

SPRING 2010

# Advancing Injury Research in China

*Success stories of the NIH/Fogarty International Center funded  
USA-China Agricultural Injury Research Training Project*



## GREETINGS...

In 2004, an epidemiologic study of 200,000 farm families in rural areas of China yielded an annual estimate of over 590,000 injury deaths and close to 3,500,000 permanently disabled individuals. The rural setting, the large number of hazards and the deficiencies in emergency care in remote areas provide an opportunity to improve the health and safety of this important group of workers and their families. In China, injury control and prevention has only recently been included in the curriculum of a few universities, with even fewer focusing on agriculture-related injuries. In response to this, the USA-China Agricultural Injury Research Training Project was created in 2004 with funding from the NIH/Fogarty International Center.

As a collaborative project between the Colorado Injury Control Research Center, the Center for Injury Research and Policy of The Research Institute at Nationwide Children's Hospital and the School of Public Health, Tongji Medical College at Huazhong University of Science and Technology (Tongji School of Public Health), the training project specifically aims to:

- Provide training to Chinese scholars on issues critical for reducing agricultural injuries
- Expand collaborative research activities between the injury control research centers and researchers in China
- Provide training and continue development of human subjects research ethics

The long-term goal of the project is to increase training and agriculture-related injury research in China in order to develop an infrastructure for future sustainable agricultural injury research.

This pamphlet shows the successes of the USA-China Agricultural Injury Research Training Project and the impact of the training project on its trainees' careers. Publications and research projects funded through the training project are also highlighted. Through this pamphlet, we are excited to share with you the milestones and success stories of the USA-China Agricultural Injury Research Training Project.



*Lorann Stallones*

LORANN STALLONES, MPH, PhD  
*Professor and Director,  
Colorado Injury Control Research  
Center*



*Huiyun Xiang*

HUIYUN XIANG, MD, PhD  
*Associate Professor and Director  
for International Programs,  
Center for Injury Research  
and Policy*



*Zengzhen Wang*

ZENGZHEN WANG, MD  
*Professor, School of Public Health,  
Tongji Medical College, Huazhong  
University of Science and  
Technology*



## TRAINING WORKSHOPS



SINCE THE FIRST TRAINING SESSION IN 2007, A TOTAL OF 79 MID-LEVEL AND SENIOR RESEARCHERS HAVE BEEN TRAINED.

**October 15-19**

**2007**

32 researchers  
attended a training  
workshop in Wuhan,  
Hubei Province.

**October 20-24**

**2008**

24 researchers  
attended a training  
workshop in Sanya,  
Hainan Province.

**August 9-14**

**2009**

23 researchers  
attended a training  
workshop in Chengde,  
Hebei Province.



“This workshop is a pioneer in injury research training in China.  
It promotes scientific exchange and cooperation.”

**Hongyan Yao, MD, PhD**

3<sup>rd</sup> Workshop Trainee & US-Training Scholar, Senior Researcher,  
Chinese Center for Disease Control and Prevention, Beijing

## SUCCESS OF SCIENTISTS TRAINED IN US

**T**raining scientists in the United States has been an important part of the success of the USA-China Agricultural Injury Research Training Project. Chinese researchers have been able to work alongside faculty at the Colorado Injury Control Research Center and the Center for Injury Research and Policy at Nationwide Children's Hospital.

By working with US faculty members, researchers from China obtain first-hand knowledge regarding injury research study design, data collection and statistical analysis, report and manuscript preparation, IRB procedures and other ethical issues in the responsible conduct of injury research. The English-based academic environment substantially increases their technical writing and speaking skills in the English language. This program also provides seed money for trainees to continue their research at home when they return.

In the past three years, the USA-China Agricultural Injury Research Training Project has hosted six Chinese researchers at the two US injury control research centers. Min Shen, MD, PhD and Limin Wang, MD, MPH exemplify the program's success. Both scientists received training in the US and are currently active in injury research and injury surveillance in China.



