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UQ Psychology home page: <http://www.psy.uq.edu.au/people/personal.html?id=533>

UQ Researchers: <http://researchers.uq.edu.au/researcher/1076>

CERG research group: <http://www.itee.uq.edu.au/cerg>

Citizenship Australian

Education

<i>Degrees</i>	<i>Field</i>	<i>Institution</i>	<i>Date</i>
Ph.D.	Engineering Psychology	University of Toronto	1985
M.A.	Cognitive Psychology	University of Toronto	1981
B.A. (Hons 1)	Cognitive Psychology	University of Western Australia	1979

Professional and Academic Positions Held

The University of Queensland

2008—present	Professor of Cognitive Engineering and Human Factors, The University of Queensland School of Information Technology and Electrical Engineering (50%) School of Psychology (50%) School of Medicine (0% affiliate appointment)
2005—2007	Director, ARC Key Centre for Human Factors, The University of Queensland Professor of Cognitive Engineering and Human Factors School of Information Technology and Electrical Engineering (50%) ARC Key Centre for Human Factors (50%) School of Medicine (0% from September 2006)
2001—2004	Professor of Cognitive Engineering and Human Factors School of Psychology (24%) School of Information Technology and Electrical Engineering (46%) ARC Key Centre for Human Factors (30%).

National ICT Australia

2008—2011	UQ contributed/bought out staffmember (100% in 2008-2010, 70% in 2011) to National Information and Communication Technology Australia (NICTA). Led NICTA's Cognitive and Organisational Systems Engineering (COSE) project
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Swinburne University of Technology

2001	Professor of Computer Science (Cognitive Engineering)
1997—2001	Professor of Computer Science (Human-Computer Interaction)
1997—2001	Director, Swinburne Computer-Human Interaction Laboratory (SCHIL)
1997—2001	Research Leader, Cognitive Systems Engineering Research Group (CSERG)

University of Illinois at Urbana-Champaign

2004—2006	Adjunct Professor, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign
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- 1997—2004 Adjunct Associate Professor, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign
- 1995-1996 Director, Engineering Psychology Research Laboratory (EPRL)
Co-Coordinator, Engineering Psychology Joint Program (EPJP), Institute of Aviation
- 1991-1996 Associate Professor (tenured), Department of Mechanical and Industrial Engineering (75%) and Department of Psychology (25%)
- 1985-1991 Assistant Professor (tenure-track), Department of Mechanical and Industrial Engineering (75%) and Department of Psychology (25%)

Commission of the European Communities

June-Dec 1992 Visiting Scientist, Joint Research Center, Ispra, Italy (sabbatical)

University of Toronto

1981-1985 Teaching Assistant, Departments of Psychology and of Industrial Engineering

University of Western Australia

1980 Tutor-in-Residence for Psychology, St. Catherine's College
Tutor/Laboratory Demonstrator, Department of Psychology

Area of research and major research contributions

Cognitive engineering; human-system integration in first-of-a-kind systems

My area of research is cognitive systems engineering, which is an interdisciplinary area focusing on the analysis, modeling, design, and evaluation of complex real-time socio-technical systems. I lead the **Cognitive Engineering Research Group (CERG)** at The University of Queensland. From 2008-2011 I also led the Cognitive and Organisational Systems Engineering (COSE) research project within National ICT Australia (NICTA) where I examined how analysts can perform prospective analyses of the impact of new technology, such as eHealth technologies, on human work.

1. **Theoretical contributions.** The theoretical goal of my research is to contribute to our knowledge of the principles underlying human-system integration. I do this by extending the European systems-oriented approach to cognitive engineering, focusing on analysis, design, and evaluation of human interaction with technology.
2. **Applied contributions.** The applied goal of my research is to contribute to our knowledge of how to design IT-based interfaces that guide the human operator's visual and auditory attention in the most effective way. I use theory to guide the design of visualizations and sonifications (auditory displays) of complex dynamic processes. My domains of application are critical care medicine (anesthesia, intensive care, and neonatology), health informatics (focus on critical care patient pathways), continuous process control (chemical processing, power generation), and aviation (air traffic control and air defence).
3. **Methodological contributions.** I have developed software tools to better define and support challenging analytic techniques in human factors and cognitive engineering, such as work domain analysis, verbal protocol analysis, and exploratory sequential data analysis (ESDA). Examples include the Work Domain Analysis Workbench (WDAW), and the SHAPA, MacSHAPA and OpenSHAPA video analysis tools.

Research leadership and innovation

At The University of Queensland, 2001—present

- At The University of Queensland I hold the first Australian chair specifically named to the areas of Cognitive Engineering and Human Factors. I am the Research Leader of the **Cognitive**

Engineering Research Group (CERG) a research group allied with the ARC Key Centre for Human Factors and Applied Cognitive Psychology and the School of ITEE.

- I took a leadership role in initiating a multi-million dollar strategic project in Cognitive and Organisational Systems Engineering within **National Information and Communication Technology Australia (NICTA)**. NICTA and the Queensland State Government committed \$5.4 million each for this initiative over 2008-2011, making \$10.8 million in total.
- **The University of Queensland Usability Laboratory (UQUL)** was completed in August 2002 under my direction and was equipped from strategic initiative funding of \$100,000. An upgrade was completed in December 2010 with a \$127,000 UQ Major Equipment Infrastructure grant. The UQUL is a state-of-the-art facility for cognitive engineering. Although primarily a research facility, the UQUL has exposed hundreds of undergraduate and graduate students to professional user testing and is occasionally used by local companies for commercial testing.

At Swinburne University of Technology, 1997—2001

- At Swinburne University from 1997 to 2001 I held the first Australian chair specifically named to the area of Human-Computer Interaction. In 2001 the chair title was changed to the area of Cognitive Engineering, which was also a first for Australia.
- I was the inaugural Director of the Swinburne Computer-Human Interaction Laboratory (SCHIL). Within SCHIL I was the Research Leader of the Cognitive Systems Engineering Research Group (CSERG).
- I secured chancellorial strategic funding for the funding, construction, and refurbishment of the **SCHIL Usability Laboratory and Research Centre**, which opened in January 1999. I also received Strategic Initiative funding for support of the Academic Research Initiative in Cognitive Systems Engineering at SCHIL from 2001—2003.
- My research leadership at Swinburne focused on building SCHIL's national and international reputation in HCI and cognitive engineering. A series of distinguished international HCI and cognitive engineering experts visited SCHIL as funded Research Fellows during my Directorship (eg John Long, James Alty, Jens Rasmussen, Dal Vernon Reising, Kim Vicente, Colin Drury, Daniel Gopher).

At University of Illinois at Urbana-Champaign, 1985-1996

- As a member of the Engineering Psychology Joint Program (EPJP) at University of Illinois, I helped to establish the Engineering Psychology Research Laboratory (EPRL) in the Department of Mechanical and Industrial Engineering.
- In 1987 I inaugurated the production and distribution of an influential series of EPRL technical reports. I also inaugurated and maintained a human subject pool through the EPRL. I organised EPRL research meetings from 1986-1994 and then the broader EPJP research meetings from 1995-1996. I inaugurated the EPJP webpages in 1994.
- From 1995-1996 I was Director of the EPRL. Together with Prof C. Wickens from 1995-1996 I was also Co-Coordinator of the teaching program of the EPJP. The latter involved negotiation and coordination of around twenty Engineering Psychology/Human Factors subject offerings per annum across eight faculty members in three separate university departments and colleges.

Awards and Honors

As faculty member

Professional awards

Human Factors and Ergonomics Society of Australia (HFESA) **Ron Cumming Memorial Lecture and Medal** for 2014.

Human Factors and Ergonomics Society (USA) **Paul M. Fitts Education Award** for 2012.

Elected a **Fellow of the Human Factors and Ergonomics Society** (USA) in 2012.

American Psychological Association **Franklin V. Taylor Award** for Outstanding Contributions in the Field of Applied Experimental/Engineering Psychology (APA Division 21), 2012.

Royal Academy of Engineering **Distinguished Visiting Fellowship** for 2009, hosted by Prof William Wong at Middlesex University and the Swedish Defence Research Agency (FOI), Linköping, Sweden.

Elected a **Fellow of the Academy of the Social Sciences in Australia** (2004). The academy consists of around 500 senior Australian social scientists.

Awarded the Human Factors and Ergonomics Society (USA) **Distinguished International Colleague Award** for 2004.

Co-winner [with M. Watson], **Trailblazers** competition, 2004. Award given by UniQuest (UQ commercialisation arm) for research innovations with potential commercial value. Project: Bispectral index (BIS) auditory display.

Selected to apply for inaugural round of the **ARC Federation Fellowships** by The University of Queensland, 2001.

Research paper awards

Journals

Awarded the USA-based Human Factors and Ergonomics Society's 2005 **Jerome Ely Award** for the best paper in *Human Factors* in 2004 (with M. Watson) [at time of award, I was only the fourth person in the 50-year history of HFES to win this award more than once].

Awarded the USA-based Human Factors Society's 1990 **Jerome H. Ely Award** for the best paper in *Human Factors* in 1989.

Conferences

Co-author of winning paper for **Alphonse Chapanis Student Paper Award** of the USA-based Human Factors and Ergonomics Society with student authors Mia McLanders, Chiara Santomauro, and Jimmy Tran, 2014.

Co-author of paper winning **Best Student Paper Award** from the Cognitive Engineering and Decision Making Technical Group of the USA-based Human Factors and Ergonomics Society with visiting students Stephan Huber and Michael Weng and colleague Dr Tobias Grundgeiger, 2014.

Shortlisted for **Alphonse Chapanis Student Paper Award** of the USA-based Human Factors and Ergonomics Society (top 3 finalists) with lead author PhD student Itsik Nadler, 2011.

Runner up for **Best Student Paper Award** from Healthcare Technical Group of the USA-based Human Factors and Ergonomics Society with lead author PhD student Itsik Nadler, 2011.

Shortlisted for **Alphonse Chapanis Student Paper Award** of the USA-based Human Factors and Ergonomics Society (top 3 finalists) with lead author PhD student Tobias Grundgeiger, 2010.

Runner up for **Best Student Paper Award** from Healthcare Technical Group of the USA-based Human Factors and Ergonomics Society with lead author PhD student Tania Xiao, 2010.

Shortlisted for **Alphonse Chapanis Student Paper Award** of the USA-based Human Factors and Ergonomics Society (top 3 finalists) with lead author PhD student David Liu, 2009.

Awarded equal 1st place for **Best Paper** at the International Symposium on Wearable Computing (ISWC2009) (With lead author PhD student David Liu and Simon Jenkins)

Awarded 3rd place for **Best Abstract in the area of Technology** at the International Meeting on Simulation in Healthcare (IMSH 2009). Lake Buena Vista, FL, 11-14 January, 2009.

Awarded **Best Abstract** in Anesthesia Education/Information Systems at the Society for Technology in Anesthesia conference (STA2008), San Diego, CA, 16-19 January 2008. (With 4 coauthors).

Co-author of **best student paper** for the Annual Meeting of the Human Factors and Ergonomics Society within the Cognitive Engineering and Decision Making Technical Group. (with lead author PhD student Xilin Li and three others).

Awarded **Best Abstract** in Anesthesia Education/Information Systems at the Society for Technology in Anesthesia conference (STA2007), Orlando FL 17-20 January 2007. (With 9 coauthors).

Co-winner of the Conference Award for the **Best Paper** presented at the European Conference on Decision Making and Manual Control (EAM2005) (with lead author PhD student Xilin Li).

Awarded the Computer Human Interaction Special Interest Group's (CHISIG) Gitte Lindgaard Award for the **best written and best presented paper** at the joint annual conference of the Ergonomics Society of Australia (ESA) and CHISIG (HF2002), Melbourne 25-27 November, 2002. [With lead author PhD student Janet Anderson and Mike Norris]

Teaching awards

Paul M. Fitts Education Award for 2012 from the Human Factors and Ergonomics Society (USA) (see also professional awards).

"Most effective teacher" nominations at The University of Queensland for 2002, 2003, 2004, and 2012 (students with 6/7 GPA or higher nominate specific classroom teachers for effectiveness).

Postgraduate subject "Human Computer Interaction" [HIT8023] cited for **Best Practice** within School of Information Technology, Swinburne University of Technology, 2001.

Postgraduate subject "Interactive Systems Design/Cognitive Engineering" [HIT8028] cited for **Best Practice** within School of Information Technology, Swinburne University of Technology: 1999.

Faculty member of **Alpha Pi Mu** (industrial engineering honor society in the USA), 1995.

Ranked in the University of Illinois' **Incomplete List of Teachers Ranked as Excellent by their Students** on three occasions 1985-1996.

Awarded a **Lilly Endowment Teaching Fellowship**, 1987-1988 (One of six chosen in a campus-wide competition for all tenure-track Assistant Professors at UIUC and one of 36 across the USA).

As student

Elected **Resident Junior Fellow** at Massey College in the University of Toronto, 1984.

Julien Christensen Award for **Best Student Paper** at 1983 Meeting, Human Factors Association of Canada, 1983.

Julien Christensen Award for **Best Student Paper** at 1982 Human Factors Association of Canada, 1982 Meeting (paper co-authored with S. Kennedy, R. Jackson, B. Shiff & L. Ting)

Canadian Commonwealth Scholar, 1981-85.

Scholarship from Committee of Vice Chancellors and Principals for D.Phil. study at Oxford University, UK, (declined), 1980.

St. Catherine's College General Academic Prize, University of Western Australia, 1980.

Australian Psychological Society Prize in Psychology, Australian Psychological Society, 1979

H. L. Fowler Prize in Psychology, University of Western Australia, 1979.

Convocation Prize in the Faculty of Arts, University of Western Australia, 1975.

Dr. H. Einihovici Prize in Italian, University of Western Australia, 1975.

Professional Societies

Human Factors and Ergonomics Society (**HFES**): Member (continuously since 1985)

- Cognitive Engineering and Decisionmaking Technical Group
- Healthcare Technical Group
- Aerospace Technical Group
- Perception and Performance Technical Group
- Human Performance Modeling Technical Group

Australian Institute of Company Directors (**AICD**): Member (2010-2014)

IEEE Systems, Man, and Cybernetics Society (**IEEE-SMC**): Member (until 2005)

Association for Computing Machinery (**ACM**): Voting Member (until 2005, then 2010)

- Special Interest Group on Computer-Human Interaction (**SIGCHI**)

American Psychological Association (**APA**): Member. (until 2005, 2013)

- Division 3 (Experimental Psychology)
- Division 21 (Applied Experimental and Engineering Psychology)

Computer-Human Interaction Special Interest Group (**CHISIG**) of the Ergonomics Society of Australia: Member (intermittent until 2005)

Ergonomics Society of Australia (ESA) / Human Factors and Ergonomics Society of Australia (HFESA) (initially from 1986 intermittently to 2005, then 2014 to present)

Human Factors and Ergonomics Society – The University of Queensland Student Chapter (HFES-UQ). I am the **faculty advisor for the HFES-UQ student chapter**. The HFES-UQ student chapter is only the fourth student chapter to be formed outside the USA, and is the first in the southern hemisphere.

Editorial and Reviewing Activities

Memberships of editorial boards and associate editorships

Present

2014-present	Associate Editor, <i>Human Factors</i>
2014-present	Consulting editor, <i>Journal of Experimental Psychology: Applied</i>
2004-present	Editorial board, <i>Journal of Cognitive Engineering and Decision Making</i>
2004-present	Regional editor for Australasia-Pacific, <i>Cognition, Technology, and Work</i>

Past

2012-2013	Associate Editor, <i>Journal of Experimental Psychology: Applied</i>
2007-2011	Consulting editor, <i>Journal of Experimental Psychology: Applied</i>
2005-2013	Editorial board, <i>Human Factors</i>
2002-2005	Associate Editor, <i>International Journal of Human Computer Studies</i>
1997-2004	Editorial board, <i>Cognition, Technology, and Work</i>
1995-2001	Editorial board, <i>Le Travail Humain</i>
1989-1993	Editorial board, <i>International Journal of Human Factors in Manufacturing</i>
1987-1997	Editorial board, <i>Human Factors</i>
1993-1994	<i>Human-Computer Interaction</i> . Co-special issue editor for special issue on Exploratory Sequential Data Analysis (1994, Vol 9, Nos 3 and 4).

Regular or occasional reviewing for journals where/when not on editorial board

Anesthesia and Analgesia (A&A)
American Journal of Psychology (AJP)
Applied Ergonomics (AE)
Automatica
Cognition, Technology, and Work (CTW)
Ergonomics
Expert Systems – The Journal of Knowledge Engineering
Human Factors (HF)
IEEE Transactions on Systems, Man, and Cybernetics (IEEE-SMC)
Journal of the American Medical Informatics Association (JAMIA)
Journal of Cognitive Engineering and Decision Making (JCEDM)
International Journal of Human-Computer Studies (IJHCS)
International Journal of Human Factors in Manufacturing (IJHFM)
International Journal of Medical Informatics (IJMI)
Journal of the American Medical Informatics Association (JAMIA)
Journal of Experimental Psychology: Applied (JEPA)
Journal of Experimental Psychology: Learning, Memory and Cognition (JEP:LMC)
Le Travail Humain
Simulation in Healthcare
Transactions on ASME/Journal of Engineering for Industry

Australian Research Council (ARC).
 Economic and Social Research Council (ESRC), UK
 Engineering and Physical Sciences Research Council (EPSRC), UK
 Human Factors and Ergonomics Society Annual Meeting proposals (CEDM TG and HC TG).
 HF2002 (Human Factors 2002 joint HFESA/CHISIG conference, Melbourne, Australia).
 National Science and Engineering Research Council (NSERC) Canada
 National Science Foundation (NSF), USA
 OzCHI conferences (HFESA/CHISIG annual conference)
 Singapore's A*STAR Agency for Science, Technology, and Research

I have also reviewed multiple candidates for promotion and/or tenure in the USA and Canada.

Supervision of Thesis Research

<i>Honours theses supervised to completion (UIUC)</i>	1	John Mendenhall
<i>Honours theses supervised to completion (UQ)</i>	22	Annyck Savill, Elizabeth Pronger, Lisa Bright, Vivian Shek, Alexandra Wee, Owen Ogden, Angela Dossetor, Nathan Tosh, Stephen Phil, David Liu, Eunice Seah, John Nash, Peter Garden, Matthew Thompson, Sean Lowe, Morgan Tear, Will Harrison, Michael Muthukrishna, Nick Stevens, Liisa Meys, Bonnie Harris, James Atyeo, Dan McIntyre, Sheena Bala, Hayden O'Sullivan, Kelly Hinckfuss, Elizabeth Vilgan, Sarah Fouhy.
<i>Masters theses supervised to completion (MSIE, UIUC): (these two-year US-based degrees had a 50% thesis component)</i>	13	Brian Grimsley, Alan Verhage, Mary Anne Buttigieg, Teresa Appeddu, Tim Buss, Heather Singalewitch, Dal Vernon Reising, Melinda Seiler, Tom Johnson, Matt Kaminski, Nick Iozzo, Irene Au, Ken Schneider
<i>Masters theses supervised to completion (MIT, Swinburne):</i>	3	Walter Skilton, Barbara Hurst, Jennifer Crawford
<i>Masters theses supervised to completion (UQ)</i>	5	[MHUFA] Sheen Yap, Gaylene Heard, Graeme Laycock [MOrgPsych] Tahli Kipps [MCompSci] Jim Jin
<i>Ph.D. degrees supervised to completion (all)</i>	14	<p><i>Supervisor</i></p> <p>Prof Kim Vicente (with J. Flach) (Prof, Univ of Toronto)</p> <p>Dr Dal Vernon Reising (Senior Partner, Human-Centered Solutions, LLP)</p> <p>A/Prof Marcus Watson (Associate Prof, Univ of Qld)</p> <p>Dr Anne Miller (Associate Prof, Vanderbilt Univ)</p> <p>Dr Janet Anderson (Senior Lecturer, Kings College London)</p> <p>Dr Stas Krupenia (Cognitive Engineer, Scania, Sweden)</p> <p>Dr Xilin Li (Senior Human Factors Specialist, Airservices Australia)</p> <p>*Dr David Liu (MBBS in progress plus further postgrad studies at UQ and Univ of Sydney)</p> <p>*Dr Tobias Grundgeiger (Assistant Prof, Wurzburg University, Germany)</p> <p>Dr David Crone (Senior Operations and Systems Scientist, DSTO)</p> <p>*Dr Itsik Nadler (Human Factors and Defence consultant, Israel)</p> <p>Dr Tania Xiao (Lecturer, Australian Institute of Psychology, Brisbane Australia)</p> <p>Dr Maureen Hassall (Research Fellow, MISHC, UQ)</p> <p>Dr Cara Stitzlein (St Louis, MO, USA)</p> <p>Dr Stu Marshall (Director, Patient Safety Unit, Monash Injury Research Institute, Monash University)</p>
	3	<p><i>Associate Supervisor</i></p> <p>*Dr Karen Joughin (medical practitioner, Canada)</p> <p>Dr Anisah Nizar</p> <p>Dr Zhe (John) Lu</p> <p>*Dr Matthew Brandon Thompson (Harvard Med school/UQ Postdoc)</p> <p>(* = Dean's Award for Research Higher Degree Excellence given to top 10% of UQ PhD degrees granted)</p>

<i>Ph.D. thesis students currently supervised:</i>	5	<i>Supervisor</i> Tara McCurdie, Michael Pascale, Mia McLanders, Chiara Santomauro, Kelly Hinckfuss
<i>Doctoral theses on which I have acted as internal or external examiner (Australia)</i>	7	Andrew Turk (Univ of Melbourne), Ming Tham Po (Univ of Melbourne), Julia Clancey (Univ of Melbourne), Christine Boag (Univ of Queensland), Shayne Loft (UQ), Peter Henley (Curtin Univ), Felix Acker (Latrobe Univ)

Paper awards to/with students under my supervision

In 2014 a paper with Mia McLanders, Chiara Santomauro and Jimmy Tran was outright winner of the USA-based Human Factors and Ergonomics Society's **Alphonse Chapanis Student Paper Award** for research done under my supervision.

In 2014 a paper with visiting students Stephan Huber and Michael Weng and colleague Dr Tobias Grundgeiger won (equal first) the USA-based Human Factors and Ergonomics Society's **Cognitive Engineering and Decision Making Technical Group's best student paper**.

In 2012 Tobi Grundgeiger was awarded the American Psychological Association's Division 21 **George E. Briggs Dissertation Award** for his PhD thesis.

In 2011 a paper with PhD student Itsik Nadler as first author was runner up for the Human Factors and Ergonomics Society's **Healthcare Technical Group's best student paper** for research done under my supervision.

In 2011 a paper with PhD student Itsik Nadler as first author was shortlisted (top three) for the Human Factors and Ergonomics Society's **Alphonse Chapanis Student Paper Award** for research done under my supervision.

In 2011 a paper with PhD student Tobias Grundgeiger was **nominated** by the editors of *Journal of Experimental Psychology: Applied* for the **Liberty Mutual Medal**.

In 2010 a paper with PhD student Tania Xiao as first author was runner up for the Human Factors and Ergonomics Society's **Healthcare Technical Group's best student paper** for research done under my supervision.

In 2010 a paper with PhD student Tobias Grundgeiger as first author was shortlisted (top three) for the Human Factors and Ergonomics Society's **Alphonse Chapanis Student Paper Award** for research done under my supervision.

In 2009 a paper with PhD student David Liu as first author was shortlisted (top three) for the Human Factors and Ergonomics Society's **Alphonse Chapanis Student Paper Award** for research done under my supervision.

In 2009 a paper with PhD student David Liu as first author won the **Best Paper** award at the International Symposium on Wearable Computing (ISWC2009).

In 2009 a paper with PhD student David Liu as first author won 3rd place for the **Research Excellence Paper Award** at the International Meeting on Simulation in Healthcare (IMSH2009), January.

In 2008 a paper with PhD students David Liu and Tobias Grundgeiger won **Best Abstract Award** for Excellence in Anesthesia Education/Information Systems at the Society for Technology in Anesthesia conference, San Diego, CA. 16-19 January.

