

Monday, March 25, 2024

Dear members of the ISAG Executive Committee,

I am writing to express my keen interest and willingness to serve as the Early Career Scientist (ECS) representative to the ISAG Executive Committee. As a dedicated early career researcher in the field of animal genetics, I am enthusiastic about the opportunity to represent and advocate for the interests of fellow early career scientists within our esteemed organization. Moreover, being originally from a developing country I would be honored to provide representation to minorities in our field. Additionally, given my longstanding interest in improving food security for small stakeholders and my current work with specialty species at Breeding Insight, I am eager to provide a stage where research related to these often-overseen topics can be shared and valuable connections can be made.

The responsibilities outlined for the ECS representative align closely with my professional interests and aspirations. I am fully prepared to fulfill the duties of the position, including:

- a) Advocating for the needs and concerns of early career researchers within the animal genetics field. I am passionate about fostering an inclusive environment that supports the growth and development of emerging talent in our discipline.
- b) Taking on the role of organizing a workshop dedicated to early career researcher professional development and recognition. I am committed to developing a comprehensive plan for this workshop that addresses the diverse skills of our early career members and fosters networking and professional development.

I am confident that my skills and dedication will allow me to make meaningful contributions to the ISAG Executive Committee and our early career members as I advocate for our community. Thank you for considering my candidacy for the position of ECS representative. I am eager to leverage this opportunity to serve and support our field.

Sincerely,



Josue Chinchilla-Vargas, Ph.D. (jc3635@cornell.edu)

Animal Breeding Coordinator

JOSUE CHINCHILLA-VARGAS

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OBJECTIVE

To utilize my advanced genetics and genomics knowledge and research skills to improve food security and productivity of animal agriculture systems.

A dynamic, motivated, multilingual professional with the educational background and proven work ethic to guide and support research in the field of animal breeding and genetics. Known for delivering excellent results in demanding environments, with the skillset to analyze complex information, manage key projects, and collaborate with diverse individuals. Exceptional training and academic qualifications, including a PhD candidacy from Iowa State University.

CORE COMPETENCIES

- Research support
- Teaching support
- Pipeline development
- Project management
- Data collection and analysis
- Data cleaning and formatting
- Public speaking
- Stakeholder relations
- Student mentoring

EDUCATION AND CREDENTIALS

DOCTOR OF PHILOSOPHY (PH.D.) IN ANIMAL SCIENCE, MINOR IN ANIMAL BREEDING AND GENETICS, 2021

Iowa State University – Ames, IA

Thesis: A well-rounded toolbox: Multiple approaches of animal breeding and genetics to improve livestock production, conservation and food security.

MASTER OF SCIENCE (M.S.) IN ANIMAL SCIENCE, 2018

Iowa State University – Ames, IA

Thesis: Food security and the effects of climatic factors on livestock reproduction

BACHELOR OF SCIENCE (B.S.) IN AGRICULTURAL SCIENCE & PRODUCTION, 2015

Zamorano University – Francisco Morazán, Honduras

TEACHING EXPERIENCE

ISU – DEPARTMENT OF ANIMAL SCIENCES, FALL 2020 | **GENETIC IMPROVEMENT of DOMESTIC ANIMALS**

ISU – DEPARTMENT OF ANIMAL SCIENCES, FALL 2019 | **GENETIC IMPROVEMENT of DOMESTIC ANIMALS**

ISU – DEPARTMENT OF ANIMAL SCIENCES, FALL 2019 | **SWINE SYSTEMS MANAGEMENT**

ISU – DEPARTMENT OF ANIMAL SCIENCES, SPRING 2019 | **GENETIC IMPROVEMENT of DOMESTIC ANIMALS**

ISU – DEPARTMENT OF ANIMAL SCIENCES, FALL 2018 | **SWINE SYSTEMS MANAGEMENT**

ISU – DEPARTMENT OF ANIMAL SCIENCES, FALL 2017 | **SWINE SYSTEMS MANAGEMENT**

PROFESSIONAL EXPERIENCE

BREEDING INSIGHT, ITHACA, NY, AUGUST 2023 TO PRESENT

ANIMAL BREEDING COORDINATOR

- Coordinates with breeders at multiple breeding locations across the US to understand their breeding objectives, data analytic needs, and to manage project deliverables.

