

# List of publications - Yvain Quéau

## Ph.D Thesis

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

## International peer-reviewed publications

### Journal articles

- [J6] **Quéau, Y.**, Durix, B., Wu, T., Cremers, D., Lauze, F., Durou, J.-D., “LED-based Photometric Stereo: Modeling, Calibration and Numerical Solution”. *Journal of Mathematical Imaging and Vision* (2017). Springer, 28 p. (to appear).
- [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, pp. 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, pp. 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, pp. 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, pp. 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, pp. 87–107.

### Preprints of journal articles currently under review

- [P3] Mélou, J., **Quéau, Y.**, Durou, J.-D., Castan, F., Cremers, D., “Variational Reflectance Estimation from Multi-view Images”. 20 p. URL: <https://arxiv.org/abs/1709.08378>.
- [P2] **Quéau, Y.**, Durou, J.-D., Aujol, J.-F., “Variational Methods for Normal Integration”. 24 p. URL: <https://arxiv.org/abs/1709.05965>.
- [P1] **Quéau, Y.**, Durou, J.-D., Aujol, J.-F., “Normal Integration: A Survey”. 18 p. URL: <https://arxiv.org/abs/1709.05940>.

### Conference Proceedings

- [C16] **Quéau, Y.**, Mélou, J., Castan, F., Cremers, D., Durou, J.-D., “A Variational Approach to Shape-from-shading Under Natural Illumination”. In: *Energy Minimization Methods for Computer Vision and Pattern Recognition (EMMCVPR)*. Springer. Venice, Italy, 2017. 14 p.
- [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)*. Vol. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, pp. 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)*. Vol. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, pp. 308–319.

- [C11] Mérou, 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)*. Vol. 10302. Lecture Notes in Computer Science. Springer. Kolding, Denmark, 2017, pp. 694–705. **(Article selected for publication of an extended version in Journal of Mathematical Imaging and Vision)**.
- [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)*. Vol. 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, pp. 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: *Algorithmy Conference on Scientific Computing (ALGORITMY)*. Slovak University of Technology. Podbanske, Slovakia, 2016, pp. 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)*. Vol. 9087. Lecture Notes in Computer Science. Springer. Lège Cap-Ferret, France, 2015, pp. 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)*. Vol. 9087. Lecture Notes in Computer Science. Springer. Lège Cap-Ferret, France, 2015, pp. 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)*. Vol. 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)*. Vol. 7893. Lecture Notes in Computer Science. Springer. Schloss Seggau, Austria, 2013, pp. 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, pp. 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] Mérou, 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: Image 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.