

CHRISTINE THOMAS-AGNAN
April 1, 2026

1 Career

Birth date : 12-07-1956 (in Béziers, France)
Family : married, two children
Professional address : TSE-R, Université Toulouse 1 Capitole, 1 Esplanade de l'université, 31000 TOULOUSE.
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1.1 Studies

1976-1980 Student of the Ecole Normale Supérieure de Jeunes Filles (Sèvres)
1976-1977 Master 1 (maîtrise) in Paris 7
1977-1978 Master 2 (D.E.A) of mathematics in Paris 6 under the direction of M. Marle (symplectic geometry applied to quantum mechanics)
1978-1979 Competitive exam Agrégation at ENSJF. Rank 45th
1979-1980 Master 2 (D.E.A) of Statistics at Paris 11 (Orsay), with a two months internship in the laboratory of Statistics of the agronomical institute in Rennes, under the direction of Jean Pierre Masson.
11 September 1987 PhD in Mathematics, UCLA.

1.2 Positions

1980-1981 Intern for Agrégation in Clermont-Ferrand, with a six weeks internship in Paris(Régie Renault).
1981-1983 High school professor (Terminale C at Lycée de Mauriac, Cantal).
Summer 1983 Six weeks internship at IBM (summer school)
1983-1984 Professor in “classe de Mathématiques Supérieures TA” at the Lycée Amédée Gasquet in Clermont-Ferrand
1984-1987 Teaching assistant and research assistant at UCLA (University of California Los Angeles)
PhD defense September 11th 1987.
1987-1988 P.R.A.G. at Université de Toulouse II
1988-1993 Maitre de conférences at Université de Toulouse I
1993-1994 One year position at CNRS.
Habilitation à diriger des recherches January 14th 1994.
since 1994 Professor at Université de Toulouse I
2000-2001 Sabbatical at Bentley College, Boston, USA
2004-2005 One year position at CNRS
Since September 1, 2022 Professor emeritus TSE

2 Administrative duties during my career

- Director of Master 2 Statistics and Econometrics (between January 2004 and September 2015) (UT1-UT3)
- Director of Master 1 Economics and Statistics of TSE from September 2011 to 2022.
- Director of Master 1 Mathematics and Economic Decision of TSE from September 2020 to 2022.
- Member of the pedagogical committee of the “Ecole d’Economie de Toulouse” since the creation of the school.
- Member of hiring committee (UT1) of 26ème section UT1.
- UT1 correspondent of Ecole doctorale de Mathématiques Appliquées and of M2R Applied Maths.
- Director of Mathematics Department in period 2020-2022.

3 Research

Member of TSE-R (Toulouse School of Economics, UMR 5314)

My main research topics are

- Kernel methods (applications of reproducing kernels Hilbert space theory)
- Functional data analysis
- Compositional and distributional data analysis
- Spatial point processes
- Spatial econometrics
- Conditional quantiles and expectiles, efficiency measures
- Non and semi parametric inference
- Market share regression models
- Political economics statistical models

3.1 PhD supervision

List of supervised PhD:

