# **CURRICULUM VITAE**

NAME Pascale CARAYON

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**OFFICE ADDRESS** Procter & Gamble Bascom Professor in Total Quality Director,

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**PERSONAL DATA** birth date: April 1, 1961

birth place: Marseille (FRANCE) citizenship: France, USA languages: French, English

**EDUCATION** August 1988 - Ph.D. in Industrial Engineering, University of Wisconsin-Madison (USA)

July 1985 - D.E.A. equivalence (Industrial Engineering) - Ecole Centrale de Paris

(FRANCE).

July 1984 - Engineer Diploma (option: ingénieur-économiste) - Ecole Centrale de Paris

(FRANCE).

**MEMBERSHIP** Human Factors and Ergonomics Society

Institute of Industrial Engineers American Society of Quality

AcademyHealth

Association for Computing Machinery

American Association for the Advancement of Science

## **HIGHLIGHTS**

#### Research expertise:

Human Factors and Ergonomics; Occupational Safety and Health; Macroergonomics; Job and Organizational Design; Occupational Stress; Cross-Cultural Issues in Job Design and Macroergonomics Quality and Productivity Improvement

Technological and Organizational Change

Human Factors and Systems Engineering in Healthcare and Patient Safety

Human Factors and Organizational Issues in Computer Security

#### **Research contribution:**

Director of the Center for Quality and Productivity Improvement (CQPI); leader of the Systems Engineering Initiative for Patient Safety (SEIPS) at the University of Wisconsin-Madison

98 articles, 4 books, 61 book chapters, 224 conference papers and abstracts, 129 invited talks and seminars, 29 reports

Member of the editorial boards of the Behaviour and Information Technology, Work and Stress, The Journal of Patient Safety, Ergonomia and AHRQ WebM&M

Co-Editor in Chief of Applied Ergonomics

Editor of the SocioTechnical System Analysis Department of IIE Transactions on Healthcare Systems Engineering

## **International reputation:**

Fellow of the Human Factors and Ergonomics Society (elected in 2006)

Fellow of the International Ergonomics Association (elected in 2009)

Member and Chair of the Industrial Engineering Grant Selection Committee for the Canadian Natural Sciences and Engineering Research Council (1999-2002; chair from 2001-2002)

#### **Interdisciplinary research:**

NSF-funded project on "Building and maintaining simultaneous dynamic relationships in a virtual organization: The case of virtual intensive care units" (2008-2011; PI: P. Carayon; co-PIs: R. Brown, P. Hoonakker, D. Wiegmann and K. Wood)

AHRQ-funded project on "Engaging families in bedside rounds to promote pediatric patient safety" (2010-2015; PI: E. Cox; co-I: P. Carayon)

ONC-funded project on "Keystone Beacon Community: A rural community-wide medical home" (2010-2013; in partnership with Geisinger Health System; PI of UW subcontract: P. Carayon)

#### **Teaching and education contributions:**

Teaching graduate seminar in research methods; creation of several new courses in Industrial Engineering Redesign and teaching of the course on Quality of Health Care offered by the departments of Population Health Sciences and Industrial Engineering (Spring 2003, 2005, 2007, 2009, 2012)

Invited lecturer in the School of Pharmacy, the Medical Physics department and the Electrical and Computer Engineering department

Founder of the SEIPS (Systems Engineering Initiative for Patient Safety) short course on Human Factors Engineering and Patient Safety attended by more than 300 people (2004-now)

Graduated 12 Ph.D. students and 28 MS students; currently advising 6 Ph.D. students and 5 MS students.

# Contributions to the field of human factors and ergonomics:

Secretary-General of the International Ergonomics Association (2006-2009) [first woman to be elected as an IEA officer]

Chair of the ODAM (Organizational Design And Management) Technical Committee of the International Ergonomics Association (2002-2006)

Member of the National Research Council's Board on Human-Systems Integration (2010-now)

## RESEARCH AND PROFESSIONAL EXPERIENCE

University of Wisconsin-Madison		
09/08-2010	Associate Chair, Department of Industrial and Systems Engineering	
09/07-08/08	Associate Chair for Graduate Recruiting and Admissions, Department of Industrial and Systems Engineering	
10/06-now	Affiliate member, Department of Biomedical Engineering	
01/05-now	Procter & Gamble Bascom Professor in Total Quality	
09/04-now	Associate Director of the AHRQ/NSRA T23 training grant to the UW Population Health Sciences department for "Ph.D. Training in Population Health & Quality Improvement"	
10/02-now	Affiliate member, Department of Population Health Sciences	
09/01-now	Professor of Industrial and Systems Engineering	
09/00-now	Director - Center for Quality and Productivity Improvement (CQPI)	
05/00-08/00	Associate Director - CQPI	
01/01-09/01	Associate Chair for Undergraduate Affairs – Department of Industrial Engineering	
08/99-08/01	Associate Professor of Industrial Engineering	
09/97-08/99	Visiting Associate Professor – Department of Industrial Engineering	
08/94-04/00	Member - CQPI	
09/95-08/97	on leave	
08/94-08/97	Associate Professor of Industrial Engineering	
08/89-10/89	on leave	
08/89-08/94	Assistant Professor of Industrial Engineering	
08/88-05/89	Visiting Assistant Professor of Industrial Engineering	
06/88-08/88	lecturer for IE449 "Sociotechnical Systems in Industry", Department of Industrial Engineering research assistant for M.J. Smith, Department of Industrial Engineering	
01/86-08/88 08/86-12/86	lecturer for IE449 "Sociotechnical Systems in Industry", Department of Industrial Engineering	
08/85-12/85	research assistant for D.H. Gustafson, Department of Industrial Engineering	
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# Affiliations - University of Wisconsin-Madison

- Member of the Center for Demography of Health and Aging at the UW-Madison (2002-now)
- Member of the Consortium for Global E-Commerce (2001-now)
- Member of the Manufacturing Systems Engineering faculty (2002-now)
- Member of the Academic Council of the Center for Patient Partnerships of the Law School (2002-now)
- Member of the Advisory Board of the Center for Woman's Health Research (2005-2010)

# Ecole des Mines de Nancy, France

09/97-08/99	Professeur Associé & Responsible of the Quality Improvement Program
10/95-08/97	Visiting Professor

#### Ecole Centrale de Paris, France

0'//84-08/84	research assistant for P. Dejax, Department of Industrial Engineering
	"Future of the French machine-tool industry"

Interns	hıps	

03/84-06/84	consultant at Eurequip (French consulting group)
	"Elaboration of a job analysis methodology- Implementation in a French chemical company"
07/83-08/83	consultant at the Compagnie Générale d'Informatique (French consulting group)

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"Implementation of a MIS into a large manufacturing company"

September 4, 2013

# <u>Awards</u>

Fellow of the Human Factors and Ergonomics Society (2006)

Recipient of the Ragnar E. Onstad Service to Society Award - College of Engineering of the University of Wisconsin-Madison (2007)

Fellow of the International Ergonomics Association (2009)

Recipient of the International Ergonomics Association Triennial Distinguished Service Award (2012) Co-recipient of the 2013 Liberty Mutual Award for the best paper published in *Ergonomics* that contributes to the advancement of ergonomics (Dul, J., Bruder, R., Buckle, P., Carayon, P., Falzon, P., Marras, W., Wilson, J. and van der Doelen, B. "A strategy for human factors/ergonomics: Developing the discipline and profession" <u>Ergonomics</u>, 2012, 55(4): 377-395.)

#### **PUBLICATIONS**

#### Ph.D. dissertation:

"A Job Design Theory of Stress: Test in Automated Offices" August 1988 - Department of Industrial Engineering, UW-Madison

#### Journal Articles

#### \* published

- 1. Smith, M.J. and Sainfort, P.C. "A balance theory of job design for stress reduction" <u>International Journal of</u> Industrial Ergonomics, 1989, vol.4, pp.67-79.
- 2. Smith, M.J. and Sainfort, P.C. "Not by ergonomics alone" <u>Facilities Design and Management</u>, February 1989, vol.8, n.2, pp.60-61.
- 3. Sainfort, P.C. "Job design predictors of stress in automated offices" <u>Behaviour and Information Technology</u>, 1990, vol.9, no.1, 3-16.
- 4. Sainfort, P.C. "Stress, job control and other job elements: A study of office workers" <u>International Journal of</u> Industrial Ergonomics, 1991, vol.7, 11-23.
- 5. Smith, M.J., Carayon, P., Sanders, K.J., Lim, S.-Y. and LeGrande, D. "Electronic performance monitoring, job design and worker stress" <u>Applied Ergonomics</u>, 1992, vol.23, no.1, 17-27.
- 6. Carayon-Sainfort, P. "The use of computer in offices: Impact on task characteristics and worker stress" <u>The International Journal of Human-Computer Interaction</u>, 1992, vol.4, no.3, 245-261.
- 7. Carayon, P. "Job design and job stress in office workers" Ergonomics, 1993, vol.36. no.5, 463-477.
- 8. Carayon, P. "Effect of electronic performance monitoring on job design and worker stress: Review of the literature and conceptual model" Human Factors, 1993, vol. 35, no.3, 385-395.
- 9. Carayon, P. "A longitudinal test of Karasek's Job Strain model among office workers" Work and Stress, 1993, vol.7, no.4, 299-314.
- 10. Carayon, P. "Effects of electronic performance monitoring on job design and worker stress: Results of two studies" The International Journal of Human-Computer Interaction, 1994, vol.6, no.2, pp.177-190.
- 11. Carayon, P. "Stressful jobs and non-stressful jobs: A cluster analysis of office jobs" Ergonomics, 1994, vol.37, no.2, 311-323.
- 12. Sainfort, F. and Carayon, P. "Self-assessment of VDT operator health: Validity analysis of a health checklist" <u>International Journal of Human-Computer Interaction</u>, 1994, vol.6, no.3 pp.235-252.
- 13. Smith, M.J. and Carayon, P. "New technology, automation and work organization: Stress problems and improved technology implementation strategies" <u>International Journal of Human Factors in Manufacturing</u>, 1995, vol.5, no.1, pp.99-116.
- 14. Yang, C.-L. and Carayon, P. "Effects of job demands and job support on worker stress: A study of VDT users" Behaviour and Information Technology, 1995, vol.14, no.1, pp.32-40.
- 15. Carayon, P., Yang, C.-L. and Lim, S.-Y. "Examining the relationship between job design and worker strain over time: A longitudinal study of office workers" <u>Ergonomics</u>, 1995, vol.38, no.6, pp.1199-1211.

- 16. Carayon, P. "Pratiques d'intervention sur les troubles musculoskelletiques: Quelques éléments théoriques et méthodologiques" <u>Performance Humaines et Techniques</u>, mai-juin 1996, no.82, 30-37.
- 17. Carayon, P. "Temporal issues of quality of working life and stress in human-computer interaction" <u>The International Journal of Human-Computer Interaction</u>, special issue on "Longitudinal studies of HCI" (P. Carayon as editor of special issue-introduction, vol. 9, no.4, pp.324), 1997, vol. 9, no.4, pp.325-342.
- 18. Haims, M.C. and Carayon, P. "Theory and practice for the implementation of 'in-house', continuous improvement participatory ergonomic programs" Applied Ergonomics, 1998, vol.29, no.6, pp.461-472.
- 19. Korunka, C. and Carayon, P. "Continuous implementations of information technology: The development of an interview guide and a cross-national comparison of Austrian and American organizations" <u>The International</u> Journal of Human Factors in Manufacturing, 1999, vol.9, no.2, pp.165-183.
- 20. Carayon, P. and Zijlstra, F. "Relationship between job control, work pressure and strain: Studies in the USA and in The Netherlands" Work and Stress, January-March 1999, vol.13, no.1, pp.32-48.
- 21. Carayon, P., Sainfort, F. and Smith, M.J. "Macroergonomics and Total Quality Management: How to improve quality of working life?", special issue of <u>The International Journal of Occupational Safety and Health</u>, guest editor: Markku Mattila, April 1999, vol. 5, no.2, pp.303-334.
- 22. Carayon, P., Smith, M.J. and Haims, M.C. "Work organization, job stress and work-related musculoskeletal disorders", <u>Human Factors</u>, vol.41, no.4, pp.644-663, December 1999.
- 23. Carayon, P. and Karsh, B. "Sociotechnical issues in the implementation of imaging technology", <u>Behaviour and</u> Information Technology, vol.19, no.4, pp.247-262, July-August 2000.
- 24. Carayon, P. and Smith, M.J. "Work organization and ergonomics" <u>Applied Ergonomics</u>, vol. 31, no.6, pp.649-662, December 2000.
- 25. Carayon, P. and Haims, M.C. "Balanced work system and participation: Applications in the Community" Artificial Intelligence and Society, 2003, vol. 17, no.2.
- 26. Korunka, C., Scharitzer, D., Sainfort, F. and Carayon, P. "Employee strain and job satisfaction related to an implementation of quality in a public service organization: A longitudinal study", <u>Work and Stress</u>, Vol 17(1), Jan-Mar 2003, pp. 52-72.
- 27. Korunka, C., Carayon, P., Sainfort, F., Scharitzer, D. and Hoonakker, P. "Quality in the public sector from an employee's perspective: Results from a transnational comparison", <u>Total Quality Management</u>, 2003, vol.14, no.5, 537-548.
- 28. Carayon, P., Schultz, K. and Hundt, A.S. "Wrong site surgery in outpatient settings: The case for a human factors system analysis of the outpatient surgery process" <u>The Joint Commission Journal on Quality and Safety</u>, July 2004, vol.30, no.7, 405-410.
- 29. Warren, P., Hoonakker, P., Carayon, P. and Brand, J. "Job characteristics as mediators in SES-health relationship" Social Science and Medicine, vol.59, no.7, 1367-1378, 2004.
- 30. Hoonakker, P., Loushine, T., Carayon, P., Kallman, J, Kapp, A. and Smith, M.J. "The effect of safety initiatives on safety performance: A longitudinal study", <u>Applied Ergonomics</u>, vol.36, no.4, 461-469, 2005.
- 31. Carayon, P. and Gurses, A. "Nursing workload and patient safety in intensive care units: A human factors engineering evaluation of the literature" <u>Intensive and Critical Care Nursing</u>, vol.21, 284-301, 2005.

