

Positions held

- Oct. 2017– **CNRS researcher**, *Laboratoire d'Informatique de Grenoble*.
2015–2017 **Postdoc**, *Katholieke Universiteit Leuven, Belgique, with Irène Gijbels*.
2012–2015 **PhD grant**, *supervised by Pascal Massart and Jean-Michel Poggi*, defense: July 2nd, 2015, Université Paris-Sud, HIGH-DIMENSIONAL MIXTURE REGRESSION MODELS, APPLICATION TO FUNCTIONAL DATA.

Publications

In journal

- Survey and Evaluation of Causal Discovery Methods for Time Series*, C.K. Assaad, E. Devijver and E. Gaussier, *J. Artif. Int. Res.* 73, 2022, [link](#)
- Semi-supervised Wrapper Feature Selection with a Genetic Algorithm*, V. Feofanov, E. Devijver and M.-R. Amini, *Applied Intelligence*, 2022, [link](#)
- Mixed effects modeling with warping for functional data using B-spline*, G. Claeskens, E. Devijver and I. Gijbels, *Electron. J. Statist.* 15 (2) 5245 - 5282, 2021, [link](#)
- Prediction of the NASH through penalized mixture of logistic regression models*, M. Morvan, E. Devijver, M. Giacomini, and V. Monbet, *Annals of Applied Statistics*, 15(2): 952-970, 2021, [link](#)
- Prediction regions through inverse regression*, E. Devijver and E. Perthame, *Journal of Machine Learning Research*, 2020, [link](#)
- Discussion sur "Pénalités minimales et heuristique de pente" par Sylvain Arlot*, E. Devijver, *Journal de la Société Française de Statistique*, 160(3), 119:120.
- Clustering electricity consumers using high-dimensional regression mixture models*, E. Devijver, Y. Goude and J.-M. Poggi, *Applied Stochastic Models in Business and Industry*, 2019. [doi:10.1002/asmb.2453](https://doi.org/10.1002/asmb.2453)
- Joint rank and variable selection for parsimonious estimation in high-dimension finite mixture regression model*, E. Devijver, *Journal of Multivariate Analysis*, 2017. [doi : 10.1016/j.jmva.2017.02.006](https://doi.org/10.1016/j.jmva.2017.02.006)
- Block-diagonal covariance selection for high-dimensional Gaussian graphical models*, E. Devijver et M. Gallopin, *Journal of the American Statistical Association*, 2017, [doi : 10.1080/01621459.2016.1247002](https://doi.org/10.1080/01621459.2016.1247002)
- Model-based clustering for high-dimensional data. Application to functional data*, E. Devijver, *Advances in Data Analysis and Classification*, 2016, [doi : 10.1007/s11634-016-0242-1](https://doi.org/10.1007/s11634-016-0242-1)
- Finite mixture regression: A sparse variable selection by model selection for clustering*, E. Devijver, *Electronic Journal of Statistics*, 9(2):2642-2674, 2015. [doi : 10.1214/15-EJS1082](https://doi.org/10.1214/15-EJS1082)
- An ℓ_1 -oracle inequality for the Lasso in finite mixture of multivariate Gaussian regression models*, E. Devijver, *ESAIM: PS*, 19:649-670, 2015. [doi : 10.1051/ps/2015011](https://doi.org/10.1051/ps/2015011)

In peer-reviewed conference

Causal Discovery of Extended Summary Graphs in Time Series, C.K. Assaad, E. Devijver and E. Gaussier, UAI (2022) (in press)

A Mixed Noise and constraint-based Approach to Causal Inference in Time Series, K. Assaad, E. Devijver and E. Gaussier, In: Oliver N., Pérez-Cruz F., Kramer S., Read J., Lozano J.A. (eds) Machine Learning and Knowledge Discovery in Databases. Research Track. ECML PKDD 2021. Lecture Notes in Computer Science, vol 12975. Springer, Cham, [link](#)

Smooth And Consistent Probabilistic Regression Trees, S. Alkhoury, E. Devijver, M. Clausel, M. Tami, E. Gaussier, G. Oppenheim, Advances in Neural Information Processing Systems 33 (NeurIPS 2020), [link](#)

