

# Dr. Ir. Peter Vangorp

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## Employment

- 2016– **Lecturer**, *Edge Hill University, Department of Computer Science, Ormskirk, United Kingdom.*  
**Deputy Director of the Creative Virtual Reality Lab.**  
supervisor Prof. Dr. Nik Bessis
- 2015–2016 **Research Officer**, *Bangor University, School of Computer Science, Bangor, United Kingdom.*  
Supported by EU FP7 project RASimAs: Regional Anaesthesia Simulator and Assistant  
supervisor Dr. Franck P. Vidal
- 2015 **Software R&D Engineer**, *Astral Dynamics Cyf, Deiniolen, United Kingdom.*  
Supported by Natural Resources Wales
- 2014–2015 **Research Officer**, *Bangor University, School of Computer Science, Bangor, United Kingdom.*  
Supported by the High Performance Computing Wales Research and Innovation Fund  
supervisor Dr. Rafał K. Mantiuk
- 2012–2015 **Post-doctoral Researcher**, *Max Planck Institute for Informatics, Saarbrücken, Germany.*  
Supported by a Max Planck Society post-doctoral fellowship  
supervisors Prof. Dr. Karol Myszkowski and Prof. Dr. Hans-Peter Seidel
- 2011–2012 **Post-doctoral Researcher**, *Gießen University, Department of Psychology, Germany.*  
Supported by DFG Reinhardt-Koselleck-Projekt “Wahrnehmung von Materialeigenschaften”  
supervisor Dr. Roland W. Fleming
- 2009–2011 **Post-doctoral Researcher**, *Inria / REVES, Sophia-Antipolis, France.*  
Supported by an Inria post-doctoral fellowship and Collaborative Research Initiative ARC NIEVE  
supervisor Dr. George Drettakis
- 2005–2009 **Research Assistant**, *University of Leuven, Department of Computer Science, Belgium.*  
Partially supported by grant CREA/08/017 from the Research Fund K.U.Leuven  
supervisor Prof. Dr. Ir. Philip Dutré

## Education

- 2017–2018 **PGCert in Teaching in Higher Education**, *Edge Hill University, United Kingdom.*
- 2005–2009 **Ph.D. in Engineering – Computer Science**, *Katholieke Universiteit Leuven, Belgium.*  
thesis title *Human Visual Perception of Materials in Realistic Computer Graphics*  
supervisor Prof. Dr. Ir. Philip Dutré
- 2002–2005 **MSc in Engineering – Computer Science**, *Katholieke Universiteit Leuven, Belgium.*  
thesis title *Multispectral Rendering*  
supervisor Prof. Dr. Ir. Philip Dutré
- 2000–2002 **BSc in Engineering**, *Katholieke Universiteit Leuven, Belgium.*

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## Publications

h-index: 9 (source: Google Scholar)

JCR 2-year Impact Factors for the year of publication and Google Scholar citation counts as of April 2017 are listed where available.

### Journal Articles (11)

BARLA, P., PACANOWSKI, R., AND VANGORP, P., 2018. A composite BRDF model for hazy gloss. *Computer Graphics Forum (Proc. Eurographics Symposium on Rendering 2018)*, 37, 4, 55–66. doi:10.1111/cgf.13475. **Best paper award**. [Impact Factor: 2.046].

VANGORP, P., BARLA, P., AND FLEMING, R. W., 2017. The perception of hazy gloss. *Journal of Vision*, 17, 5, 19:1–17. doi:10.1167/17.5.19. [Impact Factor: 2.266].

MUKHERJEE, R., DEBATTISTA, K., BASHFORD-ROGERS, T., VANGORP, P., MANTIUK, R. K., BESSA, M., WATERFIELD, B., AND CHALMERS, A., 2016. Objective and subjective evaluation of High Dynamic Range video compression. *Signal Processing: Image Communication*, 47, 426–437. doi:10.1016/j.image.2016.08.001. [Impact Factor: 2.244, Citations: 1].

VANGORP, P., MYSZKOWSKI, K., GRAF, E. W., AND MANTIUK, R. K., 2015. A model of local adaptation. *ACM Transactions on Graphics (Proc. ACM SIGGRAPH Asia 2015)*, 34, 6, 166:1–13. doi:10.1145/2816795.2818086. [Impact Factor: 4.218, Citations: 5].

