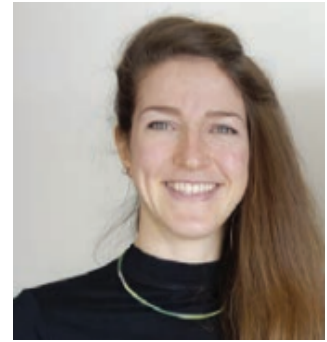


Curriculum Vitae

Name **Marie DIDIER**
Address
Telephone
E-mail marie.didier@epfl.ch
Nationality French
Date of birth May, the 6th 1987



Occupational field

♦ **Non destructive optical methods** ♦
♦ **Art & Science** ♦

Work experience

May 2013 – ongoing



PhD student,

Marie Curie Early Stage Researcher (FINON network)

Non destructive, label-free, time resolved non linear imaging of neuronal activity.

Nonlinear optics, second harmonic generation, data denoising, Neurosciences, microscopy.

Supervisor: Sylvie Roke, sylvie.roke@epfl.ch

Ecole Polytechnique Federale de Lausanne (EPFL)

Route Cantonale, 1015 Lausanne, Switzerland.

September 2012 – April 2013



Kress-Mellon Fellow in Imaging Science

IR Reflectography, Improving underdrawing visualization in masterpiece's paintings using Hyperspectral and Multispectral imaging.

Image processing with Matlab, Kubelka-Monk algorithms, optics in complex media, impressionism.

Supervisor: John Delaney J-Delaney@nga.gov

National Gallery of Art

4 Constitution Avenue NW, 20565 Washington DC, USA.

Research.

March 2012 – July 2012



Intern Master 2

3D characterization of collagen fibril organization in human cornea using multiphoton microscopy.

Nonlinear optics, image processing with Matlab, Hough transform algorithms.

Supervisors: Gael Latour, Marie-Claire Schanne-Klein, marie-claire.schanne-klein@polytechnique.edu

Laboratoire d'Optique et de Biosciences, Ecole Polytechnique

Route de Saclay, 91128 Palaiseau, France.

Research.

February 2011 – July 2011



Intern Master 2

UV-visible luminescence of Stradivarius' varnishes.

Statistical treatment of spectral data in R, Synchrotron experiments.

Supervisor: Jean-Philippe Echard, jpechard@cite-musique.fr

Laboratoire de recherche et de restauration du Musée de la musique, Cité de la Musique,

Av. Jean Jaurès, 75019 Paris, France.

Research.

June 2010 – August 2010



Volunteer Intern Master 1

Terahertz Imaging applied on paintings

Experimental setups on optical bench, 3D reconstruction with Matlab, Radon transform algorithms

Supervisor: Patrick Mounaix, p.mounaix@cpmoh.u-bordeaux1.fr

Centre de Physique Moléculaire d'Optique Hertzienne, Laboratoire Onde et Matière Aquitaine, Université Bordeaux1, 351 Cours de la Libération, Talence (domaine universitaire), France.

Research.

June 2009 – August 2009



Intern Master 1

The non proportionality in inorganics scintillators.

Theoretical physics, photon-matter interactions

Supervisor: Gregory Bizarri, GABizarri@lbl.gov

Lawrence Berkeley National Laboratory, 1 Cyclotron Rd Ste 50B4034 Berkeley, CA 94720, USA.

Research.

Education and training

September 2011 - 2012



Master 2 : Optics, matter, plasma : Light, matter, extreme measurements

Lasers, spectroscopy, non-linear optics, near-field microscopy, optical microscopies, biophotonics.

Université Pierre et Marie Curie, Paris 6, France.

'Magna cum laude' : 14.2/20

September 2010 – June 2011



Master 2 : Materials and cultural heritage

Methods of characterization and datation of archaeological and art objects, museography, art history.

CRP2A, Maison de l'archéologie and Université de Bordeaux 3, Talence, France.

'Magna cum laude' : 14,5/20

September 2009 – June 2010



Master 1 : Physical sciences

Optics and lasers, particles physics, atoms and molecules, solid states physics, quantum mechanics, nanomaterials, statistical physics.

Université Claude Bernard Lyon 1, Villeurbanne, France.

September 2008 – January 2009

Bachelor : Physics

Université Claude Bernard Lyon 1, Villeurbanne, France.

September 2007 – June 2008



Bachelor : Exchange program

Physics, materials and mechanical engineering.

University of Western Ontario, London, Canada.

Awarded grants

- 2013, **Marie Curie Early Stage Researcher** (FINON : Female Investigation for Nonlinear Optics and Nanoscopy), EPFL, Switzerland
- 2012, **Kress-Mellon Fellowship** in Imaging Science, National Gallery of Art in Washington DC
- 2011, **COST IE0601 & MP0601 Training School**, "Wood Cultral Heritage conservation: advanced X-ray and optical techniques", Italy

Publications

- J.-P. Echard, M. Thoury, B. Berrie, T. Severin-Fabiani, A. Vichi, M. Didier, M. Refregiers, L. Bertrand, "Synchrotron DUV luminescence micro-imaging to identify and map historical organic coatings on wood", **The Analyst** 140(15), **2015**
- C. Macias-Romero, M. Didier, P. Jourdain, P. Marquet, P. Magistretti, O. Tarun, S. Roke, "High throughput second harmonic imaging for label-free biological applications", **Optics Express** 22(25), **2014**
- C. Macias-Romero, M. Didier, V. Zubkovs, L. Delannoy, F. Dutto, A. Radenovic, S. Roke, "Probing Rotational and Translational Diffusion of Nanodoublers in Living Cells on Microsecond Time Scales", **Nano Letters** 14(5), **2014**
- G. Latour, J.-P. Echard, M. Didier, M.-C. Schanne-Klein, "Multiphoton microscopy: an efficient tool for in situ study of historical artifacts", **SPIE**, **2013**

Personal skills

Languages

English

German

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C1	Proficient user	C1	Proficient user
A2	Basic user	A2	Basic user	A2	Basic user	A1	Basic user	A1	Beginner

Social skills

Team work :

- **Public Relations and sponsoring** for FORUM EPFL, (organizer of one of the biggest career fairs in Europe), 2014-2015
- **Member of LEO Club** Lausanne (Junior of Lions Club) 2015-2016
- Representative member of the **Junior Club Committee of AROP** (Association pour le rayonnement de l'Opera de Paris), 2012-2016
- Consul of **Lausanne Art Group** for Internations, 2015
- Part of the organization of the Tech4Dev UNESCO conference, Switzerland
- Volunteer for **Lausanne Underground Film and Music Festival**, 2014
- Volunteer in **fundraising for WETA classical radio**, Washington DC, 2012
- Volunteer for National Gallery **Classical Concerts**, 2012
- **Volunteer firefighter** and Emergency Medical Service (1997-2011)

Artistic skills

- Art, painting, drawing and sculpting studies for 10 years.
- Book Illustrator : « La poétique de la maison musée, 1847-1989 », by B. Bourgeois.
- Volunteer at **Mac Intosh Art Gallery**, University of Western Ontario, London, Canada.
- Exhibition of my drawings and paintings, London, Ontario, Canada.
- **Piano and music theory, 3rd degree Conservatory diploma**, France
- Piano, chamber orchestra, music theory and improvisation, Saint-Fonds Music School, France.
- In 2008, during my exchange year, I represented my country (France) at a multicultural event in King's College University in London, Canada with a french composers recital in piano.