- 32. Carayon, P., Haims, M.C., Hoonakker, P. and Swanson, N. "Teamwork and musculoskeletal health in the context of work organization interventions in office and computer work" <u>Theoretical Issues in Ergonomics Science</u>, vol.7, no.1, 39-69, 2006.
- 33. Carayon, P., Hundt, A.S., Alvarado, C.J., Ayoub, P. and Springman, S. "Patient safety in outpatient surgery: The viewpoint of the healthcare providers" Ergonomics, vol. 49, no. 5/6, 470-485, 2006.
- 34. Carayon, P. "Human factors of complex sociotechnical systems" Applied Ergonomics, vol. 37, 525-535, 2006.
- 35. Carayon, P., Schoepke, J., Hoonakker, P.L.T., Haims, M.C. and Brunette, M. "Evaluating causes and consequences of turnover intention among IT users: The development of a questionnaire survey" <u>Behaviour and Information Technology</u>, 2006, 25(5): 381-397.
- 36. Wetterneck, T.B., Skibinski, K.A., Roberts, T.L., Kleppin, S.M., Schroeder, M., Enloe, M., Rough, S.S., Hundt, A.S., and Carayon, P. "Using Failure Mode and Effects Analysis to plan implementation of Smart intravenous pump technology" <u>American Journal of Health-System Pharmacy</u>, 2006, 63: 1528-1538.
- 37. Schroeder, M.E., Wolman, R., Wetterneck, T.B. and Carayon, P. "Tubing misload allows free flow event with Smart IV infusion pump" <u>Anesthesiology</u>, 2006, 105(2): 434-435.
- 38. Loushine, T.W., Hoonakker, P.L.T., Carayon, P. & Smith, M.J. "Quality and safety management in construction industry" <u>Total Quality Management and Business Excellence</u>, 2006, 17(9): 1171-1212.
- 39. Carayon, P., Hundt, A.S., Karsh, B.-T., Gurses, A.P., Alvarado, C.J., Smith, M. and Brennan, P.F. "Work system design for patient safety: The SEIPS model" <u>Quality and Safety in Health Care</u>, 2006, 15(suppl I): i50-i58.
- 40. Kraemer, S. and Carayon, P. "Human errors and violations in computer and information security: The viewpoint of network administrators and security specialists" <u>Applied Ergonomics</u>, 2007, 38(2): 143-154.
- 41. Korunka, C., Sonnek, A., Carayon, P., Hoonakker, P., Scharitzer, D. and Sainfort, F. "Customer orientation among employees in public administration A transnational, longitudinal study" <u>Applied Ergonomics</u>, 2007, 38(3): 307-315.
- 42. Brand, J.E., Warren, J.R., Carayon, P. and Hoonakker, P. "Sibling models of the role of job characteristics in mediating SES-health relationships" <u>Social Science Research</u>, 2007, 36(1): 222-253.
- 43. Carayon, P., Wetterneck, T.B., Hundt, A.S., Ozkaynak, M., DeSilvey, J., Ludwig, B., Ram, P. and Rough, S.S. "Evaluation of nurse interaction with Bar Code Medication Administration (BCMA) technology in the work environment" <u>Journal of Patient Safety</u>, 2007, 3(1): 34-42.
- 44. Carayon P. "Production pressure". <u>AHRQ WebM&M</u> [serial online]. May 2007. Available at: http://www.webmm.ahrq.gov/case.aspx?caseID=150. Accessed May 11, 2007.
- 45. Gurses, A.P. and Carayon, P. "Performance obstacles of intensive care nurses" <u>Nursing Research</u>, 2007. 56(3): 185-194.
- 46. Carayon, P. and Alvarado, C.J. "Workload and patient safety among critical care nurses", <u>Critical Care Nursing Clinics of North America</u>, 2007, 19: 121-129.
- 47. Carayon, P., Alvarado, C. and Hundt, A.S. "Work design and patient safety" <u>TIES-Theoretical Issues in</u> Ergonomics Science, 2007, 8(5): 395-428.
- 48. Schultz, K., Carayon, P., Hundt, A.S. and Springman, S.R. "Care transitions in the outpatient surgery preoperative process: Facilitators and obstacles to information flow and their consequences" Cognition,

- Technology and Work, 2007, 9(4): 219-231.
- 49. Carayon, P. "Healthy and efficient work with computers and information and communication technology Are there limits?" Scandinavian Journal of Work, Environment and Health, 2007, supplement, 3: 10-16.
- 50. Walker, J.M., Carayon, P., Leveson, N., Paulus, R.A., Tooker, J., Chin, H., Bothe, A. Jr. and Stewart, W.F. "Electronic Health Records: The way forward to safe and effective systems" <u>Journal of the American Medical</u> Informatics Association, 2008, 15(3): 272-277.
- 51. Imada, A. and Carayon, P. "Editors' comments on this special issue devoted to macroergonomics" <u>Applied Ergonomics</u>, 2008, 39(4): 415-417. [Andy Imada and I were the editors of a special issue of Applied Ergonomics on Macroergonomics; a total of 12 papers from authors in 7 countries contributed to the special issue.]
- 52. Korunka, C., Hoonakker, P. and Carayon, P. "Quality of working life and turnover intention in information technology work" <u>International Journal of Human Factors and Ergonomics in Manufacturing</u>, 2008, 18(4): 409-423.
- 53. Warren, J.R., Carayon, P. and Hoonakker, P. "Changes in health between ages 54 and 65: The role of job characteristics and socioeconomic status" <u>Research on Aging</u>, 30(6): 672-700, 2008.
- 54. Carayon, P., Smith, P., Hundt, A.S., Kuruchittham, V. and Li, Q. "Implementation of an Electronic Health Records system in a small clinic" Behaviour and Information Technology, 28(1): 5-20, 2009.
- 55. Gurses, A. and Carayon, P. "A qualitative study of performance obstacles and facilitators among ICU nurses" Applied Ergonomics, 40(3): 509-518, 2009 [PMID: 18951120].
- 56. Kraemer, S., Carayon, P. and Sanquist, T.F. "Human and organizational factors in security screening and inspection systems: Conceptual framework and key research needs" <u>Cognition, Technology and Work</u>, 11(1): 29-42, 2009.
- 57. Walker, J.M. and Carayon, P. "From tasks to processes: Repurposing health-information technology to improve healthcare" Health Affairs, 28(2):467-477, 2009.
- 58. Gurses, A., Carayon, P. and Wall, M. "Impact of performance obstacles on intensive care nurses workload, perceived quality and safety of care, and quality of working life" <u>Health Services Research</u>, 44(2 Part I): 422-443, 2009.
- 59. Carayon, P. "The Balance Theory and the work system model... Twenty years later" <u>International Journal of</u> Human-Computer Interaction, 25(5): 313-327, 2009.
- 60. Hoonakker, P. and Carayon, P. "Questionnaire survey nonresponse: A comparison of postal mail and Internet surveys" <u>International Journal of Human-Computer Interaction</u>, 25(5): 348-373, 2009.
- 61. Karsh, B. T., Wiegmann, D., Wetterneck, T., & Carayon, P. (2009). Communication and systems factors might still underlie surgical complications. [Letter]. <u>Surgery</u>, 145(6), 686-687.
- 62. Or, C. K. L., Valdez, R. S., Casper, G. R., Carayon, P., Burke, L. J., Brennan, P. F., et al. (2009). Human factors and ergonomics in home care: Current concerns and future considerations for health information technology. Work, 33(2), 201-209.
- 63. Kraemer, S., Carayon, P. and Clem, J. (2009) "Human and organizational factors in computer and information security: Pathways to vulnerabilities" <a href="Mailto:Computers & Security">Computers & Security</a>, vol.28, 509-520.

- 64. Wetterneck, T.B., Hundt, A.S. and Carayon, P. "FMEA Team Performance in Health Care: A Qualitative Analysis of Team Member Perceptions" <u>Journal of Patient Safety</u>, 2009, 5 (2):102-108.
- 65. Carayon, P., Wetterneck, T.B. and Hundt, A.S. "Nurses' acceptance of Smart IV pump technology" <u>International Journal of Medical Informatics</u>, 2010, 79: 401-411, PMID: 20219423. PMCID: PMC2862878. NIHMS181661.
- 66. Hoonakker, P., Carayon, P. and Loushine, T. "Barriers and benefits of quality management in the construction industry" Total Quality Management and Business Excellence, 2010, 21(9): 953-969.
- 67. Carayon, P. "Human factors in patient safety as an innovation" Applied Ergonomics, 2010, 41(5): 657-665.
- 68. Carayon, P. and Buckle, P. "Editorial for special issue of Applied Ergonomics on patient safety" <u>Applied</u> Ergonomics, 2010, 41(5): 643-644.
- 69. Faye, H., Rivera, A.J., Karsh, B.-T., Hundt, A.S., Baker, C. and Carayon, P. "Involving intensive care unit nurses in a proactive risk assessment of the medication management process" <u>Joint Commission Journal on Quality and Safety</u>, 2010, 36(8): 376-385.
- 70. Hoonakker, P.L.T., Carayon, P. and Walker, J.M. "Evaluation of CPOE implementation: Measuring end-user satisfaction with a survey questionnaire" <u>Applied Clinical Informatics</u>, 2010, 1(3): 268-285.
- 71. Carayon, P. and Wood, K.E. "Patient safety the role of human factors and systems engineering" <u>Studies in Health Technology and Informatics</u>, 2010; 153: 23-46. PubMed PMID: 20543237.
- 72. Proctor, R.W., Nof, S.Y., Yih, Y., Salvendy, G., Balasubramanian, P., Busemeyer, J.R., Carayon, P., Chiu, C.-Y., Farahmand, F., Gonzalez, C., Gore, J., Landry, S.J., Lehto, M., Rau, P.-L., Rouse, W., Tay, L., Vu, K.-P. L., and Woo, S.E. "Understanding and improving cross-cultural decision making in design and use of digital media: A research agenda" International Journal of Human-Computer Interaction, 2011, 27(2): 151-190.
- 73. Hoonakker, P.L.T., Cartmill, R.M., Carayon, P. and Walker, J.M. "Development and psychometric qualities of the SEIPS survey to evaluate CPOE/EHR implementation in ICUs" <u>International Journal of Healthcare</u> Information Systems and Informatics, 2011, 6 (1): 51-69.
- 74. Shekelle, P.G., Pronovost, P.J., Wachter, R.M., Taylor, S.L., Dy, S.M., Foy, R., Hempel, S., McDonald, K.M., Ovretveit, J., Rubenstein, L.V., Adams, A.S., Angood, P.B., Bates, D.W., Bickman, L., Carayon, P., Donaldson, L., Duan, N., Farley, D.O., Greenhalgh, T., Haughom, J., Lake, E.T., Lilford, R., Lohr, K.N., Meyer, G.S., Miller, M.R., Neuhauser, D.C., Ryan, G., Saint, S., Shojania, K.G., Shortell, S.M., Stevens, D.P. and Walshe, K. "Advancing the science of patient safety" Annals of Internal Medicine, 2011, 154: 693-696.
- 75. Hoonakker, P., Carayon, P., Gurses, A., Brown, R., McGuire, K., Khunlertkit, A. and Walker, J. "Using the NASA Task Load Index (TLX) to measure workload of ICU nurses" <u>IIE Transactions on Healthcare Systems Engineering</u>, 2011, 1: 131-143.
- 76. Fowler, J.W., Benneyan, J.C., Carayon, P., Denton, B.T., Keskinocak, P. and Runger, G.C. "An introduction to a new journal for Healthcare Systems Engineering", <u>IIE Transactions on Healthcare Systems Engineering</u>, 2011, 1(1): 1-5.
- 77. Carayon, P., Cartmill, R., Blosky, M.A., Brown, R., Hackenberg, M., Hoonakker, P., Hundt, A.S., Norfolk, E., Wetterneck, T.B. and Walker, J.M. "ICU nurses' acceptance of electronic health records" <u>Journal of the American Medical Informatics Association</u>, 2011, 18: 812-819.
- 78. Wetterneck, T., Walker, J.M., Blosky, M.A., Cartmill, R., Hoonakker, P., Johnson, M.A., Norfolk, E. and Carayon, P. "Duplication medication order errors increase after CPOE implementation" <u>Journal of the American Medical Informatics Association</u>, 2011, 18: 774-782.

- 79. Carayon, P., Bass, E.J., Bellandi, T., Gurses, A.P., Hallbeck, M.S. and Mollo, V. "Sociotechnical systems analysis in health care: A research agenda" <u>IIE Transactions on Healthcare Systems Engineering</u>, 2011, 1(3): 145-160. NIHMS356690.
- 80. Dul, J., Bruder, R., Buckle, P., Carayon, P., Falzon, P., Marras, W., Wilson, J. and van der Doelen, B. "A strategy for human factors/ergonomics: Developing the discipline and profession" <a href="Ergonomics"><u>Ergonomics</u></a>, 2012, 55(4): 377-395. [recipient of the 2013 Liberty Mutual Award for the best paper published in Ergonomics that contributes to the advancement of ergonomics]
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- 192. Schultz, K., Slagle, J., Brown, R., Douglas, S., Frederick, B., Lakhani, M., Scruggs, J., Slater, B., Weinger, M.B., Wood, K.E. and Carayon, P. "Development of a job task analysis tool for assessing the work of physicians in the intensive care unit", in <u>Proceedings of the Human Factors and Ergonomics Society</u> 50<sup>th</sup> <u>Annual Meeting</u>, 2006, Santa Monica, CA, 1469-1473.
- 193.Hoonakker, P., "Simmons, S., Carayon, P. and Warren, R. "A new approach to the measurement of work-related musculoskeletal disorders", in <u>Proceedings of the Human Factors and Ergonomics Society 50<sup>th</sup> Annual Meeting</u>, 2006, Santa Monica, CA, 1506-1509.
- 194. Kossman, SP, Casper, GR, Severtson, DJ, Grenier, AS; Or, C, Carayon, P, Brennan, PF. "Designing study nurses' training to enhance research integrity". <u>AMIA Annual Symposium Proceedings</u> 2006; 439-43.
- 195. Hoonakker, P.L.T. and Carayon, P. "Measuring end user satisfaction with CPOE implementation", <u>Proceedings of the WWCS Conference</u>, 2007.
- 196.Hoonakker, P. L. T., Carayon, P., Douglas, S., Schulz, K., Walker, J., & Wetterneck, T. B. (2008). Communication in intensive care units. In L. L. Snelwar, F. L. Mascia & U. B. Meontedo (Eds.), <u>Organizational Design And Management-IX</u> (pp. 715-721). Santa Monica, CA: IEA Press.
- 197.Hoonakker, P., Carayon, P., Deb, J., El Desoki, R., & Veeramani, R. (2008). The use of focus groups to examine human factors in computer and information security. In L. I. Sznelwar, F. L. Mascia & U. B. Montedo (Eds.), <a href="Human Factors in Organizational Design And Management IX">Human Factors in Organizational Design And Management IX</a> (pp. 377-382). Santa Monica, CA: IEA Press.
- 198.Kraemer, S., Carayon, P., & Clem, J. F. (2008). The management of computer and information security systems: The performance of network administrators. In L. I. Sznelwar, F. L. Mascia & U. B. Montedo (Eds.), Human Factors in Organizational Design And Management IX (pp. 549-555). Santa Monica, CA: IEA Press.
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- 200.Alvarado, C., Wood, K. E., & Carayon, P. (2008). Pre-implementation technology assessment of ultrasonic placement of central venous cather insertion. In L. I. Sznelwar, F. L. Mascia & U. B. Montedo (Eds.), <u>Human Factors in Organizational Design And Management IX</u> (pp. 81-86). Santa Monica, CA: IEA Press.
- 201.Hoonakker, P. L. T., Carayon, P., & Bornoe, N. A. (2009). Spamming, phishing and spoofing. In W. Shang (Ed.), <u>Proceedings of the Triennial Congress of the International Ergonomics Association</u>. Beijing, China: IEA Press.
- 202.Hoonakker, P. L. T., Bornoe, N. A., & Carayon, P. (2009). Password authentication from a human factors perspective: Results of a survey among end-users. In The Human Factors and Ergonomics Society (Ed.), Proceedings of the 53rd Annual Meeting of the Human Factors and Ergonomics Society. Santa Monica, CA: The Human Factors and Ergonomics Society.
- 203. Wetterneck TB, Cartmill R, Walker JM, Carayon P. Duplicate medication orders after CPOE implementation. Poster presented at the Society of Hospital Medicine annual meeting, April 2010, Washington, DC. Abstract

