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Administrative and Management
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Overview

Currently a Business Relationship Manager for Research IT within the University of Manchester supporting all departments related to e-Science and computational infrastructure, involving working as a project manager for numerous UKRI grants. Recently seconded as Visualisation Director for the Harwell Imaging Partnership at STFC/RAL and as Group Leader within the Scientific Computing Division in STFC/DL.

Research interests cover a broad background, specialising in visualization and mathematical topics associated with video, image and signal creation, analysis, processing and presentation. This has resulted in a short-term Fellowship with British Telecom, a published book *Fractal Geometry in Digital Imaging* by Academic Press, a series of editorial roles within proceedings, over 120 peer reviewed publications; and supervised to completion twenty-one successful MPhil/PhD students. Teaching has covered all academic levels from undergraduate to postgraduate; and is an Honorary Lecturer in Computer Science emphasizing at the MSc and PhD level. A University EIM (Emergency Incident Manager) and IT Services ITEM manager.

Employment

IT Relationship Manager

Administrative and Management
ITS Research IT
1 Feb 2015 → present

Research outputs

Correlative tomography of exceptionally preserved Jurassic ammonite implies hyponome-propelled swimming

Cherns, L., Spencer, A. R. T., Rahman, I., Garwood, R., Reedman, C., Burca, G., Turner, M., Hollingworth, N. T. J. & Hilton, J. M., 1 Apr 2022, In: *Geology*. 50, 4, p. 397–401

Multiple DOF for X-ray CT Hydrocarbon Exploration

Sandoval, M., Turner, M. & Morris, T., 8 Sep 2021. 4 p.

Core Imaging Library - Part I: a versatile Python framework for tomographic imaging

Jørgensen, J. S., Ametova, E., Burca, G., Fardell, G., Papoutsellis, E., Pasca, E., Thielemans, K., Turner, M., Warr, R., Lionheart, W. R. B. & Withers, P. J., 23 Aug 2021, In: *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 379, 2204, 20200192.

Core Imaging Library - Part II: multichannel reconstruction for dynamic and spectral tomography

Papoutsellis, E., Ametova, E., Delplancke, C., Fardell, G., Jørgensen, J. S., Pasca, E., Turner, M., Warr, R., Lionheart, W. R. B. & Withers, P. J., 23 Aug 2021, In: *Royal Society of London. Proceedings A. Mathematical, Physical and Engineering Sciences*. 379, 2204, 20200193.

Crystalline phase discriminating neutron tomography using advanced reconstruction methods

Ametova, E., Burca, G., Chilingaryan, S., Fardell, G., Jørgensen, J., Papoutsellis, E., Pasca, E., Warr, R., Turner, M., Lionheart, W. & Withers, P., 8 Jun 2021, In: *Journal of Physics D: Applied Physics*. 54, 325502.

A Computer Vision Encyclopedia-Based Framework with Illustrative UAV Applications

Morley, T., Morris, T. & Turner, M., 4 Mar 2021, In: *Computers*. 10, 3, p. 1-11 11 p., 29.

Controlling Game Objects Using Multiple Degrees-Of-Freedom

Sandoval Olive, M., Turner, M. & Morris, T., 10 Sep 2020. 8 p.

Encyclopaedia-based Framework for 3D Image Processing Applications

Morley, T., Morris, T. & Turner, M., 10 Sep 2020, p. 27-31. 5 p.

Interaction Framework within Collaborative Virtual Environments for Multiple Users each interacting with Multiple Degrees-Of-Freedom Controllers

Sandoval Olive, M., Turner, M. & Morris, T., 10 Sep 2020. 2 p.

SIRF: Synergistic Image Reconstruction Framework

Ovtchinnikov, E., Brown, R., Kolbitsch, C., Pasca, E., da Costa-Luis, C., Gillman, A. G., Thomas, B. A., Efthimiou, N., Mayer, J., Wadhwa, P., Ehrhardt, M. J., Ellis, S., Jorgensen, J., Matthews, J., Prieto, C., Reader, A. J., Tsoumpas, C., Turner, M., Atkinson, D. & Thielemans, K., 2020, In: *Computer Physics Communications*.

Controlling 3D Visualisations with Multiple Degrees of Freedom

Sandoval Olive, M., Morris, T. & Turner, M., 22 Jul 2019, (Accepted/In press) p. 1-5. 5 p.

CCPi-Regularisation toolkit for computed tomographic image reconstruction with proximal splitting algorithms

Kazantsev, D., Pasca, E., Turner, M. J. & Withers, P. J., 2019, In: *SoftwareX*. 9, p. 317-323 7 p.

