Maks Ovsjanikov

LIX, Ecole Polytechnique, UMR CNRS, 91128 Palaiseau Cedex, maks@lix.polytechnique.fr

WEBSITE

http://www.lix.polytechnique.fr/~maks/

PROFESSIONAL EXPERIENCE AND EDUCTAION

2024 – Visiting Researcher, Google DeepMind, Paris.

2012 – Professor, Ecole Polytechnique, UMR CNRS, France. Since 2018, **Full Professor with tenure**. Prior to that, Assistant Professor with a CNRS chaire d'excellence and the Jean Marjoulet professorial chair.

2017 **Habilitation in Computer Science, Université Paris-Sud, France**
Title: A Functional View of Geometry Processing. Jury president: Pierre Alliez.

2011 Software Engineer, Google Inc.
Image Search team, Mountain View, CA, USA.

2011 **PhD, Stanford University, USA**
Department of Computational and Mathematical Engineering.
Excellence in Research award. Advisor: Prof. Leonidas Guibas.

SELECTED FELLOWSHIPS AND AWARDS

2023 – **Fellow of ELLIS,** senior member of the European society for top AI researchers.

2024 – 2028 **ERC Consolidator Grant**, VEGA: *Universal Geometric Transfer Learning* (2M€).

2020 – 2024 ANR Chair in Artificial Intelligence, *Analyzing Large Scale 3D Shape Collections.*

2018 **CNRS Bronze Medal** from the Institute for Information Sciences and Technologies (INS2I) for research contributions to Computer Science.

2017 – 2023 **ERC Starting Grant** EXPROTEA: *Exploring Relations in Structured Data with Functional Maps* (1.5M€).

2014 – 2017 Google Inc. Focused Research Award (total budget $966k).

2014 [Eurographics Young Researcher Award] "*In recognition of his outstanding contributions to theoretical foundations of non-rigid shape matching, invariant feature descriptors and the analysis of intrinsic symmetries of shapes.*" Eurographics Junior Fellow 2017 – 2019.

2014 – 2017 Jean-Marjoulet professorial chair.

2012 – 2016 CNRS chaire d'excellence.

2013 – 2016 Marie Curie Career Integration Grant.

2013 – 2014 Google Inc. Faculty Research Award.

2011 **Excellence in Research Award** from Stanford University, given to a single graduating PhD, Department of Computational and Mathematical Engineering.

RESEARCH PROFILE

Published over 120 research articles at top level venues, including SIGGRAPH, ACM Transactions on Graphics, CVPR, ICCV, SGP, NeurIPS, etc.

According to Google Scholar, my work has been cited over 11000 times with [h-index 49] as of October 2024. Together with colleagues, introduced several influential concepts in shape analysis including the [Heat Kernel Signature], algorithms for isometric shape matching, functional maps and deep learning methods for non-rigid 3D shape processing, among others. In 2018 I received a CNRS [Bronze Medal] (highest recognition for junior researchers in France).

Co-founded the first Computer Graphics research team at Ecole Polytechnique. My works with colleagues have received **11 best paper awards or nominations** at top-level conferences, including at 3DV 2022, 3DV 2021, CVPR 2020, ICCV 2019, 3DV 2020 and 2019, and SGP 2018, among others, as well as a SIGGRAPH 2023 Test of Time Award. I hold **7 international patents** or applications, and have active collaborations with industry (EDF, Dassault Systèmes, Sanofi S.A., Danone R&D, Youdome startup, etc.) with significant technology transfer.

SUPERVISION AND LEADERSHIP PROFILE

Since 2012 I have supervised or co-supervised **11 defended PhD students, 12 postdocs, and over 50 Master's students.** All PhD students obtained research-oriented positions, including:

- Nicolas Donati (PhD student, 2018-2022), received the **best thesis award** nomination from the CS, Data and Artificial Intelligence dept., IP Paris, now a researcher at Ansys.
- Marie-Julie Rakotosaona (PhD student, 2018-2021), received the **best thesis award** from GdR IG-RV the French Computer Graphics association, now a researcher at Google Research Zurich.
- Adrien Poulenard (PhD student, 2017-2020), received the **best thesis award,** 1st place, from the IDIA department of IP Paris in 2020.
- Etienne Corman (PhD student 2013-2016) now a **permanent researcher at CNRS** from 2019.
- Gautam Pai (postdoc 2020-2022), now an assistant professor at UT, Netherlands
- Ruqi Huang (postdoc 2017-2019), now an assistant professor at the Tsinghua-Berkeley Shenzhen.
- Viorica Patraucean (postdoc 2012-2014), now a researcher at DeepMind.
- Simone Melzi (postdoc 2019-2020), now a tenure-track assistant prof. at the U. Milano-Bicocca.

