

LUCIA RAPANOTTI

MEng PhD CEng SFHEA FBCS

1. EDUCATION

- 1992 — 1996 *Ph.D Computer Science.*
University of Newcastle upon Tyne.
- 1985 — 1990 *Laurea cum laude in Computer Science (MEng equivalent).*
University of Milan (Italy).
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2. PROFESSIONAL QUALIFICATIONS

- 2016 *Senior Fellow*, Higher Education Academy
- 2014 *Chartered Engineer*, Engineering Council
- 2011 *Fellow*, BCS, The Chartered Institute of IT
- 2009 *CDSA Appraiser*, The Open University.
- 2007 *ISMS Lead Auditor*, BSI.
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3. APPOINTMENTS AND EXPERIENCE

- 2016 — *APPLAuD Mentor*
The Open University. Part-time.
- 2016 — *Associate Dean, Curriculum*
Faculty of Science, Technology, Engineering and Mathematics, The Open University. Part-time secondment.
- 2015 — 2016 *Associate Dean, Curriculum and Qualifications*
Faculty of Mathematics, Computing and Technology, The Open University. Part-time secondment.
- 2013 — *Associate Lecturer (Supervisor)*
T802 *Research project*, Computing Department, The Open University. Part-time.
- 2012 — *Part-time Professor*
Guangxi Normal University, China. Part-time.
- 2008 — 2013 *Associate Lecturer (Supervisor)*
M801 *Research project and dissertation*, Computing Department, The Open University. Part-time.
- 2005 — *Senior Lecturer*
Computing Department, The Open University. Full-time.

- 2000 — 2001 *Associate Lecturer*
M878, Computing Department, The Open University. Part-time.
- 1999 — 2005 *Lecturer*
Computing Department, The Open University. Full-time.
- 2000 — 2001 *Associate Lecturer*
M206, Computing Department, The Open University. Part-time.
- 1996 — 1999 *Software Designer*
Centre for Educational Software, The Open University. Full-time, fixed-term.
- 1995 — 1999 *Associate Lecturer*
M353 *Programming and programming languages*, Computing Department, The Open University. Part-time.
- 1992 — 1995 *Research Associate*
Department of Computing Science, University of Newcastle upon Tyne. Full-time, fixed-term.
- 1991 — 1992 *Research Fellow*
Programming Research Group, Computing Laboratory, Oxford University. Full-time, fixed-term.
- 1990 — 1991 *Research Fellow*
Department of Computing Science, University of Milan, Italy. Full-time, fixed-term.

4. CONTRIBUTIONS TO TEACHING AND STUDENT SUPPORT

(a) ORGANISATIONAL RESPONSIBILITIES

- 2015 — Presentation and Award Board co-Chair, T802 *Research Project*, 60 credits.
- 2014 — 2015 Presentation and Award Board Chair, M813 *Software Development*, 30 credits.
- 2012 — 2014 Production Chair, M813 *Software Development*, 30 credits.
- 2009 — Programme Chair, *The Virtual MPhil*, Masters level research degree. Responsible for academic governance, evaluation, and technological infrastructure.
- 2008 — 2009 Production Chair, *The Virtual MPhil*, Masters level research degree. Chief architect for the programme and responsible for day-to-day management.
- 2005 — 2013 Presentation and Award Board Chair, M885 *Analysis and design of enterprise applications*, 15 credits.
- 2003 — 2006 Production Chair, M885 *Analysis and design of enterprise applications*, 15 credits.
- 2003 Examination and Award Board Chair, M879 *Distributed applications and eCommerce*, 15 credits.
- 2002 Examination and Award Board Chair, M878 *Object-oriented software development*, 15 credits.

(b) CONTRIBUTIONS TO TEACHING MATERIALS

- 2012 — 2013 Author, M811 *Information Security Management*, 30 credits.
- 2007 — 2008 Academic Editor, MU115 *My digital life*. Academic editor of 100% of the course text material.

- 2006 Critical Reader, M887 *Software Integration*. Critical reader of 100% of the course material.
- 2005 Critical Reader, CPD course on Software Integration. Critical reader of 100% of the course material.
- 2003 — 2005 Author, M885, 15 credits. Author of 70% of the course material.
- 2003 — 2005 Academic Editor, M885, 15 credits. Editor of 100% of the course material.
- 2000 — 2001 Author, M878, 15 credits. Author of 10% of the course material.
- 2002 — 2003 Academic Editor, M360 *Developing Internet applications*, 30 credits. Editor of 100% of the course material.
- 2001 — 2002 Academic Editor, M879, 15 credits. Editor of 100% of the course material.
- 1998 — 1999 Software Designer, M881 *Architectures of computing systems*. Developer of 100% of the course multimedia CD-ROM. Responsible for both requirements gathering from Course Team, and software design and implementation.
- 1998 Software Designer, MST207 *Mathematical methods, models and modelling*. Developer of 30% of the course multimedia CD-ROM. Responsible for both requirements gathering from Course Team, and software design and implementation.
- 1997 Author, M880 *Software engineering*, Software guide. Author of 100% of the material (0.8 unit equivalent).
- 1997 Author, M206 *Computing: an object-oriented approach*, introduction to the M206 Learning-Books environment. Author of 100% of the material (0.5 unit equivalent).
- 1996 — 1997 Software Designer, M206 LearningWorks, Centre for Educational Software. Responsible for both requirements gathering from Course Team and software design and implementation. Developer of 80% of the course integrated software development environment.

