Curriculum vitae

Thomas Verdebout, homepage: http://tverdebo.ulb.ac.be

1. Personal details

Address (professional): Université libre de Bruxelles (Campus Plaine), Boulevard du Triomphe, CP210, B-1050 Brussels, Belgium.
Phone number (professional): (+32) 02.650.58.92.
E-mail address: thomas.verdebout@ulb.be
Languages: French, English.

2. Education

2013: *Habilitation à diriger des recherches (HDR)*
Dissertation: "Contribution to multivariate analysis and inference for directional data" (Lille, France, defense date: 2013/11/22).

2006–2008: *PhD in Sciences (Statistics)*
Dissertation: "Optimal inference for one-sample and multisample Principal Component Analysis" (advisors: Marc Hallin and Davy Paindaveine, defense date: 2008/10/24). Université libre de Bruxelles.

2001–2006: *Master Degree in Mathematics (4 years program, Grande Distinction)+DEA (diplôme d'études approfondies) in Statistics, Probability and Operational Research (1 year program, Grande Distinction).*
Université libre de Bruxelles.

1995–2001: *Secondary School Certificate*
Athénée Royal Jules Bara, Tournai.

3. Professional career

2023–...: *Professor* at the Mathematics Department, Université libre de Bruxelles. Courses taught: "Statistique Mathématique II", "Graduate Statistics", "Probabilité et Statistique", "Topics in Mathematical Statistics ", "Multivariate and high-dimensional Statistics", "Biogéostatistique".

2014–2023: *Associate Professor* at the Mathematics Department, Université libre de Bruxelles. Courses taught: "Statistique Mathématique II", "Graduate Statistics", "Probabilité et Statistique", "Stochastic models", "Topics in Mathematical Statistics ", "Multivariate and high-dimensional Statistics", "Biostatistique".

2009–2014: *Assistant Professor* at the laboratoire EQUIPPE, Université Lille 3. Courses taught: "Statistique Asymptotique", "Econométrie", "Statistique Mathématique", "Analyse des données", "Calculus I", "Introduction à la théorie des graphes", "Statistique descriptive".

2005–2009: *Full-time teaching assistant* at the School of Social and Political Sciences and the Solvay Brussels School of Economics and Management, Université libre de Bruxelles. Exercises for the courses "Statistique 1", "Statistique 2", "Analyse des données", "Graduate Econometrics", "Eléments de Statistique", "Méthodes statistiques appliquées aux Sciences Sociales".

2004–2005: *Student-assistant* for the course "Modèles linéaires et non linéaires", Université libre de Bruxelles .

4. Visiting positions, courses

2021-2023: Visiting professor at the Université de Lille. Course taught: Statistical learning in high dimensions (Master en Mathématiques appliquées).

2014–2015: Visiting professor at the Université de Liège. Course taught: Statistiques générales et traitement de données (2nd Bachelor in Geography and 3rd Bachelor in Biology).

2012–2014: Visiting professor at the Université libre de Bruxelles. Courses taught: Applied Multivariate Analysis and Statistics 2 (in Economics and Financial Engineering).

2012: Short course on Directional Statistics at the Université libre de Bruxelles.

5. Invited research stays

January 2020: Mathematics Department, Karlsruhe Institute of Technology, Germany.

May 2018: Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK.

March 2017: Statistics Department, University Carlos III, Madrid, Spain.

December 2014: ORFE department, Princeton University, USA.

November 2012: ORFE department, Princeton University, USA.

6. Awards, distinctions, grants

2024-2029: Elected member of the Collegium of the Royal Academies for Science and the Arts of Belgium.

2024-2026: Projet Hubert Curien Tournesol from the FNRS (Belgian Research Foundation).

2022-2024: Grant (Projet de Recherche T.0217.22) from the FNRS, "Inference with directions".

2021: Adolphe Wetrems Prize of the Royal Academies for Science and the Arts of Belgium. Created in 1926, this prize is awarded each year to a researcher who has made a significant and recent scientific advance in Mathematics or Physics.

