North Central Regional Center for Rural Development

2018 Annual Report

Building a 21st century economy

Sustainable community

Leadership development

Community health & wellness
The North Central Regional Center for Rural Development (NCRCRD) is one of four regional centers in the United States that have worked to improve the quality of life in rural communities for nearly 40 years. With funding from the USDA National Institute of Food and Agriculture and the Land-Grant universities in our 12-state region, the NCRCRD helps Extension professionals, researchers and other partners address issues that affect rural areas across the region. The center provides leadership in rural development by linking research with education and community outreach to facilitate, integrate, link, and coordinate research and action for rural America.

This material is based on work supported by annual base funding through the National Institute of Food and Agriculture, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture or other funders.

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Mission of the North Central Regional Center for Rural Development: Strengthening the ability of the Land-Grant university system to execute its rural development mission.

**Key Partners**

The NCRCRD’s key partners provide financial and organizational support to our operations. Through the key partner network, the Center can access a wide array of technical expertise and on-the-ground knowledge.
The North Central Regional Center for Rural Development (NCRCRD) works with extension professionals, researchers, and their partners to enhance rural development outcomes in the twelve state north central region. The NCRCRD is jointly funded by the USDA and Land-Grant Universities in the twelve state region. The NCRCRD is part of a group of four centers that together cover the entire United States. The four centers work collaboratively on issues that cross regional boundaries. The other three centers are:

- The Northeast Regional Center for Rural Development
- The Southern Rural Development Center
- The Western Rural Development Center

The NCRCRD is Directed by a tenured faculty member at Michigan State University. The NCRCRD works to establish collaborative working relationships across the region to address emerging and continuing issues of interest to rural communities.
In my message last year, I highlighted the significant changes in the country’s leadership and the accompanying changes in policies that could affect rural communities across the nation. I noted rising interest rates, a weakening dollar (relative to other currencies), and trade renegotiations with other countries. Interest rates continue to inch up, and while the dollar stabilized, ongoing trade negotiations are a significant concern to farmers and rural communities. For example, as part of a response to newly imposed tariffs on Chinese products coming into the United States (US), China reduced its US soy bean orders. These uncertainties are expected to continue in the coming year.

Another very significant trend is the rising federal debt and associated interest expenses. Doubleline portfolio manager Jeffrey Gundlach’s recent podcast offers an excellent assessment of what appears to be a coming debt crisis, which can be accessed here: https://event.webcasts.com/viewer/event.jsp?ei=1220240&tp_key=3f8c31820b. The most relevant content is contained in the last 20 minutes of the podcast and I think it is worth your time. In fiscal year 2018, the federal debt grew by $1.27 trillion, which is 6% of GDP. In the first quarter of fiscal year 2019, debt grew by $458 billion. If the pace of borrowing continues through the rest of the year, total debt will grow by $1.83 trillion in fiscal year 2019. This is equivalent to 8.8% of GDP. Keep in mind that a deficit of 8.8% of GDP is by any standard very large even during recessionary periods, and we are not in a recession. If the economy goes into recession, the amount of borrowing will increase. In addition, about $700 billion in corporate bonds are maturing over the next year or so and thus will require new corporate debt issuance. In fiscal year 2019, government and corporations will be looking to borrow $2.5 trillion. Who will buy this new debt? To date, the official federal debt stands at $22 trillion. However, the debt pressures are dwarfed by the magnitude of underfunded programs such as social security, Medicare, not to mention state and local government pensions. These programs are underfunded by more than $100 trillion. While we have known for many years that the federal debt trajectory and the systematic underfunding obligations were unsustainable, it appears that over the next few years we may finally have to face real constraints on the federal government’s ability to borrow.

Communities all over the country will have to prepare and position themselves for these mounting pressures. The primary objective of the NCRCRD is to support land-grant universities in their rural development mission. We have done that by supporting a range of activities designed to increase resilience and improve the well-being of those who live in rural communities. The NCRCRD staff members are proud to partner with the North Central land-grant institutions to improve resilience and quality of life in rural places across the North Central region so they can thrive and better withstand potential shocks as they emerge over time.
New Board Members

This past year, Board Member Dr. Sarah Low left the USDA Economic Research Service to take the position of Associate Professor at the University of Missouri-Columbia. The change meant that she would also resign from her Board position. Thank you, Sarah, for all your contributions these past years, and we wish you the best in your new position!

