

Panagiotis D. Ritsos

MEng PhD Essex, AFHEA

Academic Profile

Senior Lecturer in the Department of Computer Science, Faculty of Science and Engineering of the University of Chester, UK and Associate Fellow of the HEA. Research interests and expertise in *Information Visualization, Visual Analytics, Wearable Computing, Mixed Reality* and *Virtual Reality*, as evidenced by publications and career experience. Skills complemented by experience in *Medical Visualization, Virtual Worlds* and *User Experience Evaluation*. Currently pursuing research on *Immersive Analytics* and *Personal Learning Visualization*.

Education

- 10/2000 – 03/2006 **PhD, Electronic Systems Engineering**
School of Computer Science and Electronic Engineering, University of Essex
Thesis Title: “Architectures for Untethered Augmented Reality using Wearable Computers”. [11, 12, 28, 31]
Supervisor: Dr. Adrian F. Clark
- 10/1996 – 07/2000 **MEng, Electronic Systems Engineering**
School of Computer Science and Electronic Engineering, University of Essex
- 06/2015 – present **Postgraduate Certificate in Learning and Teaching in Higher Education (PGCertLTHE)**
Learning and Teaching Institute, University of Chester
- 09/2014 – 06/2015 **Postgraduate Certificate in Higher Education (PGCertHE) - AFHEA Status**
School of Education, Bangor University

Academic Experience

- 06/2015 – present **Senior Lecturer**
Department of Computer Science, University of Chester
- Themes & Projects: *Visualizing and Reporting Data-Quality*. (Publications under review.) (01/2016–present)
- *Data Visualization for Digital Humanities*. (Publications under preparation.) (02/2016–present)
- *Immersive Analytics*. (Publications under preparation.) (06/2015–present)
- *Medical Virtual & Mixed Reality Simulators*. [7, 23, 24] (06/2015–present)
- *Sketching Methodologies for Teaching of InfoVis and Visual Analytics*. [1, 21] (06/2015–present)
- 06/2011 – 05/2015 **Research Officer**
School of Computer Science, Bangor University
- Themes & Projects: *Contextual Visualization for Network Security*. [8, 22] (01/2015–05/2015)
- *Beyond-the-desktop Multisensory Visualization*. [3, 6, 15, 16, 27, 29] (11/2013–05/2015)
- *EVIVA – Evaluating the Education of Interpreters and their Clients through Virtual Learning Activities* (EU LLP). [18] (01/2013–12/2014)
- *Community-driven Handheld AR for Cultural Heritage*: [2, 17] (04/2014–10/2014)
- *Visualization for Oceanography* [4, 26] (08/2013–06/2014)
- *IVY – Interpreting in Virtual Reality* (EU LLP). [5, 10, 20] (06/2011–12/2012)

Teaching Experience

University of Chester

2015 – present Managing a Web-based Environment (*Lecturer & Lab Instructor*)

Bangor University

2014/15 Web Technologies (*Lecturer & Lab Instructor*)

2014/15 Graphics & Web Design (*Lecturer & Lab Instructor*)

2013/14 Technologies for Internet Systems (*Lecturer, together with Jonathan C. Roberts*)

2013/14 Unix Operation System (*Lab Instructor*)

2013/14 Computer and Network Security (*Lab Instructor*)

2013/14 Computer Vision (*Lab Instructor*)

2012 – 2015 Imperative programming (*Lab Instructor*)

Intracom Telecom S.A.

2010 ActionStreamer System Administrator Training (*Lead Course Instructor*)

2010 Hellas OnLine (HOL) Mediation System Administrator Training (*Lead Course Instructor*)

University of Essex

2000 – 2005 Analogue/Digital Design and Digital Signal Processing - (*CAD Lab Instructor*)

2000 – 2003 Analogue/Digital Design (*H/W Lab Instructor*)

2002 – 2004 Computer Engineering (*Handel C/ARM Lab Instructor*)

Supervision Experience

PhD Supervision

2015 – present Pete Butcher – *'Beyond-the-desktop Data Visualization'*

Master's Dissertation Supervision

2014/15 Adam J. Kenworthy – *"Investigating Augmented Reality with the Oculus Rift"* (with Prof Nigel John)