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- 204.McGuire, K., Khunlertkit, A., Carayon, P., Hoonakker, P.L.T., Wiegmann, D., (2010). Communication in the tele-ICU. <u>Proceedings of the Annual Conference of the Human Factors and Ergonomics Society (HFES)</u>, San Francisco, Sept 27-Oct 1, 2010.
- 205.McGuire, K., Carayon, P., Hoonakker, P.L.T., Wiegmann, D., Khunlertkit, A., (2010). Interpersonal Trust from the Viewpoint of Tele-ICU Nurses. <u>Proceedings of the Annual Conference of the Human Factors and Ergonomics Society (HFES)</u>, San Francisco, Sept 27-Oct 1, 2010.
- 206. Carayon, P., DuBenske, L. L., McCabe, B. C., Shaw, B., Gaines, M. E., Kelly, M. M., et al. (2011). Work system barriers and facilitators to family engagement in rounds in a pediatric hospital. In S. Albolino, S. Bagnara, T. Bellandi, J. Llaneza, G. Rosal & R. Tartaglia (Eds.), <u>Healthcare Systems Ergonomics and Patient Safety 2011</u>. Boca Raton, FL: CRC Press; pp.81-85.
- 207. Carayon, P., Cartmill, R., Blosky, M.A., Brown, R., Hackenberg, M., Hoonakker, P., Hundt, A.S., Norfolk, E., Wetterneck, T.B. and Walker, J.M. EHR acceptance by ICU physicians and nurses. In S. Albolino, S. Bagnara, T. Bellandi, J. Llaneza, G. Rosal & R. Tartaglia (Eds.), <u>Healthcare Systems Ergonomics and Patient Safety 2011</u>. Boca Raton, FL: CRC Press; pp.374-377.
- 208. Wetterneck, T.B., Paris, B., Blosky, M.A., Walker, J.M., Cartmill, R. and Carayon, P. A method for evaluating medication error recovery processes in the ICU. In S. Albolino, S. Bagnara, T. Bellandi, J. Llaneza, G. Rosal & R. Tartaglia (Eds.), Healthcare Systems Ergonomics and Patient Safety 2011. Boca Raton, FL: CRC Press.
- 209. Hoonakker, P., Wetterneck, T.B., Carayon, P., Cartmill, R. and Walker, J.M. Drug alerts override from a human factors perspective. In S. Albolino, S. Bagnara, T. Bellandi, J. Llaneza, G. Rosal & R. Tartaglia (Eds.), Healthcare Systems Ergonomics and Patient Safety 2011. Boca Raton, FL: CRC Press; pp.367-371.
- 210.Hoonakker, P., Khunlertkit, A., McGuire, K., Carayon, P., Wiegmann, D. and Wood, K. A day in life of a tele-Intensive Care Unit nurse. In S. Albolino, S. Bagnara, T. Bellandi, J. Llaneza, G. Rosal & R. Tartaglia (Eds.), Healthcare Systems Ergonomics and Patient Safety 2011. Boca Raton, FL: CRC Press.
- 211.Cox, Elizabeth D., Pascale Carayon, Kristofer W. Hansen, Victoria P. Rajamanickam, Roger L. Brown, Paul J. Rathouz, Lori L. DuBenske, Michelle M. Kelly, and Linda A. Buel. "Does Parent Need to Watch over Inpatient Care Reflect Hospital Safety Climate?" <a href="Pediatric Academic Societies">Pediatric Academic Societies</a> 'Annual Meeting, April 28-May 1, 2012, Boston, MA.
- 212.Benjamin, Jessica M., Philip J Trapskin, Rachel E Pearson, Holly L Weber, Pascale Carayon, Nicole L Lokker, and Elizabeth D Cox. "Parent-Initiated Dialogue about Medications during Family Centered Rounds" <a href="Pediatric Academic Societies">Pediatric Academic Societies</a> 'Annual Meeting, April 28-May 1, 2012, Boston, MA.
- 213.Kelly, Michelle M., Anping Xie, Pascale Carayon, Lori L. DuBenske, and Elizabeth D. Cox. "Strategies For Enhancing Family Engagement During Family-centered Rounds." <u>Pediatric Academic Societies' Annual Meeting</u>, April 28-May 1, 2012, Boston, MA.
- 214. Carayon, P., B. Alyousef, Hoonakker, P., Hundt, A.S., Cartmill, R., Tomcavage, J., Hassol, A., Chaundy, K., Larson, S., Younkin, J. and Walker, J. (2012). "Challenges to care coordination posed by the use of multiple health IT applications." Work: A Journal of Prevention, Assessment and Rehabilitation 41(0): 4468-4473.
- 215.Carayon, P. (2012). "Emerging role of human factors and ergonomics in healthcare delivery A new field of application and influence for the IEA." Work: A Journal of Prevention, Assessment and Rehabilitation 41(0): 5037-5040.
- 216. Carayon, P. (2012). "Sociotechnical systems approach to healthcare quality and patient safety." Work: A Journal of Prevention, Assessment and Rehabilitation 41(0): 3850-3854.

- 217. Carayon, P. (2012). Care coordination teams for patients with chronic diseases or the patient journey through multiple transitions of care. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 855-859. (abstract)
- 218. Carayon, P. (2012). Macroergonomics as a framework for understanding the context of patient safety. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 1293-1397. (abstract)
- 219. Carayon, P. (2012). Bridging the cultural gaps between HF engineers and healthcare professionals. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 931-935. (abstract)
- 220.Xie, A., P. Carayon, Kelly, M.M., Li, Y., Cartmill, R., DuBenske, L.L., Brown, R.L. and Cox, E.D. (2012). Managing different perspectives in the redesign of family-centered rounds in a pediatric hospital. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 1733-1737.
- 221.Hundt, A. S., P. Carayon, Hoonakker, P., Cartmill, R., Den Herder, R., Topper, J., Younkin, J. and Walker, J. (2012). Organizational learning in a large-scale complex health IT project. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 1288-1292.
- 222. Alyousef, B., P. Carayon, Hoonakker, P., Hundt, A.S., Cartmill, R., Tomcavage, J., Salek, D., Hassol, A., Chaundy, K., Younkin, J. and Walker, J. (2012). Care managers' challenges in using multiple health IT applications. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. Santa Monica, CA, The Human Factors and Ergonomics Society: 1748-1752.
- 223. DuBenske, L.L., Orne, J., Shaw, B.R., Carayon, P., Kelly, M.M. and Cox, E.D. Child participation in bedside rounds: Considerations for enhancing child participation in care. Poster presentation at the *34th Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine*; March 22, 2013, San Francisco, CA.
- 224.Cox, Elizabeth D., Pascale Carayon, Kristofer W. Hansen, Victoria P. Rajamanickam, Roger L. Brown, Lori L. DuBenske, and Linda A. Buel. "Parent Safety Behaviors and Need to Watch Over Inpatient Care." Pediatric Academic Societies' Annual Meeting, May 4-7, 2013, Washington, DC. (abstract)

# **COURSES TAUGHT**

# <u>University of Wisconsin-Madison – Department of Industrial Engineering</u>

NOTE: Courses at the 400-600 level are for both undergraduate and graduate students. Courses above the 700-level are only for graduate students.

IE449 Sociotechnical Systems in Industry	• Fall 1986
	• Summer 1988
	• Fall 1994
IE466 Theory of Design	• Fall 1988
	• Spring 1989
IE549 Human Factors Engineering	• Fall 2004
IE652 Sociotechnical Systems	• Fall 2011
IE691 Occupational Stress	• Fall 1988
	• Spring 1990
IE663 Occupational Stress [permanent course]	• Spring 1991
	• Spring 1992
	• Spring 1993
	• Spring 1994
	• Spring 1995
	• Spring 2000
	• Spring 2001
	• Summer 2003
IE653 Organization and Job Design	• Fall 1990
	• Fall 1991
	• Fall 1999 (in collaboration with Professor M.J. Smith)
	• Fall 2001
	• Fall 2002
	• Fall 2005
	• Fall 2006
	• Fall 2007
	• Fall 2008
	• Fall 2009
	• Fall 2011
IE601 Office Systems Engineering	• Fall 2012
IE691 Office Systems Engineering (new course)	• Fall 1992
	• Fall 1993 • Fall 1994
IE565 Office Systems Engineering [permanent course]	1 411 1991
The of the systems have the first manner counsely	<ul><li>Spring 2000</li><li>Fall 2000</li></ul>
	• Spring 2002 (in collaboration with Professor B. Karsh)
IE565 Ergonomics in Service [renamed]	• Spring 2002 (in conaboration with Professor B. Karsh)
IE753 Seminar in Organization and Job Design	Spring 2003     Spring 1989 (topic: job design - theoretical and
C C	methodological considerations)
IE816 Seminar on Systems Design	• Spring 1992 (topic: organization and job design for quality improvement)
	• Spring 1993 (topic: the effect of information
	technology on job design and worker stress: the concept
	of time)
	Spring 1994 (topic: quality management) (co-
	instructors: D. Gustafson, F. Sainfort, M. Smith)
	Fall 2005 (topic: field research methods)

IE854 Seminar in Organization and Job Design	<ul> <li>Spring 1990 (topic: stress and job control)</li> <li>Spring 1991 (topic: occupational stress and office automation - a look at the future research)</li> <li>Fall 1993 (topic: research methodology)</li> <li>Spring 1994 (topic: new organizational arrangements) (co-teacher: M. Smith)</li> <li>Fall 2001 (topic: human error)</li> </ul>
	<ul> <li>Fall 2001 (topic: field research methods)</li> <li>Fall 2004 (topic: macroergonomics)</li> </ul>
	Fall 2006 (topic: violations) (co-teacher: B. Karsh)
	• Fall 2007 (topic: human factors in health care and patient safety)
	Fall 2008 (topic: field research methods in health care and patient safety)
	• Fall 2009 (topic: healthcare work systems and processes)
	• Fall 2012 (topic: field research methods in healthcare system redesign)
IE874 Seminar	Spring 2002 (topic: human factors research) (in collaboration with Professors Karsh and Smith) [1 credit]
IE961 Graduate seminar in Industrial Engineering	<ul> <li>Fall 1999 (topic: field research methods in quality)</li> <li>Fall 2000 (topic: field research methods in quality)</li> <li>Spring 2003 (topic: quality and productivity improvement – 1-credit seminar)</li> <li>Spring 2007 (topic: patient safety – 1-credit seminar)</li> </ul>
Population Health/IE 703 Quality of Health Care	Spring 2003 (in collaboration with Professors Smith and Karsh, and Dr. Cox)
	• Spring 2005 (in collaboration with Professors Smith and Karsh, and Dr. Cox)
	• Spring 2007 (in collaboration with Professors Smith and Karsh, and Dr. Cnirch)
	• Spring 2009 (in collaboration with Professor Smith, and Drs. Wetterneck and Cnirch)
	Fall 2012 (in collaboration with Professor Smith and Dr. Cnirch)

# University of Wisconsin-Madison

T '4 1T 4 ' TE240	(T + 1 + 1 TT	E ( ) 1 IE (52 (I 1 D ' )
Invited Lecturer in 1E349	(Introduction to Human	Factors) and IE653 (Job Design).

Invited	Lecturer in IE349 (Introduction to Human Factors) and IE653 (Job Design).
2000	Invited lecturer in EPD101 to present the IE department to freshman and sophomore engineering
	students.
2001	School of Pharmacy – "Medication Use Safety in Health Systems" (instructor: Kathy Skibinski). I
	taught two lectures on Human Factors and Medication Errors.
2001	"Critical infrastructure protection" (with Professor Vicki Bier), Graduate student/faculty seminar in the
	Department of Electrical and Computer Engineering of the University of Wisconsin-Madison.
2001	Invited lecturer in IE617-Health Information System (P. Brennan).
2002	Department of Medical Physics - "Patient Safety: Risk Assessment and Management" (instructor:
	Bruce Thomadsen). I taught one lecture on Human Factors System Approach.
2002	Invited lecturer in EPD101 to present the IE department to freshman and sophomore engineering
	students.
2002-20	School of Pharmacy – "Medication Use Safety in Health Systems" (instructor: Bob Breslow). I taught
	two lectures on Human Factors and Medication Errors.
2003-no	Department of Medical Physics – "Patient Safety: Risk Assessment and Management" (instructor:
	Bruce Thomadsen). I teach one lecture on Work System Design and Patient Safety.