The NCRCRD welcomes Ms. Catherine Austin Fitts, former Assistant Secretary of Housing and Urban Development and Cristina Miller, USDA Economic Research Service to the board.

Ms. Fitts is currently the proprietor of Solari, Inc., where her vision is to help “as many people as possible to live a free and inspired life.” She has expertise and interest in housing, entrepreneurship, food/health, and building local economies, all of which overlap with NCRCRD priority areas. Catherine has a unique set of experiences and knowledge that complements the expertise of the other board members.

Dr. Miller is an Economist with the Economic Research Service. Her primary areas of expertise are the economic well-being of rural households, rural health care, and agriculture health and safety.

Welcome, Catherine and Cristina!
Food Access and Independent Grocers: Strengthening Food Security in Underserved Communities

PI: Gary Taylor, Iowa State University  
Co-PIs: Lisa Bates & Jon Wolseth, Iowa State University; David Procter, Kansas State University; and Greg Schweser, University of Minnesota

The investigators will compile existing land-grant university resources that support independently-owned groceries as sites of food security, social centers, and economic opportunity in the rural Heartland. The three partners (Iowa State University, Kansas State University, and University of Minnesota) will review existing resources and efforts, identify gaps where development of additional resources are needed, and begin a discussion on creating a joint curriculum for working with independently-owned groceries that could be shared throughout the North Central region.

STEPping UP: Social-Emotional Learning for Rural Middle School Youth

PI: Amber Letcher, South Dakota State University  
Co-PIs: Kristine Ramsay-Seaver, South Dakota State University and Meagan Scott, North Dakota State University

Youth suicide rates continue to rise throughout the United States, particularly in rural areas such as South Dakota and North Dakota. Successful programming related to suicide awareness often targets social and emotional learning (SEL) which involves enhancing skills in emotion regulation, perspective-taking, decision-making, empathy, and self-awareness (CASEL, 2013). The current study aims to enhance SEL among middle school youth in rural North and South Dakota.

The Impact of Volunteers on Sustainable Rural Community Development

PI: SoJung Lee, Iowa State University  
Co-PIs: Linda Niehm, Iowa State University; Jichul Jang, Kansas State University; and MiRan Kim, Michigan State University

A rural festival can be an important contributor to a community’s resource base and a means of sustainable community development. Effective festival operation and management are also essential to a successful event. Many rural festivals rely heavily on volunteers to remain viable. However, there is limited understanding regarding the role of volunteers in rural community events and their impact on civic life and local leadership development. The primary purpose of this research is to identify the role and impact of festival volunteers on sustainable rural community development using a community capitals perspective.

Tribal Nations Lead! Leadership Development in the Great Lakes Region (TNLL)

PI: Emily Proctor, Michigan State University  
Co-PIs: Brian Gauthier, Lac du Flambeau Tribal UWEX; Ellen J. Geisler, Annie Jones & Cathy Techtmann (University of Wisconsin); Bethany Prylucki & Eric Walcott, Michigan State University; and John C. Young, Lac du Flambeau Band of Lake Superior Chippewa

The NC Region is home to 56 federally recognized Tribes, 23 of those reside in Michigan and Wisconsin, each with a unique system of governance. In many communities there is a deep desire for more grass roots involvement in the development of current and future leaders. It is essential for Tribes to develop successional leadership plans within their communities in order to address emerging cultural, economic, and social issues. While there are Coopera- tive Extension leadership development programs, there is a lack of training that integrates indigenous teachings with western leadership concepts to promote culturally relevant leadership in tribal communities.
Expanding the Intelligent Community Extension Program
PI: Roberto Gallardo, Purdue University
Co-PIs: Charlotte Narjes and Connie Hancock, University of Nebraska

With the socioeconomic landscape changing due to the disruptions brought forth by the digital age, rural communities need to transition to a digital mindset in order to adapt, prosper and avoid being on the wrong side of the digital divide. Extension can play a more active role in helping rural communities achieving this mindset transition and reducing the rural digital divide by facilitating and implementing the Intelligent Community Extension Program (ICEP). ICEP is a pilot program first developed in Mississippi but currently is being piloted in Indiana and Nebraska rural communities. ICEP is community driven and utilizes the community development self-help approach and the Intelligent Community framework to help rural communities transition to, plan for, and prosper in the digital age.

