



MAKING A DIFFERENCE IN MINNESOTA: ENVIRONMENT + FOOD & AGRICULTURE + COMMUNITIES + FAMILIES + YOUTH

# Research Roundtables & Poster Abstracts

**PROGRAM CONFERENCE 2012**  
**OCTOBER 8-10 | BLOOMINGTON, MINNESOTA**

# Research Roundtables

**MONDAY, OCTOBER 8, 2-3 P.M.**

LOCATION: WOOD DUCK POND

This year we are excited to present a new format - research roundtables. We have lined up six exciting interactive research roundtable discussions focusing on:

- the sow housing conundrum
- how Extension programs create public value
- latino youth as agents in out-of-school time programs
- integrative leadership in rapidly diversifying rural communities
- adult technology use
- community sustainability after natural disasters

At each table, the leader will provide a 5-7 minute introduction, defining the research topic and providing background information, then lead a rich discussion about the topic.

Can't decide? Don't worry, participants are able to participate in two roundtable discussions during this session!

# Research Roundtables

## Descriptions

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### 1. Who knows best? The sow housing conundrum

LEE JOHNSTON, PROFESSOR, SWINE; MARK WHITNEY, EXTENSION EDUCATOR, SWINE; BILL LAZARUS, PROFESSOR, APPLIED ECONOMICS; AND YUZHU LI, ASSISTANT PROFESSOR, ANIMAL SCIENCE

The U.S. swine industry has used individual stalls to house pregnant sows with good reason for years. Recently, activists and special interest groups have released undercover video of production practices on commercial farms. These activist groups have used these videos to pressure food retailers to mandate that pregnant sows be housed in group pens instead of individual stalls. On the surface, this seems like a fairly easy change which would clearly improve the well-being of sows. However, controlled research conducted by U of M faculty and others indicate otherwise. This roundtable will present the science and economics around animal production and well-being associated with sow housing. More importantly, we will discuss who gets to determine and mandate the housing and production practices used in livestock agriculture. Farmers? Food company executives? Activists? Consumers? Come join us for a lively discussion!

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### 2. Understanding adult technology use: Implications for Extension work

JESSICA CONNELL, GRADUATE RESEARCH ASSISTANT, FAMILY SOCIAL SCIENCE; JENNIFER DOTY, GRADUATE RESEARCH ASSISTANT, FAMILY SOCIAL SCIENCE; NIYANTRI RAVINDRAN, UNDERGRADUATE RESEARCH ASSISTANT, PSYCHOLOGY; AND JODI DWORKIN, ASSOCIATE PROFESSOR, FAMILY SOCIAL SCIENCE

While delivering educational programs via technology is a priority for Extension, we know little about how adults really engage with online educational materials. This project contributes to answering the question: how can technology support and enhance Extension teaching? Utilizing data from more than 2,000 parents from across the country, we will consider what needs to be present to recruit, retain and motivate parents to engage with online content? Come engage in a rich discussion around how you might incorporate the Internet and other technology in your work.

### 3. Latino youth as agents in out-of-school time programs: A cultural framework examines youth experiences in OST programs as well as the role programs play as positive spaces for the education of Latino youth

JOSEY LANDRIEU, ASSISTANT EXTENSION PROFESSOR, PROGRAM EVALUATION AND RESEARCH

Project Pathways is a mix-method longitudinal study that aims to understand how youth develop important competencies for the 21st century. It relies on questionnaires, interviews and observations to follow youth, parents and staff from 12 out-of-school time programs. The research examines how youth develop real-world skills in programs, how leaders support learning, how skills transfer to other parts of their lives and how culture comes into play.

This roundtable focuses on research questions that examine the role of culture in the experiences of Latino youth in programs (youths' reasons for joining and staying in a program, their goals and aspirations, the role of the family, and program development and implementation). It addresses the gap in knowledge about this growing population and ensures programs reflect their experiences and values. Given Extension's commitment to engage diverse audiences, this work informs programming efforts to positively impact the lives of Latino youth and families.

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#### 4. Community Sustainability After Natural Disasters

SHARON M. DANES, PROFESSOR, FAMILY SOCIAL SCIENCE; ALISHA HARDMAN, GRADUATE RESEARCH ASSISTANT, FAMILY DEVELOPMENT; PATRICIA D. OLSON, PROGRAM LEADER, FAMILY DEVELOPMENT; ROSI HEINS, EXTENSION PROFESSOR, FAMILY DEVELOPMENT; AND SARA CROYMANS, EXTENSION PROFESSOR, FAMILY DEVELOPMENT

This study's major theme is that community sustainability after natural disasters depends on adaptive capacities of individuals, families and businesses. Action research grounded in a community resilience theory and NVOAD's (National Voluntary Organizations Active in Disaster) recovery model assumptions found support for five community implementation strategies used in a rural community's flood recovery and resilience process. Two years after the Rushford, MN flood devastated over 90% of businesses and 65% of homes, collective, yet varied, community voices shared what worked and what did not work for recovery. Extension educators conducted 31 interviews with 44 individuals representing diverse community roles. The research was utilized to both inform development and secure funding from National Institute of Food and Agriculture for Recovery After Disaster: The Family Financial Toolkit. This toolkit helps those impacted by disaster make complex financial recovery decisions. The Toolkit has been used by disaster survivors in a dozen states across the U.S.