Analysis of hair shine using rendering and subjective evaluation.

Ramesh, G., Turner, M., Schroeder, B. & Wortmann, F. J., 4 Oct 2018, In: *ACM Transactions on Applied Perception*.

Multiple Degrees-Of-Freedom Input Devices for Interactive Command and Control within Virtual Reality in Industrial Visualizations

Sandoval Olive, M., Morris, T. & Turner, M., 24 Jul 2018, (Accepted/In press). 4 p.

Exploring the potential of neutron imaging for life sciences on IMAT

Burca, G., Nagella, S., Clark, T., Tasev, D., Garwood, R., Spencer, A. & Turner, M., 2018, In: *Journal of Microscopy*.

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Turner, M., Morris, D. & Sandoval Olive, M., 14 Sep 2017, (Accepted/In press) *EG UK Computer Graphics and Visual Computing*. Eurographics Association, 3 p.

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Ramesh, G., Turner, M. & Wortmann, F., Jun 2016.

Design, control, and performance of the weed 6 wheel robot in the UK MOD grand challenge

Nagendran, A., Crowther, W., Turner, M., Lanzon, A. & Richardson, R., 16 Feb 2014, In: *Advanced Robotics*. 28, 4, p. 203-218 15 p.

Creating a Secure Distribution Cross-Portlet System: Experiences from OneVRE

Turner, M., Jones, M., Poschen, M., Procter, R., Rowley, A. & Schiebeck, T., 28 Jan 2013, In: *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 371, 1983, 12 p., 20120069.

Lies, damn lies and visualization: Will Metadata and Paradata be a Solution or a Curse?

Turner, M., Bentkowska-Kafel, A. (ed.), Denard, H. (ed.) & Baker, D. (ed.), Feb 2012, *Paradata and Transparency in Virtual Heritage: A volume of essays for the AHRC ICT Methods Network series, Digital Arts and Humanities*. Ashgate Publishing

Analysing False Positives and 3D Structure to Create Intelligent Thresholding and Weighting Functions for SIFT Features

Turner, M. & Ho, Y-S. (ed.), 2012, *Advances in Image and Video Technology*. Ho, Y-S. (ed.). Berlin / Heidelberg: Springer Nature, Vol. 7087. p. 190-201 12 p. (Lecture Notes in Computer Science).

FAW for Multi-exposure Fusion Features

Turner, M. & Ho, Y-S. (ed.), 2012, *Advances in Image and Video Technology*. Ho, Y-S. (ed.). Berlin/Heidelberg: Springer Nature, p. 289-300 12 p. (Lecture Notes in Computer Science).

FAW for Multi-exposure Fusion Features

May, M., Turner, M., Morris, T. & Ho, Y-S. (ed.), 2012, *Advances in Image and Video Technology*. Springer Nature, Vol. 7087. p. 289-300 12 p. (Lecture Notes in Computer Science).

Visualizing a spherical geological discrete element model of fault evolution

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May, M., Turner, M. & Morris, T., 7 Nov 2011, *Advances in Image and Video Technology: 5th Pacific Rim Symposium, PSIVT 2011, Gwangju, South Korea, November 20-23, 2011, Proceedings, Part I*. Ho, Y-S. (ed.). Heidelberg, Germany: Springer Nature, p. 289-300 12 p. (Lecture Notes in Computer Science; vol. 7087).

Porting the AVS/Express scientific visualization software to cray XT4

Leaver, G. W., Turner, M. J., Perrin, J. S., Mummery, P. M. & Withers, P. J., 28 Aug 2011, In: *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 369, 1949, p. 3398-3412 14 p.

Advantages of 3D extraction and spatial awareness within a videoconferencing environment

Rodriguez-Frias, M. M., Morris, T., Turner, M. & Rowley, A., 2011, *Theory and Practice of Computer Graphics 2011, TPCG 2011 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.*. Eurographics Association, p. 97-100 3 p.

An engineering development of a novel hexrotor vehicle for 3D applications

Langkamp, D., Roberts, G., Scillitoe, A., Llopis-Pascual, A., Zamecnik, J., Sam, P., Rodriguez-Frias, M., Turner, M., Lanzon, A. & Crowther, W., 2011, *International Micro Air Vehicle conference and competitions*. IMAV

Analysing false positives and 3D structure to create intelligent thresholding and weighting functions for SIFT features

May, M., Turner, M. & Morris, T., 2011, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)/Lect. Notes Comput. Sci.*. Gwanju: Springer Nature, Vol. 7087. p. 190-201 11 p.

