Simon J. Buckingham Shum

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Higher Education

1988-1992	*D.Phil. Psychology*, Dept. Psychology, University of York, UK. EPSRC Studentship in collaboration Rank Xerox Cambridge EuroPARC. (Dissertation: *A Cognitive Analysis of Design Rationale Representation*: Awarded Best Doctoral Dissertation, Supervisors Nicholas Hammond and Allan MacLean.
1987-1988	*M.Sc. Ergonomics,* Birkbeck College, University of London, UK. Dissertation: *Interacting Cognitive Subsystems: Cognitive Modelling of Icon Visual Search*: Research Distinction, Supervisors Philip Barnard and John Long.
1984-1987	*B.Sc. (Hons) Psychology,* University of York, UK (2.i). Honours Dissertation Distinction: *Signalling Modality in the User Interface via Keystroke Contingent Sounds,* Supervisor Andrew Monk.

Appointments

1 Aug. 2014 – present	*Professor of Learning Informatics and Director*, Connected Intelligence Centre, University of Technology Sydney, Australia
1 Mar. 2013 –31 Jul. 2014	*Professor of Learning Informatics and Associate Director (Technology)*, Knowledge Media Institute, The Open University, UK
1 Mar. 2012 –Jul. 2014	*Visiting Fellow*, Graduate School of Education / Centre for Systems Learning & Leadership, University of Bristol, UK
June 2008	*Visiting Researcher*, Research Center for Advanced Science and Technology, University of Tokyo, Japan (Host: Kumiyo Nakakoji)
1 Oct. 2001 – 28 Feb. 2013	*Senior Lecturer in Knowledge Media*, Knowledge Media Institute, The Open University, UK
1 Apr. 1999 – 31 May 1999	*Visiting Researcher*, Center for Lifelong Learning & Design, Dept. Computer Science, University of Colorado at Boulder, USA (EPSRC Travel Grant)
1 Jun. 1999 –30 Sep. 2001	*Lecturer in Knowledge Media*, Knowledge Media Institute, The Open University, UK
1 Sep. 1995 –31 May 1999	*Research Fellow*, Knowledge Media Institute, The Open University, UK (5 year fixed term)
1 Oct. 1992 –31 Aug. 1995	*Research Associate*, Dept. Psychology, University of York, UK (3 year fixed term)
1 Jan. 1991 –30 Sep. 1992	*Research Fellow*, Dept. Psychology, University of York, UK (1 year fixed term)

Research & Scholarship

My research over the last 25 years has investigated the design and evaluation of tools that make thinking visible in different ways, in support of intellectual work. An initial focus on Computer-Supported Argument Visualization found applications in Design Rationale, Scholarly Publishing and Learning. My work was submitted as part of the UK's 2008 Research Assessment Exercise (Computing), and the 2014 Research Excellence Framework (Education, with an Impact Case in Computing & Informatics for computer-supported argument mapping software).

Building on some of this work, my focus since 2011 has been to help establish the discipline and scholarly community of Learning Analytics, including the launch of the archival international conference in cooperation with the ACM, a new open access journal, summer training institutes, and the professional Society for Learning Analytics Research (SOLAR).

Research Funding

UTS: *I joined the Connected Intelligence Centre in 2014 with UTS core funding. My priority 2014-17 was therefore not on securing external funding, but on using the funding for immediate internal analytics requirements analysis, innovation and impact, but with small scale multi-institutional collaborations.*

2018	*Building ATN Institutional Capacity for Text Analytics.* Chief Investigator, Australian Technology Network (ATN) Learning & Teaching Innovation Award (1 year pilot), AUD$100,000 • http://heta.io
2016-2018	*Scaling the Provision of Personalised Learning Support Actions to Large Student Cohorts.* UTS Lead Investigator (U. Sydney lead partner), Australian Office for Learning and Teaching, AUD$350,000 • https://www.ontasklearning.org
2015-2017	*Enabling Connected Learning via Open Source Analytics in the Wild: Learning Analytics Beyond the LMS.* UTS Lead Investigator (QUT lead partner), Australian Office for Learning and Teaching, AUD$320,000 • https://utscic.edu.au/projects/olt-projects/beyond-the-lms
2015-2017	*Vice-Chancellor's Learning & Teaching Innovation Grants.* University of Technology Sydney*:* 8 x 1 year internal pilot projects with faculty, AUD$10,000/project approx. • https://utscic.edu.au/category/project/uts
2013-2016	*Student Retention and Learning Analytics: A Snapshot of Australian Practices and a Framework for Advancement.* Co-Investigator (U. South Australia lead partner), Australian Office for Learning and Teaching, AUD$248,000 • http://he-analytics.com

