

**The Federation of Behavioral, Psychological, and Cognitive Sciences  
and  
the Human Factors and Ergonomics Society**

*Science Forum on*

**Human Factors and Patient Safety Research**

October 15, 2004

**Speaker Information**

**Wendy Rogers, PhD**

Dr. Wendy Rogers is Professor in the School of Psychology at Georgia Institute of Technology. She received her B.A. from the University of Massachusetts - Dartmouth, and her M.S. (1989) and PhD (1991) from Georgia Institute of Technology. Her research interests include skill acquisition, human factors, training, and cognitive aging. She is the Co-Director of the Human Factors and Aging Laboratory ([www.prism.gatech.edu/~wr43/hf\\_aging](http://www.prism.gatech.edu/~wr43/hf_aging)) which is funded by the National Institutes of Health (National Institute on Aging) as part of the Center for Research and Education on Aging and Technology Enhancement (CREATE), and by a National Science Foundation grant entitled "The Aware Home: Sustaining the Quality of Life for an Aging Population." She is currently the President of the Human Factors and Ergonomics Society.

**Daryle Gardner-Bonneau, PhD**

Dr. Daryle Gardner-Bonneau is the Principal of Bonneau and Associates, a human factors consulting firm in Portage, Michigan. She also serves as a Research Associate in the College of Health and Human Services at Western Michigan University, assuming many of the duties of the Associate Dean for Research and teaching a course in evidence-based medicine in the Physician Assistant program there. Dr. Gardner-Bonneau earned the PhD in Human Performance from The Ohio State University in 1983, and has additional master's degrees in Industrial and Systems Engineering, Experimental Psychology, and Brass Pedagogy (music), also from Ohio State. During her career of over 20 years in the human factors field, she has held positions in academia (Kearney State College and Ohio University), industry (Senior Scientist, CTA INCORPATED, a contractor to the Federal Aviation Administration), and medicine (Director, Office of Research, Michigan State University/Kalamazoo Center for Medical Studies). In 1999, she opened Bonneau and Associates, a human factors consultancy specializing in human factors work in the telecommunications, medical, rehabilitation, accessibility/universal access, and aging domains. Daryle is the author of over 50 publications in the human factors field, is a past editor of *Ergonomics in Design*, and serves on the editorial boards of both *Human Factors* and *Theoretical Issues in Ergonomics Science*. Since 2000, she has served as the Editor-in-Chief of the *International Journal of Speech Technology* and is working on the second edition of her book, *Human Factors and Voice Interactive Systems* (first edition published by Kluwer in 1999). She is also active in national and international technical standards work, serving on the ISO TC159 WG1 (Ergonomic Requirements for People with Special Needs), ISO TC159 SC4 WG5 (human-computer interfaces), and Association for the Advancement of Medical Instrumentation (AAMI) Human Engineering Committees. Her most

recent research, funded through the Health Research Services Administration (HRSA), involves human factors in tele-allied health applications.

**Helen Altman Klein, PhD**

Dr. Helen Altman Klein is Professor of Psychology and Graduate Faculty Member in the Human Factors/ Industrial Psychology Program at Wright State University. Her research uses field observation techniques and Cognitive Task Analysis interviews to explore the underlying perceptual and cognitive demands presented by complex tasks in natural domains. Within the framework of cognitive engineering, user cognition and decision making characteristics and capacities must match the demands of tasks within a domain. Dr. Klein has looked at medical self-management tasks ranging from simple patient compliance with medication instructions to the very difficult demands of managing diseases, like diabetes, that require the control of a complex biological system. The goal is to redesign tasks and/or address user limitations to better match demands and capacities. She has used cognitive engineering in the domains of civil aviation, military command and control, driving, and architecture as well as in self-managed health care. Dr. Klein has presented her work to a variety of professional in the U.S. and abroad and has published numerous papers. Her work has been funded by organizations including DARPA, ARI, ARL, and AFRL/HE. Dr. Klein has served at a Visiting Professor of Psychology at Western Australia Institute of Technology and as a Visiting Scholar at The Hebrew University in Jerusalem Israel. She received her Ph.D. in experimental psychology from the University of Pittsburgh.

