

## FELICIA WU, PH.D.

Department of Environmental and Occupational Health  
Graduate School of Public Health, University of Pittsburgh  
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### CURRENT POSITION

2004-present: Assistant Professor (tenure stream), Department of Environmental and Occupational Health, University of Pittsburgh

- Secondary Faculty, University of Pittsburgh School of Medicine, Clinical & Translational Science Institute (CTSI)
- Core Faculty, Center for Research on Health Care (CRHC)
- Adjunct Professor, Center for Bioethics and Health Law
- Faculty Advisory Board, European Union Center

### RESEARCH AND TEACHING

Fields: Global Health and the Environment, Mycotoxins, Agricultural Biotechnology, Food Safety, Indoor Air Quality

Methods: Economics, Mathematical Modeling, Risk Assessment & Communication, Policy Analysis

### EDUCATION

Harvard University	1998	A.B., S.M., Applied Mathematics & Medical Sciences
Carnegie Mellon University	2002	Ph.D., Engineering & Public Policy

### AWARDS AND HONORS

- Society for Risk Analysis Councilor (1 of 9), 2009-2012
- Dr. James L. Craig Excellence in Education Teaching Award Nominee, University of Pittsburgh Graduate School of Public Health, 2009
- Sigma Xi (National Science Honor Society) Distinguished Lecturer, 2008-2009
- Visiting Professor, Iowa State University, 2008
- Honoree (1 of 7), University of Pittsburgh Outstanding Women in Medicine & Science, 2008
- Chauncey Starr Award, Society for Risk Analysis: Outstanding risk analyst age 40 or under, 2007
- National Institutes of Health (NIH) Early Career Award: Multidisciplinary Clinical Research Scholars Program, 2007-2011
- Guest Editor, *Environmental Health Perspectives*: "Developing Policies to Improve Indoor Environmental Quality," June 2007
- U.S. Department of Agriculture, Aflatoxin Elimination grantee, 2007-2008, 2006-2007
- Competitive Medical Research Fund, University of Pittsburgh: awardee, 2006-07
- Delta Omega National Honor Society for Public Health, Inducted Faculty Member, 2006
- Chair of Conference: *Developing Policies to Improve Indoor Environmental Quality: Trans-Atlantic Viewpoints*, 2005
- "The Future of Genetically Modified Crops: Lessons from the Green Revolution" (co-authored with WP Butz): feature publication for RAND Annual Review, 2004
- Society for Risk Analysis Best Paper Award, 2002, 2003
- EPA STAR (Science To Achieve Results) Fellowship, 1999-2002
- ExxonMobil Paper Award in Risk Communication, 2000, 2001

- IIASA (International Institute for Applied Systems Analysis) Young Scientists Summer Program, 2000
- Harvard College Scholar (Dean's List), 1995-98
- Elizabeth Cary Agassiz Merit Award for Academic Excellence, 1995-98
- National Merit Scholar, 1994-98
- *Jeopardy!* Teen Tournament Semifinalist, 1994

#### **GRANTS FUNDED AS FACULTY MEMBER**

- 2009-2011 Co-PI: Bill and Melinda Gates Foundation, “Cost-Effective Aflatoxin Risk Reduction Strategies in Maize and Groundnut Value Chains to Improve Market Access of the Poor in Africa”  
(\$2,700,000)
- 2008-2011 Co-PI: U.S. Department of Agriculture (USDA) Biotechnology Risk Assessment Grant (BRAG), “Mycotoxin Risks Associated with Ethanol Co-Products from Conventional vs. Biotechnology-Derived Corn Grain”  
(\$400,000)
- 2008-2009 PI: Computational Public Health Initiative, University of Pittsburgh, “Modeling the Effect of Aflatoxin Regulations on Global Liver Cancer Risk and World Food Trade”  
(\$20,000)
- 2007-2011 Scholar: National Institutes of Health (NIH) Multidisciplinary Clinical Research Scholars Program, “Achieving Healthier Home Environments Through Mold and Moisture Reduction: Current Health Risks, Public Awareness, and Policy Recommendations”  
(\$669,000)
- 2007-2008 PI: USDA Aflatoxin Elimination Workgroup, “Modeling the Adverse Impact of Aflatoxin Contamination to the Economics of U.S. Agriculture”  
(\$27,000)
- 2006-2007 PI: USDA Aflatoxin Elimination Workgroup, “Total Economic Impact of Aflatoxin: Models of Economic Loss and Industry Learning”  
(\$10,000)
- 2006-2007 PI: Competitive Medical Research Fund, “Achieving Healthy Homes for Asthmatic Children Through Educational Interventions”  
(\$25,000)