In 2007 a paper with PhD student Xilin Li as first author won **best student paper** for the Annual Meeting of the Human Factors and Ergonomics Society within the Cognitive Engineering and Decision Making Technical Group.

In 2005 a paper authored by me and presented by PhD student Xilin Li was co-winner of the **EAM 2005 Best Paper Award** at the European Annual Manual conference, October, 2005.

In 2005 the Human Factors and Ergonomics Society of the USA awarded the **Jerome Ely Award** for the best paper in *Human Factors* in 2004 to M. Watson and me for a paper based on Watson's PhD thesis which I supervised.

In 2002 at the joint conference of the Ergonomics Society of Australia and of CHISIG (HF2002), PhD student Janet Anderson won CHISIG's **Gitte Lindgaard Award** for the best written and best presented paper at the HF2002 conference. The paper was on research done while under my supervision and was coauthored with me and Michael Norris.

In 2000 at the joint congress of the Human Factors and Ergonomics Society and the International Ergonomics Association (HFES/IEA2000) PhD student Anne Miller won the Human Factors and Ergonomics Society's **Alphonse Chapanis Student Paper Award** for research done while under my supervision.

I have supervised approximately **80 undergraduate students doing research in my laboratory**, either for honours thesis projects or for research experience credits.

Teaching Laboratory Development

At The University of Queensland

I established and built the **University of Queensland Usability Laboratory (UQUL)**. In addition to intensive research use, the UQUL has been used regularly for undergraduate and postgraduate class demonstrations and exercises. Classes exposed to the UQUL since August 2002 include DECO2500, DECO7250, COMP2506, COMP3501, COMP7904, COMP4501, PSYC3062, and HMST6611 (classes in Human Factors, Human-Computer Interaction, and Ergonomics). Many students have had the opportunity to learn HCI and user testing skills in the UQUL.

At Swinburne University

I designed, established, and built the **SCHIL Usability Laboratory**. Amongst other uses, the SCHIL UL was used for postgraduate teaching in my Master of Information Technology HCI subject (HIT8023). Students learned to design, plan, conduct, and analyse results from a well-designed usability study. Projects from Semester 1 1999 (redesigned MetCard ticket machine interfaces) were featured on Channel 7's *Today Tonight* program. Enrolments in the HCI subject doubled between 1999 and 2000 and the HIT8023 subject was cited for best practice within the School in 2001. Many students had the opportunity to learn HCI and user testing skills in the SCHIL Usability Laboratory.

At University of Illinois at Urbana-Champaign

Together with Professor Neville Moray I established the **Cognitive Engineering Teaching Laboratory (CETL)** at University of Illinois in 1994. This was a dedicated laboratory space that supported the graduate and undergraduate teaching of human factors, cognitive engineering, information systems design, and human-computer interaction with demonstrations of human factors principles plus prototyping and evaluation exercises. Development of the CETL was supported with funds from Hewlett-Packard, and Apple Computer, Inc, through three successive grants from the Educational Technologies Board, University of Illinois.

Course Development and Redesign

Graduate courses developed and taught

For 2007 and 2008 at UQ, I was the **convenor** of the ARC Key Centre for Human Factors' suite of **online Masters, Graduate Diploma, and Graduate Certificate programs in Human Factors.**

I was also convenor of research project subjects HUFA7004, HUFA7006 and HUFA7007/7010 that all students completing the Masters were required to take.

Human-computer interaction (online distance HUFA7009 at The University of Queensland)

Human-computer interaction (COMP7904 at The University of Queensland)

Human-computer interaction (HIT8023 at Swinburne University)

Interactive systems design (HIT8028 at Swinburne University)

Cognitive systems engineering (HIT8028 at Swinburne University)

Skills, expertise and mental models in complex systems (at University of Illinois)

Cognitive engineering (at University of Illinois)

Applied behavioral decision theory (at University of Illinois)

Analysis, modeling and design of human-machine systems (at University of Illinois)

Undergraduate courses developed and taught

Human Factors in Extreme Environments (PSYC4991 and PSYC4992) The University of Queensland

Advanced HCI (COMP4501 and DECO4500/7450) The University of Queensland

Advanced seminar in human factors psychology (PSYC4991 at The University of Queensland)

Introduction to human factors/Skills and human factors (PSYC3062 at The University of Queensland)

Human computer interaction (COMP3501 and DECO2500/7250 at The University of Queensland)

Issues of mental representation in engineering psychology (at University of Illinois)

Human factors in human-machine systems (at University of Illinois)

Human factors design (HCI) lab (at University of Illinois)

Further Areas of Teaching Competence

Quantitative, qualitative, and model-based approaches to behavioural data analysis

Experimental and quasi-experimental methods.

Foundational courses in cognition and learning

Visualization and sonification: Principles of multimodal information design

Invited Activities (see also Presentations)

2015

Invitation to Department of Applied Psychology, Lingnan University, Hong Kong as senior visiting research scientist, March 30-April 4.

2014

Invitation to give Ron Cumming Memorial Lecture at the HFESA2014 conference, Adelaide, 19 November, 2014.

Invited to give address to PAH Magnet Champions Seminar on PAH Nurses' use of smartphones. 2 October, 2014.

Invited to be keynote speaker at the ODAM 2014 conference in Copenhagen, Denmark: 18-20 August, 2014

Invitation to give keynote address at the "Legacy of Jens Rasmussen" seminar, Copenhagen and Roskilde, Denmark. 20-21 August, 2014.

Invited to participate in the DSTO/Univ SA Workshop on Trusted Autonomy, University of South Australia, February 2014.

Invitation to participate in workshop at Georgia Institute of Technology on strategic behaviour in the individual human process operator, Atlanta, USA, May 2014

Invitation to present at the St Aidan's Anglican Girls' School's 'Women in Science' day. May, 2014.

2013

- Invitation to give address at DSTO Defence eFFECTS meeting, Melbourne, 14 October 2013.
- Invitation to be keynote speaker at the Undergraduate Research Conference, Research Week, The University of Queensland, 17 September, 2013.
- Invitation to give address at the American Psychological Association annual conference Division 21 kickoff session, Hawaii USA, 30 July 2013.
- Invitation to be panel speaker at the "Publishing with Impact" seminar at the American Psychological Association annual conference Division 21 session, Hawaii USA 2 August 2013.
- Invitation to address the School of Psychology, University of Wurzburg, Germany, 20 March, 2013.

2012

- Invitation to give keynote address at the Safety Institute of Australia Qld/NT Division 20th Annual Occupational "Visions" Health and Safety Conference, 29-31 August 2012. (declined)
- Invited to participate in the AFOSR Workshop on "Human-Machine Trust for Robust Autonomous Systems". Hosted at Institute for Human and Machine Cognition, Ocala, FL. 24-26 January, 2012.
- Invitation to give keynote address at the 2nd International Conference of the South East Asian Network of Ergonomics Societies (SEANES)/1st Annual Conference of the Human Factors and Ergonomics Society Malaysia (HFESM2012), Malaysia, 9-12 July. (declined—expenses not covered).

2011

- Invited speaker at the Centre of Research Excellence in Patient Safety (CRE-PS) one-day seminar on "Practical Human Factors". Melbourne, 18 November, 2011.
- Invited plenary keynote speaker at the Conference on Naturalistic Decision Making (NDM2011). Orlando, FL. 31 May – 3 June, 2011.
- Invitation to give plenary address at SimHealth 2011, Sydney NSW, 12-15 September. (declined—date conflict).
- Invitation to give plenary address at HISA Health Informatics Conference (HIC2011), Brisbane, Australia, 1-5 August 2011. (declined—inappropriate scope of talk requested)

2010

- Invited plenary keynote speaker at the World Computer Congress, Brisbane, Australia. 22 September 2010.
- Invited keynote speaker at the 1st IFIP-IMIA eHealth conference to be held as part of the World Computer Congress, Brisbane, Australia. 21-23 September, 2010.
- Invitation to speak at the Celebration of Applied Human Factors seminar in honour of Professor John Senders, Department of Mechanical Engineering, University of Toronto. 23 July 2010.
- Invitation to present departmental colloquium and address to interaction design group at Department of Information Systems, The University of Melbourne, Carlton, Victoria. (postponed).
- Invitation to speak at the 10th anniversary of the Centre for Health Informatics at University of NSW, Sydney, NSW. 15 June 2010.
- Invitation to address Queensland Health Information Division's Clinical Informatics Steering Committee, Friday 28 May 2010.
- Invitation to address Australia Red Cross Blood Service Transfusion Update, Melbourne, 19 May 2010 (declined—date conflict).
- Invitation to address the Australian Information Industry Association's (AIIA) eHealth Forum, Canberra, ACT. 29 April 2010.
- Invited to address Queensland Health's eHealth division forum (200 attendees), 17 February 2010.

2009

- Invited to give keynote address at the Annual Conference of the Human Factors and Ergonomics Society of Australia (HFESA), November 23-25 2009, Melbourne.
- Invited addresses (2) to School of Computer Science at Linkoping University, on 4 May, 2009
- Invited addresses (4) at Middlesex University during Royal Academy of Engineering Distinguished Visiting Fellowship, on 18, 21, 23, and 29 September, 2009.

Invited address at Visual Analytics Workshop (VAW2009), Middlesex University 15 September, 2009.

2008

Invited to be part of a 12-person Expert Reference Group (representing the Academy of the Social Sciences in Australia) to an initiative of the Australian Learned Academies to examine the foundation on which decisions about nuclear power in Australia should be determined. This is an initiative of the Australian Academy of Science, the Academy of Technological Sciences and Engineering, the Australian Academy of the Humanities, and the Academy of the Social Sciences in Australia.

Invited to give plenary address to the Australian Aviation Psychology Conference, Brighton-le-Sands, Sydney, 8 April, 2008.

2007

Invitation to give keynote address to the Third International Conference on Information Technology in Healthcare--Sociotechnical Systems (ICITH). Sydney, 28-30 August, 2007.

Invitation to give keynote address to Complex07, the 8th Asia Pacific Complex Systems conference, Gold Coast, 2-5 July 2007.

Invitation to give keynote address to the 6th Annual National SCADA (Supervisory Control and Data Acquisition) Conference. Melbourne, 20-21 June, 2007.

Invited to speak at NHMRC CREPS Clinical Handover Seminar, 23 February 2007, Brisbane.

2006

Invitation to give colloquium to Department of Industrial Engineering, University of Michigan. 23 October 2006.

Invitation to give colloquium to Wright State University, Dayton OH. 24 October, 2006.

Invitation to give presentation to the Australian Patient Safety Foundation, October 12 2006.

Invitation to give presentation to SimTecT Healthcare Simulation conference, September 11 2006, Brisbane, Australia.

Invitation to provide expertise in the area of human factors in process control to Singapore's SERC (Science and Engineering Research Council) Human Factors Engineering Workshop on 23 - 24 August, Singapore.

Invited to give plenary address to the 16th International Ergonomics Association World Congress on Ergonomics (IEA2006), Maastricht, The Netherlands. 10-14 July, 2006

Invited to participate in panel on Form and Function in Auditory Warnings at the IEA2006 conference, Maastricht, The Netherlands. 10-14 July, 2006

2005

Invitation to be a featured speaker at the NHMRC Centre of Research Excellence in Patient Safety "Bristol 10 Years On" Seminar, Alfred Hospital, 14 December 2005.

Invitation to visit University of Toronto as HFIG Annual Distinguished Alumni Speaker for the Human Factors Interest Group, Department of Mechanical and Industrial Engineering, 3 October, 2005.

Invited to give keynote address at the Annual Conference of the Human Factors and Ergonomics Society of Australia (HFESA), November 20-23, 2005. Canberra.

Invitation to be on organising panel for a scientific meeting and symposium to mark the 20th anniversary of Intelligent Decision Support Systems 1985 NATO ASI, Siena, Italy, September 2005.

2004

Invitation to present at the Cognitive Systems Engineering Consortium's symposium on Cognitive Work Analysis at University of Washington, Seattle, WA. November, 2004.

Invitation by D Gopher and Y Donchin to participate in panel session at HFES2004 on research progress in healthcare, HFES, September 2004.

Invitation to give departmental seminar to Department of Psychology, James Cook University, 9 April 2004,

Invitation to give departmental seminar to Department of Information Systems, University of Melbourne, 23 April 2004.

Invitation to present work on medical human factors to Department of Anesthesiology and Intensive Care, Royal Brisbane and Women's Hospital, Brisbane, Queensland, Australia, 10 March 2004.

2003

- Invitation to give presentation to the Ergonomics Society of Australia (ESA) annual conference, 24-25 November, 2003.
- Invitation to give presentation to Department of Cognitive Science, Rensselaer Polytechnical Institute, Troy, NY. w/c 20 October, 2003.
- Invitation to be featured speaker at the ceremonial opening of the Australian Taxation Office's usability laboratory in Brisbane, Queensland, Australia, Monday 18 August, 2003.
- Invitation to participate in a Patient Safety Research Workshop organised by the Office of the Australian Council for Safety and Quality in Health Care [Head: Prof Bruce Barraclough]. [Approximately 20 invited participants selected nationwide]. Friday 1 August 2003
- Invitation to present address at the Third UQ Symposium on Organisational Psychology, Emmanuel College, University of Queensland, Saturday 19 July, 2003.
- Invitation to give address and organise focused "humans and technology" session at the 2003 Australian and New Zealand College of Anaesthetists Annual Scientific Meeting, Hobart Tasmania, 3-7 May 2003.
- Invited speaker at CMHI workshop and CSE centre inauguration at Riso National Laboratory, Roskilde, Denmark, 5-7 February, 2003.

2002

- Invited featured address at the Patient Safety System Launch and Workshop, Princess Alexandra Hospital, Brisbane, QLD. 20 November, 2002 (with Dr Andrew Neal).
- Invitation to give address on video-based research at the Agency for Healthcare Research and Quality (AHRQ) Research Seminar on Video as Research Data. University of Maryland at Baltimore. 30 September, 2002.

2001

- Invitation to give keynote address to the Australian Interactive Multimedia Industry Association (AIMIA), August, 2001 (declined)
- Invitation to give departmental colloquium to the Department of Information Systems, University of Melbourne, May, 2001 (postponed)
- Invitation to give departmental colloquium to the Department of Anaesthesia at Western Hospital, Footscray, 9 April, 2001.
- Invitation to participate in and present at the International Workshop on Ecological Approach to Work Systems at Japan Atomic Energy Research Institute, 22-23 March, 2001.
- Invitation to give address at the 2001 Australian and New Zealand College of Anaesthetists/Australian Society of Anaesthetists Continuing Medical Education winter meeting, Melbourne, 21 July.

2000

- Invitation from Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (ESA) to give keynote address at the 2000 OzCHI conference, 4-8 December.
- Invitation to give invited plenary address at the 2000 conference of the Australian Aviation Psychology conference (AAvPsy), 20-24 November.
- Invitation to give address at the 2000 Australian and New Zealand College of Anaesthetists/ Australian Society of Anaesthetists Continuing Medical Education winter meeting, Melbourne, 22 July.
- Invitation (expenses paid) to participate in workshop at Haifa University, Israel, on HF in Medicine: Progress Towards a National Patient Safety database, June (declined).
- Invitation (expenses paid) to give keynote address at the 27th International Conference on Computers & Industrial Engineering (ICC&IE), to be held in Beijing, China, October 10-12 (declined)
- Invitation (expenses paid) to present special session on CWA and the system life-cycle at the US Air Force TP-7 Workshop on Cognitive Engineering, Dayton, OH, USA, May.
- Invitation (expenses paid) to give colloquium in the Air Force Laboratory Colloquium Series on Human-Technology Integration at Wright-Patterson Air Force Base, Dayton, OH, USA, May.

1999

Invitation to contribute to Symposium on Impact of new Technologies on Critical Care Medicine at the HFES/IEA2000 conference, San Diego, CA, USA, July 2000.

Invitation to Panel on Technology in Critical Care: Friend or Foe, at the HFES/IEA2000 conference, San Diego, CA, USA, July 2000.

Invitation to give presentation about SCHIL/DSTO collaborative activities to the DSTO Director and Chiefs of Divisions, DSTO AMRL, Fishermens Bend, 29 January, 1999

1998

Invitation to give keynote address at the 1998 OzCHI conference by the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia, December (organised special SCHIL/DSTO session on Cognitive Work Analysis instead).

1997

Invitation (expenses paid) to give keynote address at the International Workplace Health and Safety Forum and 33rd Ergonomics Society of Australia (ESA) Conference, Gold Coast, Qld, 24-27 November.

Invited day-long symposium and seminar (expenses partially paid) to Human Factors Group, Japan Atomic Energy Research Institute (JAERI) on analysing sequential data with Exploratory Sequential Data Analysis techniques. 13 November, 1997.

Invited colloquium (expenses partially paid) to Institute of Information Technology, University of Tsukuba, Tsukuba Science City, Japan, on the use of Cognitive Work Analysis for instrumentation engineering. 12 November, 1997.

Invitation to present in the Engineering Psychology session at the 1997 Experimental Psychology Society Conference. Deakin University, Geelong, Australia, 4 April

Invitation to give keynote address at the Fourth Australian Women in Computing Workshop (WIC97), University of Melbourne, 1 July.

1996

Invitation from the American Psychological Association's Division 21 (Applied Experimental and Engineering Psychology) to give address to the APA Annual Meeting, Toronto, Canada, August 9-13.

Invitation to present paper at the University of Illinois *Faculty Retreat on Individual Differences: Teaching for Active Learning*, 20 January.

Invitation to visit and present paper to School of Computer Science and Software Engineering, Swinburne University of Technology, Melbourne, Australia, 15-16 January.

Invitation to present paper on applications of the mental model concept at the *Attention and Performance* conference held in Haifa, Israel, June 1996 (declined).

1995

Invitation to be panel member on *The Limits of Formal Modeling* at Annual Conference of the International Federation of Automatic Control (IFAC'95), Boston, 28 June.

Invitation to contribute new chapter to *Handbook of Human Factors and Ergonomics* on Exploratory Sequential Data Analysis.

Invitation to present half-day workshop to AL/CFTO Crew Station Integration Branch, Human Engineering Laboratory, Wright-Patterson AFB, Dayton, OH. 2 August.

Invitation to present one-day workshop to Defence and Civil Institute of Environmental Medicine (DCIEM) Toronto, Canada: July.

Invitation to present one-day workshop to Microsoft Corporation (Seattle headquarters) on Exploratory Sequential Data Analysis, 17 March.

Invitation to Brooks AFB, San Antonio, TX, to present seminar and one-day workshop, 16 February.

1994

Invitation to be keynote speaker at the International Symposium on Temporal Reasoning and Behavioral Variability, Liege, Belgium, Nov. 7-8.

Invited paper presentation to the Symposium on Human Factors in Design for Manufacturability at the 1994 IEA Congress, Toronto, Canada, August 16-18.

Invited to visit Riso National Laboratory, Roskilde, Denmark and present three-day seminar on Exploratory Sequential Data Analysis, Aug 8-10.

Invitation to attend NASA/FAA/USAF-AL Workshop on Methods and Metrics of Voice Communication, San Antonio, TX, May 13-14.
 Invited panel presentation to the 2nd Naturalistic Decision Making Conference, Dayton, OH, June 14.
 Invited participant in the NRC workshop on Measures and Methods for Characterizing Operator Performance in Nuclear Power Plant Control Rooms, Phoenix, AZ, March 1-3.

1992

Invited to speak at the Indiana University 1992 Human Error Conference, March 25-27.
 Invited to attend MRC/APU workshop on Mental Models, Cambridge, UK: April.
 Visiting Scientist at Commission of the European Communities Joint Research Center, Ispra, Italy, June-December.

1991

Invited visitor to University of Trieste and gave two colloquia to the Department of Psychology, 6-12 January.
 Invited speaker in Panel on the Role of Human Factors in Automated Manufacturing, ASME Winter Annual Meeting, Atlanta, GA, Dec. 1-6.
 Invited visitor and colloquium speaker to University of Oklahoma, Nov.

1990

Invited symposium paper and panel discussant at Human Factors Society Annual Meeting sessions on verbal protocol analysis, Oct.
 Invited paper at International Conference on Human Factors in Design for Manufacturing and Process Planning, Hawaii, Aug. 9-11.
 Invited plenary paper at Second International Conference on Human Aspects of Advanced Manufacturing and Hybrid Automation, Hawaii, Aug. 12-16.
 Invited commentator and presenter to EEC-funded MOHAWC research consortium on cognitive modeling headed by Jens Rasmussen, Nov.

1989

Invited to participate in the Ciba Foundation/Royal Society Discussion Meeting on Human Factors in High Risk Situations: Modeling control processes within the operator, London, UK, June 30.
 Invited to participate in the ONR Workshop on Models of Complex Human Learning, Ithaca, NY, June 27-28.
 Invited to join a five-person team making a case to the National Science Foundation for support of human factors research in the context of industrial systems and manufacturing, Dec. 5.

1986

Participated in the NASA/UIUC Eighth Annual Carmel Conference on Workload and Training, Carmel, CA, Jan.

1985

Participated in the NATO Advanced Study Institute on Intelligent Decision Aids for Process Industries, San Miniato, Italy, Sept.

Workshops, Symposia, Panels Organized; Program Committees

2014

Co-coordinator and co-host (with Prof Janet Wiles) of scientific visit from AOARD/AFOSR representatives Dr Peter Friedland, and Lt Col Brian Sells, May 2014.

2012

Co-ordinator and host of scientific visit from AOARD/AFOSR representatives Dr Peter Friedland, Dr Hiroshi Motoda, and Lt Col Brian Sells, 11-12 December 2012.

2011

- Co-ordinator and host of scientific visit from AOARD/AFOSR representatives Dr Peter Friedland, Dr Jay Myung, Dr Joe Lyons, Prof B. Chandrasekharan and Dr Kevin Gluck, 10 November, 2011.
- Co-organising an NSF-funded workshop on "OpenSHAPA and Open Data Sharing". Organisation done with Prof Karen Adolph of New York University. Held at NSF Headquarters, Arlington VA. 15-16 September, 2011
- Co-organising an AOARD/AFOSR-funded workshop on "Understanding and Influencing Causality of Change", hosted by NICTA. Organisation done with Dr Ken Boff and Prof William B. Rouse of the Tennenbaum Institute, Georgia Institute of Technology. Hyatt Regency Sanctuary Cove, Gold Coast. 16-18 February, 2011.

2010

- Sanderson, P. (2010). Workshop for HIC2010: "The procurement process for health information systems". Workshop for the HISA Health Informatics Conference 2010. Melbourne, Victoria: 24-26 August.

2008-2009

- Program committee for the Triennial Congress of the International Ergonomics Association, Beijing, PRC, 14-18 August, 2009.

2004-2006

- Co-organising the 20-year anniversary workshop of the NATO ASI in Intelligent Decision Support for Process Industries, San Miniato, Italy (with E. Hollnagel, D. Woods, H. Bersini, A. Rizzo).

2003

- Co-organising the ARC Key Centre for Human Factors and Applied Cognitive Psychology Winter School, 2003.
- Co-organizer and presenter (with John O'Neill and Simon Goss of DSTO) of a symposium for the Fourth International Conference on Cognitive Science (ICCS) on "Cognitive Issues in the Design and Predictive Operation of Systems-of-Systems Applications Symposium". Sydney, Australia. Tuesday, 15 July, 2003.
- Program committee of the 22nd European Annual Conference on Human Decision Making and Control (EAM2003). Linköping, Sweden: June 2-4, 2003.

2002

- Organising ARC Key Centre for Human Factors and Applied Cognitive Psychology Winter School, 23-25 July, 2002.
- Co-organised and co-chaired a two-day workshop for DSTO and the Royal Australian Navy on "Research and Development Requirements for a Maritime Human Factors Centre of Expertise" 7-8 May, 2002, DSTO AMRL, Maribyrnong.
- Program committee, 21st European Annual Conference on Human Decision Making and Control, Glasgow, July 2002

2001

- Organised and chaired a half-day workshop for DSTO AOD Simulation personnel "DSTO Mission CWA Brainstorm". 3 April, 2001.
- Program committee, 8th IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design, and Evaluation of Human-Machine Systems, Kassel, Germany, September 18-20, 2001.

