

# Patricia Charlton, Ph.D.

## Personal information

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UCL Knowledge Lab, 23-29 Emerald Street, London WC1N 3QS

## Professional web site

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<https://creatingtodiscover.wordpress.com>

## Summary

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### **Researcher, teacher, and innovator with cutting-edge industry, teaching and academic knowledge, practice across engineering, computer science, and education.**

- Award-winning computer science, tangible computing, creativity and education researcher with patents and publications in first-rate, international journals demonstrating scientific excellence.
- Accomplished teacher across lifelong learning spectrum from K-12 through secondary, tertiary and continuing professional education, with coaching leadership style in doctoral student supervision.
- Learning designer with mastery of face-to-face, blended, and digital learning contexts, pedagogies, and technologies.
- Leader and event organiser convening broad, diverse, and international coalitions of partners around key thematic areas in innovative areas of teaching and learning (Maker communities, hackathons, Internet of Things), women in STEM, and technology to empower humanitarian, development and global health work.
- Successful fund-raiser and grant writer (30M funding), with experience managing large, distributed teams in European and global industry, research, and education projects.

## Selected areas of expertise

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- Applied artificial intelligence (personalization, adaptation and context-ware) and engineering and Tangible Computing, including semantic web,
- Interdisciplinary research of ‘maker communities’ bringing art, science and design through innovative tools and techniques.
- Technology Enhanced Education, Learning theory, learning design, pedagogy and technologies.
- Large-scale delivery of Education and impact evaluation (mixed methods).
- Practice of teaching and learning across a diversity of contexts.
- Partnerships between industry and higher education.

## Selected thematic areas of particular interest

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- Investigating creativity models through ‘imaginings of movement’ in Maker communities and learning by making and widening participation
- Applying Smart cities tech to improve health and the environment
- Learning analytics and data science and visualization of information.
- Internet of Things (IoT) and its application to solving problems in health and environment (STEM/STEAM)
- Resilience and student-led leadership in positive education paradigms
- Women and girls in STEM/STEAM.
- Innovation in Technology Enhanced Education and Learning.

## Education

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- 2010 MSc, Psychodynamics of Human Development, Birkbeck, University of London (2010).
- 1999 Ph.D., School of Mathematical Sciences, Bath University. Thesis Title: “Self-configurable Software Agents” (1999).
- 1990 BSc.(Hons), Education and AI, Independent Study, University of East London (1990)

## Professional History

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- 2016 — Visiting Research Fellow, Department of EE & CS, QMUL Teaching and Research in Creative IoT for communities
- 2014 — Co-founder and Director, Creative Digital Solutions, UX Design, Tangible & Interactive Designs for Widening participation and diversity inclusion to the knowledge economy.
- 2012 — Senior Research Officer: Applied science and technology, Computer Science and Technology, Enhanced Learning, Personalisation & Adaptive systems, Learning through making, physical computing, UCL Knowledge Lab, UCL IOE
- 2008–2011 Senior Research Officer Interdisciplinary research for creating Personalisation and adaptive systems, Technology Enhanced Learning Solutions for Teachers and Students, Birkbeck University of London, London Knowledge Lab
- 2004–2008 Principal Research Scientist, Personalisation and Knowledge, Motorola Labs, UK
- 2000–2004 Team leader of The Semantic Personalisation Service Technology Group, Motorola Labs, Paris
- 1996–2000 Research Fellow, Intelligent Systems and Network Group, Imperial College, London
- 1994–1996 Temporary Lecturer in Artificial Intelligence, University of Westminster, Department of Computer Science and Engineering, London
- 1993–1994 Lecturer (part-time) in computing sciences, University of West of England, Bristol
- 1992–1994 Teaching Assistant, School of Mathematics, Bath University, Bath
- 1990–1992 Research Assistant, School of Mathematics, Bath University, Bath
- 1990–1998 Managing Director, Information Technology Resources Ltd, Bristol

## References

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Professor Diana Laurillard, UCL/Institute of Education, UCL Knowledge Lab, 23-29 Emerald Street, London, WC1N 3QS Email [D.Laurillard@ioe.ac.uk](mailto:D.Laurillard@ioe.ac.uk) (Contact before an interview – Yes)