OU: *From 1997-2014 I secured continuous external funding of £1.89M for my team. I played a significant role in securing two major Hewlett Foundation Open Educational Resources grants worth US$10M for the university (OpenLearn and The Open Learning Network).*

2013-2016	*Election Debate Visualization: Interactive Replays of the 2015 UK General Election Prime Ministerial TV Debates.* Engineering and Physical Sciences Research Council (EPSRC) project, £500,000 • http://edv-project.net
2013-2015	*CATALYST: Collective Applied Intelligence and Analytics for Social Innovation.* European Commission Framework 7 ICT Project, €2.5M • http://catalyst-fp7.eu
2012-2014	*Educational Futures Evidence Hub.* OU Lead Partner. PI whole project. Partners: Vital/DfE, Burdett Foundation, Birmingham City Council, Milton Keynes Council, £67,000 • http://Evidence-Hub.net
2011-2014	*EnquiryBlogger Project.* OU Lead Partner. Co-I whole project Paul Hamlyn Foundation and University of Bristol, £15,000 Partners: University of Bristol • http://learningemergence.net/tools/enquiryblogger

2009-2012	*Open Learning Network*. OU Lead Partner. Co-I whole project, Lead: *Collective Intelligence Work Package* Hewlett Foundation, $3M total ($2M = £1.3M to OU, £237,088 to KMI). Partners: Carnegie Mellon University • http://olnet.org
2008-2009	*e-Dance Project.* U. Bedfordshire Lead Partner. Co-I whole project, Lead: *Knowledge+Video Mapping.* Joint EPSRC/AHRC/JISC Arts & Humanities e-Science Prog. (£337,017, £75,440 to KMI). Partners: Universities of Leeds, Manchester and Bedfordshire • http://kmi.open.ac.uk/projects/e-dance
2006-2008	*OpenLearn*. OU Lead Partner. Co-I whole project, Lead: *Open Sensemaking Communities Project.* Hewlett Foundation, $9M to OU, £472,247 to KMI • http://kmi.open.ac.uk/projects/osc
2005-2007	*ECOSENSUS Project: Electronic/Ecological Collaborative Sensemaking Support System.* OU Lead Partner. Co-I whole project, Lead: *Knowledge+GIS Mapping.* ESRC e-Social Science Programme RES-149-25-1017, £45,663 (£44,426 to KMI) • http://kmi.open.ac.uk/projects/ecosensus
2005-2006	*MEMETIC Project: Meeting Memory Technologies Informing Collaboration*, OU Lead • Manchester Lead Partner. Co-I whole project, Lead: *Meeting Mapping.* JISC, £200,656 (£33,657 to KMI). Partners: Universities of Manchester and Southampton
2004	*Co-OPR Project: Collaborative Operations for Personnel Recovery*, OU Lead, Edinburgh Lead Partner. Co-I whole project, Lead: *Knowledge Mapping.* DARPA/SAIC, $350,000 (£48,700 to KMI). Partners: University of Edinburgh • http://www.aiai.ed.ac.uk/project/co-opr
2002-2004	*Collaborative Advanced Knowledge Technologies in the Grid*, OU Lead • (2 year collaboration with NASA on Mars Field Trials). Southampton Lead Partner. Co-I whole project, Lead: *Knowledge Mapping.* EPSRC GR/R85143/01 £517,139 (£156,714 to KMI). Partners: Universities of Edinburgh and Southampton http://bit.ly/MarsFieldTrials
2001-2004	*An Ontology-Based Environment for Managing Distributed Research Knowledge.* EPSRC GR/N35885/01 £315,929. OU Lead Partner. PI whole project.
2000-2002	*Electronic Journal of Well Engineering Project*, BP, £61,000 OU Lead Partner. PI whole project. Partners: BP
1999	*Next Generation Infrastructures for Scholarly Publishing* EPSRC GR/M78151/01 (Visiting Research Fellowship), £1750 Partner: University of Colorado at Boulder
1998-1999	*Towards Designing Scholarly Documents for the World Wide Web* British Council, £4,800 OU Lead Partner. Co-I whole project. Partner: Université Aix-en-Provence
1997-1998	*London Mathematical Society Electronic Journals Project*, £25,000 OU Lead Partner. Co-PI whole project

