

PERSONAL INFORMATION	Date of birth May 2, 1982 Place of birth Patras, Greece Address 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. kalogeratos@cmla.ens-cachan.fr argyriskalogeratos@gmail.com
CURRENT POSITION	Permanent researcher at the Centre Borelli (ex CMLA), ENS Paris-Saclay. [Sep 2018 – now] <ul style="list-style-type: none"> ■ Member of the <i>Machine Learning and Massive Data Analysis</i> (MLMDA) group ■ Coordinator of the <i>Machine Learning on Graphs</i> research theme ■ Member of the <i>Industrial Data Analytics and Machine Learning Chair</i> 	
PREVIOUS POSITION	Post-doctoral researcher at the CMLA, ENS Paris-Saclay [Sep 2013 – Aug 2018]	
RESEARCH INTERESTS	Machine Learning • Data Mining • Complex Networks Analysis	
SPECIAL AREAS OF INTEREST	<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 Science*, University of Ioannina, Greece * recently renamed to <i>Computer Science and Engineering</i> <ul style="list-style-type: none"> ■ Ph.D. Computer Science [Nov 2007 – Apr 2013] Degree grade: Excellent, 10.0 / 10.0 Thesis: <i>Knowledge extraction methods for document collections</i> (Superv. A. Likas) ■ M.Sc. Computer Science [Nov 2005 – Oct 2007] Degree grade: 9.36 / 10.0 – Thesis grade: 10.0 / 10.0 Thesis: <i>Methods for clustering documents</i> (Superv. A. Likas) ■ B.Sc. Computer Science [Sep 2001 – Oct 2005] Degree Grade: 7.5 / 10.0 – Thesis grade: 10.0 / 10.0 Thesis: <i>Clustering web documents based on a graph model</i> (Superv. A. Likas) 	
JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> [1] 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. [2] K. Scaman, A. Kalogeratos, and N. Vayatis. Suppressing Epidemics in Networks using Priority-Planning, <i>IEEE Trans. on Network Science and Engineering</i>, 2016. [3] A. Kalogeratos and A. Likas. Text document clustering using global term context vectors, <i>Knowledge and Information Systems</i>, 2012. [4] A. Kalogeratos and A. Likas. Document clustering using synthetic cluster prototypes, <i>Data and Knowledge Engineering</i>, 2011. 	
CONFERENCE PUBLICATIONS	<ol style="list-style-type: none"> [5] 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. [6] 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. 	

- [7] I. Bargiotas, **A. Kalogeratos**, M. Limnios, P.-P. Vidal, D. Ricard, and N. Vayatis. Multi-variate two-sample hypothesis testing through AUC maximization for biomedical applications., *Hellenic Conf. on Artificial Intelligence*, 2020.
- [8] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Sequential Dynamic Resource Allocation for Epidemic Control, *IEEE Conf. on Decision and Control*, 2019.
- [9] 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.
- [10] 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.
- [11] B. Le Bars and **A. Kalogeratos**. A Probabilistic Framework to Node-level Anomaly Detection in Communication Networks, *IEEE Int. Conf. on Computer Communications*, 2019.
- [12] **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.
- [13] R. Lemonnier, K. Scaman, and **A. Kalogeratos**. Multivariate Hawkes Processes for Large-scale Inference, *AAAI Conf. on Artificial Intelligence*, 2017.
- [14] **A. Kalogeratos**, P. Zagorisos, and A. Likas. Improving Text Stream Clustering using Term Burstiness and Co-burstiness, *Hellenic Conf. on Artificial Intelligence*, 2016.
- [15] 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.
- [16] **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.
- [17] V. Chasanis, **A. Kalogeratos**, and A. Likas. Movie segmentation into scenes and chapters using locally weighted bag of visual words, *ACM ICIV Int. Conf. on Image and Video Retrieval*, 2009.
- [18] **A. Kalogeratos** and A. Likas. A significance-based graph model for clustering web documents, *Hellenic Conf. on Artificial Intelligence*, 2006.
- [19] M. Fekom and **A. Kalogeratos**. Efficient stream-based Max-Min diversification with minimal failure rate, arXiv:2011.106592020, 2020.
- [20] **A. Kalogeratos** and S.S. Mannelli. Winning the competition: enhancing counter-contagion in SIS-like epidemic processes, 2020.
- [21] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Dynamic Epidemic Control via Sequential Resource Allocation, arXiv:2006.07199, 2020.
- [22] A. Merida, M. Mougeot, and **A. Kalogeratos**. Model family selection for classification using Neural Decision Trees, arXiv:2006.11458, 2020.
- [23] B. Le Bars, P. Humbert, L. Oudre, **A. Kalogeratos**, and N. Vayatis. Learning a Graph from Signals with Sparse Spectral Representation, 2019.
- [24] M. Fekom, **A. Kalogeratos**, and N. Vayatis. The Warm-starting Sequential Selection Problem and its Multi-round Extension, arXiv:1809.07299v2, 2019.
- [25] K. Scaman, **A. Kalogeratos**, L. Corinzia, and N. Vayatis. A spectral method for activity shaping in Continuous-Time Information Cascades, arXiv:1709.05231, 2017.
- [26] **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.

