

# George Vogiatzis

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## Research Experience

### Lecturer in Computer Science

Aston University  
Full time UK academic post corresponding to ‘Assistant Professor’ of US universities. Work is roughly equally split between research and teaching duties (including postgraduate student supervision).

*Jan 2010–present*  
Birmingham, UK

### Senior Research Scientist

Toshiba Research Europe  
A full time industrial research post. I was a member of the Computer Vision Group doing research in cultural heritage digitization, photorealistic 3d animation as well as automotive applications.

*Apr 2006–Dec 2009*  
Cambridge, UK

## Education

### PhD in Computer Vision

Trinity College, Cambridge  
Thesis entitled: ‘Visual Estimation of Shape, Reflectance and Illumination’

*Oct 2002–Apr 2006*  
Cambridge, UK

### MSci (1<sup>st</sup> class) Mathematics and Computer Science

Imperial College

*Oct 1997–June 2001*  
London, UK

## Honors and Awards

### Junior Research Fellowship, 2006–2009

A prestigious, 4-year, non-stipendiary post-doctoral research fellowship awarded through annual international competition. I held this in conjunction with my post at Toshiba Research.

*Wolfson College, Cambridge*

### Cambridge Gates Scholarship, 2002–2005

A 3-year fees and expenses scholarship awarded by the Gates Cambridge Trust for PhD studies in Cambridge University

*Gates Cambridge Trust*

## Research Grants

### PhotoCapture, 2010–2011

Developing a system for digitizing architecture from images

Activision/Blizzard Inc, USA

EUR 140,000

(jointly with University of Verona)

### Photorealistic Faces, 2010–2011

Creating a system for capturing detailed facial expressions to be used in 3d animation applications in Computer Games.

Activision/Blizzard Inc, USA

USD 90,000

### Monocular Depth Sensor, 2011

Creating a low cost depth sensor from a single camera to be used in car obstacle avoidance.

Toshiba Research Cambridge, UK

GBP 7,500

## Journal articles

- [1] G.J. Brostow, C. Hernandez, G. Vogiatzis, B. Stenger, and R. Cipolla. Video normals from colored lights. *IEEE Trans. Pattern Anal. Mach. Intell.*, 33(10):2104–2114, October 2011.
- [2] C. Hernández, G. Vogiatzis, and R. Cipolla. Multi-view photometric stereo. *IEEE Trans. Pattern Anal. Mach. Intell.*, 30(1):548–554, March 2008.
- [3] C. Hernández, G. Vogiatzis, and R. Cipolla. Overcoming shadows in 3-source photometric stereo. *IEEE Trans. Pattern Anal. Mach. Intell.*, 33(2):419–426, February 2011.
- [4] G. Vogiatzis and C. Hernández. Self-calibrated, multi-spectral photometric stereo for 3d face capture. *Intl. Journal of Computer Vision*, to appear in 2011, 2011.
- [5] G. Vogiatzis, C. Hernández, P. H. S. Torr, and R. Cipolla. Multi-view stereo via volumetric graph-cuts and occlusion robust photo-consistency. *IEEE Trans. Pattern Anal. Mach. Intell.*, 29(12):2241–2246, December 2007.
- [6] G. Vogiatzis, P. H. S. Torr, S. M. Seitz, and R. Cipolla. Reconstructing relief surfaces. *Image and Vision Computing*, 26(3):397–404, March 2008.
- [7] George Vogiatzis and Carlos Hernández. Video-based, real-time multi-view stereo. *Image and Vision Computing*, 29(7):434 – 441, 2011.

## Book chapters

- [1] C. Hernández and G. Vogiatzis. *Computer Vision: Detection, Recognition and Reconstruction*, chapter 11 – Shape from Photographs: A Multi-view Stereo Pipeline, pages 281–312. Springer-Verlag, 2010.
- [2] G. Vogiatzis and C. Hernández. *Computer Vision: Detection, Recognition and Reconstruction*, chapter 12 – Practical 3D Reconstruction Based on Photometric Stereo, pages 330–347. Springer-Verlag, 2010.

## Papers in refereed conferences

- [1] N. Campbell, G. Vogiatzis, C. Hernández, and R. Cipolla. Automatic 3d object segmentation in multiple views using volumetric graph-cuts. In *Proc. British Machine Vision Conf. (BMVC)*, volume 1, pages 530–539, 2007.
- [2] N. Campbell, G. Vogiatzis, C. Hernández, and R. Cipolla. Using multiple hypotheses to improve depth-maps for multi-view stereo. In *Proc. 10<sup>th</sup> Europ. Conf. on Computer Vision (ECCV)*, 2008.
- [3] C. Hernández and G. Vogiatzis. Self-calibrating a real-time monocular 3d facial capture system. In *International Symposium on 3D Data Processing Visualization and Transmission (3DPVT)*, 2010.
- [4] C. Hernández, G. Vogiatzis, G. J. Brostow, B. Stenger, and R. Cipolla. Non-rigid photometric stereo with colored lights. In *Proc. 11<sup>th</sup> Intl. Conf. on Computer Vision (ICCV)*, 2007.

- [5] C. Hernández, G. Vogiatzis, and R. Cipolla. Probabilistic visibility for multi-view stereo. In *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2007.
- [6] C. Hernández, G. Vogiatzis, and R. Cipolla. Shadows in three-source photometric stereo. In *Proc. 10<sup>th</sup> Europ. Conf. on Computer Vision (ECCV)*, 2008.
- [7] G. Vogiatzis, P. Favaro, and R. Cipolla. Using frontier points to recover shape, reflectance and illumination. In *Proc. 10<sup>th</sup> Intl. Conf. on Computer Vision (ICCV)*, pages 228–235, 2005.
- [8] G. Vogiatzis, C. Hernández, and R. Cipolla. Lighting-up geometry: accurate 3d modelling of museum artifacts with a torch and a camera. In *Proc. of Eurographics 2006 (Short papers)*, pages 85–88, 2006.
- [9] G. Vogiatzis, C. Hernández, and R. Cipolla. Reconstruction in the round using photometric normals and silhouettes. In *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, pages 1847–1854, 2006.
- [10] G. Vogiatzis, P. H. S. Torr, and R. Cipolla. Bayesian stochastic mesh optimization for 3d reconstruction. In *Proc. British Machine Vision Conf. (BMVC)*, pages 711–718, 2003.
- [11] G. Vogiatzis, P. H. S. Torr, and R. Cipolla. Multi-view stereo via volumetric graph-cuts. In *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, volume 1, pages 391–398, 2005.
- [12] G. Vogiatzis, P. H. S. Torr, S. M. Seitz, and R. Cipolla. Reconstructing relief surfaces. In *Proc. British Machine Vision Conf. (BMVC)*, pages 117–126, 2004.

## Patents

- [1] R. Cipolla, G. Vogiatzis, P. Favaro, R. Funayama, and H. Yanagihara. Reflectance and illumination properties from varying illumination. Patent No. WO/2007/042844UK, Application No. PCT/GB2006/050325, Filed in 2005, Granted in 2007.
- [2] R. Cipolla, G. Vogiatzis, and C. Hernández. Imaging system and method. Patent No. WO/2010/041584, Application No. PCT/JP2009/067136, Filed in 2006, Granted in 2010.