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#### 5. How Extension Programs Create Public Value

LAURA KALAMBOKIDIS, ASSOCIATE PROFESSOR AND EXTENSION ECONOMIST, APPLIED ECONOMICS; LISA HINZ, ASSOCIATE EXTENSION PROFESSOR, LEADERSHIP AND CIVIC ENGAGEMENT; AND SCOTT CHAZDON, EVALUATION AND RESEARCH COORDINATOR, COMMUNITY VITALITY

As the recipient of public funding, Extension faces the challenge described by Moore (1995): "... for a public enterprise to be judged worthwhile, it must pass a test beyond the mere demonstration that the value of its products exceeds the value of the resources used in producing the results: it must explain why the enterprise should be public rather than private." This roundtable features

case studies of University of Minnesota Extension programs in Community Vitality. Using a public value framework to explore whether and how public benefits – benefits to non-participants – are created, we examine program evaluation results and discuss public value messages for the programs that may be effective with stakeholders. We also discuss ways that program evaluation can be extended to strengthen the case for public funding and use the public value approach to advocate for Extension programs, prioritize efforts, and see results.

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#### 6. Integrative Leadership in Rapidly Diversifying Rural Communities

TOBIAS SPANIER, ASSOCIATE EXTENSION PROFESSOR, LEADERSHIP AND CIVIC ENGAGEMENT; AMANDA HANE, GRADUATE RESEARCH ASSISTANT, COMMUNITY VITALITY; SCOTT CHAZDON, EVALUATION AND RESEARCH COORDINATOR, COMMUNITY VITALITY; AND RYAN ALLEN, ASSISTANT PROFESSOR, URBAN AND REGIONAL PLANNING

How are rural communities grappling with the new integrative leadership challenges posed by rapid demographic change? This research roundtable presents the preliminary findings of a research project examining the experiences of four rural Minnesota towns striving to harness both cross-cultural and cross-sector energies toward the common interest. This research responds to existing leaders in Minnesota communities who want to see more integrative leadership reaching the individuals, institutions, associations and governance of their communities.

# NOTES

# Poster Session

**MONDAY, OCTOBER 8, 2012, 4:30-6 P.M.**

LOCATION: RIVERSIDE

Come learn something new and socialize! More than 20 posters represent scholarly work across disciplines related to Extension in five categories:

- use of technology
- digitizing Extension education
- program development
- delivery and evaluation
- research
- diversity

# Poster Titles and Location

THE NUMBER REPRESENTS THE LOCATION OF THE POSTER AT THE SESSION.

- 1 The effect of hay steaming on forage quality and intake by horses
- 2 Understanding the recreational horse riding experience: Motivations, conflicts and response to conflict
- 3 Trade-center hierarchy in Greater Minnesota
- 4 Are rural tourism businesses using the internet?
- 5 Analysis of service providers' views on nutrition education for limited-resource audiences
- 6 Responding to emerging issues in food safety: A collaborative project
- 7 Food quality and availability - tribal food system
- 8 Promoting vegetable access among low-income communities of color: Perspectives of urban Master Gardeners
- 9 Get out of the box: A workshop to increase cultural competency of nutrition paraprofessionals
- 10 Top 10 list: Critical considerations for working with changing communities
- 11 Farm transition & estate planning programming: Participant behavioral change, cumulative outcomes and impacts 2004-2012
- 12 Lessons in a box make a difference for head start youth
- 13 Wonder years: The science of early childhood development
- 14 Great program outcomes begin with the right community nutrition educator (CNE): suggested evidence-based questions for interviewing/hiring CNEs
- 15 Simply Good Eating for english language learners program demonstrates positive participant outcomes
- 16 Using citizen science to spark independent scientific investigations
- 17 Parents Forever online: How much change is possible?
- 18 Energizing SNAP-Ed: Using physical activity to inspire diet and lifestyle changes
- 19 Urban agriculture bus tour
- 20 Watershed education program

- 21 Leadership Matters online: A hybrid course for youth development
- 22 Building a community of learners: The value of social presence and peer mentoring in an online nutrition course
- 23 A front-end study of user preferences to guide design of one Extension website
- 24 Using Turning Point to determine outreach needs
- 25 Place-based outreach: Science and stories of the St. Louis river estuary

# Poster Abstracts

## 1. The effect of hay steaming on forage quality and intake by horses

KRISHONA MARTINSON, JENNIFER EARING, MARCIA HATHAWAY, JAMES PAULSON, SHANNA PRIVATSKY AND CRAIG SHEAFFER

Hay steaming is gaining popularity as a way to reduce mold in hay, however, little is known about its impact on forage quality or palatability. The objectives were to determine the effect of steaming on forage quality and horse intake. Two hays were tested: a moderately moldy (MM) and lower mold (LM) hay. Six mature horses were used in a 10 day cross-over design. Each day, one bale of each hay type was steamed for 90 minutes. Two flakes of steamed and un-steamed hay were weighed and offered simultaneously to horses. Horses were allowed access to hay for 2 hours, then orts were collected and dry matter intake (DMI) calculated. For each hay, paired t-tests were used to compare hay nutrient content and DMI. Steaming reduced dry matter to 81 and 77% for MM and LM, respectively. In both MM and LM, steaming reduced phosphorous content. Steaming reduced water soluble carbohydrates by 13% and ethanol soluble carbohydrates by 27% for MM, but had no effect on LM. Steaming reduced mold levels in MM by 85%, but did not affect LM hay. Dry matter intake of MM was not affected by steaming. Intake of LM was affected by steaming; horses ingested 0.64 kg of un-steamed and 2.02 kg of steamed hay. In moderately moldy hay, steaming reduced mold levels, but did not improve intake. However, for hay with low mold levels, steaming appeared to increase the palatability, while exerting no effects on forage quality.

