CENTER FOR DAIRY RESEARCH

- RESEARCH
- TRAINING
- OUTREACH
- TURBO

SOLUTION BASED RESEARCH BACKED BY EXPERIENCE, PASSION AND TRADITION
The Center for Dairy Research (CDR), supported by dairy farmer checkoff dollars, was established to support the dairy industry. CDR offers expertise in five main program areas: cheese, dairy ingredients and functionality, cultured products and beverages, quality/safety, and dairy processing. Each of these areas in turn are supported by expertise in dairy product research, sensory, analytical, training, and outreach. CDR staff work together to bring our research to life for industry.

VISION

To be the premier scientific dairy research resource by having:

- Expert, dedicated staff
- State-of-the-art facilities
- Relevant cutting edge research
- Unrivaled outreach and education

To turn knowledge and expertise into the dairy industry’s success by bridging cutting edge research with practical education and outreach.

MISSION

The Wisconsin Center for Dairy Research proudly supports the foremost scientific expertise in dairy research, technical support and education. In partnership with the U.S. dairy industry, our goal is to bring innovative, nutritious and profitable products to the global marketplace.
A full service dairy research center, CDR offers solution based research backed by experience, passion and tradition. Established in 1986, the Center is located at Babcock Hall which houses a licensed dairy plant on the University of Wisconsin-Madison campus. With more than 30 researchers, cheesemakers and dairy food experts on staff and nearly 40% of the combined staff experiences coming from industry, CDR builds on Wisconsin's tradition as the Dairy State. Offering technical support, scale-up, continuing education and more, CDR is here to help industry bring products to market and turn knowledge and expertise into the dairy industry’s success.
The Center’s Cheese Research and Applications group works to build a sustainable competitive advantage for the domestic cheese industry through leadership in solution-based research, product development and outreach. CDR’s licensed cheesemakers and dairy researchers serve as a technical resource in the development, troubleshooting, and utilization of cheese products. Many of the Cheese group staff grew up working in a cheese plant, immersed in the tradition of the Dairy State, but they are also experienced in the creation of new, novel cheese concepts and products. The Cheese group is available to work with partners to set-up, design and carry out cheese trials.

“We started out with just an idea and I wasn’t sure how to get a means to an end,” said Chris Roelli, Roelli Cheese Haus. “But CDR helped me bring my cheese to production and now we are hoping to market it nationwide.”

For more information, please contact: cheese@cdr.wisc.edu
The Cultured Products group focuses on the development of yogurt, fermented milks, yogurt drinks, Greek yogurt, beverages, cream cheese and sour cream. With years of product development experience, staff members are able to provide development and troubleshooting support for ingredient suppliers and cultured product manufacturers. They can also assist in the development of dairy-based beverages including the formulation, processing and scale-up stages. CDR offers pilot plant trials to evaluate ingredients, develop new products and optimize textural attributes.

For more information, please contact: cultured_products@cdr.wisc.edu

“We knew that we wanted to develop a natural, nutritious recovery drink for our student-athletes with CDR, one of the world’s best dairy research institutions. We were happy to have an opportunity to collaborate with someone on the UW campus as we assign value to those partnerships.”

John Dettmann, Director of Strength and Conditioning for the UW Badgers
The Dairy Processing group provides industry and researchers with strategic technical information concerning fractionation, concentration or drying of milk, whey and whey proteins. Made up of individuals with decades of industry experience in processing milk, whey and co-products, they consult with and advise dairy companies, equipment companies, researchers, buyers and end users of dairy products regarding the science, technology, equipment options and economics of milk and whey fractionation and processing. CDR operates and maintains a Pilot Plant with state-of-the-art equipment, some of it designed by the CDR staff themselves, to process and fractionate milk and whey products. These facilities are available for industry use while running trials or experiments with CDR staff.

