List of publications - Yvain Quéau

Ph.D Thesis

[T1] **Quéau, Y.,** "Reconstruction tridimensionnelle par stéréophotométrie". Thèse de doctorat. Université de Toulouse, 2015. 308 p. URL : `https://hal.archives-ouvertes.fr/tel-01261526`. **(Léopold Escande 2016 award)**.

International peer-reviewed publications

Journal articles

[J5] **Quéau, Y.**, Mecca, R., Durou, J.-D., Descombes, X., "Photometric Stereo with Only Two Images : A Theoretical Study and Numerical Resolution". *Image and Vision Computing* 57 (2017). Elsevier, p. 175–191. **(Editor's choice)**.

[J4] Bähr, M., Breuss, M., **Quéau, Y.**, Boroujerdi, A. S., Durou, J.-D., "Fast and Accurate Surface Normal Integration on Non-Rectangular Domains". *Computational Visual Media* 3.2 (2017). Springer, p. 107–129.

[J3] Mecca, R., **Quéau, Y.**, Logothetis, F., Cipolla, R., "A Single Lobe Photometric Stereo Approach for Heterogenous Material". *SIAM Journal on Imaging Sciences* 9.4 (2016). SIAM, p. 1858–1888.

[J2] **Quéau, Y.**, Modrzejewski, R., Gurdjos, P., Durou, J.-D., "A full photometric and geometric model for attached webcam/matte screen devices". *Signal Processing : Image Communication* 40 (2016). Elsevier, p. 65–81.

[J1] **Quéau, Y.**, Lauze, F., Durou, J.-D., "Solving Uncalibrated Photometric Stereo using Total Variation". *Journal of Mathematical Imaging and Vision* 52.1 (2015). Springer, p. 87–107.

Preprints of journal articles currently under review

[P3] **Quéau, Y.**, Durix, B., Wu, T., Cremers, D., Lauze, F., Durou, J.-D., "LED-based Photometric Stereo : Modeling, Calibration and Numerical Solution". URL : `https://arxiv.org/abs/1707.01018`.

[P2] **Quéau, Y.**, Durou, J.-D., Aujol, J.-F., "Normal Integration – Part II : New Insights". URL : `https://hal.archives-ouvertes.fr/hal-01334351`.

[P1] **Quéau, Y.**, Durou, J.-D., Aujol, J.-F., "Normal Integration – Part I : A Survey". URL : `https://hal.archives-ouvertes.fr/hal-01334349`.

Conference Proceedings

[C15] Peng, S., Häfner, B., **Quéau, Y.**, Cremers, D., "Depth Super-Resolution Meets Uncalibrated Photometric Stereo". In : *International Conference on Computer Vision Workshops (ICCVW)*. IEEE. Venice, Italy, 2017. 8 p.

[C14] **Quéau, Y.**, Wu, T., Lauze, F., Durou, J.-D., Cremers, D., "A Non-Convex Variational Approach to Photometric Stereo under Inaccurate Lighting". In : *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. IEEE. Honolulu, USA, 2017. 10 p.

[C13] **Quéau, Y.**, Wu, T., Cremers, D., "Semi-Calibrated Near-Light Photometric Stereo". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, p. 656–668.

[C12] Lauze, F., **Quéau, Y.**, Sorensen, H.-O., "Simultaneous Reconstruction and Segmentation of CT Scans with Shadowed Data". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, p. 308–319.

[C11] Mélou, J., **Quéau, Y.**, Durou, J.-D., Castan, F., Cremers, D., "Beyond Multi-view Stereo : Shading-Reflectance Decomposition". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, p. 694–705.

[C10] **Quéau, Y.**, Pizenberg, M., Durou, J.-D., Cremers, D., "Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing ". In : *International Conference on Quality Control by Artificial Vision (QCAV)*. T. 1338. Proceedings of SPIE. SPIE Digital Library. Tokyo, Japan, 2017. 7 p.

[C9] **Quéau, Y.**, Mecca, R., Durou, J.-D., "Unbiased Photometric Stereo for Colored Surfaces : A Variational Approach". In : *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. IEEE. Las Vegas, USA, 2016, p. 3707–3716.

[C8] Hoeltgen, L., **Quéau, Y.**, Breuß, M., Radow, G., "Optimised photometric stereo via non-convex variational minimisation". In : *British Machine Vision Conference (BMVC)*. BMVA Press. York, UK, 2016. 12 p.

[C7] Logothetis, F., Mecca, R., **Quéau, Y.**, Cipolla, R., "Near-Field Photometric Stereo in Ambient Light". In : *British Machine Vision Conference (BMVC)*. BMVA Press. York, UK, 2016. 12 p.

[C6] Mecca, R., **Quéau, Y.,** "Unifying diffuse and specular reflections for the photometric stereo problem". In : *IEEE Winter Conference on Applications of Computer Vision (WACV)*. IEEE. Lake Placid, USA, 2016. 9 p.

[C5] Breuß, M., **Quéau, Y.**, Bähr, M., Durou, J.-D., "Highly Efficient Surface Normal Integration". In : *Algoritmy Conference on Scientific Computing (ALGORITMY)*. Slovak University of Technology. Podbanske, Slovakia, 2016, p. 204–213.