- Works with PIs and breeders at USDA centers and universities to develop workflows for genomic-phenomic data analyses, specify use cases that clearly spell out the computational and interface requirements of the breeders, and form project plans to develop key capabilities and integrate Breeding Insight into each breeding program.
- Overall, combines these communications into a regular process in conjunction with the development cycle implemented by the software team to ensure a well-defined roadmap of new methods and features.
- In communication with breeders, designs and helps execute evaluation experiments and analyses of features introduced by Breeding Insight on which follow-up requirement documents are based.
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PIC NORTH AMERICA, HENDERSONVILLE, TN, NOVEMBER 2021 TO JUNE 2023

GENETIC SERVICES SPECIALIST

- Advise customers on execution and implementation of maternal and commercial genetic programs.
- Utilize PIC's proprietary database to develop pipelines and reports that allow to evaluate performance of customer farms and systems.
- Perform statistical analyses using mixed linear models and survival analyses techniques to answer questions regarding effectiveness of management techniques and retention issues on swine farms.
- Provide customer with accurate and relevant reporting on the current state of their genetic multiplication systems.

UNIVERSITY OF WISCONSIN-MADISON- DEPARTMENT OF ANIMAL AND DAIRY SCIENCES, MADISON, WI, JUNE 2021 TO NOVEMBER 2021

POSTDOCTORAL RESEARCHER

- Drive the completion of personal research projects related to dimensionality reduction of sensor data in Dairy Cattle.
- Mentor junior students in topics related to genetics, genomics, leadership, and career advice.
- Develop automated pipelines to extract, clean and process data to feed analyses.

IOWA STATE UNIVERSITY – DEPARTMENT OF ANIMAL SCIENCES, AMES, IA, 2018 TO MAY 2021

GRADUATE RESEARCH ASSISTANT

- Drive the completion of personal research projects related to the identification and development of traits, signatures of selection, and their role in adaptation and population differentiation.
- Implement genotyping and sequencing technology to improve understanding of economically important traits in multiple livestock species.
- Contribute to the development and implementation of group projects.
- Engage with visiting scholars to provide mentorship and support.

IOWA STATE UNIVERSITY – DEPARTMENT OF ANIMAL SCIENCES, AMES, IA, 2016 TO 2018

TEACHING RESEARCH ASSISTANT

- Drive the completion of research projects related to livestock reproduction and food security, successfully publishing three peer-reviewed articles as a first author, one industry report and presenting at several professional meetings and seminars.
- Assisted professors in teaching undergraduate classes related to animal science, teaching and mentoring students in advanced classes related to Swine Systems Management and Animal Breeding and Genetics.
- Offered individualized academic support for struggling students.

MENTORING EXPERIENCE

SPRING 2019

MENTOR to GRADUATE VISITOR STUDENT from SOUTH AFRICA

- Performed the cleaning, formatting, and initial analysis of genomic data.
- Produced one refereed publication and one abstract.

SUMMER/FALL 2019

MENTOR to UNDERGRADUATE VISITOR STUDENT from CHINA

- Introduced the visiting student to basic animal breeding and statistics concepts.
- Guided the student through basic data analysis/statistical processes.

LEADERSHIP EXPERIENCE

A.B.G. GRADUATE STUDENT ORGANIZATION, 2019 TO 2021 | **VICE-PRESIDENT**
 ANIMAL SCIENCE DEPARTMENT CHAIR SEARCH COMMITTEE, 2019 | **GRADUATE STUDENT REPRESENTATIVE**
 A.B.G. GRADUATE STUDENT ORGANIZATION, 2018 TO 2019 | **SECRETARY**
 ZAMORANO UNIVERSITY CLASS OF 2015, 2014 TO 2015 | **VICE-PRESIDENT**

LEADERSHIP DEVELOPMENT

GRADUATE COLLEGE EMERGING LEADERSHIP ACADEMY PROGRAM, 2019 | **GRADUATE**
 ATHARI GLOBAL & INTERNATIONAL LEADERSHIP PROGRAM, 2018 | **GRADUATE**