Dr. Manolis Mavrikis, UCL/Institute of Education, UCL Knowledge Lab, 23-29 Emerald Street, London, WC1N 3QS Email [M.Mavrikis@ioe.ac.uk](mailto:M.Mavrikis@ioe.ac.uk) (Contact before an interview – Yes)

Professor George Magoulas, Department of Computer Science, Malet Street, Birkbeck College, Email, [gmagoulas@dcs.bbk.ac.uk](mailto:gmagoulas@dcs.bbk.ac.uk) (Contact before an interview – Yes)

Dr. Stefan Poslad, School of Electrical Engineering and Computer Science QMUL [stefan.poslad@qmul.ac.uk](mailto:stefan.poslad@qmul.ac.uk) (Contact before interview – Yes)

## Grant writing

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- Secured 30M€ funding in European project proposals.
- Lead coordinator of two EU projects: LEAP (2.5M euros) and Agent Cities (5.5M euros).
- LEAP was instrumental to the forming of JADE Board, which continues today and agentcities was one of the finalist projects for the Descartes Award.
- Learning Design project: Led the design and impact study with Professor Diana Laurillard to create international take up of knowledge construction approach to sharing pedagogy. The design and delivery of International Learning Designs Challenge were instrumental to bringing about change in education on at international scale

## Project Leadership and Participation

### Recent projects

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- 2016- **British Museum.** Commissioned by British Museum to deliver design-based digital and tangible resources for learning through making.
- 2014-2015 **Tate Britain.** Commissioned by Tate to develop impact evaluation instruments for new online learning platform partnership with Khan Academy. Results were used to design more appropriate learning experiences and inform Tate's education and learning strategy.
- 2015- **Micro:Bit project.** Project Partner (PI) for the Micro:Bit project led by BBC to develop online and face-to-face computer science teaching and learning resources for project partners, schools and communities. The BBC Micro bit project is the largest national project for influencing learning engagement with science and engineering. This project is intended to reach over 1 million year 7 (age 11-12) students, as well as, thousand of STEM teachers.
- 2013-2015 **Building Community Knowledge** (Impact funding ESRC 2013-2015).
- 2012-2015 **Redesigning Education for the Future** (HEFCE 2012-2015): Design, development and evaluation of TEL and online communities with Industry, Academics, Researchers, Teachers and Students for collaborative designing, evaluation and buildings applications, learning designs and prototypes for education.
- 2012-2015 **What The Research Says.** Internationally-known collaborative research program between industry and academia (see <https://www.lkldev.ioe.ac.uk/lklinnovation/>).
- 2012 – **Hack events for education.** Teaching computer science and engineering for teachers and students of all ages.
- 2012 – **Learning Designer online community.** Development of an online community of teacher-designers around the Learning Designer (<http://learningdesigner.org>), an online learning design tool to enable teachers to create and share.
- 2013- **Senior research officer:** designing guided rubric for author-led learning analytics tools. P7-EU project: M C Square. A Computational Environment to Stimulate and Enhance Creative Designs for Mathematical Creativity.
- 2013-2014 Lead design and impact evaluation of International Learning Designs and designing for scaling-up online (MOOCs).
- 2014-2015 Leading design and evaluation of CRAM project for cost modelling of course designs. <http://web.lkldev.ioe.ac.uk/cram/index.html>.
- 2013-2013 Impact analysis of large scale Bioinformatics data on CathDB/UCL to determine user usage
- 2008-2011 LDSE, The Learning Designer (2008-2011 ESRC/EPSC UK funded). Led the technical design and development of the project providing an intelligent framework to assist in supporting the teaching community in using theory and practice in the creation and use of Learning Designs.