2003	"Human factors and organizational issues of computer security", Graduate student seminar in the
	Department of Electrical and Computer Engineering of the University of Wisconsin-Madison
	(coordinator: Fernando Alvarado).
2003	"Human factors and organizational issues of computer security", Seminar to Masters students in

Library and Information Studies (instructor: Kristin Eschenfelder) 2003, 2005, 2007, 2008, 2009 Invited lecture on "Human Factors Engineering" for IE191

#### Helsinki University of Technology, Helsinki, Finland

June 1995	Seminar on Methodology and research methods in work and organizational sciences (1 week)
July 1997	Seminar on Quantitative research methods in work organization (1 week)

June 2004 Seminar on Field research methods for organizational studies (1 week)

# Ecole des Mines de Nancy, France

April-June 1997 "Gestion de Projets et Qualité" [Project management and Quality] (in collaboration with J. Tarbès) (20 hours)

January-March 1998 "Qualité-Concepts et méthodes" [Quality-Concepts and Methods] (45 hours) March-June 1998 "Gestion de Projets" [Project management] (in collaboration with J. Tarbès) (20 hours)

#### Université Nancy 2, Department of Management, France

1998	Research Seminar on <i>Quality in the Public Sector</i> , DEA-Sciences de Gestion (45 hours)
1998-1999	Research Seminar on <i>Quality in the Service Industry</i> , DEA-Sciences de Gestion (45 hours)

## Université Louis Pasteur, Strasbourg, France

December 1997	Invited lecturer for the Master's on Quality [continuing education] (topic: Quality and ergonomics-
	Community quality-Public sector)
December 1998	Invited lecturer for the Master's on Quality [continuing education] (topic: Quality -Community
	quality-Public sector)
February 1999	Invited lecturer for the Master's on Quality (topic: Quality -Community quality-Public sector)
January 2000	Invited lecturer for the Master's on Quality [continuing education] (topic: Quality -Community

quality-Public sector)
January 2000 Invited lecturer for the Master's on Quality (topic: Quality -Community quality-Public sector)

## CQPI/SEIPS Short courses on Human Factors Engineering and Patient Safety

June 24-27, 2004	Human Factors Engineering and Patient Safety – Part I (Basic of HFE) [I was responsible
,	for the following topics: cognitive ergonomics; job and organizational issues]
August 29-Sept. 2, 2005	Human Factors Engineering and Patient Safety – Part I (Basic of HFE) and Part II (Tools
<b>C</b> 1 ,	and Methods) [I was responsible for the following topics: cognitive ergonomics; job and
	organizational issues; organizational change]
August 14-18, 2006	Human Factors Engineering and Patient Safety – Part I (Basic of HFE) and Part II
	(Healthcare Information Technology) [I was responsible for the following topics:
	cognitive ergonomics; job and organizational issues; task and process analysis]
August 13-17, 2007	Human Factors Engineering and Patient Safety – Part I (Basic of HFE) and Part II
	(Proactive Risk Assessment) [I was responsible for the following topics: job and
	organizational issues; task and process analysis; prospective risk assessment]
August 18-22, 2008	Human Factors Engineering and Patient Safety – Part I (Basic of HFE) and Part II (HFE
	and Healthcare Information Technology) [I was responsible for the following topics:
	organizational/job design and workload; impact of HIT on patient care processes and
	tasks; usability of HIT]
July 13-16, 2009	Human Factors and Sociotechnical Systems [I was responsible for the following topics: organizational/job design and workload; management of sociotechnical change]
July 26-28, 2010	Human Factors and Sociotechnical Systems [I was responsible for the following topics:
	organizational/job design and workload; impact of health IT on patient care processes and
	tasks]
August 15-18, 2011	Human Factors and Sociotechnical Systems [I was responsible for the following topics:
	introduction to human factors engineering and safety; job design and workload, workflow analysis, and organizational change and system redesign]

July 16-20, 2012

Human Factors Engineering and Patient Safety [I was responsible for the following topics: introduction to human factors engineering and sociotechnical systems, human factors design of health IT, workflow analysis for health IT, human factors of health IT implementation, and case study analysis]

## **GRADUATE STUDENTS**

## University of Wisconsin-Madison

Graduated students [28 MSIE; 12 Ph.D.]

- \* Soo-Yee Lim: completed her <u>MSIE</u> [Master's of Science in Industrial Engineering] in Fall 1991, completed her <u>Ph.D.</u> in Spring 1994
- \* Chien-Lin Yang: completed her MSIE in Fall 1991, completed her Ph.D. in Summer 1994
- \* Catherine Hajnal: completed her MSIE in Spring 1994.
- \* Tariq Masud: completed his MSIE in Spring 1994.
- \* Pat Reinbholz: completed his MSIE in Fall 1994.
- \* Julie Wehler: completed her MSIE in December 1997.
- \* Rangarajan Parthasarathy: completed his MSIE in Spring 1995.
- \* Leah Newman: completed her Ph.D. in Fall 1997.
- \* Donna Breslin: completed her MSIE in Spring 1995.
- \* Marla Haims: completed her MSIE in Fall 1995. Completed her Ph.D. in Fall 1998.
- \* Adsada Sae-Ngow: completed her Ph.D. in Fall 2001.
- \* Sylvia DeLong: completed her MSIE in Summer 2001.
- \* Michelle Rogers (co-advisor: Barrett Caldwell): completed her Ph.D. in Summer 2002.
- \* Segolene Marchand: completed her MSIE in Fall 2002.
- \* Kristy Pociask: completed Professional Masters in Spring'2003.
- \* Prashant Ram: completed his MSIE in Spring'2004.
- \* Alexandre Marian: completed his MSIE in Spring'2004.
- \* Morgan Ricardo: completed his MSIE in Spring'2004.
- \* Jen Schoepke: completed her MSIE in Fall 2000.
- \* Brian Hicks: completed his MSIE in Fall 2004.
- \* Sade Sobande: completed her MSIE in Fall 2004.
- \* Ayse Gurses: completed her Ph.D. in Spring 2005 [funded by an AHRQ Dissertation Grant].
- \* Mazin Halawani: completed MSIE in Fall 2005.
- \* Jeff Watson: completed his Ph.D. in Fall 2005.
- \* Anne-Sophie Grenier: completed MSIE in Spring 2006.
- \* Sara Kraemer: completed her MSIE in Fall 2002; completed her Ph.D. in Summer 2006.
- \* Rahil Kwatra: completed MSIE in Fall 2006.
- \* Pashmeen Ghia: completed MSIE in Summer 2008.
- \* Kara Schultz Van Roy: completed Ph.D. in Fall 2008.
- \* Niharika Chinthapalli: completed MSIE in Summer 2009.
- \* Matt McCluskey: completed MSIE in Spring 2010.
- \* Elizabeth Konkol: completed MSIE in December 2010.
- \* Kerry McGuire: completed MS/Ph.D. in Summer 2011 [funded by the AHRQ/NRSA T32 training grant].
- \* Adjhaporn Khunlertkit: completed Ph.D. in Summer 2011.
- \* John Capista: completed MSIE in Summer 2011.

#### Current students

- \* Bonnie Paris: started Ph.D. in Fall 2006 [funded by the GERS program and the AHRQ/NRSA T32 training grant].
- \* Bashar Alyousef: completed MS in December'2009; started Ph.D. in January 2010.
- \* Calvin Chan: started Ph.D. in January 2009.
- \* Anping Xie: started Ph.D. in September'2009.
- \* Yagiong Li: started Ph.D. in September'2011.
- \* Sarah Kianfar: started Ph.D. in September'2011.
- \* MS students: Ruth Den Herder, Adam Dundon, Masaaki Ikeno, Yang Sun, Zexian Zeng, Corbin Pozar

# Mentors for the following health sciences faculty:

- \* Michelle Chui, assistant professor of Pharmacy, 2011-now.
- \* Amye Tevaarwerk, assistant professor of Medicine, 2012-now.
- \* Jennifer Weiss, assistant professor of Medicine, 2012-now

Committee members for the following students:

- Joan Kleman (1989, MSIE)
- Boon Hooi Tan (1990, MSIE)
- Gil Kibler (1991, Manufacturing Systems Engineering)
- Suruedee Chumroum (1991, MSIE)
- Ann Schoofs (1992-1995, Ph.D., Industrial Engineering)
- Katherine J. Sanders (1992-1993, Ph.D., Industrial Engineering)
- David Nordstrom (1992-1996, Ph.D., Epidemiology)
- George Grutzmacher (1993-1998, Ph.D., Industrial Engineering)
- Frank Conway (1993, MSIE, 1993-1996, Ph.D., Industrial Engineering)
- Julie Scholtz (1993, MSIE)
- David Zehel (1993, MSIE, 1993-1999, Ph.D., Industrial Engineering)
- William Cohen (1994-1996, Ph.D., Industrial Engineering)
- John Smith (1993-1999, Ph.D., Industrial Engineering)
- Alvaro Taveira (1994-1996, Ph.D., Industrial Engineering)
- Bridget Booske (1994, Ph.D., Industrial Engineering)
- Craig James (1994-1996, Ph.D., Industrial Engineering)
- Jennie Ward-Robinson (1994-1997, Ph.D., School of Human Ecology)
- Elsa Hsu (1993-1995, Ph.D., Industrial Engineering)
- Jean Otis Taylor (1993-1995, Ph.D., Industrial Engineering)
- Wunching Chang (1995-1996, Ph.D., Mechanical Engineering)
- Bentzi Karsh (1996, MS thesis; 1996-1999, Ph.D., Industrial Engineering)
- William Schmitz (1994-1997, Ph.D., Industrial Engineering)
- Alvany Santiago (Ken Mericle, advisor completed MA in Summer'2001; Industrial Relations)
- Mary Laedtke (Awad Hanna, advisor completed MS in Fall'2001; Civil and Environmental Engineering)
- Poppy Osothsil (D. Nemhard, advisor completed Ph.D. in Dec'2001, Industrial Engineering)
- Karl Gunzelman (M. Smith, advisor completed Ph.D. in October'2001, Industrial Engineering)
- Liza Zidek (P. Brennan, advisor; completed Ph.D. 2003; Industrial Engineering)
- Josette Jones (P. Brennan, advisor; 2002; Ph.D., School of Nursing)
- Anita Ground (P. Brennan, advisor; 2001– in-progress; Ph.D. School of Nursing)
- Keenan Yoho (M. Finster, advisor completed Ph.D. 2006; School of Business)
- Lynne Chase (E. Cortez, advisor in-progress; Ph.D. School of Library and Information Sciences)
- Carla Alvarado (M. Smith, advisor completed Ph.D. in 2003, Industrial Engineering)
- Maria Brunette (M. Smith, advisor completed Ph.D. in 2002, Industrial Engineering)
- Rene Valverde (H. Nembhard, advisor completed Ph.D. in 2002, Industrial Engineering)
- Patrick Meek (D. Fryback, advisor; 2002; MS in Population Health)
- Cornelia Brooks (M. Smith, advisor; 2001 in-progress; Ph.D. 2006 in Industrial Engineering and Psychology)
- Dennis Jones (M. Smith, advisor completed Ph.D. 2006 in Industrial and Systems Engineering)
- Teresa Zayas-Caban (P. Brennan, advisor completed Ph.D. in 2006, in Industrial Engineering)
- Carmen Mendez (M. Smith, advisor completed 2005; Ph.D. in Industrial and Systems Engineering)
- Yichuan Grace Hsieh (P. Brennan, advisor; 2005 completed; Ph.D. School of Nursing)
- Anita Ground (P. Brennan, advisor completed in 2007; Ph.D. School of Nursing)
- Kamisha Escoto (B. Karsh, advisor completed in 2006; Ph.D. in Industrial and Systems Engineering)
- Alice Pawley (M. Smith, advisor; completed in 2007; Ph.D. in Industrial and Systems Engineering)
- Melanie Krause (B. Bowers, advisor; 2005 in-progress; Ph.D. School of Nursing)
- Treena Friesel (M. Smith, advisor completed in 2007; Ph.D. in Industrial and Systems Engineering)
- Todd Loushine (M. Smith, advisor completed in 2007; Ph.D. in Industrial and Systems Engineering)
- Calvin Or (B. Karsh, advisor completed in 2008; Ph.D. in Industrial and Systems Engineering)
- Rosa Mak (D. Vaness, advisor completed in 2007; MS in Population Health Sciences)
- Rich Holden (B. Karsh, advisor completed in 2009; Ph.D. in Industrial and Systems Engineering)
- Jennifer Kaufmann-Buhler (V. Boyd, advisor in-progress; Ph.D. in School of Human Ecology)
- Amy Kind (M. Smith, advisor completed in 2011; Ph.D. in Population Health Sciences)
- Sam Alper (B. Karsh, advisor completed in 2009; Ph.D. in Industrial and Systems Engineering)
- Christine Everett (M. Smith, advisor completed in 2011; Ph.D. in Population Health Sciences)
- Joy Rivera Rodriguez (B. Karsh, advisor completed in 2011; Ph.D. in Industrial and Systems Engineering)
- Renaldo Blocker (D. Wiegmann, advisor completed in 2012; Ph.D. in Industrial and Systems Engineering)

- Mahtab Ghazizadeh (J. Lee, advisor in-progress; Ph.D. in Industrial and Systems Engineering)
- Sasithorn Laimek (S. Zahner, advisor in-progress; Ph.D. in nursing)
- Shannon Roberts (J. Lee, advisor in-progress; Ph.D. in Industrial and Systems Engineering)
- Wenjun Sun (D. Wiegmann, advisor in-progress; Ph.D. in Industrial and Systems Engineering)

### At other institutions

- \* Laurence Lescanne: completed her DEA (Diplôme d'Etudes Approfondies) in Management at the University of Nancy, France, 1997-1998.
- \* Fabrice Santenac: completed his DEA (Diplôme d'Etudes Approfondies) in Management at the University of Nancy, France, 1998-1999.
- \* External opponent for the Ph.D. dissertation of Jan Axelsson on "Quality and Ergonomics", Linkoping University, Sweden, April'2000.
- \* Opponent for her Ph.D. oral defense of Tiina Tissari, Department of Industrial Engineering and Management, Helsinki University of Technology-Finland (Eero Eloranta, advisor Ph.D. completed in Fall'2002)
- \* External opponent for the Ph.D. dissertation of Kari Anne Holte, Norway Institute of Technology (Rolf Westgaard, advisor; 2003)
- \* External examiner for the MS Thesis of MC Renz, Department of Human Kinetics and Ergonomics at Rhodes University, South Africa, (Pat Scott, advisor; 2004)
- \* External opponent for the Ph.D. dissertation of Niina Rintala, Department of Industrial Engineering and Management, Helsinki University of Technology-Finland (Eila Jarvenpaa, advisor Ph.D. completed in Spring'2005)
- \* External examiner for the MS Thesis of Sma Ngcamu, Department of Human Kinetics and Ergonomics at Rhodes University, South Africa, (Swantje Zschernack, advisor; 2009)
- \* Member of the Ph.D. committee of Marijke Melles, Technical University of Delft, The Netherlands (Huib de Ridder, advisor; 2011)
- \* Examiner for the Ph.D. dissertation of Alexandre Dicioccio, Conservatoire National des Arts et Metiers, Paris, France (Pierre Flazon, advisor, 2011-2012)

# RESEARCH PROJECTS

ТОРІС	Dates	Project	Funding source and Collaborations
Ergonomics in healthcare	1986-87	Health and ergonomic problems of nurses in emergency rooms - University Hospital, Madison, Wisconsin	In collaboration with the University of Wisconsin Hospital
Electronic Performance Monitoring	1986	Pilot study of the stress and performance effects of electronic performance monitoring (interviews of workers, union leaders and managers).	Office of Technology Assessment, U.S. Congress In collaboration with M.J. Smith
	1987-1988	Pilot studies on electronic performance monitoring (interviews, questionnaires).	In collaboration with M.J. Smith
	1988-1989	Large-scale mail survey of telecommunications workers on the stress and performance effects of electronic monitoring	Communications Workers of America In collaboration with M.J. Smith
Human factors in manufacturing	1987	Project with RTE Corporation on the human and organizational implications of the "factory of the future".	RTE Corporation In collaboration with M.J. Smith and F. Sainfort
	1988	Design of an educational software on the social and economic implications of robotics	Learning Multisystems
	2000-2001	Implementation of a new product line at John Deere	John Deere In collaboration with Professor M.J. Smith
Human factors in office automation	1986-1990	Longitudinal study of the ergonomic and psychosocial effects of office automation at the Purchasing Department, UW-Madison	In collaboration with M.J. Smith
	1987-1992	Longitudinal study of the ergonomic and psychosocial effects of office automation at the City of Madison and Dane County, Wisconsin.	In collaboration with M.J. Smith
	1989-1993	Longitudinal study of the ergonomic and psychosocial effects of office automation at the Madison School District, Wisconsin	In collaboration with M. O'Neill
	1991-1999	Longitudinal studies of the ergonomic and psychosocial effects of office automation at the Wisconsin Department of Transportation	NSF John Hopkins University Center for VDT Technology and Health
Quality improvement Quality management	1988-1990	Project on the human factors implications of the introduction of a quality enhancement program in a manufacturing company	Polar Ware Company
	1989	Review and policy paper on quality enhancement programs in U.S. industry	U.S. Department of Labor In collaboration with M. J. Smith, S. Bisgaard, C. Fung and F. Sainfort
	1994-1999	Total Quality Management in the public sector: The City of Madison as an example	NSF In collaboration with Professors Sainfort, Bisgaard, Lund and Smith, University of Wisconsin-Madison