1. Cheikh Diack (1997) Tests de convexité pour une fonction de régression. Actuellement dans l'industrie pharmaceutique (convexity testing for a regression function)
2. Sandrine Casanova (2000) Estimation non paramétrique des quantiles conditionnels. Actuellement maître de conférences à l'université de Toulouse 1 Capitole. (non parametric estimation of conditional quantiles)
3. Abdelaati Daouia (2003) en codirection avec Yves Aragon, Analyse non-paramétrique des frontières de production et des mesures d'efficacité à l'aide de quantiles conditionnels non-standards. Actuellement maître de conférences à l'université de Toulouse 1 Capitole. (Nonparametric production frontiers and efficiency measures with non-standard conditional quantiles)
4. Samuel Elogne (2004), en codirection avec Olivier Perrin. Estimation non paramétrique d'une fonction de covariance spatiale non stationnaire par des méthodes d'interpolation. (nonparametric estimation of an autocovariance function by interpolation methods)
5. Inés Heba (2005). Contributions à l'analyse statistique et économétrique des données géoréférencées, en codirection avec Yves Aragon. Thèse en cotutelle avec l'université de Tirana en Albanie (Pr. Ruseti). Actuellement à l'Institut national de statistique d'Albanie. (contributions to the statistical and econometric analysis of georeferenced data)
6. Lionel Cucala (2006). Espacements bidimensionnels et données entachées d'erreurs dans l'analyse des processus ponctuels spatiaux. Actuellement maître de conférences à l'université de Montpellier II. (Bidimensional spacings and measurement error in spatial point processes)
7. Florent Bonneau (2009) Processus ponctuels spatiaux pour l'analyse du positionnement optimal et de la concentration. Actuellement maître de conférences à l'université d'Avignon. (spatial point processes for optimal positioning and spatial concentration)
8. Do Van Huyen (2015) Areal interpolation methods.
9. Serge Somda (2015) Individualisation du suivi en fonction des facteurs pronostiques et du type de rechute. (individual follow-up of patients as a function of prognostic factors and type of relapse)
10. Joanna Morais (2017). CIFRE with BVA, co-direction with Michel Simioni. Impact of media investments on brands' market shares: a compositional data analysis approach.

11. Huong Trinh Thi (2018), co-direction with Michel Simioni. Adapting recent statistical techniques to the study of nutrition in Vietnam.
12. Nguyen Huong An, co-direction with A. Ruiz-Gazen, starting May 2017. Political economics statistical models.
13. Lukas Dargel, co-direction with A. Ruiz-Gazen, started in October 2020, completed December 2023. Modèles d'interaction pour l'analyse économétrique des données de géomarketing et de transport.
14. Thibault Laurent, co-direction with A. Daouia, December 2025. International Migration and Climate Change: New Methods in Statistics and Spatial Econometrics.
15. Camille Mondon, co-direction with A. Ruiz-Gazen, started in October 2023.
16. Hamad Tria, co-direction with A. Ruiz-Gazen, started in October 2025.

Supervision of HDR (habilitation à diriger des recherches)

- A. Ruiz-Gazen (2004)
- O. Perrin (2005)
- N. Peyrard (2013)
- T. Filleron (2014)
- E. Leconte (2017)
- X. Gendre (2022)

3.2 Research contracts

- Participation to contract DAER/9408140 with Midi-Pyrénées region: Disparités démographiques et économiques dans la région Midi-Pyrénées.
- Participation to contract DAER/99008446 and DAER/01002735 with Midi-Pyrénées region: Modélisation, simulation et analyse des dynamiques spatiales de l'économie.
- Participation to contract DAER/03012074 with Midi-Pyrénées region: Spatialyse.
- Contract with "rectorat de l'académie de Toulouse": " Etude des coûts salariaux dans les collèges et lycées de Midi-Pyrénées, Comparaison rural-urbain en 2003-2004. "
- research contract with DREAL Midi Pyrénées (2010 - 2011 - 2012)

3.3 Leadership and participation to financed projects

- I have been the coordinator of an ANR project entitled **ModULand** (Programme Blanc): Usage des sols : modèles, dynamique et décisions. (ANR 2011 BSH1 005 01) from 2011 to 2016. This interdisciplinary project comprised a group of 5 statisticians (from Toulouse) and 8 econometricians (Toulouse, Paris, Besançon, Dijon, Nancy). The modeling of land use is considered under its theoretical aspects with spatial econometrics methods and also under its economics aspects with its impact on natural resources and the impact of public policies on its evolution.
- I am a member of a project with Latin-America financed by the Belmont Forum (via ANR) about the impact of climate change on international migrations.
- I have been the coordinator of a two-months project financed by the Vietnam Institute for Advanced Studies in Mathematics (VIASM) in 2024. The project comprised 5 researchers and the application topic was using temperature densities to describe and study the impact of climate change, notably on agriculture. A new project with VIASM has just been approved for 2027 with a different group of researchers.