Integrating and Sustaining Financial Capability Services in Rural Healthcare Delivery
PI: J. Michael Collins, University of Wisconsin
Co-PIs: D. Elizabeth Kiss, Kansas State University; Suzanne Bartholomae, Iowa State University; and Carrie Johnson; North Dakota State University

Extension educators in several states in the North Central region have been delving into the links between health and household finances. Although financial capability support services are available in many rural communities, financial education, coaching, and related programs are not well integrated into health systems. At the same time, a growing body of research shows that financial strain undermines people’s ability to follow-through on medical treatments, ultimately harming their health. This project bridges the domains of household finance and health.

Impact of Small Grants

“The NCRCRD small grant has allowed me to...”

“...Build new relationships that inform expanded ways of thinking about and co-creating curriculum with communities.”
Holli Arp, University of Minnesota

“... utilize random sampling procedures to acquire data to help explain/describe the current mental health status of farmers and ranchers.”
Andrea Bjornestad, South Dakota State University

“... construct a curriculum for beginning lavender growers, which will strengthen lavender production throughout the United States.”
Wynne Wright, Michigan State University

“... extend aging-related resources, curricula, knowledge, and expertise to a national audience of Extension professionals.”
Erin Yelland, Kansas State University
Over the past year, the NCRCRD has devoted a significant effort to addressing health-related issues and challenges, including the ongoing opioid crisis. A summary of these activities is provided below.

**Extension Opioid Crisis Response Workgroup**

Overdoses are now the leading cause of death of Americans under the age of 50, the impacts of which are being felt in every region of the country, both rural and urban places. Most of these fatalities are tied to heroin or prescription painkillers. In addition to loss of life, the societal costs of the crisis in the form of direct healthcare costs, lost productivity, and costs related to criminal justice are estimated to be as high as $78 billion. In many states, universities within the land-grant system are responding to the crisis. However, the Extension Committee on Organization and Policy (ECOP) believes that a coordinated land-grant effort could provide a more comprehensive and effective strategy to address the ongoing crisis.

ECOP invited Mark Skidmore to serve as Coordinator for the Extension Opioid Crisis Response Workgroup (EOCRW). EOCRW was given a charge from the ECOP to identify and assemble resources in order to help Extension play a stronger and more strategic role in addressing the opioid crisis, and more generally, behavioral health challenges that emerge over time. The [http://Opioidresponse.extension.org](http://Opioidresponse.extension.org) website provides useful information to help the land-grant Extension system play a larger role in addressing the crisis. The website provides information about:

- EOCRW
- Findings of a nationwide survey of Extension behavioral health programming
- Extensive literature review on opioids and substance abuse
- Links to potential partners, networks, and grant opportunities
- Extension Opioid Response Strategic Plan Report.

The workgroup completed its task over a nine-month period. Now that the work is complete, the findings are being used to develop a plan of action to build capacity with Extension to play a larger and more systematic role in addressing the crisis.

**Combating Opioids Webinar Series**

In 2018, the NCRCRD partnered with Purdue University on a successful USDA Rural Health and Education Safety Education grant to help improve knowledge of, and resilience to, the opioid crisis. The role for the NCRCRD was to provide a webinar series entitled "Combating Opioids", which can be accessed at [https://www.canr.msu.edu/ncrcrd/webinars/rural_health_and_safety_education](https://www.canr.msu.edu/ncrcrd/webinars/rural_health_and_safety_education). Perhaps the highlight of the series thus far has been the webinar by Sam Quinones, author of *Dreamland: The True Tale of America’s Opiate Epidemic*. In 2019, additional funding was provided by the Substance Abuse and Mental Health Services Administration (SAMSHA) to host a set of additional webinars this year.

