

Mathieu Aubry

PERSONAL INFORMATION AND CONTACT

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Nationality	French
Birth date	May 1st, 1987

PROFESSIONAL EXPERIENCE

Sept 2014-present, École des Ponts ParisTech (ENPC, Champs-sur-Marne, France)
Permanent researcher in Computer Vision.

Jan 2015-Dec 2015, University of California, Berkeley (Berkeley, CA, United States)
Visiting scholar with Alexei Efros.

Oct 2011-Sept 2014, WILLOW team at INRIA-ENS (Paris, France) and CVPR group at TU München (Munich, Germany)
PhD on the analysis of 3D shapes and their relationship to 2D depictions (including paintings and drawings).

Oct 2011-Apr 2012, TU München (Munich, Germany)
Associate researcher in the Computer Vision and Pattern Recognition group of Daniel Cremers, working on 3D shape descriptions and supervising a seminar on feature descriptors.

Feb 2011-Sept 2011, Adobe System Inc. (Cambridge, MA, United States)
Intern under the supervision of Sylvain Paris (Adobe) and Frédo Durand (MIT), working on detail manipulation in images and image statistics.

Aug 2010-Dec 2010, TU München (Munich, Germany)
Associate researcher in the Computer Vision and Pattern Recognition group of Daniel Cremers, working on camera calibration and 3D shape descriptions.

Apr 2009-Aug 2009, University of California, Berkeley (Berkeley, CA, United States)
Visiting scholar, working in the Linguistics department with Georges Lakoff on the mathematical understanding and representation of space (research internship for the École Polytechnique).

EDUCATION

PhD in Computer Science.
ENS (Paris, France)

Master degree in Mathematics, Vision and Machine Learning.
ENS Cachan (Cachan, France)

Engineering degree (Mathematics and Informatics).
École des Ponts ParisTech (ENPC, Champs-sur-Marne, France)

Engineering degree (Fundamental Physics and Biology).
École Polytechnique (Palaiseau, France)

LANGUAGES

French, English, German. Notions of Spanish, Latin and ancient Greek.

MAIN PUBLICATIONS

3D-CODED: 3D Correspondences by Deep Deformation, T. Groueix, M. Fisher, V. Kim, B. Russell, M. Aubry, *European Conference on Computer Vision (ECCV)*, 2018

Virtual Training for a Real Application: Accurate Object-Robot Relative Localization Without Calibration, V. Loing, R. Marlet, M. Aubry, *International Journal of Computer Vision (IJCV)*, 2018

AtlasNet: A Papier-Mâché Approach to Learning 3D Surface Generation, T. Groueix, M. Fisher, V. Kim, B. Russell, M. Aubry, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018

What You Sketch Is What You Get: 3D Sketching using Multi-View Deep Volumetric Prediction, J. Delanoy, A. Bousseau, M. Aubry, P. Isola, A. Efros *ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*

Crafting a multi-task CNN for viewpoint estimation, F. Massa, R. Marlet and M. Aubry *British Machine Vision Conference (BMVC)*, 2016

Deep Exemplar 2D-3D Detection by Adapting from Real to Rendered Views, F. Massa, B. Russell, M. Aubry *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016

Learning Dense Correspondence via 3D-guided Cycle Consistency, T. Zhou, P. Krähenbühl, M. Aubry, Q. Huang, A. Efros *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016

Dex-Net 1.0: A Cloud-Based Network of 3D Objects for Robust Grasp Planning Using a Multi-Armed Bandit Model with Correlated Rewards, J. Mahler, F. Pokorny, B. Hou, M. Roderick, M. Laskey, M. Aubry, K. Kohlhoff, T. Kroeger, J. Kuffner, K. Goldberg *IEEE International Conference on Robotics and Automation, (ICRA)*, 2016

Understanding Deep features with computer-generated imagery, M. Aubry, B. Russell *International Conference on Computer Vision (ICCV)*, 2015

Anisotropic Laplace-Beltrami operators for shape analysis, M. Andreux, E. Rodolà, M. Aubry, D. Cremers, *European Conference on Computer Vision (ECCV) - Sixth workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA)*, 2014

Seeing 3D chairs: exemplar part-based 2D-3D alignment using a large dataset of CAD models, M. Aubry, D. Maturana, B. Russell, A. Efros and J. Sivic, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014 (oral, 5.75% acceptance rate)

Painting-to-3D Model Alignment Via Discriminative Visual Elements, M. Aubry, B. Russell and J. Sivic, *ACM Transactions on Graphics*, 2014 (presented at SIGGRAPH 2014)

A Super-resolution Framework for High-Accuracy Multiview Reconstruction, B. Goldluecke, M. Aubry, K. Kolev, D. Cremers, *International Journal of Computer Vision (IJCV)*, 2014

Fast Local Laplacian Filters: Theory and Applications, M. Aubry, S. Paris, S. Hasinoff, J. Kautz, F. Durand, *ACM Transactions on Graphics*, 2014 (presented at SIGGRAPH 2014)

The Wave Kernel Signature: A Quantum Mechanical Approach To Shape Analysis, M. Aubry, U. Schlickewei, D. Cremers, *IEEE International Conference on Computer Vision (ICCV) - Workshop on Dynamic Shape Capture and Analysis (4DMOD)*, 2011, *European patent*, 2012

Decoupling Photometry and Geometry in Dense Variational Camera Calibration, M. Aubry, K. Kolev, B. Goldluecke, D. Cremers, *IEEE International Conference on Computer Vision (ICCV)*, 2011

Pose-Consistent 3D Shape Segmentation Based on a Quantum Mechanical Feature Descriptor, M. Aubry, U. Schlickewei, D. Cremers, *Pattern Recognition (Proc. DAGM)*, Springer, 2011