

RITA BORGO
PhD, MSc, BSc

List of Publications:

Dr Borgo research output was submitted by the Swansea University Computer Science Department to the recent REF2014.

INTERNATIONAL JOURNALS (Refereed)

- IJ1. **R. Borgo**, J. Deardren, M. W. Jones, "Order of Magnitude Markers: An Empirical Study on Large Magnitude Number Detection," **IEEE Transactions on Visualization and Computer Graphics**, Dec. 2014, DOI: [10.1109/TVCG.2014.2346428](https://doi.org/10.1109/TVCG.2014.2346428) .
- IJ2. **R. Borgo**, M. Wallace, D. Duke, C. Runciman, "*Generic Idioms: a Functional Approach to Scientific Visualization*", **Computer Graphics Forum**, 2014 (under submission).
- IJ3. H. Fang, Neil Mac Parthaláin, Andrew J. Aubrey, Gary K. L. Tam, **Rita Borgo**, Paul L. Rosin, Philip W. Grant, David Marshall, and Min Chen. 2014. Facial expression recognition in dynamic sequences: An integrated approach. **Pattern Recognition**. 47, 3 (March 2014).
- IJ4. H. Fang, G. K-L Tam, **R. Borgo**, A. J. Aubrey, P. W. Grant, P. L. Rosin, C. Wallraven, D. Cunningham, D. Marshall, Min Chen, "Visualizing Natural Image Statistics," **IEEE Transactions on Visualization and Computer Graphics**, vol. 19, no. 7, pp. 1228-1241, July, 2013.
- IJ5. **R. Borgo**, M. Chen, B. Daubney, E. Grundy, G. Heidemann, B. Höferlin, M. Höferlin, H. Leitte, D. Weiskopf, X. Xie, "*State of the Art Report on Video-Based Graphics and Video Visualization*", **Computer Graphics Forum** Intl. Journal, volume 31, number 8, year 2012, pp. 2450-2477.
- IJ6. **R. Borgo**, A. Abdul-Rahman, F. Mohamed, P.W. Grant, I. Reppa, L. Floridi, M. Chen, "*An Empirical Study on Using Visual Embellishments in Visualization*", **IEEE Transactions on Visualization and Computer Graphics**, Dec. 2012, vol. 18, num. 12, pp. 2759-2768, to be presented also at IEEE VisWeek 2012 Conference, 14-19 October 2012, Seattle, WA, USA. [acceptance rate 23%]
- IJ7. Y. Drocourt, **R. Borgo**, K. Scharrer, T. Murray, S.I. Bevan, M. Chen, "*Temporal Visualization of Boundary-based Geo-information Using Radial Projection*", **Computer Graphics Forum** Intl. Journal, volume 30, number 3, year 2011, pp. 981-990, presented also at EuroVis Conference 2011, May 31-June 3, Bergen, Norway [acceptance rate 17%].
- IJ8. **R. Borgo**, K. Proctor, M. Chen, H. Jänicke, T. Murray, I. M. Thornton, "*Evaluating the Impact of Task Demands and Block Resolution on the Effectiveness of Pixel-based Visualization*", **IEEE Transactions on Visualization and Computer Graphics**, Nov/Dec. 2010, vol. 16, num. 6, pp. 963-972, to be presented also at IEEE VisWeek 2010 Conference, 24-29 October 2010, Salt Lake City, Utah, USA. [acceptance rate 26%]
- IJ9. M. Hoferlin, E. Grundy, **R. Borgo**, D. Weiskopf, M. Chen, "*Video Visualization for Snooker Skill Training*", **Computer Graphics Forum** Intl. Journal, volume 29, number 3, year 2010, pp. 1053-1062, presented also at EuroVis Conference 2010, 9-11 June 2010, Bordeaux, France.
- IJ10. H. Jänicke, **R. Borgo**, M. Chen, J. Mason, "*Sound River: Semantically Rich Sound Illustration*", **Computer Graphics Forum** Intl. Journal, volume 29, number 2, year 2010, pp. 357-366, presented also at Eurographics Conference 2010, 3-7 May 2010, Norkkoping, Sweden [acceptance rate 21%].