Creating a Secure Distribution Cross-Portlet System for Sharing Electronic Documents: Experiences from the OneVRE Virtual Research Environment Project (extended abstract)

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Object Recognition from Infra Red image data for Mobile Platforms: Scale Invariant Feature Transform - A Graphical Parameter Analysis

Michael, M., Turner, M., Markham, K. & Morris, T., 2010, *host publication*. <http://www.mcmitp.com/>: MCM-ITP, p. 1-29--1-40

Porting AVS/Express to Cray XT4 [Extended Abstract]

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Recording and Replay of Multiple Simultaneous Videos [Extended Abstract]

Turner, M. & Procter, R. (ed.), 2010, *e-Science AHM 2010*. Procter, R. (ed.). National e-Science Centre

Remote scientific visualization for large datasets

Turner, M., Leaver, G. & Perrin, J., 2010, *Theory and Practice of Computer Graphics 2010, TPCG 2010 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.*. John Wiley & Sons Ltd, p. 159-166 7 p.

Scale invariant feature transform: A graphical parameter analysis

May, M., Turner, M. J. & Morris, T., 2010, *British Machine Vision Conference, BMVC 2010 - Proceedings/Br. Mach. Vis. Conf., BMVC - Proc.* BMVA Press

User Engagement and Requirements for Joining Portal based VRE through Access Grid Technologies [Extended Abstract]

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Visualization Matters

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Dancing on the grid: Using e-Science tools to extend choreographic research

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Discrete element modelling using a parallelised physics engine

Longshaw, S. M., Turner, M. J., Finch, E. & Gawthorpe, R., 2009, *Theory and Practice of Computer Graphics 2009, TPCG 2009 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.* John Wiley & Sons Ltd, p. 207-214 7 p.

Distributed Simulation System for UAV Computer Vision Systems

Proctor, S., Turner, M. & Crowther, W., 2009, *CEAS 2009*. Council of European Aerospace Societies

e-Dance: digital topographies and knowledge cartography in networked performance

Bailey, H., Buckingham-Shum, S., Popat, S. & Turner, M., 2009, *Proceedings of ISEA*. International Symposium on Electronic Art

Joining Portal-based VREs through Access Grid Technologies [Extended Abstract]

Turner, M. & de Roure, D. (ed.), 2009, *e-Science AHM 2009*. de Roure, D. (ed.). National e-Science Centre

Recognition and navigation for UAVs using computer vision

May, M., Proctor, S., Markham, K., Morris, T., Crowther, W. J. & Turner, M., 2009, *host publication*.

Towards object recognition using HDR video, stereoscopic depth information and SIFT

May, M., Morris, T., Markham, K., Crowther, W. J. & Turner, M. J., 2009, *Theory and Practice of Computer Graphics 2009, TPCG 2009 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.* p. 165-168 3 p.

Access Grid Anywhere

Blanc, A. L., Rowley, A., Schiebeck, T. & Turner, M., Jun 2008, *4th International Conference on e-Social Science*. National Centre for e-Social Science

Experiences of Using State of the Art Immersive Technologies for Geographic Visualization

Turner, M. & McDerby, M., 6 May 2008, *Geographic Visualization: Concepts, Tools and Applications/Geographic Visualization: Concepts, Tools and Appl.* John Wiley & Sons Ltd, p. 223-240 17 p.

Geographic Visualization: Concepts, Tools and Applications: concepts, tools and applications

Dodge, M., Mcderby, M. & Turner, M., 6 May 2008, chichester, england: John Wiley & Sons Ltd. 324 p.

The Power of Geographical Visualizations

Dodge, M., Mcderby, M. & Turner, M., 6 May 2008, *Geographic Visualization: Concepts, Tools and Applications/Geographic Visualization: Concepts, Tools and Appl.* John Wiley & Sons Ltd, p. 1-10 9 p.

A lemon is not a monstar: Visualization of singularities of symmetric second rank tensor fields in the plane

Liu, J., Hewitt, W. T., Lionheart, W. R. B., Montaldi, J. & Turner, M., 2008, *Theory and Practice of Computer Graphics 2008, TPCG 2008 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.*. Manchester: Eurographics Association, p. 99-106 7 p.

A physical model for the polarized scattering of light

Brayford, D., Turner, M. & Hewitt, W. T., 2008, *Theory and Practice of Computer Graphics 2008, TPCG 2008 - Eurographics UK Chapter Proceedings/Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.*. Eurographics Association, p. 17-26 9 p.