*Keywords: dry matter intake, hay, horse, steaming*

## 2. Understanding the recreational horse riding experience: motivations, conflicts and response to conflict

INGRID SCHNEIDER, KRISHONA MARTINSON AND JENNIFER EARING

Recreational horseback riding is a significant and growing form of outdoor recreation both in the US and Europe. Despite increasing participation, little is known about recreational horseback trail riding. Thus, motivations for recreational experiences and conflicts within that experience were examined among riders in one U.S state. A random sample of 804 Minnesotans who purchased

a state horse trail pass received an eight page mail questionnaire and 60% responded. Mirroring national and international statistics, the majority were female, between the ages of 41-50 (55%), and White, non-Hispanic (90%). Of the 20 possible motivations provided for horseback riding, seven were important or very important to more than 75% of respondents, including to view scenery, be close to nature, get away from the usual demands of life, experience nature, explore and discover new things, relax physically, and be physically active. Conflict experiences among the majority of respondents included hearing others on the trail, litter, and evidence of off trail use. More than one-third indicated access was an issue. In response to the conflict, nearly half of the respondents talked to other members of their group about the incident and followed established rules of etiquette. Less than one-quarter of respondents cited they were displaced by the conflict. Results indicate horseback trail users are similar to other outdoor visitors in their motivations, conflict experiences and response to conflict. Managing, marketing and planning opportunities, and challenges are presented.

*Keywords: equestrian, horse, trail management, access, landscape planning*

## 3. Trade-center hierarchy in Greater Minnesota

BRUCE SCHWARTAU AND WILLIAM J. CRAIG

This poster describes the research conducted by Craig and Schwartau to understand the economic vitality of cities outside of the 7-county metropolitan area. The authors found a more efficient method of measuring community economic activity when compared to previous trade-center hierarchy studies conducted by the Center for Urban and Regional Affairs. The authors discovered that using taxable retail and service sales related well to the previous CURA studies that used Dun & Bradstreet data to count businesses. The previous analysis was time consuming and costly, and the details were complex and sometimes confusing to readers. By using a simpler methodology, the trade-center studies can be done more frequently, thus giving more current information to better inform decisions by local citizens, businesses, planners, and policy makers. There is much interest in this research by staff at the Minnesota Department of Transportation as they plan highway improvements between the

cities higher in the trade-center hierarchy and those lower. Trade-center hierarchy studies also indicate the number of goods and services available to consumers locally and regionally, information that can be useful to local planners and entrepreneurs.

*Keywords: transportation, trade-centers, planning, retail*

#### 4. Are rural tourism businesses using the internet?

HANS MUESSIG, TARA DAUN AND MICHAEL DARGER

In an increasingly digital world, if a business (or a community) fails to adapt and establish a digital presence many customers won't easily find them. This was the premise for creating the Minnesota Intelligent Rural Communities (MIRC) program that the Community Economics field team implemented from 2010 to 2012. Workshops, 1:1 technical assistance and educational materials were offered to 18 rural business communities, including to tourism oriented businesses. For two reasons, we examined the digital presence of businesses in the 18 MIRC communities as well as five other control nonparticipating communities. We assessed 13,931 rural businesses in the 22 communities. Beyond helping to evaluate our MIRC programming, these data establish a baseline that can be used by researchers to assess impact on rural business of massive investments in Broadband infrastructure (e.g., ~\$400 million in Minnesota).

*Keywords: tourism, internet, economic development, community economics, rural business*

#### 5. Analysis of service providers' views on nutrition education for limited-resource audiences

SARA VAN OFFELEN AND JILL MAY

The University of Minnesota Extension Simply Good Eating Program conducted focus groups with limited-resource individuals and service providers throughout Minnesota to assess the quality and effectiveness of nutrition education programs. It was important to learn more about the target populations (i.e. the poor and their communities). Service providers that were interviewed live and work in the community and already work with the population being targeted

by Health and Nutrition. Focus group questions were developed to explore the strengths and assets of the participants, barriers to participation, and preferred methods of learning. Questions were also asked regarding improved methods for program delivery, and alternative ways to encourage program participation. Better understanding these issues from the community service provider's knowledge and experiences will provide a more holistic view of participants' assets, barriers and contexts. This understanding assists the Health and Nutrition Educators in assessing the quality and effectiveness of current programming efforts. Another purpose of analyzing the service provider focus groups with the participant focus groups is to share the results of the focus groups with service providers from across the state. Results indicated that service providers felt important considerations in delivering nutrition education include: relevant education to participant's current situation; hands-on learning including cooking activities with simple recipes; and time to build relationships. The perception of barriers and needs were quite similar between providers and participants. However a condescending tone, specifically with providers to rural Caucasian clients, was observed.