Awards/Honours

2017	Best Paper Award: International Conference on Learning Analytics & Knowledge. Gibson, A., Aitken, A., Sándor, Á., Buckingham Shum, S., Tsingos-Lucas, C. and Knight, S. (2017). Reflective Writing Analytics for Actionable Feedback. *Proceedings of LAK17: 7th International Conference on Learning Analytics & Knowledge,* March 13-17, 2017, Vancouver, BC, Canada. (ACM Press). DOI: http://dx.doi.org/10.1145/3027385.3027436

2010-2011   Exhibit: British Library Exhibition *Growing Knowledge: The Evolution of Research* (Oct. 2010-July 2011)*:* video footage of Compendium from the AHRC/EPSRC/JISC *e-Dance project* • http://projects.kmi.open.ac.uk/e-dance/2010/10/12/e-dance-growing-knowledge

2010   Finalist: *Mozilla Foundation & MacArthur Foundation Jetpack for Learning Design Challenge*: for the *Cohere* Firefox Add-On, one of ten selected to go to SXSW Austin TX for most promising demonstration of Jetpack-enhanced Firefox for learning http://mozillalabs.com/blog/2010/03/jetpack-for-learning-winners

1996   Winner: *Charlesworth Electronic Journal Award*: for the *Journal of Interactive Media in Education*, for showing most potential in exploiting the power of the Web in scholarly communication

Leadership and Management

I specialize in growing learning technology research centres that are internationally recognised for research excellence, whilst also transforming that innovation into practical tools that have high impact within the university and beyond.

University of Technology Sydney, AUS

As Professor of Learning Informatics and Director, Connected Intelligence Centre (CIC) I was a direct appointment to launch this new centre in August 2014. The mission was to refine and execute a Connected Intelligence strategy that UTS had been developing since 2011: to build the university's capacity to use data and analytics in its teaching, research and business operations. CIC grew from 2 to 20 staff by mid-2017. The appointment of a high performing academic team catapulted UTS from being research-inactive in the field of Learning Analytics to internationally leading. Significant milestones include the 2015 launch of the university's first transdisciplinary postgraduate degree (Master of Data Science & Innovation), the 2016 launch of the world's first PhD programme dedicated to Learning Analytics, and the use of innovative analytics tools in UTS degrees and business units, including the world's first automated feedback on reflective writing. UTS is documented as a case study in Australian and European reports on the state-of-the-art in Learning Analytics.

2014-present   Chair: CIC Board of Studies

2016-2017   Steering Group for the creation of the Faculty of Transdisciplinary Innovation

2014-2017   Member: University Academic Board, Teaching & Learning Cttee, Senior Leadership Group

2014-2016   Graduate Research School Board

Learning Analytics Leadership: UTS:CIC chosen as a case study

2017   UTS case study in: Ferguson, R., Brasher, A., Clow, D., Cooper, A., Hillaire, G., Mittelmeier, J., Rienties, B., Ullmann, T., Vuorikari, R. (2016). *Research Evidence on the Use of Learning Analytics – Implications for Education Policy*. In: R. Vuorikari, J. Castaño Muñoz (Eds.). Joint Research Centre Science for Policy Report; EUR 28294 EN; doi:10.2791/955210. https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/research-evidence-use-learning-analytics-implications-education-policy

The Open University, UK

Joining the Knowledge Media Institute (KMI) as a Research Fellow at its launch in 1995, I was awarded my chair in 2013. I helped develop KMI into a 70-strong institute that came to be regarded as an exemplar of university learning technology innovation. I led a small research group which depending on grants numbered around 7, and served on the leadership teams of the Open University's three major educational technology initiatives in my time: OpenLearn (launch of open educational resources), SocialLearn (experimental social learning platform), and FutureLearn (launch of the UK's MOOC platform). In my capacity as KMI Associate Director (Technology) I

developed strategy and channels for innovation diffusion from KMI to mainstream deployment (see Learning Technologies below).