2000

- Organised and co-chaired a one-day Research and Education Workshop for the Australian Research Council (ARC) Key Center in Human Factors and Applied Cognitive Psychology. Swinburne University, 7 November, 2000.
- Organised and presented a half-day workshop at the Defence Human Factors Special Interest Group Meeting on Current issues in Work Domain Analysis and the WDAW Workbench, 31 October, 2000.
- Co-organised symposium on Cognitive Work Analysis in Australia for the HFES/IEA2000 conference, San Diego, CA, July 2000. [with N. Naikar]

1999

- Organised and presented one-day workshop to DSTO AMRL (at Victoria Barracks) on the Work Domain Analysis Workbench, 24 March, 1999.
- Organised and presented one-day workshop to DSTO Fernhill on the Work Domain Analysis Workbench, 22 March, 1999.
- Organised and presented one-day workshop to DSTO Salisbury on the Work Domain Analysis Workbench, 10 May, 1999.
- Organised and co-presented one-day workshop to DSTO Fernhill on Cognitive Work Analysis, 19 February, 1999. [With K. Vicente, N. Naikar, & P. Benda].
- Organised and co-presented one-day workshop to DSTO Salisbury on Cognitive Work Analysis, 23 February, 1999. [With K. Vicente, G. Lintern, N. Naikar, P. Benda, & M. Watson].
- Organised and co-presented one-day workshop to DSTO AMRL on Cognitive Work Analysis, 25 February, 1999. [With K. Vicente, G. Lintern, N. Naikar, & P. Benda].

1998

- Organised and co-presented special symposium on SCHIL/DSTO work on Cognitive Work Analysis for the 1998 OzCHI conference—Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia, December, 1998.

1997

- Organised and co-presented three-day workshop to DSTO Salisbury on Taming Information Complexity, 26-28 February, 1997 [with S. Howard, Y. Leung, C. Pilgrim, K. Mouzakis, & M. Creek].

1995

- Organised and presented one- or two-day workshops on MacSHAPA and Exploratory Sequential Data Analysis for:
 - Wright-Patterson Air Force Base (August, 1995)
 - DCIEM, Toronto, Canada (August, 1995)
 - LAMIH, University of Valenciennes (June, 1995)
 - Johnson Wax, Inc (April, 1995)
 - Microsoft Corporation (March, 1995)
 - Brooks Air Force Base, TX, (February, 1995)

1994

- Organised and presented one- or two-day workshops on MacSHAPA and Exploratory Sequential Data Analysis for:
 - Aeronautical and Maritime Research Laboratories, DSTO (December, 1994)
 - AT&T Global Information Systems (October, 1994)
 - Riso National Laboratory (August, 1994),

1993

- Co-organized and chaired a one-day workshop on Exploratory Sequential Data Analysis in Practice at the Human Factors and Ergonomics Society Annual Meeting, October, 1993.

1992

- Presented two-day workshop on Exploratory Sequential Data Analysis for the Institute for Systems Engineering and Informatics, Commission of the European Communities' Joint Research Center, Ispra, Italy, October 1992.
- Presented one-week workshop on Experimentation and Quasi-Experimentation for the Institute for Systems Engineering and Informatics, Commission of the European Communities Joint Research Center, Ispra, Italy, July 1992.
- Co-organized and chaired a one-day workshop on Exploratory Sequential Data Analysis (ESDA): Traditions, Techniques and Tools at the CHI'92 annual conference, Monterey, CA, May 4, 1992.

1991

- Presented one-day workshop on Verbal and Non-Verbal Protocol Analysis with SHAPA to University of Melbourne, July 30, 1991.

1989

Chair of panel session on Human-Computer Interactive Scheduling in Manufacturing for the IEEE Conference on Systems, Man, and Cybernetics, Boston, MA, Oct. 1989.

1988

Organized symposium on Visual Information Engineering for Human Factors Society Meeting in Anaheim, CA, Sept. 1988.

1986

Organized panel seminar for IEEE Systems, Man, and Cybernetics Society on Mental Models for the IEEE Conference on Systems, Man, and Cybernetics, Atlanta, GA, Oct. 1986.

Research Grants, Contracts, and Consultancies

Research Grants and Contracts while in Australia: 1997—present

The following table shows past, current, and pending research grants and contracts on which I am listed as Chief Investigator or Co-Chief Investigator. The table includes research grants and contracts from 1997 onwards, since I returned to Australia. All amounts are in Australian dollars. Grants pending are noted and are shown at top.

Note: Australian Research Council (ARC) grants include *no overhead*. Other grants and research contracts include minimal overhead only (10% to 20%) and do not include graduate research assistant payments or tuition and fee waiver. Graduate research assistant support comes from a separate government source. Therefore the dollar amount granted in Australian grants goes further than in some other countries.

Sponsor	Dates	Investigator Names and Title of Project	Amount (AUD\$)
ARC Discovery Projects	2014-2016	SANDERSON, Loeb, & Liu Sonification and Multiple Patient Monitoring DP140101822	\$388,000
ARC Discovery Projects	2014-2016	SANDERSON, Aitken, Dekker, Venkatesh, Grundgeiger, & Liu Interruptions, work coordination, and resilience. DP140101821	\$489,000
Department of Foreign Affairs and Trade (DFAT) Passport Office		Haslam, Tangen, SANDERSON, Peters, & Greenaway "Provision of behaviour change research services for lost and stolen passports"	\$24,000
Defence Science and Technology Organisation (DSTO)	2013-2014	SANDERSON & Hassall "Envisioning defence futures with emerging technologies using Cognitive Work Analysis"	\$83,000
PA Foundation (Princess Alexandra Hospital)	2013	Venkatesh, Aitken & SANDERSON "Assessment of the burden and consequences of interruptions in health care to workflow and patient outcomes"	\$75,000
PAH Nursing Resource Development Unit	2012-2013	SANDERSON & Kipps "Investigation into nurses' use of mobile phones during clinical care"	\$16,417
National Science Foundation (NSF)	2012-2014	Adolph, Gilmore, SANDERSON, and Freeman (UQ subcontract \$200K removed after award due to Col)	\$2,443,500
National Science Foundation (NSF)	2011	Adolph & SANDERSON Workshop on "Data Coding, Analysis, Archiving, and Sharing for Open Collaboration: From OpenSHAPA to Open Data Sharing". Arlington VA, September 2011 12 August 2011: NSF 1139702	\$43,209

Asian Office of Aerospace Research and Development (AOARD)	2010-2011	Boff, Rouse, & SANDERSON Workshop on "Understanding and influencing the causality of change." Gold Coast, QLD February 2011 Aug 2010 FA2386-10-1-1059: \$26,615 Dec 2010 FA2386-11-1-1006: \$20,708 Feb 2011 FA2386-11-1-1029: \$23,114	\$70,438
National Health and Medical Research Council (NHMRC)	2010-2012	McNeil, Cameron, Jolley, Stevenson, Wood, SANDERSON, Isbister. "Transfusion Research: Improving Outcomes (TRIO)"	\$900,000
Australian Research Council (ARC) Discovery Project	2008-2010	SANDERSON & Venkatesh "Coordination and communication in critical care: Assessing potential technology support" DP0880920	\$259,000
National Health and Medical Research Council (NHMRC)	2008-2013	SANDERSON, Watson, Russell, Morris, Taraporewalla, & Jenkins. "Clinical trial of respiratory sonification" NHMRC Development Grant 511088 (re-recorded to 2013)	\$97,813
Queensland State Government and NICTA Australia	2008-2011	SANDERSON, Neal, et al. "Cognitive Systems Engineering project" (covering health informatics, air traffic control, and health communications)	\$10 million jointly awarded
Australian Research Council (ARC) Linkage Project	2007-2009	Cameron, SANDERSON, & Hantos "A multiscale, multifunctional approach to advanced diagnosis and operator performance in complex process systems" LP0776636	\$344,000
Australian and New Zealand College of Anaesthetists (ANZCA)	2006	Thompson, Watson & SANDERSON "Anaesthesia auditory alarm design and evaluation recommendation for alarm standards" ANZCA RegKey 06/050	\$22,000
National Health and Medical Research Council Centre of Research Excellence	2005-2009	McNeil, Cameron, Campbell, Duckett, Myles, SANDERSON, Stoelwinder "Centre of Research Excellence in Patient Safety" NHMRC 264643	\$1,990,090
Australian Research Council (ARC) Discovery Project	2005-2007	SANDERSON, Watson, & Russell "Designing for visual and auditory attention in complex, high-tempo worlds" DP0559504	\$528,000
National Health and Medical Research Council (via UQ Faculty of SBS distribution)	2004	SANDERSON, Watson, & Crawford "NOMAD 2100 Head Mounted Display for medical human factors research"	\$10,000
UQ Faculty of SBS Seed Funding	2004	SANDERSON, Bordes & Miller "Designing multivariate data displays to support decision making in medical Intensive Care Units"	\$5,000
Australian Research Council (ARC) Linkage grant	2004-2006	Neal, Halford, Humphreys, Lindsay, Loft, Boag & SANDERSON "Development of a computational model for the prediction of mental workload in air traffic control" LP0453978	\$660,456
Australian Research Council (ATC) Research Network grant	2003	Maeder et al (Sanderson is one of 30 CIs). "The Australian Research Network for advanced medical devices: advanced technology solutions for patients and practitioners" SR0354734	\$10,000
Rensselaer Polytechnical Institute	2003	SANDERSON "ESDA and MacSHAPA: project" (Run through University of Illinois at Urbana-Champaign)	\$8,000 (USD\$5,000)
Australian Research Council (ARC) Centre of Excellence	2003-2008	Lindsay et al. (incl SANDERSON as one of 11) "ARC Centre for Complex Systems (ACCS)" CE0348249	\$400,000 per annum
Dept of Industry, Science, and Technology: Cooperative Research Centres (CRC) scheme	2002-2008	SANDERSON is named investigator with 5 university partners and several industry partners. "Cooperative Research Centre for Interaction Design".	\$12.4 million across whole grant

New York University, NY, USA ((through UIUC)	2002-2003	SANDERSON "ESDA and MacSHAPA: project" <i>(Run through University of Illinois at Urbana-Champaign)</i>	\$45,000 (US\$25,000)
Australian Research Council (ARC) Discovery Grant	2002-2004	SANDERSON & Russell "Sonification for complex, mission-critical work environments" DP0209952	\$259,000
Vice-Chancellorial strategic funding, Swinburne University	2001-2003	SANDERSON "Cognitive Systems Engineering Research Group Academic Research Initiative" (Years 2 and 3 forfeited upon leaving Swinburne)	\$355,183
Dept of Industry, Science, and Technology: Cooperative Research Centres (CRC) scheme	2001-2007	SANDERSON was named investigator in proposal with 8 university partners and 12 industry partners "Cooperative Research Centre for Smart Internet Technology" (withdrew prior to leaving Swinburne)	\$22 million across whole grant
Swinburne Research Development Grant Scheme	2001	SANDERSON & Russell "Extending Ecological Interface Design to auditory interfaces for dynamic event-driven worlds"	\$20,000
Australian Research Council (ARC) SPIRT Grant	2001-2003	SANDERSON & Wong: "If IT does not work for people, does it work at all? Human supervisory control in a dynamic electricity market." (Industry partner: Snowy Mountains HEA) C00107069.	\$164,000
DSTO AOD Research Agreement	2000-2002	SANDERSON "Cognitive engineering research on capability priority modelling for AEW&C"	\$30,000 per annum
Deakin University Bridging Research Grant	2000	Smith, Howard, & SANDERSON: "TheoryBuilder: An approach and tool to support sequential data analysis."	\$20,000
ARC Small Grant	2000	Higgins & SANDERSON: "Supporting schedulers' cognitive work with a Hybrid Intelligent Production Scheduling System (HIPSS)"	\$10,500
ARC Small Grant	1999	SANDERSON: "Patient monitoring and decision making in anaesthesia: Studies with head-mounted video"	\$10,414
DSTO Human Factors Hub	1999	SANDERSON, Higgins, & Howard: "Work Domain Analysis with the Work Domain Analysis Workbench."	\$80,000
DSTO Fernhill	1998	SANDERSON: "Modeling commander decisionmaking in C2 environments with cognitive engineering:"	\$27,000
ARC Small Grant	1998	SANDERSON & Pipingas: "Using Steady State Probe Topography to determine neuropsychological correlates of human process control performance with ecological vs conventional interfaces."	\$16,000
DSTO AOD Research Agreement	1997-1999	SANDERSON: "Cognitive engineering research into human-system integration in complex systems"	\$79,000
Logicon Technical Services (US Air Force Research Laboratory)	1997-1998	SANDERSON: "Work Domain Analysis Workbench"	\$50,000

University consulting and short courses while in Australia: 1997—present

The following table shows university consulting and short courses given since returning to Australia in 1997. All amounts are in Australian dollars. (Consulting jobs listed include only those with significant Sanderson input in consulting or training rather than all general UQUL hire jobs)

<i>Sponsor</i>	<i>Dates</i>	<i>Investigator Names and Title of Project</i>	<i>Amount (AUD\$)</i>
Ergon Energy	2005	SANDERSON, and Memisevic “Formative design and evaluation of control room concepts”	\$53,000
Powerlink Queensland	Sept 2004	SANDERSON, Memisevic, Adams and Watson “Investigation of control room alarm effectiveness”	\$91,000
Powerlink Queensland	May 2004	SANDERSON and Memisevic “Powerlink control facility sizing”	\$2,500
Brisbane City Council (via UniQuest)	July 2003	SANDERSON, Crawford, Miller and UQUL staff “Formative evaluation of BCC website”	\$15,000
Australian Taxation Office (via UniQuest)	June 2003	SANDERSON, Miller “Usability in the organisation: HCI short course”	\$31,137
Australian Taxation Office (via UniQuest)	May 2003	SANDERSON, Crawford, and UQUL staff “Usability testing of tax deduction calculators”	\$11,677
Wotif P/L	2002	SANDERSON, Norman, McGuire Cross-cultural usability investigation for Chinese hotel booking website	\$5,000
DSTO AMRL	2002	ARC Key Centre for Human Factors (technical and organisational point of contact, SANDERSON) “Research and Development Requirements for a Maritime Human Factors Centre of Expertise”	\$30,000
DSTO AMRL	2001	SANDERSON (consultancy on CWA and Electronic Warfare Systems)	\$15,000
Snowy Mountains HydroElectric Authority (SMHEA)	2001	SANDERSON (short consultancies on SMCC control room design)	\$5,500
SMHEA	2000	SANDERSON and Wong (consultancy on optimisation interface)	\$15,000
SMHEA	2000	SANDERSON (short consultancies on SCADA interface)	\$6,600
DSTO Human Factors Hub	1999	Vicente, SANDERSON, Benda, Naikar, & Lintern. (three 1-day workshops: Amount indicates Sanderson component)	\$5,751
Invetech P/L	1998	SANDERSON, Howard, & Benda (consultancy on prototype formative evaluation))	\$5,083
OTIS Engineering Australia, P/L	1998	SANDERSON, Leung, and Mouzakis (short course on prototype formative evaluation)	\$6,100
DSTO Salisbury	1997	SANDERSON, Howard, Leung, Pilgrim, Mouzakis, & Creek (short course: 3 days)	\$14,000

Research grants in the USA while at University of Illinois, 1985-1996

The following table shows grants and contracts from 1985-1996 while I was on the faculty at University of Illinois at Urbana-Champaign, USA. All amounts are in US dollars.

<i>Sponsor</i>	<i>Dates</i>	<i>Investigator Names and Title of Project</i>	<i>Amount (USD\$)</i>
Logicon Technical Services (US Air Force Research Laboratory)	1995-1996	SANDERSON: "Cognitive engineering approaches to designing for distributed cognition and coordination."	\$67,000
Logicon Technical Services (US Air Force Research Laboratory)	1995	SANDERSON: "MacSHAPA development services"	\$8,005
UIUC-RB	1995-1996	SANDERSON: "Explorations into Exploratory Sequential Data Analysis with MacSHAPA"	\$13,750
Carle Foundation Hospital	1995	SANDERSON: "Temporal Coordination and Patient Monitoring in Cardiovascular Intensive Care"	n/a
AMRL, DSTO (Australia)	1994	SANDERSON: "Video analysis and low- level event interpretation: Extensions to MacSHAPA"	\$11,130
UIUC-RB	1994	SANDERSON: "Management and diagnosis of difficult faults: cognitive engineering studies"	\$13,386
Logicon Technical Services (US Air Force Research Laboratory)	1993-1994	SANDERSON: "Exploratory Sequential Data Analysis with MacSHAPA"	\$25,000
ARL, DSTO (Australia)	1993	SANDERSON: "MacSHAPA: Tools and Techniques for Sequential Data Analysis—Reports"	\$10,545
NASA-Ames	1993	SANDERSON: "Exploratory Sequential Data Analysis"	\$63,667
NSF	1992-1994	SANDERSON, Moray, & Philpott: "The Role of Human Operators in Automated Discrete Manufacturing Systems"	\$100,000
DOE	1992-1995	Moray, Jones, & SANDERSON: "Development of Advanced Direct Perception Displays"	\$156,323
Logicon Technical Services (US Air Force Research Laboratory)	1991-1992	SANDERSON: "Exploratory Sequential Data Analysis with MacSHAPA"	\$25,000
ARL, DSTO (Australia)	1992	SANDERSON: "MacSHAPA: Tools and Techniques for Sequential Data Analysis—Reports"	\$3,000
UIUC-RB	1992	SANDERSON: "Exploratory Sequential Data Analysis"	\$13,500
NASA-Ames	1991-1992	SANDERSON: "MacSHAPA: An Interactive Protocol Analysis Environment for Assessing Crew Communications and Workload"	\$69,000
ARL,DSTO (Australia)	1991-1992	SANDERSON: "MacSHAPA: Tools and Techniques for Sequential Data Analysis--Data Manipulation"	\$5,000
Manufacturing Research Center (Motorola, through UIUC)	1990-1991	SANDERSON, Moray, & Ferreira: "Understanding Human Operator Performance in FMS Scheduling Tasks"	\$13,500

UIUC-RB	1990-1991	SANDERSON: "Hardware Support for New and Ongoing Engineering Psychology Research"	\$3,322
Manufacturing Research Center (Motorola, through UIUC)	1989-1990	SANDERSON, Moray, & Ferreira: "Understanding Human Operator Performance in FMS Scheduling Tasks"	\$16,994
UIUC-RB	1988-1989	SANDERSON: "Visual Information Engineering"	\$4,329
Illinois Dept. of Nuclear Safety	1988-1990	Moray & SANDERSON: "Analysis and Design of Information Display and Communications in the Radiological Emergency Assessment Center"	\$85,643
UIUC-RB	1986	SANDERSON: "Cognitive Models and Verbalizable Knowledge"	\$2,700
UIUC-RB	1985-1986	SANDERSON: "Automation and Out-of-the-loop Syndrome: An Empirical Investigation"	\$15,000

Grants for teaching in the USA while at University of Illinois: 1985-1996

The following tables list grants for teaching prior to 1997 while at University of Illinois at Urbana-Champaign. All amounts are in US dollars

Source	Dates		Amount USD\$
SCALE Center (Sloan Foundation)	1995-1996	SANDERSON: Advising Workbench (AWB)	\$25,000
Educational Technologies Board (ETB), UIUC	1995-1996	SANDERSON & Moray: Cognitive Engineering Teaching Laboratory (3)	\$5,000
ETB, UIUC	1994-1995	SANDERSON & Moray: Cognitive Engineering Teaching Laboratory (2)	\$10,000
ETB, UIUC	1993-1994	SANDERSON & Moray: Cognitive Engineering Teaching Laboratory (1)	\$10,029
Hewlett- Packard	1989-1990	SANDERSON, Flach, & Moray (through Dept of M&IE) "The HP-HF Laboratory: A Human Factors Teaching Laboratory Based on Hewlett-Packard Computing Equipment"	\$72,000
UIUC-EXCEL Program	1987-1988	Flach & SANDERSON: EXCEL Project Enhancement: Broadening the Scope of the Manual Control Instructional Facility	\$25,099

Administrative Responsibilities and Community Service

Administrative Services to The University of Queensland

School of ITEE, **Ethics Coordinator**, 2013—present
 School of ITEE, **Deputy Director**, Research Committee, 2013—present
 Graduate School, The University of Queensland. Convenor of oral PhD thesis examinations. One of about 30 UQ faculty members trained and available to act as oral PhD thesis examination convenors in any school of the university (apart from own school). 2011—present.
 School of ITEE, IT/MM Working Party, 2011—present
 Faculty advisor, UQ student chapter of the US-based Human Factors and Ergonomics Society (HFES-UQ), 2009—present
 School of ITEE, Research Committee, 2011—2012

School of ITEE, **Deputy Director**, Research Higher Degrees, 2011—present
 School of ITEE: **Interim Leader**, Interaction Design Research Group, 2004—2008.
 School of ITEE, ad hoc Promotions Committees, 2001—present
 School of ITEE: Executive Committee, 2001—2008
 School of ITEE: Research Committee, 2001—present
 School of ITEE: Mentoring Committee, 2004
 School of ITEE: Member of proposal development committee for UQ bid to ARC for a Centre of Excellence titled Australian Institute for Complex Systems, 2002—2003.
 School of ITEE: Cognitive Science Review Committee, 2001—2002
 School of ITEE: Member of proposal development committee for the UQ/Univ Melbourne bid to ARC for the “Federated” Centre of Excellence in ICT, 2002.

School of Psychology, Research Higher Degrees Committee, 2014—present
 School of Psychology, Research Committee, 2012—2013
 School of Psychology, Academic Committee, 2001—present
 School of Psychology, ad hoc Promotions Committees, 2001—present

Key Centre for Human Factors: **Director**, 2005—2013
 Key Centre for Human Factors: Member of Board of Management, 2004
 Key Centre for Human Factors: Member of Advisory Committee, 1999—2004
 Key Centre for Human Factors: Leader of technical specification and development of the University of Queensland Usability Laboratory (UQUL), 2001—present

Administrative Services to Swinburne University of Technology

Director, Swinburne Computer Human Interaction Laboratory (SCHIL), 1997—2001
 Research Leader, Cognitive Systems Engineering Research Group (CSERG), 1997—2001
 Campus committee to examine postgraduate supervisory practice, 2000.
 Campus academic staff professorial-level promotions grievance committee, 2000.
 Campus Board of Research member, 1998-2000.
 School of IT: Research Committee, 1997—2001
 School of IT: Professorial search committee, 1999
 School of IT: Level B, C, D academic staff search committee, 1999.
 School of IT: Post-Graduate course re-accreditation committee, 1998.

Administrative Services to University of Illinois

Dept of M&IE Undergraduate Program Committee, 1995—1996
 Dept of M&IE development and deployment of Advising Workbench software, 1994—1996.
 Dept of M&IE Seminar Committee, 1993-1996.
 Dept of M&IE Faculty member of Alpha Pi Mu (industrial engineering honor society).
 Dept of M&IE Capricious Grading Committee, 1987- 89.
 Dept of M&IE Computer Networking Committee, 1987-88.
 Dept of M&IE Chairperson, IE Qualifying Exam Committee, 1988-89.
 Dept of M&IE Chairperson, IE U/G Brochure Subcommittee, 1986-87.
 Dept of M&IE IE Curriculum Committee, 1985-1992.

Dept of Psych Various faculty search committees: 1985-1986, 1989-1991,
 Dept of Psych Human Subjects Committee, 1990-1996.

Institute of Aviation Coordinator (with Dr Chris Wickens) of EPJP, 1995-1996.
 Institute of Aviation EPJP timetable and course coordinator (1990-94).
 Institute of Aviation Convenor of EPJP research meetings, 1995-1996.
 Institute of Aviation EPJP webmaster, 1994—1996.
 Institute of Aviation EPJP Faculty Search Committee, 1990- present.
 Institute of Aviation Director, Engineering-Psychology Research Laboratory (EPRL), 1995-1996.
 Institute of Aviation Organizer of EPRL Human Subject Pool, 1988-1990.
 Editor of Engineering- Psychology graduate program brochure, 1986-87.
 Editor of EPRL technical reports, 1987-1996.
 Organizer of EPRL technical report distribution, 1988-1996.

