# **Chun-Peng James Chen**

Assistant Professor (70% Research, 30% Teaching) School of Animal Sciences, Virginia Tech 175 West Campus Drive, Blacksburg, VA 24061 ORCID: <u>0000-0002-2018-0702</u> GitHub: <u>github.com/poissonfish</u> Email: <u>niche@vt.edu</u>

# A. PROFESSIONAL EXPERIENCE

Employer	Position	Date
Virginia Tech	Assistant Professor	Jan. 2022 – Present
University of California, Davis	Postdoctoral Researcher	Mar. – Dec. 2021

### **B. EDUCATION**

Institution	Degree and Major	Date
Washington State University	Ph.D. in Crop Science	2016 - 2021
National Taiwan University	B.S. in Agronomy	2010 - 2014

# C. GRANTS

-	USDA-NIFA-AFRI-A1231	\$619,609
	Role: Co-Principal Director (PI: K. Daniels)	06/2025 - 05/2029
	Enhancing Dairy Heifer Growth Efficiency Through Increased Un	derstanding of Nutrient
	Degradability During Heat Stress	
-	USDA-NIFA-AFRI-A1541	\$649,741
	Role: Principal Director	09/2023 - 08/2028
	Acoustic Data as a Novel Trait to Manage Welfare and Environme	ental Impact in
	Precision Cow Farming	
-	Virginia Tech CALS Integrated Internal Competitive Grants	\$30,000
	Role: Principal Director	07/2023 - 06/2024
	Ant Detective: Automated Computer-Vision-Based Kit to Prevent	the Spread of Invasive
	Species	
-	Pratt Equipment Grant	\$90,000
	Role: Co-Principal Director (PI: G. Ferreira)	11/2022 - 06/2023
	Precision Methane Monitoring to Primely Position Virginia Tech a	at the Intersection of
	Environmental Management and Productivity Optimization	
-	CAIA/CCI SWVA Experiential Learning Development	\$4,000
	Role: Principal Director	03/2022 - 06/2022
	Agricultural Leadership for Cyberbiosecurity: A Teaching Case St	tudy
	Agricultural Leadership for Cyberbiosecurity: A Teaching Case St	uay

# D. PUBLICATIONS (\* denotes senior authorship)

As of June 4, 2025, on Google Scholar - h-index:9, total citations:294

#### a) Peer-Reviewed Journal Articles

- Das, M., Ferreira, G., Chen, C.P.J.\*, 2025. Evaluating model generalization for cow detection in free-stall barn settings: Insights from the COw LOcalization (COLO) dataset. Smart Agricultural Technology 11, 101054. <u>https://doi.org/10.1016/j.atech.2025.101054</u>
- Wright, R.K., Thompson, R.K., Chen, C.P.J., White, R.R.\*, 2025. Spectral Sensing for Forage Nutritive Value Determination of Cool Season, Grass Pastures During the Grazing Season. Journal of Animal Science skaf151. <u>https://doi.org/10.1093/jas/skaf151</u>
- Chen, C.P.J.\*, White, R.R., Wright, R., 2025. Common pitfalls in evaluating model performance and strategies for avoidance in agricultural studies. Computers and Electronics in Agriculture 234, 110126. <u>https://doi.org/10.1016/j.compag.2025.110126</u>
- 4. Washburn, J.D.\*, Varela, J.I., Xavier, A., Chen, Q., Ertl, D., et al., 2025. Global genotype by environment prediction competition reveals that diverse modeling strategies can deliver satisfactory maize yield estimates. Genetics iyae195. <u>https://doi.org/10.1093/genetics/iyae195</u>
- Chen, C.P.J.\*, Hu, Y., Li, X., Morris, C.F., Delwiche, S., Carter, A.H., Steber, C., Zhang, Z., 2023. An independent validation reveals the potential to predict Hagberg–Perten falling number using spectrometers. The Plant Phenome Journal 6, e20070. https://doi.org/10.1002/ppj2.20070
- Massahiro Yassue, R., Galli, G., Chen, C.P.J., Fritsche-Neto, R., Morota, G.\*, 2023. Genomewide association analysis of hyperspectral reflectance data to dissect the genetic architecture of growth-related traits in maize under plant growth-promoting bacteria inoculation. Plant Direct 7, e492. <u>https://doi.org/10.1002/pld3.492</u>
- Chen, C.P.J.\*, Ferreira, G., 2022. Evaluation of walking activity data during pregnancy as an indicator of pregnancy loss in dairy cattle. JDS Communications 4, 166–168. <u>https://doi.org/10.3168/jdsc.2022-0304</u>
- 8. Chen, C.P.J., Morota, G., Lee, K., Zhang, Z., Cheng, H.\*, 2022. VTag: a semi-supervised pipeline for tracking pig activity with a single top-view camera. Journal of Animal Science 100. <u>https://doi.org/10.1093/jas/skac147</u>
- Chen, C.P.J., Garrick, D., Fernando, R., Karaman, E., Stricker, C., Keehan, M., Cheng, H.\*, 2022. XSim version 2: simulation of modern breeding programs. G3 Genes|Genomes| Genetics 12. <u>https://doi.org/10.1093/g3journal/jkac032</u>
- Hu, Y., Sjoberg, S.M., Chen, C.P.J., Hauvermale, A.L., Morris, C.F., Delwiche, S.R., Cannon, A.E., Steber, C.M., Zhang, Z.\*, 2022. As the number falls, alternatives to the Hagberg–Perten falling number method: A review. Comprehensive Reviews in Food Science and Food Safety 21, 2105–2117. <u>https://doi.org/10.1111/1541-4337.12959</u>
- Tang, Z., Parajuli, A., Chen, C.P.J., Hu, Y., Revolinski, S., Medina, C.A., Lin, S., Zhang, Z., Yu, L.X.\*, 2021. Validation of UAV-based alfalfa biomass predictability using photogrammetry with fully automatic plot segmentation. Scientific Reports 11, 3336. <u>https://doi.org/10.1038/s41598-021-82797-x</u>
- 12. Chen, C.P.J.\*, Zhang, Z., 2020. GRID: A Python Package for Field Plot Phenotyping Using Aerial Images. Remote Sensing 12, 1697. <u>https://doi.org/10.3390/rs12111697</u>
- Liu, L., Zhou, J., Chen, C.P.J., Zhang, J., Wen, W., Tian, J., Zhang, Z., Gu, Y.\*, 2020. GWAS-Based Identification of New Loci for Milk Yield, Fat, and Protein in Holstein Cattle. Animals 10, 2048. <u>https://doi.org/10.3390/ani10112048</u>
- Zhou, J., Liu, L., Chen, C.P.J., Zhang, M., Lu, X., Zhang, Z., Huang, X., Shi, Y., 2019. Genome-wide association study of milk and reproductive traits in dual-purpose Xinjiang Brown cattle. BMC Genomics 20, 827. <u>https://doi.org/10.1186/s12864-019-6224-x</u>

