

PERSONAL INFORMATION	Date of birth Place of birth Address	May 2, 1982 Patras, Greece Centre Borelli– ENS Paris-Saclay 61 Avenue du Président Wilson, 91190 Gif-sur-Yvette, France	Resources / Contact W. kalogeratos.com T. +33 - (0)1- 81 87 54 12 E. name.surname@ {ens-paris-saclay.fr; gmail.com}
CURRENT POSITION	Senior researcher at the Centre Borelli ¹ , ENS Paris-Saclay. [Sep 2018 – now]		
	<ul style="list-style-type: none"> ■ Member of the <i>Learning and Information Processing Systems</i> (LIPS) team² ■ Coordinator of the <i>Machine Learning on Graphs</i> research theme ■ Member of the <i>Industrial Data Analytics and Machine Learning Chair</i> 		
	¹ ex Centre de Mathématiques et de Leurs Applications (CMLA), ENS Cachan		
	² ex Machine Learning and Massive Data Analysis (MLMDA)		
PREVIOUS POSITION	Post-doctoral researcher at the CMLA, ENS Cachan [Sep 2013 – Aug 2018]		
RESEARCH INTERESTS	Machine Learning • Artificial Intelligence • Complex Networks Analysis		
	<ul style="list-style-type: none"> ■ Learning methods for high-dimensional and complex data ■ Multimedia data semantics and representation (text, image, video) ■ Machine learning on graphs ■ Analysis and control of diffusion networks (epidemics, information propagation) 		
EDUCATION	Dept. of Computer Science³, University of Ioannina, Greece		
	³ became <i>Computer Science and Engineering</i>		
	■ Ph.D. Computer Science	Thesis: <i>Knowledge extraction methods for document collections</i>	[Nov 2007 – Apr 2013] (Superv. A. Likas)
	■ M.Sc. Computer Science	Thesis: <i>Methods for clustering documents</i>	[Nov 2005 – Oct 2007] (Superv. A. Likas)
	■ B.Sc. Computer Science	Thesis: <i>Clustering web documents based on a graph model</i>	[Sep 2001 – Oct 2005] (Superv. A. Likas)
JOURNAL PUBLICATIONS	<p>[1] I. Conjeaud*, P. Lorenz-Spreen and A. Kalogeratos*, DeGroot-based opinion formation under a global steering mechanism, <i>IEEE Transactions on Computational Social Systems</i>, 2024.</p> <p>[2] P. Humbert, B. Le Bars, L. Oudre, A. Kalogeratos, and N. Vayatis, Learning Laplacian Matrix from Graph Signals with Sparse Spectral Representation, <i>Journal of Machine Learning Research</i>, 2021.</p> <p>[3] I. Bargiotas, A. Kalogeratos, M. Limnios, P.–P. Vidal, D. Ricard, and N. Vayatis. Revealing posturographic profile of patients with Parkinsonian syndromes through a novel hypothesis testing framework based on machine learning, <i>PLoS ONE</i>, 2021.</p> <p>[4] K. Scaman, A. Kalogeratos, and N. Vayatis. Suppressing Epidemics in Networks using Priority-Planning, <i>IEEE Trans. on Network Science and Engineering</i>, 2016.</p> <p>[5] A. Kalogeratos and A. Likas. Text document clustering using global term context vectors, <i>Knowledge and Information Systems</i>, 2012.</p> <p>[6] A. Kalogeratos and A. Likas. Document clustering using synthetic cluster prototypes, <i>Data and Knowledge Engineering</i>, 2011.</p>		
CONFERENCE PUBLICATIONS	<p>[7] A. de la Concha, N. Vayatis, and A. Kalogeratos, Collaborative non-parametric two-sample testing, <i>Int. Conf. on Artificial Intelligence and Statistics</i>, 2025.</p> <p>[8] G. Serré, A. Kalogeratos, and N. Vayatis, Stein Boltzmann Sampling: A Variational Approach for Global Optimization, <i>Int. Conf. on Artificial Intelligence and Statistics</i>, 2025.</p>		