3.4 Conference organization

1. President of the scientific committee of the first "Spatial Econometrics Workshop" June 14th 2002 in UT1.
2. President of the scientific committee of the fourth "Spatial Econometrics Workshop" juin 27th 2005 in UT1.
3. President of the scientific committee of "Journées de Statistique de la SFDS" (Société Française de Statistique), Angers June 2007.
4. Participation to the organizing committee of Franco-Danois SSIAB (Spatial Statistics and Image Analysis in Biology), Toulouse May 2008.
5. Scientific coordinator for the International School and Conference on Mathematical Methods in Finance and Economy, Hanoi, Vietnam, 24-30 May 2010.
6. Scientific coordinator for the International School and Conference on Mathematical Methods in Finance and Economy, DoSon, Vietnam, 24/10-01/11 2011.
7. President of the scientific committee of " Spatial Econometrics Society meeting " July 2011 in Toulouse.
8. President of the organizing committee of "Journées de Statistique de la SFDS" in May 2013 in Toulouse.

9. President of the organizing committee of the conference CodaWorks 2022 in Toulouse (June 27-July 1).
10. Member of scientific committee of CoDaWorks 2026, Coimbra, Portugal
11. Member of scientific committee of CISEM 2026, Tunisia.

3.5 Editorial activities

- Chief editor of the Journal CSBIGS: Case Studies in Business, Industry and Government (<http://www.csbiggs.fr>), 2015-2020.
- Member of the publications committee of the SFDS until 2019.
- Associate editor of “Journal of Spatial Econometrics” from 2010 to 2023.
- Member of editorial board of “Journal of Geographical Systems”

3.6 Some recent oral communications

1. 6 hours intensive course on “Real Estate Pricing Models with spatial autocorrelation”, DoSon, Vietnam, 2011.
2. invited for oral communication about “Outils et Modèles de statistique spatiale” at the séminar PEPI-INRA (november 2011, Paris)
3. invited for oral communication about “A unified framework for measuring industry location characteristics based on marked spatial point processes” at the weekly seminar of université de Pau et Pays de l’Adour (Juin 2012).
4. communication at the conference SSIAB 2012 (Avignon) “A unified framework for measuring industry location characteristics based on marked spatial point processes”
5. communication at the conference JdS 2012 é Bruxelles “Areal interpolation methods - Merging areal data at different spatial scales”
6. invitation for intensive course (14h) on “Analyse statistique des données spatiales”, Vitoria-Gazteis, Espagne, 2012.
7. invited talk at the conference (6th Seminar “Jean Paelinck” of Spatial Econometrics, Madrid, November 2013) on “Measuring and testing spatial mass concentration of micro-geographic data”.
8. invited talk at the 7th Seminar “Jean Paelinck” of Spatial Econometrics, Zaragoza, November 2014.
9. invited talk at the “Spatial statistics” international conference, Avignon June 2015 on “Areal interpolation methods: merging areal data at different spatial scales”.

10. invited course “Introduction to spatial econometrics”. VIASM Hanoi December 2021.
11. Journées de Statistique de la SFDS 2021 “Assessing the impact of covariates in compositional regression models”
12. invited course at VIASM “Introduction to log-ratio analysis of compositional data”. Hanoi October 2022.
13. invited talk at VIASM October 2022 “Outlier detection in compositional data using ICS” Hanoi
14. “Outlier detection in compositional data using ICS” ECOSTA 2022 online
15. Journées de Statistique de la SFDS 2022 “Outlier detection in compositional data using ICS” Lyon
16. invited talk at VIASM “Discrete and smooth scalar-on-density compositional regression for assessing the impact of climate change on rice yield in Vietnam” March 2023
17. 20th international workshop on Spatial econometrics and statistics “A Generalized Framework for estimating Spatial Econometric Interaction Models”, San Diego, Nov.2023
18. Académie des Sciences “Modélisation de l’impact de facteurs socio-économiques sur la répartition des voix lors d’une élection” Juin 2023 Toulouse
19. Journées de Statistique de la SFDS 2024 “Interprétation des modèles de régression compositionnelle basées sur les ratio de paires de composantes”
20. CFE-CM Statistics 2024, “A Bayes point of view on climate change”, London.
21. Helsinki 2024 workshop, “Outlier detection in compositional data using ICS”
22. invited course “Spline functions” VIASM March 2024.
23. invited talk at Academy of Policy and Development, “Modelling the impact of socio-economic factors on the distribution of votes during an election”, Hanoi, April 2024
24. “Pairwise share ratio interpretations of compositional regression models An application to political sociology” Vien Toan Hoc, April 2024 and CoDaworks Girona June 2024
25. invited conference at CoDaday 2025, “Scalar-on-composition and scalar-on-density compositional regression for assessing the impact of climate change on rice yield in Vietnam”