2021: Laureate of the Fonds Thelam, Fondation Roi Baudouin.

2018-2023: Advanced A.R.C. (Action de Recherche Concertée avancée) of the Communauté Française de Belgique, "Robust and Efficient Solutions to the Big Data Challenge".

2018-2020: Grant (Crédit de Recherche J.0134.18) from the FNRS (Belgian Research Foundation), "Hypothesis testing in high dimensions: non-null and Le Cam optimality results".

2015: Grant form the National Bank of Belgium (BNB), "Tests d'hypothèse en grande dimension avec applications à la Finance".

2013: Elected member of the International Statistical Institute (ISI).

2012: Prime for scientific excellence (Prime d'excellence scientifique, France), 2012-2016.

2011: Annual price in Applied Mathematics (prix du concours annuel) of the Royal Academies for Science and the Arts of Belgium.

2011 : Special ASA Journal of Nonparametrics Statistics invited paper at the Graybill conference in Fort-Collins, Colorado, USA, for the paper "Rank-based Inference in Linear

Models with Stable Errors".

7. Academic service, memberships

2023–present: Associate Editor for the Electronic Journal of Statistics.

2022–present: Associate Editor for Bernoulli.

2016–present: Associate Editor for Journal of Multivariate Analysis.

2020–2022: Associate Editor for Computational Statistics and Data Analysis.

2014–2022: Associate Editor for Statistics and Probability Letters.

2018-present: President of the Jury for the Specialized Master in Big Data, Université libre de Bruxelles.

2017-present: Secretary of the Jury for the Master in Statistics, Université libre de Bruxelles.

2023-present: Secretary of the Royal Belgian Statistical Society.

2022-present: President of the "commission assistants" of the Mathematics Department, Université libre de Bruxelles.

2022-present: Elected board member of the Royal Belgian Statistical Society.

2022-present: Elected member in the Mathematical Statistics working group of the French Statistical Society.

2021-present: Member of the "commission de coordination pédagogique" of the Mathematics Department, Université libre de Bruxelles.

2021-present: Academic member of the board of the Mathematics Department, Université libre de Bruxelles.

2022-present: Member of the FRIA (FNRS) grants commission in Applied Mathematics.

2024-present: Belgian representative of the European Courses in Advanced Statistics (ECAS) organization.

2017-present: Substitute member of the doctoral school in Statistics and Actuarial Sciences.

2021-2024: Organiser of internal seminars in Actuarial Sciences, Probability and Statistics at the Mathematics Department, Université libre de Bruxelles.

2020-2024: Treasurer and Belgian representative of the European Courses in Advanced Statistics (ECAS) organization.

2024: Member of a hiring committee for a position in Mathematics of AI at the Institut Camille Jordan, Université Lyon 1.

2024: Organizer of a session about Directional Statistics at the ISNPS conference in Braga, Portugal.

2024: Member of the scientific committee of the annual meeting of the Royal Belgian Statistical Society organized by the University of Gent (UGent).

2023: Member of the Scientific committee of CMStatistics conference in Berlin, Germany.

2023: Organizer and chairman of a session about Multivariate Statistics at the CMStatistics conference in Berlin, Germany.

2023: Member of a hiring committee for a position in Mathematics of AI at the Sorbonne University, Paris.

2023: Member of the organizing committee of the "Femmes et Mathématiques" annual meeting in Bruxelles.

2023: Organizer of the Royal Belgian Statistical Society session at the 54th Journées de la Société Française de Statistique in Bruxelles.

2022: Organizer and chairman of a session about Multivariate Statistics at the CMStatistics conference in London.

2022: Member of the hiring committee for a position in Applied Mathematics at Naxys, UNamur.

2015-2020: Secretary, Treasurer and Belgian representative of ECAS.

2022: Organizer of an accepted Contributed Talks session about Directional Statistics at the Institute of Mathematical Statistics (IMS) meeting in London, UK.