National Panels, Advisory Boards, Professional Societies, etc.

Director and Company Secretary, OpenSHAPA Foundation Limited (OSFL). OSFL is a not-for-profit company limited by guarantee, incorporated in the Commonwealth of Australia, May 2010.

Advisory Board, Australian Centre for Health Innovation, Alfred Health, Melbourne, Australia. 2010—present.

Member of 12-person Expert Reference Group (ERG) for a National Academies Forum project on attitudes towards nuclear power in Australia, 2009-2010. One of three members of the Academy of the Social Sciences in Australia invited to participate in the 12-person ERG.

Chair-Elect and then Chair, Medical Systems and Rehabilitation Technical Group of the Human Factors and Ergonomics Society (HFES, USA), 1997-1998.

Community Service

Emergency Medical Technician—Ambulance (EMT-A) licensed in State of Illinois, IL, USA, 1996-2000.

Volunteer, Post-Anesthesia Recovery Unit, Carle Hospital, Urbana, IL, USA, 1996.

Volunteer, Surgical/Cardiovascular Intensive Care Unit, Carle Foundation Hospital, Urbana, IL, USA, 1994-1995.

Software Development and User Manuals

Arbiter

Watson, M., SANDERSON, P. M., Trentini, M., Purtill, T., & Jeyakanthan, K. (1999—2006). *SCHIL Arbiter*. Experimental environment for studying human interaction with auditory and visual displays in anesthesia. (C++ interface for visual and auditory display design, using the Body™ Anesthesia Simulation physiological and pharmacological engine). SCHIL, Swinburne University of Technology, Melbourne, Australia.

Watson, M., SANDERSON, P. M., Trentini, M., Purtill, T., & Jeyakanthan, K. (1999—2006). *SCHIL Arbiter Manual*. SCHIL, Swinburne University of Technology, Melbourne, Australia.

Work Domain Analysis Workbench (WDAW)

SANDERSON, P. M. (1997—2001). *Work Domain Analysis Workbench (WDAW) project*. A software tool to support Work Domain Analysis. 1997—present. Funded by the Human Factors Hub, Defence Science and Technology Organisation (DSTO), and by Wright-Patterson Air Force Base, OH through Logicon Technical Services, Inc.,

Skilton, W., & SANDERSON, P. (1999). *Work Domain Analysis Workbench: User's guide*. WDAW version 0.04.02 manual. [SCHIL-DSTO-WDAW-2]. (24 pages).

Advising Workbench (AWB)

SANDERSON, P. M. (1994—1996). *Advising Workbench (AWB) project*. A CSCW environment to support the advance enrollment and student advising process within the Department of M&IE and College of Engineering, University of Illinois. (Allegiant SuperCard). 1994-1996.

OpenSHAPA

SANDERSON, P. M., Adolph, K., Mainzer, J. M., & Freeman, C. (2006—2013). *OpenSHAPA: An open-source software tool for Exploratory Sequential Data Analysis*. Developed in collaboration with UQ, NICTA, and New York University, NY.

MacSHAPA

SANDERSON, P. M. and Mainzer, J. M. (2002—2005). *MacSHAPA: A software tool for Exploratory Sequential Data Analysis*. Distributed from CERG website, University of Queensland, Brisbane, Australia.

SANDERSON, P. M. (1991—2002). *MacSHAPA: A software tool for Exploratory Sequential Data Analysis for the Macintosh*. (Symantec Think C). Distributed from CSERIAC Program Office, Wright Patterson Air Force Base, OH.

SANDERSON, P. M. (1994). *MacSHAPA Version 1.0.2 Manual*. Engineering Psychology Research Laboratory/CSERIAC Program, Wright Patterson Air Force Base, OH. (800 pages incl. index)

SANDERSON, P. M., (1993). *MacSHAPA Version 0.3.1 Manual*. Engineering Psychology Research Laboratory. (245 pages plus supplements).

SHAPA

SANDERSON, P. M. (1988—1991). SHAPA for the PC: A software tool for verbal and nonverbal protocol analysis; 1989, 1990, 1991. (Turbo C). Distributed from Engineering Psychology Research Laboratory, University of Illinois.

James, J. M., P. M. SANDERSON, & K. S. Seidler, *SHAPA Version 2.0: Instruction manual and reference*. Engineering Psychology Research Laboratory Technical Report EPRL-90-16/M, 1990. (100 pages)

Seidler, K., J. James, and P. M. SANDERSON, *SHAPA: Instruction manual and reference*. Engineering Psychology Research Laboratory Technical Report EPRL-89-09/M, 1989. (100 pages)

Patents

SANDERSON, P. & Watson, M., *Method and means of physiological monitoring*. International patent application PCT/AU02/01149 passed preliminary international examination with all claims upheld, May 2003. Patent granted in the USA (US Patent 7070570), Australia, New Zealand, and Japan, and patent in national phase in Germany. Co-inventorship with Marcus Watson, assigned to UniQuest.

Publications

Books – edited [1]

1. Rouse, W. B., Boff, K., & SANDERSON, P. (Eds) (2012). *Understanding and influencing causality of change*. IOS Press: Amsterdam.

Peer reviewed journals [71]

1. Atyeo, J., & SANDERSON, P. (2015). Comparison of the identification and ease of use of two alarm sound sets by critical and acute care nurses with little or no music training: A laboratory study. *Anaesthesia*. doi:10.1111/anae.13020.

2. SANDERSON, P., & Grundgeiger, T. (2014). How do interruptions affect clinician performance in healthcare? Negotiating fidelity, control, and potential generalizability in the search for answers. *International Journal of Human-Computer Studies*. doi:10.1016/j.ijhcs.2014.11.003.
3. Hassall, M., SANDERSON, P., & Cameron, I. (2014). Can the decision ladder framework help inform industry risk assessment processes? *Ergonomics Australia*, 10(3), 1-5.
4. Grundgeiger, T., SANDERSON, P., & Dismukes, K. (2014). Prospective memory in complex sociotechnical systems. *Zeitschrift fuer Psychologie [Journal of Psychology]*, 222(2), 100-109. <http://dx.doi.org/10.1027/2151-2604/a000171>
5. Hassall, M., SANDERSON, P., & Cameron, I. (2014). The development and testing of SAfER: A resilience-based human factors method. *Journal of Cognitive Engineering and Decision Making*, 8(2), 162-186. <http://dx.doi.org/10.1177/1555343414527287>
6. Xiao, T., & SANDERSON, P. (2014). Evaluating the generalizability of the Organisational Constraints Analysis framework: A hospital bed management case study. *Cognition, Technology, & Work*, 16, 229-246. <http://dx.doi.org/10.1007/s10111-013-0260-0>.
7. Grundgeiger, T., Harris, B., Ford, N., Abbey, M., SANDERSON, P., & Venkatesh, B. (2013). Emergency medical equipment storage: Benefits of visual cues tested in field and simulated settings. *Human Factors*, 56(5), 958-972. <http://dx.doi.org/10.1177/0018720813514605>.
8. Vuckovic, A., SANDERSON, P., Neal, A., Gaukrodger, S., & Wong, W. (2013). Relative Position Vectors: An alternative approach to conflict detection in Air Traffic Control. *Human Factors*, 55(5), 946-964. <http://dx.doi.org/10.1177/0018720813481803>.
9. Neal, A., Hannah, S., SANDERSON, P., Bolland, S., Mooij, M., & Murphy, S. (2013). Development and validation of a multilevel model for predicting workload under routine and non-routine conditions in an Air Traffic Management center. *Human Factors*, 56(2), 287-305. <http://dx.doi.org/10.1177/0018720813491283>.
10. Grundgeiger, T., SANDERSON, P., Beltran Orihuela, C., Thompson, A., MacDougall, H., Nunnink, L., & Venkatesh, B. (2013). Prospective memory in the ICU: The effect of visual cues on task execution in a representative simulation. *Ergonomics*. 56, 579-589. <http://dx.doi.org/10.1080/00140139.2013.765604>.
11. Adolph, K., Gilmore, R., Freeman, C., SANDERSON, P., & Millman, D. (2012). Towards open behavioural science. Commentary on Nosek & Bar-Anan's 'Scientific Utopia: I. Opening scientific communication.' *Psychological Inquiry*, 23(3), 244-247.
12. Hassall, M., & SANDERSON, P. (2012) A formative approach to the Strategies Analysis phase of Cognitive Work Analysis. *Theoretical Issues in Ergonomics Science*. DOI:10.1080/1463922X.2012.725781.
13. Heard, G., SANDERSON, P., & Thomas, R. (2012). Barriers to adverse event and error reporting in anesthesia. *Anesthesia and Analgesia*, 114(3), 604-614.
14. Nadler, I., SANDERSON, P., & Liley, H. (2011). The accuracy of clinical assessments as a measure for teamwork effectiveness. *Simulation in Healthcare*, 6(5), 260-268
15. Nadler, I., SANDERSON, P., Van Dyken, C., Davis, P., & Liley, H. (2011). Presenting video recordings of newborn resuscitations in debriefings for teamwork training. *BMJ Quality and Safety*, 20(2), 163-169.
16. Stitzlein, C., SANDERSON, P., Beltran Orihuela, C., Jack, L., & Venkatesh, B. (2011). Testing a model to help analysts understand, evaluate, and make inferences about health technology change. *Ergonomics Australia - HFESA 2011 Conference Edition*. 11:44 1-6.

17. Grundgeiger, T., SANDERSON, P., MacDougall, H., & Venkatesh, B. (2010). Interruption management in the Intensive Care Unit: Predicting resumption times and assessing distributed support. *Journal of Experimental Psychology: Applied*, 16(4), 317-334.
18. Thompson, M., Tear, M., & SANDERSON, P. (2010). Multisensory integration with a head-mounted display: The role of response method. *Human Factors*, 52(1), 92-104.
19. Harrison, W., Thompson, M., & SANDERSON, P. (2010). Multisensory integration with a head-mounted display: Background visual motion and sound motion. *Human Factors*, 52(1), 78-91.
20. Xiao, T., SANDERSON, P., Clayton, S., & Venkatesh, B. (2010). The ETTO principle and organizational strategies: A field study of ICU bed and staff management. *Cognition, Technology and Work*, 12(2), 143-152.
21. Nadler, I., Liley, H., & SANDERSON, P. (2010). Video recordings of simulated scenarios: A step towards objective evaluation of team training. *Simulation in Healthcare*, 5(4), 204-212.
22. Liu, D., Jenkins, S., SANDERSON, P., Fabian, P., & Russell, W. J. (2010). Monitoring with head-mounted displays: Clinical evaluation in anesthesia for rigid cystoscopy. *Anesthesia and Analgesia*, 110(4), 1032-1038.
23. SANDERSON, P. M., Liu, D., & Jenkins, S. (2009). Auditory displays in anaesthesiology. *Current Opinion in Anaesthesiology*, 22(6), 788-795.
24. Liu, D., Jenkins, S., & SANDERSON, P. M. (2009). Patient monitoring with head-mounted displays. *Current Opinion in Anaesthesiology*, 22(6), 796-803.
25. Saleem, J. J., Russ, A. L., SANDERSON, P. M., Johnson, T. R., Zhang, J., & Sittig, D. F. (2009). Current challenges and opportunities for better integration of human factors research with development of clinical information systems. *IMIA Yearbook of Medical Informatics*, 48-58.
26. Liu, D., Jenkins, S., SANDERSON, P. M., Watson, M. O., Russell, W. J., Leane, T., & Kruys, A. (2009). Monitoring with head-mounted displays: Performance and safety in a full-scale simulator and part-task trainer. *Anesthesia and Analgesia*, 109(4), 1135-1146.
27. Anderson, J., & SANDERSON, P. (2009). Sonification design for complex work domains: Dimensions and distractors. *Journal of Experimental Psychology: Applied*, 15(3), 183-198.
28. Grundgeiger, T., & SANDERSON, P. (2009). Interruptions in healthcare: theoretical views. *International Journal of Medical Informatics*, 78, 293-307.
29. Liu, D., Grundgeiger, T., SANDERSON, P. M., Jenkins, S., & Leane, T. (2009). Interruptions and blood transfusion checks: Lessons from the simulated operating room. *Anesthesia and Analgesia*, 108(1), 219-222.
30. Thompson, M., & SANDERSON, P. M. (2008). Multisensory integration with advanced displays: Sound delivery and self-motion. *Human Factors*, 50(5), 789-800.
31. SANDERSON, P., Watson, M., Russell, W.J., Jenkins, S., Liu, D., Green, N., Llewelyn, K., Cole, P., Shek, V., & Krupenia, S. (2008). Advanced auditory displays and head-mounted displays: Advantages and disadvantages for monitoring by the distracted anaesthesiologist. *Anesthesia and Analgesia*, 106(6) 1787-1797.
32. Wee, A., & SANDERSON, P. (2008). Are melodic medical equipment alarms easily learned? *Anesthesia and Analgesia*, 105(2), 501-508.
33. Memisevic, R., SANDERSON, P., Wong, W., Choudhury, S., & Li, X. (2007). Investigating human-system interaction with an integrated hydropower and market system simulator. *IEEE Transactions on Power Systems*, 22(2), 762-769.

34. Lacherez, P., Seah, E., & SANDERSON, P. (2007). Auditory alarms, medical standards, and urgency. *Human Factors*, 49(4), 637-645.
35. Loft, S., SANDERSON, P. Neal, A., & Mooij, M. (2007). A review of mental workload in en route air traffic control. *Human Factors*, 49(3), 376-399.
36. Watson, M., & SANDERSON, P. (2007). Designing for attention with sound: Challenges and extensions to Ecological Interface Design. *Human Factors*, 49(2), 331-346.
37. Li, X., SANDERSON, P. Wong, W. B.-L., Memisevic, R., & Choudhury, S. (2006). Evaluating functional displays for hydropower system: Model-based guidance of scenario design. *Cognition, Technology, and Work*. 8(4), 269-282.
38. SANDERSON, P. (2006). The multimodal world of medical monitoring displays. *Applied Ergonomics*, 37(4). 501-512 (Invited).
39. SANDERSON, P., Wee, A., & Lacherez, P. (2006). Learnability and discriminability of melodic medical equipment alarms. *Anaesthesia*, 61(1), 142-147.
40. SANDERSON, P., Tosh, N., Philp, S. Rudie, J., Watson, M., & Russell, W. J. (2005). Effects of ambient music on simulated anesthesia monitoring with visual and auditory displays. *Anaesthesia*, 60(11), 1073-1078.
41. SANDERSON, P., Watson, M., & Russell, W. J. (2005). Advanced patient monitoring displays: Tools for continuous informing. *Anesthesia and Analgesia*, 101(1), 161-168.
42. Watson, M. & SANDERSON, P. (2004). Sonification helps eyes-free respiratory monitoring and task timesharing. *Human Factors*, 46(3), 497-517. **[Awarded the USA-based Human Factors and Ergonomics Society's 2005 Jerome Ely Award for the Best Paper in Human Factors in 2004.]**
43. Reising, D. C. & SANDERSON, P. (2004). Minimally adequate instrumentation in an ecological interface may compromise failure diagnosis. *Human Factors*. 46(2), 317-333.
44. Watson, M., SANDERSON, P., & Russell, W. J. (2004). Tailoring reveals information requirements: The case of anesthesia alarms. *Interacting with Computers*, 16, 271-293.
45. SANDERSON, P., Crawford, J., Savill, A., Watson, M., & Russell, W. J. (2004). Visual and auditory attention in patient monitoring: A formative analysis. *Cognition, Technology, & Work*. 6(2), 172-185.
46. Naikar, N., Drumm, D., Pearce, B., & SANDERSON, P. (2003). Designing teams for first-of-a-kind, complex systems using the initial phases of cognitive work analysis: Case study. *Human Factors*, 45(2), 202-217
47. SANDERSON, P., Pipingas, A., Danieli, F., & Silberstein, R. (2003). Process monitoring and configural display design: A neuroimaging study. *Theoretical Issues in Ergonomics Science*, 4 (2), 151-174.
48. Reising, D. C., & SANDERSON, P. (2002-a). Work domain analysis and sensors I: Principles and simple example. *International Journal of Human-Computer Studies*. 56(6), 569-596.
49. Reising, D. C., & SANDERSON, P. (2002-b). Work domain analysis and sensors II: Pasteurizer II case study. *International Journal of Human-Computer Studies*. 56(6), 597-637.
50. Reising, D. C., & SANDERSON, P. (2002-c). Ecological Interface Design for Pasteurizer II: A Process Description of Semantic Mapping. *Human Factors*, 44(2), 222-247.
51. Naikar, N., & SANDERSON, P. (2001). Evaluating system design proposals with work domain analysis. *Human Factors*, 43(4). 529-542.

52. Seagull, F. J., & SANDERSON, P. M. (2001). Anesthesia alarms in surgical context: An observational study. *Human Factors*, 43(1), 66-77.
53. Watson, M., Russell, W. J., & SANDERSON, P. (2000). Anesthesia monitoring, alarm proliferation, and ecological interface design. *Australian Journal of Information Systems*, 7(2), 109-114.
54. Naikar, N. & SANDERSON, P. M. (1999). Work domain analysis for training system definition and acquisition. *International Journal of Aviation Psychology*, 9(3), 271-290.
55. SANDERSON, P. M., & Benda, P. J. (1998). Exploring sequential data: Commentary on Bowers, Jentsch, Salas, and Braun (1998). *Human Factors*, 40, 680-684.
56. SANDERSON, P. M., J. J. P. Scott, T. Johnston, J. Mainzer, L. M. Watanabe, & J. M. James (1994). MacSHAPA and the enterprise of Exploratory Sequential Data Analysis (ESDA). *International Journal of Human-Computer Studies*, 41(5), 633-681.
57. SANDERSON, P.M., & Fisher, C. (1994). Exploratory Sequential Data Analysis: Foundations. *Human-Computer Interaction*, 9(3), 251-317.
58. SANDERSON, P.M., McNeese, M., & Zaff, B. (1994). Knowledge elicitation and observation in engineering psychology: MacSHAPA and COGENT. *Behavior Research Methods, Instruments, and Computers*, 26, 117-124.
59. Fisher, C., & SANDERSON, P.M. (1993). Exploratory Sequential Data Analysis: Traditions, tools and techniques. *SIGCHI Bulletin*, 25, 31-40.
60. Moray, N., SANDERSON, P. M., & Vicente, K. (1992). Cognitive task analysis of a team in a complex work domain: A case study. *Reliability Engineering and System Safety*, 36, 207-216, 1992.
61. SANDERSON, P. M., Haskell, I., & Flach, J. M. (1992). Perceptual organizational factors in visual display design theory. *Ergonomics*, 35, 1199-1220.
62. Buttigieg, M. A., & SANDERSON, P. M. (1991). Emergent features in visual display design for two types of failure detection tasks. *Human Factors*, 33, 631-651.
63. SANDERSON, P. M. (1991) Towards the Model Human Scheduler. *International Journal of Human Factors in Manufacturing*, 1, 195-220.
64. James, J. M., & SANDERSON, P. M. (1991). Heuristic and statistical support for protocol analysis with SHAPA version 2.01. *Behavior Research Methods, Instruments and Computers*, 23, 449-460.
65. SANDERSON, P. M., & Murtagh, J. (1990). Predicting fault diagnosis performance: Why are some bugs hard to find? *Institute of Electrical and Electronics Engineers: Transactions on Systems, Man and Cybernetics*, SMC-20, 274-282.
66. SANDERSON, P. M. (1990). Knowledge acquisition and fault diagnosis: Experiments with PLAULT. *Institute of Electrical and Electronics Engineers: Transactions on Systems, Man, and Cybernetics*, SMC-20, 225-242, 1990.
67. SANDERSON, P. M. (1989). Verbalizable knowledge and skilled task performance: Association, dissociation and mental models. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 15, 729-747.
68. SANDERSON, P. M. (1989). The human planning and scheduling role in advanced manufacturing systems: An emerging human factors domain. *Human Factors*, 31, 635-664. **[Awarded the USA-based Human Factors Society 1990 Jerome H. Ely Award for Best Paper in Human Factors in 1989]**

69. SANDERSON, P. M., James, J., & Seidler, K. S. (1989). SHAPA: An interactive software environment for protocol analysis. *Ergonomics*, 32, 1271-1302.
70. SANDERSON, P. M., Verhage, A. G., & Fuld, R. (1989). State-space and verbal protocol methods for studying the human operator in process control. *Ergonomics*, 32, 1343-1372.
71. SANDERSON, P. M., Flach, J. M., Buttigieg, M. A., & Casey, E. J. (1989). Object displays do not always support better integrated task performance. *Human Factors*, 31, 183-198.

Peer reviewed journals – manuscripts submitted or under requested revision [6]

1. Marshall, S., SANDERSON, P., McIntosh, C., & Kolawole, H. (2015). The effect of two cognitive aid designs on team functioning during intraoperative anaphylaxis emergencies: A multi-centre simulation study. *British Journal of Anaesthesia*. [Revisions requested March 2015]
2. Heard, G., Thomas, R., & SANDERSON, P. Attitudes to help-seeking after an unexpected perioperative catastrophic events. *Anesthesia and Analgesia*. [Submitted March 2015]
3. Grundgeiger, T., Dekker, S., Sanderson, P., Brecknell, B., Aitken, L. Assessing and reporting the impact of interruptions: the SPADME format. *BMJ Quality and Safety*. [Submitted February 2015]
4. Hinckfuss, K., SANDERSON, P., Novel pulse oximetry sonifications for neonatal oxygen saturation monitoring: A laboratory study. *Journal of Perinatology*. [Submitted 17 February 2015]
5. SANDERSON, P., Thompson, C., Thompson, M., Watson, M., Muthukrishna, M., & Murphy, S. (2010). Auditory alarm effectiveness: Evaluation of alternative alarm sets with anesthesiologists *Anesthesia and Analgesia*. [Disposition: Accepted pending major revision, 22 June 2010. Disposition of first revision: Accepted pending major revision 14 June 2011. Under revision].
6. Xiao, T., SANDERSON, P., & Neal, A. (2013). The Organisational Constraints Analysis (OCA) framework: A formative approach to the analysis, modelling and design of organisations. *Theoretical Issues in Ergonomics Science*. [Revisions requested 23 November, 2013]

Notes in peer reviewed journals [5]

1. SANDERSON, P., Watson, M., Russell, W.J., Jenkins, S., Liu, D., Green, N., Llewelyn, K., Cole, P., Shek, V., & Krupenia, S. (2007). Advanced auditory displays and head-mounted displays: Advantages and disadvantages for monitoring by the distracted anaesthesiologist (Abstract). *Anesthesia and Analgesia*.
2. Anderson, J., SANDERSON, P. M., & Norris, M. (2002). The role of auditory attention and auditory perception in the design of real-time sonification of anaesthesia variables. (Abstracts of the fourth annual winter school on human factors.) *Australian Journal of Psychology*, 54(3), 180.
3. SANDERSON, P. M. (2002). Supporting the process of designing for control. (Abstracts of the fourth annual winter school on human factors.) *Australian Journal of Psychology*, 54(3), 180
4. SANDERSON, P.M. & Fisher, C. (1994). Introduction to this special issue on Exploratory Sequential Data Analysis. *Human-Computer Interaction*, 9, 247-250.
5. Vicente, K. J., & SANDERSON, P. M. (1992). On the origins of the skills, rules, and knowledge framework: A brief comment on Dougherty (1990). *Reliability Engineering and System Safety*, 36, 181-182.