Bachelor's Dissertation Supervision

2015 – present Andrew Butler (BSc) – *"Prototyping a Smartwatch Application for Students at Thornton Science Park"*

2015 – present Christopher Edman (BSc) – *"Visualizing the Thornton Science Park using an AR Magic Lens"*

2015 – present Matthew Williams (BSc) – *"Developing the Application of 3D Photogrammetry using Aerial Platforms"*

2015 – present Liam Kelly (BSc) – *"The effect of SEO on local SMEs"*

Other Supervision

2012 – 2015 Software Hut Group Projects (BSc Level 5), six groups of four⁺ students

Professional Experience

06/2007 – 05/2011 **Software Engineer** Intracom Telecom S.A., Greece

01/2006 – 12/2010 **External IT Consultant** OxDesign Ltd, Greece

05/2006 – 05/2007 **Private (OR-1)** Hellenic Army Signal Corps, Greece

09/2004 – 12/2005 **IT Consultant** European Profiles S.A., Greece

Grants and Funding

- 2015 – present Higher Education Innovation Funding (HEIF) Knowledge Transfer Funding – “IPoP - Image Projection onto Patients” – Co-Investigator
- 2012 – 2014 EU Lifelong Learning Programme – “Evaluating the Education of Interpreters and their Clients through Virtual Learning Activities”, Project 531140-LLP-1-2012-1-UK-KA3-KA3MP – Named Researcher
- 2000 – 2003 Engineering and Physical Sciences Research Council (EPSRC) – Fees-only Doctoral Training Award
- 2000 – 2003 University of Essex – Teaching Assistant/Laboratory Demonstrator Scholarship

Reviewing

- 2016 IEEE Conference on Visual Analytics Science and Technology (VAST)
- 2016 ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)
- 2016 Eurographics Computer Graphics Forum (CGF)
- 2016 International Journal of Human-Computer Studies (Elsevier)
- 2016 Annual Conference of the European Association for Computer Graphics (Eurographics)
- 2016 Eurographics Conference on Visualization (EuroVis)
- 2015 – 2016 Eurographics Eurovis Workshop on Visual Analytics (EuroVA)
- 2013 – 2016 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)
 - 2015 Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM)
 - 2015 IEEE Symposium on 3D User Interfaces (3DUI)
 - 2015 Computers & Education (Elsevier)
 - 2014 IEEE Transactions in Human-Machine Systems
 - 2014 Artificial Life and Intelligent Agents Symposium (ALIA)

Memberships

- 2015 – present Associate Fellow of the Higher Education Academy
- 2014 – present IEEE Technical Committee on Visualization and Graphics (VGTC)
- 2012 – present W3C Augmented Reality Community Group
- 2007 – present Institute of Electrical and Electronics Engineers (IEEE)
- 2002 – present Technical Chamber of Greece (TEE)
 - 2011 – 2015 Research Institute of Visual Computing (RIVIC), Wales

Committees

- 2016 Faculty of Science and Engineering Research Ethics Committee (FSE-REC), University of Chester
- 2016 Program Committee (STAR) - Annual Conference of the European Association for Computer Graphics
- 2015 – 2016 Program Committee - Eurographics Eurovis Workshop on Visual Analytics (EuroVA)
- 2014 – 2016 Program Committee - Artificial Life and Intelligent Agents Symposium (ALIA)
 - 2012 Organising Committee - Virtual Learning Technologies (VLT)
 - 2008 Organising Committee - International Conference on Digital Interactive Media in Entertainment and Arts (DIMEA)
- 1999/00 Student Representative, Staff-Student Liaison Committee, Department of Electronic Systems Engineering, University of Essex, UK