#### **INVITED LECTURES AND SESSION CHAIRS**

- World Nutrition Forum (Keynote Lecture), Salzburg, Austria, 2010
- Gordon Research Conference on Mycotoxins and Phycotoxins, 2009, 2007, 2005, 2003
- International Agency for Research on Cancer (IARC), Lyon, France, 2009
- Kenya Stakeholders’ Inception Workshop on Aflatoxin Reduction, Nairobi, Kenya, 2009
- International Society for Mycotoxicology, Vienna, Austria, 2009
- Brookings Institution, 2009
- Food for Thought Distinguished Lecture Series, Oregon State University, 2009
- Sigma Xi Distinguished Lecture – Environmental and Health Impacts of Transgenic Crops, Indiana University of Pennsylvania, 2009
- Sigma Xi Distinguished Lecture – Aflatoxin: Reducing Health Risks Through Public Health Interventions, U.S. Department of Agriculture, 2009
- Sigma Xi Distinguished Lecture – Ethanol and the Environment, Iowa State University, 2008
- Sigma Xi Distinguished Lecture – Ethanol and the Environment, University of Nebraska, 2008

World Mycotoxin Forum (Plenary Lecture), 2008, 2006, 2005  
 United Nations Convention on Biological Diversity 4<sup>th</sup> Meeting of the Parties (MOP4), 2008  
 Senior Vice Chancellor's Research Seminar, University of Pittsburgh, 2008  
 National *Fusarium* Head Blight Forum (Plenary Lecture), 2007  
 USDA Aflatoxin Elimination Workshop, 2007, 2006  
 Monsanto Company, 2007  
 Pioneer Hi-Bred International, Inc., 2007  
 Department of Energy, Energy Codes 2007  
 U.S./EU Trans-Atlantic Conference: REACH, 2007  
 USDA / North American Millers Association, Corn Dry Milling Conference, 2007  
 USDA APHIS Biotechnology Regulatory Services Seminar, 2007  
 Biosafety Institute for Genetically Modified Agricultural Products (BIGMAP) Symposium, Iowa State University, 2007  
 Engineering Sustainability: Mascaro Sustainability Initiative, University of Pittsburgh, 2007  
 Research in Sustainable Community Development, University of Pittsburgh, 2007  
 Canadian Institute of Food Science & Technology Conference (Plenary Lecture), 2006  
 Audubon Society, GMO Food Safety & the Environment, 2006  
 University of Pittsburgh Board of Trustees Meeting, 2006  
 Dutch Ministry of Housing Seminar, 2005  
 4<sup>th</sup> Canadian *Fusarium* Head Blight Workshop, 2005  
 Canada Mortgage and Housing Corporation Seminar, 2005  
 Agricultural, Food, and Resource Economics Seminar, Rutgers University, 2005  
 Agricultural and Resource Economics Seminar, University of California / Berkeley, 2005  
 Plant Sciences Seminar, University of California / Davis, 2005  
 International Workshop on Health Implications of Fungi in Indoor Environments, 2005  
 USDA Economics of Agricultural Biotechnology Regulation Workshop, 2005  
 Harvard Workshop on Agricultural Biotechnology for Human Development, 2005  
 XI International Union of Pure & Applied Chemistry (IUPAC) Symposium on Mycotoxins and Phycotoxins (Plenary Lecture), 2004  
 Toxicology Forum, 2003  
 World Congress on Risk, 2003