**NCRCRD Partners With OSU to Expand CAPE Training**

As the USDA/SAMSHA funded project “Community Assessment and Education to Promote Behavioral Health Planning and Evaluation” (CAPE) came to a close, Ohio State University received funding from SAMSHA to address the opioid crisis in Ohio. Ohio State University invited the NCRCRD to provide training to Extension educators and community leaders to help build capacity at the community level to address the crises as they manifest themselves in rural Ohio communities. This year the NCRCRD will use the curriculum developed by CAPE to build capacity to address emerging behavioral health challenges such as the Opioid crisis in Ohio.
In April 2018, the NCRCRD hosted a workshop that brought together experts in the health and economic development arena to explore opportunities for greater collaboration across the fields in order to address rural challenges. The relationship between health and economic activity is bi-directional. Communities lacking economic opportunity tend to have a greater proportion of their population struggle with mental and physical health challenges. Social factors, such as living in poverty increase the risk of poor health, and yet mental and physical health challenges can— and do—affect community life, including economic development. For example, the opioid epidemic and other addiction problems are a growing concern nationwide, making it more difficult for those affected to be fully engaged in employment and other economic activities. The objectives of the workshop were threefold:

1. Identify gaps in knowledge and programming regarding the interconnectedness of health and community economic development.
2. Develop partnerships in the North Central region between health workers and those who work in community/economic development, and between researchers and outreach specialists.
3. Encourage collaborations to target research and programming needs and form interdisciplinary grant teams.

The NCRCRD then issued a call for proposals from workshop participants to address challenges identified in the workshop. The end result is the funding of three projects:

**Rural Economies: Health Insurance Coverage and Access to Care ($18,750)**

**PI:** Carrie Johnson, NDSU / **Co-PI:** Elizabeth Kiss, KSU

Those living in rural areas of the country face unique challenges related to health care. Previous research has found that they are less likely to be offered employer-sponsored health insurance plans and medical treatment may be delayed because they need to travel greater distances to access the healthcare system. Little research has focused on those in rural areas since the implementation of the Patient Protection and Affordable Care Act in 2010. This study will conduct in-depth case study research with farm/ranch, rural, and urban residents in two North Central region states to develop a decision-making model that can be used in future studies on this topic.

**Rural Quality of Life Indicators Project ($19,678)**

**PI:** Russell Medley, University of Illinois Extension / **Co-PIs:** Elizabeth Kiss (KSU), Carrie McKillip, Tessa Hobs-Curley and Kristin Bogdonas (UI), Cheryl Burkhart-Kriesel (UNL), Kenneth Sherin (SDSU), Michael Wilcox (Purdue), & Alison Davis (UK)

Project investigators will develop and pilot an instrument that not only scores a community or region on various “quality of life indicators” that include both health and economic determinants, but goes further to recommend projects/programs/activities to improve the score on each indicator, tied directly to the community in question.

**Innovative Models of Mental Health Care for Farmers and Farm Families ($24,683)**

**PI:** Carrie Henning-Smith, University of Minnesota / **Co-Pis:** Shoshanah Inwood, Ohio State University and Andrea Bjornestad, SDSU

Farmers and farm families in the North Central region face innumerable threats to their physical and mental well-being, including changing demographics, limited access to health care, strained finances, weather variability, market prices, as well as geographic and social isolation. The impact of these issues is evident throughout the agricultural industry in the poor physical and mental health of farmers and farm families. Ensuring a healthy population and a secure agricultural system requires finding innovative ways to support farmers and farm families. Doing so may mean going beyond the traditional means of delivering care, to using methods that are more acceptable and accessible to farmers and farm families.
NCRCRD Partners with MSU to Develop and Deliver Training on Farm Stress for the USDA Farm Service Agency

Over the past several years farmers have faced increasing financial stress resulting from a number of factors. The primary drivers have been low commodity prices coupled with rising debt levels. This, in turn, has led to reductions in net farm income of more than 50% of its peak in 2013 (USDA, 2018) and to a growing risk of loan default for many farm families. As a result, farmers and their families may face increased difficulty managing the stress and frustration of challenging financial circumstances.

In turn, USDA Farm Service Agency (FSA) personnel face the challenge of working with stressed farmers. FSA field staff have noted that some farmers have expressed their stress through aggressive verbal and physical confrontation. In addition, some farmers have explicitly expressed thoughts of suicide. FSA personnel may not have the skills and knowledge required to work effectively with distressed farmers, which may increase their own stress.