(c) CONTRIBUTIONS TO TEACHING METHODS AND STUDENT SUPPORT

- 2013 — 2015 Award Board Member, M811 *Information Security Management*, 30 credits.
- 2012 — Monitor, T802 *Research project*, 60 credits.
- 2011 — 2012 Examination and Award Board Member, M886, 15 credits.
- 2010 Instructor, *Supervising remote students through technology*, MCT Research supervision training.
- 2009, 2010 Instructor, *Online supervision: from Skype to Second Life*, OU Methods Conference, Doctoral training.
- 2008 Monitor, M801 *Research project and dissertation*, 60 credits.
- 2006 — 2008 Award Board Member, M801 *Research project and dissertation*, 60 credits.
- 2006 — 2009 Research Theme Coordinator, M801 *Research project and dissertation*, 60 credits.
- 2004 — 2005 Internal examiner, M801 *Research project and dissertation*, 60 credits.
- 2003 Examination and Award Board Member, M360, 30 credits.
- 2001 — 2003 Examination and Award Board Member, M879, 15 credits.
- 2001 — 2006 Examination and Award Board Member, M878, 15 credits.
- 2001, 2004 Examination and Award Board Member, M881, 15 credits.

1999 — 2001 Examinations and Awards Board Member, M206, 60 credits.

(d) CONTRIBUTIONS TO TEACHING AT PREVIOUS INSTITUTIONS

1994 — 1995 Script Marker, “Discrete Mathematics”, University of Newcastle upon Tyne.

1994 — 1995 Demonstrator, “Computing Applications”, University of Newcastle upon Tyne.

1990 — 1991 Supervisor, MSc Dissertation in Computing, University of Milan (Italy).

5. CONTRIBUTIONS TO ADMINISTRATION AND MANAGEMENT

2014 — 2015 Research Students Admission Tutor, Computing and Communications Department.

2011 — 2013 Member of the Mathematics, Computing and Technology Faculty’s Academic Staff Promotions and Rewards Advisory Group (ASPRAG).

2009 — 2011 Member of the OU Virtual Worlds Steering Group, Learning and Innovation Office.

2009 — 2010 Member of the Department Team, Computing Department.

2009 — CDSA Appraiser, Computing Department, then Computing and Communications Department.

2004 — 2006 Coordinator, Requirements Engineering and Design Research Group (READ), Computing Department. Responsible for organising and chairing READ weekly sessions, and for compiling a READ profile in view of the RAE 2008.

2002 — 2004 Coordinator, Research Seminar Series, Computing Department. Responsible for organising and chairing weekly seminars with invited external and internal speakers.

2003 Coordinator for the refurbishment and equipment of the M308 Resource Room, Computing Department. Responsible for identifying suitable equipment and raising appropriate funds.

2002 — 2004 Founder and Coordinator, XML Special Interest Group, Computing Department. Responsible for coordinating a group investigation into XML technology for authoring, and its applicability to course production.

2003 Organizer, ‘XML authoring with TEI’, training workshop for 12 members of the Department. December 2003. Responsible for contracting TEI expert, raising funds, and the detailed organisation of the event.

2001 — 2010 Co-founder, Co-chair and Coordinator, Java Technology Research Group (JTRG), Computing Department. Responsible for organising and chairing fortnightly sessions with internal and invited external speakers.

2000, 2004 Member of interview panels for the Centre for Educational Software, the Faculty of Mathematics and Computing, and the Faculty of Technology.

1998 — 1999 Technical Project Manager, Lyceum project, Centre for Educational Software. Responsible for requirements gathering from various academic teams, and the production of related technical specifications for software developers.

6. RESEARCH INTERESTS

My primary research concerns the development of tools and theories to help people tackle complex, ill-structured problems, with particular application to software and system engineering, and organisational change. The work brings together and develops ideas from Computing, Engineering and Design, and is a long-term research effort, started in 2001, shared with Dr Jon G. Hall (Computing and Communications, The Open University), and a range of collaborators and research students over the years. It has been successfully applied to many problems and domains, from high assurance and mission critical systems engineering, to banking, to IT Governance, to online education, to name a few. It combines well with practice, by providing guidance and a conceptual toolset for practitioners to analyse complex ill-structured problems, synthesise fit-for-purpose solutions, and generally improve their every-day design processes and activities, without the constraints of a one-size-fits-all method or notation.

Since the introduction of the new UK school Computing curriculum (late 2013), I've been working towards integrating software development methods and practices within Computing teaching in schools. I also have a long-standing interest in technology infrastructures to support disperse research communities and communities of practice, and the apprenticeship of new researchers mediated by online technology. I've collaborated widely under this theme.

(b) EXTERNAL FUNDING

- 2003 — Fourteen self-funded or industry sponsored part-time research studentships and MSc research projects. Approx. £110,000
- 2009 Royal Academy of Engineering Travel Grant, for travelling to the International Conference on Internet and Web Applications and Services 2009. £500. Principal investigator.
- 2008 Wiley-Blackwell Publishing. Professional academic services. £7,200.
- 2007 Wiley-Blackwell Publishing. Professional academic services. £7,200.
- 2005 — 2008 EPSRC Grant. “Relating problem and solution structures in feature-based software”. £192,342. Co-investigator.
- 2005 — 2006 IBM Innovation Award. “Tool support for Requirements Engineering”. \$27,000. Co-investigator.
- 2004 British Computing Society Bursary, for participation in Software Practice Advancement 2005. £750. Principal investigator.
- 2004 Royal Academy of Engineering Travel Grant, for travelling to the International Conference on Requirements Engineering 2004. £400. Principal investigator.
- 1991 National Research Centre (Italy) Bursary, “Semantics of object-oriented systems”. £5,000. Principal investigator.

(c) FUNDING FROM THE OPEN UNIVERSITY

- 2017 — 2018 eSTEEeM, Faculty of Science, Technology, Engineering and Mathematics. “Refining a framework for measuring qualification effects”. £6,500. Co-investigator.
- 2016 — 2017 eSTEEeM, Faculty of Science, Technology, Engineering and Mathematics. “Measuring qualification effects of a new pedagogy which embeds learning and assessment activities within each student’s rich professional context of practice”. £4,670. Principal investigator.
- 2009 — 2010 Faculty of Mathematics, Computing and Technology. “Developing and evaluating a virtual learning environment (VLE) for research students at a distance”. £20,000. Principal investigator.