- 2004–2008 aceMedia, Intelligent knowledge, semantics and Content for user-centred intelligent media services (EU FP6 2004-2008 10.125.808 €.). Technical leadership of Personal Privacy in content sharing and user evaluation.
- 2004-2006 MobiLife, Mobile Life (6th Framework Project FP6-511607, 20 Million Euros, 21 Partners). My core role was in the proposal phase and in the earlier stages of defining the technical architecture for Mobile Lifestyle Personalisation Engine and integration design with context-aware feature.
- 2001–2003 Agencities. RTD, Test-bed for a World Wide Agent Network: research and development, (EU FP52001-2003). Project co-ordinator with Dr. Steve Willmott. Finalists for the Descartes Award 2003. Creation of the OpenNet forum to continue the research collaboration.
- 2001-2003 Agencities.Net EU FP5 Project (No. EU - IST 2000-28385 EUR 1 066 979) open dynamic service environment based on Agent technology by supporting users wishing to deploy agent platforms and services that connect to an extensible Internet based testbed.
- 2000–2002 LEAP, Lightweight Extensible Agent Platform, (EU FP5 2000-2002). Prime co-ordinator. Won CIA (Collaborative Information Agents) innovation award. The project led to the creation of the JADE board.
- 1998-2000 FACTS project (FIPA Agent Communication Technologies and Services – European project ACTS 317). Core research was in personalisation systems and affective computing. This included user evaluations of the impact of affective computing when interacting with Intelligent Multimedia applications (from the design of the user evaluation and follow through with small user testing).
- 1998 -2000 MAPPA Project (Multimedia Access through Personal Persistent Agents -- European project EP28831). Developed the MAPPA project idea and wrote and submitted the proposal which was accepted, resulting in the funding of a large international research team including both academic and industrial partners. Manage collaboration between the FACTS and the MAPPA projects to encourage solution sharing, as well as directly supervising some junior research staff working on MAPPA. Supervision and design support for work on extending KIMSAC's asset description language to include richer representation of semantic information for interpretation.
- 1995-1998 KIMSAC project (Kiosk-based Intelligent Multimedia Service Access for Citizens) European project ACTS 030). Workpackage leader for personalization system, design and implementation of an agent architecture and public service provision. Supervision and management of junior staff on the project. Audit reporting and representative at the European commission for project evaluation. Technical management and integration with other partners' software.

### Projects in development

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- 2016 **Welcome Trust and STEMnet pilot.** Applied engineering and CS project with industrial partners. Project proposal aims for better understanding of the learning process and engagement of applied engineering and science in authentic learning settings.
- 2016 **H2020 proposal on Design Lab for STEAM (Submitted).** Creativity and innovation on the ‘maker style’ authentic experiences in STEAM for widening participation and inclusion in areas of identity, health, communities and environments.

### Board memberships

- Trustee, Geneva Learning Foundation. Non-profit organisation based in Switzerland for global learning leaders who contribute to learning innovation in humanitarian, development, and global health work.
- Member, Global learning design advisory group, Learning Strategies International (LSi). Leading role in learning design for a massive, open online learning system to train civil servants from Ministries of Health in 192 countries to scale up efforts against the world’s biggest killer diseases.

- Lead with Dr. S. Poslad Creative IoT for Communities Centre launched April 2016 for widening participation of engaging with emerging technologies.
- Part of Tundra System Design Team contributing to design of the next generation Quantum computer. The design of AI features of the architecture to provide adaptive performance value. (<http://www.tundrasystems.eu>).

## **Awards**

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- 2003 – 2006 Motorola Innovation Award
- 2003 EU Descartes award Finalist for Agent Cities (EU project)
- 2001 – 2002 Motorola Standards award for significant contributions to standards

## **Multidisciplinary Research and Impact evidence: Examples**

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- 1) At Motorola labs I developed the impact strategy of the EU project LEAP to support the industrial partners' exploitation plans, this included the joint development of the JADE-Board. The JADE platform is used internationally;
- 2) The development of the learning designer tool and the impact evaluation study demonstrated international use and sharing by over 2000 teachers and technologists and enhanced by International Learning Design Challenges for building community knowledge;
- 3) Bioinformatics CATHDB analysis and analytics provided the significance research impact for the CS department at Birkbeck;
- 4) The results of the Learning Designer Project for improving data and learning analytics;
- 5) Design and impact evaluation of Tate/Khan platform (commissioned by Creative Digital Solutions to work with Tate online informal learning)
- 6) The research and development of IoT resources as part of the outreach work and social mobility for both humanitarian sector and education (on-going as part of the BBC micro:bit project and funding proposals)
- 7) Actively working with local women in engineering and outreach work to help to bring communities together