PUBLICATIONS AND PRESENTATIONS

Journal Articles

- Climatic and lunar effects on quality traits of boar semen. **Chinchilla-Vargas J.**, K. Kerns and M.F. Rothschild. 2018. *Animal Reproduction Science*: 193, 117-125.
- Climatic factors affecting quantity and quality grade of in vivo produced bovine embryos. **Chinchilla-Vargas J.**, M. M. Jahnke, T. M. Dohlman, M.F. Rothschild and P.J. Gunn. 2018. *Animal Reproduction Science*: 192, 53-60.
- Predicting live weight of rural African goats using body measurements. **Chinchilla-Vargas J.**, M. J. Woodward-Greene, C.P. Van Tassell, C. W. Masiga and M. F. Rothschild. 2018. *Livestock Research for Rural Development*: 30 (7).
- Marker discovery and associations with beta-carotene content in Indian dairy cattle and buffalo breeds. Bertolini F., **J. Chinchilla-Vargas**, J. R. Khadse, A. Juneja, P. D. Deshpande, P. M. Kakramjar, A. R. Karlekar, A. B. Pande, R. L. Fernando, M. F. Rothschild. 2019. *Journal of Dairy Science*: 102 (11), 10039 – 10055.
- Genetic basis of blood traits and their relationships with general well-being in beef cattle at weaning. **Chinchilla-Vargas J.**, L. M. Kramer, J. D. Tucker, D. S. Hubbell III, J. G. Powell, T. D. Lester, E. A. Backes, K. Anschutz, J. E. Decker, K. J. Stalder, M. F. Rothschild, J. E. Koltes. 2020. *Frontiers in Genetics* 11: 717.
- Estimating breed composition for pigs: A case study focused on Mangalitsa pigs and two methods. **Chinchilla-Vargas J.**, F. Bertolini, K. J. Stalder, J. P. Steibel, M. F. Rothschild. *Livestock Science*: 77
- Evaluation of haplotype blocks and identification of putative selection signatures in the Afrikaner and Brahman cattle of South Africa. Mdyogolo S., M. Walugembe, **J. Chinchilla-Vargas**, M. F. Rothschild, F. W. C. Nester, M. D. MacNeil, M. M. Scholtz, M. L. Makgahlela. Submitted to *Animal Genetics*.
- Signatures of selection and genomic diversity of Muskellunge (*Esox masquinongy*) from two populations in North America. **Chinchilla-Vargas J.**, M. F. Rothschild., F. Bertolini. 2021 *Genes* 12(7):1021.
- Effect of Leaf Removal on Shoot Decay of Various Cultivars of *Plumeria rubra* (Apocynaceae), Part II. Hodel D. R., Mendoza E., Donnellan D., M. F. Rothschild, **J. Chinchilla-Vargas**, I. Truong, F. Nguyen, I. Oliveros, J. E. Henrich. *Palmarbor* 2023-09: 1-19.
- Chlorophyll Photobleaching: An Occasionally Severe Disorder of *Ficus benjamina* in Southern California. Hodel D. R., R. Loucks, M. F. Rothschild, **J. Chinchilla-Vargas**, L. M. Ohara, P. Santos, C. J. Shrogen, D. J. Merhaut, N. Slack, K. Parkins, T. Rangel. *Palmarbor* 2023-17:1–29.

- Effect of the Plant Growth Regulator Paclobutrazol on the Growth of Seven Species of Common Landscape Shrubs. Hodel D. R., Marianne W., Rothschild M.F., **J. Chinchilla-Vargas**. 2024-01: 1-34.
- Genome-wide association Studies for Oxidative Stress Parameters and Vitamin E in Replacement Gilts. Breuer S.A., **J. Chinchilla-Vargas**, B.J. Kerr, K.J. Stalder. Manuscript in preparation
- A Public Mid-Density Genotyping Platform for North American Atlantic Salmon (*Salmo salar L.*). Zhao D., **J. Chinchilla-Vargas**, A. Sandercock, J. Glaubitz, G. Gao, Y. Palti, M. Pietrak, K. Heller-Uszynska, C.T. Beil, M.J. Sheehan. Manuscript in preparation
- First Genomic Characterization, Population Structure and Genetic Diversity of Costa Rican Brahman Cattle. **Chinchilla-Vargas J.**, J. Domínguez-Viveros, A. Cruz-Méndez, M. Vásquez-Loaiza, J.D. Nuñez-Cardenas, E.J. Solano-Herrera, R.M. Castro-Vásquez. Manuscript in preparation