2022: Organizer of the 2 days International workshop "Multivariate Analysis of Complex

Data" (MACD) at the Université libre de Bruxelles.

2022: Member of the organizing committee of the 54th Journées de la Société Française de Statistique in Brussels.

2022: Member of the scientific committee of the annual meeting of the Royal Belgian Statistical Society organized by the Vrije Universiteit Brussel (VUB).

2021: Organizer and chairman of a session about Multivariate Statistics at the CMStatistics conference in London.

2020-2021: Member of the scientific committee of the 52nd Journées de la Société Française de Statistique in Nice.

2019: Organizer and chairman of a session about Multivariate Statistics at the CMStatistics conference in London.

2019: Organizer of a session about Directional Statistics at the 51st Journées de la Société Française de Statistique in Nancy.

2018: Member of the scientific committee of the annual meeting of the Royal Statistical Society of Belgium in Ovifat.

2016: Member of the scientific committee of the CMStatistics conference in Sevilla.

2016: Organizer and chairman of a session about Directional Statistics at the CMStatistics conference in Sevilla.

2015: Organizer and chairman of a session about Directional Statistics at the CMStatistics conference in London.

2015: Member of the organization committee of the 47th Journées de Statistique de la a Société Française de Statistique in Lille.

2014: Organizer and chairman of a session about Directional Statistics at the ERCIM 2014 conference in Pisa.

2014: Co-organizer of the Advances in Directional Statistics conference in Brussels.

2012–2014: Elected member of the laboratoire EQUIPPE council.

2010–2014: In charge of the EQE (Quantitative Economics and Econometrics) licence in

the Université Lille 3.

2010–2014: Organizer of the seminar of Econometrics and Statistics at the laboratoire EQUIPPE.

2009: Member of the scientific committee at the meeting in honor of Marc Hallin.

Referee reports for *Annals of Statistics, Journal of the Royal Statistical Society, Series B, Journal of the American Statistical Association, Bernoulli, Statistica Sinica, Annales de l'Institut Henri Poincaré (B) Probability and Statistics, Journal of Econometrics, Journal of Multivariate Analysis, Biometrics, Journal of Machine Learning Research, Electronic Journal of Statistics, Scandinavian Journal of Statistics, Journal of Business and Economic Statistics, Annals of the Institute of Statistical Mathematics, Test, Journal of Time Series Analysis, IEEE Transactions on Signal Processing, IEEE Transactions on Information Theory, Canadian Journal of Statistics, Journal of Statistical Planning and Inference, Statistics and Probability Letters, International Statistical Review, Computational Statistics and Data Analysis, Econometrics and Statistics, The American Statistician, Computational Statistics, Journal of Statistical Computation and Simulation, Statistical Inference for Stochastic Processes, Journal of the Korean Statistical Society, Statistics, AStA Advances in Statistical Analysis, Behavioral Ecology and Sociobiology, Communications in Statistics, North Western European Journal of Mathematics, Studies in Nonlinear Dynamics and Econometrics, Springer books.*

8. Research interests

My main research activities are concentrated around the following topics :

1. Rank-based procedures
2. Sign-based procedures
3. Directional statistics
4. High-dimensional inference
5. Asymptotic theory
6. Nonparametric statistics
7. Statistics for Actuarial Sciences

9. Publications

Books

1. Modern Directional Statistics. Chapman & Hall, CRC press (2017) (coauthor: C.Ley).

2. Applied Directional Statistics: Modern Methods and Case Studies. Chapman & Hall, CRC press, in press (co-editor with C.Ley).

Preprints

1. Inference on location for noisy directional data: a Le Cam approach to quantify the value of the hyperspherical a priori information (coauthors: D. Bolon and D. Paindaveine), *submitted*.

2. Rank tests for PCA under weak identifiability (coauthors: D. Paindaveine and L. Peralvo-Maroto), *submitted*.

3. On runs tests for directional data and their local and asymptotic optimality properties (coauthors: M. Boucher, C. Francq and Y. Goto), *submitted*.