2014	OU Learning Futures 2020 — Vision Steering Group
2013-2014	FutureLearn MOOC Academic Advisory Group, and Learning Analytics advisor
2013-2014	OU Analytics Steering Group
2012-2014	OU Learning Systems Advisory Group
2011-2014	Associate Director (Technology), KMI
2010-2011	Lead Academic, SocialLearn Innovation Pilot (PVC-Learning & Teaching Quality)
2009	Director, SocialLearn Project (OU Strategic Project)
2006-2008	Steering Group and Mock RAE Panel, Computing Research Centre
2001-2005	KMI Ph.D. Admissions Coordinator and OU Research Degrees Committee

Academic leadership positions in civic organisations

I am proud to have served on two UK school governing bodies, assisting them both in growing from being deemed by the national Office for Standards in Education (Ofsted) as being in need of 'special measures' for substantial improvement, to flourishing schools.

2005-2014	*Chair of Governors*, Bushfield School, Wolverton, Milton Keynes
2004-2005	*Governor*, Radcliffe Secondary School, Wolverton, Milton Keynes

International Academic Profile

Keynote addresses

2018	*Transitioning Education's Knowledge Infrastructure: Shaping Design or Shouting from the Touchline?* International Conference of the Learning Sciences, London (June 2018)
2017	*Learning Analytics vs Cognitive Automation: Rationale, Examples & Organisational Strategy.* International Learning Analytics Summer Institute, Ann Arbor, Michigan (2017)
2016	*Towards Learning Analytics for 21st Century Competencies.* Learning Analytics Summer Institute Asia (LASI-Asia), Seoul
2016	*Algorithmic Accountability and Learning Analytics.* Digital Learning Festival, University of South Australia, Adelaide
2014	*Learning Analytics and Personalisation of the Student Experience.* Universitas21 Educational Innovation Summit, Sydney
2014	*Learning Analytics: Welcome to the Future of Assessment?* EdMedia 2014: World Conference on Educational Media & Technology, Tampere, Finland
2013	*Learning Analytics Dreams and Nightmares.* 35th Annual European Higher Education Society 2013 Conference, Erasmus University, Rotterdam, NL
2013	*Learning Analytics: Unlocking Student Data for 21st Century Learning?* Technology in Higher Education Summit, BETT 2013, London
2012	*Our Learning Analytics are Our Pedagogy.* Expanding Horizons: Celebrating Learning and Teaching 2012, Macquarie University, Sydney, AUS
2011	*Learning Analytics: Dream, Nightmare, or Fairydust?* Ascilite'11: Australian Society for Computers in Learning in Tertiary Education, Hobart, AUS

2007	*Hypermedia Discourse: Contesting Networks of Ideas & Arguments,* 15th International Conference on Conceptual Structures, Sheffield
2006	*Towards Next Generation Tools for Crafting Hypermedia Discourse,* Semaine de la Connaissance, Nantes
2003	*Hypermedia Discourse Evolving New Technologies and Practices,* International Conference on Open & Online Learning, Mauritius
2003	*Facilitated Hypertext for Collective Sensemaking: 15 Years on from gIBIS.* 8th International Working Conference on the Language Action Perspective on Communication Modelling, Tilburg
1995	*Practise What We Preach: Making HCI Design Techniques Usable*, Swedish Human-Computer Interaction Conference, Uppsala

Invited Lectures (selected)

2017	*Teaching, Assessment and Learning Analytics: Time to Question Assumptions.* Assessment Research Centre & Centre of the Study of Higher Education, University of Melbourne (Sept. 2017)
2017	*Towards Contested Collective Intelligence.* SWARM IARPA Collective Intelligence Project, University of Melbourne (Sept. 2017)
2017	*Innovating Analytics for Institutional Impact & Future Pedagogy.* Learning Analytics Summit, Sydney (Jun 2017)
2016	*Algorithmic Accountability and Learning Analytics.* UCL Knowledge Lab (Apr 2016)
2011	*Net-Centric Scholarly Discourse?* Leibniz Institute Workshop on Future of Research Communication, Dagstuhl
2008	*Argumentation Tools and Social Networks,* Leibniz Institute Workshop on Computational Modelling of Argument, Dagstuhl
2007	*Digital Research Discourse?* Computational Thinking Lecture Series, University of Edinburgh
2006	*Science Portals as Hubs for Hypermedia Discourse,* Genes to Cognition Program: New Horizons in the Internet, Coldspring Harbor Laboratory, NY
2002	*ScholOnto: Towards a Tool for Distributed Scientific Discourse,* Research Institute for Advanced Computer Science, NASA Ames Research Center, Mountain View, CA
2002	*Designing Representational Coherence into an Infrastructure for Collective Sensemaking,* National Science Foundation Workshop on Infrastructures for Distributed Communities of Practice, San Diego
2001	*Research Directions in Human-Centred Knowledge Management over the Semantic Web,* Joint European Union/ National Science Foundation Strategic Workshop on the Semantic Web, Nice
2001	*JIME: An Interactive Journal for Interactive Media,* Change & Continuity in Scholarly Publishing Expert Conference, Dutch Science Foundation, Amsterdam
2001	*Open Peer Review Meets Open Archives?* Open Archives & Peer Reviewed Journals, CERN, Geneva
2000	*Literacy in Distributed Collective Practices?* Distributed Collective Practices: NSF International Collaboration Workshop, Paris

