



# David Nguyen

## Experienced Optical Engineer & Imaging Optics Expert

Versatile engineer skilled in designing sophisticated imaging systems, I merge hardware innovation with programming to pioneer in R&D. Analytically adept and committed to reliable, reproducible solutions, I excel in data interpretation and persuasive presentation. With a vision to influence the future of optical technology, I seek roles that challenge and expand my expertise, while my modest nature ensures a focus on impactful contributions over accolades.



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github.com/Omnistic



## SKILLS

Optical Engineering

Imaging Optics

Tolerancing

Data Analysis

Laser

Physics

Problem-solving



## WORK EXPERIENCE

### Senior Investigator Scientist

MRC - Laboratory of Molecular Biology

04/2020 - Present

Cambridge, United Kingdom

- Built and tested a multi-view light-sheet microscope with a DMD projection arm for optogenetics photostimulation.
- Built a two-photon scanning and tracking microscope using a tunable acousto-optic gradient lens.
- Maintained four advanced commercial microscopes and six femtosecond lasers.

Reference : Dr. Marta Zlatic

### Optical Engineer

ZEMAX LLC

04/2019 - 04/2020

Stansted, United Kingdom

- Provided technical support for OpticStudio.
- Gave on-site trainings for OpticStudio (sequential, non-sequential, programming).
- Created technical content for OpticStudio (knowledgebase articles, DLLs, ZPL and ZOSAPI scripts).

Reference : Dr. Mark Nicholson



## TECHNICAL SKILLS

### Design & simulation

OpticStudio, Solidworks

### Standards

ISO 2768, ISO 10110

### Scientific Computing

Matlab, LabView

### Measurement & Analysis

Autocorrelator, autocollimator, power meter, beam profiler, shear interferometer,

### Microscopy

2-photon scanning, optical projection tomography, light-sheet, structured illumination, epi-fluorescence

### Multimedia & Productivity

Adobe, Office

### Programming languages

Python, C#, C/C++

### Web Development

HTML, CSS, PHP/SQL

### Optical Devices

Pockels cell, femtosecond lasers, spatial light modulators



## PUBLICATIONS

Research Article

### Supervised learning to quantify amyloidosis in whole brains of an alzheimer's disease mouse model acquired with optical projection tomography

Author(s)

David Nguyen, Virginie Uhlmann, Arielle L Planchette, Paul J Marchand, Dimitri Van De Ville, Theo Lasser, Aleksandra Radenovic

06/2019

Biomedical optics express 10(6)

Zemax Knowledgebase Article

### Resolution of diffraction-limited imaging systems using the point spread function

Author(s)

David Nguyen

03/2021

Research Article

### Optical projection tomography for rapid whole mouse brain imaging

Author(s)

David Nguyen, Paul J Marchand, Arielle L Planchette, Julia Nilsson, Miguel Sison, Jérôme Extermann, Antonio Lopez, Marcin Sylwestrzak, Jessica Sordet-Dessimoz, Anja Schmidt-Christensen, Dan Holmberg, Dimitri Van De Ville, Theo Lasser

12/2017  
Biomedical optics express 8(12)



## HONOR AWARDS

### Zemax Community Top Contributor

Currently recognized as the top contributor on the Zemax Community platform.

### SHS Prize (2014)

Ecole Polytechnique Federale de Lausanne (EPFL)

- For outstanding contributions and interdisciplinary excellence in humanities and social sciences within a technical and engineering environment.

### OMEGA Student Award (2014)

OMEGA SA

- For excellence in optics research through my Master 's project.



## EDUCATION

### Doctor of Philosophy (Ph.D.) in Biotechnology & Bioengineering

Ecole Polytechnique Federale de Lausanne (EPFL)

2015 - 2019

- Dissertation: Optical projection tomography for whole organ imaging

- Advisor: Prof. Theo Lasser

Lausanne, Switzerland

### Master of Science in Microengineering

Ecole Polytechnique Federale de Lausanne (EPFL)

2012 - 2014

- Specialization: Applied Optics

- Minor: Biomedical Technologies

Lausanne, Switzerland

### BSc in Microengineering

Ecole Polytechnique Federale de Lausanne (EPFL)

2009 - 2012

Lausanne, Switzerland

### Cours de Mathématiques Spéciales (CMS) - Preparatory Year

Ecole Polytechnique Federale de Lausanne (EPFL)

2008 - 2009

Lausanne, Switzerland

### IT Apprenticeship (Certificat Fédéral de Capacité - CFC)

CIFOM-ET

2005 - 2008

Le Locle, Switzerland



## LANGUAGES

French

Native or Bilingual Proficiency

English

Full Professional Proficiency

German

Elementary Proficiency

Japanese

Elementary Proficiency