- 2005 — 2008 Computing Department Competitive PhD Studentship. “Context-aware product families”. £30,000. Co-investigator.
- 2003 — 2007 Open University Competitive PhD Studentship. “Foundations of Problem Frames”. £30,000. Co-investigator.
- 2003 — 2007 Computing Department Competitive PhD Studentship. “Addressing changing requirements with Problem Frames”. £30,000. Principal investigator.
- 2001 — 2004 Faculty of Mathematics and Computing Competitive PhD Studentship. “New control strategies for multi-agent systems swarm robots”. £30,000. Principal investigator.
- 2002 — 2003 Learning and Teaching Innovation Committee Grant. “Inspection Methods for the Usability Evaluation of Distributed Groupware”. £2,800. Principal investigator.
- 2001 — 2002 Faculty of Mathematics and Computing Grant. “Lyceum eTutorials for M206 students”. £2,700. Principal investigator.
- 2001 — 2002 Learning and Teaching Innovation Committee Grant. “Applying Lyceum to the problem of remote usability evaluation”. £1,400. Co-investigator.

7. RESEARCH STUDENTS

(a) SUPERVISION

- 2015 — 2016 Gareth Lewis. *Comparing pedagogical approaches for Key Stage 3 Computing*, Supervisor, MSc, Part-time
- 2014 — Silvana Costantini *Complex project management as complex problem solving*, Supervisor, PhD, Part-time.
- 2014 — 2015 Chris Jones. *Introducing Agile practices in a scientific software development SME*, Supervisor, MSc, Part-time.
- 2013 — Georgi Markov *A problem oriented approach to change problems in organisations*, Supervisor, PhD, Part-time.
- 2013 — 2014 Robert Whalley. *Educational software for personal finance*, Supervisor, MSc, Part-time.
- 2013 — 2014 Declan O’Reilly. *Decision support software for personal finance*, Supervisor, MSc, Part-time.
- 2012 — 2013 Andrew Hutton. *Green IT Governance in non-for profit organisations*, Supervisor, MSc, Part-time.
- 2012 — 2013 Terence Mwangi. *Mitigating the silo effect in non-for profit organisations through improved requirements engineering practice*, Supervisor, MSc, Part-time.
- 2010 — 2017 Assia Alexandrova. *Digital government systems: tackling the legacy problem through a game-based approach to business requirements analysis*, Supervisor, PhD, Part-time.
- 2009 — 2010 Andy Moore. *Development of an Immersive Environment to Teach Problem Oriented Engineering*, Supervisor, MSc, Part-time.
- 2010 — 2011 Michael Clarke. *IT Governance Design: Application of Problem Oriented Engineering to Enterprise Architecture, TOGAF and SOA Development.*, Supervisor, MSc, Part-time.
- 2010 — 2011 Nigel Eve. *Comparing Problem Oriented Engineering and the V-Model for product design and development*, Supervisor, MSc, Part-time.

- 2010 — 2011 Bjoern Schoof *Applicability of Problem Orientation in IT support*, Supervisor, MSc, Part-time.
- 2006 — 2010 Derek Mannering. *Problem orientation for safety*, Supervisor, PhD, Part-time.
- 2003 — 2008 Zhi Li. *Problem Progression in Problem-Oriented Requirements Engineering*, Supervisor, PhD, Full-time.
- 2001 — 2005 Pejman Iravani. *New control strategies for multi-agent systems and swarm robots*, Supervisor, PhD, Full-time.

(b) INTERNAL EXAMINING

- 2016 Cristian J. Romero. Internal Examiner, PhD, Full-time.
- 2011 Minh Tran. Internal Examiner, PhD, Full-time.
- 2004 — Internal examiner for probation and mock vivas (average once a year). MPhil/PhD, Full-time and Part-time.

(c) OTHER ROLES

- 2016 Parminder Reel. Chair of interview panel, PhD.
- 2016 Mike Giddings. Chair of interview panel, PhD.
- 2014 — 2015 Research Students Admission Tutor, Computing and Communications Department.
- 2013 Tu Anh Nguyen. Chair of interview panel, PhD.
- 2013 Gordon Mackay. Chair of interview panel, PhD.
- 2009 — 2011 Peter Coles. Third-party Monitor, PhD, Part-time.
- 2006 — 2008 Robert Crook. Third-party Monitor, PhD, Part-time.
- 2013 — T802 *Research project*, Monitor (average of 2 projects per year). MSc, Part-time.
- 2006 — 2013 M801 *Research project and dissertation*, Specialist Adviser (average of 3 projects per year). MSc, Part-time.

8. EXTERNAL ACADEMIC ACTIVITIES

(a) EXTERNAL EXAMINING

- 2011 MSc by Research, National University of Ireland, Maynooth, Ireland.
- 2009 — 2015 MSc in Software Engineering, National University of Ireland, Maynooth, Ireland.
- 2009 PhD, University of Southampton, UK.
- 2006 MPhil, New South Wales University, Australia.

(b) INVITED LECTURES

- 2012 Problem Oriented Engineering, London Metropolitan University, London, February 2012.
- 2011 Problem Orienteering, UNISON, November 2011.