- [9] E. Campagne, Y. Amara-Ouali, and Y. Goude, and A. Kalogeratos, Leveraging Graph Neural Networks to Forecast Electricity Consumption, European Conf. on Machine Learning – Workshop ML4SPS (with proceedings), 2024.
- [10] G. Serré, P. Beja-Battais, S. Chirrane, A. **A. Kalogeratos**, and N. Vayatis, LIPO+: Frugal Global Optimization for Lipschitz Functions, EETN Conf. on Artificial Intelligence, 2024.
- [11] E. Campagne, Y. Amara-Ouali, Yannig Goude, and Argyris Kalogeratos, Forecasting Net Load in France – EDF Challenge, Journées de Statistique, 2024.
- [12] A. de la Concha, N. Vayatis, and **A. Kalogeratos**, Online non-parametric likelihood-ratio estimation by Pearson-divergence functional minimization, Int. Conf. on Artificial Intelligence and Statistics, 2024.
- [13] I. Bargiotas, **A. Kalogeratos**, and N. Vayatis, A framework for paired-sample hypothesis testing for high-dimensional data, IEEE Int. Conf. on Tools with Artificial Intelligence, 2023.
- [14] I. Conjeaud*, P. Lorenz-Spreen, and **A. Kalogeratos** *, Opinion formation under global steering with application to social network data analysis, Int. Conf. on Complex Networks and their Applications (Extended Abstract), 2023.
- [15] A. Merida, **A. Kalogeratos**, and M. Mougeot. To tree or not to tree? Assessing the impact of smoothing the decision boundaries, Int. Conf. on Artificial Neural Networks, 2022.
- [16] A. de la Concha, N. Vayatis, and **A. Kalogeratos**. Offline detection of change-points in the mean for stationary graph signals, Int. Conf. on Artificial Intelligence and Statistics, 2021.
- [17] B. Le Bars, P. Humbert, **A. Kalogeratos**, and N. Vayatis. Learning the piece-wise constant graph structure of a varying Ising model, B. Le Bars, P. Humbert, A. Kalogeratos, and N. Vayatis, Int. Conf. on Machine Learning 2020.
- [18] I. Bargiotas, **A. Kalogeratos**, M. Limnios, P.–P. Vidal, D. Ricard, and N. Vayatis. Multivariate two-sample hypothesis testing through AUC maximization for biomedical applications., Hellenic Conf. on Artificial Intelligence, 2020.
- [19] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Sequential Dynamic Resource Allocation for Epidemic Control, *IEEE Conf. on Decision and Control*, 2019.
- [20] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Optimal Multiple Stopping Rule for Warm-Starting Sequential Selection, *IEEE Int. Conf. on Tools with Artificial Intelligence*, 2019.
- [21] B. Le Bars, P. Humbert, L. Oudre, and **A. Kalogeratos**. Learning Laplacian Matrix from Bandlimited Graph Signals, *IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, 2019.
- [22] B. Le Bars and **A. Kalogeratos**. A Probabilistic Framework to Node-level Anomaly Detection in Communication Networks, *IEEE Int. Conf. on Computer Communications*, 2019.
- [23] **A. Kalogeratos**, K. Scaman, L. Corinzia, and N. Vayatis. Partial network immunization in Continuous-Time Information Cascades, (extended abstract) *Int. Conf. on Complex Networks and Their Applications*, 2017.
- [24] R. Lemonnier, K. Scaman, and **A. Kalogeratos**. Multivariate Hawkes Processes for Large-scale Inference, *AAAI Conf. on Artificial Intelligence*, 2017.
- [25] **A. Kalogeratos**, P. Zagorisi, and A. Likas. Improving Text Stream Clustering using Term Burstiness and Co-burstiness, *Hellenic Conf. on Artificial Intelligence*, 2016.
- [26] K. Scaman, **A. Kalogeratos**, N. Vayatis. A Greedy Approach for Dynamic Control of Diffusion Processes in Networks, *IEEE Int. Conf. on Tools with Artificial Intelligence*, 2015.
- [27] **A. Kalogeratos** and A. Likas. Dip-means: an Incremental Clustering Method for Estimating the Number of Clusters, *NIPS Conf. on Neural Information Processing Systems*, 2012.
- [28] V. Chasanis, **A. Kalogeratos**, and A. Likas. Movie Segmentation into Scenes and Chapters using Locally Weighted Bag of Visual Words, *ACM Int. Conf. on Image and Video Retrieval*, 2009.