4 Publications

4.1 Books

1. [5] A. Berlinet and C. Thomas-Agnan (2004), Reproducing kernel Hilbert spaces in probability and statistics.
2. [26] J.-J. Dreesbeke, M. Maumy-Bertrand, G. Saporta et C. Thomas-Agnan (2013) Modèles à variables latentes et modèles de mélange..
3. [4] G. Arbia and C. Thomas-Agnan (2014), Introduction: Advances in Cross-Sectional and Panel Data Spatial Econometric Modeling.
4. [27] J.-J. Dreesbeke, M. Maumy-Bertrand, G. Saporta et C. Thomas-Agnan (2014) Approches statistiques du risque.
5. [28] J.-J. Dreesbeke, G. Saporta et C. Thomas-Agnan. (2015). Méthodes robustes en statistique.
6. [6] Bertrand, F., Dreesbeke, J. J., Saporta, G., and Thomas-Agnan, C. (2017). Model choice and model aggregation.
7. [48] M. Maumy-Bertrand, G. Saporta et C. Thomas-Agnan. (2018) Apprentissage statistique et données massives.
8. [9] Bertrand, Frédéric, Gilbert Saporta, and Christine Thomas-Agnan. (2021) Statistique et causalité.
9. [31] Gégout-Petit, A., Maumy-Bertrand, M., Saporta, G., and Thomas-Agnan, C. (2022). Données manquantes.
10. [8] Bertrand, Frédéric, Anne Gégout-Petit, and Christine Thomas-Agnan. (2025) Données de composition.
11. [7] Bertrand, Frédéric, Anne Gégout-Petit, and Christine Thomas-Agnan. (to appear in 2026) Statistique des données fonctionnelles.

4.2 Published articles: 1989-2013

See full reference in Section “References”

1. [10] P. Besse et C. Thomas-Agnan (1989), Le lissage par fonctions splines en statistique.
2. [63] C. Thomas-Agnan (1989), Smoothing noisy data by two equivalent techniques.
3. [65] C. Thomas-Agnan (1990), Smoothing periodic curves by a method of regularization.
4. [64] C. Thomas-Agnan (1990), A family of splines for nonparametric regression and their relationships with kriging.

5. [66] C. Thomas-Agnan (1991), Spline functions and Stochastic filtering.
6. [67] C. Thomas-Agnan (1993), Computing a family of reproducing kernels for statistical applications.
7. [22] M. Delecroix, M. Simioni, C. Thomas-Agnan (1995), A shape constrained smoother: simulation study.
8. [23] M. Delecroix, M. Simioni, C. Thomas-Agnan (1996), Functional estimation under shape constraints.
9. [25] C. Diack and C. Thomas-Agnan (1998), A nonparametric test of the non convexity of regression.
10. [59] S. Casanova and C. Thomas-Agnan (1998), Quantiles conditionnels.
11. [46] E. Mammen and C. Thomas-Agnan (1999), Smoothing splines and shape restrictions.
12. [60] S. Casanova and C. Thomas-Agnan (2000), About Monotone regression quantiles.
13. [24] M. Delecroix and C. Thomas-Agnan (2000) Spline and kernel regression under shape restrictions.
14. [41] S. Casanova, E. Leconte and C. Thomas-Agnan (2002), Smooth conditional distribution function and quantiles under random censorship.
15. [44] Y. Aragon, K.C. Li, K. Shedden and C. Thomas-Agnan (2003), Dimension Reduction for Multivariate Response Data.
16. [3] Y. Aragon, D. Haughton, J. Haughton, E. Leconte, E. Malin, A. Ruiz-Gazen, C. Thomas-Agnan (2003), Explaining the pattern of regional unemployment: the case of the Midi-Pyrénées Region.
17. [1] Y. Aragon and A. Daouia and C. Thomas-Agnan (2005), Nonparametric frontier estimation : a conditional quantile based approach.
18. [16] Cressie N., Perrin O. and Thomas-Agnan C. (2005), Likelihood based estimation for Gaussian MRFs.
19. [58] Cressie N., Perrin O. and Thomas-Agnan C., (2005). Doctors's prescribing patterns in the Midi-Pyrénées region of France: point process aggregation.
20. [15] S. Coelho, N. Lassabe, Y., C. Thomas-Agnan (2006), La plate-forme DynaSpat : Les dynamiques spatiales.
21. [17] Cucala, L. and Thomas-Agnan, C. (2006). Spacings-based tests for spatial randomness and coordinate-invariant procedures.