- 2010 Virtual MPhil in IT Governance, BCS IRMA AGM, BCS, London, September 2010.
- 2010 Second Life and the Virtual MPhil, CALRG Seminar, The Open University, Milton Keynes, April 2010.
- 2010 deep|think: a Second Life campus for the Virtual MPhil, Virtual Worlds SIG, Learning Innovation Office, The Open University, Milton Keynes, March 2010.
- 2010 Problem Oriented Engineering, University of Brighton, Brighton, February 2010.
- 2010 The Virtual MPhil and its Second Life campus, Staff Tutor Conference, The Open University, Milton Keynes, February 2010.
- 2010 The Virtual MPhil and its Second Life campus, Learn About Fair, The Open University, Milton Keynes, February 2010.
- 2009 The Virtual MPhil, Explore, Media Development Working Group, HSC, The Open University, Milton Keynes, October 2009.
- 2009 The Virtual MPhil, Explore, Map, Build Workshop, The Open University, Milton Keynes, October 2009.
- 2009 The Virtual MPhil and its Second Life campus , Open Day, The Open University, Milton Keynes, June 2009.
- 2009 The Virtual MPhil, CALRG Conference, The Open University, Milton Keynes, May 2009.
- 2009 Second Life and the Virtual MPhil, Learn About Fair, The Open University, Milton Keynes, February 2009.
- 2008 Problem-Oriented Engineering, International Workshop on Requirements Analysis, London, December 2008.
- 2008 Online supervision, ARC Workshop, The Open University, Milton Keynes, December 2008.
- 2008 Keynote Address, Problem-Oriented Engineering, Intelligent Systems and Agents, Amsterdam, July 2008.
- 2008 The Ambient Technology Lab, Italian Ambassador Visit, The Open University, Milton Keynes, February 2008.
- 2007 The dos and donts of journal publishing, Keele University, December 2007.
- 2003 Usability engineering of distributed groupware for learning, CALRG Conference, The Open University, Milton Keynes, July 2003.
- 2002 Lyceum and usability evaluation, Lyceum Re-launch, The Open University, Milton Keynes, October 2002.
- 2001 eTutorials with voice groupware: the M206 trial, Science Seminar Series, The Open University, Milton Keynes, October 2001.
- 2001 Lyceum in practice, Lyceum Users Group, The Open University, Milton Keynes, October 2001.
- 1995 Combinatorial Problems in Algorithm Synthesis, SCOOP (Solving Combinatorial Optimization Problems in Parallel), University 'La Sapienza', Italy, 1995.
- 1992 Semantic Domains for Object-Oriented Systems, Department of Computing Science, University of Milan, Milan, Italy, 1992.

(c) EDITORIAL ROLES

- 2012 — Member of the Editorial Board, Journal On Advances in Internet Technology, IARIA.
- 2010 — 2012 Guest Editor, Expert Systems, The Journal of Knowledge Engineering, Wiley-Blackwell Publishing, *Special Issue on Application and Advances of Problem Orientation*.
- 2009 — Member of the Editorial Board, Expert Systems, The Journal of Knowledge Engineering, Wiley-Blackwell Publishing.
- 2008 co-Editor, Expert Systems, The Journal of Knowledge Engineering, Wiley-Blackwell Publishing.
- 2006 — 2007 Editor-in-Chief, Expert Systems, The Journal of Knowledge Engineering, Wiley-Blackwell Publishing.
- 2005 Co-Editor, Expert Systems, Blackwell Publishing.
- 2004 — 2005 Guest Editor, Information and Software Technology Journal, Elsevier, *Special Issue on Application and Advances of Problem Frames*.

(d) PROFESSIONAL BODIES

- 2016 — Senior Fellow, Higher Education Academy.
- 2014 — Chartered Engineer, Engineering Council.
- 2011 — Fellow of the BCS, The Chartered Institute of IT.
- 2005 — 2011 Member of the BCS, The Chartered Institute of IT.
- 2007 — 2008 Secretary, BCS, The Chartered Institute of IT, Requirements Engineering Specialist Group (RESG).
- 2005 — 2007 Memberships Secretary, BCS, The Chartered Institute of IT, Requirements Engineering Specialist Group (RESG).

(e) CONFERENCE CHAIRING, PANELS AND SESSIONS

- 2013 Co-Chair, BCS mini-SPA, “Inspiring the next generation” session (invited), Cambridge, November 2013.
- 2013 Co-Chair, BCS SPA, “Inspiring the next generation” session, London, June 2013.
- 2010 Co-Chair, ICSE International Workshop on Advances and Applications of Problem Orientation (IWAAPPO), Cape Town, South Africa, May 2010.
- 2008 Co-Chair, ICSE International Workshop on Advances and Applications of Problem Frames (IWAAPF), Leipzig, Germany, May 2008.
- 2008 Panelist, Requirements Engineering Doctoral Symposium, co-located with the 16th IEEE International Conference on Requirements Engineering, Barcelona, September 2008.
- 2006 Co-Chair, ICSE International Workshop on Advances and Applications of Problem Frames (IWAAPF), Shanghai, China, May 2006.
- 2006 Chair, BCS RESG Problem Frames Day.
- 2004 Co-Chair, ICSE International Workshop on Advances and Applications of Problem Frames (IWAAPF), Edinburgh, Scotland, May 2004.

(f) PROGRAMME COMMITTEES

- 2016 — SEMAT Workshop on a Theory Oriented Software Engineering (TOSE), co-located with IEEE International Conference on Software Engineering.
- 2015 SEMAT Workshop on a General Theory of Software Engineering (GTSE), co-located with IEEE International Conference on Software Engineering.
- 2012 — IADIS Theory and Practice in Modern Computing.
- 2010 — International Symposium on Innovation and Sustainability in Education (InSuEdu).
- 2009 — 2014 IARIA International Conference on Internet and Web Applications and Services (ICIW).
- 2008 — IEEE Requirements Engineering Education and Training (REET), co-located with IEEE International Conference on Requirements Engineering.
- 2007 — BCS Software Practice Advances (SPA).
- 2005 — IRMA International Conference.
- 2006 — 2008 International Conference on Requirements Engineering for Software Quality (REFSQ).
- 2005 — 2006 International Workshop on Comparative Evaluation of Requirements Engineering (CERE), co-located with IEEE International Conference on Requirements Engineering.
- 2004 — IADIS International Conference WWW/Internet.
- 2005 Australian Workshop on Requirements Engineering.
- 2005 International Workshop on Requirements Engineering for Business Need, co-located with IEEE International Conference on Requirements Engineering.

(g) JOURNAL REFEREEING

Since 1995, I have been a regular reviewer for international journals including: ACM Computer Surveys; ACM Transactions on Software Engineering and Methodology; IEEE Transactions on Software Engineering; IEE Software Proceedings; ACM Journal; Software and System Modeling; IEEE Intelligent Systems; Requirements Engineering Journal; International Journal of Computer Systems Science and Engineering; Journal of Systems and Software; Science of Computer Programming; International Journal of IT Business Alignment and Governance.