“CDR’s Mike Molitor has been amazingly helpful, even pivotal to our successful startup. He is a superb operator and craftsman. We started a recipe imported from Iceland; but Mike really taught us the “why” behind much of the recipe.”
Doug Stewart, Co-Founder, Smári
The Ingredients & Functionality group provides technical support for all U.S. dairy ingredient manufacturers. Experienced in formulating new, dairy-based products, the group has assisted in the development of everything from baked products and confections to yogurts and beverages. CDR staff are passionate about assisting companies in bringing nutritious dairy-based products to the market that are backed by solution based research and technical support. This group works closely with food companies and end users, as well as with the U.S. Dairy Export Council to enhance the utilization of dairy ingredients in overseas markets.

For more information, please contact: dairy ingredients@cdr.wisc.edu

"CDR's KJ Burrington was able to do what no one else could. She formulated a protein enhanced sports drink that athletes will enjoy drinking. We’re very proud of BadgerMax® and its ability to not only provide athletes with an all-natural, protein-rich recovery drink, but also its ability to boost Wisconsin’s economy. It’s really the triple bottom line here, a win, win, win."

Brandon Duck, UW-Madison Alumni and Co-Founder, BadgerMax®
CDR is a committed partner in your efforts to produce safe, high quality and wholesome dairy products. Our passionate safety coordinator offers a number of outreach services to assist your company in ensuring a safe, quality product. These services include third party audits, assistance with troubleshooting, crisis management, reviews of GMP, quality assurance and quality control programs as well as assistance through regulatory liaison roles.

“CDR’s Marianne Smukowski has been a tremendous resource to us in the area of food safety and quality. She has provided materials that we have used in our training programs and has visited our plants to perform specific training for plant and lab personnel. Marianne keeps abreast of changes in laws and regulations. We have contacted Marianne over the years to get her perspective and interpretation of changing regulations.”

Chris Simon, VP of Quality Assurance & Product Development, Agropur

For more information, please contact: safety_quality@cdr.wisc.edu
CDR’s Core Program Areas are Supported by the Analytical, Sensory, Applications and Research Staff Who are Here to Enhance the Services Provided to Our Customers.

ANALYTICAL LAB
CDR’s analytical staff have the ability to perform more than forty different tests in support of internal and client-based research projects, helping CDR customers better understand their product’s composition and functional attributes. The most common tests are rheology, microstructural and chemical tests using GC-MS, electrophoresis, proteolysis, calcium status and HPLC.

APPLICATIONS LAB
The applications lab is where new foods utilizing cheese and dairy ingredients are born. CDR researchers and culinary experts develop and study the functional attributes of dairy related products. Playing an important role in CDR short courses, it is here that the lectures come to life through hands-on application opportunities. From conventional consumer ovens to food service quality equipment, the applications lab offers industry the ability to observe and work with any given dairy product in a real world setting. Contact: Sarah Minasian, Apps. Lab Coordinator | sminasian@cdr.wisc.edu

SENSORY LAB
CDR’s experts are here to design, conduct and summarize a sensory analysis of your dairy product including flavor, body/texture and appearance profiles as well as cheese functionality for shredding/slicing and cooking applications. We use both trained and expert panels, and utilize modern sensory software to rapidly analyze your results and generate reports. Contact: Luis Jimenez-Maroto, Sensory Coordinator | ljmaroto@cdr.wisc.edu
Wisconsin has a strong tradition of dairy education and training. In fact, in 1890 the first dairy foods short course in the United States was established at the University of Wisconsin-Madison. Since then, the College of Agricultural and Life Sciences, Department of Food Science, and the Wisconsin Center for Dairy Research have been leaders in outreach education targeted for the dairy industry. Today, CDR continues to provide quality outreach education to fit the expanding needs of the food industry. Each year, CDR’s passionate staff host more than 22 short courses at Babcock Hall, educating more than 1,000 dairy professionals. These courses range from cheese grading to dairy ingredient utilization. Private company courses are also available by special request.

For more information on short courses contact: gauthier@cdr.wisc.edu

“The modern dairy short courses have had many positive impacts, but one of the greatest benefits of short courses is that they allow CDR staff to connect with the Wisconsin dairy industry. It is these interactions and connections that will continue to lead to greater outreach and greater success for Wisconsin.”

