Gabriel Wallin, PhD

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The London School of Economics and Political Science
London, Uk

Academic positions

The London School of Economics and Political Science	London, UK
Visiting Research Fellow and Visiting Teacher, Department of Statistics.	2021–Current
Umeå University	Umeå, Sweden
Postdoctoral Researcher, Department of Statistics.	2021–Current
Université Côte d'Azur & Inria	Nice, France
Postdoctoral Researcher, Department of Mathematics.	2020–2021

Education

Umeå University	Umeå, Sweden
P.hD. in Statistics. Thesis: Extensions of the kernel method of test score equating.	2015–2020
The London School of Economics and Political Science	London, UK
Visiting Research Student in Statistics.	2019
Umeå University	Umeå, Sweden
M.Sc. in Statistics.	2014–2015
Umeå University	Umeå, Sweden
B.Sc. in Statistics	2011–2014

Grants and Scholarships

- Research Award. Umeå School of Business, Economics and Statistics. 10,000 SEK (Approximately 925 USD) — 2022
- International Postdoc. Swedish Research Council. 3,150,000 SEK (Approximately 291,578 USD) — 2021
- Research Scholarship. Faculty of Social Science, Umeå University. 40,000 SEK (approx. 3,700 USD) — 2019
- Research Scholarship. Kempe Foundation. 25,000 SEK (approx. 2,314 USD) — 2018
- Research Scholarship. Umeå School of Business, Economics and Statistics. 40,000 SEK (approx. 3,700 USD) — 2018
- Travel Grant. Wallenberg Foundation. 4,200 SEK (approx. 388 USD) — 2018
- Travel Grant. Kempe Foundation. 5,000 SEK (approx. 463 USD) — 2017
- Research Scholarship. The Student union at Umeå University. 8,500 SEK (approx. 787 USD) — 2017
- Travel Grant. Wallenberg Foundation. 8,000 SEK (approx. 740 USD) — 2017
- Travel Grant. Faculty of Social Sciences at Umeå University. 8,000 SEK (approx. 740 USD) — 2016
- Research Scholarship. The Student union at Umeå University. 10,000 SEK (approx. 925 USD) — 2016

Professional Activities

- **Journal Reviewer**
  Annals of Applied Statistics
  British Journal of Mathematical and Statistical Psychology
  Applied Psychological Measurement
  TEST
  Educational and Psychological Measurement

- **Local Organizing Committee Member** 2022
  Institute of Mathematical Statistics (IMS), Annual Meeting. London, UK.

- **Reviewer for PhD travel award** 2022
  International Meeting of the Psychometric Society

- **Member of the jury for best poster presentation** 2022
  International Meeting of the Psychometric Society

- **Conference Chair** 2020, 2021, 2022
  International Meeting of the Psychometric Society

- **Board Member** 2018–2020
  Umeå School of Business, Economics and Statistics and *The Graduate Student Association at the Faculty of Social Sciences at Umeå University*

- **Committee member** 2018–2019
  The Graduate Student Committee of the Psychometric Society

Publications

1. **Wallin, G**. & Wiberg, M. (2021). How Important is the Choice of Bandwidth in Kernel Equating? *Applied Psychological Measurement,* 45, 518-535.

2. Altintaş, Ö. & **Wallin, G**. (2021). Equality of Admission Tests Using Kernel Equating Under the Non-Equivalent Groups With Covariates Design. (2021). *International Journal of Assessment Tools in Education,* 8, 729-743.

3. González, J. & **Wallin, G**. (2021). An Illustration on the Quantile-Based Calculation of the Standard Error of Equating in Kernel Equating. In Wiberg, M., Molenaar, D., González, J., Böckenholt, U. & Kim, J-S. (Eds.) (2021). *Quantitative Psychology: The 85th Annual Meeting of the Psychometric Society, virtual, 2021.* New York: Springer.

4. **Wallin, G**. & Wiberg, M. (2021). Equating Nonequivalent Groups using Propensity Scores – Model Misspecification and Sensitivity Analysis. In Wiberg, M., Molenaar, D., González, J., Böckenholt, U. & Kim, J-S. (Eds.) (2021). *Quantitative Psychology: The 85th Annual Meeting of the Psychometric Society, virtual, 2021.* New York: Springer.

5. **Wallin, G** (2020). Extensions of the Kernel Method of Test Score Equating. Statistical Studies, 55. *PhD thesis.* URL: https://umu.diva-portal.org/smash/get/diva2:1378833/FULLTEXT01.pdf.

6. **Wallin, G**. & Wiberg, M. (2020). Model Selection for Presmoothing of Bivariate Score Distributions in Kernel Equating. In Wiberg, M., Molenaar, D., González, J., Böckenholt, U. & Kim, J-S. (Eds.) (2020). *Quantitative Psychology: The 84th Annual Meeting of the Psychometric Society, Santiago, Chile, 2019.* New York: Springer.

7. **Wallin, G**. & Wiberg, M. (2019). Kernel equating using propensity scores for nonequivalent groups. *Journal of Educational and Behavioral Statistics,* 44, 390-414.

