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Four faculty fellowships at UW-River Falls funded by state-sponsored Dairy Innovation Hub

December 17, 2021 - The University of Wisconsin-River Falls College of Agriculture, Food and Environmental Sciences (CAFES) recently awarded four faculty research fellowships to help increase dairy-related research capacity through the Dairy Innovation Hub initiative. The selected faculty members will tackle research projects in the Hub's four priority areas: stewarding land and water resources; enriching human health and nutrition; ensuring animal health and welfare; and growing farm business and communities.

Funded through a \$7.8 million per year investment by the state of Wisconsin, the hub harnesses research and development at [UW-Madison](#), [UW-Platteville](#) and [UW-River Falls](#) campuses to keep Wisconsin's \$45.6 billion dairy community at the global forefront in producing nutritious dairy foods in an economically, environmentally and socially sustainable manner. Since its launch in 2019, the hub has funded more than 100 projects across the three campuses.

A faculty research fellowship is a temporary position for permanent faculty members. The goal is to provide support for a specific research project and any ancillary costs – including ensuring that the faculty member will have time to conduct the research and support for existing teaching responsibilities.

With additional hub support, UW-River Falls recently hired three assistant professors in the areas of animal welfare, dairy processing, and community economic development. Two additional faculty scientists in the areas of climate and water management will be announced soon. Grants for capacity-building supplies and equipment have also been selected for funding from the hub. More information is at [dairyinnovationhub.wisc.edu](#).

The following UW-River Falls faculty fellows were selected for funding:

[Christopher Holtkamp](#), Plant and Earth Science Department

"Understanding the impact of dairy farm changes on social capital in rural Wisconsin"

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Holtkamp is an assistant professor of conservation and environmental planning, with experience and focus on rural communities. As a planner, Holtkamp takes the unique challenges and opportunities facing small towns and helps them leverage their limited resources for maximum benefit.

Project summary: Dairy farming is transitioning as small farms, a hallmark of Wisconsin's identity, are declining in favor of larger farms. Research finds that changes in farm size and ownership are contributing to changes in economic conditions and social capital in affected areas. Developing policies that foster social capital in communities experiencing a transition to larger farms may contribute to more sustainable economic vitality. This project will provide local knowledge of changes occurring in Wisconsin communities. Interviews will be conducted in communities transitioning to larger farms and communities where small farms still dominate. Additional research using secondary sources will be used to understand social and economic conditions. The overall goal of this study is to understand how changes in dairy farming are affecting communities in rural Wisconsin.

Sylvia Kehoe, Animal and Food Science Department

"Evaluation of two caustic paste brands when disbudding calves"

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Kehoe, professor of animal and food science, is also an academic adviser. She teaches courses on lactation and milk quality as well as animal welfare.

Project summary: In the U.S., more than 94 percent of dairy calves require disbudding, a process that removes their horn tissue. Caustic paste is increasing in popularity; however, no research has been done to evaluate appropriate application volumes. The primary objective of this research is to determine the necessary volume of two different brands of paste for effective disbudding. The secondary objective is to determine pain and wound healing from these different paste volumes and brands. Kate Creutzinger, also from the Animal and Food Science Department, is collaborating on this project.

Joel Peterson, Agricultural Engineering Technology Department

"Updating manure values in SNAPplus for better nutrient management planning"

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Peterson brought his expertise in civil and environmental engineering to UW-River Falls in 2010. He has industry experience with private engineering consulting firms as well as the U.S. Army Corps of Engineers and the Minnesota Board of Water and Soil Resources. While with the Army Corps of Engineers, he spent four months in Iraq as the lead project engineer on several environmental rehabilitation projects.

Project summary: SnapPlus is a nutrient management planning software that allows farmers, planners, and others to estimate soil and nutrient runoff losses on a field-by-field basis and is a key tool to help decision makers protect soil and water quality. Excreted manure nutrient values from laboratory testing may be used as input to the program, if available. In the absence of laboratory results, default values, derived from laboratory analyses conducted in 2012 across Wisconsin, are used for manure nutrient values in confined housing where the manure is recoverable. Increases in dairy productivity and diet have led to changes in manure nutrient excretion values. This project will update the manure nutrient values for indoor housed and grazing animals, compare them to regression and mass-based volume and nutrient excretion values contained in ASABE standard D384 and recommend changes if necessary. Finally, researchers will implement any recommended changes and evaluate the impact of those changes in a case study. Laura Ward Good from the Soil Science Department at UW-Madison is collaborating on this project.

Arquimides Reyes, Animal and Food Science Department

"Preliminary comparison of HolSim cattle vs. Angus x Holstein cattle"

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Reyes, assistant professor of animal and food science, was born in El Salvador on a small dairy and beef farm and started his career in the meat industry through consulting, buying, and selling meat. He then attended graduate school while working full time with an emphasis in ruminant nutrition, meat safety and quality. Reyes' research interests include pre-harvest food safety, the impact of management strategies on cattle efficiency and product quality, and processed meat and product development.

Project summary: UW-River Falls and the Holstein Association USA are working to provide dairy and beef farmers with research into dairy-beef feedlot performance and carcass composition that provide premiums. This information will allow farmers to increase margins by better planning genetic selection and nutrition management practices designed to increase profitability. Meanwhile, farmers who background dairy-beef calves will have the information to base buying decisions and production information to help determine optimal cattle that will produce high quality, red meat yield. The increased production of crossbred dairy-beef calves, the decline in dairy profitability, and the increase in requests for price information regarding the premiums or discounts received for dairy versus beef versus dairy-beef calves has sparked interest in the topic of selecting the correct breed to develop market ready animals that meet or exceed current beef cattle performance.

For more information, contact Maria Woldt, Dairy Innovation Hub program manager, at 608-265-4009 or email maria.woldt@wisc.edu

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Note: Click on faculty names to download headshots.