Bill Wendorff, Ph.D. Professor Emeritus, UW-Madison
The Wisconsin Master Cheesemaker® Program was established to honor the tradition and passion that is Wisconsin cheesemaking. The program is an advanced education program for experienced cheesemakers through joint sponsorship with the Wisconsin Center for Dairy Research and the Wisconsin Milk Marketing Board. Program participants must currently be making cheese in a Wisconsin plant and hold a Wisconsin cheesemaker’s license for a minimum of ten years. Each Master candidate must participate in the Program’s quality assurance component of plant and product inspection. This program, the only one in the U.S., enhances the quality image of what is already the nation’s premier cheesemaking state and the unparalleled standards of Wisconsin cheesemaking.

For more information, please contact: safety_quality@cdr.wisc.edu

“I have met a lot of people in the industry that have influenced and enriched my life. Much of this is thanks to the Master Cheesemaker Program,” said Randy Krahenbuhl. “I was there in the early planning of the program. We all felt we had to make the standards high. The program gave me a lot of confidence to try new things and blend procedures to come up with successful results.”
BRINGING RESEARCH TO LIFE

CDR staff have a passion for seeking solutions to industry’s product, manufacturing and processing challenges. Our goal is to bring our research to life for industry through many tools such as:

- The **CDR website**: includes a thorough explanation of our program areas, a news section, a CDR store and links to multiple resources. To begin exploring the site visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu)

- The **Dairy Pipeline**: CDR’s quarterly technical newsletter has something for everyone. From cheese and whey processing to dairy ingredients and safety, the Pipeline publishes solution based research results, as well as thoughts and theories by CDR scientists on everything from making low sodium cheese to processing whey proteins.

- **CDR INSIDER**: For Wisconsin manufacturers and CDR Industry Team (CIT) members only, this web resource provides access to research papers, Powerpoint presentations and the multimedia publication, “The Insider” which includes video interviews, demonstration videos as well as in-depth articles on topics that benefit the dairy industry.
BRINGING RESEARCH TO LIFE

- **International Cheese Technology Expo and Wisconsin Cheese Industry Conference:** CDR is proud to co-host the International Cheese Technology Expo during the even years and the Wisconsin Cheese Industry Conference during odd years. We partner with the Wisconsin Cheese Makers Association to bring the industry together for a few days of informational talks, expos, workshops and networking. For more information on these events please visit: [www.wischeesemakersassn.org](http://www.wischeesemakersassn.org)

- **Technical Bulletins:** Our bulletins, including those on dairy ingredients, butter and dust fires, are available for purchase via the CDR Store [www.cdr.wisc.edu/about/cdr_store](http://www.cdr.wisc.edu/about/cdr_store). Wisconsin manufacturer and CIT members are able to access these publications through the Insider section of the website.
The TURBO Program or Tech Transfer, University Research and Business Opportunity program, is a comprehensive business accelerator designed to increase the speed of commercialization for new products and technologies specifically related to the dairy industry. CDR combines the technologies and expertise of world-class food scientists with business planning, regulatory and financing support.

Along with a Technology Portfolio highlighting all CDR patents and process technologies available for tech transfer, the TURBO program can also offer assistance to companies interested in using their own dairy-related proprietary intellectual property and is exclusive to startups and existing companies that use a dairy ingredient in their food or beverage products.

For more information, please contact: turbo@cdr.wisc.edu
Thanks to industry support, CDR is excited to be expanding and upgrading our facilities with completion slated for 2018. Thanks to our industry partners we surpassed our fundraising goal of $16 million for the CDR/Babcock Hall building campaign in less than one year. This project will include facilities for:

- All types of cheeses including natural and processed
- Multiple ripening rooms designed for specialty cheese
- Fractionated milk proteins including enhanced filtration and drying capabilities
- Cultured products like yogurt and cream cheese
- Beverages including UHT and aseptic processes for beverages containing dairy
- Food application culinary kitchens

The Babcock Hall project will add or renovate, over 34,000 gross square feet of areas dedicated space for CDR programs.

For more information, please contact: communications@cdr.wisc.edu

“Our goal is to create a world-class dairy research and education facility that will put Wisconsin and North America at the forefront of dairy innovation.”

CDR Director
Dr. John Lucey