Morgan Daughtry Zumbaugh

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I. Professional Experience

2021-present	Assistant Professor Kansas State University, Animal Sciences and Industry
2016-2020	Graduate Research Assistant Virginia Tech, Animal and Poultry Sciences
2014-2015	Undergraduate Research Assistant Virginia Tech, Animal and Poultry Sciences

II. Education

2016-2020	Ph.D.	Virginia Tech, Blacksburg, VA Animal and Poultry Sciences Area of specialization: Muscle Biology and Meat Science
2012-2016	B.S.	Virginia Tech, Blacksburg, VA Animal and Poultry Sciences Minor: Agricultural Economics

III. Professional and Academic Honors

Outstanding Oral Presentation, Virginia Tech Muscle Symposium, Department of Human Nutrition, Foods, and Exercise, 2019

Outstanding Oral Presentation, APSC Research Symposium, Department of Animal and Poultry Sciences, Virginia Tech, 2018

Outstanding Oral Presentation, Virginia Tech Muscle Symposium, Virginia Tech Carillion Research Institute, 2018

Pratt Animal Nutrition Senior Research Scholarship, College of Agriculture and Life Sciences, Virginia Tech, 2015

IV. Publications

a) Peer Reviewed Articles

Shi H., A. Munk, T. S. Nielson, M. R. Daughtry, L. Larsson, S. Li, K. Hoyer, H. W. Geisler, K. Sulek, R. Kjobsted, T. Fisher, M. M. Anderson, Z. Shen, U. K. Hansen, E. M. England, Z. Cheng, K. Hojlund, J. F. P. Wojtaszewski, X. Yang, M. W. Hilver, R. F. Helm, J. T. Treebak, D. E. Gerrard. (2018). Skeletal muscle O-GlcNAc transferase is important for muscle energy homeostasis and whole-body insulin sensitivity. *Molecular Metabolism*, 11:160-177.

Geiger A. E., M. R. Daughtry, C. M. Gow, P. B. Siegel, H. Shi, D. E. Gerrard. (2018). Long-term selection of chickens for body weight alters muscle satellite cell behaviors. *Poultry Science*, 97(7): 2557-2567.

Daughtry M. R., E. Berio, Z. Shen, E. J. R. Suess, N. Shah, A. E. Geiger, E. R. Berguson, R. A. Dalloul, M. E. Persia, H. Shi, D. E. Gerrard. (2017). Satellite cell-mediated breast muscle regeneration decreases with broiler size. *Poultry Science*, 96(9): 3457-3464.

Baldi G., C. Yen, M. Daughtry, J. Bodmer, B. Bowker, H. Zhuang, M. Petracci, D. Gerrard. (2020). Exploring the factors contributing to high ultimate pH of broiler Pectoralis major muscle affected by wooden Breast condition. *Frontiers Physiology*, 11(343).

Geiger A., M. Daughtry, C. Yen, L. Kirkpatrick, S. Hao, D. Gerrard. (2020). Dual effects of obesity on satellite cells and muscle regeneration. *Physiological Reports*, 8(15):e14511.

Zumbaugh M., A. Geiger, J. Luo, Z. Shen, H. Shi, D. Gerrard. O-GlcNAc transferase is required to maintain satellite cell viability. (In Review).

b) Extension

Wicks. J. C., M. D. Venhuizen, M. R. Daughtry, D. E. Gerrard. (2020). Potential effects of cell-culture technology and meatless diets on livestock production. Virginia Cooperative Extension, Virginia Pork Industry Conference.

c) Abstracts

Daughtry M., A. Geiger, J. Cobb, N. Paris, H. Geisler, T. Fisher, J. Luo, Z. Shen, H. Shi, D. Gerrard. (2018) O-GlcNAc transferase is required to maintain satellite cell viability. *FASEB Journal.* 32: 589.13-589.13

d) Oral Presentations

Daughtry M., J. C. Wicks, M. D. Venhuizen, D. E. Gerrard. (2020). Potential effects of cell-culture technology and meatless diets on livestock production. Virginia Cooperative Extension, Fifty-First Virginia Pork Industry Conference, Goochland, VA.