*Keywords: focus group research, community service providers, nutrition education*

#### 6. Responding to emerging issues in food safety: A collaborative project

SUZANNE DRIESSEN, DEBORAH DURKIN AND JIM TOPIE

Nine fact sheets were developed by University of Minnesota Extension, Minnesota Department of Agriculture and Minnesota Department of Health addressing frequently asked questions. The fact sheets also clarified a variety of exemptions related to selling and serving food in Minnesota. These fact sheets serve as one voice to establish a more effective food protection model to achieve compliance through partnership, collaboration and training. Two 'movements' motivated this collaboration. The first is our statewide effort to create an integrated food safety system. The Food Safety Modernization Act calls on state and local officials to strengthen partnerships to make the most efficient use of all available food safety resources. The second is the "local

food” movement which has led to more farmers markets selling more kinds of food, salad bars in schools, food swaps, tomatoes grown on rooftops, and a general blurring and mixing of the roles, functions, and players in the world of food.

In March 2012, an evaluation study gathered feedback on usage, application and helpfulness of the fact sheets. The survey was sent to 2,297 individuals on the Minnesota Food Safety Partnership mailing listserv. Fifty-five percent (120) of respondents reported using the fact sheets as reference materials. Regarding impact, 48% (106) responded the fact sheets increased their awareness and understanding of state rules and regulations; 35% (78) said the materials helped to dispel misconceptions regarding state and local laws. Twenty-eight percent of respondents indicated the fact sheets resulted in fewer questions from clients.

*Keywords: food safety, evaluation, partnerships*

## 7. Food quality and availability - tribal food system

DAWN NEWMAN, DAVID WILSEY AND SUSAN BEAULIEU

Diversity relates to the audiences reached through Extension outreach and teaching, but also applies to program approach and focus. Our work with the Fond du Lac Band addresses the critical issue of food quality and availability through an inclusive understanding of a tribal food system and an approach that features numerous and different strategies. The Ojibwe term “gitigaan” translates as garden but encompasses both food procurement and production, through gathering and cultivation. The Thirteen Moons program focuses on seasonal natural resource activities such as maple sugaring, wild edible greens and fruits, wild rice, hunting, and trapping. The Ojibwe Garden program centers upon a working demonstration garden that features Ojibwe cultivars and production systems, as well as contemporary food crops. In 2011, these programs came together to support the first Tribal Master Gardener cohort. This cohort links to a third food production effort, a youth garden developed under the 4-H Tribal Youth Mentoring program. The term diversity captures much of the collective strength of these interrelated efforts: a partnership with an

underserved community, a multifaceted understanding of food systems that goes beyond conventional crops, and a diverse set of approaches that targets different knowledge systems, generations, cultural practices, and skills. The importance of such an approach is underscored by the erratic and sometimes catastrophic weather events of the current year – including an early winter to spring transition, flooding, and drought – and, in particular, the negative impacts of these events on various food sources.

*Keywords: diversity, Ojibwe, food, gathering*

## 8. Promoting vegetable access among low-income communities of color: Perspectives of urban Master Gardeners

SARAH EICHBERGER

Differences in neighborhood access to healthy food have an important impact on health. Evidence supports the claim that low-income communities of color face challenges in accessing healthy food. Accessibility and availability of healthy food contributes to the quality of the community food system. Master Gardeners have important roles as allies in national public health efforts to prevent obesity and promote healthy food access in underserved communities. This qualitative study used in-depth, face-to-face interviews (N=18) to uncover challenges and barriers perceived by Master Gardeners who work within urban edible gardens located in under-resourced communities. Key informants included Master Gardeners who have been enrolled within the program for at least three years and volunteer in gardens within low-income communities of color. The participants sampled shed light on how interactions between Master Gardeners and community members may be impairing how the program is received among diverse communities, therefore reducing their effectiveness in meeting program goals of diversity and inclusion. Findings illustrate that, while some Master Gardeners are interested in working with low-income communities of color, negative perceptions may serve as barriers to reaching broader audiences.

*Keywords: healthy food access, community engagement, Master Gardeners*

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## 9. Get out of the box: A workshop to increase cultural competency of nutrition paraprofessionals

SHELLEY SHERMAN, PHALLA KEO, KATHLEEN D. LOVETT AND NIMO YUSUF

Over the last 25-30 years, Minnesota has become home to large numbers of Somali and Hmong refugees. To improve the capacity of the Community Nutrition Educators (CNEs) to engage these communities, a group including an Extension educator, a Southeast Asian program specialist and a Somali nutrition educator developed a workshop titled, "Get out of the Box." Both South-east Asian and Somali foods and cultural norms are presented in an interactive format designed to get the CNEs to examine their own culture, and to be open to working with people who speak a different language and eat different foods. We explore links between the prevalence of nutrition-related diseases in the immigrant population and the difficulties of acculturation.

Evaluation surveys have been overwhelmingly positive about increasing understanding of cultural differences, and why/how that affects people's willingness to change behavior. Sample comments: "Helpful to try foods I have only seen pictures of – This has made me want to be more aware and sensitive to my English Language Learner (ELL) audiences – Very Helpful!" "Very nice to be able to hold and smell the different food rather than just seeing a picture. I will use more hands on activities."