Chairing of conferences, workshops and panels

2018	Scientific Programme Co-Chair: *8th International Conf. Learning Analytics & Knowledge*, Sydney (March, 2018)
2017	Co-Chair: *Workshop on Critical Perspectives on Writing Analytics, 7th International Conf. Learning Analytics & Knowledge*, Vancouver (March, 2017)
2016	Co-Chair: *Workshop on Writing Analytics, 6th International Conf. Learning Analytics & Knowledge*, Edinburgh (April, 2016)
2014	Co-Chair, *Workshop on Analytics for Learning and Becoming in Practice, International Conference of the Learning Sciences*, Boulder (June 2014)
2014	Co-Chair: *2nd International Workshop on Discourse-Centric Learning Analytics, 4th International Conf. Learning Analytics & Knowledge*, Indianapolis (March 2014)
2014	*MOOC Analytics Workshop*, Future Learning Academic Network, Birmingham (Feb. 2014).
2013	Chair: *Dispositional Learning Analytics Workshop*, LASI13: Learning Analytics Summer Institute, Stanford University, USA (2 July, 2013).
2013	Chair: *1st International Workshop on Discourse-Centric Learning Analytics*, LAK13, Leuven, BE (8 Apr. 2013).
2012	Co-Chair: *Learning Analytics SoLAR Flare UK inaugural meeting*, Open University (19 Nov 2012)
2012	Scientific Programme Co-Chair: *2nd International Conf. Learning Analytics & Knowledge*, Vancouver
2012	Co-Chair: *Collective Intelligence as Community Discourse & Action* workshop, ACM Conf. Computer-Supported Cooperative Work, Seattle.
2012	Co-Chair: *UK SoLAR Flare*. First national meeting on Learning Analytics (Open University, 12 Nov 2012)
2010	Chair: *Online Deliberation Emerging Tools Workshop*, 4th International Conf. on Online Deliberation, Leeds.
2007	Co-Chair: *2nd International Conf. on the Pragmatic Web*, Tilburg
2006	Chair: *Modelling Meetings, Argumentation & Discourse* workshop, 1st International Conf. on Computational Models of Argument.
2005	Co-Chair: *e-PhDs—Developing Research Skills, Presence and Collaboration at a Distance*, Joint UK-GRAD/Open University national symposium, Milton Keynes.
2003	Chair: *1st International Workshop on Scholarly Hypertext*, 14th ACM Conference on Hypermedia, Nottingham.
1996	Chair: *The Missing Link Symposium: World Web Usability & Hypermedia Research*, The Open University, Milton Keynes (1 May, 1996).

Journal Editorial Boards

2005-2013	Editorial Board: *New Review of Hypermedia & Multimedia*
2009-2012	Editorial Board: *Automated Experimentation*
2000-2004	Editorial Board: *International Journal of Human-Computer Studies*
1996-2004	Co-Founder & Co-General Editor: *Journal of Interactive Media in Education*

Advisory Boards/Steering Groups/Executive Committees

2015-2016   Advisory Board, Beijing Normal University, *Big Data Center for Technology-Mediated Education*

2015-2016   Steering Group, University of Michigan NSF-funded *Educational Discourse Analytics* project

2011-2016   Co-Founder, Vice-President, Executive Committee, *Society for Learning Analytics Research.* http://SoLAResearch.org