**Holly B. Jimison, PhD**

Holly Jimison received her Doctorate in Medical Information Sciences at Stanford University, with dissertation work on using computer decision models to tailor patient education materials to individuals. She is currently on the faculty of Medical Informatics & Clinical Epidemiology at Oregon Health & Science University. From 1992 to 1998 she served as Director of the "Informed Patient Decisions Group," conducting research on methods to enable patients to be active and informed participants in their medical care decisions. Dr. Jimison has both academic and industry experience in home monitoring systems for disease management. She has developed systems for diabetes, heart failure, and home-based health behavior change (weight management and smoking cessation). Her current work is in the area of new communications technologies for elderly patients in the home, with the goal of maintaining health and independence. She is a past President and Program Chair for the Oregon Chapter of the Health Information Management Systems Society.

**Rollin J. "Terry" Fairbanks, MD, MS, NREMT-P**

Dr. Fairbanks is assistant professor of Emergency Medicine at the University of Rochester School of Medicine, and medical director for Monroe Ambulance in Rochester, NY. Prior to becoming a physician, Dr. Fairbanks completed a Masters degree in human factors engineering and worked as a paramedic. His research focuses on patient safety, with a specific concentration on the application of human factors engineering techniques to emergency medicine and emergency medical services.

**Robert L. Wears, MD, MS**

Dr. Wears attended Johns Hopkins University for his undergraduate and medical education. His postgraduate training was done at University of Texas – San Antonio, the US Public Health Service, and University Hospital of Jacksonville. He practiced emergency medicine in Jacksonville, FL for about six years before joining the University of Florida faculty. After joining the UF faculty, he obtained a Master's in computer science to be better equipped for work in systems analysis and improvement using computer technology.

He is Professor in the Department of Emergency Medicine at the University of Florida. He also serves on the editorial board and as the methods and statistics editor for *Annals of Emergency Medicine*, the largest journal in the specialty of emergency medicine. Currently, he is serving as Visiting Professor with the Clinical Safety Research Unit at Imperial College of London.

Dr Wears has been an active writer, researcher, and advocate for patient safety since 1995. He has served on several national task forces on patient safety and chaired one. Currently, he directs the Center for Safety in Emergency Care, a multi-institutional research collaborative aimed at understanding system failures in emergency care and devising and evaluating ways to make it safer. The Center is funded in part by a grant from the Agency for Healthcare Research and Quality. It has particular skills and interests, and has been funded for work in the following areas:

- Human cognitive performance in real-world working conditions
- Teamwork and microsystem culture
- Organizational behavior and the influence of high level regulatory, economic and social factors on safety.

Dr. Wears has authored of numerous publications on biostatistics, human-computer interaction, and patient safety, and in addition to the Agency for Healthcare Research and Quality, has had safety research funded by the National Patient Safety Foundation, and the Army Research Laboratory.

**Caroline G. L. Cao, PhD**

Dr. Caroline Cao received a PhD (2002) in Mechanical & Industrial Engineering from the University of Toronto. She is currently Director of the Human Factors Program in the School of Engineering at Tufts University, Assistant Professor of Mechanical Engineering, and Adjunct Professor of Biomedical Engineering at Tufts University. Her research interests are human-machine interfaces for minimally invasive surgery, surgical skills training, and sensory augmentation in robotic surgery.

### **Pascale Carayon, PhD**

Pascale Carayon is a Professor of Industrial Engineering and the Director of the Center for Quality and Productivity Improvement (CQPI) at the University of Wisconsin-Madison. She received her Engineer diploma from the Ecole Centrale de Paris, France, in 1984 and her Ph.D. in Industrial Engineering from the University of Wisconsin-Madison in 1988. Her research areas include systems engineering, human factors and ergonomics, sociotechnical engineering and occupational health and safety. She is a scientific editor for *Applied Ergonomics*. She is the chair of the technical committee on Organizational Design And Management of the International Ergonomics Association (IEA), and is a member of the executive committee of the IEA, in charge of the *Ergonomics In Quality Design* (EQUID) program.

Dr. Carayon's current research is funded by the Agency for Healthcare Research and Quality, the National Science Foundation, the Department of Defense, the National Institute on Aging, the National Institute for Occupational Safety and Health and various foundations and businesses. Her research on human factors engineering and patient safety has received funding from the Agency for Healthcare Research and Quality (DCERPS-*Systems Engineering Initiative for Patient Safety*; Challenge grant-Medication error reduction, technologies and human factors; and HIT implementation grant-CPOE implementation in ICUs). Dr. Carayon and two co-authors wrote a paper on *Reducing Workload and Increasing Patient Safety Through Work and Workspace Design* that was commissioned by the Institute of Medicine Committee on the Work Environment for Nurses and Patient Safety. It was used by the IOM for its report on *Keeping Patients Safe - Transforming the Work Environment of Nurses* released on November 4, 2003.