Publications

- Journals:
- [1] J.C. Roberts, C. Headleand, and **P.D. Ritsos**, “Sketching designs using the Five Design-Sheet methodology”, *Transactions on Visualization and Computer Graphics (TVCG)*, IEEE, 22(1), pp.419-428, Jan. 2016
 - [2] H.C. Miles, A.T. Wilson, F. Labrosse, B. Tiddeman, **P.D. Ritsos**, J.W. Mearman, S. Griffiths, B. Edwards, K. Möller, R. Karl, and J.C. Roberts, “Alternative Representations of 3D-Reconstructed Heritage Data”, *Journal on Computing and Cultural Heritage (JOCCH)*, ACM, Vol.9, pp.4:1-4:18, 2015
 - [3] J.C. Roberts, **P.D. Ritsos**, S.K. Badam, D. Brodbeck, J. Kennedy, and N. Elmqvist, “Visualization Beyond the Desktop -The Next Big Thing”, *Computer Graphics and Applications (CG&A)*, IEEE, Vol.34, No.6, pp. 26–34, Nov.-Dec. 2014. (* invited for presentation in IEEE VIS 2015)
 - [4] R.L.S.F. George, P.R. Robins, A.G. Davis, **P.D. Ritsos**, and J.C. Roberts, “Interactive visual analytics of Hydrodynamic Flux for the Coastal zone”, *Environmental Earth Sciences*, pp. 1–14, May 2014.
 - [5] **P.D. Ritsos**, R. Gittins, S. Braun, C. Slater, and J.C. Roberts, “Training Interpreters Using Virtual Worlds”, *LNCS Transactions on Computational Science XVIII*, vol. 7848, pp. 21–40, May 2013.
 - [6] S.A. Panëels, **P.D. Ritsos**, P.J. Rodgers, and J.C. Roberts, “Prototyping 3D haptic data visualizations”, *Computers & Graphics*, vol. 37, Issue 3, pp. 179–192, May 2013.
- Conferences:
[refereed]
- [7] C.J. Headleand, T. Day, S.R. Pop, **P.D. Ritsos** and N.W. John, “A Cost-Effective Virtual Environment for Simulating and Training Powered Wheelchairs Manoeuvres”, *Proceedings of the NextMed/Medicine Meets Virtual Reality (MMVR) 22*, Los Angeles, CA, USA, Apr. 2016
 - [8] C.C. Gray, **P.D. Ritsos** and J.C. Roberts, “Contextual Network Navigation to provide Situational Awareness for Network Administrators”, *Proceedings of the IEEE Symposium on Visualization for Cyber Security (VizSec 2015)*, Chicago, IL, USA, Oct. 2015
 - [9] J.C. Roberts, L. ap Cenydd, **P.D. Ritsos**, R.L.S.F. George, W. Teahan, and R. Walker, “Visual Analytics with Storyboarding to Engender Multivocality and Comprehension of Microblog Data for Crisis Management”, *In proceedings of IST-116 Symposium on Visual Analytics*, Shrivvenham, UK, 28–29 Oct. 2013.
 - [10] **P.D. Ritsos**, R. Gittins, S. Braun, C. Slater, and J.C. Roberts, “Using Virtual Reality for Interpreter-mediated Communication and Training”, *In proceedings of Cyberworlds(CW), 2012 International Conference on*, pp. 191–198, Darmstadt, Germany, 25–27 Sep. 2012.
 - [11] **P.D. Ritsos**, D.J. Johnston, C. Clark, and A.F. Clark, “Engineering an Augmented Reality Tour Guide”, *In proceedings of IEE Euroearable '03*, pp. 119–124, Birmingham, UK, 4–5 Sep. 2003.
 - [12] **P.D. Ritsos**, D.J. Johnston, C. Clark, and A.F. Clark, “Mobile Augmented Reality Archaeological Reconstruction”, *In proceedings of: Unesco Conference on Architecture, Tourism and World Heritage*, Beijing, China, Oct. 2002.
- Workshops:
[refereed]
- [13] J.C. Roberts, C. Headleand, D. Perkins and **P.D. Ritsos**, “Personal Visualisation for Learning”, In C. Perin, A. Thudt, M. Troy, W. Willett and S. Carpendale, editors, *Proceedings of the Personal Visualization: Exploring Data in Everyday Life Workshop, IEEE Conference on Visualization (VIS 2015)*, Chicago, IL, USA, Oct. 2015
 - [14] C.H. Headleand, L. Priday, **P.D. Ritsos**, L. ap Cenydd, J.C. Roberts and W. Teahan, “Anthropomorphisation of Software Agents as a Persuasive Tool”, In J. Nicholson, L. Coventry, C. Elsdén, A. McNeil and P. Briggs, editors, *Proceedings of the Understanding Persuasion: HCI as a Medium for Persuasion Workshop, British HCI*, Lincoln, UK, Jul. 2015
 - [15] **P.D. Ritsos**, J.W. Mearman, A. Vande Moere and J.C. Roberts, “Sewn with Ariadne’s Thread - Visualizations for Wearable & Ubiquitous Computing”, In Y. Jansen, P. Isenberg, J. Dykes, S. Carpendale, and D. Keefe, editors, *Proceedings of the Death of the Desktop Workshop, IEEE Conference on Visualization (VIS 2014)*, Paris, Nov. 2014
 - [16] J.C. Roberts, J.W. Mearman and **P.D. Ritsos**, “The desktop is dead, long live the desktop! – Towards a multisensory desktop for visualization”, In Y. Jansen, P. Isenberg, J. Dykes, S. Carpendale, and D. Keefe, editors, *Proceedings of the Death of the Desktop Workshop, IEEE Conference on Visualization (VIS 2014)*, Paris, Nov. 2014
 - [17] **P.D. Ritsos**, A.T. Wilson, H.C. Miles, B. Tiddeman, F. Labrosse, and J.C. Roberts, “Community-driven generation of 3D and augmented web content for archaeology”, In R. Klein and P. Santos, editors, *12th Workshop on Graphics and Cultural Heritage (GCH)*, Eurographics Association, Darmstadt, Germany, pp. 25–28, Oct. 2014.
 - [18] **P.D. Ritsos** and J.C. Roberts, “Towards more Visual Analytics in Learning Analytics”, In Margit Pohl and Jonathan C. Roberts, editors, *Proceedings of the Fifth EuroVis Workshop on Visual Analytics (EuroVA)*, Eurographics Association, Swansea, UK, 9–10 Jun. 2014.