TECHNICAL
REPORTS &
PREPRINTS

- [29] **A. Kalogeratos** and A. Likas. A Significance-based Graph Model for Clustering Web Documents, *Hellenic Conf. on Artificial Intelligence*, 2006.
- [30] G. Vardakas, **A. Kalogeratos**, and A. Likas, UniForCE: The unimodality forest method for clustering and estimation of the number of clusters, arXiv:2312.11323, 2023.
- [31] A. de la Concha, **A. Kalogeratos**, and N. Vayatis. Online Centralized Non-parametric Change-point Detection via Graph-based Likelihood-ratio Estimation, arXiv:2301.03011, 2023.
- [32] I. Conjeaud, P. Lorenz-Spreen, and **A. Kalogeratos**. DeGroot-based opinion formation under a global steering mechanism, arXiv:2210.12274, 2022.
- [33] H. Sevi, M. Jonckheere, and **A. Kalogeratos**. Clustering for Directed graphs using Parametrized Random Walk Diffusion Kernels, arXiv:2210.00310, 2022.
- [34] A. de la Concha, **A. Kalogeratos**, and N. Vayatis. Collaborative Likelihood-ratio Estimation over Graphs, arXiv:2205.14461, 2022.
- [35] H. Sevi, M. Jonckheere, and **A. Kalogeratos**. Generalized Spectral Clustering for Directed and Undirected Graphs, arXiv:2203.03221, 2022.
- [36] A. de la Concha, **A. Kalogeratos**, and N. Vayatis. Online Non-Parametric Change-Point Detection for Heterogeneous Data Streams Observed Over Graph Nodes, arXiv:2110.10518, 2021.
- [37] M. Garin, M. Limnios, A. Nicolaï, I. Bargiotas, O. Boulant, S.E. Chick, A. Dib, T. Evgeniou, M. Fekom, **A. Kalogeratos**, C. Labourdette, A. Ovchinnikov, R. Porcher, C. Pouchol, and N. Vayatis. Epidemic Models for COVID-19 During the First Wave from February to May 2020: a Methodological Review, arXiv:2109.01450, 2021.
- [38] M. Fekom and **A. Kalogeratos**. Efficient Stream-based Max-Min Diversification with Minimal Failure Rate, arXiv:2011.10659, 2020.
- [39] **A. Kalogeratos** and S.S. Mannelli. Winning the Competition: Enhancing Counter-Contagion in SIS-like Epidemic Processes, 2020.
- [40] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Dynamic Epidemic Control via Sequential Resource Allocation, arXiv:2006.07199, 2020.
- [41] B. Le Bars, P. Humbert, L. Oudre, **A. Kalogeratos**, and N. Vayatis. Learning a Graph from Signals with Sparse Spectral Representation, 2019.
- [42] M. Fekom, **A. Kalogeratos**, and N. Vayatis. The Warm-starting Sequential Selection Problem and its Multi-round Extension, arXiv:1809.07299v2, 2019.
- [43] K. Scaman, **A. Kalogeratos**, L. Corinzia, and N. Vayatis. A spectral method for activity shaping in Continuous-Time Information Cascades, arXiv:1709.05231, 2017.