We incorporated suggestions from participants in order to improve the workshop's usefulness, and have presented at our annual state conference and at 6 regional trainings. Follow-up contacts with the nutrition educators indicate that they felt more confident in reaching out to diverse cultures, and that they used the knowledge gained to adapt their teaching methods to more effectively engage participants in their classes.

*Keywords: cultural competency, nutrition education*

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## 10. Top 10 list

G. ALI HURTADO, JENNIFER GARBOW, JOSEY LANDRIEU, ANTONIO ALBA, MARY MARCZAK

Ethnic and cultural diversity in Minnesota has been changing rapidly, and the immigrant population is a major factor for this change. Of the many immigrant populations in Minnesota, Latino and Somali communities are among the largest and fastest growing. Working with these local communities to engage participants in their own development is at the core of University's mission. The question of how to connect and serve these changing communities is relevant today.

The authors have learned a great deal during their involvement in collaborative social and economic projects co-created by academic institutions and local communities. These projects vary around health and nutrition, parenting practices, school success and others. The top 10 list represent those things we consider critical. We hope these will offer some reflection points for the conference attendees.

A quick sample of lessons learned: words, concepts and objectives should never be taken at face value, as these things are loaded with multiple meanings; some local norms do not apply well to other cultures; in certain cultures it is considered offensive to disagree; relationship ethic is as important as work ethic; and, you are never done. Other learnings will be appropriately elaborated upon.

The authors of this presentation come from these two communities, and their cultural identities give them insights as well as responsibilities. They were educated in their home countries and the U.S., and find themselves challenged to raise their voice in the different realities they navigate.

*Keywords: diversity, engage scholarship*

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### 11. Farm transition & estate planning programming: participant behavioral change, cumulative outcomes and Impacts 2004-2012

GARY A. HACHFELD, DAVID BAU, C. ROBERT HOLCOMB AND WILLIAM CRAIG

Farm Transition & Estate Planning: Create Your Farm Legacy is an interactive, five-hour workshop targeted to farm and ranch families. Program outcomes are participant behavioral change and increased knowledge around the key educational points of the program. Key educational points include individual, family, business and retirement goals; intergenerational communications; tax issues; business entities and transition strategies; treatment of heirs; personal estate planning; long-term health care planning issues; and development of a written transition plan outline. These were measured by an end-of-meeting evaluation utilizing a Likert scale of 1 (strongly disagree) to 5 (strongly agree). Impacts include how participants acted on their new knowledge and the financial impact of those actions. This was measured by a follow-up evaluation done six months after the last workshop. Participants reported their progress with the transition and personal estate planning process and how useful the workshop and workbook they received were in the process. They also listed obstacles and challenges they encountered that may have halted their progress. The end-of-meeting and follow-up evaluation data was used to calculate the impact of the program as well as enabling the program team to improve future programs. Workshops have been delivered in Minnesota, Iowa, North Dakota, and Wisconsin. A total of 4,622 farm and ranch family members have attended representing 2,239 farm/ranch businesses and 1,267 different communities. The cumulative evaluative data shows a financial impact in excess of \$200 million dollars for the eight-year program period.

*Keywords: behavioral change, cumulative outcomes, cumulative impacts*

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### 12. Lessons in a box make a difference for head start youth

KELLY KUNKEL, G. ALI HURTADO AND STEPHANIE CONRAD

The poster outlines research on the health education implications of targeted nutrition lesson plans at Head Start programs in South Central Minnesota. The Head Start program in Mankato and University of Minnesota Extension

collaborated to deliver and evaluate a nutrition education program directed to preschool children and their families. The goal was to improve the healthy eating patterns/preferences, physical activity and knowledge of health promoting behaviors among participants. The evaluation was conducted to determine whether the added nutrition components enhanced children's healthy eating habits. The health and nutrition program 'Lessons in a Box' included several educational components. The main component was the Head Start children receiving nine interactive lessons related to health and nutrition; these lessons were delivered once a month. The lessons were led by Community Nutrition Educators (CNE's). The topics of each lesson included: Germs and Handwashing; MyPyramid; Keeping Foods Safe; Fruits and Vegetables; Protein; Dairy; Grains; Physical Activity; and Eating Healthy Snacks. These topics were selected in consultation with the Head Start Nutrition Advisor. Each lesson lasted 20 minutes. The second component involved determining potential areas of concern based on the pre-assessment and prescribing relevant beneficial pamphlets of didactic information to the parents. While the target population was preschoolers, parents completed the pre-post assessments on behalf of their children.

The results show significant shifts towards better eating and healthier BMI percentiles. The results suggest that the "Lessons in a Box" are especially beneficial for Head Start youth who may not already be in the healthy category.

*Keywords: nutrition education, head start, community nutrition educators*

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### 13. Wonder years: The science of early childhood development

SARA LANGWORTHY, SARAH BENNING AND CATHERINE JORDAN

The Wonder Years: The Science of Early Development (WY), funded by the National Science Foundation, is a collaboration among the Science Museum of Minnesota (SMM) and University of Minnesota's Extension Children Youth and Family Consortium (CYFC), the Center for Early Education and Development (CEED), and the Institute of Child Development (ICD).