22. [2] Aragon Y., Daouia A. and Thomas-Agnan C. (2006). Efficiency Measurement: A Nonparametric Approach.
23. [70] Ruiz-Gazen A. and Thomas-Agnan C. (2007). A propos de l'ouvrage "Analyse statistique des données spatiales"
24. [29] Elogne S., Perrin O., Thomas-Agnan C. (2008), Non parametric estimation of smooth stationary covariance functions by interpolation methods.
25. [11] Bonneau F. and Thomas-Agnan C. (2009) Spatial point process models for location-allocation problems
26. [45] Magrini, M. B., Bonneau, F., Thomas-Agnan, C., and Coelho, S. (2011). Educational planning: a simulation approach for the creation or closure of school classes.
27. [39] Laurent T., Ruiz-Gazen A. and Thomas-Agnan C. (2012) GeoXp: an R package for exploratory spatial data analysis.
28. [75] Céline Vignes, Sarah Rimbourg, Anne Ruiz-Gazen et Christine Thomas-Agnan (2013) "Fiches méthodologiques, méthodes statistiques d'allocation spatiale : interpolation de données surfaciques ",

4.3 Published articles: 2014-2021

- [30] P. Filzmoser, A. Ruiz-Gazen, C. Thomas-Agnan (2014) Identification of local multivariate outliers.
- [43] LeSage J.P., Thomas-Agnan C. (2014) Spatial econometric OD-Flow models.
- [42] LeSage, J. P., and Thomas-Agnan, C. (2015) Interpreting spatial econometric origin-destination flow models.
- [71] Do Van Huyen, Thomas-Agnan C. and Vanhems A. (2014) Testing areal interpolation methods with US census 2010 data.
- [36] Do Van Huyen, Thomas-Agnan, C., and Vanhems, A. (2015). Spatial reallocation of areal data: another look at basic methods.
- [72] Do Van Huyen, Thomas-Agnan C. and Vanhems A. (2015) Accuracy of areal interpolation methods for count data.
- [12] Bonneau, F., and Thomas-Agnan, C. (2015). Measuring and testing spatial mass concentration with micro-geographic data.
- [47] Margaretic, P., Thomas-Agnan, C., and Doucet, R. (2015). Spatial dependence in (origin-destination) air passenger flows.