KELLNHOFER, P., RITSCHER, T., VANGORP, P., MYSZKOWSKI, K., AND SEIDEL, H.-P., 2014. Stereo day-for-night: Retargeting disparity for scotopic vision. *ACM Transactions on Applied Perception*, 11, 3, 15:1–17. doi:10.1145/2644813. Special issue for **best papers** of ACM Symposium on Applied Perception 2014. [Impact Factor: 0.652, Citations: 4].

VANGORP, P., RICHARDT, C., COOPER, E. A., CHAURASIA, G., BANKS, M. S., AND DRETTAKIS, G., 2013. Perception of perspective distortions in image-based rendering. *ACM Transactions on Graphics (Proc. ACM SIGGRAPH 2013)*, 32, 4, 58:1–12. doi:10.1145/2461912.2461971. [Impact Factor: 3.725, Citations: 12].

CIRIO, G., VANGORP, P., CHAPOULIE, E., MARCHAL, M., LÉCUYER, A., AND DRETTAKIS, G., 2012. Walking in a cube: Novel metaphors for safely navigating large virtual environments in restricted real workspaces. *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE Virtual Reality 2012)*, 18, 4, 546–554. doi:10.1109/TVCG.2012.60. [Impact Factor: 1.898, Citations: 23].

VANGORP, P., CHAURASIA, G., LAFFONT, P.-Y., FLEMING, R. W., AND DRETTAKIS, G., 2011. Perception of visual artifacts in image-based rendering of façades. *Computer Graphics Forum (Proc. Eurographics Symposium on Rendering 2011)*, 30, 4, 1241–1250. doi:10.1111/j.1467-8659.2011.01983.x. [Impact Factor: 1.636, Citations: 17].

BÉNARD, P., LAGAE, A., VANGORP, P., LEFEBVRE, S., DRETTAKIS, G., AND THOLLOT, J., 2010. A dynamic noise primitive for coherent stylization. *Computer Graphics Forum (Proc. Eurographics Symposium on Rendering 2010)*, 29, 4, 1497–1506. doi:10.1145/1837026.1837079. [Impact Factor: 1.476, Citations: 20].

LAGAE, A., VANGORP, P., LENAERTS, T., AND DUTRÉ, P., 2010. Procedural isotropic stochastic textures by example. *Computers & Graphics*, 34, 4, 312–321. doi:10.1016/j.cag.2010.05.004. [Impact Factor: 0.735, Citations: 18].

VANGORP, P., LAURIJSEN, J., AND DUTRÉ, P., 2007. The influence of shape on the perception of material reflectance. *ACM Transactions on Graphics (Proc. ACM SIGGRAPH 2007)*, 26, 3, 77:1–9. doi:10.1145/1275808.1276473. [Impact Factor: 3.413, Citations: 94].

## Conference Papers (4)

ANKOMAH, P. AND VANGORP, P., 2018. Virtual reality: A literature review and metrics-based classification. In *Proc. Computer Graphics & Visual Computing 2018*, 173–181. doi: <https://doi.org/10.2312/cgvc.20181222>.

VANGORP, P., MANTIUK, R. K., BAZYLUK, B., MYSZKOWSKI, K., MANTIUK, R., WATT, S. J., AND SEIDEL, H.-P., 2014. Depth from HDR: Depth induction or increased realism? In *Proc. ACM Symposium on Applied Perception 2014*, 71–78. doi:10.1145/2628257.2628258. [Citations: 1].

CABRAL, M., VANGORP, P., CHAURASIA, G., CHAPOULIE, E., HACHET, M., AND DRETTAKIS, G., 2011. A multimode immersive conceptual design system for architectural modeling and lighting. In *Proc. IEEE 3D User Interfaces 2011*, 15–18. doi:10.1109/3DUI.2011.5759211. [Citations: 4].

VANGORP, P. AND DUTRÉ, P., 2008. Shape-dependent gloss correction. In *Proc. Applied Perception in Graphics and Visualization 2008*, 123–130. doi:10.1145/1394281.1394304. [Citations: 12].

## Others

BARLA, P., VANGORP, P., ZUBIAGA, C. J., AND FLEMING, R. W., 2016. Specular kurtosis and the perception of hazy gloss. *Journal of Vision (Proc. Vision Sciences Society 2016)*, 16, 12, 942. doi:10.1167/16.12.942. Talk.