- IJ11. D.J. Duke, **R. Borgo**, C. Runciman, and M. Wallace, “*Huge Data but Small Programs: Visualization Design via Multiple Embedded DSLs*”, Practical Applications of Declarative Languages (PADL’09), Lecture Notes in Computer Science, Volume 5418, pp. 31--45, Springer Verlag, 2009.
- IJ12. D. Duke, M. Wallace, **R. Borgo**, C. Runciman, “*Fine-grained Visualization Pipelines and Lazy Functional Languages*”, **IEEE Transactions on Visualization and Computer Graphics**, 12(5), Sept/Oct 2006, pp. 973-980, presented at IEEE Visualization 2006 Conference.

INTERNATIONAL CONFERENCES (Refereed)

- IC1. D. Thomas, **R. Borgo**, S. Hands, “*Visualization of Lattice Quantum Chromodynamics (LQCD) Data with Varying Chemical Potential*”, Eurovis 2014, Conference Proceedings, Swansea, UK, Jun. 9-13. Poster session.
- IC2. K. Proctor, **R. Borgo**, H. Fang, M. Chen and I. M. Thornton, “*A Design Study on Visualising Object Movement*”, CVM 2013 : Computational Visual Media Conference, Sept. 19-20, 2013, Hangzhou, China.
- IC3. M. Chen, D. Weiskopf, **R. Borgo**, M. Höferlin, K. Kurzhals, P. Legg, R. Netzel., S. Walton, “*Video Visualization*”, Eurographics 2013 – Tutorials, Eurographics 2011 International Conference, Girona, Spain, May 6-10 , 2013.
- IC4. **R. Borgo**, J. Kehrer, D. H.S. Chung, E. Maguire, R. S. Laramée, H. Hauser, M. Ward, M. Chen, “*Glyph-based Visualization: Foundations, Design Guidelines, Techniques and Applications*”, Eurographics 2013 – State of the Art Reports, pages 39-63, Eurographics 2013 International Conference, Girona, Spain, May 6-10 , 2013.
- IC5. **R. Borgo**, M. Chen, B. Daubney, E. Grundy, G. Heidemann, B. Höferlin, M. Höferlin, H. Leitte, D. Weiskopf, X. Xie, “*A Survey on Video-Based Graphics and Video Visualization*”, Eurographics 2011 – State of the Art Reports, pages 1- 23, Eurographics 2011 International Conference, Bangor, UK, April 11-15 , 2011.
- IC6. **R. Borgo**, K. Proctor, M. Chen and I.M. Thornton, “*Evaluating Pixel-based Visualization*”, 33rd European Conference on Visual Perception (ECVP), Lausanne, Switzerland, 22-26 August, 2010, published as Conference Proceedings on Perception Journal, Volume 39, Supplement, pp. 17.
- IC7. D.J. Duke, **R. Borgo**, C. Runciman, and M. Wallace, “*Experience report: visualizing data through functional pipelines*”, SIGPLAN Notices, 43(9) - Proc. Intl. Conf. on Functional Programming, pp. 379-382, ACM Press, 2008. [32% acceptance rate]
- IC8. **R. Borgo**, D.J. Duke, C. Runciman, and M. Wallace, “*The 2008 Visualization Design Contest: A Functional DSL for Multifield Data*”, IEEE Visualization Design Contest 2008, awarded second place, submission published on competition web page (http://2006-ieee-vis.sdsc.edu/2006_ieee_vis_data/2008/) .
- IC9. C. Runciman, D. Duke, **Rita Borgo**, Malcolm Wallace, “*Polytopes & Polytypes: Generic Isosurfacing & Functional Programming*”, 19th International Symposium on Implementation and Application of Functional Languages , IFL 2007, Freiburg, Germany, 27-29 September 2007, Conference Proceedings, pp 474-488. [Acceptance rate 42%]

