

Vasiliki Stergiopoulou

Curriculum Vitae

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📄 vstergiop.github.io/

Education/Research positions

- May 2023–
now **Postdoctoral Researcher**, *LCAV, GALATEA & Imaging Center, EPFL*, Switzerland.
KEYWORDS: Computational Imaging, Inverse problems in Imaging, Applications on non-linear optical microscopy
SUPERVISORS: Prof. Martin Vetterli, Prof. Yves Bellouard
- Jan 2020–
Jan 2023 **PhD in Image Processing**, *Morpheme team (INRIA/CNRS), Côte d'Azur University*, France.
TITLE: Learning and optimization for 3D+T super-resolution in fluorescent microscopy (Manuscript link)
DIRECTOR: Dr. Laure Blanc-Féraud
CO-SUPERVISORS: Dr. Luca Calatroni, Dr. Sébastien Schaub
COMMITTEE MEMBERS: Prof. Arrate Muñoz-Barrutia, Dr. Sébastien Bourguignon (Reviewers), Dr. Daniel Sage, Prof. Luca Zanni, Prof. Vicente Zarzoso (Examiners)
- 2013–2018 **BS & MS in Electrical and Computer Engineering**, *University of Patras*, Greece, GPA: 8.0/10.0, Class rank: 8/218.
- Feb–Jul 2017 **MS degree courses in Automation Engineering**, *University of Bologna*, Italy.
In the framework of ERASMUS+, European Exchange Program
- 2013 **High School Diploma**, GPA: 19.4/20.0.

Internships

- Jun 2022 **Visiting PhD Student**, *Cambridge Image Analysis (CIA) Group, DAMTP, University of Cambridge*.
TITLE: Plug-and-Play Methods for Super-Resolution in Fluorescence Microscopy
SUPERVISORS: Prof. Carola Bibiane Schönlieb, Dr. Subhadip Mukherjee
- Dec 2018 –
May 2019 **Internship**, *Laboratory of Biomedical Image Processing, EPFL*.
TITLE: Solving Inverse Problems through Domain Decomposition
SUPERVISORS: Prof. Michael Unser, Dr. Emmanuel Soubies
- 2017–2018 **BS & MS Thesis**, *Laboratory of Digital Signal and Image Processing, ECE Department, University of Patras*.
TITLE: Synthetic Aperture Beamforming in Medical Ultrasound Imaging (Summary poster link)
SUPERVISOR: Prof. Athanassios Skodras

Honors and Awards

- Mar 2022 **Best-Paper Runner-Up Award**, *IEEE 19th International Symposium on Biomedical Imaging (ISBI)*, Kolkata, India, (link).
- Mar 2022 **Student Travel Award at 2022 SIAM Conference on Imaging Science (IS22)**.
- Jan 2020 **PhD scholarship funded by the Interdisciplinary Institute for Artificial Intelligence (3IA)**.

Publications

- 2023 M. Cachia, V. **Stergiopoulou**, L. Calatroni, S. Schaub, and L. Blanc-Féraud, "Fluorescence image deconvolution microscopy via generative adversarial learning (FluoGAN)," *Inverse Problems*, vol. 39, no. 5, p. 054 006. DOI: 10.1088/1361-6420/acc889.
- V. **Stergiopoulou**, S. Mukherjee, L. Calatroni, and L. Blanc-Féraud, "Fluctuation-based deconvolution in fluorescence microscopy using plug-and-play denoisers," in *Scale Space and Variational Methods in Computer Vision: 9th International Conference, SSVN 2023*, pp. 498–510. DOI: 10.1007/978-3-031-31975-4_38.
- 2022 V. **Stergiopoulou**, L. Calatroni, J. H. d. M. Goulart, S. Schaub, and L. Blanc-Féraud, "COLORME: Super-resolution microscopy based on sparse blinking/fluctuating fluorophore localization and intensity estimation," *Biological Imaging*, vol. 2, e1. DOI: 10.1017/S2633903X22000010.

V. **Stergiopoulou**, L. Calatroni, S. Schaub, and L. Blanc-Féraud, “3D image super-resolution by fluorophore fluctuations and MA-TIRF microscopy reconstruction (3D-COLORME),” in *2022 IEEE 19th International Symposium on Biomedical Imaging (ISBI)*, pp. 1–4. DOI: 10.1109/ISBI52829.2022.9761572.

2021 V. **Stergiopoulou**, J. H. d. M. Goulart, S. Schaub, L. Calatroni, and L. Blanc-Féraud, “COLORME: Covariance-based 10 super-resolution microscopy with intensity estimation,” in *2021 IEEE 18th International Symposium on Biomedical Imaging (ISBI)*, pp. 349–352. DOI: 10.1109/ISBI48211.2021.9433976.

Teaching & Supervision

2020-2022 **Teaching Assistant at the University of Côte d’Azur**, around 64h/year.

- *Machine Learning in Image Analysis*, Master Data Science (Polytechnic School)
- *Inverse problems in image processing*, Master Data Science Artificial Intelligence (Master MIAGE)
- *Acquisition and coding of information (Undergraduate course)*, IUT Nice Côte d’Azur
- *Introduction to signal processing (Undergraduate course)*, IUT Nice Côte d’Azur

May–Sep **Master Thesis Supervision.**

2022 STUDENT: Sai Muttavarapu

TITLE: Super-resolution fluorescent microscopy using variational autoencoders (VAEs)

CO-SUPERVISION WITH: L. Blanc-Féraud and L. Calatroni

Talks

Sep 2023 **Invited Oral Presentation**, *30 Years of Mathematics for Optical Imaging*, Marseille, France, ([link](#)).

Dec 2022 **Oral Presentation**, *Mathematical Models for Plug-and-play Image Restoration*, Paris, France, ([link](#)).

Sep 2022 **Oral Presentation**, *1st French-Italian workshop on the Mathematics of Imaging, Vision and their Applications*, Sophia Antipolis, France, ([link](#)).

June 2022 **Invited Oral Presentation**, *Cambridge Advanced Imaging Centre*, Cambridge, UK.

June 2022 **Invited Oral Presentation**, *MRC Laboratory of Molecular Biology*, Cambridge, UK.

Mar 2022 **Oral Presentation**, *IEEE 19th International Symposium on Biomedical Imaging (ISBI)*, Kolkata, India, ([link](#)).

Mar 2022 **Invited Oral Presentation**, *2022 SIAM Conference on Imaging Science*, Online, ([link](#)).
Recipient of Student Travel Award in the form of a registration waiver.

Mar 2022 **Oral Presentation**, *Journées Imagerie Optique Non Conventionnelle - 17ème édition (Non Conventional Optical Imaging Days - 17th edition)*, at Institut Langevin, Paris, France, ([link](#)).

Dec 2021 **Oral Presentation**, *Micro-blind startup meeting*, at CIRM, Marseille, France, ([link](#)).

Oct 2021 **Oral Presentation**, *3IA PhD/Postdoc Seminar*, Online.

Oct 2020 **Invited Oral Presentation**, *GdR MIA Thematic day on “Non-Convex Sparse Optimization”*, at ENSEEIHT, Toulouse, France, ([link](#)).

Technical Skills

Programming Python, Matlab

Tools ImageJ/FIJI, L^AT_EX, HTML, ...

Languages

Greek **Native**

English **Fluent**

French **B2 level**