EDWARDS, M. R., VANGORP, P., AND JOHN, N. W., 2015. Towards a high resolution grip measurement device for orthopaedics. In *Proc. IEEE Virtual Reality 2015*, 325–326. doi:10.1109/VR.2015.7223427. Research demonstration.

VANGORP, P., MYSZKOWSKI, K., GRAF, E. W., AND MANTIUK, R. K., 2015. An empirical model for local luminance adaptation in the fovea. *Perception (Proc. European Conference on Visual Perception 2015)*, 44, 1 (suppl.), 98. doi:10.1177/0301006615598674. Oral presentation.

VANGORP, P. AND FLEMING, R. W., 2012. Glossiness of layered materials. *Journal of Vision (Proc. Vision Sciences Society 2012)*, 12, 9, 874. doi:10.1167/12.9.874. Poster.

BÉNARD, P., LAGAE, A., VANGORP, P., LEFEBVRE, S., DRETTAKIS, G., AND THOLLOT, J., 2010. NPR Gabor noise for coherent stylization. *ACM SIGGRAPH 2010*, 40. doi:10.1145/1837026.1837079. Talk. [Citations: 1].

LAGAE, A., VANGORP, P., LENAERTS, T., AND DUTRÉ, P., 2009. Isotropic stochastic procedural textures by example. Technical Report CW 546, Dept. Computer Science, KU Leuven, Belgium. [Citations: 1].

VANGORP, P., 2009. *Human Visual Perception of Materials in Realistic Computer Graphics*. Ph.D. thesis, KU Leuven, Belgium. [Citations: 3].

VANGORP, P., CONDON, T. S., FERWERDA, J. A., BALA, K., SCHOUKENS, R., AND DUTRÉ, P., 2009. Visual equivalence in dynamic scenes. Technical Report CW 557, Dept. Computer Science, KU Leuven, Belgium. [Citations: 3].

VANGORP, P., DUMONT, O., LENAERTS, T., AND DUTRÉ, P., 2006. A perceptual heuristic for shadow computation in photo-realistic images. *ACM SIGGRAPH 2006*, 102. doi:10.1145/1179849.1179977. Sketch. [Citations: 4].

VANGORP, P. AND YSKOUT, K., 2005. *Multispectral Rendering*. Master's thesis, Dept. Computer Science, KU Leuven, Belgium.

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## Grants

- 2018 Edge Hill University Impact & Knowledge Exchange Fund (co-investigator)
- 2018 NVIDIA Academic Partnership equipment grant (co-investigator)
- 2017 NVIDIA Academic Partnership equipment grant (co-investigator)

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## Peer Reviewing

- program committee  
ACM SIGGRAPH Asia Technical Briefs & Posters 2017  
ACM Symposium on Applied Perception 2011, 2015–2018  
Eurographics UK Computer Graphics & Visual Computing 2017–2018  
IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR) 2018  
International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN) 2018  
International Conference on 3D Web Technology (Web3D) 2012–2013
- reviewer  
ACM SIGGRAPH / ACM SIGGRAPH Asia (ACM Transactions on Graphics) 2010, 2013–2018  
Eurographics Conference (Computer Graphics Forum) 2008, 2011, 2014, 2016–2017  
ACM Transactions on Applied Perception 2011, 2013–2018  
i-Perception 2017  
International Journal of Human-Computer Interaction 2017  
IEEE Transactions on Visualization and Computer Graphics 2008, 2014, 2016  
IEEE Computer Graphics & Applications 2016  
Eurographics Symposium on Rendering (Computer Graphics Forum) 2014–2015  
High Performance Graphics 2015  
Computers & Graphics 2015  
IET Image Processing 2014–2015  
Vision Research 2014  
Art & Perception 2014  
ACM SIGCHI (ACM Transactions on Computer-Human Interactions) 2013  
Eurographics/IEEE-VGTC Symposium on Visualization (Eurovis) 2008  
IEEE International Conference on Multimedia & Expo 2008

