

# Cultivate

Newsletter of the National Farm Medicine Center

Winter 2006

## Our Mission

"To conduct high quality research addressing human health and safety associated with rural and agricultural work, life and environments."

## Save the Date!

The National Farm Medicine Center will celebrate its 25th anniversary with a special presentation and reception at 5:15 p.m. on Thursday, April 27, 2006, in Robert F. Froehle Auditorium on the campus of Marshfield Clinic Marshfield Center.

Please plan to join past and present members of the Farm Center as we celebrate this milestone.



 National Farm Medicine Center.



MARSHFIELD CLINIC.

Research Foundation

## Tractor owners key to research

### Central Wisconsin farmers, dealers play major role in project designed to make youth operators safer

When dairy farmer Gary Thoma heard about an ambitious new project focused on the ergonomics of youth tractor operators – and learned that he had one of the models researchers sought – he was happy to volunteer his John Deere 4320 for examination.

"If this research can help make kids safer on the farm, I'm all for it," said Thoma, 36, a self-described tractor fanatic from Neillsville, Wisconsin.

The project is a field test of the North American Guidelines for Children's Agricultural Tasks (NAGCAT) tractor guidelines, developed in 1999 by the National Children's Center for Rural and Agricultural Health and Safety, a program of the National Farm Medicine Center (NFMC).

Researchers from the NFMC, California and Ontario are assessing how well these tractor guidelines reflect a match between the physical abilities of youth ages 12 to 16 and the tractors they may typically operate. Results of the study will allow parents and employers to make more informed decisions about which tractors are best suited for the youth who operate them.



*Nancy Esser (left) and NFMC scientist Barbara Marlena, Ph.D., in the field for a research project focused on the ergonomics of youth tractor operators.*

The 50 most common tractors in the United States are being examined. Tractors account for the majority of deaths and a large percentage of injuries on farms across all age groups.

A University of California-Davis research team came to central Wisconsin the first two weeks in November, 2005, and measured 32 of the 50 tractors. Former NFMC staff member Nancy Esser coordinated site visits.

"This project would not have been possible without participation of several tractor dealerships (listed on page 4)," said Barbara Marlena, Ph.D., project co-investigator from the NFMC. "They were instrumental in locating tractor owners who

were willing to allow the engineers to acquire the necessary measurements."

The researchers are learning to what extent young people have the necessary strength and reach to safely engage brakes, clutches and levers, to shift gears and to steer. They also are determining, through these measurements, the physical requirements needed for unobstructed fields of view while operating tractors.

UC-Davis scientist Fadi Fathallah, Ph.D., is leading the project. Co-investigators are Dr. Marlena and William Pickett, Ph.D., Queen's University, Kingston, Ontario.

# Auction of Champions key source of funding for NFMC

The National Farm Medicine Center works on issues of national importance, yet it has a special relationship with central Wisconsin residents.

Private donations provide a significant source of support. Twelve percent of the Farm Center's fiscal 2005 budget came from private sources, and of that, half was generated by a single event: the annual Auction of Champions. The 2005 Auction netted a record-breaking \$192,000 to support the work of the NFMC.

"I am so proud that the money central Wisconsin works so hard for is used to research issues that we hope will return to us better and safer rural environments," said Timothy Boyle, M.D., Auction chairperson. "The researchers take this quite seriously and work diligently to see that the money is used wisely."

A highlight of the Live Auction was a trip for four to Alaska, Jamaica or Mayan Riviera, donated by Norm-E-Lane Farms and High Street Salon & Travel, in memory of Steve Meissner, a long-time Auction supporter who died in a car crash in 2005. His family hosted the Auction in 2001 at their farm, Norm-E-Lane in nearby Chili. The Meissner family remains a strong Auction supporter. Several family members are involved on the planning committees and Steve's brother, Jerry Meissner, has been the event auctioneer for many years.

The theme of the 2005 Auction, Treasures of the World, carried through to decorations featuring Indian, African and Caribbean designs. Auction attendees enjoyed scrumptious appetizers featuring



*Timothy Boyle, M.D., Auction chairperson.*



*Key holders try their luck in opening the 2005 Auction treasure chest. The theme of the event was "Treasures of the World."*

world cuisines and a fabulous cheese display by the Wisconsin Milk Marketing Board.

Marshall Erdman and Associates, Inc., an architecture firm based in Madison, and Dan O'Connell, owner of Alliance Collection Agencies, Inc., in Marshfield, were Champion sponsors.

The NFMC agenda has evolved to keep pace with health and safety concerns in modern agriculture, and the donations support research and outreach on issues that affect farmers and rural residents, including skin cancer screening, children's safety and water quality.

For information on making a gift to the National Farm Medicine Center, or to the Dr. Dean Emanuel Endowment, please visit the Marshfield Clinic Development Department Web site, <http://www.marshfieldclinic.org/contributors/> or call 1-800-858-5220.