- Book Chapters: [19] **P.D. Ritsos**, “Mixed Reality - A paradigm for perceiving synthetic spaces”, in Reiche, M. and Gehmann, U. (eds.) *Real Virtuality*, Transcript-Verlag Bielefeld, pp. 283–310, 2014.
- [20] S. Braun, C. Slater, R. Gittins, **P.D. Ritsos**, and J.C. Roberts, “Interpreting in Virtual Reality: designing and developing a 3D virtual world to prepare interpreters and their clients for professional practice”, in D. Kiraly, S. Hansen-Schirra and K. Maksymski (eds). *New Prospects for Educating Language Mediators*, Gunter Narr Verlag, pp. 93–120, 2013.
- Books: [21] J.C. Roberts, C.J. Headleand, and **P.D. Ritsos**, *Think, Sketch, Plan: The FDS Methodology*, Springer. (to be published)
- Posters: [22] C.C. Gray, J.C. Roberts and **P.D. Ritsos**, “Where Can I Go From Here? Drawing Contextual Navigation Maps of the London Underground”, *Posters at the IEEE Conference on Visualization (IEEE VIS)*, Chicago, USA, Nov. 2015.
- [23] C.J. Headleand, T. Day, S.R. Pop, **P.D. Ritsos** and N.W. John, “Challenges and Technologies for Low Cost Wheelchair Simulation”, *Fifth Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM 2015)*, Chester, UK, Sep. 2015
- [24] **P.D. Ritsos**, M.R. Edwards, I.S. Shergill and N.W. John, “A Haptics-enabled Simulator for Transperineal Ultrasound-Guided Biopsy”, *Fifth Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM 2015)*, Chester, UK, Sep. 2015
- [25] J.C. Roberts, R. Walker, L. Roberts, R.S. Laramee and **P.D. Ritsos**, “Exploratory Visualization through Copy, Cut and Paste”, *Posters at the IEEE Conference on Visualization (IEEE VIS)*, Paris, France, Nov. 2014.
- [26] R.L.S.F. George, **P.D. Ritsos** and J.C. Roberts, “Interactive Oceanographic Visualization using spatially-aggregated Parallel Coordinate Plots”, *Posters of the Eurographics Conference on Visualization (EuroVis)*, Swansea, UK, Jun. 2014.
- [27] **P.D. Ritsos**, S.A. Panëels, P.J. Rodgers, and J.C. Roberts, “Towards a Formalized Process for Creating Haptic Data Visualizations”, *Posters at the IEEE Conference on Visualization (IEEE VIS)*, Atlanta, USA, Oct. 2013.
- [28] **P.D. Ritsos**, D.J. Johnston, C. Clark, and A.F. Clark, Mobile “Augmented Reality Archaeological Reconstruction”, *Postgraduate day*, Departments of Electronic Systems Engineering and Computer Science, University of Essex, Colchester, UK, Mar. 2003.
- Conferences: [29] **P.D. Ritsos**, N.W. John, and J.C. Roberts, “Standards in Augmented Reality - Towards Prototyping Haptic Medical AR”, *8th International Meeting on AR Standards*, Barcelona, Spain, Feb. 2013.
- [non-refereed] [30] **P.D. Ritsos**, D.P. Ritsos, and A. Gougoulis, “Standards for Augmented Reality: a User Experience perspective”, *2nd International Meeting on AR Standards*, Barcelona, Spain, Feb. 2011.
- Thesis: [31] **P.D. Ritsos**, *Architectures for Untethered Augmented Reality Using Wearable Computers*, PhD thesis, University of Essex, 2006.

