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AUSTIN PUTZ

Curriculum Vitae

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

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
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 2015 - Present
Iowa State University Ames, IA
Started my PhD under Jack Dekkers. I'll be researching disease resistance.

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
- ♦ 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

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. 2014. Variance component estimates for alternative litter size and piglet mortality traits in swine. J. Anim. Sci. In preparation.

ABSTRACTS

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.

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

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
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Dr. Kent Gray
Smithfield Premium Genetics
Director of Research and Development
Master's Committee Member
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Dr. Chris Tuggle
Iowa State University
Professor
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Dr. Tom Baas
Iowa State University
Professor
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