#### **OTHER PRESENTATIONS AT PROFESSIONAL MEETINGS**

Society for Risk Analysis, 1999-2007  
 Department of Defense Symposium: Partners in Environmental Technology, 2002  
 Consortium on Technology, Policy and Management, 2002  
 Resources for the Future: Workshop on the Economics of Resistance, 2001  
 American Water Works Association, 1999

#### **PROFESSIONAL ACTIVITIES AND SERVICE**

##### ***Editorial Boards***

Consulting Editor	<i>Archives of Environmental and Occupational Health</i>
Editorial Board	<i>Risk Analysis</i>
Area Editor	<i>World Mycotoxin Journal</i>
Guest Editor	<i>Environmental Health Perspectives</i>
Ad-hoc Reviewer	<i>Science</i>
Ad-hoc Reviewer	<i>American Journal of Respiratory &amp; Critical Care Medicine</i>
Ad-hoc Reviewer	<i>Environmental Science &amp; Technology</i>

Ad-hoc Reviewer	<i>Food Additives and Contaminants</i>
Ad-hoc Reviewer	<i>Journal of Agricultural and Food Chemistry</i>
Ad-hoc Reviewer	<i>Journal of Food Safety</i>
Ad-hoc Reviewer	<i>Journal of Toxicology Toxin Reviews</i>
Ad-hoc Reviewer	<i>Public Health Reports</i>
Ad-hoc Reviewer	<i>Risk Analysis</i>
Ad-hoc Reviewer	<i>BioMed Central Medical Informatics and Decision Making</i>

***Proposal Review Panels***

Panel Member	U.S. Environmental Protection Agency, Cumulative Risk Assessment
Panel Member	National Science Foundation, Human and Social Dynamics Program
Panel Member	U.S. Department of Agriculture, Post-Harvest Risk Management
Ad-hoc Reviewer	National Science Foundation, Decision, Risk & Management Sciences

***Book Editor***

*Mycotoxin Prevention Handbook*: International Agency for Research on Cancer, Lyon, France (in preparation)

***Expert Consultations/Panels***

Panel Member	International Life Sciences Institute (ILSI), Environmental Risk Assessment of Genetically Modified Crops
Panel Member	Carnegie Mellon University, Engineering & Public Policy, Air Toxics & Environmental Justice

***Service in Professional and University Organizations***

Chair	Biological Stressors Specialty Group, Society for Risk Analysis
Chair	Risk Communication Specialty Group, Society for Risk Analysis
Member	Faculty Diversity Committee, Graduate School of Public Health, University of Pittsburgh
Member	Society for Risk Analysis Officers Nominating Committee
Member	Multidisciplinary Master of Public Health (MMPH) Organizing Committee, Graduate School of Public Health, University of Pittsburgh
Juror	Dean's Day (Student Research), Graduate School of Public Health, University of Pittsburgh

**STUDENTS, CURRENT AND PAST (UNIVERSITY OF PITTSBURGH)**

***Advisor***

Thomas Biksey, PhD: Environmental health impacts of alternative fuel sources; indoor mold and pediatric asthma (2008 Delta Omega National Honor Society inductee; winner of 2006 Student Merit Award, Society for Risk Analysis, Biological Stressors Specialty Group)

Yan Liu, PhD: Global burden of aflatoxin-induced diseases (winner of 2007 Dean's Day Award in MPH category)

Pornsri Khlangwiset, PhD: Cost-effectiveness of aflatoxin interventions in less developed countries

***Thesis Committee Member***

Maxine Wright Walters, DrPH: health disparities in pediatric asthma

Kristen E. Sonon, MHA: mental health in nursing homes

George W. Mitchell, MHA: adolescent behavioral health

Jennifer Boekeloo, MHA: comparison of health care plans for U.S. Presidential candidates

