <li>♦ Solved review problems together</li> <li>♦ Helped review for exams</li> </ul>
<b>REFEREED JOURNALS</b>	Putz, A. M., K. A. Gray, C. Maltecca, F. Tiezzi, and M. T. Knauer. 2014. Variance component estimates for alternative litter size and piglet mortality traits in swine. J. Anim. Sci. In preparation.
<b>ABSTRACTS</b>	Putz, A. M., K. A. Gray, M. T. Knauer. Variance component estimates for alternative litter size and piglet mortality traits. 2014. Presented orally at ASAS Midwestern Section.
<b>PROJECTS</b>	<i>man pages for BLUPF90 programs</i> 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**

*Lane Wells Scholarship* August 2011  
**Iowa State University** Ames, IA

*Kenneth and Ruth Wagner Scholarship* August 2012  
**Iowa State University** Ames, IA

*Arthur Molln Scholarship* August 2012  
**Iowa State University** Ames, IA

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

**SHORT COURSES**

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

**REFERENCES**

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

**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

**Dr. Tom Baas**  
Iowa State University  
*Professor*  
Phone: 515-294-6728  
Email: [tjbaas@iastate.edu](mailto:tjbaas@iastate.edu)