(h) OTHER

- 2012 Independent External Reviewer, Senior Lecturer Promotion Scheme, National University of Ireland, Maynooth, Ireland.

9. AWARDS

- 2014 *Discretionary Increment*, The Open University.
- 2009 *Special Award*, for outstanding contribution to the Faculty, The Open University.
- 2008 *Best Paper Award*, “Assurance-Driven Design”, Jon G. Hall and Lucia Rapanotti, ICSEA 2008.
- 2008 *Special Award*, for outstanding contribution to the Faculty, The Open University.

- 2004 1st *Discretionary Point*, for continuing individual merit, The Open University.
- 2002 *Additional Increment*, for continuing individual merit, The Open University.
- 2000 *Millennium Product*, Design Council, M206 *Computing: an object oriented approach*.
- 1998 *Information Technology Award*, British Computing Society, M206.
- 1997 *Special Award*, for outstanding contribution to M206 course production, The Open University.

10. PUBLICATIONS

(a) AUTHORED BOOKS

1. Lucia Rapanotti. *Algorithm engineering for integral and dynamic problems*. Parallel Processing Series. Gordon and Breach Science Publishers, 2001

(b) EDITED BOOKS

1. Jon G. Hall, James Naish, Lucia Rapanotti, and Liping Zhao, editors. *Proceedings of ACM/IEEE International Workshop on Applications and Advances of Problem Orientation*. ACM Press, 2010
2. Jon G. Hall, Lucia Rapanotti, Karl Cox, and Zhi Jin, editors. *Proceedings of ICSE 3rd International Workshop on Applications and Advances of Problem Frames*. ACM Press, 2008
3. Jon G. Hall, Lucia Rapanotti, Karl Cox, and Zhi Jin (eds.). Advances on problem frames. *Expert Systems - The Journal of Knowledge Engineering*, 25(1), January 2008
4. Jon G. Hall, Lucia Rapanotti, Karl Cox, and Zhi Jin, editors. *Proceedings of ICSE 2nd International Workshop on Applications and Advances of Problem Frames*. ACM Press, 2006
5. Karl Cox, Jon G. Hall, and Lucia Rapanotti (eds.). Special issue on problem frames. *Information and Software Technology*, 47(14), 2005
6. Karl Cox, Jon G. Hall, and Lucia Rapanotti, editors. *Proceedings of ICSE 1st International Workshop on Applications and Advances of Problem Frames*. IEEE CS Press, 2004

(c) REFEREED CHAPTERS IN BOOKS

1. Michael Clarke, Jon G. Hall, and Lucia Rapanotti. Enterprise architecture: a snapshot from practice. In *Strategic IT Governance and Alignment in Business Settings*. IGI Global, in press
2. Lucia Rapanotti, Shailey Minocha, Leonor Barroca, Maged N. Kamel Boulos, and David R. Morse. 3D Virtual Worlds in Higher Education. In Anders D. Olofsson and J. Ola Lindberg, editors, *Informed Design of Educational Technologies in Higher Education: Enhanced Learning and Teaching*. IGI Global, Hershey, PA, USA, August 2011
3. Jon G. Hall and Lucia Rapanotti. Problem Frames for Sociotechnical Systems. In Panayiotis Zaphiris and Chee Siang Ang, editors, *Human Computer Interaction: Concepts, Methodologies, Tools, and Applications*, chapter 2.22, pages 713–731. Information Science Referece, 2008. <http://oro.open.ac.uk/19122/>
4. Jon G. Hall and Lucia Rapanotti. Problem Frames for Socio-Technical Systems. In Andrés Silva and José L. Maté, editors, *Requirements Engineering for Socio-Technical Systems*, chapter 19, pages 318–339. Idea Publishing Group, 2005

- Graham M. Megson, Lucia Rapanotti, and Xu Chen. Automatic synthesis of parallel algorithms. In A. Ferreira and P.M. Pardalos, editors, *Solving Combinatorial Optimization Problems in Parallel*, volume 1054, pages 51–86. Springer-Verlag, 1995

(d) REFEREED JOURNAL ARTICLES

- Jon G. Hall and Lucia Rapanotti. A design theory for software engineering. *Information and Software Technology*, in press
- Mark O'Halloran, Jon G Hall, and Lucia Rapanotti. Safety engineering with cots components. *Reliability Engineering & System Safety*, 160:54–66, 2017
- Zhi Li, Jon G Hall, and Lucia Rapanotti. On the systematic transformation of requirements to specifications. *Requirements Engineering*, 19(4):397–419, November 2014
- Ann Nkwocha, Jon G. Hall, and Lucia Rapanotti. Design rationale capture for process improvement in the globalised enterprise: an industrial study. *Software and Systems Modeling*, 12(4):825–845, 2013
- Michael Clarke, Jon G. Hall, and Lucia Rapanotti. Enterprise architecture: a snapshot from practice. *International Journal of IT/Business Alignment and Governance (IJITBAG)*, 4(1):1–10, 2013
- Jon G. Hall and Lucia Rapanotti. Beauty in software engineering. *IEEE Computer*, 46(2):85–87, 2013
- Jon G. Hall and Lucia Rapanotti. Enterprising research skills: academia's changing role. *International Journal of Learning and Intellectual Capital*, 10(1):1–17, 2013
- Jon G. Hall and Lucia Rapanotti. Software engineering as the design theoretic transformation of software problems. *Innovations in Systems and Software Engineering*, 8(3):175–193, 2012
- Lucia Rapanotti and Jon G. Hall. Design concerns in the engineering of virtual worlds for learning. *Behaviour & Information Technology*, 30(1):27–37, 2011
- Jon G. Hall and Lucia Rapanotti. Assurance-driven design in problem oriented engineering. *International Journal on Advances in Systems and Measurements*, 2(1), October, 26-31 2009
- Jon G. Hall, Lucia Rapanotti, and Michael A. Jackson. Problem oriented software engineering: Solving the package router control problem. *IEEE Transactions on Software Engineering*, 34(2), March/April 2008. <http://oro.open.ac.uk/5445/>
- Lucia Rapanotti, Jon G. Hall, and Zhi Li. Deriving specifications from requirements through problem reduction. *IEE Proceedings - Software*, 153(5):183–198, October 2006
- Brendan Quinn, Leonor Barroca, Bashar Nuseibeh, Lucia Rapanotti, Juan Fernandez-Ramil, Pete Thomas, and Michel Wermelinger. Learning software engineering at a distance. *IEEE Software*, 23(6):36–43, 2006
- Jon G. Hall, Lucia Rapanotti, and Michael Jackson. Problem frame semantics for software development. *Journal of Software and Systems Modeling*, 4(2):189 – 198, 2005
- Lucia Rapanotti, Canan T. Blake, and Rob Griffiths. eTutorials with voice groupware: real-time conferencing to support computing students at a distance. *ACM Bulletin*, 34(3):116–120, June, 2002