The purpose of this $500,000-funded project is to develop and deliver training to help FSA personnel effectively identify and assist farmers who are experiencing distress. To achieve this, the NCRCRD, Michigan State University (MSU) and Extension educators from the region are adapting a training developed by MSU Extension called “Communicating with Farmers Under Stress”. The training was originally developed to assist agricultural business personnel working with farmers who are experiencing stress to understand sources of stress. It also covers learning signs of stress, effective communication strategies, warning signs of suicide, reducing the stigma related to mental health concerns, and how to connect farmers to relevant mental health resources, as well as other resources. We are adapting this curriculum by developing a series of three web-based learning sessions using an online delivery system. The sessions will include:

- Pre-recorded webinars to enable self-paced, on-demand delivery of educational content combined with other learning tools within the AgLearn educational delivery system.
- Small group discussions to bridge learning opportunities with problem-solving of ongoing challenging situations using Zoom distance communications technologies.
- In-person training to provide opportunities for applied learning, including developing skills through role play.

In addition to the trainings, we are also developing a toolkit of materials on mental health and farm assistance resources as well as a training manual for the curriculum.
The “Innovations in Agriculture and Rural Development” project has been very productive over the last year. Recently, the series featured a new University of Wisconsin—Madison innovation that uses UV-light to remove nitrates and nitrites from water. The technology has applications in aquaculture and other water treatment efforts, and NCRCRD affiliate Dr. John Mann provided coaching for developers to pursue SBIR funding. Another technology which is under development at Michigan State University will be featured in the spring. This innovation is a mobile and automated prototype that identifies and removes metal debris (e.g., nails) from wood, and the salvaged wood can then be used as an input for new construction materials. The innovation has important applications in both rural and urban areas where removal of dilapidated and abandon properties is very costly.

Dr. Mann is working with this team to develop a Phase I SBIR proposal for the USDA Rural and Community Development topic area. In addition, co-authors Dr. Mann and Professor Scott Loveridge (and others) are revising a number of articles for peer-reviewed journals. One is in “revise and resubmit” status for the Journal of Urban Affairs. Two others were recently submitted to the Journal of Regional Science and Economic Development Quarterly. Three other papers that used individual aspects of USDA’s Rural Establishment Innovation Survey are currently being revised for new peer review submissions. This list of articles is the most recent research outputs from the 2016 NIFA/AFRI grant, which was a direct result of the NC1100 collaboration.

Small and medium sized land-grant institutions, which include many 1994 and 1890 institutions, are often at a disadvantage relative to larger land-grant universities in terms of networking resources and/or the opportunity to specialize in emerging research. Such obstacles act as deterrents for faculty of these institutions interested in participating in and leading research projects. However, these same faculty can provide invaluable experience and expertise on important and emerging research topics. Over the past two years, NCRCRD affiliate Dr. John Mann and Dr. John Phillips of the American Indian Higher Education Consortium have facilitated new collaborations between researchers at 1994 and 1862 land-grant institutions where the goal is to improve communication and expand existing networks in ways that cut across geographies and university size/type to increase opportunities for these faculty and improve the quality of research produced by the academy. During a recent networking event, faculty from both groups of institutions not only collaborated on new ideas, but also shared solutions to help them manage heavy teaching loads while participating in research.

The overarching project goal has three elements. The first is to establish a peer network of faculty researchers from a diverse group of land-grant universities, including 1994, 1890, and 1862. The second is to effectively engage groups of researchers via information and communication technologies (ICTs) on important research topics. The third is to encourage and facilitate future research collaborations across a broad array of topics and disciplines. This past year, two broad themes were identified from surveys and interviews with 1994 faculty: (1) local foods and food sovereignty; and (2) water resource management and conservation. NCRCRD affiliate, Dr. Mann, established two new groups of 1862 faculty (one for each theme) with the goal to hold virtual “fast-pitch” collaboration sessions, where researchers can learn more about their peers and leading-edge topics. Additionally, Dr. Mann was part of the 2018 NIFA Tribal Colleges and Universities (TCU) panel review that met in July 2018, which helped him better understand the current capacity challenges of the TCUs. As a related outcome, a new collaboration between College of Menominee Nation and Michigan State University researchers, including Drs. Mann and Loveridge as co-PIs, was launched in August 2018. It is focused on businesses and entrepreneurship along the peripherals of tribal lands. The team is making two presentations at the Southern Regional Science Association’s annual meeting this year, and is preparing to submit a new NIFA/AFRI grant in 2019.
Post-Doctoral Updates:

Alison Brennan

Post-doc Alison Brennan has had a busy and productive year. Her primary service area is the western portion of the North Central region (Kansas, Nebraska, South Dakota, and North Dakota). Her work includes partnering with Kansas State University and the University of Nebraska on a project that assessed the needs and availability of affordable childcare in Kansas and Nebraska. She also helped to develop the grant proposal “Energizing Entrepreneurs” for the Bush Foundation. In addition, she is building her community development skill set by participating in events on leadership and civic engagement, the nexus between economic development and health, and the North Dakota State University Community Development Professional Network. She is also a key partner in developing training to help USDA Farmer Services Agency personnel to more effectively identify and assist farmers who are experiencing distress.

In addition to these activities, Dr. Brennan was an instrumental member of the Extension Opioid Crisis Response Workgroup, in which she was the primary author of the report “Land-Grant Response to the Opioid Crisis: A Review of Research Related to Education and Prevention.” Her contributions to the workgroup were absolutely essential to its success.

Jungmin Lim at NCRCRD

Dr. Jungmin Lim has served as a Postdoctoral Research Associate at the North Central Regional Center for Rural Development over the past year. Her primary research interests lie in empirical social science applied to the study of the disaster vulnerability and the evaluation of the role of public policies in enhancing resilience of communities. In her Postdoctoral position, she has been working on refereed journal articles, presenting in multiple academic conferences, writing policy documents, and developing grant proposals. She currently is examining growing vulnerability to extreme heat in our aging society; this work includes preparing a multi-disciplinary grant proposal focusing on links between the built environment, policy mechanisms, socioeconomic inequality, and extreme heat risk. In addition, a review article on “Natural Disasters and their Impacts on Cities” that she coauthored with Dr. is forthcoming in Oxford Bibliographies. Her work also includes an examination of rural housing where she coauthored a book chapter about the growth of manufactured home living in rural America in a book titled “Rural Housing and Economic Development.” Further extending the study on manufactured homes demand, she recently completed an empirical evaluation of the role state tax policies play in explaining the growth of manufactured home living. She presented this study at the National Tax Association meeting in 2018 and has submitted the manuscript for journal publication.
The NCRCRD regularly sponsors or facilitates webinars to help connect rural development researchers and Extension professionals with each other and with stakeholder groups. For webinar archives or upcoming webinars go to: https://www.canr.msu.edu/ncrcrd/webinars/

**Demand-side Factors Influencing Endemic Drug Use in America**  
Presented by: Michael Betz (The Ohio State University)

**Adverse Childhood Experiences: A Driver of the Opioid Epidemic**  
Presented by: Michael Brumage (West Virginia University)

**Workforce Development in Extension**  
Presented by: Kenneth Sherin (South Dakota State University) & Cheryl Burkhart Kriesel (University of Nebraska)

**Addressing Mine-Scarred Land in the Upper Mississippi River Mining District**  
Presented by: Geoff Siemering & Kyle Pepp (University of Wisconsin-Madison)

**Farmer to non-Farmer: Role of Farmer Identity on Conservation**  
Presented by: Eric Toman (The Ohio State University)

**Redefining Rural Food Deserts by Transportation Networks**  
Presented by: Gregory Newmark & Hyung Jin Kim (Kansas State University)

**Fiscal Stress After the Great Recession: A Study of Rural Counties in the US**  
Presented by: Biswa Das (Iowa State University) & John Leatherman (Kansas State University)

**Successful Disaster Recovery Using the Community Capitals Framework**  
Presented by: Gary Goreham (South Dakota State University)

**Potential Rural Impacts of Pension Reductions**  
Presented by: Steven Miller (Michigan State University), Steve Deller (University of Wisconsin/Extension) & Judith Stallman (University of Missouri)

**Recognition and Stigma in Prescription Drug Abuse and Alcohol Abuse**  
Presented by: Robert Shupp & Scott Loveridge (Michigan State University)

**Supporting Local Food Councils: A New Professional Development Course**  
Presented by: Kendra Wills (Michigan State University) & Jodee Ellett (Purdue University)