### **Philip Aspden, PhD, MA**

In December 2001, Dr. Aspden joined the staff of the Health Care Services Board, Institute of Medicine, Washington, DC, to be the study director of a project which produced a detailed plan to facilitate the development of data standards applicable to the collection, coding and classification of patient safety information. The study report, *Patient Safety: Achieving a New Standard for Care*, was released in November 2003. He is currently the director of a new Institute of Medicine study on drug safety and a senior staff member on a study recommending ways to improve the quality of health care in rural America.

Earlier at the National Academies, Dr. Aspden was a member of staff of the STEP (Science, Technology, and Economic Policy) Board. While there, he was a senior staff member of a major multi-board IT Workforce project on the information technology labor market needs and on older workers in the information technology field. The study report, *Building a Workforce for the Information Economy*, was published by the National Academies in October 2000. Also at the STEP Board, he directed a project examining the barriers to high-value medical innovation. As part of this project he organized a National Academies conference on medical innovation, held in Washington, DC, June 2001. Dr. Aspden edited the report of this conference, *Medical Innovation in the Changing Healthcare Marketplace*, which was published in 2002.

Philip Aspden received a B.A. (Hons.) in mathematics from Cambridge University, England. He carried out postgraduate work in operations research at Lancaster University, England, earning MA and PhD degrees.

**Nancy M. Ostrove, PhD**

Dr. Nancy Ostrove is Director for Risk Communication in FDA's Office of Planning in the Office of the Commissioner. In that role, she acts as agency lead in assessing FDA risk communication approaches and programs and in developing risk communication strategies for identified priority areas, such as improving healthcare through better informed consumers and patient safety. Prior to taking this position, she was a Regulatory Liaison for Eli Lilly and Company, and was responsible for developing, communicating, consulting on, and supporting interactions between the company and the Food and Drug Administration.

Dr. Ostrove was with FDA's Center for Drug Evaluation and Research from 1989 until 2002. She served as Deputy Director and Branch Chief in FDA's Division of Drug Marketing, Advertising, and Communications (DDMAC). At DDMAC, her work included research, consulting, and policy related to communicating prescription drug information to health care professionals and consumers. Dr. Ostrove took the lead in developing FDA's "direct-to-consumer" (DTC) policies and for years was FDA's expert in this area of promotion. In addition, Dr. Ostrove's research and development work provided the basis for FDA's proposal to revise the format of prescription drug labeling to be more useful for prescribers. Dr. Ostrove was also a key team member in the development of FDA's Medication Guide rules and in assessing the success of the private sector initiative to ensure that patients getting new prescription medicines also receive useful written information about their medicines.

Dr. Ostrove received her doctoral degree in social psychology in 1976 from the University of Maryland at College Park and received postdoctoral training in medical psychology from the Uniformed Services University of the Health Sciences. Prior to joining FDA in 1989 she taught undergraduate psychology and conducted applied psychological and survey research for various organizations.

**James B. Battles, PhD**

Dr. Battles is a native of Ohio where he did his undergraduate education at Miami University and received his doctorate in medical education from the Ohio State University. In November 2000, Dr. Battles joined the Agency for Healthcare Research and Quality (AHRQ) in Rockville, Maryland as Senior Service Fellow for Patient Safety and Medical Errors where he senior content specialist in patient safety for AHRQ's research in patient safety initiative. AHRQ's portfolio of projects includes over 127 grants and contract on patient safety. Prior to coming to AHRQ he was Professor of Medical Education at The University of Texas Southwestern Medical Center at Dallas where he was co-principal investigator for the Medical Event Reporting System for Transfusion Medicine (MERS-TM). MERS-TM is funded by the National Institutes of health (NIH) to serve as a prototype for a national system of reporting near miss events in health care. He is an internationally recognized expert in the area of medical error and event reporting having authored numerous articles and book chapters in the past several years. In addition to his medical error research, Dr. Battles was also director and principal investigator for a federally funded (HRSA) fellowship and faculty development program for new primary care faculty in general internal medicine and family medicine. He was co-director for a family medicine residency training grant program funded by HRSA and has been actively involved in other primary care residency and pre-doctoral programs. Dr. Battles was involved in curriculum modification of the medical school to increase the amount of primary care that is included in the curriculum and has been highly successful at obtaining external funding through grants and contracts to implement these changes. He internationally recognized for his work Problem Based Learning (PBL), the use of Standardized Patients for teaching and evaluation, and the Objective Structured Clinical Evaluation (OSCE). Dr. Battles is a retired Captain in the United