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## Teaching and Supervision

- 2018 **Creative Applications in VR and AR.** MSc Module Leader. Edge Hill University.
- 2017–2018 **Computer Graphics & Modelling, Web Design & Development.** BSc Tutor. Edge Hill University.
- 2016–2018 **Programming.** BSc Tutor. Edge Hill University.
- 2016–2018 **Games Engines.** BSc Module Leader. Edge Hill University.
- 2017 **Visionary Render** extracurricular certification. Instructor. Edge Hill University.
- 2016–2017 **Team Project, Research & Development Methods.** BSc Tutor. Edge Hill University.
- 2015 **Designing Perceptual Experiments.** Lecturer. COST Action IC-1005 High Dynamic Range Imaging Training School. Brno, Czech Republic.
- 2014–2015 **Computer Vision.** Guest lecturer, teaching assistant. MSc. Bangor University.
- 2013–2014 **Perception for Computer Graphics.** Advanced lecture course. MSc. University of Saarland, Germany. With Prof. Dr. Karol Myszkowski and Dr. Tobias Ritschel.
- 2013–2014 **Realistic Image Synthesis.** BSc Teaching assistant. University of Saarland, Germany.
- 2007 **Perception.** Guest lecture in Selected Topics in Multimedia. MSc. University of Hasselt, Belgium.
- 2006–2007 **Ray Tracing and Global Illumination.** Refresher lecture. MSc. Katholieke Universiteit Leuven, Belgium.
- 2006–2008 **Introduction to Computer Graphics.** MSc Teaching assistant. Katholieke Universiteit Leuven, Belgium.
- 2017– Supervision (Director of Studies) of 1 PhD student and 1 MRes student.
- 2016–2018 Supervision of 16 BSc dissertations and 4 MSc dissertations.
- 2013–2014 Co-supervision of 1 research assistant.
- 2010–2011 Co-supervision of 6 MSc internships.
- 2006–2009 Co-supervision of 10 MSc theses.

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## Invited Talks

- 14 October 2015 A Model of Local Adaptation, VMG Seminar Series, Bangor University, United Kingdom
- 12 November 2012 Perception of Slant for Image-Based Rendering, Nice, France
- 8 December 2011 Perceived Angles in Textures of Façades, VCL Lunch Talks, UC Berkeley, CA, USA
- 25 November 2011 Perception of Slant for Image-Based Rendering, Nice, France
- 25 November 2011 Materials in Stereo, Nice, France
- 11 June 2009 Visual Equivalence in Dynamic Scenes, FMSCG 2009, Diepenbeek, Belgium
- 3 June 2008 Shape-Dependent Gloss Correction, FMSCG 2008, Heverlee, Belgium
- 27 July 2007 The Influence of Shape on the Perception of Material Reflectance (presented by P. Dutré), APGV 2007, Tübingen, Germany
- 12 July 2007 The Influence of Shape on the Perception of Material Reflectance, FMSCG 2007, Diepenbeek, Belgium
- 13 July 2006 A Perceptual Heuristic for Shadow Computation in Photo-Realistic Images, FMSCG 2006, Heverlee, Belgium

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## Other Measures of Esteem

- certificates Associate Fellow of the Higher Education Academy  
Unity Certified Developer
- awards Best paper award at Eurographics Symposium on Rendering 2018  
Top 5 paper award at ACM Symposium on Applied Perception 2014
- fellowships Inria postdoctoral fellowship 2009–2010  
Max Planck postdoctoral fellowship 2012–2014
- organizing Assisted in Eurographics Conference 2009 paper sort (unofficial)  
Global Game Jam @ Edge Hill University 2017–2018
- memberships ACM SIGGRAPH member, since 2007
- media Early work on navigation and interaction in immersive virtual environments [Cirio et al. 2012] was covered by French regional TV station France 3
- misc. Contributed an image to Held et al., Current Biology 22, 5 (February 2012)  
Also featured as the cover image of Informatik Spektrum 36, 4 (August 2013)

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## Software Development

- programming Expert on C, modern C++, C#, Java; Proficient in Python, Shell scripting; Experience with parallel programming, HPC clusters, MPI, and OpenMP
- 3D graphics Expert on physically based ray tracing, image-based rendering, stereo 3D, virtual reality; Experience with real-time rendering using OpenGL, GLSL and Cg shader programming, X3D and H3D haptics
- game dev. Experience with Unity3D
- web dev. Experience with modern HTML, CSS, and JavaScript
- scientific Expert on Matlab and PsychToolbox;  $\LaTeX$

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## Languages

- Dutch native
- English fluent
- French basic
- German basic
- Welsh notions