BOOK
CHAPTERS

- [44] **A. Kalogeratos**, K. Scaman, L. Corinzia, and N. Vayatis. Information diffusion and rumor spreading, *Cooperative and Graph Signal Processing*, P.M. Djuric and C. Richard (Eds.), Elsevier, 2018.
- [45] **A. Kalogeratos** and K. Scaman. Algorithmes efficaces pour contenir des processus de contagion sur des réseaux, *Big Data et politiques publiques dans les transports*, A. de Palma and S. Dantan (Eds.), ECONOMICA, 2017.
- [46] **A. Kalogeratos**, V. Chasanis, G. Rakocevic, A. Likas, Z. Babovic, and M. Novakovic. Mining Clinical Data, *Computational Medicine in Data Mining and Modeling*, in G. Rakocevic et al. (Eds.), 2013.

CONFERENCE
TALKS &
WORKSHOP
PAPERS
(NO PROC.)

- [47] A. de la Concha, **A. Kalogeratos**, and N. Vayatis. Collaborative Likelihood-Ratio Estimation over Graphs, *NeurIPS@Paris Workshop*, Paris, 2022.
- [48] M. Fekom, N. Vayatis, and **A. Kalogeratos**. The Warm-starting Sequential Selection Problem, *Int. Workshop in Sequential Methodologies (IWSM)*, State University of New York at Binghamton, US, 2019.
- [49] B. Le Bars and **A. Kalogeratos**. Node-level Anomaly Detection in Communication Networks, *3rd Graph Signal Processing Workshop (GSP)*, 2018.

- [50] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Optimizing group selection over multiple sequential selection rounds, *Workshop on Multi-Armed Bandits and Learning Algorithms*, 2018.
- [51] **A. Kalogeratos**, S. Sarao, K. Scaman, and N. Vayatis. Dynamic control of social diffusions using extensions of the SIS model, *full oral presentation at CCS Conf. on Complex Systems*, (talk on submitted abstract), 2016.
- [52] **A. Kalogeratos**, K. Scaman, and N. Vayatis. Learning to Suppress SIS Epidemics in Networks, *NIPS 2015 Networks in the Social and Information Sciences*, 2015.
- [53] K. Scaman, **A. Kalogeratos**, N. Vayatis. Dynamic Treatment Allocation for Epidemic Control in Arbitrary Networks, *ACM Websearch and Data Mining (WSDM) – Diffusion in Networks and Cascade Analytics Workshop (DiffNet)*, 2014.

INVITED TALKS

- *The warm-starting selection process and a multi-round extention* at the 10th International Workshop on Applied Probability (IWAP). [10.6.2023]
- *Winning the competition: enhancing counter-contagion in behavioral epidemic processes* at the French German summer school on ML. [24.6.2020]
- *Optimizing group selection over multiple sequential selection rounds* at the French German summer school on Transfer Learning. [6.6.2018]
- *Epidemics, Competition and Resource Management*, at a Working Group on ML and Big Data of the French Ministry of Social Affairs & Health. [25.1.2017]
- *Dynamic suppression of epidemics on networks*, at the Complex Networks research group of LIP6, Paris 6 (Jussieu Campus). [13.6.2016]
- *Epidemics in the new socio-economic era: challenges and applications*, at the Dept. of Computer Science and Engineering, University of Ioannina, Greece. [25.5.2016]
- *Suppressing epidemics on arbitrary networks using treatment resources of limited efficiency*, at INRA Research Center, Jouy-en-Josas, Paris area. [4.3.2016]
- Summit Talk – *Efficient algorithms for the suppression of diffusion processes on networks with application in epidemiology and marketing*, at the “Big data and public policies for the transportation” summit organized by the French Ministry of Ecology / Durable Development / Energy, ENS Cachan, and PSE of Paris. [15.10.2015]