TQM in the public sector Community Quality	1994-1996	Community quality and quality management in the public sector	Electricité de France In collaboration with Professors Sainfort and Bisgaard, University of Wisconsin-Madison, and C. Cremet and J. Tarbes of the Ecole des Mines de Nancy, France
	1996-2000	Qualité dans le secteur public et Excellence Territoriale	Electricité de France In collaboration with Professor Jean-Louis Coujard of the Ecole des Mines de Nancy and Professor Gilles Lambert of the Université Louis Pasteur
	1997-2003	Quality management in the public sector	In collaboration with Professor Smith, University of Wisconsin-Madison, Professor Sainfort, Georgia Institute of Technology, and Professor Korunka, University of Vienna, Austria
	1999-2000	Community Quality	French and German Ministries of Education In collaboration with Professor Jean-Louis Coujard of the Ecole des Mines de Nancy and Professor Klaus Zink, University of Kaiserslautern, Germany
Human factors of Information Technology	1992-1995	Sociotechnical impacts of image processing technology	University of Wisconsin- Madison Ameritech Foundation Fellowship In collaboration with Dr. Eila Jarvenpaa, Helsinki University of Technology, Finland
	1994-1998	Stress effects of the introduction of new technologies in the workplace and Management of technological change	In collaboration with Dr. Christian Korunka, University of Wien, Austria
	2000-2003	Implementation of an EMR (Electronic Medical Record) System at the Belleville clinic	In collaboration with Dr. Paul Smith and Professor James Bobula, Family Medicine department, and Professors Brennan and Smith, Department of Industrial Engineering
Cross-cultural factors of macro-ergonomics	1992-1999	Role of cross-cultural factors in the relationship between information technology, job design and worker stress	In collaboration with Dr. Eila Jarvenpaa, Helsinki University of Technology, Finland (1992-now) In collaboration with Dr. Gunvor Gard, Lulea University of Technology, Sweden (1993-2000)
	1994-1999	Role of job control in the development of work stress and strain	University of Tilburg, The Netherlands In collaboration with Dr. Fred Zjilstra, Work Organization Research Center, University of Tilburg, The Netherlands
Measurement of psychosocial work factors	1992-1999	Development and test of a questionnaire on cognitive demands for computer users	NIOSH In collaboration with Dr. Naomi Swanson, NIOSH
	1995-1999	Measurement of psychosocial work factors related to CTD's in VDT workers: Validity of the UW Office Worker Survey	John Hopkins University Center for VDT and Health Research

Work-related musculoskeletal disorders	1995-1999	Work-related musculoskeletal disorders in office and video terminal work: intervention studies	CDC/NIOSH Cooperative Agreement In collaboration with Professor Michael J. Smith, University of Wisconsin- Madison
Human factors issues in patient safety and healthcare	2000-now	Patient safety and medical errors – Network of local providers – Madison Patient Safety Collaborative (MPSC)	In collaboration with Dr. J. Grossman, CEO of the UW Medical Foundation, Professor Maureen Smith, Department of Population Health, and Kendra Jacobsen, MPSC
	2000-2003	Quality of working life in primary care physicians	In collaboration with Dr. B. Karsh, CQPI, Dr. John Beasley, Department of Family Medicine, and WReN (Wisconsin Research Network)
	2001-2003	Laboratory Testing Process Improvement	Medical College of Wisconsin (PI: Dr. Karsh) In collaboration with Professor B. Karsh
	2001-now	Systems Engineering Initiative for Patient Safety	AHRQ In collaboration with Professors Brennan, Karsh, Smith, Wetterneck and Wiegmann, Drs. Hundt and C. Alvarado, University of Wisconsin-Madison
	2003-2005	Medication errors reduction, technologies and human factors	AHRQ Co-PI: Dr. Wetterneck In collaboration with the UW Hospital & Clinics
	2003-2005	ICU nursing workload	AHRQ dissertation grant to Ayse Gurses In collaboration with Dr. Wood at the UW Hospital & Clinics
	2004-now	CPOE implementation in ICUs	AHRQ Co-PI: Dr. Wood In collaboration with Geisinger
	2007-2009	Nursing, technologies and medication management: New multidimensional measures of cost and quality	RWJ Co-PIs: Professors Karsh and Murray In collaboration with St. Mary's hospital and Children's Hospital of Wisconsin
	2008-2009	Proactive risk assessment of primary care of the elderly	AHRQ PI: B. Karsh In collaboration with WREN- Wisconsin Research and Education Network, and Drs. Beasley, Smith and Temte (Department of Family Medicine)
Critical infrastructure protection – Human and organizational factors of computer and information security	2001-2006	Critical Infrastructure Protection: Modeling and Simulation	DOD (PI: S. Robinson) In collaboration with Professors Robinson, Bier and Vernon, University of Wisconsin-Madison
	2006-2008	Violations in computer and information security	NSF In collaboration with Professor Veeramani (ISyE) and Sami Saydjari, president of the Cyber Defense Agency

Quality of working life of the Information Technology workforce	2001-2005	Paths to Retention and Turnover in the IT Workforce: Understanding the Relationships Between Gender, Minority Status, Job and Organizational Factors	NSF In collaboration with Professor Vernon (Computer Sciences) and Professor Aldag (Business School)
Quality and safety management in construction	2001-2004	Healthy and Productive Organizations in Construction	CPWR In collaboration with P. Hoonakker, and Professors Smith, Hanna and Russell
Job characteristics and health	2001-2002	Relationship between job characteristics and health in the WLS	NIOSH In collaboration with Peter Hoonakker (CQPI), Rob Warren (U. of Minnesota) and Naomi Swanson (NIOSH)
	2002-2007	Job characteristics and depression in the WLS	NIOSH In collaboration with Peter Hoonakker (CQPI), Rob Warren (U. of Minnesota) and Naomi Swanson (NIOSH)
	2002-2007	Job characteristics, well-being and health in the WLS	NIA (PI: Bob Hauser) In collaboration with Peter Hoonakker (CQPI), Rob Warren (U. of Minnesota)

# **GRANTS**

1989-1991	University of Wisconsin-Madison Graduate School Research Grant
	(start-up package) (\$13,549)
1989	U.S. Department of Labor, Secretary's Commission on Workforce Quality and Labor Market
	Efficiency
	in collaboration with M.J. Smith, F. Sainfort and C. Fung, UW-Madison, Department of Industrial
	Engineering
1001 1002	"Efforts to Solve Quality Problems" (\$24, 310)
1991-1992	University of Wisconsin-Madison Graduate School Research Grant
	"Electronic Performance Monitoring, Job Design and Job Stress: A Study of Postal Workers" (total: \$23,075, unused funds:\$13,008)
1991-1993	National Science Foundation, Division of Information, Robotics and Intelligent Systems,
1771-1773	Information Technology and Organizations Program - Research Initiation Award
	"The Use of Computers in Offices: Impact on Job Stress and Quality of Working Life" (\$70,000)
1991	University of Wisconsin-Madison Ameritech Foudation Fellowship Program
	"Sociotechnical Impacts of Image Processing Technology on User Acceptance and Organizational
	Effectiveness" (pre-proposal: \$1,000)
1991-1993	University of Wisconsin-Madison Ameritech Foudation Fellowship Program
	"Sociotechnical Impacts of Image Processing Technology on User Acceptance and Organizational
	Effectiveness" (\$46,677)
1992-1993	University of Wisconsin-Madison Graduate School Research Grant
	"Interactive Effect of Ergonomic and Job Design Factors on Job Satisfaction and Health in Office
1002 1004	Employees" (\$13,524)
1993-1994	University of Wisconsin-Madison Graduate School Research Grant
	"Test of a Job Design Approach for Solving Ergonomic Problems and Improving Employee Physical Health" (\$14,340)
1994-1995	University of Wisconsin-Madison Graduate School Research Grant
1774-1773	"Study of the effect of image processing on quality of working life and productivity" (\$15,204)
1994-1996	Center for VDT and Health Research - Johns Hopkins University
-,,,,	"A longitudinal study of ergonomic and psychosocial work stressors and musculoskeletal discomfort
	in a population of VDT clerical workers"
	(\$105,760)
1995-1996	University of Wisconsin-Madison Graduate School Research Grant
	"Study of the effectiveness of the implementation of image processing" (\$7,908)
1995-1996	CDC/NIOSH Cooperative Agreement No. U60/CCU512018-01
	"Work-related musculoskeletal disorders in office and video terminal work"
1005 1005	(\$135,360)
1995-1997	Center for VDT and Health Research - Johns Hopkins University
	"Measurement of psychosocial work factors related to CTD's in VDT workers: Validity of the UW
	Office Worker Survey" (\$60,000)
1995-1997	National Science Foundation
1775-1777	"Quality management in the public sector: The next paradigm", in collaboration with F. Sainfort, S.
	Bisgaard, J. Lund and M.J. Smith, University of Wisconsin-Madison
	(\$98,230)
1996-1998	Work and Organization Research Center of the University of Tilburg, The Netherlands
	"Working under pressure", in collaboration with Dr. F. Zijlstra
	(\$40,000)
1996-1998	CDC/NIOSH Cooperative Agreement No. U60/CCU512983-01
	"Work-related musculoskeletal disorders in office and video terminal work"
	(\$135,000)
	In collaboration with Professor Michael J. Smith, UW-Madison, Department of Industrial
	Engineering Additional funding 1998 (\$19,000)
1999-2000	Additional funding – 1998 (\$19,000). PROCOPE program, Ministère Français des Affaires Etrangères
1777-4000	1 ROCOLD program, withistere Français des Attailes Ettangeres

"Développement de la Qualité dans le secteur public et sur des territoires" (18,000 FF) In collaboration with Professor Jean-Louis Coujard, Ecole des Mines de Nancy, and Professor Klaus Zink, Institut für Technologie und Arbeit, University of Kaiserslautern 2000-2001 University of Wisconsin-Madison Graduate School Research Grant "Organizational change and quality of working life in the public sector" (\$15,042)2000-2001 NIOSH "Job Characteristics and Health" (\$25,000)2001-2006 Department of Defense "Modeling and simulation environment for critical infrastructure protection" (\$4,966,621) PI= S. Robinson In collaboration with Professors Bier (Industrial Engineering) and Vernon (Computer Sciences) 2001-2004 NSF-ITWF program "Paths to Retention and Turnover in the IT Workforce: Understanding the Relationships Between Gender, Minority Status, Job and Organizational Factors" (\$699,992)In collaboration with Professor Mary Vernon of the Computer Sciences Department and Professor Ray Aldag of the Business School 2001-2004 AHRQ (\$600,000)"Systems Engineering for Patient Safety" CPWR (Center to Protect Worker Rights) 2001-2004 (\$210,000)"Healthy and Productive Organizations in Construction" In collaboration with P. Hoonakker (COPI), and Professors Smith (Industrial Engineering), Hanna (Civil and Environmental Engineering) and Russell (Civil and Environmental Engineering) 2002-2003 NIOSH (\$21,760)"Job characteristics and depression in the WLS" 2002-2007 National Institute on Aging (\$9,800,000)"The Wisconsin Longitudinal Study: As We Age" PI=R. Hauser 2002-2007 National Institute on Aging (\$14,900,000) "Wisconsin Longitudinal Study: Tracking the Life Course" PI=R. Hauser **ICSI** 2003-2004 (\$19,000) "Human factors and patient safety in ambulatory care" PI=P. Carayon; co-PI=C. Alvarado 2003-2005 **AHRQ** (\$460,531)"Medication Errors Reduction, Technologies and Human Factors" co-PI=Dr. Tosha Wetterneck 2004-2008 AHRQ/NRSA T32 Training grant "PhD Training in Population Health & Quality Improvement" PI=D. Fryback; co-PIs=P. Carayon and M. Smith 2004-2008 NLM (\$1,700,000)"HeartCare: Custom Computer Support for Home Care" PI=P. Brennan; co-PI=L. Burke

2004-2005 AHRQ Dissertation Research Grant (\$32.043)Ph.D. dissertation of Ayse Gurses on "Nursing workload: Causes and consequences" 2004-2009 **AHRO** (\$1.459.102)"CPOE Implementation in ICUs" co-PI=Dr. Kenneth Wood 2004-2005 **UW Medical Foundation** (\$25,000)"Organizational learning through EMR implementation" 2005-2006 **Amorim Solutions** (\$15,858)"Ergonomic evaluation of industrial mats" 2006-2009 NSF Cybertrust program "Violations in computer and information security" (\$200,000)In collaboration with Professor Raj Veeramani, Department of Industrial and Systems Engineering 2007-2009 Robert Wood Johnson Foundation "Nursing, technologies and medication management: New multidimensional measures of cost and quality" (\$300,000)In collaboration with Professors Karsh, Department of Industrial and Systems Engineering, and Murray, School of Nursing 2007-2008 **AHRQ** "Proactive risk assessment of primary care of the elderly" (\$199,147)PI = B. Karsh 2007-2012 NIH "Institutional Clinical and Translational Science Award (UW-Madison)" PI = M. Drezner UW School of Medicine and Public Health/WI Partnership for a Healthy Future 2007-2011 "Institute for Clinical and Translational Research (ICTR)" PI = M. Drezner 2008-2009 UW-Madison Institutional Clinical and Translational Science Award "Madison Area Collaborative Colonoscopy Improvement Project" (\$20.500)PI=M. Benson 2008-2009 UW-Madison Institutional Clinical and Translational Science Award "Optimizing management of ventilator-associated pneumonia in the ICU" (\$49,143)PI=N. Safdar NSF VOSS program 2008-2011 "Building and maintaining simultaneous dynamic relationships in a virtual organization: The case of virtual intensive care units" (\$399,984)In collaboration with Professor Doug Wiegmann (Department of Industrial and Systems Engineering), Professor Roger Brown (School of Nursing), Peter Hoonakker (CQPI) and Professor Ken Wood (Department of Medicine) 2008-2010 **AHRQ** (\$493,169)"Incorporating Health Information Technology into Workflow Redesign" co-PI=Bentzi Karsh 2008-2011 **AHRQ** "A Human Factors Intervention to Reduce Risk in Primary Care of the Elderly" (\$850.000)PI = B. Karsh