Transductive Bounds for the Multi-class Majority Vote Classifier, V. Feofanov, E. Devijver, M.-R. Amini, AAAI 2019, [link](#)

In applied journal in materials science

Unsupervised topological learning for identification of atomic structures, S. Becker, E. Devijver, R. Molinier, N. Jakse, Physical Review E 105 (4) (2022), [link](#)

Unsupervised topological learning approach of crystal nucleation, S. Becker, E. Devijver, R. Molinier, N. Jakse, Scientific Reports 12 (1), 1-9 (2022), [link](#)

Glass-forming ability of elemental zirconium, S. Becker, E. Devijver, R. Molinier, and N. Jakse, Physical review B (2020), [link](#)

In workshop

Unsupervised topological learning approach of crystal nucleation in pure Tantalum, S. Becker, E. Devijver, R. Molinier, and N. Jakse, Workshop on Machine Learning and the Physical Sciences (NeurIPS 2021)

Scaling Causal Inference in Additive Noise Models, K. Assaad, E. Devijver, E. Gaussier, A. Ait-Bachir, The 2019 ACM SIGKDD Workshop on Causal Discovery.

Supervision

- Master **Spring 2022**, *Daria Butorina, Lorys Debbah, Judy Said.*
Spring 2021, *Ezinne Erondu Chinwe, Suraj Ghimire, Vardan Manucharian, Lei Zan.*
Spring 2018, *Vasilii Feofanov.*
- PhD **Ashna Jose**, Since 10/2021, with R. Poloni and N. Jakse.
Johannes Sandberg, Since 10/2021, with N. Jakse and T. Voigtmann.
Lei Zan, Since 08/2021, with K. Assaad and E. Gaussier.
Sébastien Becker, *Grant: Institut MIAI*, Since 10/2019, with N. Jakse and R. Molinier.
Vasilii Feofanov, *Grant: IRIS project*, 10/2018 - 09/2021, with M.R. Amini.
Karim Assaad, *CIFRE grant*, 05/2018 - 07/2021, with E. Gaussier.
- Postdoc **Joao Paulo Almeida de Mendonca**, *grant: institut MIAI, from 12/2021*, with N. Jakse and R. Poloni.
Anouar Meynaoui, *grant: région Rhone Alpes, from 09/2021*, with K. Assaad and E. Gaussier.
Myriam Tami, *grant: TOTAL, 01/2018 - 02/2019*, with E. Gaussier and M. Clausel.
- Engineer **Alexandre Seiller**, *grant: TOTAL, since 05/2021*, with E. Gaussier and M. Clausel.
Sami Alkhoury, *grant: TOTAL, 01/2019 - 12/2020*, with E. Gaussier and M. Clausel.

Projects

- 09/2022 **PI of a project from MIAI (with G. Besson, M. Coavoux and E. Gaussier)**, 1 postdoc, 50 K€.
- 09/2021 **Member of a project from MIAI (PI: R. Poloni)**, 1 postdoc, 50 K€.
- 01/2021 **PI (with E. Gaussier) of a project with Total and Serimax**, 1 engineer, 160 K€.
- 09/2019 **Member of the chair *High-dimensional Inference by Convex Optimisation* (PI: A. Juditski) and the chair *MAGNET* (PI: M.R. Amini and A. Deschamps)**.
- 05/2018 **PI of IRIS project (Université Grenoble Alpes)**, 1 PhD and 5K€.
- 03/2018 **PI of PEPS STATOPO**, 7K€.
- 03/2018 **Member of PEPS AppSpec (PI: J.M. Giacomini)**, 8.5K€.
- 12/2018 **PI of an Emergence project (Laboratoire d'Informatique de Grenoble)**, 4.5K€.

Visits

- KU Leuven**, contact : Irène Gijbels, 2015, 2017.
- IRMAR**, contact : Valérie Monbet, 2017.
- ETH Zurich**, contact : Sara van de Geer, 2015.

Implementation

R package warpMix : Mixed Effects Modeling with Warping for Functional Data Using B-Spline, (2017), <https://cran.rstudio.com/web/packages/warpMix/>.