States Naval Reserve where his specialty was strategic planning and systems design. Prior to coming to Texas, Dr. Battles served as Director of the Ohio Regional Medical Audiovisual Consortium (ORMAC), an educational cooperative of the seven medical schools in Ohio. He was also principal investigator an NCI funded program, the Regional Ambulatory Chemotherapy Project designed to introduce modern chemotherapy treatment protocols to community hospital in Ohio.

### **Kerm Henriksen, PhD**

Dr. Kerm Henriksen is an experimental psychologist by academic training and currently serves as a Human Factors Advisor for Patient Safety with the Agency for Healthcare Research and Quality (AHRQ) in the Center for Quality Improvement and Patient Safety (CQIPs) in Rockville, Maryland. AHRQ is the lead US government agency for supporting research on patient safety and medical error as well as providing evidence-based information on health care outcomes. Dr. Henriksen currently directs the Agency's Patient Safety Research Coordinating Center, which serves as the central coordinating link and repository for the Agency's 127 patient safety grants and contracts. He also serves on the Editorial Board of the new *Journal of Patient Safety*. In addition to coordinating the efforts of a large and diverse collection of patient safety researchers, he has 30 years of experience in behavioral science research, specializing in human factors, industrial/organizational behavior, human error, and simulation and training studies. Dr. Henriksen also holds an Adjunct Professorship with the Graduate School of Management and Technology at the University of Maryland, University College where he teaches both on-line and on-site courses.

### **Noel Eldridge, MS**

Noel Eldridge is the Executive Officer for the National Center for Patient Safety (NCPS) within Veterans Health Administration (VHA) of the Department of Veterans Affairs. In this position he serves as the primary link between the Director and other executive staff and key offices within the Veterans Health Administration, other federal agencies, and a wide variety of external groups and organizations. Noel recently led the VHA's development and pilot testing of a new VHA Directive for Ensuring Correct Surgery (see <http://www.patientsafety.gov/CorrectSurg.html>) and a Six Sigma project with the 3M Corporation to improve VHA's compliance with the CDC's hand hygiene guidelines.

Noel has worked in Washington for over 16 years and was previously Director for Scientific Peer Advisory and Review Services for the American Institute of Biological Sciences (responsible for scientific peer review of much of the DOD's medical research programs), and a Study Director at the National Research Council's Aeronautics and Space Engineering Board (staffing reports on Advanced Technology for Human Support in Space, Advanced Technology for Space Science, and the Space Station). He began his career at the NASA Headquarters Life Sciences Division working on the Spacelab Life Sciences-1 mission as a biomedical engineer for Lockheed. He has a B.E. degree in Mechanical Engineering from the Cooper Union and a M.S. degree in Bioengineering from Clemson University.

**Heidi King, MS**

Heidi King is the Deputy Director for the Department of Defense Patient Safety Program. As well, she is the Program Manager for the Healthcare Team Coordination Program in the Patient Safety Division of the TRICARE Management Activity (TMA) in the Office of the Chief Medical Officer (OCMO.) As the Program Manager, Ms. King oversees the development and implementation of team intervention and human factors initiatives into practice to improve communication and patient safety. As a master in team training, Ms. King maintains subject matter expertise by periodically providing training and process consultation to facilities undertaking the training, behavioral implementation and sustainment of teams. Ms. King is responsible for the budget for the Patient Safety Program and the OCMO directorate. Ms. King is a member of the Patient Safety Planning and Coordination Committee. Prior to working in the Patient Safety Division, Ms. King was the Project Manager for the Education Division of the TMA Office of the Special Assistant for Optimization.

Before joining TMA, Ms. King worked in a variety of medically related management positions at the Children's National Medical Center including Internal Consultant and Program Manager for Clinical Support Services, which included seventeen departments.

Ms. King graduated summa cum laude with a Masters in Health Administration from the University of Pittsburgh and a B.S. in Education and Health from Edinboro University, after becoming a Registered Dental Hygienist. She is Board Certified in Healthcare Management and is a Diplomate of the American College of Healthcare Executives. Faculty appointments held are University of Maryland and Montgomery County Community College and Ms. King served for two years as a dental health educator with the Peace Corps.