2009-2012 VA "Systems Redesign Virtual Collaboration and Team Support" Funding for 2009-2010: \$66,048 2009-2012 VA "MidWest Mountain Veterans Engineering Resource Center (MWM VERC)" (\$4,185,863)PI=P. Woodbridge 2010-2013 ONC – Beacon program "Keystone Beacon Community: Proposal for a Rural Community-wide Medical Home" (\$1,214,539) In collaboration with Geisinger Health System, Danville, Pennsylvania 2010-2015 **AHRQ** "Engaging Families in Bedside Rounds to Promote Pediatric Patient Safety" (\$2,395,515.00)PI=E. Cox 2010-2011 National Patient Safety Foundation "Improving Hospital Safety for Children" PI=E. Cox 2011-2013 Agency for Healthcare Research and Quality (via Oregon Health Sciences University) "Utility of the AHRQ Workflow Assessment Toolkit in Rural Oregon Practice" (\$143,527)2012-2015 Agency for Healthcare Research and Quality (via Abt Associates) "Using Health IT Practice Redesign: Impact of Health IT on Workflow" (\$374,416)

### **REVIEWER FOR:**

Journals and Books

International Journal of Human-Computer Interaction

Journal of Manufacturing Systems

Handbook of Industrial Engineering - Second Edition

Ergonomics

**Applied Ergonomics** 

Work and Stress

Applied Psychology - An International Review

International Journal of Human-Computer Studies

Behaviour and Information Technology

PISTES [Francophone electronic review on ergonomics and occupational safety and health]

American Industrial Hygiene Association Journal

Journal of the American Medical Informatics Association

**Human Factors** 

International Journal of Cognitive Ergonomics

Theoretical Issues in Ergonomics Science

European Journal of Work and Organizational Psychology

Journal of Occupational Health Psychology

Journal of Occupational and Organizational Psychology

BMJ-Quality and Safety in Health Care

Journal of Patient Safety

Joint Commission Journal of Quality and Safety

#### Research Foundations

National Science Foundation (Information Technology Program, Total Quality Organizations Program) (5 research proposals)

Institut de Recherche en Santé et Sécurité au Travail, Québec, Canada (1 research proposal in 1999; 1 research proposal in 2001; 1 research proposal in 2002)

Member of the review panel for the IGERT (Integrated Graduate Education and Research Training) program of the NSF (Fall'2000)

National Science Foundation Information Technology Workforce program (12 proposals) (January'2002)

National Science Foundation Information Technology Research Program (1 proposal) (Spring'2002)

Canadian Natural Sciences and Engineering Research Council (1 large center proposal) (September'2003)

National Science Foundation Engineering Education Research (7 proposals) (February'2004)

Institut de Recherche en Santé et Sécurité au Travail: Evaluation of one research project (Spring'2004)

UK Patient Safety Research program (10 proposals) (Spring'2004)

National Science Foundation Career Award program (1 proposal) (Fall'2005)

AHRQ Special Emphasis Panel on "Ambulatory Safety and Quality Program: Improving Quality through Clinical Use of Health IT" (7 proposals) (July'2007)

Ad-hoc reviewer for AHRQ Study Section on "Health Care Technology and Decision Sciences" (6 proposals) (October'2008)

#### MISCELLANEOUS ACTIVITIES

## Editorial boards

- Member of the Editorial Board of the *International Journal of Human-Computer Interaction* (1993-2004).
- Member of the Editorial Board of *Behaviour and Information Technology* (1997-now).
- Editor, special issue of *The International Journal of Human-Computer Interaction* on longitudinal studies of human-computer interaction, published in 1997.
- Member of the Editorial Board of *Applied Ergonomics* (1998-2003). Scientific Editor (2003-2006). North American Editor (2006-2012). Co-Editor-in-Chief (2012-now).
- Consulting editor of *Work and Stress* (2003-now).

- Member of the Editorial Board of *The Journal of Patient Safety* (2004-now).
- Member of the Advisory Board of *Ergonomia* (2005-now).
- Department Editor of Socio-Technical Systems Analysis for *IIE Transactions on Healthcare Systems Engineering* (2009-now).
- Member of the Editorial Board of *AHRQ WebM&M* (2010-2013).

#### Conference activities

- Organizer of two sessions at the WWDU'92 Conference in Berlin, Germany, 2-4 September 1992.
- Member of the Human Interface and the Management of Information Technology Board of the 5th International Conference on HCI, Orlando, Florida, August 1993.
- Organizer of one session at the HCl'93 Conference in Orlando, Florida, 8-13 August, 1993.
- Member of the international NIOSH-sponsored working group on health issues in HCI, HCI'93 Conference in Orlando, Florida, August 1993.
- Organizer of one session at the European Congress of Psychology in Tampere, Finland, 4-9 July 1993, in collaboration with Dr. Jarvenpaa.
- Chair of Workshop on Technostress Prevention, held at the 4th International Symposium on Human Factors in Organizational Design and Management (ODAM), May 29-June 1, 1994, Stockholm, Sweden.
- Organizer of one session at the EAWOP Conference in Gyor, Hungary, April 19-22, 1995, in collaboration with Dr. Jarvenpaa.
- Member of the Organizational and Management Ergonomics Board, 1st International Conference on Applied Ergonomics (ICAE'96), Istanbul, Turkey, May 21-24, 1996.
- Member of the Human Interface and the Management of Information Technology Board of the 7th International Conference on HCI, San Francisco, California, August 1997.
- Member of the International Scientific Committee of WWDU'97, Tokyo, Japan, November 3-5, 1997.
- Member of the International Scientific Board of ODAM'98, The Netherlands, August 1998.
- Organizer of a session on Community Quality and Community Ergonomics at the Conference on TQM in Human Factors, Linkoping, Sweden, June 1999.
- Member of the International Scientific Committee, International Conference on TQM in Human Factors, Linkoping, Sweden, June 1999.
- Member of the *Ergonomics and Health Aspects of Work with Computers* Board of the 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA, August 5-10, 2001.
- Member of the scientific committee of the 4<sup>th</sup> International Congress on Quality and Dependability-Qualita'2001, March 22-23, 2001, Annecy, France.
- Member of the scientific committee of the French-Quebec Industrial Engineering conference, Marseille, France, June 11-15, 2001
- Organizer of a workshop on "Assessment of psychosocial work factors in epidemiological research" at the X2001 Conference on Exposure Assessment in Epidemiology and Practice, Goteborg, Sweden, June 11-13, 2001
- Member of the organizing committee of the WWDU-World Wide Work Conference, Germany, May 22-25, 2002
- Member of the international scientific committee of the fifth International Conference on Industrial Engineering, Quebec city, Canada, October 26-29, 2003
- Member of the *Ergonomics and Health Aspects of Work with Computers* Board of the 10<sup>th</sup> International Conference on Human-Computer Interaction, Crete, Greece, June 22-27, 2003.
- Organizer of a symposia session on macroergonomics for the XVth Trennial Congress of the International Ergonomics Association, August 24-29, 2003, Seoul, Korea.
- Member of the Speakers' Committee for the Hunter'2003 conference.
- Reviewer for the Macroergonomics Technical Group of the Human Factors and Ergonomics Society, Annual meeting, October 13-17, 2003.
- Reviewer for the Medical Systems and Rehabilitation Technical Group of the Human Factors and Ergonomics Society, Annual meeting, October 13-17, 2003.
- Chair of the program on Ergonomics and Health Aspects of Work with Computers of HCI International 2005.
- Member of the International Program Committee of Conférence Internationale Francophone d'Automatique (CIFA), Douz, Tunisia, November 22-24, 2004.
- Member of the Board and reviewer for the 7th International Conference on Work With Computing Systems June 29 July 2, 2004, Kuala Lumpur, Malaysia.

- Member of the Advisory Board for the International Conference on Healthcare Systems Ergonomics and Patient Safety, Florence, Italy, March 30-April 2<sup>nd</sup>, 2005.
- Co-organizer of the ODAM'2005 Conference with Michelle Robertson and Brian Kleiner, Hawaii, June 22-26, 2005.
- Member of the Advisory Committee for the 2005 AHRQ Patient Safety Conference, *Patient Safety and Health Information Technology: Making the Health Care System Safer through Implementation and Innovation*, June 6-10, 2005.
- Member of the International Program Committee for the 16<sup>th</sup> World Congress of the International Ergonomics Association, Maastricht, The Netherlands, July 10-14, 2006.
- Member of the International Scientific Advisory Board of the Organizational Design And Management (ODAM) IX Symposium, Sao Paulo, Brazil, March 19-21, 2008.
- Member of the Organizing Board of the International Conference on Healthcare Systems Ergonomics and Patient Safety, Strasbourg, France, June 25-28, 2008.
- Member of the program committee of the IADIS (International Association for Developing of the Information Society) international conference "ICT, Society and Human Beings" (http://www.ict-conf.org/), Amsterdam, The Netherlands, July 22-24, 2008.
- Member of the Program Committee for the SELF (Société d'Ergonomie en Langue Française) conference; Toulouse, France, September 22-24, 2009.
- Member of the International Advisory Committee of the First Southeast Asian Networks of Ergonomics Societies Conference (SEANES 2010), Cebu City, The Philippines, December 14-17, 2010.
- Member of the International Scientific Committee of the 10<sup>th</sup> International Symposium on Human Factors in Organizational Design and Management, Grahamstown, South Africa, April 4-6, 2011.
- Member of the HEPS (Healthcare Systems Ergonomics and Patient Safety) committee for the International Conference on Healthcare Systems Ergonomics and Patient Safety, Oviedo, Spain, June 22-24, 2011.
- Member of the International Scientific Committee of the SEANES (Southeast Asian Network of Ergonomics Societies) conference, Langkawi, Malaysia, July 9-12, 2012.

Academic and administrative activities at the University of Wisconsin-Madison (since 1999)

- Department of Industrial and Systems Engineering:
  - \* Associate Chair for Undergraduate Affairs (2001)
  - \* Convenor for the Human Factors Area Group (2000-2003)
  - \* Chair of the Student Advisory Committee (1999-2001)
  - \* Chair of the Undergraduate Curriculum Committee (2000-2002)
  - \* Member of mentoring/review committees for associate professors S. Zhou (2007-2009), B. Karsh (2007-2011) and D. Wiegmann (2007-2010), O. Alagoz (2011-now)
  - \* Member of mentoring/review committees for assistant professors H. Nembhard (1999-2000; chair from 2002-2003), D. Ceglarek (2000-2002), S. Zhou (2002-2007), B. Karsh (2004-2006), J. Linderoth (2008), Enid Montague (2008-now)
  - \* Member of review committees for Professors R. Suri (2000-2001), P. Brennan (2001-2002; 2006-2007), S. Robinson (2004-2005, chair), V. Bier (2005-2006, chair), D. Zimmerman (2006-2007, chair)
  - \* Chair, Faculty Recognition & Awards Committee (Fall'2002-2003)
  - \* Member, Faculty Recruitment (2002-2007)
  - \* Member, Graduate Student Recruiting & Admissions (Fall'2002-2003)
  - \* Chair of the review committee for D. Wiegmann (2007)
  - \* Associate Chair for Graduate Recruiting and Admissions (2007-2008)
  - \* Member, Strategic Planning committee (2007)
  - \* Chair of the Academic Affairs cluster (2008-2010), member, Academic Affairs cluster (2011-now)
  - \* Member of the Strategic Directions cluster (2008-now)
  - \* Chair of the review committee of John Lee (2008-2009)
  - \* Associate Chair (2008-2010)
  - \* Co-leader for the ABET accreditation (2011-2012)
- Member of the Academic Planning, Curriculum, and Regulations Council of the College of Engineering (2000-2002)
- Member of the Engineer's Day committee of the College of Engineering (2000-2001)
- Member of the University Committee on Academic Affairs of Minority/Disadvantaged Students [CAAMDS (2000-2001)

- Faculty advisor for the Human Factors Student Chapter of the University of Wisconsin (2000-2009)
- Faculty advisor of the UW-Madison IIE student chapter (2000-2004)
- Selection Committee of the Byron Bird Award For Excellence in a Research Publication (2001)
- Plan 2008 Diversity Oversight Committee (2001-2002); member of the Campus Climate Subcommittee (2001-2002)
- Member of the College of Engineering Committee on Graduate Engineering Research Scholars (2002-2004)
- Chair of the Dean's Diversity Committee (2004-2006)
- Member of the College of Engineering Academic Planning Council (2006-2010)
- Member of the Advisory Committee of the UW Center for Women's Health Research (2005-2011)
- Member of the MERC (Medical Education and Research Committee) application subcommittee of the UW Medical School (2005)
- Member of the Selection committee for the UW Health Quality Through Safety Grant Program (2004, 2005)
- Member of the DAO (Diversity Affairs Office) dean search committee (2005-2006)
- Chair of the College of Engineering Climate & Diversity Committee (2006-2007); member of the College of Engineering Climate & Diversity Committee (2007-2009)
- Member of the Bascom Hill Society Scholarship Committee (2006, 2007, 2008, 2009, 2011)
- Member of the Healthcare Innovation Program Faculty Search Committee (2007)
- Member of the Steering Committee of the Community-Academy Partnership of the Institute for Clinical and Translational Research (2007-now)
- Member of ICTR Faculty Governance Committee (2008-2011)
- Member of the mentoring/review committee of Dr. Michelle Kelly, assistant professor in the Pediatrics department (2011-now)
- Member of the mentoring/review committee and the KL2 mentoring committee of Assistant Professor Michelle Chui, School of Pharmacy (2011-now)

#### Human Factors and Ergonomics Society

- Chair of the Macroergonomics Technical Group of the Human Factors and Ergonomics Society (1999-2002)
- Program co-chair for the Macroergonomics Technical Group of the Human Factors and Ergonomics Society (2003-2006)
- Member of the Ely award committee of the Human Factors and Ergonomics Society (2005)
- Member of the HFES Distinguished International Colleague Award Committee (2005-now)
- Member of the HFES Awards Review Committee Task Force (2012-now)

#### International Ergonomics Association

- Member of the IEA sub-committee on Macro- and Micro-ergonomics (2000-2003)
- Chair of the International Ergonomics Association ODAM (Organizational Design And Management) Technical Committee (2002-2006)
- Member of the International Ergonomics Association Executive Committee; chair of the EQUID committee (2003-2006) and chair of the Science, Technology and Practice committee (2005-2006)
- Secretary-General of the International Ergonomics Association (2006-2009)
- Chair of the IEA HEPS (Healthcare Ergonomics and Patient Safety) Steering Committee (2007-2012)
- Member of the IEA committee on "The Future of Ergonomics" (2010-2012)