R package Shock : Slope Heuristic for Block Diagonal Covariance Selection in High Dimensional Gaussian Graphical Model (Emilie Devijver and Mélina Gallopin), <https://cran.rstudio.com/web/packages/shock/>.

Matlab code SelMix : variable selection with mixture of regression models, (Emilie Devijver and Benjamin Auder), <http://git.auder.net/?p=select.git>.

Referee work

Regular referee for *Australian & New Zealand Journal of Statistics*, *BMC Bioinformatics*, *Bernoulli*, *Scientific Reports Nature*, *AISTATS 2020, 2021*, *Annales de l'Institut Henri Poincaré*, *Annals of Applied Statistics*, *Communications in Statistics - Simulation and computation*, *Computational Statistics & Data Analysis*, *Information and Inference: A Journal of the IMA*, *Pattern Recognition Letters*

Administrative and scientific duties

- 2021 Chair of ECML PKDD 2022 journal track (3 cut-off during one year, with around 100 papers to deal with)
- 2019- Selection committee (2019: Rennes 2, Lyon, Nancy ; 2020: Lille)
- 2017-2020 ATLAS group from GdR MADICS (organization of events about machine learning for medical data)
- 07/2019 Co-organiser of the *1st summer school in Statistics and Data Science for young researchers in french speaking African countries*
- 10/2018 Co-organiser of the first *Regional Workshop of European young researchers in statistics*
- 10/2018 Co-organiser of the international workshop *Advances in Functional Data Analysis : Cluster, location and shape*
- 2016-2019 Elected member of the young statistician group, SFdS, treasurer since 06/2018

Teaching

Université Grenoble Alpes

- 2021 - **Lecturer for the course *High-dimensional statistics***, Master 2.
- 2018 - **Lecturer for the course *Model selection for large-scale learning***, Master 2.
- 2017-2019 **Lecturer for the course *Data Analysis***, Master 1.

Abroad

- Autumn 2016 **Lecturer *Statistical Inference***, Bachelor 3.
- 07/2016 **Lecturer in a summer school, Prishtina, Kosovo**, *Asymptotic statistics*, Bachelor.
- 12/2015 **Lecturer in a winter school, Prishtina, Kosovo**, *Introduction to graph theory*, Bachelor.

Université Paris-Sud

- 2015 **TA probability theory, Polytech, Université Paris-11.**
- 2012-2014 **TA probability and statistics, M1 .**
- 2012-2014 **TA probability theory, Bachelor 2.**

Other

- 2021 **Jury for *Agregation Interne de Mathématiques*.**
- 2020 **Jury for *Ecole Polytechnique*.**

Oral presentations

Invitations at international events

- 2021 CMM, Londres
- 2019 CRONOS, Chypre
- 2017 CMM, Londres
- 2016 Joint Statistical Meeting, Chicago (*IMS Travel Award* and *FWO Travel Grant*), New Developments in Functional and Highly Multivariate Statistical Methodology, Oberwolfach Mathematische Forschungsinstitut, Statistical learning, CIRM, Luminy.
- 2015 Probabilistic techniques in modern statistics, Oberwolfach Mathematische Forschungsinstitut.

International events

- 2020 NeurIPS, online
- 2019 AAAI, Hawaii
- 2017 IWFOs 2017, La Coruña
- 2015 Working-Group on Model-based clustering, Seattle, IFCS Biennial Conference, Bologna
- 2014 MBC², Catania, 2nd ISNPS conference, Cadiz

National events

- 2019 Journées de Statistique, Nancy
- 2018 Journées MAS 2018, Dijon, 50èmes Journées de Statistique, Saclay, SMPGD, Montpellier
- 2017 49èmes Journées de Statistique, Avignon
- 2016 Leuven Statistics Days, Journées MAS 2016, Grenoble (talk and poster), 48ème Journées des Statistique, Montpellier
- 2015 47ème Journées de Statistique, Lille
- 2014 Journées MAS 2014, Toulouse, 46ème Journées de Statistique, Rennes, Young Statisticians and Probabilists, Paris
- 2013 Colloque Statistique Mathématiques et Applications, Fréjus