Book chapters [14]

1. Hassall, M., Xiao, T, SANDERSON, P., & Neal, A. (in press). Human factors and ergonomics. *International Encyclopedia of the Social and Behavioural Sciences* (2nd edition). Amsterdam: Elsevier.
2. Rouse, W. B., Boff, K., & SANDERSON, P. (2012). Introduction and overview. In K. Boff, W. B. Rouse, & P. SANDERSON, P. [Eds.]. *Complex sociotechnical systems: Understanding and influencing the causality of change*. IOS Press, Amsterdam
3. Bainbridge, L., & SANDERSON, P.M. (2005). Verbal protocol analysis. In J. Wilson & E. J. Corlett (Eds.), *Evaluation of Human Work*. (3rd Edition). Taylor & Francis. (pp 159-184)
4. Seagull, F. J., & SANDERSON, P. M. (2004). The Trojan Horse of the operating room: Alarms and the noise of anesthesia. In M. S. Bogner (Ed.). *Misadventures in health care: Inside stories*. Mahwah, NJ: Lawrence Erlbaum Associates. (pp. 105-126)
5. SANDERSON, P. M. (2003). Cognitive Work Analysis. In J. Carroll (Ed.), *HCI Models, Theories, and Frameworks: Toward an Interdisciplinary Science*. New York: Morgan-Kaufmann. (pp. 225-264)
6. SANDERSON, P. (2003). Cognitive Work Analysis across the system life-cycle: Achievements, challenges, and prospects in aviation. In B. Hayward & A. Lowe (Eds.), *Aviation Resource Management (Vol 3)*. Aldershot, UK: Ashgate.
7. Naikar, N., Lintern, G., & SANDERSON. (2002). Cognitive Work Analysis for air defence applications in Australia. *State of the Art (SOAR) Report on Cognitive Systems Engineering*, Human Systems Information Analysis Center (HSIAC), Wright-Patterson AFB. U.S. Department of Defense. Pp. 162-199.
8. SANDERSON, P.M. and Fisher, C. (1997). Exploratory Sequential Data Analysis: Exploring observational data in human factors. In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics* (2nd edition). New York: Wiley. Pp 1472-1513.
9. Moray, N., Jones, B., SANDERSON, P. M., Reising, D. V., Shaheen, S., & Rasmussen, J. (1995). The "bird's foot" integrated graphical interface for NPP operation. In Y. Anzai, K. Ogawa, & H. Mori, (Eds.), *Symbiosis of human and artifact*. Amsterdam: Elsevier. Pp. 995-998.
10. Attewell, P. A., Huey, B. M., Moray, N., & SANDERSON, P. M. (1995). Emerging technologies in work design. In R. Nickerson (Ed.), *Emerging needs and opportunities for human factors research*. Washington, DC: National Research Council. Pp 220-240.
11. Bainbridge, L., & SANDERSON, P.M. (1995). Verbal protocol analysis. In J. Wilson & E. J. Corlett (Eds.), *Evaluation of Human Work*. (2nd Edition). Taylor & Francis. Pp 169-201
12. SANDERSON, P. M., & Moray, N. (1990). The human factors of scheduling behavior. In W. Karwowski & M. Rahimi (Eds.), *Ergonomics of Advanced Manufacturing and Hybrid Automated Systems*. (Invited paper for plenary session of the 2nd International Conference on Human Aspects of Advanced Manufacturing and Hybrid Automation). Pp 399-406.
13. SANDERSON, P. M. (1988). Human supervisory control in discrete manufacturing: Translating the paradigm. In W. Karwowski, H. R. Parsaei, & M. R. Wilhelm (Eds.), *Ergonomics of Hybrid Automated Systems*. New York: Elsevier Science Publishers. Pp 15-22.
14. SANDERSON, P. M., & Harwood, K. (1988). Skills, rules, and knowledge: A study of Rasmussen's classification. In H. B. Andersen, S. E. Olsen, & L. Goodstein (Eds.), *Tasks, Errors, and Mental Models: Festschrift presented to Jens Rasmussen on his 60th Birthday*, London: Taylor & Francis. Pp 21-34.

15. SANDERSON, P. M. (1986). Skills, displays, and decision support. In E. Hollnagel, G. Mancini, & D. D. Woods (Eds.), *Intelligent Decision Support in Process Environments*, North-Holland: Elsevier. Pp 347-352.

Refereed conference papers [139]

1. Pascale, M., Mohamed, I., Stigter, N., & SANDERSON, P. (2015). Peripheral detection for abrupt onset stimuli presented via head-worn display. Submitted for publication in *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2015)*. Los Angeles, CA: 26-30 October. [5 pp]
2. Shapiro, J., Santomauro, C., McLanders, M., Tran, J., & SANDERSON, P. (2015). Tactile Displays of Pulse Oximetry: An Exploratory Vigilance Study. Submitted for publication in *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2015)*. Los Angeles, CA: 26-30 October. [5 pp]
3. Hinckfuss, K., Liu, D., Loeb, R., Liley, H. & SANDERSON, P. (2015). Novel pulse oximetry sonifications to improve eyes free monitoring: Three laboratory studies. Submitted for publication in *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2015)*. Los Angeles, CA: 26-30 October. [5 pp]
4. McLanders, M., Santomauro, C., Tran, J., & SANDERSON, P. (2014). Tactile displays of pulse oximetry in integrated and separated configurations. *Proceedings of the 58th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2014)*. Chicago, IL: 17-21 October. [5 pp]
[Won HFES Alphonse Chapanis Best Student Paper Award]
5. Huber, S., Weng, M., Grundgeiger, T., & SANDERSON, P. (2014). The effect of visual cues on how people handle interruptions. *Proceedings of the 58th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2014)*. Chicago, IL: 17-21 October. [5 pp]
[Won HFES Cognitive Engineering and Decision Making Technical Group's Best Student Paper Award - shared first place]
6. Hassall, M., SANDERSON, P., & Cameron, I. (2014). Industry perspectives on organisational resilience. Engineers Australia Risk Conference 2014 (RISK 2014). Brisbane, 28-30 May.
7. Worden, J., Khanna, N., Campbell, J., Hassall, M., SANDERSON, P., & Cameron, I. (2013). An integrated approach to technical and human factors in risk management of ship-to-shore fuel transfers. *Proceedings of the 41st Australasian Chemical Engineering Conference (Chemeca2013)*. Brisbane, Australia, 29 September - 2 October.
8. Hassall, M., SANDERSON, P., & Cameron, I. (2013). Organisational resilience with a human factors technique: The development and testing of SAfER. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 1693-1697]
9. Stitzlein, C., Indulska, M., & SANDERSON, P. (2013). Understanding healthcare processes: An evaluation of two process modelling notations. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 240-244]
10. Planitz, B., Kipps, T., Driver, C., & SANDERSON, P. (2013). Should nurses carry smartphones during clinical care? *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 738-742]
11. Harris, B., Ford, N., Grundgeiger, T., SANDERSON, P., & Venkatesh, B. (2013). Evaluating the redesign of an ICU bedside emergency equipment drawer. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 678-682]

12. Tear, C., Fox, M., Tsai, M., Liu, D., & SANDERSON, P. (2013). Detecting numerical and waveform changes on a head-mounted display vs. monitor. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 1134-1138].
13. Meys, L., & SANDERSON, P. (2013). The effect of individual differences on how people handle interruptions. *Proceedings of the 57th Annual Meeting of the Human Factors and Ergonomics Society (HFES2013)*. San Diego, CA: 30 September-4 October. [pp. 868-872].
14. Hassall, M., Cameron, I., SANDERSON, P., & Nemeth, E. (2012). Building resilience in process systems and operations. *Proceedings of the 40th Australasian Chemical Engineering Conference (Chemeca 2012: Quality of life through chemical engineering)*. Wellington, NZ: 23-26 September, 2012. Pp. 1188-1197.
15. Planitz, B., SANDERSON, P., Freeman, C., Xiao, T., Botea, A., & Beltran Orihuela, C. (2012). Testing the prospective evaluation of a new healthcare system. *Proceedings of the American Medical Informatics Association Annual Symposium (AMIA 2012)*. Chicago, IL: 3-7 November, 2012.
16. Planitz, B., SANDERSON, P., Freeman, C., Xiao, T., Botea, A., & Beltran Orihuela, C. (2012). Observing the challenges of implementing new health ICT. *Proceedings of the 56th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2012)*. Boston, MA: 22-26 October, 2012.
17. Xiao, T. & SANDERSON, P. (2012). Developing and evaluating the Organizational Constraints Analysis (OCA) approach to the analysis of the coordination of work. *Proceedings of the 56th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2012)*. Boston, MA: 22-26 October, 2012.
18. Planitz, B., SANDERSON, P., Freeman, C., Xiao, T., Botea, A., & Beltran Orihuela, C. (2012). Predicting the impact of adopting new technologies in healthcare facilities. *Proceedings of the Health Informatics Society of Australia (HISA) Health Informatics Conference (HIC 2012)*. Sydney, 30 July – 2 August.
19. SANDERSON, P., Xiao, T., Freeman, C., & Broxham, W. (2012). Envisioning healthcare work: Models for prospective evaluation of new systems. *Proceedings of the 2012 ACM SIGHIT International Health Informatics Symposium (IHI 2012)*. Miami, FL: 28-30 January 2012.
20. Hassall, M., SANDERSON, P., Cross, N., James, K., & Cameron, I. (2011). Human factors hazard identification; Industrial testing of the HumHID technique and tool. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2011)*. Las Vegas, NV: 19 September - 23 September.
21. Nadler, I., & SANDERSON, P. (2011). Using Brunswik's probabilistic functionalism to test how clinicians make judgments in simulated neonatal resuscitation scenarios. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2011)*. Las Vegas, NV: 19 September - 23 September. **[Shortlisted for the HFES Alphonse Chapanis Student Paper Award – one of top three student papers. 1st runner-up for HFES Healthcare Technical Group student paper prize]**
22. Stitzlein, C., SANDERSON, P., Beltran Orihuela, C., Jack, L., & Venkatesh, B. (2011). Evaluating the impact of technical change in critical care: Steps towards a model for stakeholder reasoning. *Proceedings of the 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES 2011)*. Las Vegas, NV: 19 September - 23 September.
23. Cameron, I. T., Nemeth, E., Seligmann, B., Hassal, M., SANDERSON, P., Hangos, K. M., Hockings, K. and O'Brien, C. (2010). An integrated functional systems approach to improving diagnosis in complex process systems. *Proceedings of the 40th Australasian Chemical Engineering Conference (Chemeca 2010)*. Adelaide 26–29 September 2010. (Paper #233).

24. Xiao, T., Broxham, W., Stitzlein, C., Croll, J., & SANDERSON, P. (2010). Two human-centred approaches to health informatics: Cognitive systems engineering and usability. *Proceedings of the WCC IFIP-IMIA 1st International eHealth Joint Conference (2010)*. Brisbane, Qld: 20-23 September.
25. Stelmaszewska, H., Wong, W. B.-L., & SANDERSON, P. (2010). Methods for gathering and analysing information seeking behaviour in electronic resource discovery systems. *Proceedings of the 54th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA: 27 September - 1 October, pp. 807-811.
26. Xiao, T., SANDERSON, P., & Lee, M. (2010). Patient transport cards support formal and information coordination in a hospital department. *Proceedings of the 54th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA: 27 September - 1 October. **[1st runner up for best student paper award in the HFES Healthcare Technical Group]**
27. Hassall, M., SANDERSON, P., & Cameron, I. (2010). Using cognitive work analysis techniques to identify human factors hazards. *Proceedings of the 54th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA: 27 September - 1 October.
28. Cameron, I. T., Nemeth, E., Seligmann, B., Hassall, M., Sanderson, P., Hangos, K. M., Hockings, K. and O'Brien, C. (2010). An integrated functional systems approach to improving diagnosis in complex process systems. *Proceedings of the 40th Australasian Chemical Engineering Conference (Chemeca 2010)*. Adelaide 26–29 September 2010. (Paper #233).
29. Grundgeiger, T., SANDERSON, P., Beltan Orihuela, C., Thompson, A., Nunnink, L., & Venkatesh, B. (2010). Distractions and interruptions in the intensive care unit: A field observation and a simulator experiment. *Proceedings of the 54th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA: 27 September - 1 October. **[Shortlisted for the HFES Alphonse Chapanis Student Paper Award – one of top three student papers]**
30. Liu, D., SANDERSON, P. M., Jenkins, S., Watson, M., & Russell, W. J. (2009). Patient monitoring in anesthesia with a head-mounted display: Simulator studies and a clinical trial. *Proceedings of the 53rd Annual Meeting of the Human Factors and Ergonomics Society*. San Antonio, TX: 19-23 October. **[Shortlisted for the Alphonse Chapanis Best Student Paper Award—one of top three student papers.]**
31. Xiao, T., SANDERSON, P., Clayton, S., & Venkatesh, B. (2010). Coordinating multiple artifacts to support articulation work in healthcare. *CSCW2010 workshop on CSCW Research in Healthcare: Past, Present, and Future*. Savannah, GA: 7 February.
32. Liu, D., Jenkins, S., & SANDERSON, P. (2009). Clinical implementation of a head-mounted display of patient vital signs. *International Symposium on Wearable Computing (ISWC2009)*. Linz, Austria: 4-7 September, pp. 47-54. **[Co-winner of the ISWC2009 conference best paper award]**
33. SANDERSON, P. (2009). Auditory alarms for medical equipment: What do we need to know and how should we ask? *Proceedings of the 53rd Annual Meeting of the Human Factors and Ergonomics Society*. San Antonio, TX: 19-23 October.
34. Grundgeiger, T., SANDERSON, P. M., MacDougall, H. G., & Venkatesh, B. (2009). Distributed prospective memory: An approach to understanding how nurses remember tasks. *Proceedings of the 53rd Annual Meeting of the Human Factors and Ergonomics Society*. San Antonio, TX: 19-23 October.
35. Tear, M., Harrison, W., Thompson, M., & SANDERSON, P. M. (2009). Head-mounted displays and multisensory integration: Replications and challenges. *Proceedings of the 53rd Annual Meeting of the Human Factors and Ergonomics Society*. San Antonio, TX: 19-23 October.
36. Grundgeiger, T., SANDERSON, P. M., MacDougall, H. G., & Venkatesh, B. (2009) How nurses overcome interruptions: an analysis of distributed support. *Proceedings of the 17th Triennial*

Congress of the International Ergonomics Association (IEA2009). Beijing, PRC: 9-14 August 2009.

37. Grundgeiger, T., Liu, D., SANDERSON, P., Jenkins, S., & Leane, T. (2008). Effects of interruptions on prospective memory performance in anesthesiology. *Proceedings of the 52nd Annual Meeting of the Human Factors and Ergonomics Society*. New York, NY: 22-26 September. (HC TG)
38. Thompson, M., & SANDERSON, P. (2008). Multisensory integration with a head-mounted display and auditory display. *Proceedings of the 52nd Annual Meeting of the Human Factors and Ergonomics Society*. New York, NY: 22-26 September. (PP TG)
39. Xiao, T., SANDERSON, P., Mooij, M., & Fothergill, S. (2008). Work domain analysis for assessing simulated worlds for ATC studies. *Proceedings of the 52nd Annual Meeting of the Human Factors and Ergonomics Society*. New York, NY: 22-26 September. (CEDM TG)
40. SANDERSON, P. (2007). Designing and evaluating healthcare ICT innovation: A cognitive engineering view. *Proceedings of the Third International Conference on Information Technology in Healthcare--Sociotechnical Systems*. Sydney, 28-30 August, 2007.
41. SANDERSON, P., Watson, M., Russell, W. J., Liu, D., Jenkins, S., Cole, P., & Green, N. (2007). Assessing display design with full-scale patient simulators: Challenges and adaptations. *Proceedings of the 51st Annual Meeting of the Human Factors and Ergonomics Society*. 1-5 October. Baltimore, MA.
42. Crone, D., SANDERSON, P., & Naikar, N. (2007). Studying complex human-system behaviour: Human-in-the-loop simulation requirements. *Proceedings of the 51st Annual Meeting of the Human Factors and Ergonomics Society*. 1-5 October. Baltimore, MA.
43. Li, X., SANDERSON, P., & Memisevic, R. (2007). Convergent measures of situation awareness in a process control simulator setting. *Proceedings of the 51st Annual Meeting of the Human Factors and Ergonomics Society*. 1-5 October. Baltimore, MA. **[Won best student paper award for the Annual Meeting of the Human Factors and Ergonomics Society within the Cognitive Engineering and Decision Making Technical Group]**
44. SANDERSON, P., Mooij, M., & Neal, A. (2007). Investigating sources of mental workload using a high-fidelity ATC simulator. *Proceedings of the International Symposium on Aviation Psychology (ISAP2007)*, Columbus, OH. April 2007.
45. Krupenia, S., & SANDERSON, P. (2006). Does a head-mounted display worsen inattentive blindness? *Proceedings of the 50th Annual Meeting of the Human Factors and Ergonomics Society*. 16-20 October. San Francisco, CA.
46. Wee, A., & SANDERSON, P. (2006). Effects of mnemonics in learnability of melodic alarms with registered nurses. *Proceedings of the 50th Annual Meeting of the Human Factors and Ergonomics Society*. 16-20 October. San Francisco, CA.
47. SANDERSON, P., Wee, A., Seah, E., & Lacherez, P. (2006). Auditory alarms, medical standards, and urgency. *Proceedings of the 12th International Conference on Auditory Display (ICAD2006)*. Queen Mary University of London. 20-23 June.
48. SANDERSON, P. (2005). *Shapes of control in time: Models and a hydropower system example*. Invited address for the annual conference of the Human Factors and Ergonomics Society of Australia (HFESA). 22 November, Canberra, ACT. [10 pp]
49. Wee, A. & SANDERSON, P. (2005). Testing new alarms for medical electrical equipment. *Proceedings of the Tenth IFIP TC13 International Conference on Human-Computer Interaction (INTERACT05)*. Rome, Italy. 12-16 September. [4 pp]

50. Miller, A., & SANDERSON, P. (2005). Using coded tables to explore clinical information use by medical and nursing staff in the ICU *Proceedings of the 49th Annual Meeting of the Human Factors and Ergonomics Society (HFES2005)*. Orlando, FL. 26-30 September. [5 pp]
51. SANDERSON, P. & Watson, M. (2005). From information content to auditory display with Ecological Interface Design: Prospects and challenges. *Proceedings of the 49th Annual Meeting of the Human Factors and Ergonomics Society (HFES2005)*. Orlando, FL. 26-30 September. [5 pp]
52. Li, X., SANDERSON, P., Memisevic, R., Wong, W., & Choudhury, S. (2005). Applying the control adaptation method to a real world system: hydropower system example. *Proceedings of the European Association for Cognitive Ergonomics (EACE2005)*. Crete. 29 September-1 October. [8 pp]
53. SANDERSON, P. Li, X., Memisevic, R., Wong, W., & Choudhury, S. (2005). Evaluating functional displays for hydropower systems: Model-based guidance of scenario design. *Proceedings of the European Annual Meeting on Decision Making and Control (EAM2005)*. Athens, Greece. 17-19 October. [7 pp] **[Presenter Xilin Li won the best paper award for this paper at the conference].**
54. Memisevic, R., & SANDERSON, P., Wong, W., & Choudhury, S. (2005). Work domain analysis and ecological interface design for hydropower system monitoring and control. *Proceedings of the IEEE Conference on Systems, Man, & Cybernetics (IEEE-SMC2005)*. Hawaii, USA. 10-12 October. [8 pp]
55. SANDERSON, P., Shek, V., & Watson, M. (2004). The effect of music on monitoring a simulated anaesthetised patient with sonification. *Proceedings of the 2004 Conference of the Computer-Human Interaction Special Interest Group of the Human Factors and Ergonomics Society of Australia (OzCHI2004)*. Wollongong, NSW, 22-24 November. [4 pp]
56. Memisevic, R., SANDERSON, P., Choudhury, S., & Wong, W. (2004). A low-cost, easy-to-use, real-time power system simulator. *Proceedings of the 7th IASTED Conference on Power and Energy Systems (PES2004)*. 28 November – 1 December, Clearwater Beach, FL.
57. Memisevic, R., Choudhury, S., SANDERSON, P., & Wong, W. (2004). Integrated power scheme simulator for human-system integration studies. *Proceedings of the Australian Universities Power Engineering Conference (AUPEC04)*. September. St Lucia, Qld. (6 pp)
58. Anderson, J., & SANDERSON, P. (2004). Designing sonifications for effective attentional control in complex work domains. *Proceedings of the 48th Annual Meeting of the Human Factors and Ergonomics Society*. September. New Orleans, LA.
59. SANDERSON, P., Memisevic, R., & Wong, W. (2004). Analysing cognitive work of hydroelectricity generation in a dynamic deregulated market. *Proceedings of the 48th Annual Meeting of the Human Factors and Ergonomics Society*. September. New Orleans, LA. [5 pp]
60. SANDERSON, P. (2003). Exploring auditory displays to support anaesthesia monitoring: Six questions from a research program. *Proceedings of the Ergonomics Society of Australia (ESA) Annual Conference*. (pp. 48-53) St Lucia, Qld, November 2003. [Invited presentation.]
61. Watson, M., SANDERSON, P., Woodall, J., & Russell, W. J. (2003). Operating theatre patient monitoring: The effects of self paced distracter tasks and experimental control on sonification evaluations. *Proceedings of the 2003 Annual Conference of the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (OzCHI2003)*. St Lucia, Qld, 26-28 November.
62. Crone, D., SANDERSON, P. & Naikar, N. (2003). Using cognitive work analysis to develop a capability for the evaluation of future systems. *Proceedings of the 47th Annual Meeting of the Human Factors and Ergonomics Society*. (pp. 1938-1942). HFES: Santa Monica, CA.

63. SANDERSON, P., Wong, W. B.-L., Choudhury, S., & Memisevic, R. (2003). Hydro scheme control in a deregulated environment: Cognitive work models and design implications. *Proceedings of the 47th Annual Meeting of the Human Factors and Ergonomics Society*. (pp. 458-462). HFES: Santa Monica, CA.
64. Miller, A., & SANDERSON, P. (2003). Designing an information display for clinical decision making in the ICU. *Proceedings of the 47th Annual Meeting of the Human Factors and Ergonomics Society*. (pp. 1481-1485). HFES: Santa Monica, CA.
65. Miller, A., & SANDERSON, P. (2003). Evaluating an information display for clinical decision making in the ICU. *Proceedings of the 47th Annual Meeting of the Human Factors and Ergonomics Society*. (pp. 576-580). HFES: Santa Monica, CA.
66. Miller, A., & SANDERSON, P. (2003). An Alternative ADS for the Analysis, Design and Evaluation of Information Representations in the ICU. *Proceedings of the 22nd European Annual Conference on Human Decision Making and Control (EAM2003)*. Linköping, Sweden, June 2-4. pp.95-101.
67. Anderson, J., SANDERSON, P., & Norris, M. (2002). The role of auditory attention and auditory perception in the design of real-time sonification of anesthesia variables. *Proceedings of the joint ESA/CHISIG Conference on Human Factors (HF2002)*. Melbourne, Australia, November 27-29. **[Won CHISIG's Gitte Lindgaard Award for the best written and best presented paper at HF2002]**
68. Crawford, J. Watson, M. Burmeister, O. & SANDERSON, P. (2002). Multimodal displays for anaesthesia sonification: timesharing, workload, and expertise. *Proceedings of the joint ESA/CHISIG Conference on Human Factors (HF2002)*. Melbourne, Australia, November 27-29.
69. Naikar, N, Pearce, B., Drumm, D., & SANDERSON, P. (2002). A Formative Approach to Designing Teams for First-of-a-Kind, Complex Systems. *Proceedings of the 21st European Annual Conference on Human Decision Making and Control*. 15-16 July, University of Glasgow.
70. SANDERSON, P. M., & Reising, D. C. (2002). Display design and analytic redundancy: Reports from the process. *Proceedings of the 46th Annual Meeting of the Human Factors and Ergonomics Society*. Santa Monica, CA: HFES. (pp. 526-630).
71. Anderson, J., & SANDERSON, P. (2002). Sonification design for real-time processes: Issues and a demonstration. *Proceedings of the 46th Annual Meeting of the Human Factors and Ergonomics Society*. Santa Monica, CA: HFES (pp. 1574-1578).
72. Watson, M. & SANDERSON, P. M. (2001). Respiratory sonification helps anaesthetists timeshare patient monitoring with other tasks. *Proceedings of the 2001 Annual Conference of the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (OzCHI2000)*. Edith Cowan University: Perth, WA, 20-22 November, 2001.
73. Watson, M., & SANDERSON, P. M., (2001). Intelligibility of sonifications for Respiratory Monitoring in Anesthesia. *Proceedings of the 45th Annual Meeting of the Human Factors and Ergonomics Society*. Minneapolis, Minnesota, October 8-12, 2001.
74. SANDERSON, P. M., Anderson, J. & Watson, M. (2000). Extending Ecological Interface Design to Auditory Displays. *Proceedings of the 2000 Annual Conference of the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (OzCHI2000)*. CSIRO: Sydney. Pp 259-266
75. Elliott, G., Crawford, J. Solodilova, I., SANDERSON, P., & Naikar, N. (2000). Comparison of Adversarial Crew Cognitive Walkthrough vs Cued Debrief Recall Techniques for Eliciting Information in a D³M environment. *Proceedings of the 2000 Annual Conference of the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (OzCHI2000)*. CSIRO: Sydney. Pp 72-79.