As a faculty member of the Tongji School of Public Health, **Min Shen, MD, PhD**, is an active injury researcher. She was selected to receive research training at the Colorado Injury Control Research Center. Under the mentorship of **Lorann Stallones, MPH, PhD**, Dr. Shen finished a research project that investigated injuries among left-behind children in a rural area of Hubei Province. Injury and safety among children left behind are a large public health problem in China because their numbers are increasing as more rural people move to cities for work due to the current social and economic climate. Dr. Shen's study discovered that left-behind children have a higher injury rate than those in the care of both parents. The findings were published in the journal *Injury Prevention*.



Professor **Limin Wang, MD, MPH**, received training and conducted injury research in the fall of 2008 at the Center for Injury Research and Policy at Nationwide Children's Hospital. She now serves at the Chinese Center for Disease Control and Prevention as the Director of the Department of Chronic Disease Surveillance. During her training in the US, she worked with her mentor, **Huiyun Xiang, MD, PhD**, to study alcohol consumption and work-related injuries among farmers in the Heilongjiang Province of the People's Republic of China. Dr. Wang has published four scientific papers in prominent journals including *American Journal of Industrial Medicine*, *Disability and Health Journal*, *Chinese Journal of Epidemiology* and *China Journal of Public Health*.

“The technical and language training in the USA is invaluable to Chinese scholars.”

**Limin Wang, MD, MPH**

1<sup>st</sup> Workshop Trainee & US-Training Scholar, Professor,  
Chinese Center for Disease Control and Prevention, Beijing



## MENTORED INJURY RESEARCH



A population-based survey, led by **Limin Wang MD, MPH**, has provided valuable information about alcohol consumption patterns and agricultural work-related injuries among farmers in northern areas of China. The study shows that the prevalence of work-related injury is as high as 12.2% and that alcohol use is strongly linked with injuries. The findings of Dr. Wang's research, published in the *American Journal Industrial Medicine*, highlight the need for culturally appropriate interventions that address alcohol use and injury prevention among farmers in China.

Dr. Wang participated in the first workshop of the USA-China Agricultural Injury Research Training Project. She later received research training at the Center for Injury Research and Policy at Nationwide Children's Hospital. Her research project was one of nine mentored injury research seed projects selected for funding by the lead investigators of the training project. The seed projects provide Chinese researchers the opportunity to both advance injury research in China and to become independent investigators.

“This project plants numerous research seeds in China. It also builds a friendship bridge between China and the USA.”

**Junxin Shi, MD, PhD**

1<sup>st</sup> Workshop Trainee and US-Training Scholar, Lecturer,  
Tongji School of Public Health, Wuhan, Hubei

## FUNDED SEED PROJECTS

*The Study of Association Between Alcohol and Agricultural Injury in Rural Residents of Daur Nationality Habitation (2007-2008)*

**Principal Investigator:** Dr. Limin Wang  
Department of Epidemiology and Health Statistics,  
School of Public Health, Qiqihar Medical University,  
Heilongjiang Province

*The Cross-Sectional Survey of Agricultural Injury of Farmers in Shouguang's Vegetable Base, Shandong Province China (2007-2008)*

**Principal Investigator:** Dr. Cuizhen Wu  
Department of Preventive Medicine, Shandong  
University of Traditional Chinese Medicine,  
Shandong Province

*Agricultural Machinery Injuries Among the Machinery Operators in Northern Rural Areas of China (2008-2009)*

**Principal Investigator:** Dr. Zengzhen Wang  
Department of Epidemiology and Health Statistics,  
School of Public Health, Tongji Medical College,  
Huazhong University of Science and Technology,  
Hubei Province

*Cross-Sectional Study on Rural Resident Pesticide Poisoning in Jiangsu (2008-2009)*

**Principal Investigator:** Dr. Xujun Zhang  
Department of Epidemiology, School of Public  
Health, Southeast University, Jiangsu Province

*Agricultural Injuries Among Adolescents in Hubei, China (2008-2009)*

**Principal Investigator:** Dr. Min Shen  
Department of Maternal and Child Health, School  
of Public Health, Tongji Medical College, Huazhong  
University of Science and Technology, Hubei Province