- IC10. **R. Borgo**, D. Duke, M. Wallace, C. Runciman,
“*Mathematical Foundations for Generic Surfacing*”, IEEE Visualization 2007, Conference Proceedings, Sacramento, California, US, Oct. 28-Nov. 1 2007, Short Paper and Poster Session, (runner-up for Best Poster Award), IEEE Visualization 2007-Conference Compendium .
[Acceptance rate 52%]
- IC11. **R. Borgo**, D. Duke, C. Runciman, M. Wallace,
“*Foundations for Polytypic Visualization*”, UK e-Science All Hands Meeting 2007, Conference Proceedings (electronic copy), Nottingham, UK, Sett. 10-13 2007
- IC12. **R. Borgo**, D. Duke, M. Wallace, C. Runciman,
“*Multi-cultural Visualization: How Functional Programming can Enrich Visualization (and vice-versa)*”, Vision Modelling and Visualization 2006, Conference Proceedings, pp 245-251, Aachen, Germany, Nov. 22-24 2006. [acceptance rate 46%]
- IC13. **R. Borgo**, D. Duke, M. Wallace, C. Runciman,
“*Meshing with Grids: Towards Functional Abstractions for Grid-based Visualization*”, UK e-Science All Hands Meetings 2006, Conference Proceedings, pp257-264, Nottingham, UK, Sett. 18-21 2006
- IC14. J. Diepstraten, **R. Borgo**,
“*Evaluation of Different Diffuse Surface Reflection Models for Global Illumination*”, Eurographics 2006, Conference Proceedings (Electronic Copy), Vienna, Austria, Sett. 3-9 2006. [acceptance rate 42%]
- IC15. **R. Borgo**, M. Delle Piane, P. Cignoni,
“*Extracting Meta-Information From 3-Dimensional Shapes With Protégé*”, 8th International Protégé Conference, Conference Proceedings, Madrid, July 18- 21 2005. [acceptance rate 60%]
- IC16. **R. Borgo**, V. Pascucci
“*Dealing with Massive Volumetric Visualization with a Parallel Approach*”, TAM 04, Transnational Access Meeting, Report on HPC-Europa Project, Edinburgh, UK, Sept 16-18 2004
- IC17. **R. Borgo**, V. Pascucci, R. Scopigno
“*Massive Data Pre-Processing with a Cluster Based Approach*”, EGPGV 04, Eurographics/ACM Siggraph Symposium on Parallel Graphics and Visualization, Conference Proceedings, pp. 67-74, Grenoble, France, Jun 10-11 2004. [acceptance rate 51%]
- IC18. **R. Borgo**, R. Scopigno, P. Cignoni, V. Pascucci,
“*A Progressive Subdivision paradigm (PSP) for Large Scale Visualization*”, Visualization and Data Analysis 04, IS&T/SPIE's International Symposium on Electronic Imaging, Conference Proceedings, pp 223 -233, vol. 5295, San Jose CA, Jan 18- 22 2004. [acceptance rate 50%]
- IC19. **R. Borgo**, R. Scopigno, P. Cignoni, V. Pascucci,
“*A Progressive Subdivision paradigm (PSP)*”, Vision Modeling and Visualization 03, Conference Proceedings, pp. 441-449, Munich Germany, Nov 19- 21 2003. [acceptance rate 48%]
- IC20. **R. Borgo**, V. Pascucci,
“*Distributed Oriented Massive Data Management: Progressive Algorithms and Data Structures*”, CODATA 2002 Conference Proceedings, pp Montreal Canada, Sept 29- Oct 3 2002.

- IC21. **R. Borgo**, P. Cignoni, R. Scopigno,
“An Easy-to-use Visualization System for Huge Cultural Heritage Meshes”, VAST 01, Virtual Reality, Archaeology and Cultural Heritage Symposium, Conference Proceedings, pp. 121-130, EG/ACM Siggraph, Glyfada Athens, Nov 28-20 2001. [acceptance rate 36%]
- IC22. **R. Borgo**, P. Cignoni, R. Scopigno,
“An Easy-to-use Tool for Huge Meshes Visualization”, IEEE-Visualization 2001 Conference Compendium, San Diego CA-USA, Oct 21-26 2001. [acceptance rate 40%]

BOOK CHAPTERS (Refereed)

- B1. Chen, M., Floridi, L., **Borgo, R.**
“What Is Visualization Really For?”, In The Philosophy of Information Quality. (pp. 75-93). Springer, 2014.
- B2. **R. Borgo**, P. Cignoni, R. Scopigno
“Simplicial-based Multiresolution Volume Datasets Management: An Overview” in Brunette G., Hamann, B., Müller, H., and L. Linsen, *Geometric Modeling for Scientific Visualization*, Springer-Verlag, pp 309-328, Heidelberg, 2003.
- B3. **R. Borgo**
“Dealing with Massive Volumetric Visualization: Progressive Algorithms and Data Structures”, Ph.D. Thesis, published by Università degli Studi di Pisa, 2004, ISBN TD 8/04.
- B4. **R. Borgo**,
“Ordinamento in Profondità di Complessi Tetraedrali” (Depth Sorting of Tetrahedral Complexes), Master Thesis (Laurea), Università di Bologna, October 2000 (internal publications for the University Library, Università degli Studi di Bologna).