(e) NON-REFEREED JOURNAL ARTICLES

- Guy A Haywood, Edward J Davies, Maged N Kamel Boulos, and Lucia Rapanotti. Use of avatar virtual conferencing to co-ordinate cardiac multi-centre research. *International journal of cardiology*, 176(3):1086–1088, 2014
- Jon G. Hall, Lucia Rapanotti, Liping Zhao, and James Naish. International Workshop on Advances and Applications of Problem Orientation (IWAPO-2010). *Software Engineering Notes, the newsletter of the Association for Computing Machinery's Special Interest Group on Software Engineering*, 35(5), September 2010

3. Lucia Rapanotti and Jon G. Hall. Problem-oriented requirements engineering: Redressing the balance between problem and solution spaces. *The EASST Newsletter*, 11:46–54, December 2005
4. Karl Cox, Jon G. Hall, and Lucia Rapanotti. Editorial: A roadmap of problem frames research. *Journal of Information and Software Technology*, 47(14):891–902, 2005
5. Karl Cox, Jon G. Hall, and Lucia Rapanotti. 1st International Workshop on Advances and Applications of Problem Frames - Summary. *ACM SIGSOFT Software Engineering Notes*, 29(5):1–3, 2004

(f) REFEREED CONFERENCES

1. Jon G Hall, Lucia Rapanotti, and Georgi Markov. A phenomenal basis for hybrid modelling. In *Proceedings of 5th IEEE International Workshop on Formal Methods Integration (IEEE FMi 2017)*, 2017
2. Mark Slaymaker, Lucia Rapanotti, Jon G. Hall, Steven Self, and David King. A semiautomatic framework for evaluating cumulative qualification effects of a pedagogy. In *Proceedings of Horizons in STEM Higher Education Conference*, Heriot-Watt University, Edinburgh, 29-30th June 2017
3. Assia Alexandrova, Lucia Rapanotti, and Ivan Horrocks. RE-PROVO: an evaluation of gamification in a law enforcement organization. In *SIGCHI Annual Symposium on Computer-Human Interaction in Play (CHI PLAY 2016)*, volume 1715, Austin, Texas, October, 16-19 2016
4. Jon Hall and Lucia Rapanotti. Parameterising a theory of software problem solving. In *Proceedings of the 5th SEMAT Workshop on a Theory-Oriented Software Engineering*, Austin, Texas, May 2016. IEEE. Hosted by 38th International Conference on Software Engineering (ICSE 2016)
5. Assia Alexandrova, Lucia Rapanotti, and Ivan Horrocks. The legacy problem in government agencies: an exploratory study. In *Proceedings of the 16th Annual International Conference on Digital Government Research (dg.o 2015)*, Phoenix, Arizona, 27-30 May 2015
6. Jon Hall and Lucia Rapanotti. Towards a Design-Theoretic Characterisation of Software Development Process Models. In *Proceedings of the 4th SEMAT Workshop on a General Theory of Software Engineering*, Florence, Italy, May 2015. IEEE. Hosted by 37th International Conference on Software Engineering (ICSE 2015)
7. Jon Hall and Lucia Rapanotti. Masters-level software engineering education and the enriched student context. In *Proceedings of the International Conference on Software Engineering (Joint Software Engineering Education and Training track)*, Florence, Italy, May 2015. IEEE
8. Michel Wermelinger, Jon Hall, Lucia Rapanotti, Leonor Barroca, Magnus Ramage, and Arosha Bandara. Teaching software systems thinking at the open university. In *Proceedings of the International Conference on Software Engineering (Joint Software Engineering Education and Training track)*, Florence, Italy, May 2015. IEEE
9. Georgi Markov, Jon G. Hall, and Lucia Rapanotti. An engineering framework for dealing with change problems: theoretical underpinnings and initial evaluation. In *Proceedings of the 15th International Conference on Knowledge, Culture and Change in Organizations and the Organization knowledge community*, Berkeley, California, 19-20 February 2015
10. Assia Alexandrova, Lucia Rapanotti, and Ivan Horrocks. Innovation vs. heritage: a requirements game to encourage creativity in government agencies' legacy systems replacement projects. In *REFSQ Workshops*, pages 12–20, 2014
11. Dariusz W. Kaminski, Jon G. Hall, and Lucia Rapanotti. Towards Executable Business Processes with the Problem Oriented Engineering Process Algebra. In *Proceedings of the IARIA Sixth International Conference on Software Engineering Advances, ICSEA 2011*, Barcelona, Spain, October 23-29 2011