SUPERVISION

- Centre Borelli, ENS Paris-Saclay, France** [2013 – now]
- Supervision of **1 Post-doctorant researcher** (Harry Sevi, 2021-2022).
 - Co-supervision of **5 Ph.D. theses** (Kevin Scaman, *Analysis and control of diffusion processes in networks*, 2013 – 2016; Mathilde Fekom, *Sequential resource allocation for network diffusion control*, 2017 – 2021; Batiste Le Bars, *Event detection and inference of structure for vectors over graphs*, 2017 – 2021); **5 ongoing Ph.D. theses** (Alejandro de la Concha, Gaspard Abel, Gwendal Debaussart, Eloi Campagne, Gaëtan Serré); **1 thesis discontinued** (Anthea Merida on Interpretable Machine Learning, 2020 – 2024).
 - **20 M.Sc. (M2) theses; 18 M.Sc. (M1) theses; 18 License (L3) internships** (34 students).
- Dept. of Computer Science, University of Ioannina, Greece** [2009 – 2012]
- Co-supervision of **1 M.Sc. thesis** and **4 Undergraduate theses (M1)**.

PROFESSIONAL RESEARCH EXPERIENCE

- SNCF-RTE project on infrastructure monitoring and predictive maintenance. Role: Scientific steering. [2023 – ...]
- Aifluence & SimuAI projects. The 2 three-part projects (Aifluence: SNCF-Quantmetry-ENS PS; SimuAI: Michelin-Quantmetry-ENS PS) were funded by the Ile-de-France Region. Role: Scientific steering. [18 months in 2020 – 2022]
- ONADAP project. The project was funded by the French state to develop an application for the decision support for dynamic strategies of allocation of human resources and material in a hospital environment during of COVID-19. Collaboration between the Centre Borelli, the Percy Military Hospital, and the Biomedical Research Institute of the Military (2020-2022). Role: Responsible for the epidemic modeling and operation research module.

- *Ile-de-France Region “AI for Industry” Challenge* involving industrial problems related to the SNCF and Michelin companies.
Role: Member of the committee for the scientific monitoring. [4.2019 – 2.2020]
- *MOdeling propagation phenomena in RAILway NETworks*. MORANE project is funded by the SNCF and is a collaboration between MLMDA group and SNCF Innovation and Research department. Role: Principal researcher. [10.2016 – 3.2018]
- *CITEPH project*. A collaboration between two labs of CMLA and Schlumberger for data mining on geological data. Role: Coordinator for the work at MLMDA. [9.2016 – 3.2017]
- *Machine Learning for Large Social Graphs* in the frame of the SODATECH project funded by the French Government within the program “Investments for the Future – Big Data”. Role: Principal researcher for the work at MLMDA. [9.2013 – 10.2016]
- *Signal processing and mining for water quality analysis*, in a consulting project to Suez Environment. Role: Researcher. [4 months in 2015]
- *Data Mining and Decision Support Tasks for the Cardiovascular Disease*, in the framework of the E.U. research program ARTreat (www.artreat.org) funded by FP7-224297 – Large-scale Integrating Project (IP). Role: Researcher. [10 months in 2010 – 2012]
- *Cheminformatics project: Rapid automatic identification of natural products in crude extracts based on NMR data* (collaboration between Dept. of Computer Science and Dept. of Chemistry, University of Ioannina). [2011 – 2014]