*Non-Fatal Injury Among Dairy Farm Workers in Tangshan Area (2009-2010)*

**Principal Investigator:** Dr. Ling Xue  
Department of Health Science, North China Coal  
Medical University, Hebei Province

*Agricultural Injuries Among Middle School Students in a Rural Area of Northern China (2009-2010)*

**Principal Investigator:** Dr. Junxin Shi  
Department of Maternal and Child Health, School  
of Public Health, Tongji Medical College, Huazhong  
University of Science and Technology, Hubei Province

*Review and Analysis on Data Resource of Agricultural Injury in China (2009-2010)*

**Principal Investigator:** Dr. Hongyan Yao  
Office of Epidemiology, Chinese Center for Disease  
Control and Prevention, Beijing

*Fishing Work-Related Injuries Among Fishers in Shensi Island County, Zhoushan City, Zhejiang Province (2009-2010)*

**Principal Investigator:** Dr. Weiwei Gong  
Zhejiang Provincial Center for Disease Control and  
Prevention, Zhejiang Province

“This is a perfect training project!”

**Xujun Zhang, MD, PhD**

2<sup>nd</sup> Workshop Trainee & US-Training Scholar, Associate Professor,  
Southeast University School of Public Health, Nanjing, Jiangsu





### SOUTHEAST UNIVERSITY INJURY PREVENTION RESEARCH INSTITUTE

The long-term goal of the USA-China Agricultural Injury Research Training Project is to develop the needed infrastructure for future sustainable injury research in China. Establishment of highly capable injury research centers in China will be critical both for attracting talented scientists and for training the injury research workforce of the future.

While committed to collaborating with existing injury research centers, such as Tongji Injury Control Research Center, our researchers aspire to help build new centers of excellence. The Southeast University Injury Prevention Research Institute is the first of these new centers. Created in Spring 2010 by the Southeast University in Nanjin, Jiangsu Province, the mission of the institute is to conduct multidisciplinary injury research in road safety, agricultural injuries and childhood injuries, and occupational safety training. One of the driving forces behind the institute is **Xujun Zhang, MD, PhD**, the newly designated Institute President. The idea of creating an injury prevention research institute was cultivated while he was trained at the Center for Injury Research and Policy at Nationwide Children's Hospital. His perseverance and the support from leaders at the Southeast University and his US colleagues made his dream come true.



### TONGJI SCHOOL OF PUBLIC HEALTH INSTITUTIONAL REVIEW BOARD

Substantial training time at each workshop is devoted to Institutional Review Board (IRB) policies and to the ethics of human subjects research. The IRB sessions are lead by **Celia S. Walker, MA**, whose expertise comes from 14 years of professional experience at Colorado State University handling research integrity issues and IRB regulations.

During the first training workshop in October 2007, leaders of the Tongji School of Public Health were inspired by Ms. Walker's lectures and decided to create their own IRB in May 2008. This IRB is composed of 12 members and currently manages more than 20 research projects each year.

The IRB of Tongji School of Public Health is officially registered at the United States of America Office for Human Research Protections (Registration No.: IORG0005769). This ensures that internationally accepted research subject regulations and IRB policies are followed. Faculty of the USA-China Agricultural Injury Research Training Project provided guidance during the registration process.

## TRAINEE'S TESTIMONY



The USA-China Agricultural Injury Research Training Project provided a perfect opportunity for me to continue my research in the areas of injury prevention and control. When I was at the CICRC, I attended classes, such as Epidemiology of Occupational Illness and Injuries and Global Perspectives in Health, developed a research plan for studying injuries among farm adolescents, prepared a manuscript in English and submitted a grant application. As a visiting scholar, I had an opportunity to work closely with Dr. Lorann Stallones, an international expert on injuries and health of farmers and farm adolescents.

My name is Min Shen. I am a lecturer at the School of Public Health, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China. I participated in the first training workshop of the USA-China Agricultural Injury Research Training Project in October 2007 in China. And then, I was selected and trained at the Colorado Injury Control Research Center, Colorado State University (CICRC) in 2008.

I have great interest in injury research, and I had been involved in some epidemiological studies on women's injury, traffic injury, bicycle injury among students and injury among left-behind children in rural China. I participated in the last three seminars as a translator, which gave me great opportunities to improve my spoken English.

