



## Education

- 2002 – 2006** PhD in Signal Processing and Telecommunications, University of Rennes 1 , France
- 2001 – 2002** Master's Degree in Electrical Engineering, majoring in Image Processing, University of Rennes 1 , France
- 2000 – 2001** Maîtrise EEA, University of Rennes 1, France
- 1999 – 2000** Licence EEA (BS in Electrical Engineering), University of Rennes 1, France
- 1995 – 1998** DEUG Sciences de la Matière (two-year university degree in Physics), University of Rennes 1, France.

## Key skills

14 years of research experience in Computer Vision and Remote Sensing • experience in a knowledge transfer environment (for the media production industry) • track record of publications in international scientific journals and conferences • programming in C++, Python, MATLAB • oral presentation • scientific proposal and report writing • proficient in English, French and Spanish • basic German

## Experience

### Mar. 2015 – present Senior Researcher

Computer Vision & Remote Sensing Group, Technical University Berlin, Germany

- TomoSAR project (DFG, German Research Foundation):
- Information extraction from tomographic SAR images
- Development of object extraction methods
- Processing of 3D point clouds

### Sep. 2011 – Sep. 2014 Postdoctoral Researcher

Computer Vision & Remote Sensing Group, Technical University Berlin, Germany

- AnalySAR II project (DFG, German Research Foundation):
- Combining object detection and physical model inversion in multi-dimensional SAR (Synthetic Aperture Radar) images
- Unsupervised extraction of geometric structures from 3D point clouds
- Multi-dimensional speckle noise filtering
- Development of efficient algorithms (C++)
- Numerical simulation, data analysis (python – scipy)

### Nov. 2007 – Dec. 2010 Research Scientist

Barcelona Media Innovation & Research Center, Barcelona, Spain

- i3media project (CENIT-2007-1012): video processing for post-production in the media industry
- Development of algorithms in C++ for:
  - Interactive segmentation and tracking
  - Motion layer extraction and depth ordering
  - Alpha-matting of highly textured images
- Collaboration with the Image Processing Group (Universitat Pompeu Fabra, Spain) on image and video analysis

### Mar. 2006 – Sep. 2007 Postdoctoral Researcher

Active Remote Sensing Lab, Polytechnic University of Catalonia, Barcelona, Spain

- Statistical and spatial analysis of Synthetic Aperture Radar images
- Collaboration with Geoscience Rennes and IFREMER on sea floor analysis with SONAR images.
- Model validation using numerical simulations (MATLAB) & real data
- Statistical analysis
- Automatic extraction of sand-ripples frequency (MATLAB)

### Oct. 2002 – Feb. 2006 Ph.D. Student

Institute of Electronics and Telecommunication of Rennes, University of Rennes 1, France

- Introduction of a new model for non-stationary anisotropic texture in SAR images
- Development of a model inversion method
- Fast approximation by a computationally efficient descriptor
- Application to anisotropic filtering of speckle noise in SAR images

### Mar. – Sep. 2002 Research Assistant

Institute of Electronics and Telecommunication of Rennes

- MCMC-based unsupervised classification of polarimetric SAR data
- Implementation in C++

### Jul. – Sep. 2001 Research Assistant

Geophysical Imagery team of the Geosciences Rennes Lab University of Rennes 1, France

- Experiments on acoustic signal control by simulated annealing and neural networks

### Jan. – Jun. 2001 Research Assistant

Signal and Image Processing Lab, LTSI, University of Rennes 1, France

- Spectral analysis of biophysical signals (Auditory Evoked Potentials)

**Jul. – Sep. 2000 Research Assistant**

Geophysical Imagery team of the Geosciences Rennes Lab

- Contribution to the realization of an experimental tomography site

**Computer Skills**

- Programming: C/C++, python, MATLAB, bash, basic html and javascript
- Operating systems: Linux, OS X, MS Windows

**Supervision**

- Master's Thesis on Riemannian distance based non-local means filtering
- Student Assistant project (development of a fast visualizer for SAR data)

**Awards & Grants**

- Torres Quevedo fellowship (Spanish Ministry of Education and Science, 2008 – 2010)
- Student paper award from the international EUSAR 2004 conference

**Scientific Activities**

- Reviewer for several journals and conferences (IEEE, Springer, Elsevier, ISPRS)
- Oral presentations in international conferences (IGARSS, EUSAR, etc)
- Session chair in international conferences (IGARSS '12 & '14)
- PolSAR-BLF open source package: <https://github.com/odhondt/PolSAR-BLF>

**Professional Development**

- Mining of Massive Datasets (2014), online course from Stanford University (USA). Certification: Statement of Accomplishment with Distinction.

**Languages**

- French (native)
- English (fluent)
- Spanish (fluent)
- German (basic)

**Hobbies & Interests**

Drums • photography • running • traveling • open source projects: <https://github.com/odhondt>

**Publications**

A full publication list is available on request