4. On a class of Sobolev tests for symmetry of directions, their detection thresholds, and asymptotic powers (coauthors: E. García-Portugués and D. Paindaveine), *submitted*.

5. An overview of uniformity tests on the hypersphere (coauthor: E. García-Portugués), *submitted*.

Published or in press

6. Nonparametric measure-transportation-based methods for directional data, *Journal of the Royal Statistical Society, Series B*, to appear (2024+) (coauthors: M. Hallin and H. Liu).

7. Power enhancement for dimension detection of Gaussian signals, *Statistica Sinica*, to appear (2024+)(coauthor: G. Bernard).

8. Power enhancement for testing the equality of shape matrices eigenvalues under ellipticity, *Springer books*, to appear (2024+)(coauthor: G. Bernard).

9. Testing for auto-calibration with Lorenz and Concentration curves, *Insurance: Mathematics and Economics*, Vol.117, 130-139 (2024) (coauthors: M. Denuit, J. Huyghe and J. Trufin).

10. Nonparametric tests of independence for circular data based on trigonometric mo-

ments, *Statistica Sinica*, Vol.34, 567-588 (2024) (coauthors: E. García-Portugués, P. Lafaye de Micheaux and S. Meintanis).

11. On testing the equality of latent roots of scatter matrices under ellipticity, *Journal of Multivariate Analysis*, Vol.199, 105232 (2024) (coauthor: G. Bernard).

12. On some multivariate sign tests for scatter matrix eigenvalues, *Econometrics and Statistics*, Vol. 29, 252-260 (2024) (coauthor: G. Bernard).

13. On the asymptotic behavior of the leading eigenvector of Tyler's shape estimator under weak identifiability, *In: Nordhausen, K., Yi, M. (eds), Robust and Multivariate Statistical Methods. Festschrift in honor of David Tyler. Springer*, 45-63 (2023) (coauthor: D. Paindaveine).

14. Portmanteau tests for semiparametric nonlinear conditionally heteroscedastic time series models, *In: Y. Liu et al. (eds.), Research Papers in Statistical Inference for Time Series and Related Models, Springer*, Chap. 5 (2023) (coauthors: Ch. Francq and J-M. Zakoian).

15. Preliminary Multiple-Test Estimation, with Applications to k-sample Covariance Estimation, *Journal of the American Statistical Association*, Vol. 117, 1904–1915 (2022) (coauthors: D. Paindaveine and J. Rasoafaraniaina).

16. Asymptotic efficiency of some nonparametric tests for location on hyperspheres, *Statistics and Probability Letters*, Vol.188, art. 109524 (2022) (co-authors: S. Dabo and B. Thiam).

17. On weighted sign tests for rotational symmetry on hyperspheres, in *In: SenGupta, A., Arnold, B.C. (eds) Directional Statistics for Innovative Applications. Forum for Interdisciplinary Mathematics. Springer, Singapore.* (2022).

18. Testing uniformity on high-dimensional spheres: the non-null behaviour of the Bingham test, *Annales de l'Institut Henri Poincaré (P&S)*, Vol. 58, 567-602 (2022) (coauthors: C. Cutting and D. Paindaveine).

19. Testing for positive expectation dependence with application to model comparison, *Insurance: Mathematics and Economics*, Vol. 101, 163-172 (2021) (coauthors: M. Denuit and J. Trufin).

20. Directional Statistics: Theory, *Wiley Statsref: Statistics reference online* (2021).

21. Preliminary test estimation in ULAN models, *Scandinavian Journal of Statistics*, Vol.

48, 689-707 (2021) (coauthors: D. Paindaveine and J. Rasoafaraniaina).

22. Optimal tests for circular reflective symmetry about an unknown central direction, *Statistical Papers*, Vol. 62, 1651-1674 (2021) (coauthors: J. Ameijeiras-Alonso, C. Ley, A. Pewsey).

23. On optimal tests for rotational symmetry against new classes of hyperspherical distributions, *Journal of the American Statistical Association*, Vol. 115, 1873-1887 (2020) (coauthors: E. García-Portugués and D. Paindaveine).