INTERNATIONAL WORKSHOPS (Refereed)

- WS1. A. Tarrell, A. Fruhling, R. Borgo, C. Forsell, G. Grinstein, J. Scholtz *“Toward Visualization Specific Heuristic Evaluation”*, position paper, BELIV Workshop, co-located event at IEEE VIS 2014, Paris, FR. (under submission)
- WS2. E. Grundy, M. Hoferlin, **R. Borgo**, M. Chen, D. Weiskopf, W. Griffiths, *“Making a Case for Visualization during Requirements Analysis”*, Refactoring Visualization from Experience Workshop, co-located IEEE Visualization 2009, Atlantic City, New Jersey, USA.
- WS3. **R. Borgo**, *“Foundations for Polytypic Visualization”*, e-Science All Hands Meeting 2007, Conference Proceedings, Nottingham, UK, Sett. 10-13 2007, Visualization Tools Workshop (co-organizer and invited speaker).

INTERNATIONAL PANELS AND TUTORIALS (Refereed)

- PT1. **R. Borgo**, B. Fisher, M. Gleicher, T. Ropisnki, C. Ware, *“Bridging the Gap Translating Perception and Cognition Expertise into Visualization Research and Practice”*. Panel session, IEEE Visualization 2014-online Conference Compendium, November 9-14, 2014.
- PT2. **R. Borgo**, E. Maguire, S. McDougall, M. Chen, *“Glyph based visualization”*, VIS 2014 International Conference, Tutorial, Paris, FR, Nov. 9-14, 2014 – online Conference compendium.

- PT3. **R. Borgo**, C. Forsell, A. Fruhling, G. Grinstein, J. Scholtz, A. Tarrell “*Toward Visualization-Specific Heuristic Evaluation*”, Workshop, co-located Eurovis 2014, Swansea, UK.
- PT4. M. Chen, D. Weiskopf, **R. Borgo**, M. Höferlin, K. Kurzhals, P. Legg, R. Netzel., S. Walton, “*Video Visualization*”, IEEE Vis 2013 International Conference – Tutorials, Atlanta, Georgia, US, Oct. 13-18, 2013.
- PT5. M. Chen, D. Weiskopf, **R. Borgo**, M. Hoferlin, K. Kurzhals, P. Legg, R. Netzel, S. Walton, “*Video Visualization*”, Eurographics 2013 International Conference, Tutorial, Girona, SP, May 2013.
- PT6. D. Duke, **R. Borgo**, C. Runciman and M. Wallace, “*Functional Streaming*”, IEEE Visualization 2008, Tutorial, Columbus, Ohio, US, Oct. 18-Oct. 24 2008.
- PT7. **R. Borgo**, D. Duke, “*Though this be madness yet there is method in it: The Importance of Mathematical Concepts Beneath Contemporary Visualization*”. David Banks, Hamish Carr, Roger Crawfis, Tamara Munzner, Valerio Pascucci, **Rita Borgo (Panel Chair and Moderator)**, David Duke (Panel Co-Chair and moderator), Panel session, IEEE Visualization 2007-Conference Compendium, pp50-52, October 28-November 1, 2007.

TECHNICAL REPORTS (Refereed)

- TR1. **R. Borgo**, K. Brodlić, “*State of The Art Report on GPU Visualization*”, vizNET Technical Report, UK Visualization Support Network, February 2009, www.viznet.ac.uk/documents.

WORKSHOP PAPERS (Refereed, Non International)

- N1. **R. Borgo**, V. Pascucci, R. Scopigno
“*Dealing with massive volumetric visualization: Progressive Algorithms and Data Structures*”, Primo Convegno Eurographics Italian Chapter, Milano Italy, July 11-12 2002
- N2. **R. Borgo**, R. Scopigno, P. Cignoni, V. Pascucci
“*PSP: Progressive Subdivision Paradigm for Large Scale Visualization*”, Secondo Convegno Eurographics Italian Chapter, Milano Italy, Sept. 25-26 2003

INTERNATIONAL PUBLICATIONS (Non Refereed)

- M1. **R. Borgo**, V. Pascucci, R. Scopigno
“*Dealing with Massive Volumetric Visualization: Progressive Algorithms and Data Structures*”, Ercim News, 51:46-47, October 2002.