12. Assia E. Alexandrova, Lucia Rapanotti, and Anthony S. Meehan. Requirements Practices in e-Government Solution Development. In *Proceedings of the 2011 International Conference on e-Learning, e-Business, Enterprise Information Systems, and e-Government (EEE'11)*, Monte Carlo Resort, Las Vegas, Nevada, US, July 18-21 2011
13. Zhi Li, Jon G. Hall, and Lucia Rapanotti. On the construction of specifications from requirements. In Maria Lencastre, Hugo Estrada Esquivel, and Eduardo Figueiredo, editors, *Proceedings of the 14TH Workshop on Requirements Engineering*. Editora PUC-Rio, Rio de Janeiro, Brazil, 27-29 April 2011
14. Zhi Li, Jon G. Hall, and Lucia Rapanotti. Modeling Domain Knowledge in Support of Requirements Analysis in Software Engineering. In *Proceedings of 2010 International Conference on Power and Energy Systems (ICPES 2010)*. IEEE Computer Society Press, Beijing, China, 20-21 December 2010
15. L. Barroca, L. Rapanotti, M. Petre, Maria Vargas-Vera, and Ahmad Reeves. Developing research degrees online. In *Proceedings of the International Conference of Education, Research and Innovation (ICERI)*, Madrid, Spain, 15-17 November 2010
16. Ann Nkwocha, Jon G. Hall, and Lucia Rapanotti. Design rationale capture in the globalised enterprise: an industrial study. In *Proceedings 5th International Conference on Software Engineering Advances (ICSEA)*, Nice, France, August 22-27 2010. IARIA, IEEE Computer Society Press
17. Lucia Rapanotti, Leonor M. Barroca, Maria Vargas-Vera, and Ahmad J. Reeves. deepthink: a second life environment for part-time research students at a distance. In *Proceedings of the 10th IEEE International Conference on Advanced Learning Technologies (ICALT)*, Sousse, Tunisia, July, 5-7 2010
18. Lucia Rapanotti and Jon G. Hall. Lessons learned in developing a Second Life educational environment. In *Proceedings of the 2nd International Conference on Computer Supported Education*, Valencia, Spain, April 7-10 2010. <http://oro.open.ac.uk/19474/>
19. Jerry Overton, Jon G. Hall, and Lucia Rapanotti. A problem-oriented theory of pattern-oriented analysis and design. In *Proceedings of IARIA PATTERNS 2009*, Athens/Glyfada, Greece, November 15-20 2009. <http://oro.open.ac.uk/19472/>
20. Jerry Overton, Jon G. Hall, Lucia Rapanotti, and Yijun Yu. Towards a problem oriented engineering theory of pattern-oriented analysis and design. In *Proceedings of 3rd IEEE International Workshop on Quality Oriented Reuse of Software (QUORS)*, Seattle, Washington, 20-24 July 2009. <http://oro.open.ac.uk/19127/>
21. Lucia Rapanotti and Jon G. Hall. Designing an online part-time master of philosophy with problem oriented engineering. In *Proceedings of the Fourth International Conference on Internet and Web Applications and Services*, Venice, Italy, May 24-28 2009. IEEE Press. <http://oro.open.ac.uk/15331/>
22. Jon G. Hall and Lucia Rapanotti. Requirements analysis in context with POE Design. In *Proceedings of the International Workshop on Requirements Analysis*, London, UK, 6-7 December 2008. Pearson. <http://oro.open.ac.uk/19145/>
23. Jon G. Hall and Lucia Rapanotti. Assurance-driven design. In *Proceedings 3rd International Conference on Software Engineering Advances*, Sliema, Malta, October, 26-31 2008. IARIA, IEEE Computer Society Press. <http://oro.open.ac.uk/19128/>
24. Jon G. Hall and Lucia Rapanotti. The discipline of natural design. In *Proceedings of the Design Research Society Conference 2008*, Sheffield, UK, 16-19 July 2008. <http://oro.open.ac.uk/19129/>
25. D. Mannering, J. G. Hall, and L. Rapanotti. Problem oriented safety process improvement. In *Proceedings of the Safety-critical Systems Symposium 2008*, Bristol, UK, 5-7 February 2008
26. Derek Mannering, Jon G. Hall, and Lucia Rapanotti. Safety process improvement with POSE and Alloy. In F Saglietti and N Oster, editors, *Safety, Reliability, and Security, Proceedings of the 26th International Conference on Computer Safety, Reliability and Security (Safecom 2007)*, volume 4680 of *Lecture Notes in Computer Science*, pages 252–257, Nuremberg, Germany, 18 - 21 September 2007. Springer. <http://oro.open.ac.uk/9587/>