## **Teaching and learning**

### **Learning design, Learning technologies and online tutoring**

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- Master facilitator in designing and delivering web learning, peer review, peer instruction and role-playing experiences.
- Pedagogical design and technical experience in developing e-learning activities on multiple platforms (including Blackboard, Moodle and OpenEdX).
- Activity development using HTML and Javascript.

### **Teaching, supervision and CPD**

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Computer science, engineering, and education (teaching/learning, pedagogy, learning design and learning technologies)

### *Undergraduate teaching*

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- 1990-2000 Advanced logic, expert systems and programming methodologies for AI, using ML and C
- 1992-1996 Object oriented design and programming.
- 2016 BSc. & MSc. IoT sessions and Labs QMUL
- 2016 Guest lecturer, Birkbeck. Theory, methods, and techniques used for the design of interactive systems: Collaborative UX design methods for designing interactive systems, BSc.

### *Postgraduate teaching*

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- 1992-2002 Logic for knowledge representation and distributed artificial intelligence.
- 1992-2008 Supervision of final year degree projects and MSc projects, includes intern projects as part of my Role in Motorola.
- 2013 - Guest lecturer, IOE, MBA, Managing Teaching Research: Delivered ‘Modelling Teaching Costs’ (case-study using role play technique was used).
- 2013-2016 Learning Technologies Joint LT Masters between Birkbeck and UCL/IOE. Research methods session on Design-based and applied Methods.
- 2015- Adjunct Professor at the IE University for Master in Design for Work, Retail and Learning Environments IE School of Architecture and Design IE University Spain
- 2015- Designed and delivered two Modules: Contemporary Pedagogy and Technology and Pedagogy (a blended learning course).
- 2015- Guest lecturer, University of Wolverhampton. Session on the Academic and Employability Skills for Computer Science for undergraduate students. Delivered an introduction to Internet of Things.
- 2016 Guest lecturer, Hot Seat Tutorial on design & design processes, Aarhus University, Denmark
- 2016 BSc. & MSc. IoT sessions QMUL
- 2016 MSc. Conversion module online electronics for STEM students, QMUL

### *Continuing professional development (CPD) for teachers*

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CPD both online and face-to-face workshops using design-based methods and peer review techniques to facilitate in the understanding and knowledge exchange about learning design both practice and theory. The workshops provide the students with hands-on experience of developing courses for face-to-face, blended and online learning.

- 2015 UCL/IOE funded by Sutton Trust. CPD for teachers to support Teaching and Learning activities for widening participation and social mobility.
- 2013-2014 FUSION (STEAM) Commissioned by Creative Skillset to deliver a two day intensive workshop for tutors, lecturers and training providers involved in the teaching of CGI, Graphics, Animation and VFX skills. To develop the intermix of creative practice, STEM and entrepreneurial skills into their curriculum content and delivery structures.
- 2014 Supervision of Master student projects (Recent Erasmus+ life long learning). UCL/IOE
- Sept 2016 Design of creativity and Computational Thinking online learning open access course for learning about general problem solving and computer science

### *Ph.D. supervision*

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Active role in supervising, guiding and advising student projects at B.Sc., M.Sc. and Ph.D. levels.

- 2001–2005 Joint Supervisor with Professor Stefano A. Cerri. A. Gouaïch. Title Movement, Interaction, Calculation as Primitives for Everywhere and Anytime Computing. Ph.D. thesis, Université Montpellier II, Montpellier, France.
- 2005 External Ph.D. examiner for J. J. Tan, Title: Adaptive Management and Interoperability for Securing Semantic Open Services, Queen Mary, University of London

## Research

### Education impact

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Mixed methods and instruments for impact evaluation of learning environments, design, tools, and practice.