24. Sign tests for weak principal directions, *Bernoulli*, Vol. 26, 2987-3016 (2020) (coauthors: D. Paindaveine and J. Remy).

25. Inference for spherical location under high concentration, *Annals of Statistics*, Vol. 48, 2982-2998 (2020) (coauthor: D. Paindaveine).

26. On new Sobolev tests of uniformity on the circle with extension to the sphere, *Bernoulli*, Vol. 26, 2226-2252 (2020) (coauthors: S.R. Jammalamadaka and S. Meintanis).

27. Detecting the direction of a signal on high-dimensional spheres: non-null and Le Cam optimality results, *Probability Theory and Related Fields*, Vol. 176, 1165-1216 (2020) (coauthor: D. Paindaveine).

28. On the power of axial tests of uniformity, *Electronic Journal of Statistics*, Vol. 14, 2123-2154 (2020) (coauthors: C. Cutting and D. Paindaveine).

29. Testing for principal component directions under weak identifiability, *Annals of Statistics*, Vol. 48, 324–345 (2020) (coauthors: D. Paindaveine and J. Remy).

30. Le Cam maximin tests for symmetry of circular data based on the characteristic function, *Statistica Sinica*, Vol. 29, 1301–1320 (2019) (coauthor: S. Meintanis).

31. On the efficiency of some rank-based test for the homogeneity of concentrations, *Journal of Statistical Planning and Inference*, Vol. 191, 101–109 (2017).

32. Testing uniformity on high-dimensional spheres against contiguous rotationally symmetric alternatives, *Annals of Statistics*, Vol. 45, 1024–1058 (2017) (coauthors: C. Cutting and D. Paindaveine).

33. Skew-rotationally-symmetric distributions on the unit sphere and related efficient inferential procedures, *Journal of Multivariate Analysis*, Vol. 159, 67–81 (2017) (coauthor: C. Ley).

34. Inference on the mode of weak directional signals: a Le Cam perspective on hypothesis testing near singularities, *Annals of Statistics*, Vol. 45, 800–832 (2017) (coauthor: D. Paindaveine).

35. On the estimation of the density of a directional data stream, *Scandinavian Journal of Statistics*, Vol. 44, 249–267 (2017) (coauthors: A. Amiri and B. Thiam).

36. Preliminary test estimation for multi-sample principal components, *Econometrics and Statistics*, Vol. 2, 106–116 (2017) (coauthors: D. Paindaveine and J. Rasoafaraniaina).

37. Tests of concentration for low-dimensional and high-dimensional directional data, In S. Ejaz Ahmed Ed., *Big and Complex Data Analysis: Statistical Methodologies and Applications, Springer,Cham Heidelberg New York*, 209-227 (2017). (coauthors: C. Cutting and D. Paindaveine).

38. Efficient ANOVA for directional data, *Annals of the Institute of Statistical Mathematics*, Vol. 69, 39–62 (2017) (coauthors: C. Ley and Y. Swan).

39. Universal asymptotics for high-dimensional sign tests, *Bernoulli*, Vol. 22, 1745-1769 (2016) (coauthor: D. Paindaveine).

40. On some validity-robust tests for the homogeneity of concentrations, *Journal of Nonparametric Statistics*, Vol. 27, 372-383 (2015).

41. High-dimensional tests for spherical location and spiked covariance, *Journal of Multivariate Analysis*, Vol. 139, 79-91 (2015) (coauthors: C. Ley and D. Paindaveine).

42. Optimal rank-based tests for the location parameter of a rotationally symmetric distribution on the hypersphere. *Mathematical Statistics and Limit Theorems – Festschrift in Honour of Paul Deheuvels, Springer*, 249-270 (2015) (coauthor: D. Paindaveine).

43. Local powers of optimal one- and multi-sample tests for the concentration of Fisher-von Mises-Langevin distributions. *International Statistical Review*, Vol. 82, 440–456 (2014) (coauthor: C. Ley).