The WY project includes a variety of elements. Public forums bring together community members and experts to discuss scientific findings and implications for families and communities. Citizen dialogues convene a diverse mix of interested citizens, state and local policymakers, and early childhood advocates to discuss society's role in supporting young children. CYFC's qualitative research study examines the usefulness of informal science education settings, like museum exhibitions and citizen dialogues, in enhancing state legislators' knowledge and decision-making in early childhood policies. This is a completely new way of thinking about how policymakers might learn and integrate information about the science of early childhood into their decision-making, and how the University can best facilitate the useful translation of research for policymakers. CYFC has hosted WY field experiences for students. CYFC also recently developed a virtual tour of the exhibition that gives viewers insight into what they might learn when visiting the WY exhibition. In this poster presentation, CYFC staff will engage conference attendees in learning more about this collaborative and innovative project and how they might utilize it in their Extension work.

*Keywords: early childhood; translation; research; informal science education*

#### **14. Great program outcomes begin with the right community nutrition educator (CNE): Suggested evidence-based questions for interviewing/hiring CNEs**

DEEANN LEINES AND CONNIE BURNS

In 2011, a team of researchers at University of Minnesota Extension completed an Implementation Evaluation of the Supplemental Nutrition Assistance Program-Education (SNAP-Ed) program. Information from this study improved the Center for Family Development's understanding of how quality SNAP-Ed programming is carried out. As part of the Implementation Study, Community Nutrition Educators (CNEs) who lead SNAP-Ed classes across the state provided input into what they felt contributed to positive outcomes in their work environments. Extension Educators (EEs) then reviewed the CNE data and discovered several trends relating to personality characteristics, attitudes, and teaching philosophies that coincide with effective programming. Extension

Educators then surveyed Extension Educator and Program Coordinator (PC) colleagues for their views on desirable CNE personality traits and work characteristics, and compared this data with the Implementation Study findings. Current hiring procedures for Extension employees provide only general interview guidelines and do not address specific intrinsic personality characteristics that management teams should be looking for in hiring effective CNEs. It was therefore determined that a list of desirable CNE characteristics and qualities, based on both the Implementation Study and EE/PC survey findings, would be helpful for use in the CNE hiring process. Suggested evidenced based interview questions that focus on intrinsic personality characteristics for hiring CNEs are presently in the development phase.

*Keywords: quality programming, hiring, positive work environments*

#### **15. Simply Good Eating for english language learners program demonstrates positive participant outcomes**

SHELLEY SHERMAN, KATHLEEN D. LOVETT, CHRISTINE A. BARNO, ABBY GOLD, G. ALI HURTADO AND JU-RI JOENG

"The Simply Good Eating for English Language Learners (ELL) curriculum has been in use in Minnesota since 2008. The program uses an evidence-informed curriculum based in social cognitive theory. Extension Community Nutrition Educators employ a hands-on approach to teach nutrition concepts to immigrants and others with limited English skills. The program is sponsored by community agencies and taught using established ELL pedagogy. Recent survey data indicated that statistically significant improvements were noted in reported food intake, food safety and food resource management practices.

Lesson objectives focused on increasing physical activity and fruit and vegetable intake, decreasing sugar and fat intake, stretching the food dollar, and handling food safely. Each participant received an average of 6.5 hours of

instruction over a 3-month period. Participants completed a nine-question pre- and post-survey to measure changes in food intake, resource management and food safety practices. Questions contained pictures with text to facilitate participant understanding. The Wilcoxon Signed Ranks test and paired t-tests were used to determine changes in outcome measures. Correlations between measured outcomes and number of sessions attended were determined. Results suggest the Simply Good Eating-ELL program promotes positive dietary changes relative to the number of sessions attended.

*Keywords: english language learners, program evaluation*

## 16. Using citizen science to spark independent scientific investigations

ANDREA LOREK STRAUSS, KAREN OBERHAUSER, PAMELA LARSON NIPPOLT, NATHAN J MEYER AND ROBERT B BLAIR

Citizen Science programs across the country invite the public to participate in scientific research. Through these experiences, participants learn scientific data collection protocols and have opportunities to observe nature, which naturally leads to asking questions about the natural world. A new project in Minnesota is training leaders of youth groups to use citizen science experiences to stimulate curiosity and inspire motivation to design and carry out scientific research projects. The poster will describe the experimental program model and methods used to foster authentic inquiry in youth age 10-14 outside the traditional school setting, such as 4-H clubs, scout groups, or community youth programs. Formative evaluation results show that the program model leads to changes in skills, attitudes and behaviors of both youth and adult participants.

*Keywords: science, program models, youth, train the trainer, volunteer programs, inquiry*

## 17. Parents Forever online: How much change is possible?

KJERSTI OLSON

Parents Forever is an educational program developed by University of Minnesota Extension to support families experiencing separation and divorce. For

over 20 years, it has helped Minnesotans learn to voluntarily settle divorce- and separation-related disputes, decrease child stress, and improve divorcing adults' communication and problem solving skills so their divorce costs them and the state's legal system less time and money. In addition to in-person workshops in most of the state, Parents Forever became available online in early 2012. This poster highlights the effectiveness of the online format in creating behavioral and attitudinal change. Initial pre- and post-test survey results indicate that divorcing adults who took the internet-based intervention showed significant changes in: encouraging their children to maintain a close relationship with their other parent, how often they talk to their children about the feelings they are experiencing in the divorce, communicating more successfully with the other parent, and decreased anger at the other parent. The "Parents Forever Online: How much change is possible?" poster is at the intersection of "Use of Technology and Digitizing Extension" and "Program Evaluation" as it shares how a long-standing Extension program was leveraged through new technologies to produce promising program outcomes that reflect our continued commitment to Minnesota families in transition.