76. Naikar, N., Drumm, D., Pearce, B., & SANDERSON, P. (2000). Designing new teams with cognitive work analysis. *Proceedings of the Fifth Australian Aviation Psychology Symposium*. Manly, November 20-24.
77. SANDERSON, P. (2000). Cognitive Work Analysis across the system life-cycle: Achievements, challenges, and prospects. *Proceedings of the Fifth Australian Aviation Psychology Symposium*. Manly, November 20-24. **[Invited address]**
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Conference abstracts and posters [59]

1. Pascale, M., SANDERSON P., Liu, D., Mohamed, I., Loeb, R. (accepted). Event detection using a simulated head-worn display. Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.
2. Hinckfuss, K., SANDERSON, P., Liu, D., Liley H., & Loeb, R. (accepted). Novel pulse oximetry sonification for monitoring preterm neonates on oxygen support. Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.
3. SANDERSON, P., Hassall, M., & Crone, D. (accepted pending revisions). Supporting defence foresight analysis with Cognitive Work Analysis: Is it applicable, helpful, and practical? Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.
4. McLanders, M., SANDERSON, P., & Liley, H. (accepted pending revisions). Neonatal resuscitation guidelines: How human factors can improve practice. Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.

5. Marshall, S., SANDERSON, P., Kolawole, H., & McIntosh, C. (accepted). Perceptions and implications of cognitive aid design for medical emergencies. Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.
6. Fouhy, S., Santomauro, C., McLanders, M., Tran, J., & SANDERSON, P. (accepted). Effectiveness of vibrotactile displays of patient vital signs under low and high perceptual-motor task load. Abstract submitted for publication in *Proceedings of the 19th Triennial Congress of the International Ergonomics Association (IEA2015)*. Melbourne, Australia: 9-14 August 2015.
7. SANDERSON, P. (2014). Mobile technologies and patient care: A cognitive systems engineering view [Abstract]. *11th International Symposium on Human Factors in Organisational Design and Management Conference (ODAM 2014) and 46th Annual Nordic Ergonomics Society Conference*. Copenhagen, Denmark: 17-20 August, 2014.
[Invited keynote address]
8. Grundgeiger, T., & SANDERSON, P. (2013). Prospective Memory in Safety-critical Domains. In Ansorge [Abstract], U., Kirchler, E., Lamm, C., & Leder, H. (Eds.), *Beiträge zur 54. Tagung experimentell arbeitender Psychologen* (p. 102).
9. Nadler, I., Sanderson, P., & Liley, H. (2011). Task execution pace and clinical assessment accuracy as indicators of effective simulator-based team training (SBTT). Poster presented at the *Perinatal Society of Australia and New Zealand (PSANZ 2011)*. Hobart, Tasmania. 10-13 April. [pdf]
10. Nadler, I., & Liley, H. (2011). Prolonged time without ventilation during intubation attempts in neonatal resuscitation. [Abstract]. Presented at the Australian Resuscitation Council's *8th International Spark of Life Conference*. Perth, WA. 7-9 April 2011.
11. Nadler, I., SANDERSON, P., & Liley, H. (2010). Clinical assessment accuracy and pace of task execution as indicators of effective simulator-based team training (SBTT). Abstract submitted for publication in *Proceedings of the 15th Annual Congress of the Perinatal Society of Australia and New Zealand (PSANZ2011)*. Hobart, Tasmania, 10-13 April 2011.
12. Cameron, I., SANDERSON, P., Nemeth, E., Hassall, M., Seligman, B., Hockings, K., O'Brien, C., & Hantos, K. (2010). An integrated functional systems approach to improving diagnosis in complex process systems. Abstract for *Chemeca 2010*. Adelaide, SA. 26-29 September.
13. Grundgeiger, T., SANDERSON, P., Thompson, A., Beltran Orihuela, C., & Nunnink, L., & Venkatesh, B. (2010). Using a full-scale simulation environment to investigate how nurses remember future intentions. Abstract for *SimTecT Health 2010 Simulation Conference*, Melbourne, Victoria. 30 August – 2 September.
14. Croll, J., & SANDERSON, P. (2010). Procurement of health information systems: A review of current practice. *Proceedings of the HISA Health Informatics Conference (HIC 2010)*. Melbourne, Victoria: 24-26 August.
15. Vuckovic, A., Neal, A., SANDERSON, P., Wong, W., & Gaukrodger, S. (2010). *Evaluating the Multi-Conflict Display (MCD)*. Poster presented at the HCI-Aero conference, Cape Canaveral, Florida, USA
16. Nadler, I., Liley, H., SANDERSON, P., et al. (2010). The accuracy of clinical assessments made by neonatal resuscitation team leaders in simulated scenarios. Abstract for *SimTecT Health 2010 Simulation Conference*, Melbourne, Victoria. 30 August – 2 September.
17. Stitzlein, C., & SANDERSON, P. (2010). Modeling the flow of information: Mapping the use of an Electronic Health Record [Industry paper]. *Proceedings of the HISA Health Informatics Conference 2010*. Melbourne, Victoria: 24-26 August.

18. Stitzlein, C. & SANDERSON, P. (2010). Clinical information flow and variability in practice for healthcare. Interactive poster for *CHI Workshop on Interactive Systems in Healthcare (WISH)*. Atlanta, GA: 10-11 April.
19. Vuckovic, A., SANDERSON, P., Neal, A., Gaukrodger, S., & Wong, W. (2009). An evaluation of the multi-conflict display. Poster for the 4th *EUROCONTROL Innovation Research Workshop and Exhibition (INO 2009)*. Paris, France: 6-8 December 2009.
20. Nadler, I., Liley, H., & SANDERSON, P. M. (2009). New methods for evaluating team training for neonatal resuscitation. Abstract for the *Australian Resuscitation Council's Seventh "Spark of Life" International Resuscitation Conference*. Hobart, Tasmania: 30 April – 2 May
21. Jenkins, S., Liu, D., Thompson, M. B., & SANDERSON, P. M. (2009). Managing the risks of display evaluation studies in the OR. Abstract for *Society for Technology in Anesthesia (STA2008) Annual Meeting*. San Antonio, TX: 14-17 January, 2009. [Shortlisted for oral plenary presentation at the conference, with Liu et al., 2009a and Liu et al., 2009b]
22. Liu, D., Jenkins, S., Kruys, A., & SANDERSON, P. M. (2009a). Part-task trainer evaluation of a head-mounted display for physically constrained anesthesiologists. Abstract for *Society for Technology in Anesthesia (STA2009) Annual Meeting*. San Antonio, TX: 14-17 January, 2009. [Shortlisted for oral plenary presentation at the conference, with Jenkins et al., 2009 and Liu et al., 2009b]
23. Liu, D., Jenkins, S., SANDERSON, P. M., Fabian, P. & Russell, W. J. (2009b). Head-mounted display evaluation in anesthesia for rigid cystoscopy. Abstract for *Society for Technology in Anesthesia (STA2009) Annual Meeting*. San Antonio, TX: 14-17 January, 2009. [Shortlisted for oral plenary presentation at the conference, with Jenkins et al., 2009 and Liu et al., 2009a].
24. Liu, D., SANDERSON, P., Jenkins, S., Watson, M., & Russell, W. J. (2009). Monitoring with head-mounted displays (HMDs) in anesthesia: Simulator and clinical evaluations. Abstract for *International Meeting on Simulation in Healthcare (IMSH2009)*. Orlando, FL, 10-14 January. [Won 3rd place for best abstract in technology area].
25. Liu, D., Jenkins, S., SANDERSON, P.M., Leane, T., Watson, M.O., Russell, W.J. (2008). Simulator evaluation of head-mounted displays for patient monitoring. Abstract for *Society for Technology in Anesthesia (STA2008) Annual Meeting*. San Diego, CA: 16-19 January, 2008.
26. Liu, D., Grundgeiger, T., SANDERSON, P.M., Leane, T., Jenkins, S. (2008). Interruptions, distractions and situation awareness in advanced display studies. Abstract for *Society for Technology in Anesthesia (STA2008) Annual Meeting*. San Diego, CA: 16-19 January, 2008. **[Won Best Abstract Award in the area of Anesthesia Information Systems].**
27. Jenkins, S., Liu, D., Leane, T., SANDERSON, P.M. (2008). Research in the simulated OR: working within constraints to create the illusion of control. Abstract for *Society for Technology in Anesthesia (STA2008) Annual Meeting*. San Diego, CA: 16-19 January, 2008.
28. Thompson, M., Lowe, S., & SANDERSON, P. (2007). Role of motion and sound in use of head-mounted displays. *Proceedings of the 8th International Multisensory Research Forum (IMRF2007)*. Sydney, 5-7 July, 2007.
29. Krupenia, S., & SANDERSON, P. (2007). Effect of head mounted displays and multimodal support on detection of unexpected events. *Proceedings of the 8th International Multisensory Research Forum (IMRF2007)*. Sydney, 5-7 July, 2007.
30. SANDERSON, P. Watson, M., Russell, W.J., Liu, D., Jenkins, S., & Green, N. (2007). "Designing attention" with continuous auditory information: theoretical and methodological challenges. Abstract accepted for presentation at the 34th *Australasian Experimental Psychology Conference (EPC2007)*. Australian National University. Canberra, 13-15 April 2007

31. Krupenia, S., & SANDERSON, P. (2007). Multimodal attention with head mounted and auditory displays. Abstract accepted for presentation at the 34th *Australasian Experimental Psychology Conference (EPC2007)*. Australian National University. Canberra, 13-15 April 2007.
32. Shek, V., & SANDERSON, P. (2007). Relative effectiveness of learned emotional associations vs. stimulus properties in attracting attention. Poster accepted for the 34th *Australasian Experimental Psychology Conference (EPC2007)*. Australian National University. Canberra, 13-15 April 2007. [Not presented].
33. Crone, D., SANDERSON, P., & Naikar, N. (2007). Selecting sensitive measures of performance in complex multivariable environments. Abstract for *SimTecT 2007*. Brisbane, Australia, 4-7 June 2007.
34. Watson, M., SANDERSON, P., Russell, W. R., Llewelyn, K., Liu, D., & Lacherez, P. (2007). Simulating high workload situations to evaluate patient monitors. Abstract for *Society of Technology in Anesthesia (STA2007) Annual Meeting*. Orlando, FL: 17-20 January, 2007.
35. SANDERSON, P., Watson, M., Russell, W.J., Jenkins, S., Liu, D., Green, N., Llewelyn, K., Cole, P., Shek, V., & Krupenia, S. (2007). Advanced auditory displays and head-mounted displays: Advantages and disadvantages for monitoring by the distracted anesthetologist. Abstract for *Society of Technology in Anesthesia (STA2007) Annual Meeting*. Orlando, FL: 17-20 January, 2007. **[Won Best Abstract Award in the area of Anesthesia Information Systems]**.
36. Liu, D., Jenkins, S., Watson, M., SANDERSON, P., & Russell, W. J. (2007). Extending simulators to improve support for patient monitoring display research. Abstract for *Society of Technology in Anesthesia (STA2007) Annual Meeting*. Orlando, FL: 17-20 January, 2007.
37. SANDERSON, P., Watson, M., Jenkins, S., Liu, D., & Cole, P. (2006). Human factors in healthcare: Simulation challenges. (Abstract). *Proceedings of SimTecT 2006 Healthcare Simulation Conference (SimTecT2006)*. Royal Brisbane and Womens Hospital Education Centre/Queensland Health Skills Development Centre. 11-14 September.
38. SANDERSON, P. Seah, E., Lacherez, P., Wee, A., Thompson, C. & Watson, M. (2006). Melodic medical equipment alarms: Are they safe? Abstract published in *Proceedings of the Australian and New Zealand College of Anaesthetists (ANZCA) Annual Scientific Meeting*. May 13-15, Adelaide, SA.
39. Watson, M., SANDERSON, P., Lacherez, P. Trentini, M., & Purtill, T. (2005). Arbiter--A simulator for the design and evaluation of patient monitoring displays. (Abstract). *Proceedings of the SimTect Healthcare Simulation Conference (SimTect2005)*. 1-3 November. Brisbane, Qld.
40. Liu, D. & SANDERSON, P. (2005). Electronic Maintenance Manuals on Wearable Computers. Abstract for the *NICTA Workshop on Multi Modal User Interfaces (MMUI2004)*. 13-14 September. Sydney.
41. Krupenia, S., & SANDERSON, P. (2005). Head-mounted displays and visual attention. Abstract for the *NICTA Workshop on Multi Modal User Interfaces (MMUI2004)*. 13-14 September. Sydney.
42. SANDERSON, P. (2005). The multimodal world of medical monitoring displays. Abstract for plenary presentation at the IEA2006 Triennial Congress of the International Ergonomics Association. Maastricht, The Netherlands, July.
43. SANDERSON, P., & Krupenia, S. (2005). Designing for attention to auditory and visual displays: Gorillas in our list. Poster presented at *Applied Attention* conference in honour of the retirement of Professor C. D. Wickens. Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL. 16-18 June.

44. SANDERSON, P., Shek, V., & Watson, M. (2005). The effect of concurrent music on simulated patient monitoring with visual and auditory displays. Abstract published in *Proceedings of the ANZCA Annual Scientific Meeting*. Auckland, NZ, 7-11 May.
45. Miller, A., SANDERSON, P., Venkatesh, B., & Limpus, A. (2005). Information use by medical and nursing staff in ICU and implications for continuity of care. Abstract accepted as poster for *ANZCA Annual Scientific Meeting*. Auckland, NZ, 7-11 May.
46. Crawford, J., Savill, A., & SANDERSON, P. (2003). Monitoring the anesthetized patient: An analysis of confusions in vital sign reports. *Proceedings of the 47th Annual Meeting of the Human Factors and Ergonomics Society*. (pp. 1574-1578). HFES: Santa Monica, CA. .
47. SANDERSON, P. (2003). The human response to new technology. Abstract of invited presentation to the *Australian and New Zealand College of Anaesthetists Annual Scientific Meeting (ANZCA ASM 2003)*, Hobart, 3-7 May, 2003. [Invited address]
48. Watson, M., Woodall, J., & SANDERSON, P. (2003). Increased Patient Situation Awareness through Respiratory Sonifications. Abstract of invited presentation to the *Australian and New Zealand College of Anaesthetists Annual Scientific Meeting (ANZCA ASM 2003)*, Hobart, 3-7 May, 2003. [Invited address]
49. SANDERSON, P. (2000). "It's an IT system, not a control system!" Revolutionary changes in human interaction with large-scale systems. *Proceedings of the 2000 Annual Conference of the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia (OzCHI2000)*. Sydney, Australia. December 4-8. [Invited keynote address]
50. SANDERSON, P. (1997). The Advising Workbench Project at University of Illinois: Empowerment and the politics of organizational change. *Fourth Australian Women in Computing Workshop (WIC97)*, 1 July. [Invited keynote address]
51. SANDERSON, P. M., & Seiler, M. (1997). Human interaction with smart aids in a dynamic scheduling task. *Proceedings of the 1997 Experimental Psychology Society Conference*. Deakin University, Geelong, Australia, 4 April. [Abstract only.]
52. SANDERSON, P. M. & Reising, D. V., (1997). Diagnostic reasoning and multiple faults. *Proceedings of the 1997 Experimental Psychology Society Conference*. Deakin University, Geelong, Australia, 4 April. [Abstract only.]
53. SANDERSON, P.M. (1994). MacSHAPA: A tool for exploratory sequential data analysis. *AFMC Ergonomics Symposium (Ergo-Expo)*. Dayton, OH.
54. McNeese, M., SANDERSON, P.M., & Zaff, B. (1993). MacSHAPA and COGENT: Two cognitive engineering tools. *Proceedings of the 1993 Meeting of the Society for Computers in Psychology*, Washington, DC.
55. Reising, D. V., & SANDERSON, P.M. (1993). The effects of fault complexity and diagnostic strategy on multiple fault diagnosis. *Proceedings of the 1993 Meeting of the Midwestern Psychological Association*.
56. SANDERSON, P. M., Appeddu, T., & Reising, D.V. (1992). The effects of mental set and complexity in diagnostic reasoning. *Proceedings of the 1992 Meeting of the Midwestern Psychological Association*, Chicago, IL.
57. SANDERSON, P. M., & Cohen, S. (1989). Functional learning as navigation within an environment of mathematical relations. In L. Mark & C. Dent (Eds.), *Proceedings of the Fifth International Conference on Event Perception and Action*, Oxford, OH.
58. Flach, J. M., & SANDERSON, P. M. (1987). Ecological principles of display design for process Control Environments. *Proceedings of the Fourth International Conference on Event Perception and Action*, Trieste, Italy, August.

59. SANDERSON, P. M., & Fuld, R. B. (1987). The Waterbath task: A paradigm for process control. In J. M. Flach (Ed.), *Proceedings of the 4th Mid-Central Ergonomics Conference*, Urbana, IL.

Papers in professional bulletins and magazines (non-refereed) [6]

1. SANDERSON, P. (2006). Auditory displays in healthcare. *User Experience*, 5(3), 19-21.
2. SANDERSON, P. (2002). A Room with a View: Hollnagel's Perspective on Control Room Design. *Simplicity*. [Official bulletin of the ESA Computer Human Interaction Special Interest Group: CHISIG].
3. SANDERSON, P. (2001). Medical cognitive engineering at SCHIL. *Simplicity*.
4. SANDERSON, P. (1999). An HCI triumph in the Year of the Older Person. *Simplicity*.
5. SANDERSON, P. (1998). The Tyranny of Distance. *Bulletin of the HFES Medical Systems and Rehabilitation Technical Group*.
6. SANDERSON, P. (1998). Welcome from the Chair. *Bulletin of the HFES Medical Systems and Rehabilitation Technical Group*.

Theses [3]

1. SANDERSON, P. M. (1985). *Cognitive models and the discovery of the structure of complex systems*. PhD dissertation. Department of Psychology, University of Toronto, Toronto, Ontario, Canada.
2. SANDERSON, P. M. (1981). *The relationship of verbal and spatial ability to two types of memory for order*. M. A. thesis, Department of Psychology, University of Toronto, Toronto, Ontario, Canada.
3. SANDERSON, P. M. (1979). *Differential hemispheric involvement in controlled and automatic processing*. B. A. (Hons) thesis, Department of Psychology, University of Western Australia, Perth, WA

Selected contract reports, technical reports, workshop materials, etc. [46]

Note: Research for DSTO has usually been classified *Secret AustEO* or *Restricted*, in some cases delaying or preventing publication. Similarly, consulting work is usually *Commercial-in-Confidence*, again delaying some work for publication or preventing it.

1. SANDERSON, P. & Hassall, M. (2014). *Cognitive Work Analysis and defence futures*. Final Report, 7 December. DSTO Research Agreement 2013/1192983/1; MyIP 5349. [80 pp].
2. SANDERSON, P. & Hassall, M. (2014). *Cognitive Work Analysis and defence futures*. Progress Report, 14 April, DSTO Research Agreement 2013/1192983/1; MyIP 5349. [46 pp].
3. Greenaway, K., Peters, K., Steffens, N., Haslam, S.A., SANDERSON, P., & Tangen, J. (2014). *Incentives and Australians' passport care*. Research contract report, Passport Office, Department of Foreign Affairs and Trade, Canberra, ACT. [20 pp]
4. Planitz, B., SANDERSON, P., Kipps, T., & Driver, C. (2013). *Mobile phone use at PAH: Summary of survey and observation findings*. Contract report for Nursing Director Research, Princess Alexandra Hospital, Woolloongabba, Queensland. CERG-2013-Mob-01. [59 pp.]
5. Xiao, T., Broxham, W., Freeman, C., Whitcher, S., & SANDERSON, P. (2009). *DDR implementation of CARPS: Prospective analysis of potential impact*. Research collaboration

- report for Department of Diagnostic Radiology, Princess Alexandra Hospital (NICTA-COSE-PICTE-2009-01). National ICT Australia, St Lucia, Qld. [74 pp].
6. SANDERSON, P. & Memisevic, R. (2007). *Alarm effectiveness review: Phase 2 report*. Final consultancy report for Powerlink P/L (CERG-PL-2007-1). Cognitive Engineering Research Group, The University of Queensland, St Lucia, Qld. [58 pp]
 7. SANDERSON, P. & Memisevic, R. (2005). *Alarm effectiveness review: Phase 1 report*. Interim consultancy report for Powerlink P/L (CERG-PL-2005-1). Cognitive Engineering Research Group, The University of Queensland, St Lucia, Qld. [30 pp]
 8. SANDERSON, P. & Memisevic, R. (2005). *Ergon Energy facility sizing for control room upgrades*. Consultancy report for Ergon Energy (CERG-EE-2005-1). Cognitive Engineering Research Group, The University of Queensland, St Lucia, Qld. [32 pp]
 9. Loft, S., Neal, A., Mooij, M. & SANDERSON, P. (2004). *Prediction of mental workload and performance in air traffic control: Literature review and current approach*. Key Centre for Human Factors Technical Report KCHF-ATC-WL-2004-PR1 prepared for Airservices Australia. ARC Key Centre for Human Factors and Applied Cognitive Psychology, The University of Queensland, St Lucia, Qld. [40 pp].
 10. SANDERSON, P., & Memisevic, R. (2004). *Powerlink control facility sizing: Final report*. Final consultancy report for Powerlink P/L (CERG-PL-2004-1). Cognitive Engineering Research Group, The University of Queensland, St Lucia, Qld. [21 pp]
 11. SANDERSON, P. M. & Naikar, N. (2002). *Cognitive Work Analysis-based methodologies to support the human factors effort during AEW&C operational test and evaluation*. Final Report (Report B). Contract report under Research Agreement with DSTO (UQKC-DSTO-AEW&C-2002-1). June. [57 pp. Security classification: Restricted].
 12. SANDERSON, P. M. (2002). *Cognitive Work Analysis-based methodologies to support test and evaluation for EW and VAC*. Final Report (Report B2). Contract report under Research Agreement with DSTO (UQKC-DSTO-AEW&C-2002-2). June. [36 pp.].
 13. SANDERSON, P. (2002). *SMCC Control room refurbishment drawings: Comments*. Technical report for Snowy Hydro Limited. Cognitive Engineering Research Group, The University of Queensland, St Lucia, Qld. [6 pp]
 14. SANDERSON, P. M. (2001). *Cognitive Work Analysis-based methodologies to support the human factors effort during AEW&C operational test and evaluation: Interim Report (Report A)*. Contract report under Research Agreement with DSTO (UQKC-DSTO-2001-2). December. [38pp. Security classification: Restricted].
 15. SANDERSON, P. M. (2001). *Ergonomic consulting for Snowy Mountains Control Centre Facilities Upgrade Project: Task Analysis input to control room redesign*. Final report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-2001-2]. June. [55 pp. Commercial-in-confidence.]
 16. SANDERSON, P. M. & Naikar, N. (2001). *Cognitive engineering evaluation of human-system integration in the ADF's forthcoming AEW&C system: Report B*. Contract report under Research Agreement with DSTO [SCHIL-DSTO-AEW&C-2001-1]. January. [40 pp: Security classification—Restricted]
 17. SANDERSON, P. M. (2001). *Snowy Mountains Control Centre: Facilities upgrade report after visit to Tumut 3 power station December 2000*. Consultancy report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-2001-1]. January. [21 pp]
 18. SANDERSON, P. M. (2000). *Snowy Mountains Control Centre: Facilities upgrade report after visit to SMCC Cooma November 2000*. Consultancy report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-2000-3]. December. [17 pp]