SELECTED INVOLVMENT IN SCIENTIFIC MEETINGS

2012 – 2024	Gave over 70 invited talks at international seminars, including TU Munich AI seminar, Banff Workshop on Geometry & Learning from Data, 3DGV seminar, Curves & Surfaces Minisymposium on Deep Learning in Geometry Processing, London Geometry & Machine Learning summer school, Sony &inCSL Seminar, Graphics And Mixed Environment Symposium, etc.
2023	**Keynote speaker**, Pacific Graphics, conference.
2023	Keynote speaker**,** ml4geo : Machine Learning for Geometry workshop
2023	Keynote speaker, Symposium on 3D Object Retrieval.
2020	**Keynote speaker**, Symposium on Geometry Processing, conference.
2020	**Keynote speaker**, Shape Modeling International, conference.
2018	Local organizer, Symposium on Geometry Processing, Paris, France.
2017	Technical Program co-chair, Eurographics 3D Object Retrieval Workshop.
2016	**Technical Program co-chair**, Symposium on Geometry Processing (SGP), the world's premier conference in Geometry Processing.
2015	Co-organizer, Workshop at the Institute of Advanced Study (IAS), Hong Kong.
2014	Technical Program co-chair, ECCV Workshop on Non-Rigid Shape Analysis.
2012	**Keynote speaker**, Eurographics Workshop on 3D Object Retrieval, Italy.

SELECTED SERVICE TO THE COMMUNITY

2020 – 2024	Associate Editor, *Transactions on Visualization and Computer Graphics* journal.
2016 – 2019	Associate Editor, *Computer Graphics Forum* journal.
2012 –	Program Committee member of top-level conferences: (SIGGRAPH 2022, SIGGRAPH 2020, SIGGRAPH 2014, SIGGRAPH Asia 2016, 2015, Eurographics 2022, 2021, 2019…, Symposium on Geometry Processing 2022, 2020, 2019… ACCV, etc.).

SELECTED TEACHING ACTIVITIES

2024 –	Co-organizer, instructor, *Geometry Processing and Geometric Deep Learning,* advanced graduate-level course at the MVA Master program.
2022 –	Organizer, instructor, *Analysis and Deep Learning on Geometric Data,* advanced graduate-level course at Ecole Polytechnique.
2016 – 2022	Organizer, instructor, *Deep Learning for Computer Vision.* Designed and taught the **first Deep Learning course** in the Ecole Polytechnique engineering curriculum.
2020, 2021	Instructor in multiple graduate schools, including London Geometry and ML Summer School and Lecco Graduate School ML for Non-Matrix Data, etc.
2015, 2018	Organizer, instructor, Master's level mini-course on *Digital Geometry Processing,* dept. Mathematics and Applied Mathematics, University of Verona, Italy.

SELECTED PATENTS AND PATENT APPLICATIONS

1. Mezghanni, M., Ovsjanikov., M., and Boulkenafed, M., *Functional-aware Generative Modeling,* U.S. Patent Application No. 17/486,684, 2021.
2. Mezghanni, M., Ovsjanikov., M., Boulkenafed, M., T. Bodrito *Deep parameterization for 3D shape optimization,* European patent application 2021.
3. Ovsjanikovs, M. and Rivlin E. *Combining unstructured image and 3D search results for interactive search and exploration.* U.S. Patent No. 9,372,871, 2016.
4. Ovsjanikov, M., Li, Y., Adam, H., and Rosenberg, C. J. *System and method for associating images with semantic entities.* U.S. Patent No. 9,171,018, 2015.
5. Alldrin, N., Duerig, T., Zhou, Z. H., Ovsjanikovs, M., Rosenberg, C., Bengio, S., Gupta, M., *Assigning labels to images,* U.S., Patent No. 8,873,867, 2014.
6. Ovsjanikov, M., and Chen, Y., *Personalized Recommendation of a Volatile Item,* U.S. Patent, No. 9,336,315, 2016.

SELECTED INSTITUTIONAL RESPONSIBILITIES

2012 –	Reviewer and jury member of PhD thesis committees (Ecole Polytechnique, TU Delft, USI Lugano, Stanford University, TU Delft, U. Sorbonne, RWTH Aachen…).
2016	**Co-founder of the first Computer Graphics research team** (STREAM, jointly with Marie-Paule Cani) at Ecole Polytechnique.
2016	Faculty Recruiting Committees, Télécom ParisTech, Ecole Polytechnique, France
2015 –	Co-supervisor of Imaging/Computer Graphics Master's track at Ecole Polytechnique.

RESEARCH AWARDS

2023	SIGGRAPH Test of Time Award.
2022	Best Paper Award, International Conference on 3D Vision.
2021	Best Paper Award, International Conference on 3D Vision.
2020	Best Paper Award nomination (one of 26, out of 5865 submissions), Conference on Computer Vision and Pattern Recognition (CVPR).
2020	Best Student Paper, International Conference on 3D Vision.
2019	Best Paper Award nomination (one of 7, out of 4303 submissions), International Conference on Computer Vision (ICCV).
2019	Best Paper Award, International Conference on 3D Vision.
2018	Best Paper Honorable Mention (one of three), Symposium on Geometry Processing.
2010	NORDIA Best paper award.
2009	Best Paper Award, SIAM Conference on Geometric and Physical Modeling.
2009	Best Paper Award, Symposium on Geometry Processing.
2008	Best Student Paper Award, Symposium on Geometry Processing.