*Keywords: parents forever, on-line education, program evaluation*

## 18. Energizing SNAP-Ed: Using physical activity to inspire diet and lifestyle changes

MARY CASKEY, KATHLEEN LOVETT AND ELIZABETH JOHNSON

The University of Minnesota SNAP-Ed program adapted, with permission from North Carolina's Department of Public Instruction and East Carolina University's Activity Promotion Lab, a set of Energizers. Energizers are five- to ten-minute physical activities that focus on an educational concept. The Energizers were adapted by Community Nutrition Educators (CNEs) across the state to focus on nutrition. In addition, the activities were edited to ensure adaptability across a wide variety of audiences and for ease of teaching. Each Energizer for Simply Good Eating activity is available as an electronic document that can be downloaded from the University of Minnesota Extension website individually or as a set of 53. Energizers for SGE require little or no preparation or equipment and can be adapted to fit the time available during the nutrition lesson.

For example, “Pass the Salmonella, Please” is an Energizer that works with all ages to reinforce food safety messages. The CNE coats a rubber chicken with a gel to simulate germs, participants pass the chicken around to music, then examine their hands under a black light to demonstrate how bacteria are spread in the kitchen. Energizers were finalized for use by CNEs to bolster existing Supplemental Nutrition Assistance Program Education (SNAP-Ed) for low-income families to help increase the likelihood that participants will make positive dietary and lifestyle choices on a limited income. University of Minnesota Extension reports 62 percent of participants attending SNAP-Ed classes with an Energizer responded “I am now more physically active as a result of this class.

*Keywords: energizers, physical activity, snap-ed*

## 19. Urban agriculture bus tour

BETSY WIELAND AND BARB GROSSMAN

The Urban Agriculture Bus Tour began in 2009 and is organized cooperatively with U of M Extension, SARE in Minnesota, and the Minnesota Institute for Sustainable Agriculture. It happens annually and tours different urban agriculture sites throughout the Twin Cities. There are four main goals of the tour. The first is increasing understanding of policymakers and organizations supporting urban agriculture regarding needs of growers, including policy barriers, educational needs, etc. The second is increasing awareness of production techniques such as aquaponics, permaculture, and high tunnel growing. The third is demonstrating the breadth of site purposes; such as focusing on a business, community garden or children. The last goal is providing networking space for growers and supporting organizations to collaborate.

Three of many tour outcomes stand out. First, local city staff and policymakers better understand the goals and realities of the growers, resulting in city and county ordinance changes in favor of urban growers. Second, participants have increased knowledge of others working in urban agriculture, thus increasing collaboration. Third, urban farmers have increased use of supporting organizations. For example, an urban farm applied for and received a federal grant, after

meeting a state coordinator during a tour. Similarly, three tour impacts stand out. First, the Twin Cities policy climate is now more favorable for more urban growers to establish themselves. Second, more institutional support is available to urban growers. Lastly, the profile and legitimacy of urban agriculture has increased with increased use of federal programs.

*Keywords: urban agriculture, bus tour*

## 20. Watershed education program

ELEANOR BURKETT, JOHN BILOTTA, KAREN TERRY, SHANE MISSAGHI, MARY BLICKENDERFER AND DOUG MALCHOW

The Watershed Education (WE) Program provides community leaders, citizens, and natural resource professionals with knowledge and tools to make informed water and land use decisions to protect and restore the integrity of Minnesota’s lakes, rivers, and wetlands. The program provides assistance at the watershed level, which means that water-related issues are addressed within areas bounded by geographic features rather than political boundaries. This shift is being adopted by state and federal agencies, requiring those involved at the local level to work differently as well. The WE Program offers physical and biological science education and assistance in stakeholder involvement, planning, and policy development. Specific learning experiences that are offered include topics such as basics of watershed hydrology, lake and river systems, urban and rural runoff, best management practices, aquatic invasive species, use of native plants to improve water quality, the role of citizens in watershed planning and Best Management Practices implementation and education models that have been successful in other watersheds. WE Program staff are committed to working with community leaders to holistically address the issues specific to their watershed. This poster will describe how the University of Minnesota Water Resources Team has changed the way we work by adapting existing curricula and creating new ways to address land use decisions and water quantity and quality concerns for local leaders across Minnesota’s watersheds.

*Keywords: program development*

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## 21. Leadership Matters online: A hybrid course for youth development

MARGO HERMAN, CARRIE OLSON AND ERIC VOGEL

Leadership Matters Online was developed in 2011-12 as a signature course for the Extension Center for Youth Development funded through the Minnesota Department of Education. The course is a hybrid online course with three modules, including three live webinars, pre-recorded sessions, breakout chat rooms, interactive phone calls, as well as self-paced learning. We piloted some innovative interactive learning using technology tools, including Voicethread, Mindmeister and GroupZap. The course was piloted in March 2012 with 16 participants. Evaluation data from 13 participants (two peer reviewers and 11 course participants) was collected by the Youth Work Institute and guided revisions to the course content to be offered again late October 2012. The Moodle course site uses custom designed template formats that provide visual appeal and easier navigation. UMConnect break out rooms during the webinar allow for more extensive conversation between participants. Global Premier phone connections assure the integrity of the phone lines which is often a detraction in online webinar courses. The poster will feature screen shots of the Moodle templates as well as the Mindmeister, Voicethread and Groupzap tools.