**How the Opioid Crisis Impacts Individuals and Rural Communities**  
Presented by: Michelle Sybesma (Parkdale Center for Professionals)

**Curbside Chat: An Important Look at the Financial Realities Facing American Towns**  
Presented by: Charles Marohn

**Recognition and Stigma in Depression and Anxiety**  
Presented by: Courtney Cuthbertson & Scott Loveridge (Michigan State University)

**Connecting Health Insurance and Agricultural Viability—Helping farmers and ranchers address health-related risks**  
Presented by: Shoshanah Inwood (The Ohio State University), Bonnie Braun (University of Maryland), Adam Kantrovich (Clemson University), Maria Peppidas (University of Delaware) and Bob Parsons & Jake Jacobs (University of Vermont), and Scott Loveridge (Michigan State University)
Webinars continued

Photoelectrocatalytic Oxidation (PECO): A new and advanced water treatment technology
Presented by: Terence Barry (University of Wisconsin-Madison)

Solving key biological problems limiting the expansion of the yellow perch aquaculture industry
Presented by: Terry Barry (University of Wisconsin-Madison)

A new weapon for farmers: Inter-row mowing for problem weeds in row crops
Presented by: Kerry Clark (University of Missouri)

NVision Ag: Increasing corn yield and saving nitrogen fertilizer
Presented by: Peter Scharf (University of Missouri)

Dietary preen oil as an anti-stress feed additive for aquaculture species
Presented by: Jake Olson & Terry Barry (University of Wisconsin-Madison)

To view any of the recorded webinars go to: https://www.canr.msu.edu/ncrcrd/webinars/chronological_archive/

Publications

Refereed Articles:


Other Publications:


## 2018 NCRCRD Funding

### Core Budget Allocations

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* Data Sharing Dev, Telecomm, Publications, Materials and Supplies, IT support

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### External Funding

- USDA FSA: $296,279
- RHSE/Purdue: $12,857
- OPPE (Mississippi): $450,000

### Core Funding

- USDA: $474,880
- NCCEA: $199,360
- NCRA (Innovations in Ag): $25,000
- MSU: $24,000
The NCRCRD is one of four USDA-funded Regional Rural Development Centers. The Centers work within their respective regions and collectively on national projects.

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The NCRCRD is eager to serve federally designated Hispanic-Serving Institutions (HSI) wishing to pursue rural-development activities. The HSI status depends on an enrollment threshold of 25 percent or more Hispanic students, so qualifying institutions may vary from year to year.

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**North Central Land-Grant Colleges and Universities**

**Original 1862 Land-Grant Institutions**
- Iowa State University
- North Dakota State University
- South Dakota State University
- University of Missouri

**1890 Historically Black Institutions**
- Lincoln University
- Central State University

**1994 Native American Tribally Controlled Institutions**
- Bay Mills Community College, Brimley, MI
- Cankdeska Cikana Community College, Fort Totten, ND
- College of Menominee Nation, Keshena, WI
- Fond du Lac Tribal and Community College, Cloquet, MN
- Fort Berthold Community College, New Town, ND
- Haskell Indian Nations University, Lawrence, KS
- Keweenaw Bay Ojibwa Community College, Baraga, MI
- Lac Courte Oreilles Ojibwa Community College, Hayward, WI
- Leech Lake Tribal College, Cass Lake, MN
- Little Priest Tribal College, Winnebago, NE
- Nebraska Indian Community College, Macy, NE
- Oglala Lakota College, Kyle, SD
- Saginaw Chippewa Tribal College, Mt. Pleasant, MI
- Sinte Gleska University, Mission, SD
- Sisseton Wahpeton Community College, Agency Village, SD
- Si Tanka/Huron University, Eagle Butte
- Sitting Bull College, Fort Yates, ND
- Turtle Mountain Community College, Belcourt, ND
- United Tribes Technical College, Bismarck, ND
- White Earth Tribal and Community College, Mahnomen, MN

**Hispanic-Serving Institutions**

The center is eager to serve federally designated Hispanic-Serving Institutions (HSI) wishing to pursue rural-development activities. The HSI status depends on an enrollment threshold of 25 percent or more Hispanic students, so qualifying institutions may vary from year to year.