27. Jon G. Hall, Derek Mannering, and Lucia Rapanotti. Arguing safety with problem oriented software engineering. In *Proceedings of the 10th IEEE International Symposium on High Assurance Systems Engineering (HASE 2007)*, Dallas, Texas, November 14-16 2007. IEEE Computer Society. <http://oro.open.ac.uk/9591/>
28. Jon G. Hall, Lucia Rapanotti, and Michael Jackson. Problem oriented software engineering: A design-theoretic framework for software engineering. In *Proceedings of IEEE Software Engineering Formal Methods (SEFM 2007)*, London, UK, September 2007. <http://oro.open.ac.uk/9592/>
29. Derek Mannering, Jon G. Hall, and Lucia Rapanotti. Safety process improvement: Early analysis and justification. In *Proceedings of the IET Second International Conference on System Safety 2007*, London, UK, 22 -24 October 2007. IET. <http://oro.open.ac.uk/9593/>
30. Derek Mannering, Jon G. Hall, and Lucia Rapanotti. Towards normal design for safety-critical systems. In *Proceedings of Fundamental Approaches to Software Engineering (FASE) '07, part of the European Joint Conferences on Theory and Practice of Software (ETAPS)*, volume 4422 of *Lecture Notes in Computer Science*, pages 398–411, Braga (Portugal), 24 March - 1 April 2007. Springer-Verlag. <http://oro.open.ac.uk/7753/>
31. Mohammed Salifu, Bashar Nuseibeh, and Lucia Rapanotti. Towards context-aware product-family architectures. In *Proceedings of International Workshop on Software Product Management, co-located with IEEE RE2006*, Minneapolis, US, September 2006
32. John Brier, Lucia Rapanotti, and Jon G. Hall. Problem based analysis of organisational change: a real-world example. In *Proceedings of the 2nd International Workshop on Advances and Applications of Problem Frames*. ACM, 2006
33. Zhi Li, Jon G. Hall, and Lucia Rapanotti. From requirements to specification: a formal perspective. In *Proceedings of the 2nd International Workshop on Advances and Applications of Problem Frames*. ACM, 2006
34. John Brier, Lucia Rapanotti, and Jon G. Hall. Capturing change in socio-technical system with problem frames. In *Proceedings of Requirements Engineering: Foundations of Software Quality (REFSQ)*, 2005
35. Pejman Iravani, Jeff H. Johnson, and Lucia Rapanotti. Robotics and the q-analysis of behaviour. In *Proceedings of the 10th International Symposium on Artificial Life and Robotics (AROB)*, Beneppu, Japan, 2005
36. John Brier, Lucia Rapanotti, and Jon G. Hall. Problem frames for socio-technical systems: predictability and change. In *Proceedings of 1st International Workshop on Applications and Advances of Problem Frames*, pages 21–25. IEEE CS Press, 2004
37. Zhi Li, Jon G. Hall, and Lucia Rapanotti. Reasoning about decomposing and recomposing problem frame developments: a case study. In *Proceedings of 1st International Workshop on Applications and Advances of Problem Frames*, pages 49–53. IEEE CS Press, 2004
38. Pejman Iravani, Jeff H. Johnson, and Lucia Rapanotti. Application of concept grounding techniques to reduce dimensionality in sensory-motor spaces. In *Proceedings of the 2nd European Starting Artificial Intelligence Researchers Symposium (STAIRS)*, Valencia, Spain, 2004
39. Pejman Iravani, Jeff H. Johnson, and Lucia Rapanotti. A behaviour-based architecture for abstract learning and control. In *Proceedings of Towards Autonomous Robotic Systems (TAROS)*, UK, 2004
40. Lucia Rapanotti, Jon G. Hall, Michael Jackson, and Bashar Nuseibeh. Architecture-driven problem decomposition. In *Proceedings of 12th IEEE International Conference on Requirements Engineering (RE 2004)*, pages 80–89. IEEE Computer Society, 2004
41. Jon G. Hall and Lucia Rapanotti. A reference model for requirements engineering. In *Proceedings of 11th IEEE International Conference on Requirements Engineering (RE 2003)*, pages 181–187, Monterey, California, 2003. IEEE Computer Society Press

42. Jon G. Hall, Michael Jackson, Robin C. Laney, Bashar Nuseibeh, and Lucia Rapanotti. Relating software requirements and architectures using problem frames. In *Proceedings of 10th Anniversary IEEE Joint International Conference on Requirements Engineering (RE 2002)*, pages 137–144, Essen, Germany, 2002. IEEE Computer Society Press
43. L. Dunckley, Lucia Rapanotti, and Jon G. Hall. Extending Remote Evaluation with Synchronous Communication. In X. Faulkner, J. Finlay, and F. Dtienne, editors, *People and Computers XVI — Memorable Yet Invisible, Proceedings of HC12002*, pages 105–120, London, UK, 2002
44. Lucia Rapanotti, Canan T. Blake, and Rob Griffiths. Voice groupware to support students at a distance. In *Proceedings of the 4th International Conference on New Educational Environments*, Lugano, Switzerland, 2002
45. Canan T. Blake and Lucia Rapanotti. Mapping interactions in a computer conferencing environment. In *Proceedings of the European Conference on Computer Supported Collaborative Learning (EuroCSCL)*, Maastricht, The Netherlands, March 22-24 2001
46. Jon G. Hall and Lucia Rapanotti. Educational JavaBeans: a requirements driven architecture. In Wendy A. Lawrence-Fowler and Joachim Hasebrook, editors, *Proceedings of WebNet 2001 - World Conference on the WWW and Internet*, pages 474–479. AACE, 2001
47. Lucia Rapanotti and Jon G. Hall. Lyceum: the system and its architecture. In *Proceedings of ACM ED-ICT 2000*, pages 43–52, Vienna, Austria, December 2000
48. Lucia Rapanotti and Jon G. Hall. Lyceum: audio visual conferencing in distance education. In *Proceedings of LTSN-ICS 8th Conference on the teaching of Computing*, pages 110–115, 2000
49. Graham M. Megson and Lucia Rapanotti. Regularising transformations for integral dependencies. In A. Ferreira and J.D.P. Rolim, editors, *Parallel Algorithms for Irregular Problems: State of the Art*. Kluwer Academic Publishers, 1995
50. Graham M. Megson and Lucia Rapanotti. Regularising transformations for integral dependencies. In A. Ferreira and J.D.P. Rolim, editors, *Parallel Algorithms for Irregular Problems: State of the Art*. Kluwer Academic Publishers, 1995
51. Lucia Rapanotti and Graham M. Megson. Uniformisation techniques for reducible integral recurrence equations. In *Proceedings of the International Workshop on Algorithms and Parallel VLSI Architecture*, pages 283–295. Elsevier Science Publisher, 1995
52. Lucia Rapanotti. Object-oriented nets. In *Proceedings of 8th Workshop on Abstract Data Types*, Dourdan, France, August 1991
53. Eugenio Battiston, Fiorella De Cindio, Giancarlo Mauri, and Lucia Rapanotti. Morphisms and Minimal Models for OBJSA Nets. In *Proceedings of the 12th International Conference on Application and Theory of Petri Nets*, Gjorn, Denmark, 1991

(g) OTHER PUBLISHED WORK

1. Lucia Rapanotti, Jon G Hall, Steven Self, Mark Slaymaker, and David King. Measuring qualification effects of a new pedagogy which embeds learning and assessment activities within each students rich professional context of practice. Technical Report 2017/XX, School of Computing and Communications, The Open Univeristy, 2017
2. Jon Hall and Lucia Rapanotti. The computing curriculum: what every child should know. The Conversation, May 2014
3. Jon G. Hall and Lucia Rapanotti. Computing education that computes. BCS Features, Press and Policy: Learning and Development, July 2012