19. SANDERSON, P. M., & Wong, B.-L. W. (2000). *Evaluating human-system integration solutions for SMCC's proposed AGC and GEMS systems*. Final report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-2000-2]. August. [60 pp. Commercial-in-confidence.]
20. SANDERSON, P. M. (2000). *Snowy Mountains Control Centre: Final report and discussion paper [supplementary notes]*. Final consultancy report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-2000-1]. August. [11 pp]
21. SANDERSON, P. M. & Naikar, N. (2000). *Cognitive engineering evaluation of human-system integration in the ADF's forthcoming AEW&C system: Report A*. Contract report under Research Agreement with DSTO [SCHIL-DSTO-AEW&C-2000-1]. June. [59 pages: Security classification—Restricted]
22. SANDERSON, P. M. (1999). *Snowy Mountains Control Centre: Final report and discussion paper*. Final consultancy report, Snowy Mountains HydroElectric Authority [SCHIL-SMCC-1999-1]. August. [9 pp]
23. Vicente, K. J., SANDERSON, P. M., Benda, P., Naikar, N., & Lintern, G. (1999). *Cognitive work analysis workshop*. Notes for CWA workshop at DSTO Salisbury, 25 February. [SCHIL-DSTO-CWAW-1999-3].
24. Vicente, K. J., SANDERSON, P. M., Benda, P., Naikar, N., & Lintern, G. (1999). *Cognitive work analysis workshop*. Notes for CWA workshop at DSTO Fishermens Bend, 23 February. [SCHIL-DSTO-CWAW-1999-2].
25. Vicente, K. J., SANDERSON, P. M., Naikar, N., & Benda, P. (1999). *Cognitive work analysis workshop*. Notes for CWA workshop at DSTO Fernhill, 19 February. [SCHIL-DSTO-CWAW-1999-1].
26. SANDERSON, P. M. (1999). *Cognitive Work Analysis and the Work Domain Analysis Workbench*. Milestone B report, DSTO Human Factors Hub contract [SCHIL-DSTO-WDAW-1999-1]. April. [7 pp]
27. SANDERSON, P. M. (1999). *Cognitive engineering evaluation of human-system integration in the ADF's proposed AEW&C system*. Final Report (Report D). Contract report prepared under Research Agreement between AOD, AMRL, DSTO, and SCHIL, Swinburne University of Technology [SCHIL-DSTO-AEW&C-1999-2]. August. [38 pp. Security classification—Secret AUSTEO]
28. SANDERSON, P. M. (1999). *Cognitive engineering modelling of C2 and commander decisionmaking: A Cognitive Work Analysis approach*. Final report on DSTO Fernhill contract [SCHIL-DSTO-FH-1999-1]. March. [49 pp. Security classification—Secret AUSTEO]
29. SANDERSON, P. M. (1999). *Cognitive engineering evaluation of automation and data fusion in the ADF's proposed AEW&C asset*. Report C. Contract report prepared under Research Agreement between AOD, AMRL, DSTO, and SCHIL, Swinburne University of Technology [SCHIL-DSTO-AEW&C-1999-1]. February. [25 pp. Security classification—Secret AUSTEO]
30. SANDERSON, P. M. (1998). *Cognitive engineering evaluation of automation and data fusion in the ADF's proposed AEW&C asset*. Report B. Contract report prepared under Research Agreement between AOD, AMRL, DSTO, and SCHIL, Swinburne University of Technology [SCHIL-DSTO-AEW&C-1998-2]. June. [34 pp. Security classification—Secret AUSTEO]
31. SANDERSON, P. M. (1998). *Cognitive engineering evaluation of human-system integration in the ADF's proposed AEW&C system*. Report A. Contract report prepared under Research Agreement between AOD, AMRL, DSTO, and SCHIL, Swinburne University of Technology [SCHIL-DSTO-AEW&C-1998-1]. January. [40 pp. Security classification—Secret AUSTEO]
32. SANDERSON, P. M., Howard, S., & Benda, P. (1998). *Usability Evaluation and Human-Centred Design of Interactive Systems: Final Report to Invetech*. [SCHIL-Invetech-1998-1]. December.

33. SANDERSON, P. M. (1997). *Taming information complexity*. Notes for workshop given at DSTO Salisbury, 26-28 February. [SCHIL-DSTO-TIC-1997-1].
34. Jones, B.G., Shaheen, S., Moray, M. Reising, D.V.C., SANDERSON, P.M. & Rasmussen, J. (1997). Development of advanced direct perception displays for nuclear power plants to enhance monitoring, control and fault management. Final Research Contract Report DOE/ER/75781-T2. Department of Energy, US. May. [135 pp]
35. SANDERSON, P. M. (1994). *Exploratory Sequential Data Analysis: Software*. Engineering Psychology Research Laboratory Technical Report EPRL-94-01, University of Illinois at Urbana-Champaign.
36. SANDERSON, P.M., & Fisher, C. (1993). *Exploratory Sequential Data Analysis in Practice: HFES Workshop notes*. Notes for workshop given at the Human Factors and Ergonomics Society 1993 Annual Meeting. Engineering Psychology Research Laboratory, October.
37. SANDERSON, P. M., & Mainzer, J. (1992). *New Query Language (NQL) Specifications*. Engineering Psychology Research Laboratory, MacSHAPA project, June.
38. SANDERSON, P. M., & Fisher, C. (1992). *ESDA: Traditions, Techniques and Tools: CHI'92 PreWorkshop Report*. Urbana, IL: Engineering Psychology Research Laboratory, May.
39. SANDERSON, P. M. (1991). *ESDA: Exploratory Sequential Data Analysis*. Engineering Psychology Research Laboratory Technical Report EPRL-91-04, University of Illinois at Urbana-Champaign.
40. SANDERSON, P. M. (1990). *Implicit and explicit control of a dynamic task, Empirical and conceptual issues*. Engineering Psychology Research Laboratory Technical Report EPRL-90-02, University of Illinois at Urbana-Champaign.
41. SANDERSON, P. M. (1989). *Human factors research needed in the area of manufacturing*. In N. Moray, C. Drury, W. Karwowski, P. SANDERSON, & T. Sheridan, Human-Machine Systems Research: A Case for NSF Support. Department of ME&IE Technical Report, December.
42. SANDERSON, P. M. (1989). *Supporting emerging human roles in advanced manufacturing systems: Cognitive and organizational aspects*. Engineering Psychology Research Laboratory Technical Report EPRL-89-08, University of Illinois at Urbana-Champaign.
43. SANDERSON, P. M., Moray, N., & Vicente, K. J. (1989). *Task and communications analysis of REAC*. Contract Progress Report No. 1 for Illinois Department of Nuclear Safety, Springfield, IL.
44. SANDERSON, P. M., & Kossack, M. (1988). *Subjective mental workload and delay since a high workload event*. Engineering Psychology Research Laboratory Technical Report EPRL-8818, University of Illinois at Urbana-Champaign.
45. SANDERSON, P. M., & Woods, M. (1987). *Subjective mental workload and locus of control*. Engineering Psychology Research Laboratory Technical Report EPL-87-3, University of Illinois at Urbana-Champaign.
46. SANDERSON, P. M., & Vicente, K. J. (1986). *Verbalizable knowledge and skilled task performance: Explaining association and dissociation*. Engineering Psychology Research Laboratory Technical Report EPL-86-4, University of Illinois at Urbana-Champaign.

Press reports focusing on my research and teaching activities [19]

1. Rouse, R. Sound of music keeps the surgeons on track. *Medical Observer*. May, 2005. p. 2
2. Music and anesthesia. ABC Newcastle current affairs segment. 4 May 2005.
3. Music and anesthesia. ABC Triple-J Science broadcast. 3 May, 2005.

4. Skatssoon, J. Mozart better than Metallica in surgery. ABC News In Science. <http://www.abc.net.au/science/news/stories/s1358010.htm>. 3 May, 2005.
Also in <http://vnexpress.net/Vietnam/Khoa-hoc/2005/05/3B9DDDCB/> (Vietnamese)
http://news.pathfinder.gr/periscopio/music_surgery.html (Greek)
<http://newstrove.com/topics/Metallica.html>
5. News from down under. *Efforts (Emphysema Foundation For Our Right To Survive)*, October 2004. Online bulletin. [Respiratory sonification].
www.emphysema.net/Newsletters/NLOCT04/October2004.htm
6. AAP Feed. Queensland doctors develop breathing monitor. *National Nine News*. Friday 24 September, 2004. [Respiratory sonification]. news.ninemsn.com.au/article.aspx?id=18891
7. Walker, K. Anaesthetists get sound help. Breaking News, *Courier-Mail*. Wednesday 22 September 2004. [Respiratory sonification]
http://www.couriermail.news.com.au/common/story_page/0,5936,10843371%255E1702,00.html
8. Walker, K. Anaesthetists get sound help. Breaking News, *The Australian*. Wednesday 22 September 2004. [Respiratory sonification]
http://www.theaustralian.news.com.au/common/story_page/0,5744,10843371%255E1702,00.html
9. Walker, K. Anaesthetists get sound help. Breaking News, *Herald-Sun*. Wednesday 22 September 2004. [Respiratory sonification] news.daylightonline.com/Brisbane.html also in http://www.heraldsun.news.com.au/common/story_page/0,5478,10843371%255E1702,00.html
10. Kingsley, D. Action video games can boost cognitive skills. ABC Science online. Thursday 29 May, 2003. [Expert comments on attentional training in video games]
11. The Science Show, *ABC Radio National*. 10-minute interview by Robin Williams with Sanderson about cognitive engineering, focusing on control room and operating theatre design, 22 June, 2002.
12. Illing, D. Taming digital-age lions. *The Australian*, Wednesday 15 May, 2002. [Complexity research]
13. Sinclair, J. Users' message: It's your fault, you nerd. *The Age*, Tuesday 20 March, 2001. [Usability activities]
14. Channel 7 *Today Tonight* prime-time current affairs program. The Swinburne students who have come up with an easy-to-use solution to Melbourne's MetCard ticketing machines. November 15, 1999.
15. Walker, D. M. Poor design doesn't compute, says UK expert. *The Age*, Tuesday 12 October, 1999. [Prof N. Moray visit plus SCHIL and DSTO]
16. Barker, G. Think people, say design experts. *The Age*, Tuesday 2 March, 1999. [Prof K. Vicente visit plus SCHIL]
17. Minor, J. & Crusius, J. Engineering and Psychology: Worlds apart? *Illinois Technograph*, 111, pp. 4-7, 1995. [Broad coverage plus Advising Workbench software]
18. Wurth, J. Software helps to plan UI students' schedules. *News-Gazette*. Volume 143, No. 277, May 2, 1995. p. 12. [Advising Workbench software]
19. DeAngelis, T. Attention demands high in a complicated world. *APA Monitor*, January, 16-19, 1994. [Visual displays research]

Presentations (only those given personally, unaccompanied by reviewed paper or reviewed abstract) [178]

1. SANDERSON, P. (2014). "Clinical monitoring, patient care, and the design of attention." Ron Cumming Memorial Lecture and Medal. *Human Factors and Ergonomics Society of Australian (HFESA) 50th Annual Conference*. Adelaide, SA: 17-19 November, 2014.
2. SANDERSON, P. (2014). "Human Factors". Invited presentation for UQ/Boeing presentation day, 2 November 2014.
3. SANDERSON, P. (2014). "Publishing in the field of human factors/ergonomics". Invited panel presentation for Student Career and Professional Development Day. *Annual Meeting of the Human Factors and Ergonomics Society*. Monday 27 October, 2014.
4. SANDERSON, P. (2014). "PhD Oral Thesis Examination at The University of Queensland." Invited presentation to School of Psychology RHD students. 17 October, 2014.
5. SANDERSON, P., Brecknell, B., Kipps, T., & Driver, C. (2014). "Nurses use of smartphones during clinical care". Invited presentation to PAH Magnet Champions Seminar. 2 October, 2010.
6. SANDERSON, P. (2014). "The Legacy of Jens Rasmussen." Invited keynote address: *Legacy of Jens Rasmussen Adjunct ODAM Symposium, 11th International Symposium on Human Factors in Organisational Design and Management Conference and 46th Annual Nordic Ergonomics Society Conference*. Copenhagen, Denmark: 20-21 August, 2014.
7. SANDERSON, P. (2014). "Cognitive Engineering". Invited presentation to the St Aidan's Anglican Girls' School 'Women in Science' seminar. Brisbane, 25 May, 2014.
8. SANDERSON, P. (2014). "Identifying constraints that shape strategies." Invited presentation to the Georgia Institute of Technology Strategies Workshop, Atlanta, GA. 18-19 April, 2014.
9. SANDERSON, P. "Interruptions in critical care: Diary study" Presentation to PAH ICU Research Meeting, 31 October, 2013.
10. SANDERSON, P. "Undergraduate Research Conference Welcome". Invited keynote address to UQ Undergraduate Research Conference, Research Week. 17 September, 2013.
11. SANDERSON, P. "Ethics: Ethical review of research in ITEE and UQ". Presentation to staff and students of School of ITEE, The University of Queensland, 30 August, 2013.
12. SANDERSON, P. "Designing the information environment for critical care monitoring and decision making" Invited keynote presentation to Division 21, American Psychological Association Annual Conference, Hawaii, USA, 1 August, 2013.
13. SANDERSON, P. "Responding to "revise and resubmit". Invited presentation to joint meeting of Division 21 and Division 3, American Psychological Association Annual Conference, Hawaii, USA, 3 August, 2013.
14. SANDERSON, P. "Head-worn displays in healthcare: how do we design for attention?" Invited presentation to School of Psychology, University of Wurzburg, Wurzburg, Germany, 20 March, 2013.
15. SANDERSON, P. "Exploring methods for identifying impacts of technology on defence." Invited presentation at Defence eFFECTS meeting, Melbourne, 14 October, 2013.
16. SANDERSON, P. "Welcome". UQ Undergraduate Research Conference, Research Week, The University of Queensland, 17 September, 2013.

17. SANDERSON, P. "Head-worn displays in healthcare: How do we design for attention? Invited presentation to visiting executives from Lockheed-Martin, The University of Queensland, 2 July, 2013.
18. SANDERSON, P. Smartphone use during clinical care: Questionnaire and observation results. Invited presentation to Nursing Executive, PAH, 11 April, 2013.
19. SANDERSON, P. "Supporting attention in critical care environments with sonification." Invited presentation to PSYC3034, School of Psychology, The University of Queensland, 12 September, 2012.
20. SANDERSON, P. "Interruptions and distractions". Invited presentation to visiting Boeing executives, School of ITEE, The University of Queensland, 15 May, 2012.
21. SANDERSON, P. "Supporting attention in critical care environments with "continuous informing". Invited and funded presentation to US Air Force Research Laboratory, Wright-Patterson AFB, Dayton, USA, 4 February, 2012.
22. SANDERSON, P. "Use of mobile phones in a tertiary healthcare context: Unanswered questions". Presentation to PAH Nursing Executive, Princess Alexandra Hospital, 3 April, 2012.
23. SANDERSON, P. "Getting laboratory research practices under control". Presentation to School of Psychology, The University of Queensland, 21 November, 2011.
24. SANDERSON, P. "Human factors in healthcare: Research challenges." Invited presentation to the Monash University NHMRC/AQSHC Centre of Research Excellence in Patient Safety (CRE-PS) seminar on Practical Human Factors. State Library, Melbourne. Friday 18 November, 2011.
25. SANDERSON, P. "Cognitive systems engineering". Presentation to AOARD delegation. The University of Queensland. Thursday 10 November, 2011.
26. SANDERSON, P. "Supporting attention and memory in critical care environments with "continuous informing". Invited presentation to the School of Psychology seminar series, The University of Queensland. Friday 26 August, 2011.
27. SANDERSON, P. "Cognitive systems engineering with a focus on health". Presentation to School of ITEE, The University of Queensland. Tuesday, 12 July, 2011.
28. SANDERSON, P. "Cognitive systems engineering and health applications". Presentation at CSIRO/ITEE research summit. 22 November, 2010.
29. SANDERSON, P. "Patient safety, attention, and things on the head." Invited presentation at the Celebration of Applied Human Factors, Department of Mechanical and Industrial Engineering, University of Toronto. 23 July 2010.
30. SANDERSON, P. "Interruptions and distributed prospective memory in critical care." Invited presentation at the 10th anniversary of the founding of the Centre for Health Informatics at University of NSW, Sydney, NSW. 15 June, 2010.
31. SANDERSON, P. "Envisioning ICT use in healthcare." Invited presentation to the Australian Information Industry Association (AIIA) eHealth forum, Canberra, ACT. 29 April 2010.
32. SANDERSON, P. "Perspectives that NICTA can bring to eHealth challenges." Invited presentation to the Queensland Health Clinical Informatics Steering Committee, Brisbane, Queensland, 28 May 2010.
33. SANDERSON, P. "Perspectives that NICTA can bring to eHealth challenges." Invited presentation to Queensland Health eHealth Division forum, Brisbane, Queensland. 17 February, 2010.

34. SANDERSON, P. "Analysis of video from simulation and clinical studies." Invited presentation on roundtable on After-Action Analysis of Observational Data: Is it Worth the Effort? International Meeting on Medical Simulation. Phoenix, AZ. 10-14 January, 2010.
35. SANDERSON, P. "Supporting complex cognition in critical care; From theory through practice to impact." Invited plenary presentation to the Human Factors and Ergonomics Association of Australia (ESA) Annual Conference, Melbourne, 24 November 2009.
36. SANDERSON, P. "An embryonic PICTE methodology and its first case study." Presentation to NICTA COSE Colloquium, NICTA Queensland Research Laboratory. Friday 9 October, 2009.
37. SANDERSON, P. "Head-mounted displays for anesthesia monitoring: Evaluating their prospects." Interaction Design Centre seminar, Middlesex University. Tuesday 29 September, 2009.
38. SANDERSON, P. "Exploratory Sequential Data Analysis: Past, present, and future. Interaction Design Centre seminar, Middlesex University. Wednesday 23 September, 2009.
39. SANDERSON, P. "Exploratory Sequential Data Analysis (ESDA): Towards understanding collaboration". Presentation to ESDA Collaboration workshop, Interaction Design Centre, Middlesex University. Monday 21 September, 2009.
40. SANDERSON, P. "Taming empirical dilemmas to run wild studies." Masterclass presentation to Interaction Design Centre, Middlesex University, and University College London. Friday 18 September, 2009.
41. SANDERSON, P. "Healthcare displays and distractions: Some studies using video analysis". Presentation to School of Computer Science, Linköping University, Sweden. Monday, 4 May 2009.
42. SANDERSON, P. "Exploratory Sequential Data Analysis (ESDA). Presentation to School of Computer Science, Linköping University, Sweden. Monday, 4 May 2009.
43. SANDERSON, P., Neal, A., & Watson, M. "Cognitive and Organisational Systems Engineering (COSE): Overview of objectives and activities." NICTA Queensland Research Laboratory Seminar. Thursday 12 March 2009.
44. SANDERSON, P. "PICTE: Healthcare ICT and the human-system integration challenge." Presentation to NICTA COSE Colloquium, NICTA Queensland Research Laboratory. Monday 9 February, 2009.
45. SANDERSON, P. "Multimodal displays and interruptions research". Presentation to ARCH Laboratory, School of Psychology, George Mason University, Fairfax County, VA. Monday 29 September, 2008.
46. SANDERSON, P. "Designing for attention in patient monitoring: Studies in field, laboratory, simulator and clinical contexts." Presentation to Human Factors group, University of Maryland Baltimore County (University of Maryland Medical Centre). Baltimore, Friday 19 September, 2008.
47. SANDERSON, P. "Decision support systems". Presentation to Boeing Phantomworks executives, UQ Customs House, Brisbane. Thursday 11 September, 2008.
48. SANDERSON, P. "Capturing the essentials: Simulator-based research in aviation and healthcare. Plenary address to Australian Aviation Psychology Association Conference, Brighton-le-Sands, Sydney. Tuesday 8 April, 2008.
49. SANDERSON, P. "Healthcare human factors projects at UQ: Into and out of the simulator. Plenary address at the NHMRC CREPS human factors in healthcare seminar around Sidney Dekker's visit. Melbourne, Wednesday 6 December, 2007.

50. SANDERSON, P. "MacSHAPA and ESDA". Videoconference to MacSHAPA workshop attendees at Infant Action Laboratory, School of Psychology, New York University. Friday 19 October, 2007.
51. SANDERSON, P. "Controlling complex resources over different timeframes in process control". Invited keynote address to the International Conference on Complex Systems (COMPLEX'07), Gold Coast, QLD. Thursday, 3 July, 2007.
52. SANDERSON, P. "Cognitive engineering for the control room: Profess and challenges in human-system integration." Invited presentation at the 6th National SCADA Conference, Melbourne, Vic. Tuesday 22 May, 2007.
53. SANDERSON, P. "MacSHAPA and ESDA". Videoconference to MacSHAPA workshop attendees at Infant Action Laboratory, School of Psychology, New York University. Friday 19 October, 2007.
54. SANDERSON, P. "Designing practical systems to improve information transfer". NHMRC Centre of Research Excellence in Patient Safety: Seminar on Clinical Handover. Brisbane, Friday 23 February, 2007.
55. SANDERSON, P. & Krupenia, S. "Supporting anesthesia monitoring in multiple modalities". Seminar for Department of Industrial and Operations Engineering, University of Michigan at Ann Arbor, Tuesday 24 October, 2006.
56. SANDERSON, P. "Supporting anesthesia monitoring in multiple modalities". Seminar for Department of Psychology, Wright State University, Dayton OH, Wednesday 25 October, 2006.
57. SANDERSON, P. & Krupenia, S. "Supporting anesthesia monitoring in multiple modalities". Seminar for Human Factors Division, Institute of Aviation, Beckman Institute, University of Illinois at Urbana-Champaign, Friday 27 October, 2006.
58. SANDERSON, P., Adolph, K., Mainzer, J., & Gill-Alvarez, F. "The OpenSHAPA vision: An open environment for exploratory and confirmatory analysis of microgenetic data." Presentation to Pittsburgh Science of Learning Centre (PSLC), Carnegie-Mellon University, Monday 30 October, 2006.
59. SANDERSON, P. "Application of Human Factors Engineering to process control". Presentation to Singapore's Agency for Science, Technology and Research (ASTAR) Science and Engineering Research Council (SERC) for their inaugural Human Factors Workshop, Wednesday 23 August, 2006.
60. SANDERSON, P. "Healthcare as a complex sociotechnical system". Presentation to the Queensland State ICT Research and Development Forum follow-up meeting with Prof Stephen Duckett. Monday 24 July, 2006.
61. SANDERSON, P. "Matching form to function for patient monitoring in anaesthesia". Invited presentation to IEA2006 workshop on auditory warnings (J. Edworthy, convenor). Friday 14 July, 2006.
62. SANDERSON, P., & Watson, M. "A complete auditory space design for patient monitoring". Presentation to potential commercial partner. Friday 23 June, 2006.
63. SANDERSON, P., & Watson, M. "Designing auditory display for critical care: Theory and application." Presentation to Department of Computer Science, University of Glasgow, Friday 16 June 2006.
64. SANDERSON, P. "ICT R&D opportunities and challenges in healthcare" Presentation to the Queensland State ICT Research and Development Forum. Friday, 3 February, 2006.
65. SANDERSON, P. "What is human factors engineering and how does it help patient safety?" NHMRC CREPS. Invited presentation. 14 December, 2005

66. SANDERSON, P. "Beyond visual display design: Prospects and challenges for auditory displays in complex sociotechnical systems". Invited CSEC Webcast, 19-20 January, 2005.
67. SANDERSON, P. "Designing attention for safety-critical work: Auditory monitoring in anaesthesia". Invited departmental seminar. Department of Information Systems. The University of Melbourne, 22 April, 2004.
68. SANDERSON, P. "Designing attention for safety-critical work: Auditory monitoring in anaesthesia". Invited departmental seminar, Department of Psychology, James Cook University, 9 April, 2004.
69. SANDERSON, P. "Making the operating theatre a safer place with auditory displays". Invited address at the Third UQ Symposium on Organisational Psychology, Emmanuel College, University of Queensland, Saturday 19 July, 2003. (Co-authored with Marcus Watson).
70. SANDERSON, P. "Distributed cognition and the electricity industry." Invited presentation at a symposium for the Fourth International Conference on Cognitive Science (ICCS) on Cognitive Issues in the Design and Predictive Operation of Systems-of-Systems Applications. Sydney, Australia. Tuesday, 15 July, 2003.
71. SANDERSON, P. "The human response to new technology". Invited address at the 2003 Australian and New Zealand College of Anaesthetists (ANZCA) Annual Scientific Meeting, Hobart Tasmania, 3-7 May 2003.
72. SANDERSON, P. "Designing sonification." Invited presentation to the Centre for Human Machine Interaction, Riso National Laboratory, Roskilde, Denmark, 7 February, 2003
73. SANDERSON, P. "Patient monitoring in anesthesia: A formative analysis of visual attention." Invited address at the opening of the Cognitive Systems Engineering Centre, Riso National Laboratory, Roskilde, Denmark, 6 February, 2003.
74. SANDERSON, P. "Teaching cognitive systems engineering." Invited presentation to the Centre for Human Machine Interaction, Riso National Laboratory, Roskilde, Denmark, 5 February, 2003
75. SANDERSON, P. "Supporting the process of designing for control." Presentation to the ARC Key Centre for Human Factors' Winter School 2002. University of Queensland, Brisbane, Qld. July 24, 2002.
76. SANDERSON, P. "Information representation in critical care medicine: Cognitive engineering approach." Invited presentation to the Ergonomics Society of Australia Queensland branch special meeting on "Ergonomics in Medicine". University of Queensland, Brisbane, Qld. May 16, 2002.
77. SANDERSON, P. "How we are coping with technology: The cognitive engineering view". Invited presentation to the Annual Combined Australian and New Zealand College of Anaesthetists/Australian Society of Anaesthetists (ANZCA/ASA) CME Meeting. Melbourne, July 2001. [Included appended short talks by M. Watson and A. Miller].
78. SANDERSON, P. "Auditory displays in anesthesia: Needs, designs and emerging theoretical issues." Invited presentation to Department of Psychology, University of Queensland, Brisbane, Qld. May 14, 2001
79. SANDERSON, P. "The anaesthetist and the machine—auditory monitoring of the respiratory system." Invited presentation to Department of Anaesthesia, Western Hospital, Footscray, Vic. 9 April, 2001. [Included part presented by M. Watson].
80. SANDERSON, P. "Ecological Interface Design and auditory displays: preliminary findings." Invited presentation to the International Workshop on Ecological Approach to Human Work Systems. Japan Atomic Energy Research Center, Tokai-mura, Japan. 22 March, 2001.

