

Dr. Ir. Peter Vangorp

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Employment

- 2019– **Senior Lecturer**, *Edge Hill University, Dept. Computer Science*, Ormskirk, United Kingdom.
- 2018– **Technical Lead of the Visual Computing Lab**.
- 2016–2018 **Deputy Director of the Creative Virtual Reality Lab**.
- 2016–2019 **Lecturer**.
supervisor Prof. Dr. Nik Bessis
- 2015–2016 **Research Officer**, *Bangor University, School of Computer Science*, United Kingdom.
supervisor Dr. Franck P. Vidal
- 2015 **Software R&D Engineer**, *Astral Dynamics Cyf, Deiniolen*, United Kingdom.
- 2014–2015 **Research Officer**, *Bangor University, School of Computer Science*, United Kingdom.
supervisor Dr. Rafał K. Mantiuk
- 2012–2015 **Post-doctoral Researcher**, *Max Planck Institute for Informatics*, Saarbrücken, Germany.
supervisors Prof. Dr. Karol Myszkowski and Prof. Dr. Hans-Peter Seidel
- 2011–2012 **Post-doctoral Researcher**, *Giessen University, Department of Psychology*, Germany.
supervisor Dr. Roland W. Fleming
- 2009–2011 **Post-doctoral Researcher**, *Inria, REVES project*, Sophia-Antipolis, France.
supervisor Dr. George Drettakis
- 2005–2009 **Research Assistant**, *University of Leuven, Department of Computer Science*, Belgium.
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**, *University of 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**, *University of Leuven*, Belgium.
thesis title *Multispectral Rendering*
supervisor Prof. Dr. Ir. Philip Dutré
- 2000–2002 **BSc in Engineering**, *University of Leuven*, Belgium.

Publications

Citations: 384

h-index: 9 (source: Google Scholar)

JCR 2-year Impact Factors for the year of publication and Google Scholar citation counts as of August 2019 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. Implementation included in Unity 2018.** [Impact Factor: 2.373].

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, Citations: 4].

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: 22].

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: 17].

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: 7].

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: 17].

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: 45].

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: 26].

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: 34].

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: 30].

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: 136].

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: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: 4].

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: 3].

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: 14].

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. [Citations: 2].

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: 6].

VANGORP, P., 2009. *Human Visual Perception of Materials in Realistic Computer Graphics*. Ph.D. thesis, KU Leuven, Belgium. [Citations: 6].

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: 6].

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.

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)

Peer Reviewing

- program committee
- ACM SIGGRAPH Asia Technical Briefs & Posters 2017
 - ACM Symposium on Applied Perception 2011, 2015–2019
 - Eurographics UK Computer Graphics & Visual Computing 2017–2019
 - IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR) 2018
 - International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN) 2018-2019
 - International Conference on 3D Web Technology (Web3D) 2012–2013
- reviewer
- ACM SIGGRAPH / ACM SIGGRAPH Asia (ACM Transactions on Graphics) 2010, 2013–2019
 - ACM Transactions on Applied Perception 2011, 2013–2019
 - Eurographics Conference (Computer Graphics Forum) 2008, 2011, 2014, 2016–2017
 - 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

Teaching

- 2016–
- At Edge Hill University:
- Games Engines, Computer Graphics.** BSc Module Leader.
 - Functional Programming.** MComp Module Leader.
 - Virtual Reality, Data Visualisation, Advanced Programming.** MSc Module Leader.
 - Programming, Web Design & Development, Team Project, R&D Methods.** BSc Tutor.
 - Visionary Render** extracurricular certification. Instructor.
- 2015
- Designing Perceptual Experiments.** Lecturer. High Dynamic Range Imaging Training School.
- 2014–2015
- Computer Vision.** Guest lecturer, teaching assistant. MSc. Bangor University.
- 2013–2014
- Perception for Computer Graphics.** MSc Module Leader. University of Saarland, Germany.
- 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. University of Leuven, Belgium.
- 2006–2008
- Introduction to Computer Graphics.** MSc Teaching assistant. University of Leuven, Belgium.

Supervision

- 2017–
- Supervision (Director of Studies) of 1 PhD, 2 MRes; co-supervision of 1 PhD; advisor of 1 ProfDoc at Edge Hill University.
- 2016–
- Supervision of 30 BSc, 5 MComp, and 5 MSc at Edge Hill University, one of whom won the Lisa Ratcliffe Study Prize for Best Dissertation in the Faculty of Arts and Sciences.
- 2013–2014
- Co-supervision of 1 research assistant at Max Planck Institute for Informatics.
- 2010–2011
- Co-supervision of 6 MSc at Inria, one of whom is currently a postdoctoral researcher.
- 2006–2009
- Co-supervision of 10 MSc at University of Leuven, one of whom went on to obtain a Ph.D.

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

Other Measures of Esteem

- certificates Fellow of the Higher Education Academy
Unity Certified Developer
- memberships Professional Member of the British Computer Society
ACM SIGGRAPH member
- 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
- organising Assisted in Eurographics Conference 2009 paper sort (unofficial)
Global Game Jam @ Edge Hill University 2017–2019
- industry Unity 2018 includes an implementation of [Barla et al. 2018]
- media Early work on [Cirio et al. 2012] 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)

Software Development

- programming Expert on C, C++, C#, Java; Proficient in Python, Shell scripting; Experience with parallel programming, HPC clusters
- 3D graphics Expert on physically based ray tracing, image-based rendering, stereoscopic 3D, virtual reality; Experience with real-time rendering using OpenGL, GLSL and Cg shader programming
- game dev. Proficient with Unity3D
- web dev. Experience with HTML5, CSS, and JavaScript ES6
- scientific Expert on Matlab and PsychToolbox; \LaTeX

Languages

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