FELLOW PROFILE

Name: Valerie J. Gawron

Degrees, certifications, etc.:

- MBA, Business Administration, 1988
State University of New York at Buffalo

- MS, Industrial Engineering, 1988
State University of New York at Buffalo

- Postdoctoral Research, 1980
New Mexico State University

- PhD, Engineering Psychology, 1980
University of Illinois

- MA, Psychology, 1977
State University College at Geneseo

- BA, Psychology, 1975
State University College at Buffalo

Current status: Human Systems Integrator
The MITRE Corporation

Biography (How you got involved in the field, your major career activities and milestones):

How I got involved:

- When I was four years old, my uncle took me to the airport to watch the planes take off and land. I remember being very impressed – not by the sleek aircraft but by the men and women who controlled those magical machines. I've never stopped being fascinated – but now I also am fascinated by people on the edge – military, first responders, emergency medical personnel, people guarding the President, etc.

Career activities and milestones:

- 1976 to 1977 research assistant, performed data collection, reduction, and analysis on human perception data
- 1977 to 1979 research associate, completed literature review, experiment design,

data collection, reduction, analysis, and reporting of results for visual perception research

- 1980 postdoctoral student, led team of researchers investigating the effects of environmental stressors on human performance
- 1981 to 1984 engineer, evaluated pilot selection techniques, designed simulator and closed loop driving evaluations of roadway accident countermeasures, programmed digital simulations of human performance based on empirical data, completed analysis of flight test data, designed electronic shoe box for imagery exploitation training
- 1984 to 1990 senior engineer, led $1M computer aided engineering design effort with $500K follow on for database development, developed guidelines for use of color in cockpits, developed and validated algorithms for combining human performance data in digital mission models, designed flight tests, wrote guide for selecting barriers to protect US embassies
- 1991 to 1996 principal B engineer, led $3M effort to design decision aids for test and evaluation of military systems, led development of an ANSI standard for human performance measurement, wrote performance measurement sections of evaluation handbooks, consulted on design of sensor/data fusion system interfaces, designed analyses of flight data
- 1997 to 2002 principal A engineer, led software development programs for systems testing, overviewed experiments in virtual simulation, developed guidelines for human in the loop simulation, led evaluation of Unmanned Aerial Vehicle Systems, developed and applied knowledge extraction techniques to retain expertise in mission systems testing, analyzed driver distraction data, wrote Human Performance Measures Handbook, designed intelligent interfaces for battle command systems, developed and validated measures of workload and Situational Awareness, led consortium to evaluate airplane upset training techniques, tested checkpoint inspection systems, specified performance measurement systems for truck simulators to be used in certification
- 2003 to 2007 technology fellow, led development of guidelines for wellness programs, Situational Awareness measurement, information technology applications, use of automation, simulation applications of training, space human factors, and collision avoidance systems; provided technology trend expertise for company strategic planning; led evaluation of the Army Modular Force; led human performance section of Naval Research Advisory Council study on Distributed Operations
- 2007 multi-discipline systems engineer provided technical support in developing a portfolio management tool for the Next Generation Air Transport System, identified and evaluated General Aviation simulators for runway standards evaluation, and co-directed a multi-agency coordination experiment
- 2009 senior multi-discipline systems engineer and technology integrator co-directed development of a multi-agency collaboration experimentation environment and its application to airspace security, hurricane response, and pandemic influenza response; provided technical guidance on four internal research projects; led development of two experiments to evaluate airport standards for low visibility approaches.
- 2011 human systems integrator leading flight simulation experiment to determine minimum runway requirements for Localizer Performance with Vertical (LPV) guidance.

Employment History (List top 5 positions):

The MITRE Corporation	2007 - present
General Dynamics (formerly Calspan)	1980 - 2007
New Mexico State University	1979 - 1980
University of Illinois	1977 - 1979
State University College at Geneseo	1976 - 1977

What were your significant contributions to the field?

Wrote handbook on human performance, workload, and situational awareness measurement, now in its second edition and based on her extensive hands on experience and research with hundreds of measures

Fielded computer aided engineering tools for human system integration to government agencies and industry

Developed guidelines for when inflight testing is required based on cases in which ground simulator results did not predict results in flight

Did you receive any notable awards or recognition during your career?

Fellow, International Ergonomics Association, 2010
President's Award, 2010
Program Recognition Awards, 2009
Secretary of the Army Award for Excellence, 2009
User Engagement Officer's Award, 2009
Corporate Knowledge Management Recognition Award, 2008
Practice Systems Engineering Officer's Award, 2008
Vision 100 Outstanding Contributor Award 2007
General Dynamics Technology Fellow 2004
Veridian Fellow 2003
A.R. Lauer Safety Award, Human Factors and Ergonomics Society, 2002
Decoration for Exceptional Civilian Service, 2000
Veridian Medal Paper 1999
Flyer Fossil Award, HFES Aerospace Systems Technical Group 1996, 1998
Fellow, Human Factors and Ergonomics Society, 1996
Sigma Xi Best Paper 1984, 1985, 1987, 1989, 1996
International Woman of the Year 1992/93
Associate Fellow, American Institute of Aeronautics and Astronautics, 1992

Which articles in the journal *Human Factors* would you say were the most influential to you and your research or practice?

1. Task Loading of Pilots in Simulated Low-Altitude High-Speed Flight Authors: Soliday, Stanley M.; Schohan, Ben Source: Human Factors: The Journal of the Human Factors and Ergonomics Society, Volume 7, Number 1, February 1965 , pp. 45-53(9)
2. Effects of Noise and of Signal Rate upon Vigilance Analysed by Means of Decision Theory Authors: Broadbent, Donald E.; Gregory, Margaret Source: Human Factors: The Journal of the Human Factors and Ergonomics Society, Volume 7, Number 2, April 1965 , pp. 155-162(8)
3. A Systems Task Used in the Stress Testing of Special Mission Personnel Author: Mckenzie, Richard E. Source: Human Factors: The Journal of the Human Factors and Ergonomics Society, Volume 7, Number 6, December 1965 , pp. 585-590(6)
4. Flight By Periscope: Making Takeoffs and Landings; The Influence of Image Magnification, Practice, and Various Conditions of Flight Authors: Roscoe, Stanley N.; Hasler, Scott G.; Dougherty, Dora J. Source: Human Factors: The Journal of the Human Factors and Ergonomics Society, Volume 8, Number 1, February 1966 , pp.

Please provide any links to your online articles, essays, blogs, Wikipedia pages, etc., that pertain to your research, publications or practice.
Due to Intellectual Property issues, none of my material is online

What advice would you give someone considering HF/E as a profession?
I once was asked to give advice to human factors engineers and those thinking of entering the profession. Here goes:
1. Never take no for an answer. Many times engineers in other disciplines do not understand the need for human factors or what it can bring to the table in terms of reduced training, selection, and maintenance for a system and its users.
2. Extrapolate from the past. Whenever I start a new project I always look to the literature and to similar systems. I always find something that saves me time and effort on the new project – always.
3. Never test pet theories of those around you. If your results do not support the theory, you will be given additional analyses, data collection, etc to do.
4. Never propose work that you do not want to do. Confucius says "Find a job you love to do and you will never have to work in your life". Well the converse, if you get funded to do work you don't like, every day will be filled with drudgery.
5. Publishing is an excellent method to keep your analytic and communication skills sharp and your knowledge of the field current. Reviewers are very thorough.
6. Hard work does have its rewards: the good feeling you get from a job well done or from watching the people who control those magical machines.