44. Efficient R-estimation of principal and common principal components. *Journal of the American Statistical Association*, Vol. 109, 1071-1083 (2014) (coauthors: M. Hallin and D. Paindaveine).

45. Simple, asymptotically distribution-free, optimal tests for reflective symmetry about a known circular median. *Statistica Sinica*, Vol. 24, 1319-1340 (2014) (coauthor: C. Ley).

46. A new concept of quantiles for directional data and the angular Mahalanobis depth. *Electronic Journal of Statistics*, Vol. 8, 795-816 (2014) (coauthors: C. Ley and C. Sabbah).

47. On Hodges and Lehmann's "6/pi result". *Contemporary Developments in Statistical Theory, Springer*, 137-153 (2014) (coauthors: M. Hallin and Y. Swan).

48. Optimal rank-based tests for Common Principal Components, *Bernoulli*, Vol. 19, 2524-2556 (2013) (coauthors: M. Hallin and D. Paindaveine).

49. Optimal R-estimation of a spherical location. *Statistica Sinica*, Vol. 23(1), 305-333 (2013) (coauthors: C. Ley, Y. Swan and B. Thiam).

50. R-estimation in linear models with stable errors. *Journal of Econometrics*, Vol. 172(2), 195-204 (2013) (coauthors: M. Hallin, Y. Swan and D. Veredas).

51. Common principal components. *Encyclopedia of Environmetrics* Second Edition, A.-H. El-Shaarawi and W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp. 447-449 (2012).

52. A contribution to asymptotic inference on eigenvectors and eigenvalues of covariance and scatter matrices. *Mémoire de l'Académie Royale des Sciences, des Lettres et des Beaux-Arts* (2012).

53. Rank-based tests for elliptical graphical modeling. *Journal de la Société Française de Statistique*, Vol. 153, 82-100 (2012) (coauthor: D. Paindaveine).

54. Rank-based testing in linear models with stable errors. *Journal of Nonparametric Statistics*, Vol. 23, 305-320 (2011) (coauthors: M. Hallin, Y. Swan and D. Veredas).

55. Optimal rank-based tests for Principal Component Analysis. *Annals of Statistics*, Vol. 38, 3245-3299 (2010) (coauthors: M. Hallin and D. Paindaveine).

56. Testing for common principal components under heterokurticity. *Journal of Nonparametric Statistics*, Vol. 22, 879-895 (2010) (coauthors: M. Hallin and D. Paindaveine).

57. Pseudo-Gaussian inference in heterokurtic elliptical Common Principal Components model. *Annales de l'ISUP*, LII, 9-24 (2008) (coauthors: M. Hallin and D. Paindaveine).

10. Talks

1. 55ème Journées de la Société Française de Statistique, Bordeaux, France, May 2024.

2. (Invited) International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2023), Berlin, Germany, December 2023.

3. (Invited) Charles University Statistics Seminar, Prague, Czech Republic, November 2023.

4. (Invited) Kyoto University seminar, Kyoto, Japan, September 2023.

5. (Invited) Waseda University seminar, Tokyo, Japan, September 2023.

6. (Invited) FNRS Phd Day, joint (with J. Huyghe) Actuarial Sciences talk, Namur, Belgium, May 2023.

7. (Invited) FNRS Phd Day, joint (with L. Peralvo) Mathematical Statistics talk, Namur, Belgium, May 2023.

8. International conference on robust statistics, Toulouse, France, May 2023.

9. (Invited) IMS International Conference on Statistics and Data Science, Florence, Italy, December 2022.

10. (Invited) International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2022), London, UK, December 2022.

11. (Invited) Statistics seminar at the KULeuven, Belgium, November 2022.

12. (Invited) GOFCP workshop, Rennes, France, September 2022.

13. (Invited) Joint Statistical Meeting (JSM), Washington, USA, August 2022 (online).

14. (Invited) IMS annual meeting 2022, London, UK, June 2022.