TEACHING

- *Teaching the ENS PS ARIA module on ML for Network Modeling (M1).* [Fall 2020 – 2025]
- *Teaching assistant for the ENS PS course (M1): Optimization.* [Spring 2019-2025]
- *Co-lecturer for the Hyper Performance Computing Master course (M2): Data and Machine Learning.* [Fall 2018-2025]
- *Teaching assistant for the Agregation préparatoire (for future teachers of french preparatory classes): Statistics.* [Fall 2018, Spring 2019-2024]
- *Teaching assistant for the MVA Master course (M2): Unsupervised Learning: From Big Data to low-dimensional representations (R. Vidal).* [Fall 2017]
- *Research instructor - Creation and supervision of 6 independent 10-week research projects (9 students) as part of the MVA Master course (80% of final grade): Graphs in Machine Learning (Michal Valko).* [Fall 2015-2020]
- *Lecturer for undergraduate introductory computer science seminars for the L3 Math ENS PS students.* [Fall 2015-2020]
- *Laboratory instructor for undergraduate courses at the Dept. of Computer Technology and Telecommunications, TEI of Epirus, Greece. 4 courses: Data Mining (2 sem.), Computational Intelligence (2 sem.), Computer Programming I (1 sem.), Computer Programming II (1 sem.).* [2009 – 2010 & 2011 – 2012]
- *Teaching assistant for undergraduate courses at the Dept. of Computer Science, University of Ioannina, Greece. 4 courses: Artificial Intelligence (4 sem.), Computational Intelligence (3 sem.), Basic Electronics (1 sem.), Computer Architecture (1 sem.).* [2009 – 2012]

ACADEMIC SERVICE

Ph.D. Thesis Jury Member

- Mounir Atiq, (Superv.: M. Mougeot, N. Vayatis), Centre Borelli, ENS PS, Jun 2022.
- Lina Cristancho-Fajardo, (Monitoring Committee; Superv.: E. Vergu and P. Ezanno), INRA(E), Jouy en Josas, Jan 2019 – 2022.
- Mathilde Fekom, Centre Borelli, ENS PS, Jan 2021.
- Batiste Le Bars, Centre Borelli, ENS PS, Jan 2021.
- Kevin Scaman, CMLA, ENS Cachan, Oct 2016.

Service in the LIPS team

- Organizer of the seminar talks of the research group (internal and external speakers).
- Supporting the dissemination of research results of the group through its [website](#) (dev & maintenance, 2015 – 2025)

Service at Centre Borelli

- Part of the student evaluation committee for the M1 and M2 internships out of the Math department (2014 – 2022).

- Part of the student evaluation committee for the L3 internships inside the Math department (2014 – 2022).

Referee Service (indicative list)

- Journals: Pattern Recognition, Journal of Machine Learning Research, IEEE Transactions on Knowledge and Data Engineering, Journal of Pattern Recognition Research, IEEE Transactions on Signal Processing, Bioinformatics, Scientific Reports, EURASIP Journal on Advances in Signal Processing, Information Sciences, Scientific Research and Essays, Mathematical Modelling of Natural Phenomena.
- Conferences: Neural Information Systems, Int. Conf. on Machine Learning, Int. Conf. on Artificial Neural Networks, Hellenic Conf. on Artificial Intelligence, Int. Symposium on Neural Networks, Int. Workshop on Data Science for Social Media and Risk (SOMERIS – ICDM'16), Workshop on Interpretable Machine Learning in Healthcare (ICML'22).
- Books/Collections: one chapter of the book [Cooperative and Graph Signal Processing](#), P.M. Djuric and C. Richard (Eds.), Elsevier, 2018.

Evaluation of Research Proposals

- The French National Research Agency (ANR) on the “Data, Knowledge, Big Data, Multimedia Content, Artificial Intelligence” research theme (2018).

Organization of events & Others

- Workshop on Opinion Formation and Information Diffusion at EHESS, Paris (Apr. 2025).
- PC member for the MLBriefs events related to IPOL online open-access journal (2 editions in 2022).
- Organizing team of the French-Bavarian AI Cup (end of 2021 – 2022).
- Organizing team of the French-German Summer-schools 2018, 2019, 2020, and 2021 that brings together Academia and Industry.
- Organizing team of the Île-de-France AI for Industry Challenge (2019 – 2022).
- Evaluation committee for candidates of the [Elis Society's](#) Ph.D. program (2021 – 2022).
- Volunteer in the European Conf. on Machine Learning 2011 (2011).

LANGUAGES

Greek – native language | English – proficiency level | French – basic level