## Auction of Champions Donors 2005 (\$500-plus)

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*The NFMC thanks all who contributed time, talent and treasure to the 2005 Auction of Champions.*

## Agricultural Engineering & Policy

Mark Purschwitz, Ph.D., toured the Australian state of Victoria in September 2005 to investigate its world-leading model for tractor safety. He focused on Victoria's success in retrofitting rollover protection to tractors through a combination



*Mark Purschwitz, Ph.D., visited Australia to study that country's model for tractor safety.*

of legislation and rebates. Dr. Purschwitz and colleague Eric Hallman, director of the Agricultural Health and Safety Program at Cornell University, met with researchers, farmers and machinery dealers on a trip partially sponsored by the Monash (Australia) University Accident Research Centre Foundation. In the U.S., rollover protection is required on tractors built since 1985, but the legislation misses more than half of the five million tractors that are 21 years or older. About 150 Americans die from rollovers each year. "First, we have to convince our fellow researchers that this combination of legislation and rebates is the way to go," Dr. Purschwitz said. "Some of those in social marketing believe we should just advertise the safety message, while others want a more top-down law enforcement measure. We also have to get the Farm Bureau's support before we go to the government."

During 2005, Dr. Purschwitz regularly contributed safety tips to two newsletters published by Pioneer Hi-Bred International: Focus on Forage and Walking Your Fields. The tips addressed machinery, chemicals, falls and other common issues.

### Child Agricultural Injury Prevention

Barbara Lee, Ph.D., and Barbara Marlenga, Ph.D., co-authored a chapter about childhood agricultural injuries in the new book, "Injury Prevention for Children and Adolescents: Research, Practice, and Advocacy" (Karen DeSafey Liller, Ph.D., editor; American Public Health Association; 2006). Drs. Lee and Marlenga began the chapter with a series of excerpts from newspapers to illustrate the human cost, preventability and similarities in childhood agricultural injuries. They go on to outline strategies for prevention of injuries.



*John Howard, M.D., (second from left), director of the National Institute for Occupational Safety and Health (NIOSH), met with members of the National Children's Center and other farm safety and health organizations in October 2005.*

The National Children's Center was a contributing partner for the Midwest Rural Agricultural Safety and Health Forum, "Bridge Building: Research to Practice," hosted by four Iowa-based centers, Oct. 27-28, 2005, in Johnston, Iowa. While in Johnston, staff from the National Children's Center and Farm Safety 4 Just Kids met with National

Institute for Occupational Safety and Health (NIOSH) Director John Howard, M.D., to discuss childhood agricultural injury priorities. The forum was jointly sponsored by the Iowa Center for Agricultural Safety and Health, Heartland Center for Occupational Health and Safety, Great Plains Center for Agricultural Health and the University of Iowa Roy J. and Lucille A. Carver College of Medicine.

### Agromedicine

NFMC medical director Steve Kirkhorn, M.D., M.P.H., will host a University of Wisconsin student this summer as she conducts survey-based research to determine the prevalence of raw milk consumption among Wisconsin dairy farm families. Kristi Orchard, D.V.M., a bovine veterinarian, will conduct the research as part of her master's degree in public health. People drink raw, un-pasteurized milk for convenience and/or perceived health benefits. But previous research has shown that consumption of raw milk creates the potential for bacterial illness. Dr. Orchard's survey results will help direct future policies and research. Two additional Marshfield Clinic Research Foundation scientists will also be involved: director of food safety services Jay Ellingson, Ph.D., and veterinarian/epidemiologist James Donahue, D.V.M., Ph.D., M.P.H.

### Public Health Microbiology

The 2005 Wisconsin Water Association (WWA) Research Award was presented to Mark Borchardt, Ph.D. "The award is given annually to recognize an individual for research contributions made to water



science and water supply," said Alan J. Degnan, Wisconsin State Lab of Hygiene and WWA member. In presenting the award, Degnan hailed Dr. Borchardt for his efforts in making Wisconsin one of the leading water research sources in the country. Dr. Borchardt's current research focuses on waterborne pathogens. He and his NFMC colleagues have published on the topics of pathogen detection methods, infectious diarrhea in children relating to rural drinking water and sanitation, antibiotic usage and bacterial resistance and human gastrointestinal viruses in groundwater.

### Rural Youth Safety

Each year unnecessary deaths occur during farm emergencies due to rescue personnel being unfamiliar with farm machinery, chemicals, animals and structures. Limited training opportunities exist for rescue personnel to familiarize them with the hazards. In collaboration with the Rural Emergency Medical Services and Trauma Technical Assistance Center, the NFMC developed a compendium of identifiable farm rescue training programs by state, available at: [www.marshfieldclinic.org/nfmc/pages/default.aspx?page=farmrescue](http://www.marshfieldclinic.org/nfmc/pages/default.aspx?page=farmrescue). In Wisconsin, farm rescue training is available from the Specialists Code 3, a group of fire service instructors and officers who specialize in agricultural rescue and farm machinery extrications. In central Wisconsin, Gerald Minor, Pittsville Fire Department chief is part of the group and provides training to rescue squads through the state.