Daughtry M., Cobb J., Yen C., Shi H., and Gerrard D. (2019). O-GlcNAc transferase mediates skeletal muscle insulin sensitivity through interleukin-15. Virginia Tech Muscle Symposium, Virginia Tech Carillion Research Institute, Blacksburg, VA.

Daughtry M., Geisler H., Fisher T., Luo J., Shi H., and Gerrard D. (2018). O-GlcNAc transferase is required to maintain satellite cell viability. APSC Research Symposium, Department of Animal and Poultry Sciences, Virginia Tech.

Daughtry M., H. Geisler, T. Fisher, J. Luo, H. Shi, and D. Gerrard. (2018). O-GlcNAc transferase is required to maintain satellite cell viability. Virginia Tech Muscle Symposium, Virginia Tech Carillion Research Institute, Roanoke, VA.

Daughtry M., H. Geisler, T. Fisher, J. Luo, H. Shi, and D. Gerrard. (2017). O-GlcNAc transferase is required to maintain satellite cell viability. APSC Research Symposium, Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA.

Daughtry M., H. Geisler, T. Fisher, S. Zhengxing, H. Shi, and D. Gerrard. (2016). O-GlcNAc nutrient sensor mediates muscle-fat crosstalk. Virginia Tech Undergraduate Research Symposium, Blacksburg, VA.

e) Poster Presentations

Daughtry M., H. Geisler, T. Fisher, J. Luo, H. Shi, and D. Gerrard. (2018). O-GlcNAc transferase is required to maintain satellite cell viability. Experimental Biology, San Diego, CA.

Lupi R., M. Allen, M. Daughtry, S. Donnelly, K. Levinson, J. Perry, K. Specht, A. Thomson, C. Yen, and D. Brown. (2018). Methodological approaches to determine mitochondrial health and dysfunction: Laboratory insights from HNFE 5984 Mitochondrial Bioenergetics. Virginia Tech Muscle Symposium, Virginia Tech Carillion Research Institute, Roanoke, VA.

Daughtry M., E. Berio, S. Zhengxing, E. Suess, N. Shah, A. Geiger, E. Berguson, R. Dalloul, M. Persia, H. Shi, and D. Gerrard. (2016). Satellite cell mediated breast muscle regeneration decreases with broiler size. Virginia Tech Undergraduate Research Symposium, Blacksburg, VA.

V. Teaching Experience

ASPC 4514: Animal Growth and Development (3-credit course)
Description: The course provides the fundamentals of animal growth and developmental processes including micro and gross anatomy, and body and carcass composition. These basic understandings are applied to understand factors affecting myogenesis, adipose, and bone growth.

ALS 3104: Animal Breeding and Genetics (3-credit course)

Description: Principles of genetics related to improvement of domestic farm animals: molecular, cellular and physiological genetics, estimation of breeding values, selection, heritability, genetic correlations, relationships, in-breeding, heterosis, genetic abnormalities.

APSC 3214: Principles of Meat Science (3-credit course)
Description: Muscle biology and biochemistry, fresh meat processing, meat merchandising, processed meats, food safety, meat cookery, and regulations.

VI. Professional Involvement

Tyson Short Course: Beyond Fresh Meats, Downers Grove, IL, 2020
Tyson Short Course: Beyond Fresh Meats, Springdale, AR, 2019
Experimental Biology, San Diego, CA, 2018
Experimental Biology, Chicago, CA, 2017
Reciprocal Meats Conference, San Angelo, TX, 2016

VII. Professional Societies & Organizations

American Physiological Society
Society for Experimental Biology and Medicine
American Meat Science Association

VIII. Journal Peer Review

Meat Science