- 2013-2014 Leadership role in Building Community Knowledge Project impact evaluation study, and key contributor to tools and methods (peer feedback) development.
- 2014-2015 Leadership mixed methods data analysis of TATE/KHAN project for online learning
- 2015-2016 Design and application of evaluation frameworks for STEM and IoT learning experiences for scaling up and widening participation

### User modelling, UX design and user studies

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Designs of models, tools and instruments to design and evaluate user experiences in diverse communities

(large-scale, such as, communities of practice, communities of interest):

- Case-based models, user profiles and user models (privacy policies, adaptive applications, learning design tools, context-aware systems)
- UX design, storyboarding and wireframes/mock-ups: Balsamiq, Storyboard tools, Pencil and design of personas/case studies, survey tools (i.e. survey monkey)
- User studies and evaluation: Small to large scale studies using both qualitative and quantitative techniques, semi-structured interviews, analytic tools, surveys and value creation stories for deep insights (impact). Includes the design of evaluation frameworks and design-based (participatory) methods to provide diverse factors and agile/incremental techniques.
- Web-design/development tools: HTML5, CSS, JS and PhP, Bootcamp and wordpress.

### Artificial intelligence (AI)

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Design and development skills in AI tools and environments including:

- Intelligent distributed systems and inferencing systems.
- Knowledge models and communities.
- Knowledge engineering tools.
- Ontologies (protégé) and development of inferencing systems (JESS – java-based expert system shell) and jOWL.
- hybrid learning techniques combining semantic techniques with statistical models
- Context-aware systems incorporating OWL/RDF, MYSQL and linked-data (LDSE, self-configurable agents, Policy inferences)

## **Coding skills and data analytics**

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Programming languages range from classic logic-based languages (Prolog, CLIPS/JESS –OPS5 engine design/fact driven), to functional languages (LISP) to procedural (Java, C, processing) and script (Java Script, PHP, Python) languages.

Data analytics: AWStats (bioinformatics), R(learning pathway analysis, learning designer data, MOOCs), google analytics (Bioinformatics, TATE/Khan platform, engagement/learning (MOOCs))

Quantum Computing and information systems: Design of AI error detection methods/LIQUID simulation

## **Industry IPR strategy board**

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Lead expert and computer scientist provided solutions for utilising digital intelligence in mobile applications and across distributed environments. Duties included key expert member in patent committees and a primary reviewer for inventions related to intelligent digital solutions and mobile web solutions. As part of the IPR strategy team required evaluating standards, international business and research links and trends in the area of mobile and smart applications and services for the Internet to provide guidance about strategy, next generation digital challenges and opportunities.

## **Conferences and journals**

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Joint Guest Editor with Dr. Stefan Poslad on special issue "Ubiquitous Computing: From Interlinking Smart Tabs, Pads and Boards towards Interlinking Smart Skins, Dust and Clay" for the journal /Informatics/.

(<http://www.mdpi.com/journal/informatics>).

### **Panel sessions 2016 Invitations**

2016 Quantum Information Technologies workshop Bristol April 2016: Emerging Technologies and Ethics

## **Conferences and journals**

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- 2016- Programme Committee Member ICALT (2016)
- 2015 – Technical Reviewer, AIED
- 2012 – Technical Reviewer Computing and Education Journal
- 2012 – Programme Committee Member for Intelligent Tutoring Systems (ITS)
- 2007 Programme Committee Member for AAMAS 2007 Industry Track
- 2007 Programme Committee Member for International Workshop on Sustaining Privacy in Autonomous Collaborative Environments (SPACE 2007)
- 2007 Programme Committee Member for Mobile Services and Ontologies Workshop (MoSO 2007)
- 2006 Programme Committee Member for Privacy and Security in Agent-based Collaborative Environments Workshop
- Programme Committee Member for Mobile Services and Ontologies Workshop (MoSO 2006)
- Programme Committee Member for Sixth International Workshop on Trust, Privacy, Deception, and Fraud in Agent Societies
- 2004 – Technical Reviewer IEEE Internet Computing
- 2003 Programme Committee Member for Agentcities: Challenges in Open Agent Environments
- 2002 Workshop organiser for Ubiquitous Agents on embedded, wearable, and mobile devices