15. (Invited) Advances in Directional Statistics (ADISTA) 2022 workshop, Santiago de Compostela, Spain, June 2022 (online).

16. (Invited) Waseda Symposium, Tokyo, Japan, March 2022 (online).

17. (Invited) International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2021), London, UK, December 2021.

18. 52ème Journées de la Société Française de Statistique, Nice, France, June 2021.

19. (Invited) Statistics seminar at Karlsruhe Institute of technology, Karlsruhe, Germany, January 2020.

20. (Invited) 12th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2019), London, UK, December 2019.

21. (Invited) ECARES introduction day, Brussels, Belgium, September 2019.

22. (Invited) 4th Workshop on Goodness-of-fit, Change-point and related problems,

Trento, Italy, September 2019.

23. (Invited) European Meeting of Statisticians, Palermo, Italy, July 2019.

24. (Invited) 51ème Journées de la Société Française de Statistique, Nancy, France, June 2019.

25. ICORS 2018 conference, KUL, Leuven, Belgium, July 2018.

26. (Invited) 10th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2017), London, UK, December 2017.

27. Workshop on Semiparametric Statistics, Ghent, Belgium, December 2017.

28. (Invited) 3rd Workshop on Goodness-of-Fit and Change-point problems, KIT, Karlshrue, Germany, September 2017.

29. (Invited) ADISTA 17 workshop, University Roma 3, Italy, June 2017.

30. (Invited) Statistics Seminar, ULG, Liège, Belgium, April 2017.

31. (Invited) Statistics Seminar of the University Carlos 3, Madrid, Spain, March 2017.

32. (Invited) 9th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2016), Sevilla, Spain, December 2016.

33. Annual meeting of the Belgian Statistical Society, Namur, Belgium, October 2016.

34. (Invited) Séminaire parisien de la Statistique, Institut Henri Poincaré, Paris, France, September 2016.

35. (Invited) 3rd ISNPS conference on Nonparametric Statistics, Avignon, France, June 2016.

36. (Invited) 8th International Conference of the ERCIM WG on Computing & Statistics (CMStatistics 2015), London, UK, December 2015.

37. (Invited) Joint Statistics Seminar, KUL, Leuven, Belgium, April 2015.

38. (Invited) 7th International Conference of the ERCIM WG on Computing & Statistics (ERCIM 2014), Pisa, Italy, December 2014.

39. (Invited) ULB-UCL seminar, UCL, Louvain-La-Neuve, Belgium, November 2014.

40. (Invited) ADISTA 14 conference, Brussels, Belgium, May 2014.

41. (Invited) 6th International Conference of the ERCIM WG on Computing & Statistics (ERCIM 2013), London, UK, December 2013.

42. (Invited) Statistics seminar of the Laboratoire Paul Painlevé, Univesité Lille 1, Lille, France, December 2013.

43. (Invited) Statistics seminar of the Toulouse School of Economics, Toulouse, France, November 2013.

44. (Invited) Brussels Summer School of Mathematics, Brussels, Belgium, August 2013.

45. The 32nd Leeds Annual Statistical Research Workshop, Leeds, UK, July 2013.

46. (Invited) INRIA seminar, Lille, France, December 2012.

47. 5th International Conference of the ERCIM WG on Computing & Statistics (ERCIM 2012), Oviedo, Spain, December 2012.

48. (Invited) Statistics seminar, Université Libre de Bruxelles, Bruxelles, Belgium, October 2012.

49. Journée du laboratoire EQUIPPE, Lille, France, Juin 2012.

50. 43ème journées de la Société Française de Statistique, Bruxelles, Belgium, May 2012.

51. Annual meeting of the Belgian Statistical Society, Hasselt, Belgium, October 2011.

52. (Invited) Statistics seminar of the ORFE department, Princeton University, USA, April 2010.

53. 4th Belgium-Japan seminar on Time Series and Financial Statistics, Bruxelles, Belgium, June 2009.

54. 41ème Journées de la Société Française de Statistique, Bordeaux, France, May 2009.