Presentations and Seminars

- Presentations: “Visualization Beyond the Desktop - the next big thing”, *IEEE Conference on Visualization (VIS 2015)*, Invited CG&A papers, Chicago, Illinois, USA, Oct. 2015.
- “Visualization Beyond the Desktop - the next big thing”, *Research Seminar, University of Chester*, Chester, UK, Oct. 2015
 - “Sewn with Ariadne’s Thread - Visualizations for Wearable & Ubiquitous Computing”, *Death of the Desktop Workshop, IEEE Conference on Visualization (VIS 2014)*, Paris, France, Nov. 2014.
 - “Towards more Visual Analytics in Learning Analytics”, *Fifth EuroVis Workshop on Visual Analytics (EuroVA), Eurographics Association*, Swansea, UK, Jun. 2013.
 - “Evaluating Interpreting in Virtual Reality”, *New Computer Technologies - Animation and Games Workshop*, Bangor University, UK, May 2013.
 - “Excitement of VisWeek 2013”, *Visualization & Medical Graphics Group Seminars*, Bangor University, UK, Nov. 2013.
 - “Haptic Data Visualization”, *Visualization & Medical Graphics Group Seminars*, Bangor University, UK, Oct. 2013.

- "WeARable Computing - From the Qing Dynasty to Project Glass: Prototypes, Myths, Confusion and Lots of Wires...", *Visualization & Medical Graphics Group Seminars*, Bangor University, UK, Mar. 2013.
- "Project IVY – Interpreting in Virtual Reality", *IVY Dissemination Symposium: Exploiting Emerging Technologies to Prepare Interpreters and their Clients for Professional Practice*, Kia Oval, London, UK, Nov. 2012.
- "Project IVY – Interpreting in Virtual Reality", *Virtual Learning Technologies 2012*, Bangor University, UK, Oct. 2012.
- "Interpreting in Virtual Reality", *Virtual Worlds Education Forum*, Staffordshire University, UK, Mar. 2012.
- "Project IVY – Interpreting in Virtual Reality – Virtual Environment Development", *Creating Second Lives 2011: Blurring Boundaries*, Bangor University, UK, Sep. 2011.
- "Project IVY – Interpreting in Virtual Reality – Virtual Environment Development", *Visualization and Medical Graphics Group Seminars*, Bangor University, UK, Sep. 2011.

Vocational Seminars: **P.D. Ritsos**, M. Drakos, C. Vasilatos and N. Fountas, "ActionStreamer System Administrator Training", *Training Seminars*, Intracom-Telecom S.A., Athens, Greece, Jul. 2010.

- **P.D. Ritsos**, "HOL Mediation System Administrator Training", *Training Seminars*, Hellas OnLine S.A., Athens, Greece, Jul. 2010.