## Other activities - France

- Expert for the CTI (Commission des Titres d'Ingénieur-Engineering Accreditation Board)-France (1997-1999)
- Member of the committee for recruiting a full professor in Industrial Engineering, Ecole des Mines d'Albi-Carmaux, France, 1998
- Member of the steering committee of the "Stress at Work" project, Institut National de la Recherche en Securite (INRS), France (1998-1999)
- Member of the Scientific Evaluation Council for the French Ministry of Industry [evaluation of the seven "Ecole des Mines" under the authority of the French ministry of Industry] (2000-2004)
- Member of the Scientific Evaluation Council of the Ecole des Mines d'Albi-France (2000-2008)

## Other activities - Canada

- Member of the Canadian Panel on Cumulative Trauma Disorders, IRSST, Montréal (1992-1995)

- Member and Chair of the Industrial Engineering Grant Selection Committee for the Canadian Natural Sciences and Engineering Research Council (1999-2002; chair from 2000-2001)
- Member of the Advisory Group on the Review of Engineering Guidelines for the Canadian Natural Sciences and Engineering Research Council (2000-2002)
- Reviewer of the Canada Research Chairs Program for NSERC (Natural Sciences and Engineering Research Council) (2005-now)

#### Other activities

- Expert, Workshop on Exposure Assessment for Ergonomic Studies of Workers Using Keyboards or Other Data Input Devices, Center for VDT and Health Research of the Johns Hopkins University, April 1998
- Member of the Scientific Board of the Center for VDT and Health Research of the Johns Hopkins University (1998-2004)
- Member of the International Scientific Advisory Board for The International Encyclopedia of Ergonomics and Human Factors published in 2000 (1998-2000)
- Member of the International WWDU [Work With Display Units] group (1998-2008)
- Member of the Board of Directors of the Wisconsin Patient Safety Institute (2001-2005)
- Member of the Board of Directors of Safe Care Wisconsin (2005-now)
- Site visit on behalf of the Center to Protect Worker Rights University of Oregon research program on organizational interventions in construction (April 28-30'2002)
- Member of the Steering Committee of the AHRQ-Patient Safety Research Coordinating Center (2002-2004)
- Member of the Planning Committee for the 2<sup>nd</sup> AHRQ Patient Safety conference (2002-2003); chair of the program subcommittee (2002-2003)
- Member of the expert panel for the *Ambulatory Patient Safety Assessment Project*, Medical Group Management Association, Institute for Safe Medication Practices and the Health Research and Educational Trust (2005)
- Member of the Steering Committee of the AHRQ Patient Safety Research Coordinating Center (2005-2009)
- Member of the Steering Committee of the AHRQ HIT Research Coordinating Center (2005-2009)
- Member of the UK EPSRC (Engineering and Physical Sciences Research Council equivalent of NSF) Peer Review College (2006-2009)
- Member of the IOM Committee on "Optimizing Graduate Medical Trainee (Resident) Hours to Improve Patient Safety" (2007-2008)
- Member of the American Medical Association initiative on "Designing Patient Safety Learning Experiences in Medical Education" (2007-2008)
- Member of the Board of Trustees of Metastar (2008-now)
- Member of the National Quality Forum Committee on Safe Practices for Better Healthcare (2008-2010)
- Member of the National Research Council's Board on Human-Systems Integration (2010-now)
- Member of the Technical Expert Panel for the ONC-funded project on Unintended Consequences of Health IT (2010-2011)
- Member of the Technical Expert Panel for the AHRQ-funded project on Patient Safety Practices (2011-2012)
- Member of the Technical Expert Panel for the AHRQ-funded project on Process Redesign (2012-2013)
- Member of the Technical Expert Panel for the AHRQ-funded project on A Multisite Field Study Applying Novel Methods to Better Understand the Relationship between Health Information Technology and Ambulatory Care Workflow Redesign (2012-2015)

## INVITED TALKS AND SEMINARS

- 1. Training seminar for the State ergonomic coordinators November 1986.
- Four-hour Stress Workshop, with M.J. Smith for AFSCME representatives Wisconsin Dells, Wisconsin, September 1988.
- 3. "The impact of computers on job design and the ergonomics of work", Computer Professionals for Social Responsibility Madison Chapter, Madison, WI, March 1989.
- 4. "Design of the workstation Task, equipment and work conditions" Computer Room Design Course, Department of Engineering Professionals Development, University of Wisconsin-Extension, Madison, WI, May 1989.
- "Video-display terminals and job stressors" Basic Institute on Ergonomics The Trane Company and International Association of Machinists - The School for Workers, University of Wisconsin-Extension, La Crosse, WI, May 1989.
- 6. "Ergonomics in the office" The Office Environment: Health and Safety Issues Madison Area Safety Council Madison, WI, December 1989.
- 7. "Work organization" Institute on Ergonomics The School for Workers, University of Wisconsin-Extension, Madison, WI, February 1990.
- 8. "Computer monitoring: The dark side of the information revolution", Computer Professionals for Social Responsibility Madison Chapter, Communications of the ACM Madison Chapter, Madison, WI, February 1990.
- 9. "VDT Ergonomics", The 48th Wisconsin Safety and Health Congress/Exposition, Oconomowoc, WI, April 1990.
- 10. "The balance theory of job design for stress reduction", International Conference on Healthy Work Environments Healthy People, Ann Arbor, Michigan, June 1991.
- 11. "Office ergonomics" Council about Human Factors Engineering in the Office Environment, Madison Area Federal Safety and Health Council, Madison, WI, September 1991.
- 12. "Ergonomics in the office" Madison Area Safety Council, Madison, WI, October 1991.
- 13. "The impact of electronic performance monitoring on physical and mental strain: A study of telecommunications workers" (Smith, M.J., Carayon, P., Sanders, K.J.S., Lim, S.-Y. and LeGrande, D.) Presented at the <a href="19th">19th</a> Annual Meeting of the American Public Health Association, Atlanta, Georgia, November 1991 (abstract).
- 14. "Ergonomic considerations in the design of computer workstations" IEEE Madison chapter, Madison, WI, January 1992.
- 15. "Ergonomics in the office", invited by the Wisconsin Chapter of the American Industrial Design Association, Krueger Company, Green Bay, WI, April 1992.
- 16. "Office health and safety Occupational stress", The 50th Wisconsin Safety and Health Congress/Exposition, Oconomowoc, WI, April 1992.
- 17. "Longitudinal studies of job design and human-computer interaction", IE Research Conference, Chicago, April 1992.
- 18. "Critical organizational and job design issues in work with display units", presented at the WWDU'92 Conference in Berlin, Germany, 1-4 September 1992.

- 19. "Work organization factors of special interest to labor unions", presented at the WWDU'92 Conference in Berlin, Germany, 1-4 September 1992.
- 20. "A balance theory of job design for stress reduction", presented at the IFAC Symposium on Automated Systems Based on Human Skill (and Intelligence), Madison, WI, September 22-25, 1992.
- 21. "Review and critic of longitudinal studies of VDT work", presented at the Institut de Recherche en Santé et Sécurité au Travail, Montréal, Canada, October 1992.
- 22. "Longitudinal studies of human-computer interaction", Proseminar in Engineering Psychology and Human Factors Engineering, Madison, WI, November 1992.
- 23. "Job stress and cumulative trauma disorders", presented at the TNO Institute of Preventive Care, Leiden, The Netherlands, December 1993.
- 24. "New technology and quality of working life: The example of imaging technology", presented at the Institute of Applied Psychology, ETH, Zurich, Switzerland, December 1993.
- 25. "New technology effects on office job design and work organization" Madison Area Safety Council, Madison, WI, January 1994.
- 26. "Work organization and CTD'S in office environment", presented at the VDT-Related CTD Research Symposium, organized by the Biodynamics Laboratory of the Ohio State University and sponsored by the Office-Related CTD Research Committee, May 1994 (abstract).
- 27. "Work organization, stress and health in computerized offices", presented at the American Industrial Hygiene Conference and Exposition, Anaheim, California, May 1994 (abstract).
- 28. "Organizational design and management research at the University of Wisconsin", Helsinki University of Technology, Helsinki, Finland, June 1994.
- 29. "Work pressure as a determinant of stress and cumulative trauma disorders in computerized work systems", Work Organization Research Center (WORC), University of Tilburg, The Netherlands, June 16, 1994 (abstract).
- 30. "Effects of new technology on office job design and work organization: Ergonomics and stress" Madison Area Safety Council's Annual Fall Safety Conference, Madison, WI, September 1994.

Series of 4 presentations during one week of seminars on quality management in France (sponsored by the French utility company and regional councils of Alsace and Lorraine):

- 31. "Principles of quality management", November 21, 1994, Metz.
- 32. "Quality management in education", November 21, 1994, Metz.
- 33. "Community quality", November 22, 1994, Paris.
- 34. "Project of community ergonomics", November 24, 1994, Colmar.
- 35. "Industrial engineering in the U.S. and at the University of Wisconsin-Madison", Ecole des Mines de Nancy, Nancy, France, January 1995.
- 36. "Temporal issues in studies of job stress and CTD's in computerized offices" NIOSH, Cincinnati, OH, January 1995
- 37. "Interventions for improving the psychosocial work environment and reducing CTD's" The 2nd Annual Conference for Managing Ergonomics in the 1990's New Challenges, Cincinnati, OH, February 1995 (abstract).

- 38. "Human factors issues in Quality Management" Student Quality Society, University of Wisconsin-Madison, March 1995.
- 39. "Community Quality" Semaine de la Qualité en Lorraine, Metz, France, March 1995.
- 40. "Lésions peri-articulaires: Pratiques d'intervention" Journées de Bordeaux sur la Pratique de l'Ergonomie, Bordeaux, France, April 1995.
- 41. "The role of psychosocial work factors in cumulative trauma disorders among computer users" Invited talk at the Finnish Institute of Occupational Health, Helsinki, Finland, June 1995.
- 42. "Le génie industriel aux Etats-Unis" Ecole des Mines de Nancy, France, November 1995.
- 43. "Recherche sur la qualité de la vie au travail et l'organisation du travail" Institut d'Administration des Entreprises, Nancy, France, December 1995.
- 44. "Excellence territoriale: Excellence Industrielle Ludres-Fléville" Mairie de Ludres, Association Excellence Industrielle Ludres-Fléville, March 1996.
- 45. "Table ronde sur la formation à la recherche en Génie Industriel: Le génie industriel aux Etats-Unis" 5ème Congrès International de Génie Industriel, Grenoble, April 1996.
- 46. "Evaluation et excellence territoriale: Exemples d'application aux USA et en Région Lorraine" Congrès sur l'Evaluation, Metz, France, novembre 1996.
- 47. "Excellence Territoriale: Exemples d'expérimentation aux USA" Clôture du Mois de la Qualité Lorraine 1996 Pont à Mousson, 29 novembre 1996.
- 48. "Work organization and cumulative trauma disorders in office/computer work" Human Work With Computerized Systems in the Service Sector, Sao Paulo, Brazil, April 1997.
- 49. "L'ingénierie de la Qualité dans le secteur public" Ville de Grenoble, 26 mars 1997.
- 50. "Management de la Qualité à la ville de Madison" Ville de Nancy, 28 mars 1997.
- 51. "Organisation du travail, stress organisationnel et troubles musculosquelletiques" INRS, Nancy, décembre 1997.
- 52. "Excellence Territoriale et gestion de projet" Conseil général de la Meuse, Bar-Le-Duc, décembre 1997 (with Jean-Louis Coujard, Ecole des Mines de Nancy).
- 53. "Conceptual and methodological issues in stress studies" INRS, Nancy, 25 février 1998.
- 54. "Stress at work" INRS, Nancy, 28 avril 1998.
- 55. "Balanced work system and participation in Quality Management: Applications in the Community" Workshop on "Developing Work and Quality Improvement Strategies", Work Life 2000, Swedish governement, Brussels-Belgium, November 19-21, 1998 (with Marla C. Haims, University of Wisconsin-Madison).
- 56. "Information & Communication Technology and work organization: Achieving a balanced system" Workshop on "Information & Communication Technology, Work Organization and Human Beings", Work Life 2000, Swedish governement, Brussels-Belgium, March 15-17, 1999 (with Marla C. Haims, University of Wisconsin-Madison).
- 57. Closing ceremony International Conference on TQM in Human Factors, Linkoping, Sweden, June 1999.

- 58. "Occupational stress", South Central Wisconsin COSH Annual Fall Conference, Madison, WI, October 1999.
- 59. "Physical workstation ergonomic design", jointly with Prof. M.J. Smith, Workshop of the IIE Regional Conference, Madison, WI, March 2000.
- 60. "Research in sociotechnical engineering", Alpha Pi Mu association, Madison, WI, April 2000.
- 61. "Work organization interventions and quality of working life in office/computer work", American Industrial Hygiene Association Conference, Orlando, Florida, May 2000.
- 62. "Critical infrastructure protection" (with Professor Vicki Bier), Graduate student/faculty seminar in the Department of Electrical and Computer Engineering of the University of Wisconsin-Madison, February 26, 2001.
- 63. "A longitudinal study of work, health, and well-being" (with Rob Warren, University of Washington, and Marla Haims and Peter Hoonakker, CQPI), WLS/CHDA seminar, Department of Sociology, University of Wisconsin-Madison, April 24, 2001.
- 64. "Quality of working life and quality of life in an IT society", session on Quality of Working Life organized by Dr. Frank Andries, International HCI Conference, August'2001.
- 65. "Quality of working life and health in a networked society", keynote speaker at the 6<sup>th</sup> International Scientific Conference on Work With Display Units WWDU 2002 World Wide Work, Berchtesgaden, Germany, May 20-25'2002.
- 66. "Macroergonomics, systems engineering and patient safety", Panel on Human Factors Research in Patient Safety: A Candid Assessment, organized by Dr. Henriksen of AHRQ at the 2002 Human Factors and Ergonomics Society Conference, Baltimore, MD, October 3, 2002.
- 67. "Human factors and organizational issues in e-Security", workshop organized by the Global E-Commerce Consortium, Madison, WI, September 26, 2002.
- 68. "Paths to retention and turnover in the IT workforce: Understanding the relationships between gender, minority status, job and organizational factors", meeting of the NSF ITWF/ITR Workforce PIs Meeting, University of Maryland, October 21-22, 2002.
- 69. "Human Factors and System Engineering Concepts for Healthy Organizations", seminar series of the UW-Madison Population Health Sciences department, December 2, 2002.
- 70. "Quality of Working Life Concepts and Methods for Diversifying the IT Workforce", seminar series of the UW-Madison WISELI (Women in Science & Engineering Leadership Institute), December 11, 2002.
- 71. "The On-going Journey in Search of Quality and Safety in Healthcare", Madison section of the American Society for Quality, March 11, 2003.
- 72. "Macro system design for patient safety", US/UK Patient Safety Research Methodology Workshop Safety By Design, Washington, DC, September 22-23, 2003.
- 73. "Macroergonomics in Quality of Care and Patient Safety", keynote speaker at the 7<sup>th</sup> Organizational Design And Management ODAM 2003 Conference, Aachen, Germany, October 1-2'2003.
- 74. "Safer Health Care The Role of Human Factors", invited seminar the University of Sheffield, UK, January 14, 2004.
- 75. "Human Factors and Patient Safety", invited seminar at Loughborough University, UK, January 15, 2004.