- 2002 Programme Committee Member for Agentcities: Challenges in Open Agent Environments
- 2001 Technical Programme Committee Member for IEEE ICC Symposium on Global Service Portability

## Industry achievements

### Standards Activity

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- 1996 – 2000 Actively participated and contributed to the FIPA (Foundation of Intelligent Physical Agents) Standards taking the results from EU project KIMASC (ACTS ) and FACTS (ACTS) on personalisation and user modelling agents to provide inputs and results for the Human Agent Interaction Group. This included user studies to understand the users concerns about autonomous agents working on the user behalf.
- 2000 – 2004 Leadership and contribution to the Ontologies working group (FIPA), driving policy-based approach to design of domains and service interoperability. Leadership and contributions to the security working group about user privacy and policy models.
- 2006 – 2008 W3C workshop on privacy and policies.

### Patents Filed and Issued

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#### 11 Patents in design engineering filed while working at Motorola.

- 2006 [1] A mechanism to enhance and automate personalized communication delivery and exchange  
[2] A mechanism to generate personalized events and content profiles to assist in automatically managing personal content and events
- 2005 [3] CHARLTON PATRICIA WO2007040696 A2 CONTENT ACCESS RIGHTS MANAGEMENT, Published 2007
- 2004 [4] WATSON CRAIG; RIBIERE MYRIAM; CHARLTON PATRICIA MARY; REID ANGUS  
WO2006065636 A2AN ALERT MANAGEMENT APPARATUS AND A METHOD OF ALERT MANAGEMENT THEREFOR, Published 2007  
[5] WATSON CRAIG; RIBIERE MYRIAM; CHARLTON PATRICIA MARY; REID ANGUS  
WO2006065637 A2, METHOD AND APPARATUS FOR ALERT MANAGEMENT  
[6] CHARLTON PATRICIA MARY; LHUILLIER NICOLAS; PICAULT JEROME  
WO2006110495 A3 APPARATUS AND METHOD FOR USER COMMUNICATION IN A COMMUNICATION SYSTEM, Published 2007  
[7] CHARLTON PATRICIA MARY; BOUZID MAKRAM; RIBIERE MYRIAM  
WO2006105003 A3 KNOWLEDGE PROCESSING APPARATUS AND METHOD, Published 2007
- 2003 [8] RIBIERE MYRIAM; BOUZID MAKRAM; CHARLTON PATRICIA,  
WO2006044664 A3, APPARATUS AND METHOD FOR DETERMINING A USER PREFERENCE, Published 2006  
[9] BOUZID MAKRAM; RIBIERE MYRIAM; CHARLTON PATRICIA MARY  
WO2006057792 A2, METHOD AND APPARATUS FOR ACCESSING A SERVICE, Published 2006, Granted 2007

- 2002 [10] Gouaich, Abdelkader, Camuzard, Frédéric Charlton, Patricia, No: EP1324237 A1 “Selecting and communicating offers of services or products in response to an interrogation”, Published 2003
- [11] Ronie Taib, Nicholas Lhuillier, Patricia Charlton, United States Patent 6747685 Conference calling

## Publications

### Articles in preparation (2016)

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- P. Charlton and P. Davies, Fostering Student led Learning through Technology for widening participation for the Computer and Education Journal, Impact factor 3.2 (submission planned Sept 2016)
- P. Charlton, “Knowledge Building and Learning Pathways”, for submission to learning analytics Journal (2016) (impact factor 1.76) Submission planned for July 2016)
- P. Charlton "Creative power of imaginations of movement", Human Computer Interactions, Impact factor 4.6 (October 2016)

### Conferences 2016 Submitted

- P. Charlton and S. Poslad, ‘A Wearable IoT Community Application’ Submitted to 12th International Conference on Intelligent Environments, 2016,
- P. Charlton and R. Toft Nørgård “Convention be damned – let the learning Emerge: The Power of an Educational Design Thinking Approach” Accepted for Ethnography and Education Conference Oxford 2016.