81. SANDERSON, P. "Evaluating and designing human-system integration and team coordination with cognitive work analysis." Invited presentation to Department of Industrial Engineering, Texas Tech University, 5 February, 2001.
82. SANDERSON, P. "Auditory information system design for real-time environments." Invited presentation to the School of Information Science and Technology, Pennsylvania State University, State College, PA. 3 February, 2001.
83. SANDERSON, P. "Extending Ecological Interface Design to auditory displays: Prospects and challenges." Invited presentation to Graphics, Visualisation, and Usability Center, Georgia Institute of Technology, Atlanta, GA. 30 January, 2001.
84. SANDERSON, P. "Evaluating and designing human-system integration and team coordination with cognitive work analysis." Invited presentation to School of Psychology, Georgia Institute of Technology, Atlanta, GA. 29 January, 2001.
85. SANDERSON, P. "It's an IT system, not a control system! Revolutionary changes in human interaction with large-scale systems. ." Invited presentation to the Center for Human Machine Systems, Riso National Laboratories, Roskilde, Denmark. 20 December, 2000.
86. SANDERSON, P. "Sonification and the ecological approach to human-system integration." Invited presentation to the Center for Human Machine Systems, Riso National Laboratories, Roskilde, Denmark. 20 December, 2000.
87. SANDERSON, P. "Information displays in critical care environments." Invited presentation to the Department of Psychology, Texas Tech University, Lubbock, TX. 13 November, 2000.
88. SANDERSON, P. "Impact of new technologies on critical care work systems". Presentation for HFES/IEA2000 conference panel on Designing for Medical Work Domains: Challenges, Directions, Opportunities. 29 July 2000
89. SANDERSON, P. "Operative room distractions and patient monitoring". Invited presentation to the Annual Combined Australian and New Zealand College of Anaesthetists/Australian Society of Anaesthetists (ANZCA/ASA) CME Meeting. Melbourne, 22 July, 2000.
90. SANDERSON, P., Watson, M., Trentini, M., & Purtill, T. "Auditory support in the anesthesia environment." Presentation to the Department of Anesthesia and Intensive Care, Royal Adelaide Hospital, 28 February, 2000.
91. SANDERSON, P. M. "Work Domain Analysis for AEW&C: Prospects for agents". Presentation to DSTO/University of Melbourne Agents Workshop, January, 2000.
92. SANDERSON, P., Pipingas, A., Danieli, F., & Silberstein. "Configural vs conventional displays for dynamic process monitoring: A neuroimaging investigation". Presentation to the Brain Sciences Institute, Swinburne University of Technology, 27 August, 1999
93. SANDERSON, P. M., Naikar, N., Lintern, G., Goss, S., & Silberstein, R. "Cognitive Work Analysis across the system life cycle: Tools and heuristics for R&D". Presentation to the Defence Human Factors Special Interest Group biannual meeting, DSTO Maribyrnong, Victoria, 21 July, 1999.
94. SANDERSON, P. M., & Naikar, N. "Cognitive Work Analysis approach to human-system integration evaluation on AEW&C." Presentation to joint Australian/US meeting on Virtual Air Commander (VAC), DSTO ARML, Fishermens Bend, 11 December, 1999.
95. SANDERSON, P. M. "International collaborations on the design and evaluation of complex real-time systems." Presentation to Swinburne University's Research Week, Swinburne University, 24 September, 1999.

96. SANDERSON, P. M. "Human-Computer Interaction at Swinburne." Presentation to Telstra executives, Swinburne University of Technology, 23 August, 1999.
97. SANDERSON, P., Pipingas, A., Danieli, F., & Silberstein. "Configural vs conventional displays for dynamic process monitoring: A neuroimaging investigation". Presentation to Department of Psychological Sciences, LaTrobe University. 27 July, 1999.
98. SANDERSON, P. M., SKILTON, W., & Cameron, S. "Work Domain Analysis with the Work Domain Analysis Workbench." Presentation to the Human Effectiveness Directorate, Air Force Research Laboratory, Wright Patterson Air Force Base, Dayton, OH. April, 1999
99. Reising, D. V. C., & SANDERSON, P. M. "Ecological Interface Design and the problem of sensor adequacy." Presentation to the Human Effectiveness Directorate, Air Force Research Laboratory, Wright Patterson Air Force Base, Dayton, OH., April, 1999.
100. Naikar, N., & SANDERSON, P. M. "CWA and the evaluation of complex human-system interactive systems" Presentation to the DSTO Chief and Heads of Department, DSTO AMRL, Fishermens Bend, 29 January, 1999.
101. SANDERSON, P. M.. "Work Domain Analysis Workbench". Seminar to Human Effectiveness Directorate, Air Force Research Laboratory, Wright Patterson Air Force Base, OH. 4 October, 1998.
102. SANDERSON, P. M., Higgins, P., & Howard, S., "Work Domain Analysis Workbench." Presentation to DSTO Human Factors Hub. DSTO AMRL, Fishermens Bend, 24 September, 1998.
103. SANDERSON, P. M., "Research at Swinburne Computer-Human Interaction Laboratory (SCHIL)." Presentation to Swinburne University's Research Week, Swinburne University, 20 September, 1998.
104. SANDERSON, P. M. "Cognitive Systems Engineering at Swinburne Computer-Human Interaction Laboratory (SCHIL)." Presentation to Sun Corporation executives, Swinburne University of Technology. 15 September, 1998.
105. SANDERSON, P. M. "Deploying configural displays: Challenges with three examples." Seminar given to Human Factors Group, Japan Atomic Energy Research Institute (JAERI), Japan, 14 November, 1997.
106. SANDERSON, P. M., "Analysing sequential data with Exploratory Sequential Data Analysis techniques." Seminar given to Human Factors Group, Japan Atomic Energy Research Institute (JAERI), Japan, 13 November, 1997.
107. SANDERSON, P. M., & Reising, D. V., "Sensor abstraction hierarchies promote a use-centered approach to instrumentation engineering." Colloquium given to Institute of Information Technology, University of Tsukuba, Tsukuba Science City, Japan, 12 November, 1997.
108. SANDERSON, P. M., & Reising, D. V., "Ecological Interface Design (EID) in complex dynamic systems: An Abstraction Hierarchy (AH) case study." Seminar given to Department of Computer Science, Queen Mary & Westfield College, University of London, 16 June, 1997.
109. Au, I., & SANDERSON, P. M., Iozzo, N., & Buberel, J., "FOCUs model of design rationale for functional prototypes/concept demonstrators." Seminar given to the Centre for HCI Design, School of Informatics, City University, London, 13 June, 1997.
110. SANDERSON, P. M., & Reising, D. V., "Ecological Interface Design (EID) in complex dynamic systems: An Abstraction Hierarchy (AH) case study." Seminar given to the Ergonomics and HCI Unit, Department of Psychology, University College, London, 12 June, 1997.
111. Au, I., & SANDERSON, P. M., Iozzo, N., & Buberel, J., "FOCUs model of design rationale." Colloquium given to Department of Computer Science, University of Melbourne, 27 May, 1997.

112. SANDERSON, P. M., & Reising, D. V., "Taming cognitive complexity with Ecological Interface Design." Seminar given to School of Social and Behavioral Sciences, Swinburne University of Technology, 21 May, 1997.
113. SANDERSON, P., Howard, S., Leung, Y., Mouzakis, K., Creek, M., & Pilgrim, C., "Supporting competence in command environments—Processes and products for visualization, decision, and design." Presentation to senior scientific staff of DSTO Fernhill, Swinburne Computer-Human Interaction Laboratory (SCHIL), Swinburne University of Technology, 14 May, 1997.
114. SANDERSON, P. M., & Reising, D. V. "Using cognitive engineering techniques in complex systems design and evaluation." Workshop presented to Human Engineering Laboratory, Wright-Patterson Air Force Base, OH, USA, 15 April, 1997.
115. SANDERSON, P. M., & Mainzer, J. "Analysing complex sequential data with ESDA and MacSHAPA." Workshop presented to Human Engineering Laboratory, Wright-Patterson Air Force Base, OH, USA, 14 April, 1997.
116. SANDERSON, P. M., & Au, I., "FOCUs model of design rationale for information technology prototypes/concept demonstrators." Presentation given to the Defence Human Factors Special Interest Group (DHFSIG), Melbourne, Australia, 14 March, 1997.
117. SANDERSON, P. M., & Reising, D. V., "Ecological Interface Design (EID) in complex dynamic systems: An Abstraction Hierarchy (AH) case study." Presentation given to the Defence Human Factors Special Interest Group (DHFSIG) conference, Melbourne, Australia, 14 March, 1997.
118. SANDERSON, P. M., "Ecological Interface Design." Colloquium given to Department of Information Technology, University of Queensland, Brisbane. 11 March, 1997.
119. SANDERSON, P.M. "Salvation and subversion by software: The Advising Workbench project." Presentation to the Sloan Center for Asynchronous Learning Environments, University of Illinois at Urbana-Champaign, 1 February, 1996.
120. SANDERSON, P.M. "Salvation and subversion by software: The Advising Workbench project." Invited presentation to School of Computer Science and Software Engineering, Swinburne University of Technology, Melbourne, Australia, 16 January, 1996.
121. SANDERSON, P.M. "Supervisory, automatic, and manual control of a discrete process: acquisition and use of strategic scheduling skill." Invited presentation to Defence and Civil Institute of Environmental Medicine (DCIEM), Toronto, Ontario, Canada. 11 August, 1995.
122. SANDERSON, P.M., "The limits of formal modeling." Invited panel address, IFAC'95 conference, Boston, MA, 28 June, 1995.
123. SANDERSON, P.M., Presentation to MacSHAPA users informal special interest group (SIG) at the ACM Conference on Human Factors in Computing Systems (CHI'95), Denver, CO, April, 1995.
124. SANDERSON, P.M., "Visualization and exploration of sequential data." Invited seminar (followed by workshop) to Usability Group, Microsoft Corporation, Redmond, WA, 17 March, 1995.
125. SANDERSON, P.M., "The Advising Workbench." Departmental faculty colloquium, Department of Mechanical and Industrial
126. SANDERSON, P.M., "Temporal coordination and patient monitoring in a surgical intensive care unit: effects of relocation and technology transfer." Presentation to Engineering Psychology Joint Program research group meeting, University of Illinois at Urbana-Champaign, 9 March, 1995.

127. SANDERSON, P.M., "Techniques and tools for analysis of voice communication in high stress conditions." Invited seminar (followed by workshop) to Human Factors group, Brooks AFB, San Antonio, TX, 16 February, 1995.
128. SANDERSON, P.M., "The Advising Workbench projects: prospects for college-wide and campus-wide implementation." Presentation to Vice-Chancellor Larry Faulkner and ten of his associates, Engineering Psychology Research Laboratory, University of Illinois, January, 1995.
129. SANDERSON, P.M., "Analysis of aviation human factors data with MacSHAPA." Invited seminar (followed by workshop) to Human Factors Group, Air Operations Division, Aeronautical and Maritime Research Laboratory, Defence Science and Technology Organisation, Melbourne, Australia, December, 1994.
130. SANDERSON, P. M., "The Advising Workbench: A case study of participatory HCI design. Invited colloquium to Department of Industrial Engineering, University of Toronto, Toronto, Nov 25, 1994.
131. SANDERSON, P. M., "Temporal reasoning and dynamic display design." Invited presentation to International Symposium on Temporal Reasoning and Behavioral Variability, Liege, Belgium, Nov. 7-8, 1994.
132. SANDERSON, P.M., "Introduction to the Advising Workbench project." Presentation to the Friends of the Advising Workbench (AWB), Engineering Psychology Research Laboratory, University of Illinois, November, 1994.
133. SANDERSON, P.M., "MacSHAPA: A tool for exploratory sequential data analysis." Presentation to the AFMC Ergonomics Symposium (Ergo-Expo). Dayton, OH, September 20-21, 1994.
134. SANDERSON, P. M., "Naturalistic decision making in discrete process control." Invited panel presentation to the 2nd Naturalistic Decision Making Conference, Dayton, OH, June 14, 1994.
135. SANDERSON, P. M., "ESDA and MacSHAPA as concept and tool for studying voice communication." Presentation to NASA/FAA/USAF-AL Workshop on Methods and Metrics of Voice Communication, San Antonio, TX, May 13-14, 1994.
136. Reising, D.V., & SANDERSON, P.M. "The effects of fault complexity and diagnostic strategy on multiple fault diagnosis". Paper presented at the 1993 Meeting of the Midwestern Psychological Association, Chicago, IL, May, 1993.
137. SANDERSON, P.M.. "Software tools for exploratory sequential data analysis". Presentation made to the Workshop on Exploratory Sequential Data Analysis in Practice at the 37th Meeting of the Human Factors and Ergonomics Society, Seattle, WA, October, 1993.
138. McNeese, B., SANDERSON, P.M., & Zaff, B. "MacSHAPA and COGENT: Two cognitive engineering tools". Paper presented to the 1993 Meeting of the Society for Computers in Psychology. Washington, DC, November, 1993
139. SANDERSON, P.M. "The emergent features approach to visual display design theory". Invited presentation to the Department of Psychology, New Mexico State University, Las Cruces, NM, January, 1992.
140. SANDERSON, P.M. "ESDA in HCI: the conceptual challenge". Presentation made to the Workshop on Exploratory Sequential Data Analysis at the ACM Conference on Human Factors in Computing Systems (CHI'92), Monterey, CA, May, 1992
141. SANDERSON, P.M. "Information management in ESDA software tools". Presentation made to the Workshop on Exploratory Sequential Data Analysis: Traditions, Techniques and Tools at the ACM Conference on Human Factors in Computing Systems (CHI'92), Monterey, CA, May, 1992.

142. SANDERSON, P. M., Appeddu, T., & Reising, D. V., "The Effects of Mental Set and Complexity in Diagnostic Reasoning." Paper presented at the 1992 Meeting of the Midwestern Psychological Association, Chicago, IL, April 30-May 2, 1992.
143. SANDERSON, P.M., Buss, T., & Singalewitch, T., "The human acquisition of scheduling strategies during control of a simulated computer integrated manufacturing environment (UIUC-CIM)". Paper presented at the 1992 International Conference on Systems, Man, and Cybernetics, Chicago, IL, October., 1992
144. SANDERSON, P.M., "The Human Operator Role in Advanced Manufacturing Systems". Institute colloquium, Institute for Systems Engineering and Informatics, Commission of the European Communities' Joint Research Center, Ispra, Italy, October 1992
145. SANDERSON, P.M., "The Exploratory Analysis of Sequential Data: A Substantive and Methodological Challenge for Cognitive Engineering". Invited departmental colloquium, Department of Psychology, University of Illinois at Urbana-Champaign, Champaign, IL, January, 1992.
146. SANDERSON, P.M., "The Analysis of Dynamic, Event-Driven Data with MacSHAPA". Presentation to the Human Engineering Laboratory, Wright Patterson Air Force Base, Dayton, OH, Dec. 18,1991.
147. SANDERSON, P. M., "Human Factors of Manufacturing: Challenging the Tradition." Symposium paper presentation to the 1991 Winter Annual Meeting of the ASME, Atlanta, GA, Dec. 6,1991.
148. SANDERSON, P.M., "Exploratory Sequential Data Analysis techniques for aviation psychology". Invited talk given to Cognitive Interest Group, Department of Psychology, University of Oklahoma, Nov. 16, 1991.
149. SANDERSON, P.M., "The Emergent Features Approach to Visual Display Design Theory". Invited colloquium given to Department of Psychology, University of Oklahoma, Nov. 14, 1991.
150. SANDERSON, P. M., Watanabe, L. M., James, J. M., & Scott, J. J. P., "Aiding Researchers' Representations of their Data with MacSHAPA." Invited presentation to the 1991 International Conference on Systems, Man, and Cybernetics, Charlottesville, VA, Oct. 13-16, 1991.
151. SANDERSON, P. M., "MacSHAPA: Theory and Practice." Presentation to Rotocraft/Human Factors Branch of NASA-Ames Research Center, Moffett Field, CA, Oct. 2,1991.
152. SANDERSON, P. M., "Cognitive Engineering and Exploratory Sequential Data Analysis." Invited Colloquium of the Cognitive Science Group, Departments of Psychology and Computer Science, University of Melbourne, Aug. 16,1991.
153. SANDERSON, P. M., "ESDA: A Conceptual Framework for Usability and Video Analysis." Invited Colloquium to the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomics Society of Australia, Aug. 14,1991.
154. SANDERSON, P. M., "Cognitive Engineering and the Design of Complex Systems." Invited Presentation to Telecom Australia, Clayton Research Branch, Melbourne, Australia, Aug. 8, 1991.
155. SANDERSON, P. M., "Mental Set and Complexity Effects in the Diagnosis of Multiple Faults." Invited Seminar to the Department of Mechanical and Manufacturing Engineering, University of Melbourne, Aug. 7,1991.
156. SANDERSON, P. M., "Visual Display Design for Dynamic Worlds." Invited Presentation to the Human Factors Division, Aeronautical Research Laboratory, DSTO, Melbourne, Australia, Aug. 6,1991.

157. SANDERSON, P. M., "Human Operator Trust and Scheduling Ability in Computer-Integrated Manufacturing." Invited Seminar to the Department of Mechanical and Manufacturing Engineering, University of Melbourne, July 31, 1991.
158. SANDERSON, P. M., "SHAPA Workshop." Invited One-Day Workshop on Theory and Practice of Protocol Analysis Using SHAPA v. 2.01, University of Melbourne, July 30, 1991.
159. SANDERSON, P. M. "Recent Research on Visual Display Design at the University of Illinois." Invited Colloquium to the Ergonomics Society of Australia (ESA), July 24, 1991.
160. SANDERSON, P. M., "SHAPA and MacSHAPA." Invited colloquium within Department of Psychology, University of Trieste, Italy, Jan. 15, 1991.
161. SANDERSON, P. M., "Emergent Features as a Principle in Visual Display Design." Invited colloquium within Department of Psychology, University of Trieste, Italy, Jan. 15, 1991.
162. SANDERSON, P. M., "The Model Human Scheduler." Invited Address to the European ESPRIT funded MOHAWC Research Consortium, Manchester, U.K., Nov. 15, 1990.
163. SANDERSON, P. M., "Verbal Protocol Analysis: Software Tools and Statistical Techniques." Invited Panel Address to 30th Annual Meeting of the Human Factors Society, Orlando, FL, Oct. 8-12, 1990.
164. SANDERSON, P. M., "Towards the Model Human Scheduler." Presented to the International Conference on Human Factors in Design for Manufacturing and Process Planning, Honolulu, HI, Aug. 9-11, 1990.
165. SANDERSON, P. M., Ferreira, P. M., Moray, N. & Dessouky, M. I., "Understanding Human Operator Performance in FMS Scheduling Tasks." Presentation to University of Illinois Conference on Campus Manufacturing-Related Research, May 3, 1990.
166. SANDERSON, P. M., "Human Factors Research Needed in the Area of Manufacturing." Presentation made to NSF's Division of Manufacturing and Computer-Integrated Engineering, Dec. 1, 1989.
167. SANDERSON, P. M., Verhage, A. G., & Fuld, R. B., "Cognitive Engineering and Continuous Process Control: Methods for Experiments in Complex Worlds." Paper presented at the 33rd Annual Meeting of the Human Factors Society, Denver, CO, Oct. 1989.
168. SANDERSON, P. M., "Cognitive Engineering Approaches to Scheduling in Advanced Manufacturing Systems." Paper presented at the International Conference of the IEEE Systems, Man and Cybernetics Society, Boston, MA, 1989.
169. SANDERSON, P. M., "Human Supervisory Control Models in Advanced Manufacturing Systems: Translating the Paradigm." Paper presented at the International Conference of the IEEE Systems, Man and Cybernetics Society, Boston, MA, 1989.
170. SANDERSON, P. M., "The Induction of Function from Visual Displays: Experimental Evidence." Invited paper presented at the 3rd International Conference on Human-Computer Interaction, Boston, MA, Sept. 1989.
171. Buttigieg, M. A., & SANDERSON, P. M., "Emergent Features in Visual Display Design for Two Types of Failure Detection Task." Poster presentation at the 33rd Annual Meeting of the Human Factors Society, Denver, CO, Oct. 1989.
172. SANDERSON, P. M., James, J. & Seidler, K. S., "SHAPA: An Interactive Software Environment for Protocol Analysis." Poster presentation at the 33rd Annual Meeting of the Human Factors Society, Denver, CO, Oct. 1989.

173. SANDERSON, P. M., "Protocol Analysis for Complex Event-Driven Environments with Multiple Sources of Information." Talk given to NASA-Ames Human Factors Division, Moffett Field, CA, July 21, 1989.
 174. SANDERSON, P. M., & Murtagh, J., "Novel Fault Diagnosis with Faulty Mental Models." Paper presented at the 32nd Annual Meeting of the Human Factors Society, Anaheim, CA, Oct. 1988.
 175. SANDERSON, P. M., "Engineering Psychology: An Ecological Approach." Invited presentation to Human Factors Group, Telecom, Clayton, Australia, 1985.
 176. SANDERSON, P. M., "Human Discovery of the Structure of Complex Systems." Invited colloquium to Psychology Department, University of Western Australia, 1985.
 177. SANDERSON, P. M., Vicente, K., & Thornton, D. C., "Subjective Mental Workload, Attribution and Locus of Control." Paper presented at the 29th Annual Meeting of the Human Factors Society, Baltimore, MD, 1985.
 178. SANDERSON, P. M., "The Elicitation of Human Knowledge about Complex Systems." Paper presented at the 29th Annual Meeting of the Human Factors Society, Baltimore, MD, 1985.
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