Posters & Oral Presentations

- SNP discovery and associations with beta-carotene content in Indian dairy cattle and buffalo breeds. **Chinchilla-Vargas, J.**, F. Bertolini, J.R. Khadse, A. Juneja, P.D. Deshpande, P.M. Kakramjar, A. R. Karlekar, A.B. Pande, R. L. Fernando and M.F. Rothschild. Proceedings of the International Plant & Animal Genome XXVI (PAG XXVI). San Diego, CA, USA, 11–16 Jan, 2019. [Poster presentation]
- Climatic and lunar effects on quality traits of boar semen. **Chinchilla-Vargas J.**, K. Kerns and M.F. Rothschild. 2018 ASAS Midwest Meeting, Omaha, NE, USA. [Oral presentation]
- Identification of genetic markers associated with beta carotene levels in buffalo and dairy cattle milk: an opportunity to improve milk quality in India. Bertolini F., **J. Chinchilla-Vargas**, J.R. Khadse, A. Juneja, P.D. Deshpande, V. Potdar, K. Bhave, A.B. Pande, M.F. Rothschild. 2018. 26th Plant and Animal Genome, 13–17 Jan 2018, San Diego, CA, USA. [Poster presentation]
- Marker discovery and associations with beta-carotene content in Indian dairy cattle and buffalo breeds. Bertolini F., **J. Chinchilla-Vargas**, J.R. Khadse, A. Juneja, P.D. Deshpande, V. Potdar, K. Bhave, A.B. Pande, M.F. Rothschild. 2018. 11th World Congress on Genetics Applied to Livestock Production, 11–16 February 2018, Auckland, New Zealand. [Poster presentation]
- SNP discovery and associations with beta-carotene content in Indian dairy cattle and buffalo breeds. **Chinchilla-Vargas J.**, F. Bertolini, J.R. Khadse, A. Juneja, P.D. Deshpande, P.M. Kakramjar, A. R. Karlekar, A.B. Pande, R. L. Fernando and M.F. Rothschild. Proceedings of the International Plant & Animal Genome XXVI (PAG XXVI), San Diego CA, USA, 13–17 Jan 2019. [Poster presentation]
- Peripheral blood parameters as proxies of performance in beef cattle: Heritability and genetic correlations between peripheral blood parameters and performance phenotypes. **Chinchilla-Vargas J.**, L. M. Kramer, J. D. Tucker, D. S. Hubbell III, J. G. Powell, T. D. Lester, E. A. Backes, K. Anschutz, K. J. Stalder, M. F. Rothschild, J. E. Koltes. ASAS-ASDA Midwest Meeting. Omaha, NE, USA 11–13 March 2019. [Poster presentation]
- Identifying putative genomic signatures of selection between the Brahman and Afrikaner cattle of South Africa. Mdyogolo S., M. Walugembe, **J. Chinchilla-Vargas**, M.F. Rothschild, M.L. Makgahlela. [Poster presentation]
- Blood traits in beef cattle and their relationship with production traits at weaning. **Chinchilla-Vargas J.**, L. M. Kramer, J. D. Tucker, D. S. Hubbell III, J. G. Powell, T. D. Lester, E. A. Backes, K. Anschutz, J. E. Decker, K. J. Stalder, M. F. Rothschild, J. E. Koltes. Proceedings of the International Plant & Animal Genome XXVI (PAG XXVII), San Diego CA, USA, 11–15 Jan 2020. [Poster presentation]
- Genetic basis of blood traits in beef cattle and their relationship with production traits at weaning. **Chinchilla-Vargas J.**, L. M. Kramer, J. D. Tucker, D. S. Hubbell III, J. G. Powell, T. D. Lester, E. A. Backes, K. Anschutz, J. E. Decker, K. J. Stalder, M. F. Rothschild, J. E. Koltes. ASAS-ASDA Midwest Meeting, Omaha, NE, USA, 2–4 March 2020. [Oral presentation]
- Feeding a multi-carbohydrase improves the morbidity of wean-to-finish pigs. Mark A. Giesemann, D. Bloxham, R. Shirley, S. Moreland, M. Ceccantini, G. Gourley, **J. Chinchilla-Vargas**, E. Bruder. ASAS-ASDA Midwest Meeting, 2022. [Oral presentation]
- Using a multi-carbohydrolase (Rovabio® Advance) in grow-finish pigs; how does not removing pigs affect growth performance? Mark A. Giesemann, D. Bloxham, R. Shirley, S. Moreland, M.

Ceccantini, G. Gourley, **J. Chinchilla-Vargas**, E. Bruder. ASAS-ASDA Midwest Meeting, 2022. [Oral presentation]

Industry Reports

- Climatic factors affecting quantity and quality grade of in vivo produced bovine embryos. **Chinchilla-Vargas J.**, M. M. Jahnke, T. M. Dohlman, M.F. Rothschild and P.J. Gunn. Iowa State University Animal Industry Report 2018: AS 664, ASL R3215.
- Climatic and lunar effects on quality traits of boar semen. **Chinchilla-Vargas J.**, K. Kerns and M.F. Rothschild. Iowa State University Animal Industry Report 2019(1).

PERSONAL WEBSITES

Google Scholar Link

- <https://scholar.google.com/citations?user=hZSgiO8AAAAJ&hl=en&oi=ao>

AWARDS AND HONORS

- Up and coming leader in the swine industry by PorkBusiness.com (2021)
- 2021 Department of Animal Science Graduate Student Excellence Award
- 2020-2021 Iowa State Graduate College Research Excellence Award
- The John Airy Endowed Graduate Scholarship (2020)
- Graduate/Teaching Assistantship, Iowa State University, Department of Animal Science (2018 – 2021)
- Gamma Sigma Delta Inducted (2018)
- Dr. and Mrs. M. E. Ensminger Scholarship, Department of Animal Science (2017, 2018)
- National Western Stock Show Travel Scholarship (2017)

PROFESSIONAL AFFILIATIONS

- American Society of Animal Science (ASAS)
- International Society of Animal Genetics (ISAG)
- Gamma Sigma Delta, Iowa State Chapter

ADDITIONAL INFORMATION

Languages: English (fluent), Spanish (native)

Technical Proficiencies: Windows, Linux/Unix (Bash), MacOS, Microsoft Office Suite, R, Plink, Samtools, Bcftools, FImpute, GenSel.