- 76. "Managing Human Factors", Workshop on "Leading Health Care to a New Level of Safety: Lessons from High Hazard Industries", February 6-7, 2004, Park City, Utah.
- 77. "Total Quality Management", 14th Annual Construction Safety Conference, February 10-12, 2004, Chicago, IL.
- 78. "Expert commentator on patient safety project of St. Joseph's Hospital" Final Learning Session of the Patient Safety Learning Pilots, March 4-5, 2004, Alexandria, VA.
- 79. "Transitions of Care for Outpatient Surgery" 6<sup>th</sup> Annual NPSF Patient Safety Congress, May 3-7, 2004, Boston, MA.
- 80. "Human Factors Engineering and Information Technology: Designing for Patient Safety" in collaboration with Dr. Paul Smith, presented at The Digital Healthcare Conference, June 22-23, 2004, Madison, Wisconsin.
- 81. "Human Factors Engineering and Patient Safety" 2004 IE Colloquium Series, Department of Industrial Engineering, UW-Madison, September 10, 2004, Madison, Wisconsin.
- 82. "Human Factors Engineering and Patient Safety: Views from Hospital CEO's" Panel on The Role of Human Factors in Healthcare 2020, Annual Conference of the Human Factors and Ergonomics Society, September 20-24, 2004, New Orleans, LA.
- 83. "Human Factors and System Engineering in Healthcare and Public Safety" 17th Annual Hunter Conference The Changing Face of Quality, October 13-14, 2004, Madison, Wisconsin.
- 84. "Human Factors and Patient Safety in Clinical Systems" Science Forum on Human Factors and Patient Safety Research, Washington, DC, October 15, 2004.
- 85. "End user participation in healthcare technologies and innovations", TETHIC The Emerging Technologies and Healthcare Innovations Congress, Washington, DC, November 29-December 1st, 2004.
- 86. "Human factors in healthcare process improvement and six sigma", 6th Annual National Forum Six Sigma in Healthcare, New Orleans, February 15-17, 2005.
- 87. "Human factors application to hospital protocol development and implementation", Patient Safety Learning Pilot Application to Surgical Care, Madison, Wisconsin, May 11-13, 2005.
- 88. "SEIPS Human factors engineering and patient safety: Educational programs", AHRQ Patient Safety and Healthcare Information Technology Conference, Washington, DC, June 6-10, 2005.
- 89. "Evaluating CPOE implementation in ICUs", AHRQ Patient Safety and Healthcare Information Technology Conference, Washington, DC, June 6-10, 2005.
- 90. "Research and development at the Center for Quality and Productivity Improvement at the University of Wisconsin-Madison The legacy of Professor Hunter", Hunter Conference on Quality, Madison, WI, December 7-8, 2005.
- 91. "Human factors engineering in health care and patient safety", Annual Conference of the Wisconsin Association for Healthcare Quality, Madison, WI, March 10, 2006.
- 92. "Contribution of human factors engineering to healthcare quality and patient safety", Invited seminar at Metastar, Madison, WI, March 20, 2006.
- 93. "When HRO (High Reliability Organization) and HFE (Human Factors and Ergonomics) talk to each other", invited presentation at the workshop on "High Reliability Organizations Grouping for Solutions: Increasing Organizational Reliability by Bringing Academicians and Practitioners Together", Ontario, California, April 2-4,

2006.

- 94. "Human factors of complex sociotechnical systems", keynote presentation at the Triennial Congress of the International Ergonomics Association, Maastricht, The Netherlands, July 10-14, 2006.
- 95. "Safety of healthcare technologies: The role of human factors", Biomedical Engineering Seminar, University of Wisconsin-Madison, October 2<sup>nd</sup>, 2006.
- 96. "Macroergonomics in health care and patient safety", keynote presentation at the Congress of the ABERGO, Curitiba, Brazil, October 29-November 2, 2006.
- 97. "Sustaining improvement in macroergonomic system design", invited presentation at the Symposium on "Human Factors and Comprehensive Management Concepts as Precondition for Corporate Sustainability", Kaiserslautern, Germany, March 16, 2007.
- 98. "Human factors and ergonomics in health care and patient safety", keynote presentation at the IX International Ergonomics Congress of SEMAC (Mexican Ergonomics Society), Mexico City, Mexico, April 26, 2007.
- 99. "Design and implementation of technologies in health care: A human factors viewpoint on patient safety", invited presentation, Department of Industrial, Welding & Systems Engineering, Ohio State University, May 7, 2007.
- 100. "Healthy and efficient work with computers Are there limits?", keynote speaker at the Work With Computing Systems WWCS conference, Stockholm, Sweden, May 21-24, 2007.
- 101. "Human Factors Engineering in the Design and Implementation of Health IT", keynote speaker at the Second conference on Human Factors Engineering and Usability for Health Care Information Technology Applications, Aarhus University Hospital, June 7-8, 2007.
- 102. "Design of Work for Patient Safety", AHRQ Annual Meeting, invited to a panel on "Safety and Quality by Design", September 28-2007.
- 103. "Human Factors Engineering and Patient Safety", invited speaker, Department of Industrial and Systems Engineering, University of Southern California, December 17-18, 2007.
- 104. "Human Factors Engineering in the Design, Implementation and Use of Health IT" AHRQ Conference on EHR Safety, October 22-23, 2008.
- 105. "The contribution of ergonomics to patient safety", invited speaker, Workshop on "Ergonomics and patient safety in healthcare", Pisa, Italy, December 17, 2008.
- 106. "Human factors in health care and patient safety", invited speaker, University of Vienna, Austria, December 18, 2008.
- 107. "Human Factors Engineering Perspectives on Nursing Workload", AHRQ-funded workshop on "Impact of Patient Safety Initiatives on Nursing Workflow and Productivity", San Francisco, California, January 13-14, 2009.
- 108. "Design of Work System and Processes for Patient Safety", 2009 Conference of the Wisconsin Association of Healthcare Quality on "The Quality Connection: Linking Quality with Patient Experiences", Madison, WI, March 13, 2009.
- 109. "Implementation and Safety of EHR/CPOE Technology in Intensive Care Units", Workshop on "Human Factors within IT" organized by the UK National Health Services' Connecting for Health program and the National Patient Safety Agency, London, UK, March 26, 2009.

- 110. "Decision making in healthcare system design" First Gavriel Salvendy International Symposium on Frontiers in Industrial Engineering, Purdue University, April 23-24, 2010.
- 111. "Workflow toolkit and lessons in user-centered design" (P. Carayon and B.-T. Karsh), AHRQ Annual Health IT Grantee and Contractor Meeting, Washington, DC, June 2-4, 2010.
- 112. "Ergonomics intervention and system redesign for improving patient safety" Invited keynote speaker at the Conference of the Italian Ergonomics Society, Roma, Italy, October 29, 2010.
- 113. "Healthcare system design for patient safety", Invited speaker for the fourth edition of the Clinical Risk Management course, Pisa, Italy, November 3, 2010.
- 114. "Work system and patient safety in ICUs", Centre for Patient Safety, Toronto, Canada, February 4, 2011.
- 115. "Research on human factors and patient safety in intensive care units", Department of Industrial Engineering, Tsinghua University, Beijing, China, April 12, 2011.
- 116. "Workflow assessment for health IT", AHRQ 2011 Annual Conference, Bethesda, Maryland, September 18-21, 2011.
- 117. "Balanced approach to HFE implementation in health care and patient safety", Panel on "Establishing in house human factors expert teams to enable comprehensive design of medical work units" organized by Danny Gopher, HFES conference, Las Vegas, Nevada, September 19-23, 2011.
- 118. "Macroergonomics in health care and patient safety", Panel on "Macroergonomics past, present, and future: A tribute to the late Hal Hendrick and to the field of macroergonomics" organized by Petra Alfred and Valerie Rice, HFES conference, Las Vegas, Nevada, September 19-23, 2011.
- 119. "Workflow assessment for health IT in ambulatory care", HIMSS Community on Management Engineering and Process Improvement, November 4, 2011.
- 120. "SEIPS and human factors in health care and patient safety", High Reliability Steering Committee of Ascension Health, Chicago, Illinois, November 11, 2011.
- 121. "Workflow assessment for health IT in ambulatory care", ONC Community of Practice on Meaningful Use, December 1, 2011.
- 122. "Implementation of EHR technology in ICUs: A human factors viewpoint", Biomedical Informatics Research Center of the Marshfield Clinic Research Foundation, Marshfield, Wisconsin, March 5, 2012.
- 123. "Human factors engineering applications in intensive care units", Department of Industrial and Operations Engineering, University of Michigan, April 11, 2012.
- 124. "The role of patient in resilience and patient safety", Conference of the Resilient Health Care Net, Middelfart, Denmark, June 4-5, 2012.
- 125. "Human factors and ergonomics (HFE) in the delivery and sustainability of health services", keynote speaker at the Nordic Ergonomics Societies conference, Stockholm, Sweden, August 19-22, 2012.
- 126. "Human factors engineering (HFE): A different approach to health care and patient safety", WREN (Wisconsin Research and Education Network) Annual Conference, Madison, WI, September 21, 2012.
- 127. Presentation on systems approaches to improving safety in hospital intensive care units at the inaugural meeting of the IOM/NAE Systems Approaches for Improving Health Innovation Collaborative, Washington, DC, December 14, 2013.

- 128. "Reengineering Health Care Through a Human Factors Systems Approach", invited speaker at the HFES 2013 Symposium on Human Factors and Ergonomics in Health Care: "Advancing the Cause", Baltimore, MD, March 10-13, 2013.
- 129. "Get your workflow on why understanding clinical and administrative workflow is crucial to the success of Health IT", Madison Health Tech, March 26, 2013.

### **REPORTS**

- 1. Carayon, P. <u>Physical Working Conditions and Health Status at the Purchasing Department Results of an Ergonomic Study</u>. Department of Industrial Engineering, University of Wisconsin-Madison, November 1987.
- 2. Smith, M.J., Sainfort, P.C., Kleman, J., Lim, S.Y. and Rogers, K.S. <u>Report on VDT Study at the City of Madison</u>. Department of Industrial Engineering, University of Wisconsin-Madison, November 1988.
- 3. Sainfort, P.C. and Wolf, J.J. <u>Report on Employee Survey at Polar Ware</u>. Department of Industrial Engineering, University of Wisconsin-Madison, May 1989.
- 4. Sainfort, P.C. <u>Report on Employee Survey at Polar Ware Rounds 1 and 2</u>. Department of Industrial Engineering, University of Wisconsin-Madison, December 1989.
- 5. Smith, M.J., Sainfort, P.C., Rogers, K. and LeGrande, D. <u>Electronic Performance Monitoring and Job Stress in Telecommunications Jobs</u>. Department of Industrial Engineering, University of Wisconsin-Madison, September 1990.
- 6. Smith, M.J., Carayon, P., Lim, S.-Y., Yang, C.-L., Sanders, K.J., Chumroum, S. and Kidd, T. <u>Physical Working Conditions and Health Status at the City of Madison Results of a Three-Year Study of VDT Users.</u> Department of Industrial Engineering, University of Wisconsin-Madison, July 1991.
- 7. Carayon, P., Smith, M.J., Lim, S.-Y., Yang, C.-L., Sanders, K.J., Chumroum, S. and Kidd, T. <u>Physical Working Conditions and Health Status at the Dane County Results of the First Round of a Study of VDT Users</u>. Department of Industrial Engineering, University of Wisconsin-Madison, November 1991.
- 8. Carayon, P., Jarvenpaa, E., Hajnal, C., Lim, S.-Y. and Yang, C.-L. <u>DOT/UW Ergonomic Study Preliminary</u> Results. Department of Industrial Engineering, University of Wisconsin-Madison, March 1992.
- 9. Carayon, P. <u>Preliminary Report The Use of Computers in Offices: Impact on Job Stress and Quality of Working Life</u>. Project funded by the National Science Foundation, No: IRI-9109566, June 1992.
- Carayon, P., Jarvenpaa, E., Hajnal, C., Lim, S.-Y. and Yang, C.-L. <u>DOT/UW Ergonomic Study Preliminary Results Second Wave</u>. Department of Industrial Engineering, University of Wisconsin-Madison, November 1992.
- 11. Carayon, P., Jarvenpaa, E., Hajnal, C., Lim, S.-Y. and Yang, C.-L. <a href="Physical Working Conditions and Health Status at WISDOT Results of a Study of Computer Users">Physical Working Conditions and Health Status at WISDOT Results of a Study of Computer Users</a>. Department of Industrial Engineering, University of Wisconsin-Madison, November 1993.
- 12. Carayon, P., <u>Preliminary Report A Longitudinal Study of Ergonomic and Psychosocial Work Stressors and Musculoskeletal Discomfort in a Population of VDT Clerical Workers</u>. Project funded by the Center for VDT and Health Research at the Johns Hopkins University, Department of Industrial Engineering, University of Wisconsin-Madison, May 1995.
- 13. Carayon, P., Schmitz, W. and Newman, L. <u>Work-Related Factors and Office Ergonomics Issues at Wisconsin Telecommunications Relay System Results of a Study of Computer Users</u>. Department Department of Industrial Engineering, University of Wisconsin-Madison, December 1996.
- 14. Carayon, P., Haims, M.C. and Suh, H. <u>Work Organization Interventions to Prevent Work-Related Musculoskeletal Disorders in Office and Video Display Terminal Work</u>. Project funded by CDC/NIOSH under Cooperative Agreement No. U60/CCU512018-01, January 1997.
- 15. Carayon, P. & Sainfort, F. Management Total de la Qualité dans le Secteur Public-L'Expérience de la Ville de Madison, Capitale de l'Etat du Wisconsin aux Etats-Unis. Ecole des Mines de Nancy, France, Février 1997.

- 16. Carayon, P., Schmitz, W. and Newman, L. <u>Measurement of Psychosocial Work Factors Related to CTD's among VDT Workers: Validity of the UW Office Worker Survey</u>. Project funded by the Center for VDT and Health Research at Johns Hopkins University, project # 95-0004, April 1997.
- 17. Carayon, P., Schmitz, W. and Newman, L. <u>Work-Related Factors and Office Ergonomic Issues at WISDOT-DBM/BFS-BMS- Results of a Study of Office Employees and Computer Users</u>. Department of Industrial Engineering, University of Wisconsin-Madison, May 1997.
- 18. Carayon, P., Schmitz, W. and Newman, L. <u>Work-Related Factors and Office Ergonomic Issues at WISDOT-DBM/BFS-BMS- Results of a Study of Office Employees and Computer Users-Final Report</u>. Department of Industrial Engineering, University of Wisconsin-Madison, June 1998.
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