## Tractors owners key to research



UC-Davis researchers Ji Hong Chang (at computer) and Brandon Miller take measurements on a Farmall 706 at the farm of Jack Krohn, Granton, Wisconsin.

Continued from cover

The project is funded by the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health via a grant to the University of California-Davis. Thoma said it was gratifying to contribute to the project. He is looking forward to seeing the results. "It was neat to be part of something like this."

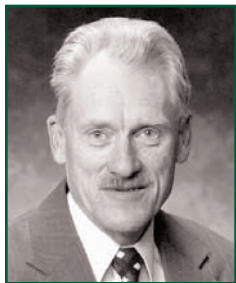
### Tractors in the study:

- Allis Chalmers: D-17.
- Ford/New Holland: 8N, 641, 2000, 3000, 3600, 3930, 4000, 4630, 5000, 5610.
- IH/Farmall: C, Super C, H, M, 140, 560, 656, 706, 966, 986, 1066, 1486.
- John Deere 60, 2350, 2440, 2555, 2940, 2950, 3010, 3020, 4020, 4230, 4240, 4320, 4430, 4440, 4450, 4630, 4640, 5300, 5400.
- Massey Ferguson: 35, 135, 165, 245.

### Central Wisconsin participants in the study:

Central Wisconsin Cooperative, Stratford; Chili Implement, Chili; Cherokee Garage, Colby; Marshfield Agricultural Research Station; Strojny Implement, Mosinee; Ardie Baeseman, Edgar; Lawrence Dieringer, Marshfield; Richard Ewan, Athens; Bob Knoop, Neillsville; Jim Krause, Edgar; Jack Krohn, Granton; Dale Krzanowski, Edgar; Joe and Dan Ortner, Pittsville; Mike Scheurer, Pittsville; Craig Simpson, Marshfield; Gary and Greg Thoma, Neillsville; Mark Vornholt, Neillsville; Jerome Weber, Stratford; Dennis Wilhelm, Arpin.

## Stueland Scholar: leader in rural health issues to speak April 27

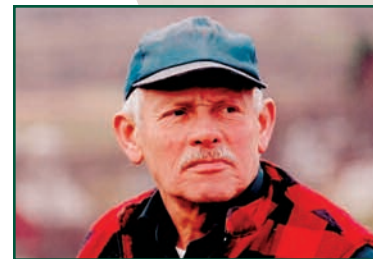


Paul Gunderson, Ph.D.

Paul Gunderson, Ph.D., former director of the National Farm Medicine Center and Marshfield Clinic Research Foundation, has been named the 2006 Stueland Scholar. Dr. Gunderson will speak Thursday, April 27, at Froehle Auditorium on the campus of Marshfield Clinic Marshfield Center. A reception will begin at 11:45 a.m. The program will start at 12:15 p.m., with Dr. Gunderson's lecture. The event is part of a day-long celebration marking the 25th anniversary of the National Farm Medicine Center.

## Film tells 'American' story

New York filmmaker James Spione brought his movie, "American Farm," to the Helen Connor Laird Theatre in Marshfield, Oct. 8, 2005, at the invitation of the NFMC and University of Wisconsin-Marshfield/Wood County. A free-will offering netted more than \$200 for Wood County 4-H.



'American Farm' – Morninglight Films

"American Farm" is a moving documentary about the dilemma facing Spione's 70-year-old cousin, Lanny. No one in the next generation is willing to take over his farm near Cooperstown, New York, a farm that has been central to the family's life for 150 years.

While in Wisconsin, Spione also showed the film in Osseo, Oconto and in Madison, in conjunction with World Dairy Expo. For more information, go to [www.americanfarmmovie.com](http://www.americanfarmmovie.com).

## 'Play Zone Romania' project

NFMC staff and friends built a park and playground in the central Romanian village of Miercurea in June 2005. The fundraising and construction effort was led by NFMC Director Barbara Lee, Ph.D., who is using "Play Zone Romania" as a research concept to assess its long-term implications. The play area was designed using principles from the National Children's Center's "Creating Safe Play Areas on Farms" initiative. The park/playground serves 14,000 people from five villages. Dr. Lee came to know Miercurea and its people after befriending a family from there on a previous visit. Funding included the \$5,000 Sebald Research Fellowship presented to Dr. Lee in 2004. Project expansion is set for 2007.



Painting new equipment (from left): Gem Kaiser, R.N., Marshfield Clinic Allergy Department; Diane Meissner; and Helen Dahlvig.

The Stueland Scholar award is given annually to honor the late Dean Stueland, M.D., M.P.H., who served Marshfield Clinic and its patients as an administrator, clinician, educator and researcher, and was also medical director of the National Farm Medicine Center.