TECHNICAL
REPORTS
(UNDER REVIEW)

BOOK
CHAPTERS

- [27] **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.
- [28] **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.)
- [29] 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.
- [30] B. Le Bars and **A. Kalogeratos**. Node-level Anomaly Detection in Communication Networks, *3rd Graph Signal Processing Workshop (GSP)*, 2018.
- [31] M. Fekom, N. Vayatis, and **A. Kalogeratos**. Optimizing group selection over multiple sequential selection rounds, *Workshop on Multi-Armed Bandits and Learning Algorithms*, 2018.
- [32] **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.
- [33] **A. Kalogeratos**, K. Scaman, and N. Vayatis. Learning to Suppress SIS Epidemics in Networks, *NIPS 2015 Networks in the Social and Information Sciences*, 2015.
- [34] 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
- *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. myfillDate[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 (ex CMLA), ENS Paris-Saclay, France** [2013 – now]
- Co-supervision of **3 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); **2 ongoing Ph.D. theses** (Alejandro de la Concha and Anthea Merida); **11 M.Sc. (M2) theses, 7 M.Sc. (M1) theses; 9 License (L3) theses** involving 17 L3 students. Overall, I have worked on research projects with 40 students of any level.
- Dept. of Computer Science, University of Ioannina, Greece** [2009 – 2012]
- Co-supervision of **1 M.Sc. thesis, 4 Undergraduate theses (M1)**.

PROFESSIONAL
RESEARCH
EXPERIENCE

- *Responsible for the design and final evaluation of the Ile-de-France “AI for Industry” Challenge* involving industrial problems related to the SNCF and Michelin companies. Role: Coordinator 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-consultant. [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 for the 10h intense module of ENS Paris-Saclay: *ML for Network Modeling* (M1) [Spring 2020 & Fall 2020]
- Teaching assistant for the ENS Paris-Saclay course (M1): *Optimization* (A. Trouvé) [Spring 2019-2021]
- Teaching assistant for the Hyper Performance Computing Master course (M2): *Data and Machine Learning* (N. Vayatis) [Fall 2018-2020]
- Teaching assistant for the Agregation préparatoire (for future teachers of french preparatory classes): *Statistics* [Fall 2018, Spring 2019-2021]
- 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 5 independent 10-week research projects (8 students) as part of the MVA Master course (80% of final grade): *Graphs in Machine Learning* (Michal Valko) [Fall 2015-2019]
- Laboratory instructor for undergraduate courses at the Dept. of Computer Technology and Telecommunications, TEI of Epirus, Greece. 4 courses: *Data Mining* (2 sem.s), *Computational Intelligence* (2 sem.s), *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.s), *Computational Intelligence* (3 sem.s), *Basic Electronics* (1 sem.), *Computer Architecture* (1 sem.) [2009 – 2012]

ACADEMIC
SERVICE

Ph.D. Jury Member

- Thesis of Kevin Scaman, CMLA, ENS Cachan, Oct 2016
- Thesis of Mathilde Fekom, Centre Borelli, ENS Paris-Saclay, Jan 2021
- Thesis of Batiste Le Bars, Centre Borelli, ENS Paris-Saclay, Jan 2021
- Thesis of Lina Cristancho-Fajardo, (superv.: E. Vergu and P. Ezanno), INRA(E), Jouy en Josas, Paris area, Jan 2019 – ...

Service in the MLMDA group

- Sharing responsibilities in organizing the seminar talks of the research group (internal and external speakers).
- Supporting the dissemination of research results of the group through its [website](#) (implementation and maintenance).

Referee Service (indicative list)

- Journals: Pattern Recognition, Journal of Machine Learning Research (JMLR), IEEE Transactions on Knowledge and Data Engineering (TKDE), Journal of Pattern Recognition

Research (JPRR), IEEE Transactions on Signal Processing (TSP), Bioinformatics, Scientific Reports, EURASIP Journal on Advances in Signal Processing, Information Sciences, Scientific Research and Essays.

- Conferences: Neural Information Systems (NeurIPS), Int. Conf. on Machine Learning (ICML), Int. Conf. on Artificial Neural Networks (ICANN), Hellenic Conf. on Artificial Intelligence (SETN), Int. Symposium on Neural Networks (ISNN), Int. Workshop on Data Science for Social Media and Risk (SOMERIS – ICDM'16).
- Book chapters: 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).

LANGUAGES

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