- 15. Chen, C.P.J., Zhang, Z.\*, 2018. iPat: intelligent prediction and association tool for genomic research. Bioinformatics 34, 1925–1927. <u>https://doi.org/10.1093/bioinformatics/bty015</u>
- b) Peer-Reviewed Conference Proceedings
  - 16. Wu, X., G. Ferreira, **C.P.J. Chen\***, 2025. Audio-Based Classification of Cattle Eructation Events for Methane Emission Monitoring Using Machine learning. The 3rd US Conference on Precision Livestock Farming, Nebraska, USA.
  - 17. Yang, S., Y. Huang, J. Howard, V. Brown, **C.P.J. Chen\***, 2025. Characterize the Predictability of High-Quality Semen Boars from B-Ultrasound Imaging. The 3rd US Conference on Precision Livestock Farming, Nebraska, USA.
  - 18. Chen, C.P.J., G. Morota, and H. Cheng\*, 2022 VTag: Automatic pipeline to annotate video data for pig phenomics studies. The 12th World Congress of Genetics Applied to Livestock Production, Rotterdam, The Netherlands
  - 19. Chen, C.P.J. and Z. Zhang\*, 2018 GWAS and GS Are as Easy as Clicking and Dragging with iPat. The 11th World Congress of Genetics Applied to Livestock Production, Auckland, New Zealand

### c) Peer-Reviewed Book Chapters

Chen, C.P.J., Rutkoski, J., Schnable, J.C., Murray, S.C., Wang, L., Jin, X., Stich, B., Crossa, J., Hayes, B.J., Zhang, Z.\*, 2023. Role of the Genomics-Phenomics-Agronomy Paradigm in Plant Breeding, in: Plant Breeding Reviews. WILEY, pp. 622–668.

### E. TEACHING and MENTORSHIP

- a) Courses Developed (Effort percentage in parentheses)
- ASPC-5984 Special Study: Agriculture Data Science Spring 2023 (100%), Spring 2026 (100%)
- ASPC-2984 Special Study: Data-Based Animal Management Fall 2025 (85%)
- ASPC-2714 Design Precision Animal Agriculture System Spring 2025 (30%), Spring 2026 (100%)
- b) Workshops and Short Courses (Effort percentage in parentheses)
- Invited lecturer (33%). Workshop: Three Types of Risk in Model Validation. National Animal Nutrition Program by ADSA. Ottawa, Canada. 2023
- Invited lecturer (33%). A five-day short course: Modern Programming in Genome to Phenome. UC Davis, CA, USA. 2022

#### c) Mentored Students

Student	Degree	Role	Period
Xiaohui Wu	Ph.D.	Thesis committee chair	2023 - Present
Shihong Yang	Ph.D.	Thesis committee chair	2023 - Present
Mautushi Das	M.S.	Thesis committee chair	2022 - 2024
Ryan Wright	Ph.D.	Thesis committee member	2023 - 2025
Allie Webster	M.S.	Thesis committee member	2024 - 2025
Sabrina Amorim	Ph.D.	Thesis committee member	2022 - 2024
Kaitlynn Noone	B.S.	Undergraduate research advisor	2024 - Present
Kate Paff	B.S.	Undergraduate research advisor	2024 - Present
Marin McAlindin	B.S.	Undergraduate research advisor	2024 - Present

# F. SERVICE

# a) External

- Poster Judge International Conference on Precision Agriculture 2024
- Ad-hoc Reviewer:
  - Biological Sciences: Animals, Crop & Pasture Science, Frontier in Genetics, Journal of Animal Science, Journal of Dairy Science, Muscle Science, PLoS One
  - Computational and Engineering Sciences: Bioinformatics, Computer and Electronics in Agriculture, IEEE Photonics, IEEE Sensors, IEEE Transactions on Human-Machine Systems, IEEE Wireless Communications Letters, IETE Journal of Research

# b) Internal (College)

- Member College of Agriculture and Life Sciences Dean Search Committee 2024
- c) Internal (Department)
- Member School of Animal Sciences (SAS) Staff Recognition Committee 2025 Present
- Member SAS Graduate Education Committee 2024 Present
- Presentation Judge Annual SAS Research Symposium 2025
- Poster Judge Annual SAS Research Symposium 2024
- Poster Judge Annual Food Science and Technology Poster Competition 2023

# G. PROFESSIONAL MEMBERSHIPS

-	Member of the American Society of Animal Science	2025 - Present
-	Member of the International Society of Precision Agriculture	2024 - Present
-	Member of the American Dairy Science Association	2022 - Present