- [74] Trinh T.H., Thomas-Agnan C. and Simioni M. (2016). Calorie intake and income in China: new evidence using semi parametric modelling with generalized additive models.
- [13] Chakir, R., Laurent, T., Ruiz-Gazen, A., Thomas-Agnan, C., and Vignes, C. (2016) Spatial scale in land use models: application to the Teruti-lucas survey.
- [32] Goulard, M., Laurent, T., and Thomas-Agnan, C. (2017) About predictions in spatial autoregressive models: Optimal and almost optimal strategies.
- [14] Chakir, R., Laurent, T., Ruiz-Gazen, A., Thomas-Agnan, C., and Vignes, C. (2017) Prédiction de l'usage des sols sur un zonage régulier à différentes résolutions et à partir de covariables facilement accessibles.
- [53] Morais J.,Thomas-Agnan C. and Simioni M. (2018) Using compositional and Dirichlet models for market share regression.
- [52] Morais J.,Thomas-Agnan C. and Simioni M. (2018) Interpretation of explanatory variables impacts in compositional regression models.
- [33] Trinh, T. H., Morais, J., Thomas-Agnan, C. and Simioni, M. (2018) Relations between socio-economic factors and nutritional diet in Vietnam from 2004 to 2014: New insights using compositional data analysis.
- [34] Trinh, T. H. , Simioni, M., and Thomas-Agnan, C. (2018). Assessing the nonlinearity of the calorie-income relationship: An estimation strategy with new insights on nutritional transition in Vietnam.
- [35] Trinh, T. H., Simioni, M., and Thomas-Agnan, C. (2018). Decomposition of changes in the consumption of macronutrients in Vietnam between 2004 and 2014.
- [55] T.H.A Nguyen, Anne Ruiz-Gazen, Christine Thomas-Agnan and Thibault Laurent (2019) Multivariate Student versus Multivariate Gaussian Regression Models with Application to Finance.
- [56] Nguyen, T. H. A., Thomas-Agnan, C., Laurent, T., and Ruiz-Gazen, A. (2020) A simultaneous spatial autoregressive model for compositional data.
- [54] Nguyen, T. H. A., Laurent, T., Thomas-Agnan, C., and Ruiz-Gazen, A. (2020) Analyzing the impacts of socio-economic factors on French departmental elections with coda methods.
- [51] Morais, J., and Thomas-Agnan, C. (2021) Impact of Covariates in Compositional Models and Simplicial Derivatives.
- [37] Laurent T., Margaretic P. and Thomas-Agnan C.(2021) Neighbouring countries and bilateral remittances: a global study.

- [69] Thomas-Agnan C., Laurent T., Ruiz-Gazen A., Chakir R. and Lungarska A. (2021) Spatial simultaneous autoregressive models for compositional data: application to land use.

4.4 Articles in 2022-2026

1. [37] Thibault Laurent, Paula Margaretic, and Christine Thomas-Agnan (2022) Neighbouring countries and bilateral remittances: a global study.
2. [57] Javier Palarea-Albaladejo, Josep Antoni Martín-Fernández, Anne Ruiz-Gazen, and Christine Thomas-Agnan (2022) lrsvd: An efficient imputational algorithm for incomplete high-throughput compositional data.
3. [62] Anne Ruiz-Gazen, Christine Thomas-Agnan, Thibault Laurent, and Camille Mondon (2022) Detecting outliers in compositional data using invariant coordinate selection.
4. [40] Thibault Laurent, Christine Thomas-Agnan, and Anne Ruiz-Gazen (2023) Covariates impacts in spatial autoregressive models for compositional data.
5. [38] Thibault Laurent, Paula Margaretic, and Christine Thomas-Agnan. Generalizing impact computations for the autoregressive spatial interaction model.
6. [61] Christopher Rieser, Anne Ruiz-Gazen, and Christine Thomas-Agnan (2023) Edgewise outliers of network indexed signals.
7. [68] Christine Thomas-Agnan and Lukas Dargel (2023) Modélisation de l'impact de facteurs socio-économiques sur la répartition des voix lors d'une élection.
8. [20] Lukas Dargel and Christine Thomas-Agnan (2024) The link between multiplicative competitive interaction models and compositional data regression with a total.
9. [21] Lukas Dargel and Christine Thomas-Agnan (2024) Pairwise share ratio interpretations of compositional regression models.
10. [49] Camille Mondon, Huong Thi Trinh, Anne Ruiz-Gazen, and Christine Thomas-Agnan (2026) Ics for complex data with application to outlier detection for density data.
11. [73] Trinh Thi Huong, Christine Thomas-Agnan, and Michel Simioni. Scalar-on-distribution regression for assessing the impact of climate change on rice yield in Vietnam.

4.5 Books in 2022-2026

1. [31] Gégout-Petit, A., Maumy-Bertrand, M., Saporta, G., and Thomas-Agnan, C. (2022). Données manquantes.
2. [8] Bertrand, Frédéric, Anne Gégout-Petit, and Christine Thomas-Agnan. (2025) Données de composition.
3. [7] Bertrand, Frédéric, Anne Gégout-Petit, and Christine Thomas-Agnan. (to appear in 2026) Statistique des données fonctionnelles.