During the training period, I published a manuscript about non-fatal injuries among left-behind children in China in the journal of *Injury Prevention*. Before I returned to China, I was informed that my application, "Agricultural Injuries Among Adolescents in Hubei, China" was funded as one of the seed projects of the USA-China Agricultural Injury Research Training Project.

Even though China is one of the largest agricultural countries in the world with more than 800 million farmers, little research attention has been paid to injuries among farmers. This project provides an excellent training opportunity to young scientists who aspire to advance injury research in China.

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**Min Shen, MD, PhD, Lecturer,**  
Tongji School of Public Health, Wuhan, China



## PEER-REVIEWED PUBLICATIONS

Fang Y, Dai L, Jaung M, Chen X, Yu S, Xiang H. Child Drowning Deaths in Xiamen City and Suburbs, People's Republic of China, 2001-2005. *Injury Prevention*, 2007; 13(5): 339-343.

Postel MW, Jaung MS, Chen G, Yu S, Stallones L, Xiang H. Farm Work-Related Injury Among Middle School Students in Rural China. *Journal of Agriculture Safety and Health*, 2009; 15(2): 129-142.

Jaung M, Yu S, Stallones L, Xiang H. Road Traffic Injuries Among Middle School Students in a Rural Area of China. *Traffic Injury Prevention*, 2009; 10(3): 243-251.

Shi J, Xiang H, Wheeler K, Smith G., Stallones L, Groner, J, Wang, Z. Costs, Mortality Likelihood, and Outcomes of Hospitalized US Children with Traumatic Brain Injuries. *Brain Injury*, 2009; 23(7): 602-611.

Shen M, Yang S, Han J, Shi J, Yang R, Du Y, Stallones L. Non-Fatal Injury Rates Among the "Left-Behind Children" of Rural China. *Injury Prevention*, 2009; 15(4): 244-247.

Wang L, Sun Y, Hang Y, Xiang H, Stallones L, Xue H, Cheng Y, Li S. Epidemiological Study on Alcohol Consumption and Agricultural Work-Related Injuries Among Minority Nationality Residents from the Northern Parts of China. *Chinese Journal of Epidemiology*, 2009; 30(12): 1243-1248.

Wang L, Wheeler K, Bai L, Stallones L, Dong Y, Ge J, Xiang H. Alcohol Consumption and Work-Related Injuries Among Farmers in Heilongjiang Province, People's Republic of China. *American Journal of Industrial Medicine* (in press).

Alhaji T, Wang L, Wheeler K, Zhao W, Stallones L, Xiang H. Prevalence of Disability Among Adolescents and Adults in Rural China. *Disability and Health Journal* (in press).

Wang H, Smith G, Stallones H, Xiang H. Injury-Related Childhood Mortality in Migrant Households in a Southern City of China. *Injury Prevention* (in press).

“This training project ignited my enthusiasm about injury research!  
It enriched both my career and life experience.”

**Guanghong Yang, MD, MS**

2<sup>nd</sup> Workshop Trainee, Associate Professor,  
Guiyang Medical University, School of Public Health, Guiyang, Guizhou

## FROM THE CLASSROOM TO THE FIELD



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“The USA-China Agricultural Injury Research Training Project is the cradle that cultivates agricultural injury researchers in China.”

**Guoqing Hu, MD, PhD**

2<sup>nd</sup> Workshop Trainee, Associate Professor,  
Central South University School of Public Health, Changsha, Hunan



## FUNDING INFORMATION

The USA-China Agricultural Injury Research Training Project was supported by a grant from the John E. Fogarty International Center, National Institutes of Health, U.S. Department of Health and Human Services (Grant No.: 1D43TW007257-01A2). The views and conclusions in this report are those of the principal investigators and do not necessarily reflect the opinions or policies of the funding agency.



“The US faculty set an outstanding example for my future injury research.”

**Ling Xue, MD, MPH**

3<sup>rd</sup> Workshop Trainee, Associate Professor,  
North China Coal Medical University, Tangshan, Hebei

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