### Journal papers under review (2016)

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- P. Charlton, K. Avramides and R. Luckin “STEM Learning by Making through Pedagogies of Collaboration and Production” IEEE Transactions on Learning Technologies on Wearable Technologies and the Internet of Things (IoT) in Education and Training. (accepted minor revisions) impact factor 1.28
- P. Charlton, H. Baker, J. Claessens and J. Wild, “Wearable, Learnable and Teachable Internet of Things: Micro Bit Project:” IEEE Transactions on Education on maker learning in computer science and engineering education (accepted with minor revisions) Impact factor 1.22
- P. Charlton ‘Engaging with computer science when learning about the Internet of Things’ IEEE Transactions on Education on maker learning in computer science and engineering education (accepted with minor revisions) Impact factor 1.22

### 2015

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- Patricia Charlton, “Creating a collaborative learning experience for future innovators”, Wireless Q, Quarter 3, 2015, NORDIC
- Patricia Charlton, Sokratis Karkalas and Manolis Mavrikis. “Designing a mediation vocabulary for authoring learning analytics”, Knowledge Engineering and Ontology Development (KEOD 2015)
- Sokratis Karkalas, Patricia Charlton Manolis Mavrikis. Turning Web Content into Learning Content, A Lightweight Integration and Interoperability Technique, Knowledge Engineering and Ontology Development (KEOD 2015)
- E. Kennedy, D. Laurillard, B. Horan & P. Charlton, “Making meaningful decisions about time, workload and pedagogy in the digital age: the Course Resource Appraisal Model” Special issue of Distance Education Journal, (2015)
- Sokratis Karkalas, Christian Bokhove, Patricia Charlton Manolis Mavrikis. *Towards Configurable Learning Analytics for Constructionist Mathematical e-Books (AIED 2015)*

## 2014

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Bokhove, C, Jones, K, Charlton, P, Mavrikis, M and Geraniou, E (2014) Authoring your own creative, electronic book for mathematics: the MC-squared project. In, Keith Jones, Christian Bokhove, Geoffrey Howson and Lianghuo Fan (eds.) Proceedings of the International Conference on Mathematics Textbook Research and Development (ICMT-2014). Southampton, GB, University of Southampton, 547-552.

Bokhove, Christian, Jones, Keith, Mavrikis, Manolis, Geraniou, Eirini and Charlton, Patricia (2014) Co-designing electronic books: boundary objects for social creativity. In, Keith Jones, Christian Bokhove, Geoffrey Howson and Lianghuo Fan (eds.) Proceedings of the International Conference on Mathematics Textbook Research and Development (ICMT-2014). International Conference on Mathematics Textbook Research and Development Southampton, GB, University of Southampton, 167-172.

## 2013

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Charlton, P, The theory and practice of AI in action: Comparing the use of AI approaches when designing solutions for industry and education, BCS, Real AI, October 2013

P. Charlton, M. Manolis, D. Katsifili. "The Potential of Learning Analytics and Big data", in Adriane, 2013,

Zanani, E, Charlton P., Laurillard, D., Creating and Sharing Information Literacy Learning Designs, ECIL 2013

Charlton P., "Creativity and Learning Through UX Thinking and Design", HCID 2013

Davies P, and Charlton P, Arduinos and lilypads, a student led workshop, ECIS Workshop, March 2013

## 2012

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P. Charlton and R. Luckin, Time to re-load? Computational Thinking and Computer Science in Schools, What the research says briefing report.

[http://www.lkl.ac.uk/cms/files/jce/articles/time\\_to\\_reloadwhattheresearchsaysbriefing27april2012.pdf](http://www.lkl.ac.uk/cms/files/jce/articles/time_to_reloadwhattheresearchsaysbriefing27april2012.pdf)

Charlton P., Magoulas G., Laurillard, D. Enabling Creative Learning Design through Semantic Web Technologies, Journal of Technology, Pedagogy and Education July 2012

## 2011

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Laurillard, D., Charlton, P., Craft, B. Dimakopoulos, D., Ljubojevic, D., Magoulas, G., Masterman, E., Pujadas, R., Whitley, E.A., & Whittlestone, K. A constructionist learning environment for teachers to model learning designs. JCAL.