2012-2014   *Big Education Data Science Affinity Group*, Stanford University/Gates Foundation, USA

2012-2014   Advisory Board for *Helix* Learning Platform, Altius University, USA

2011-2014   Advisory Board for *Vital Partnerships*, a social enterprise focusing on the transformation of school and workplace learning and leadership through research validated techniques

2010-2012   Steering Group overseeing the international conference series on *Computational Modelling of Argument*

2001   Advisory Board for the *Joint EU-NSF Strategic Workshop on the Semantic Web* to prioritise research challenges for future funding

1992-1999   Executive Member of the *British Computer Society's Human-Computer Interaction Specialist Group*. Managed the first website, and edited a regular feature in its quarterly *Interfaces* magazine (1992-96).

Founder of research and practice networks

2011-present   Co-Founder: *Society for Learning Analytics Research* http://SoLAResearch.org

2011-present   Co-Founder: *Learning Emergence Network* http://LearningEmergence.net

2003-2014   Co-Founder: *Compendium Institute* http://CompendiumInstitute.net

External PhD Examiner (including Viva Voce)

2013   University of Galway, PhD Examiner: *Enabling Reuse of Arguments and Opinions from Online Social Disputes.*

2011   University of Southampton, PhD Examiner: *Open Semantic Hyperwikis*

2010   University of Utrecht, PhD Examiner: *Representational Scripting for Carrying out Complex Learning Tasks*

2006   University of Birmingham, PhD Examiner: *Computer-Supported Formulation of Argumentation Structure as a Planning Method in Argumentative Writing*

2006   Centrum voor Wiskunde en Informatica, Amsterdam, PhD Examiner *(formally appointed, but candidate withdrew)*

2006   Sheffield Hallam University, PhD Examiner *(formally appointed, but candidate withdrew)*

Policy Reports/Submissions

2014   *Putting Learners in Control of their Data.* The Open University's Knowledge Media Institute submission to the UK Dept. for Education, Educational Technology Action Group (ETAG), set up in February 2014 by three Ministers: Michael Gove, Matthew Hancock and David Willetts.
http://simon.buckinghamshum.net/2014/06/learning-analytics-input-to-etag

2012   *UNESCO Policy Briefing on Learning Analytics.*
                http://iite.unesco.org/publications/3214711 (one of the earliest policy reports on
                this emerging field)

Doctoral Supervision & Teaching

I greatly enjoy the mentoring of doctoral students, both my own, and via international doctoral consortia.

Doctoral Supervision

Connected Intelligence Centre, University of Technology Sydney, AUS

2017-present   Principal Supervisor: Sophie Abel (full-time)
               Building Learning Design Patterns to Embed Writing Analytics Tools in Research Writing Pedagogy

2016-present   Principal Supervisor: Shibani Antonette (full-time)
               Understanding the Impact of Automated and Peer Feedback on Academic Writing and Revisions

2016-present   Principal Supervisor: Vanessa Echeverria (full-time)
               Supporting the Development of Collaborative Skills Through On-time Feedback

2016-present   Co-Supervisor: Carlos Gerardo Prieto-Alvarez (full-time)
               Giving Voice to Students: Inclusion of Learners in the Design Process of the Analytics that Represent Them

Knowledge Media Institute, The Open University, UK

2012-2017   Principal and then External Supervisor: Duygu Bektik (full-time/part-time)
               Learning Analytics for Academic Writing through Automatic Identification of Metadiscourse

2012-2015   Principal Supervisor: Simon Knight (full-time)
               Epistemic Beliefs, Social Search and Learning Analytics

2003-2011   Principal Supervisor: Albert Selvin (part-time)
               Ph.D: *Making Representations Matter: Understanding Practitioner Experience in Participatory Sensemaking*

2002-2009   Principal Supervisor: Neil Benn (full and part-time)
               Ph.D: *Modelling Scholarly Debate: Conceptual Foundations for Knowledge Domain Analysis Technology*

2000-2009   Principal Supervisor: Joanna Kwiat (full and part-time; I joined team in 2007)
               Ph.D: *Multi-Perspective Annotation of Digital Stories for Professional Knowledge Sharing within Health Care*

2006-2008   Co-Supervisor: Anna De Liddo (full-time visiting student, University of Bari)
               Ph.D: *A Process Memory Platform to Support Participatory Planning and Deliberation*