[C4] **Quéau, Y.**, Lauze, F., Durou, J.-D., "A L1-TV Algorithm for Robust Perspective Photometric Stereo with Spatially-Varying Lightings". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 9087. Lecture Notes in Computer Science. Springer. Lège Cap-Ferret, France, 2015, p. 498–510.

[C3] **Quéau, Y.**, Durou, J.-D., "Edge-Preserving Integration of a Normal Field : Weighted Least Squares, TV and L1 Approaches". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 9087. Lecture Notes in Computer Science. Springer. Lège Cap-Ferret, France, 2015, p. 576–588.

[C2] **Quéau, Y.**, Durou, J.-D., "Some Illumination Models for Industrial Applications of Photometric Stereo". In : *International Conference on Quality Control by Artificial Vision (QCAV)*. T. 9534. Proceedings of SPIE. SPIE Digital Library. Le Creusot, France, 2015. 7 p.

[C1] **Quéau, Y.**, Lauze, F., Durou, J.-D., "Solving the Uncalibrated Photometric Stereo Problem using Total Variation)". In : *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM)*. T. 7893. Lecture Notes in Computer Science. Springer. Schloss Seggau, Austria, 2013, p. 270–281. **(Article selected for publication of an extended version in Journal of Mathematical Imaging and Vision)**.

National peer-reviewed publications

Articles in French journals

[JF1] **Quéau, Y.**, Durou, J.-D., Durix, B., Charvillat, V., "Stéréophotométrie non calibrée en présence d'écarts au modèle lambertien". *Traitement du Signal* 31.1-2 (2014). Lavoisier, p. 107–141.

Preprints of French journal articles currently under review

[PF1] **Quéau, Y.**, Durix, B., Lucas, T., Boumaza, J., Durou, J.-D., Lauze, F., "Fusion de données RVB-D par stéréophotométrie colorée". URL : `https://hal.archives-ouvertes.fr/hal-01409663v1`.

Proceedings of French Conferences

[CF10] **Quéau, Y.**, Pizenberg, M., Cremers, D., Durou, J.-D., "Stéréophotométrie microscopique sans démosaïquage". In : *Colloque GRETSI*. Juan-les-Pins, France, 2017. 4 p.

[CF9] Mélou, J., **Quéau, Y.**, Durou, J.-D., Castan, F., Cremers, D., "Estimation de la réflectance à partir de données multi-vues". In : *Orasis, Congrès des jeunes chercheurs en vision par ordinateur*. AFRIF. Colleville-sur-Mer, France, 2017. 8 p.

[CF8] **Quéau, Y.**, Durix, B., Lucas, T., Boumaza, J., Durou, J.-D., Lauze, F., "Fusion de données RVB-D par stéréophotométrie colorée". In : *Congrès Francophone de Reconnaissance des Formes et Intelligence Artificielle (RFIA)*. AFRIF-AFIA. Clermont-Ferrand, France, 2016. 8 p. **(Article selected for publication of an extended version in Traitement du Signal)**.

[CF7] Durix, B., **Quéau, Y.**, Lucas, T., Boumaza, J., Durou, J.-D., Lauze, F., "Étalonnage de sources lumineuses de type LED". In : *Congrès Francophone de Reconnaissance des Formes et Intelligence Artificielle (RFIA)*. AFRIF-AFIA. Clermont-Ferrand, France, 2016. 8 p.

[CF6] **Quéau, Y.**, Durou, J.-D., Descombes, X., "Que peut-on apprendre d'une scène vue par une webcam à partir d'images prises au cours d'une journée ensoleillée ?" In : *Orasis, Congrès des jeunes chercheurs en vision par ordinateur*. AFRIF. Amiens, France, 2015. 8 p.

[CF5] **Quéau, Y.**, Durou, J.-D., "Intégration d'un champ de gradient rapide et robuste aux discontinuités - Application à la stéréophotométrie". In : *Congrès Francophone de Reconnaissance des Formes et Intelligence Artificielle (RFIA)*. AFRIF-AFIA. Rouen, France, 2014. 8 p.

[CF4] **Quéau, Y.**, Modrzejewski, R., Gurdjos, P., Durou, J.-D., "Transformation d'un dispositif multimédia webcam-écran en un scanner 3D". In : *COmpression et REprésentation des Signaux Audiovisuels (CORESA)*. IUT de Reims. Reims, France, 2014. 6 p. **(Best presentation award - Article selected for publication of an extended version in Signal Processing : Immage Communications)**.

[CF3] **Quéau, Y.**, Durou, J.-D., "Résolution du problème de la stéréophotométrie non calibrée par estimation de l'intensité des éclairages". In : *Orasis, Congrès des jeunes chercheurs en vision par ordinateur*. AFRIF. Cluny, France, 2013. 8 p. **(Article selected for publication of an extended version in Traitement du Signal)**.

[CF2] Durix, B., **Quéau, Y.**, Charvillat, V., Durou, J.-D., "Quels prétraitements pour la stéréophotométrie non calibrée ?" In : *Orasis, Congrès des jeunes chercheurs en vision par ordinateur*. AFRIF. Cluny, France, 2013. 8 p.

[CF1] Durou, J.-D., **Quéau, Y.**, Charvillat, V., "Résolution de la stéréophotométrie par apprentissage". In : *Congrès Francophone de Reconnaissance des Formes et Intelligence Artificielle (RFIA)*. AFRIF-AFIA. Lyon, France, 2012. 8 p.