Charlton P. & Magoulas G.D. (2011). Next Generation Environments for Context-aware Learning Design. In Smart Innovation, Systems and Technologies. Springer, 2011

Charlton P. and Magoulas G.D Context-aware Framework for Supporting Personalisation and Adaptation in Creation of Learning Designs: In Intelligent and Adaptive Learning Systems: Technology Enhanced Support for Learners and Teachers: Ed Graf & Kinshuk, IGI

R. Pujadas, C. Roder, E.A. Whitley and P. Charlton, Teaching innovation and technology: An analysis of a Learning Design Support Environment, CAL 2011

Diana Laurillard, Dejan Ljubojevic, Patricia Charlton, Marion Manton, George Magoulas, Joanna Wild, Liz Masterman: Representing and sharing learning designs: A design support environment, Workshop at ALT-C 2011: 18th International Conference of the Association for Learning Technology, Leeds 6-8 September 2011.

## 2010

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Charlton P. and Magoulas G.D. (2010), "Autonomic Computing and Ontologies to Enable Context-aware Learning Design". In Proceedings of the 22nd IEEE International Conference on Tools with Artificial Intelligence, October 27-29, 2010, Arras, France.

Charlton, P., Magoulas, G., (2010), "Self-configurable Framework for enabling Context-aware Learning Design". In Proceedings of the IEEE International Conference on Intelligent Systems, pp. 1-6, 2010.

Laurillard, D., Masterman, L., Magoulas, G., Charlton, P., Manton, M., Ljubojevic, D., Craft, B. & Pujadas, R. "Supporting innovative teaching with an intelligent collaborative design environment." Workshop at ALT-C 2010: 17th International Conference of the Association for Learning Technology, Nottingham, 7-9 September 2010.

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## 2009

Charlton P., Magoulas G.D., and Laurillard D. (2009), Designing for Learning with Theory and Practice in Mind. In Proceedings of the Workshop "Enabling creative learning design: how HCI, User Modelling and Human Factors help", part of AIED 2009 Conference, pp. 52-61, 2009

Charlton P., & Poslad S. Intelligent Systems, Chapter 8, Ubiquitous Computing: Smart Devices, Environments And Interactions, 2009, Wiley, 978-0-470-03560

Charlton P., & Poslad S. Intelligent System Interaction, Chapter 9, Ubiquitous Computing: Smart Devices, Environments And Interactions, 2009, Wiley, 978-0-470-03560

Charlton, P, Magoulas, G, and Laurillard, D., Pedagogy meets Ontologies: Knowledge Representation for Creative Learning Design, ALT-C, 2009

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## 2006

P. Charlton and J. Teh "A self-governance approach to supporting privacy preference-based content sharing in distributed environments", the International Transactions on Systems Science and Applications (ITSSA) Journal (2006).

P. Charlton and J. Teh, "The design of 'intelligence' for the management of personal multimedia content", the international conference on Semantics And digital Media Technology (SAMT 2006).

Patricia Charlton and Jonathan Teh, "Supporting the users' privacy preferences when sharing personal content" published by W3C, Workshop on Languages for Privacy Policy Negotiation and Semantics-Driven Enforcement, held in Ispra, Italy on 17 and 18 October 2006.

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## 2004

Steven Willmott, Simon G. Thompson, David Bonnefoy, Patricia Charlton, Ion Constantinescu, Jonathan Dale, Tianning Zhang: Agent Based Dynamic Service Synthesis in Large-Scale Open Environments: Experiences from the Agentcities Test-bed. AAMAS 2004: 1318-1319

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## 2003

Patricia Charlton, Myriam Ribière: Rich service description for a smarter lifestyle. AAMAS 2003: 512-519

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## 2002

Patricia Charlton, David Bonnefoy, Nicolas Lhuillier: Agents and Their Cities. ECAI 2002: 53-57

Stefan Poslad, Patricia Charlton, Monique Calisti: Specifying Standard Security Mechanisms in Multi-agent Systems. Trust, Reputation, and Security 2002: 163-176

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