Simon Labouesse | Resume

89 grand rue Marcillat en Combraille – 03420 – FRANCE
+33 6 38 48 88 64 • simon.labouesse@gmail.com
https://sites.google.com/view/simonLabouesse
Birth date : August, 22nd 1990 Nationality : French

PhD student in optics, photonics and image processing.
Currently working on super-resolution for optical imager.

Education

Fresnel Institut **2014–2017**
Ph.D. in optics, photonics and image processing *Marseille, France*
Theoretical study of active optical imager with unknown illuminations, creation of algorithms dedicated to fluorescence microscopy under speckle illumination. Supervisor : Anne Sentenac (Director of Research CNRS), Marc Allain (Assistant professor)

École Centrale de Nantes **2010–2014**
M. Sc. in Automatic, Signal and Image *Nantes, France*
Master Degree (Automatic, Signal and Image) and engineer Degree of École Centrale de Nantes

Internship

IPHT **6 months, 2014**
Master thesis on Structured Illumination Microscopy (SIM) *Jena, Germany*
Improvement of SIM reconstruction speed (Matlab and Julia) and comparison of different illumination patterns for SIM. Supervisor : Rainer Heintzmann (Professor)

ISIT **4 months, 2013**
Surface mesh from noisy data *Puy-en-Velay, France*
Development of a surface mesh algorithm from noisy point cloud (c++). Supervisor : Antoine Vacavant (Assistant professor)

ATEME **10 months, 2012–2013**
HEVC video encoder and 4K video format demonstration *Vélizy-Paris, France*
Creation of an HEVC video encoder (c++) and of a demonstrator for 4K satellite transmission and 4K TV display. Supervisor : Jérôme Vieron (Director research and innovation ATEME)

Publications

Simon Labouesse, Awoke Negash, Jérôme Idier, Sébastien Bourguignon, Thomas Mangeat, Penghuan Liu, Anne Sentenac, and Marc Allain. Joint reconstruction strategy for structured illumination microscopy with unknown illuminations. *IEEE Transactions on Image Processing*, 26(5):2480–2493, 2017.

Alix Le Marois, Simon Labouesse, Klaus Suhling, and Rainer Heintzmann. Noise-corrected principal component analysis of fluorescence lifetime imaging data. *Journal of biophotonics*, 2016.

Awoke Negash, Simon Labouesse, Nicolas Sandeau, Marc Allain, Hugues Giovannini, Jérôme Idier, Rainer Heintzmann, Patrick C Chaumet, Kamal Belkebir, and Anne Sentenac. Improving the axial and lateral resolution of three-dimensional fluorescence microscopy using random speckle illuminations. *JOSA A*, 33(6):1089–1094, 2016.

Talks

Mathematics In Imaging **2017**
OSA International conference *San Fransisco, USA*

Mathematics In Imaging **2016**
OSA International conference *Heidelberg, Germany*

JIONC **2016**
Days of unconventional optical imaging *ESPCI, Paris, France*

JIONC **2015**
Days of unconventional optical imaging *ESPCI,Paris, France*

GRETSI **2015**
Symposium dedicated to signal processing *ENS, Lyon, France*

Posters

FOM **2017**
International Conference, Focus On Microscopy *Bordeaux, France*

ICIP **2016**
IEEE International Conference on Image Processing *Phoenix, USA*

Inphyniti **2016**
Physical Interfaces, Digital and Theoretical *Paris, France*

BCP **2015**
Biologists, Chimists and Physicist *Marseille, France*

Teaching

C programming language **2014–2017**
bachelor's Degree *164h*

Acquisition, signal and image processing **2016–2017**
master's Degree *30h*

Research area: signal processing for microscopy

- Fluorescence microscopy
- Super-resolution
- Linear algebra
- Convex optimization
- Inverse problems