5 Submitted papers

- [50] Camille Mondon, Thi Huong Trinh, Josep Antoni Martín-Fernández, and Christine Thomas-Agnan. Testing mean densities with an application to climate change in vietnam, minor revision at J. Agricultural, Biological and Environmental Statistics.
- [19] Evangelina Dardati, Thibault Laurent, Paula Margaretic, and Christine Thomas-Agnan. Climate, conflict and international migration. Revision at Journal of Economic Geography.
- [18] Evangelina Dardati, Thibault Laurent, Paula Margaretic, Ean Pareres, and Christine Thomas-Agnan. Accounting for the full distribution of temperature to predict international migration. Submitted to Journal of Population Economics in January 2026.

References

- [1] Yves Aragon, Abdelaati Daouia, and Christine Thomas-Agnan. Nonparametric frontier estimation: a conditional quantile-based approach. *Economic Theory*, 21(2):358–389, 2005.
- [2] Yves Aragon, Abdelaati Daouia, and Christine Thomas-Agnan. Efficiency measurement: a nonparametric approach. *Annales d'Économie et de Statistique*, pages 217–242, 2006.
- [3] Yves Aragon, Dominique Haughton, Jonathan Haughton, Eve Leconte, Eric Malin, Anne Ruiz-Gazen, and Christine Thomas-Agnan. Explaining the pattern of regional unemployment: The case of the midi-pyrénées region. *Papers in Regional Science*, 82(2):155–174, 2003.
- [4] Giuseppe Arbia and Christine Thomas-Agnan. Introduction: Advances in cross-sectional and panel data spatial econometric modeling, 2014.
- [5] Alain Berlinet and Christine Thomas-Agnan. *Reproducing kernel Hilbert spaces in probability and statistics*. Springer Science & Business Media, 2011.

- [6] Frédéric Bertrand, Jean-Jacques Droesbeke, Gilbert Saporta, and Christine Thomas-Agnan. *Model choice and model aggregation*. Editions Technip, 2017.
- [7] Frédéric Bertrand, Anne Gégout-Petit, Gilbert Saporta, and Christine Thomas-Agnan. *Statistique des données fonctionnelles*. Editions Technip, 2026.
- [8] Frédéric Bertrand, Anne Gégout-Petit, and Christine Thomas-Agnan. *Données de composition*. Editions Technip, 2025.
- [9] Frédéric Bertrand, Gilbert Saporta, and Christine Thomas-Agnan. *Statistique et causalité*. Editions Technip, 2021.
- [10] Philippe Besse and Christine Thomas-Agnan. Le lissage par fonctions splines en statistique, revue bibliographique. *Statistique et Analyse des données*, 14(1):55–84, 1989.
- [11] Florent Bonneu and Christine Thomas-Agnan. Spatial point process models for location–allocation problems. *Computational statistics & data analysis*, 53(8):3070–3081, 2009.
- [12] Florent Bonneu and Christine Thomas-Agnan. Measuring and testing spatial mass concentration with micro-geographic data. *Spatial Economic Analysis*, 10(3):289–316, 2015.
- [13] Raja Chakir, Thibault Laurent, Anne Ruiz-Gazen, Christine Thomas-Agnan, and Céline Vignes. Spatial scale in land use models: application to the teruti-lucas survey. *Spatial Statistics*, 18:246–262, 2016.
- [14] Raja Chakir, Thibault Laurent, Anne Ruiz-Gazen, Christine Thomas-Agnan, and Céline Vignes. Prédiction de l’usage des sols sur un zonage régulier à différentes résolutions et à partir de covariables facilement accessibles. *Revue économique*, 68(3):435–469, 2017.
- [15] Sandrine Coelho, Yves DUTHEN, and Christine THOMAS-AGNAN. La plate-forme dynaspat: Les dynamiques spatiales. In *VSSST’2004: veille stratégique scientifique & technologique: systèmes d’information élaborée, bibliométrie, linguistique, intelligence économique (Toulouse, 25-29 octobre 2004)*, 2004.
- [16] Noel Cressie, Olivier Perrin, and Christine Thomas-Agnan. Likelihood-based estimation for gaussian mrfs. *Statistical Methodology*, 2(1):1–16, 2005.
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