55. (Invited) Statistics seminar of the LSTA, Université Pierre et Marie Curie, Paris, France, January 2009.

56. (Invited) Seminar in honor of Hirotsugu Akaike, Recent developments in Statistics and Econometrics, Kyoto, Japan, November 2008.

57. 3rd Belgium-Japan seminar on Time Series and Financial Statistics, Izu, Japan, November 2008.

58. 2nd Belgium-Japan seminar on Time Series and Financial Statistics, Bruxelles, Belgium, June 2008.

59. (Invited) Joint meeting of the Statistical Society of Canada and the Société Française de Statistique, Ottawa, Canada, May 2008.

60. Belgium-Japan seminar on Time Series and Financial Statistics, Hakone, Japan, October 2007.

61. Young Statistician day, 15th Annual meeting of the Belgian Statistical Society, Antwerpen, Belgium, October 2007.

62. 2ème Journées des jeunes Statisticiens de la Société Française de Statistique, Aussois, France, September 2007.

63. Workshop on robust and nonparametric statistical inference, Hejnice, Czech Republic, September 2007.

64. 36éme Journées de la Société Française de Statistique, Angers, France, June 2007.

11. Student Supervisions and jury of PhD theses

Supervision of Postdoc Students:

1. 2022-present: Maxime Boucher

Supervision of Phd Students:

1. 2014-2020: Christine Cutting, *Testing uniformity against rotationally symmetric alternatives on high-dimensional spheres*, co-supervision with D. Paindaveine.

2. 2014-2020: Joséa Rasoafaraniaina, *Preliminary test estimation in locally and asymptotically normal models*, co-supervision with D. Paindaveine.

3. 2016-2022: Julien Remy, *Inference on directions under weak identifiability*, co-supervision with D. Paindaveine.

4. 2019-2023: Gaspard Bernard, *New robust tests for problems on the eigenvalues of scatter matrices.*

5. 2021-present: Laura Peralvo Maroto, *working title: Asymptotic inference based on ranks in triangular arrays contexts.*

6. 2021-present: Vivien Meurice, *working title: Inference for scaled rotationally symmetric distributions.*

7. 2021-present: Mohammed Tawfeeq, *working title: Feulgen method for genome size measurements*, co-supervision with J.-F. Flot.

8. 2023-present: Valentin Hénon, *working title: Comparison between penalized and pretest estimation with applications in insurance*, co-supervision with J.Trufin.

Jury of PhD theses:

1. 2023: Adrian Fischer, Université libre de Bruxelles, "Stein's method with applications in Statistics". Supervisor: Yvik Swan.

2. 2022: Dimitri Konen, Université libre de Bruxelles, "Topics in Multivariate spatial quantiles". Supervisor: Davy Paindaveine.

3. 2022: Sami Helander, Aalto University, "New approaches for analyzing functional data: a focus on shape". Supervisor: Pauliina Ilmonen.

4. 2021: Pierre Zuyderhoff, Université libre de Bruxelles, "On the measure of risks in a ruin context and the measure of dependence". Supervisor: Julien Trufin.

5. 2018: Gilles Nisol, Université libre de Bruxelles, "Three essays on Functional Time Series and Factor Analysis". Supervisor: Siegfried Hormann.

6. 2017: Mohamed Amghar, Université libre de Bruxelles, "Multiscale local polynomial transforms in smoothing, density estimation and copula estimation". Supervisor: Maarten Jansen.

7. 2017: Lorenzo Ricci, Université libre de Bruxelles, "Essays on tail risk in macroeconomics and finance: measurement and forecasting". Supervisor: David Veredas.

8. 2015: Isabelle Charlier, Université libre de Bruxelles, "Conditional quantile estimation through optimal quantization". Supervisors: Davy Paindaveine and Jérôme Saracco.

9. 2014: Lukasz Kidzinski, Université libre de Bruxelles, "Inference for stationary functional time series: dimension reduction and regression". Supervisor: Siegfried Hormann.