## **COURSES TAUGHT, PAST AND PRESENT (UNIVERSITY OF PITTSBURGH)**

EOH 2180: Introduction to Risk Sciences (Craig Award nomination)  
EOH 2181: Environmental Risk Assessment Practicum (Craig Award nomination)  
EOH 2513: Critical Issues in Bioterrorism  
PUBHL 2009: Critical Issues in Global Health

## **PUBLICATIONS**

### *Peer-Reviewed Journals*

Wolt JD, Keese P, Raybould A, Fitzpatrick JW, Burachik M, Gray A, Olin SS, Schiemann J, Sears M, Wu F (2009). "Problem Formulation in the Environmental Risk Assessment for Genetically Modified Plants." *Transgenic Research*, [Epub ahead of print].

Wu F, Khlangwiset P (2009). "Health economic impacts and cost-effectiveness of aflatoxin reduction strategies in Africa: Case studies in biocontrol and postharvest interventions." *Food Additives & Contaminants*, revision resubmitted.

Wu F, Paul PA (2009). "Economic Perspectives of Wheat Growers Facing the Risks of *Fusarium* Head Blight and Deoxynivalenol." *Phytopathology*, revision stage.

Biksey T, Wu F (2009). "By-products and co-products of biofuels production should be considered in life-cycle assessment." *Science*, submitted.

Liu Y, Wu F (2009). "Global Burden of Aflatoxin-Induced Hepatocellular Carcinoma: A Risk Assessment." *Environmental Health Perspectives*, submitted.

Khlangwiset P, Wu F (2009). "Costs and efficacy of public health interventions to reduce aflatoxin-induced human disease." *Food Additives & Contaminants*, submitted.

Wu F, Khlangwiset P (2009). "Evaluating the technical feasibility of aflatoxin control strategies." *Food Additives & Contaminants*, submitted.

Biksey T, Zickmund SL, Wu F (2009). "Disparities in Risk Communication: A Pilot Study of Asthmatic Children, Their Parents, and Home Environments." *J Nat'l Med. Assoc*, submitted.

Wu, F., Bryden, W. (2009). "Mycotoxins: Detection Methods, Management, Public Health and Agricultural Trade" (book review), *World Mycotoxin Journal* 2:105-106.

Wu, F., Liu, Y., Bhatnagar, D. (2008). "Cost-Effectiveness of Aflatoxin Control Methods: Economic Incentives." *Toxin Reviews* 27:203-225.

Wu, F., Munkvold, G.P. (2008). "Mycotoxins in Ethanol Co-Products: Modeling Economic Impacts on the Livestock Industry." *Journal of Agricultural & Food Chemistry* 56:3900-3911. Online at: <http://pubs.acs.org/doi/pdf/10.1021/jf072697e>.

Wu, F. (2008). "A Tale of Two Commodities: How EU Mycotoxin Regulations Have Affected Food Industries." *World Mycotoxin Journal* 1:71-78.