Announcement of the Portlet Access Grid

Blanc, A. L., Rowley, A., Schiebeck, T. & Turner, M., 2008, *host publication. AGRetreat*

Choreographic Morphologies: Digital Visualization of Spatio-Temporal Structures in Dance and the Implications for Performance and Documentation

Helen, B., Hewison, J. & Turner, M., 2008, *EVA. EVA (Electronic Visualisations in the Arts)*

Connecting Dancers – Remote Choreography

Schiebeck, T., Blanc, A. L., Rowley, A., Bailey, H., Popat, S., Turner, M. & McDerby, M., 2008, *Access Grid Retreat. AGRetreat*

Constructing and evaluating vibration magnitude models for visualization

Wang, Y., Turner, M. J. & Hewitt, W. T., 2008, *Symposium on Haptics Interfaces for Virtual Environment and Teleoperator Systems 2008 - Proceedings, Haptics/Symp. Haptics Interfaces Virtual Environ. Teleoperator Syst. - Proc., Haptics. IEEE*, p. 457-464 7 p.

e-Dance Project

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e-Dance: Relocating Choreographic Practice as a New Modality for Performance and Documentation

Bailey, H., Buckingham-Shum, S., Popat, S. & Turner, M., 2008, *Proceedings of ISEA2008. International Symposium on Electronic Art*, p. 41-43 3 p.

Embodying Interfaces: Stereobodies and Choreographic Morphologies

Bailey, H. & Turner, M., 2008, *DRHA 2008 (Digital Resources in the Humanities and Arts) Annual International Conference. DRHA*

Making High-end Visualization be in tune with High-end Parallel Computation

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Modes of virtual environments integrated within collaborative environments

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User-centered development of a Virtual Research Environment to support Collaborative Research Events

Poschen, M., Daw, M., Procter, R., Turner, M., Hanley, T., Slack, R., Hall, A., Jones, M., Jones, R., Le Blanc, A., Place, E., Rogers, N., Rowley, A., Schiebeck, T., Steer, D. & Williams, C., 2008, *National Centre for e-Social Science: International Conference on e-Social Science. National Centre for e-Social Science*, 10 p.

Deploying visualization applications as remote services [Extended Abstract]

Riding, M., Wood, J. D. & Turner, M. J., Sep 2007, *Proceedings of the UK e-Science All Hands Meeting. National e-Science Centre*

e-Dancing: The impact of VREs in defining new research methodologies for embodied, practice-led research in choreography and performance [Extended Abstract]

Bailey, H., Turner, M. & Blanc, A. L., Sep 2007, *Proceedings of the UK e-Science All Hands Meeting 2007*. National e-Science Centre

Enhancing the Value of Collaborative Research Events through Virtual Research Environments [Extended Abstract]

Daw, M., Procter, R., Hall, A., Slack, R., Turner, M., Jones, M., Poschen, M., Rogers, N. & Williams, C., Sep 2007, *Proceedings of the UK e-Science All Hands Meeting*. National e-Science Centre

Portalization Process for the Access Grid [Extended Abstract]

Rowley, A., Daw, M., Blanc, A. L., Schiebeck, T. & Turner, M., Sep 2007, *Proceedings of the UK e-Science All Hands Meeting*. National e-Science Centre

A Practice-led Choreographic Investigation using the Collaborative Stereoscopic Access Grid Environment

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'Virtual Learning Space' for Language Learning - Past, Present, Future

Blanc, A. L., Bunt, J. & Turner, M., Feb 2007, *Web Based Communities IADIS International Conference 2007*. IADIS International Association for Development of the Information Society

Adaptive infrastructure for visual computing

Brodie, K. W., Brooke, J., Chen, M., Chisnall, D., Hughes, C., John, N. W., Jones, M. W., Riding, M., Roard, N., Turner, M. & Wood, J. D., 2007, *Theory and Practice of Computer Graphics 2007, TPCG 2007 - Eurographics UK Chapter Proceedings: Celebrating 25 Years of the Eurographics UK Chapter|Theory Pract. Comput. Graph., TPCG - Eurographics UK Chapter Proc.: Celebrating Years Eurographics UK Chapter*. Eurographics Association, p. 147-156 9 p.

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Al-Hudhud, G. A. K., Ayesh, A., Turner, M. J. & Istance, H., Dec 2004, *5th International Conference on Recent Advances in Soft Computing (RASC2004)*. Nottingham Trent University

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Conditional entropy and randomness in financial time series

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