8. **Wallin, G**., Häggström, J. & Wiberg, M. (2018). How to select the bandwidth in kernel equating - An evaluation of five different methods. In Wiberg, M., Culpepper, S., Janssen, R., González, J., & Molenaar, D. (Eds.) (2018). *Quantitative Psychology: The 82nd Annual Meeting of the Psychometric Society, Zurich, Switzerland, 2017.* New York: Springer.

9. **Wallin, G**,. & Wiberg, M. (2017). Non-equivalent groups with covariates design using propensity scores for kernel equating. In L. A. van der Ark, M. Wiberg, S. A. Culpepper, J. A. Douglas, & W.-C Wang (Eds.) (2017), *Quantitative psychology – 81st annual meeting of the psychometric society, Asheville, North Carolina, 2016.* New York: Springer.

Working Papers

1. **Wallin, G**. & Wiberg, M. (2022). Model Misspecification and Robustness of Observed-Score Test Equating Using Propensity Scores. Resubmitted to *Journal of Educational and Behavioral Statistics.*

2. Liu, X., **Wallin, G**., Chen, Y., Moustaki, I. (2022). Rotation to Sparse Loadings using L^p Functions. Under review for *Psychometrika.*

3. **Wallin, G**., Chen, Y., Moustaki, I. (2022). A Flexible Latent Variable Model for Latent DIF Detection. Planned submission to *Psychometrika.*

4. Franco, V. R., **Wallin, G**. (2022). Optimal Scores through Bayesian Nonparametric Item Response Modeling. Planned submission to *Annals of Applied Statistics.*

Awards and nominations

- **Recipient of the Umeå School of Business, Economics and Statistics Research Award**   2022
  Umeå University
- **Recipient of the LSE Class Teacher Award**   2022
  London School of Economics and Political Science
- **Pedagogical Prize Nomination**   2017
  Umeå School of Business, Economics and Statistics

Conference Talks and Invited Presentations

Computational Psychometrics Research Seminar   Prague, Czech Republic
Invited talk: A Flexible IRT Framework For Latent DIF Detection.   2022

International Meeting of the Psychometric Society   Bologna, Italy
Contributed talk: On Multivariate Outlier Detection.   2022

Cramér Society Research Seminar   Sweden (Virtual)
Invited talk: Two-way outlier detection for item response data.   2022

Social Statistics Research Seminar   London, LSE
Invited talk: Test score equating of nonequivalent groups using propensity scores.   2022

International Meeting of the Psychometric Society   Virtual
Contributed talk: Simultaneous Clustering of Test-takers and Items for Item Response Data.   2021

Computational Psychometrics Research Seminar   Prague, Czech Republic (Virtual)
Invited talk: Equating non-equivalent test groups using covariates.   2021

International Meeting of the Psychometric Society   Virtual
Contributed talk: Equating non-equivalent groups using propensity scores.   2020

International Meeting of the Psychometric Society   Santiago, Chile
Invited talk: Presmoothing method and model selection in kernel equating.   2019

Frontier Research in Educational Measurement Oslo, Norway
Contributed talk: Revisiting the Bahadur representation of sample quantiles for equating. 2018

International Meeting of the Psychometric Society Zürich, Switzerland
Contributed talk: Optimal bandwidth selection in kernel equating for different test types. 2017

Annual Meeting of the National Council on Measurement in Education San Antonio, the US
Contributed talk: Bandwidth selection in kernel equating. 2017

The Winter Conference in Statistics Åre, Sweden
Contributed talk: Selecting bandwidths in kernel equating with different tests and test distributions. 2017

International Meeting of the Psychometric Society Asheville, the US
Contributed talk: Propensity scores in kernel equating for non-equivalent groups. 2016

TEACHING

- **Lecturer and Class Teacher** at The London School of Economics and Political Science 2021-2024
  MY455/MY555: Multivariate Analysis and Measurement
  ST201: Statistical Models and Data Analysis
  ST205: Sample Surveys and Experiments
  ST109: Elementary Statistical Theory I

- **Lecturer and Course Responsible** at Umeå University 2018
  Sampling: Design and Analysis

- **Lecturer** at Umeå University 2017–2019
  Probability and Statistical Inference

- **Lecturer** at Umeå University 2017–2019
  Basic Statistics

- **Teaching Assistant** at Umeå University 2017
  Statistics for Journalists

- **Teaching Assistant** at Umeå University 2014–2017
  Basic Statistics

SUPERVISION

- **Bachelor Thesis Supervisor** Spring 2018
  Thesis topic: Kernel smoothing techniques with applications to educational testing.

- **Master Thesis Supervisor** 2015 –2020
  Yearly quantitative advisor to business students writing their master's thesis.

PEDAGOGICAL COURSES

- **Teaching in higher education** at Umeå University
  3 ECTS (2 weeks)

- **Learning in higher education** at Umeå University
  4.5 ECTS (3 weeks)

- **Didactics for university teachers** at Umeå University
  3 ECTS (2 weeks)

References

Irini Moustaki London, UK
Professor of Statistics, London School of Economics and Political Science

Yunxiao Chen London, UK
Assistant Professor of Statistics, London School of Economics and Political Science

Marie Wiberg Umeå, Sweden
Professor of Statistics, Umeå University