2005-2006   Co-Supervisor: Alexandra Okada (full-time visiting student, University of Sao Paulo)
               Ph.D: *Knowledge Cartography for Learning, Teaching and Research*

2001-2006   Principal Supervisor: Bertrand Sereno (full and part-time)
               Ph.D: *A Document-Centric Semantic Annotation Environment to Support Sense-Making*

1999-2003   Principal Supervisor: Clara Mancini (full-time)
               Ph.D: *Cinematic Narrative and Scholarly Hypertext*

International Doctoral Training (selected examples)

2013-2016	*Coordinator, International network of Learning Analytics Summer Institutes* for PhD students: https://solaresearch.org/conferences/lasi
2015-2016	*Co-Chair Doctoral Consortium*, International Conferences on Learning Analytics & Knowledge, 2015-2016
2012 Nov.	*10th ICO International Research School* – Learning Analytics workshop: http://bit.ly/ICOphdschool
2011-12	*EDUCAUSE Learning Initiative:* Learning Analytics webinars: https://www.educause.edu/search?q=%22buckingham%20shum%22
2011	*Research Methods Conference keynote*, Open University: http://cloudworks.ac.uk/cloud/view/5106
2010	*UK Visual Analytics Consortium Summer School:* http://www.eis.mdx.ac.uk/vass
2005	Co-Chaired joint UKGRAD/OU Research School *e-PhD* workshop (synchronous physical+virtual event): http://projects.kmi.open.ac.uk/e-phd
2004	*Stanford University: Seminar Program on People, Computers, and Design*: http://hci.stanford.edu/courses/cs547/abstracts/03-04/040416-buckingham-shum.html

Teaching

UTS Master of Data Science & Innovation

2015-2017	CIC launched in 2015 the *Master of Data Science & Innovation*, its first transdisciplinary, postgraduate degree. The human-centred design approach in this degree broke new ground, integrating conventional data science training with extended work placements, creativity, collaboration, narrative innovation thinking and ethics. Students were recognised by employers as distinctive and highly employable, some students securing new jobs before graduation, and many teams winning open data hackathons run by government and business groups. https://www.uts.edu.au/future-students/analytics-and-data-science
	My challenge was to create the conditions and resources to enable the team intensity, creativity and agility required to launch a new Masters program. I had overall responsibility for the degree's staffing and operations, managed the Course Director, and coordinated/taught the first presentation of the core course *Data Visualisation & Narratives* in 2016, delivered in blended mode.

OU B823 Managing Knowledge, Business School (30 points)

Launched in 1999, this was the world's first MBA subject in Knowledge Management, at the time a very topical subject. The roles detailed below reflect what is involved as an OU Course Team member in delivering quality distance learning, including the piloting of innovative learning technologies (see next section).

1998-2006	Academic Author: *Unit 3: The Cost of Knowledge* (50%) *Unit 10: Knowledge Technologies* (sole author) *Unit 12: Knowledge Management: A Synthesis* (10%).
	Lead author on assignment *TMA01: Sensemaking in an Internet Team* (80%)
	CD-ROM 3: *Unit 10 Demonstrations*
	Audio Tape 6: *Course Team Round Table Concluding Discussion*
	Assoc. Lecturer Lyceum Resource Pack: *Online Tutorial 1*

Student/Assoc. Lecturer Handbook: *Lyceum Hands-On Hints* (1999 only)

Websites for: *Unit 10 Resources* and *TMA01 Resources*

Video: *Opening Day School – Introduction to Lyceum* (1999 only)

2000   *Residential Weekend School* planning and delivery

1998-1999   Member of the *Tutorial Working Group* (Tutorial 1, preparing for the pioneering use of *Lyceum* voice-conferencing synchronous groupware).

Learning Technology Innovation & Impact

A key challenge that universities face is the diffusion of technological innovation into their own teaching practices, as an instance of the pervasive challenge of embedding new technology in human work systems. I have made this both an object of scholarly enquiry, as well as a modus operandi.