*Keywords: Leadership, Online Course, Hybrid Technology, Youth Development*

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## 22. Building a community of learners: The value of social presence and peer mentoring in an online nutrition course

CONNIE BURNS

“Social Presence” or a sense of ‘belonging’ is important in any classroom setting, whether face to face or at a distance. It is needed to create a level of comfort in which people feel at ease around the teacher/facilitator and other class participants. Social Presence is a direct contributor to the success of an education experience when there are affective goals, as well as purely cognitive ones (Garrison, D., Anderson, G. & Archer, W., 2001). Aragon (2003) identified a number of strategies used to establish and maintain social presence online. After a number of Aragon’s strategies were utilized in course design,

Community Nutrition Educators (CNEs) in the Simply Good Eating Program who participated in online nutrition course offerings were surveyed on the ‘social presence’ aspect of the course. Results indicate that CNEs found most of the ‘social presence’ strategies used in nutrition course design ‘useful to very useful’ for increasing their level of comfort. In the most recent course offering, where peer mentors were involved, post course surveys administered to students, and reflection papers completed by peer mentors suggest the use of peer mentoring to be a valuable course component. Social presence strategies and peer mentoring opportunities should not be underestimated when designing courses at a distance, as they help to create a learner centered environment, offer a level of comfort, and enhance knowledge sharing, which can all encourage student success.

*Keywords: social presence; online course; Community of Inquiry; Community of Learning*

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## 23. A front-end study of user preferences to guide design of one Extension website

NATHAN J. MEYER, SARAH SHIMEK AND JULIE ERNST

Extension programs are increasingly developing online education infrastructure, including substantial investments in creating interactive websites for target audiences. Front-end assessment of user preferences is one approach that Extension staff can use to ensure usability of these websites. A model study for the University of Minnesota Extension Driven to Discover: Authentic Inquiry through Citizen Science project (D2D) utilized structured interviews to assess preferences of a purposeful sample of nine potential users for a website. The website aims to connect professional scientists and adult leaders to strengthen authentic inquiry among youth members of citizen science research teams. Through an inductive coding approach to qualitative analysis, eleven primary themes and forty-nine associated sub-themes emerged from the participant responses, and were used to categorize research results and recommendations to guide the website design. In general, participants responded favorably to the creation of a proposed website to support inquiry work with youth, and saw potential for the site to facilitate connections with scientists. They reported

interest in aspects of the proposed website that would support inquiry science through resources and tools, and help establish connections with professional scientists. Several participants expressed skepticism about the social networking features of the proposed website given the barriers of time, access to internet at project sites, and the extensive networking opportunities available either in-person or through existing social networking sites. Recommendations are being used to guide specific modifications to improve the planned website design. Moreover, the study approach proved effective and efficient for project staff, and positive for interview participants.

*Keywords: website design, needs assessment, usability analysis, qualitative research, interviews*

## 24. Using Turning Point to determine outreach needs

BRADLEY M. CARLSON

Turning Point has been used to facilitate audience participation in educational presentations for several years. This technology had not been used extensively in Minnesota to survey audiences so that program priorities and directions can be determined. Nearly 1,000 participants had the opportunity to participate in a standard questionnaire given as part of Agricultural Drainage and Water Quality programming in the winter of 2012. Demographic questions were used to separate responses and determine which responses came from farmers. From this information an estimate of the total amount of artificial drainage existing in Minnesota, as well as the amount of planned drainage was established. In addition, farmers were surveyed to determine their attitudes regarding environmental issues. A final set of questions determined the extent of adoption of precision agriculture technology by the surveyed audience. This information will be used to determine the course of future programming in these areas.

*Keywords: Turning Point, Water Quality, Program Planning*

## 25. Place-based outreach: Science and stories of the St. Louis river estuary

CYNTHIA HAGLEY, JESSE SCHOMBERG, JANET SILBERNAGEL, GEORGE HOST, MARK WAGLER, JAMES MATTHEWS, ANNETTE DREWES, ROSANNE FORTNER, MATTHEW AXLER, RICHARD AXLER AND DAVID HART

As part of a joint Minnesota and Wisconsin Sea Grant-funded project, we are developing geoquests and geocache tours to support place-based learning in the St. Louis River estuary. At a recent pilot workshop for middle and high school teachers and students, participants used mobile devices to explore environmental and cultural aspects of the estuary using GPS and ARIS (Augmented Reality for Interactive Storytelling), an application that allows users to create and share their own location-based quests, tours, and stories. The prototype quest, called Up River, is designed to promote immersion, fieldwork, and media production. Up River embeds recent scientific and ethnographic research into a geospatial narrative. In order to complete the quest, players visit key ecological and cultural sites along the river. In the accompanying “design studio” workshop, participants build their capacity to design their own interactive stories about their favorite places. The final product will be targeted to youth, teachers, local citizens, local decision-makers, and Lake Superior enthusiasts. Our goals are to increase awareness, collaborative learning, stewardship, and the ability to focus monitoring and management on the most critical resource issues in the St. Louis River estuary.

*Keywords: Place-based, geospatial, mobile technology*



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