- Wu, F. (2007). "Bt Corn and Mycotoxin Reduction." *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 2(060), 8 pp.
- Wu, F., Biksey, T., Karol, M. (2007). "Controlling Dampness and Mold in Homes: Lessons Learned from Radon and Lead Policies." *Environmental Science & Technology* 41:4861-7. Online at: <http://pubs.acs.org/cgi-bin/sample.cgi/esthag/2007/41/i14/pdf/es0620585.pdf>.
- Wu, F. (2007). "Economic Impacts of Fusarium Toxins in Animal Feeds." *Animal Feed Science and Technology* 137:363-374.
- Wu, F., Jacobs, D., Mitchell, C., Miller, J.D., Karol, M. (2007). "Indoor environmental quality for public health." *Environmental Health Perspectives* 115:953-957. Online at: <http://www.ehponline.org/members/2007/8986/8986.pdf>.
- Wu, F., Takaro, T.K. (2007). "Childhood asthma and environmental interventions." *Environmental Health Perspectives* 115:971-975. Online at: <http://www.ehponline.org/members/2007/8989/8989.pdf>.
- Adan, O.C.G., Ng-A-Tham, J., Hanke, W., Sigsgaard, T., van den Hazel, P., Wu, F. (2007). "In search of a common European approach to a healthy indoor environment." *Environmental Health Perspectives* 115:983-988. Online at: <http://www.ehponline.org/members/2007/8991/8991.pdf>.
- Wu, F. (2006). "Mycotoxin Reduction in Bt Corn: Potential Economic, Health and Regulatory Impacts." *Transgenic Research* 15, 277-289.
- Wu, F. (2006). "An analysis of Bt corn's benefits and risks for national and regional policymakers considering Bt corn adoption." *International Journal of Technology and Globalisation* 2(1&2), 115-136.
- Wu, F. (2005). "The impact of mycotoxin legislation on world trade." *AgriWorld Vision* 5(2), 25-27.
- Wu, F. (2004). "Mycotoxin Risk Assessment for the Purpose of Setting International Regulatory Standards." *Environmental Science & Technology* 38, 4049-4055. Online at: <http://pubs.acs.org/doi/pdf/10.1021/es035353n>.
- Wu, F. (2004). "Explaining Consumer Resistance to Genetically Modified Corn: An Analysis of the Distribution of Benefits and Risks." *Risk Analysis, Best Paper Issue* 24(3), 717-728.
- Wu, F., Miller, J.D., Casman, E.A. (2004). "Bt corn and Mycotoxin Reduction: Economic Impacts in the United States and the Developing World." *Journal of Toxicology, Toxin Reviews* 23(2&3) 397-424.
- Casman, E., Fischhoff, B., Palmgren, C., Small, M., Wu, F. (2000). "An Integrated Temporal Risk Model of a Drinking-Waterborne Cryptosporidiosis Outbreak." *Risk Analysis* 20(4), 495-511.

### **Books and Book Chapters**

- Wu, F., Farland, W.H. (2007). "Risk Assessment and Regulatory Decision-Making in Environmental Health." In *Environmental Health Risk Assessment for Public Health*, M.G. Robson, W.A. Toscano (eds.), Jossey-Bass Wiley, Indianapolis, IN, 31-54.

Wu, F. (2006). "Bt Corn's Reduction of Mycotoxins: Regulatory Decisions and Public Opinion." In: *Regulating Agricultural Biotechnology: Economics and Policy*, R. Just, J. Alston, W. Huffman, Eds., NY, Springer Publishers, 179-200.

Wu, F. (2006). "Economic impact of fumonisin and aflatoxin regulations on global corn and peanut markets." In: *The Mycotoxin Factbook*, D. Barug, D. Bhatnagar, H.P. van Egmond, J.W. van der Kamp, W.A. van Osenbruggen, A. Visconti, Eds., The Netherlands, Wageningen Academic Publishers, 83-94.

Silberglitt, R., Anton, P.S., Howell, D.R., Wong, A., Bohandy, S.R., Gassman, N., Jackson, B.A., Landree, E., Pflieger, S.L., Newton, E.M., Wu, F. (2006). *The Global Technology Revolution 2020: Bio / Nano / Materials / Information Trends, Drivers, Barriers, and Social Implications*. RAND, Santa Monica, CA, MG-475-NIC.

Arena, M.V., Younossi, O., Galway, L.A., Fox, B., Graser, J.C., Sollinger, J.M., Wu, F., Wong, C. (2006). *Impossible Certainty: Cost Risk Analysis for Air Force Systems*. RAND, Santa Monica, CA, MG-415-AF.

Orvis, B.R., McDonald, L.L., Raymond, B., Rosenblatt, K., Wu, F. (2005). *Increasing Participation in Army Continuing Education*. RAND, Santa Monica, CA, MG-293-A.