University of Technology Sydney

The Connected Intelligence Centre is an innovation centre tasked with impacting UTS teaching and learning with analytics capability. The projects CIC runs with UTS and national partners are detailed on our website: https://utscic.edu.au

2018   Buckingham Shum, S. and McKay, T. (2018). Architecting Universities for Learning Analytics: Innovating for Sustainable Impact. *EDUCAUSE Review*, March/April 2018. https://er.educause.edu

The Open University

At the Knowledge Media Institute, I made distinctive contributions to OU teaching and student support through the invention and innovation of learning technologies. I established a very strong leadership track record in migrating next generation tools from (normally externally-funded) research projects, to deployment in core OU teaching and research. My KMI page links to key projects: http://kmi.open.ac.uk/people/member/simon-buckingham-shum

2012-2014   **FutureLearn: UK MOOC platform grounded in social learning pedagogy**

FutureLearn was launched in 2012 by the OU as the UK's platform for Massive Open Online Learning courses (MOOCs), with university partners from across the UK offering courses. I served on the steering group from its inception, and as the academic lead on Learning Analytics. http://futurelearn.com

2008-2012   **SocialLearn: a Web 2.0 space for the OU learning journey**

SocialLearn was envisaged as a platform to understand the dynamics of free online social networking and user-generated content. SocialLearn supported informal-to-formal learning journeys, provided analytics for both pedagogical and business purposes. My role was formative, serving as Director (2009) liaising with the Vice-Chancellor's Executive, University Council and across the university, overseeing high level concept, user scenarios, detailed design, business modelling, branding, communications. As Lead Academic (2010-2012) coordinating research. Research blog: http://www.open.ac.uk/blogs/SocialLearnResearch

2006-2013   **Cohere: concept mapping web annotations**

Cohere enabled learners to add notes directly to any Web resource, connect them in meaningful ways to create concept and argument maps, and engage in reflective debate with others. It was in use by students and educators to engage in reflective learning and qualitative analysis.

2011-2014   **Evidence Hubs: pooling collective intelligence**

Evidence Hubs provided a structured website for online learners to pool and debate their collective understanding of issues. Building on external seed funding, the OU and DfE are resourcing a new Hub connecting OU students and researchers, with educational practitioners, policy analysts and business. Funding from Research School, Vital, Birmingham City Council, Burdett Foundation and Hewlett Foundation. http://evidence-hub.net

2005-2014 **OpenLearn: open content plus open learning support tools**

OpenLearn enabled the OU to understand the dynamics of open content. I engaged with the Hewlett Foundation from their earliest visits to the OU, and convinced them that open content should be accompanied by open learning support tools. Consequently, free tools for knowledge mapping and video conferencing were integrated on the homepage of every OpenLearn course unit, with many examples of effective usage. I served on the OpenLearn Steering Group, Technical Management Group, and as PI on the associated Open Sensemaking Communities project http://open.edu/openlearn

2002-2014 **Compendium: visual knowledge mapping**

Compendium supports learners in the critical appraisal and structuring of information fragments and ideas, moving towards reflective dialogue and argumentation. With >108,000 downloads and a global user community, this is a very flexible research tool with endorsements from many individuals and institutions. I am the principal investigator (PI) on Compendium, securing external funding 2002-2012, and then facilitating faculties who tuned it to their needs. Archived community site: http://CompendiumInstitute.net
User endorsements:
http://compendiuminstitute.net/community/community.php

1998-2009 **Lyceum: internet voice conferencing groupware**

Lyceum was the mid-90s precursor to today's synchronous groupware tools such as Skype, Google Hangout, Zoom. Lyceum was initiated by Marc Eisenstadt, pioneering the use of Java and Voice-over-IP, while still in the era of the 56K modem. I led the effort to deploy it on the first OU course (B823 Managing Knowledge, 1999), advising other faculties subsequently. I tested early prototypes in 1998, and designed the first versions of the Concept Mapping, Whiteboard, and ScreenGrab tools used by thousands of students in online tutorials. I designed and delivered the first training for the Tutors who ran student groups. Lyceum enabled the OU to pioneer telepresence at scale, building its capacity in the associated instructional design, for instance, the delivery of oral language exercises for foreign language distance courses. In 2009 Lyceum was replaced by the Elluminate product. http://kmi.open.ac.uk/technologies/name/lyceum

Peer reviewed publications

ORCiD: http://orcid.org/0000-0002-6334-7429

Google Scholar (h-index=48 / i10-index=127):
https://scholar.google.com/citations?user=t3774iUAAAAJ

ACM Digital Library:
http://dl.acm.org/author_page.cfm?id=81547962156&CFID=983711069&CFTOKEN=88559779#

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