Wu, F., Butz, W.P. (2004). *The Future of Genetically Modified Crops: Lessons from the Green Revolution*. RAND, Santa Monica, CA. ISBN: 0-8330-3646-7.

Pflieger, S.L., Wu, F., Lewis, R. (2004). *Software Cost Estimation and Sizing Methods, Issues, and Guidelines*. RAND, Santa Monica, CA, MG-269-AF.

Morel, B, Farrow, R.S., Wu, F., Casman, E.A. (2003). "Pesticide Resistance, the Precautionary Principle, and the Regulation of Bt Corn: Real Option and Rational Option Approaches to Decisionmaking." In *Battling Resistance to Antibiotics and Pesticides*, R. Laxminarayan (ed.), Resources for the Future, Washington, D.C. ISBN: 1-891853-51-1.

Small, M.J., Fischhoff, B., Casman, E.A., Palmgren, C., Wu Morris, F. (2002). *Protocol for Cryptosporidium Risk Communication*. American Water Works Association Research Foundation, Denver, CO. ISBN: 1-58321-194-2.

Wu, F. (2002). "A Comparison of Values and Regulation of Genetically Modified Bt Corn in the United States and Europe." In *Proceedings of the First International Doctoral Consortium on Technology, Policy and Management*, E.F. ten Heuvelhof (ed.), Delft, The Netherlands. ISBN: 90-5638-094-x.

### ***Professional Reports***

Wu, F., Matsumura, J., Grossman, J., Steeb, R., van Lent, M., Vu, P., Wilson, B. (2005). *Exploring Options for Behavior-Based Models and Simulations*. RAND, Santa Monica, CA, DRR-3509-A.

Arena, M.V., Younossi, O., Galway, L., Fox, B., Graser, J.C., Sollinger, J., Wu, F. (2005). *Toward a Cost Estimating Risk and Uncertainty Analysis Policy*. RAND, Santa Monica, CA, DRR-3559-AF.

Anderson, R.H., Hearn, A., Lewis, R., Matsumura, J., Pflieger, S.L., Porche, I., Steeb, R., Wu, F. (2004). "High Performance Computing Opportunities and Challenges for Army R&D." RAND, Santa Monica, CA, PM-1690-A.

Clemence, B., Blickstein, I., Grigg, B., Lachman, B.E., McMahon, S., Olmsted, S.S., Webb, K., Wennar, A., Wu, F. (2004). *U.S. Navy Medical Capabilities Afloat: Developing Modeling Assumptions for Medical Supply and Demand*. RAND, Santa Monica, CA, PM-1647-1-NAVY.

Orvis, B.R., McDonald, L.L., Raymond, B., Rosenblatt, K., Wu, F. (2004). *Current Participation in eArmyU and Effects of Possible Program Changes*. RAND, Santa Monica, CA, DRR-3254-A.

### ***News Articles and Government Documents***

Wu, F. (2004). "Perceptions of food that are an ocean apart." *Financial Times*, May 13, 15.

"Biopesticides Registration Action Document – *Bacillus thuringiensis* Plant-Incorporated Protectants" (2001). U.S. Environmental Protection Agency, Washington, D.C., [http://www.epa.gov/pesticides/biopesticides/pips/bt\\_brad2/1-overview.pdf](http://www.epa.gov/pesticides/biopesticides/pips/bt_brad2/1-overview.pdf)

### **PAST POSITIONS**

RAND, Policy Researcher, 2002-2004

U.S. Environmental Protection Agency, National Center for Environmental Economics (NCEE) and Biopesticides & Pollution Prevention Division (BPPD), Research Fellow, 2001

International Institute of Applied Systems Analysis, Young Scientist Program, 2000

Harvard Medical School – Brigham & Women's Hospital Circadian & Neuroendocrine Disorders Division, Research Assistant, 1996-1998

Sandia National Laboratories (Computational Biology), Summer Intern, 1995-1997

**Citizenship:** U.S.A.