

*Research Fellow, Luxembourg Institute of Socio-Economic Research (LISER) Labour Market Department and Affiliate Professor, University of Luxembourg, Maison des Sciences Humaines--11, Porte des Sciences L-4364 Esch-sur-Alzette, Luxembourg*

Qualified as Full Professor in Economic Statistics (Academic Field 13/D2 – valid from 07/03/2025 to 07/03/2037) Ministry of University and Research of Italy.

Website: <https://liser.elsevierpure.com/en/persons/michela-bia>

Phone: 352 58 58 55 – 220; Email: [michela.bia@liser.lu](mailto:michela.bia@liser.lu) ; [michela.bia@ext.uni.lu](mailto:michela.bia@ext.uni.lu)

## **EDUCATION**

Spring 2007 *PhD* in Applied Statistics, University of Florence (Italy).

Fall 2004 *Econometrics School* of Bertinoro, CIDE - Centro Interuniversitario di Econometria (Italy).

Spring 2002 *Degree (summa cum laude)* in Economics and Political Science. Field of specialization: Statistics, “University of Piemonte Orientale, Amedeo Avogadro” (Italy).

## **VISITING PERIODS**

Spring 2006 *Visiting Student Researcher*, Department of Agricultural & Resource Economics, University of California, Berkeley, under the supervision of Prof. Guido Imbens.

January – May 2023: *Visiting Scholar* at Miami Herbert Business School, University of Miami (Florida). Collaboration with Prof. Christopher Parmeter on the project ‘4NATURE’.

## **FIELD OF SPECIALIZATION**

Causal Inference, Machine Learning, Artificial Intelligence, Program Evaluation, Business Analytics, Healthcare Systems, Nonparametric methods.

2019 – 2021 Board member of the Luxembourg Statistical Society.

Member of the Royal Statistical Society and Research fellow at the IZA Network LISER.

## **COURSES**

Fall 2018 – present “*Course in Data Analysis: from Cross-sectional Data to Big Data*”, DSHSS Program, University of Luxembourg (with Prof. Conchita D’Ambrosio and Anthony Lepinteur).

Spring 2017 Instructor of the Workshop on “*Generalized Propensity Score Matching and its Implementation in Stata*”, Stata Meeting, Humboldt University, Berlin, Germany.

Fall 2016 Instructor of the Workshop on “*Generalized Propensity Score Matching and its Implementation in Stata*”, Potsdam Center for Quantitative Research, Potsdam University, Germany.

Spring 2012 Workshop on *Causal Inference for Policy Evaluation: case studies and statistical complications*, Research and Expertise Centre for Survey Methodology, Department of Political and Social Sciences, Pompeu Fabra University, Barcelona.

Fall 2009/2010 – 2010/2011 Adjunct Professor of Statistical Data Analysis, M.Sc. in Economics and Public Policies, Piemonte Orientale.

## RECENT WORKSHOPS AND CONFERENCES

December 13<sup>th</sup>/15<sup>th</sup> December, 2025 - 19th International Conference Computational and Financial Econometrics Computational and Methodological Statistics CFE-CMStatistics 2025.

September 26<sup>th</sup>/27<sup>th</sup>, 2024 - Symposium on Causality. European University Institute and University of Florence.

September 26<sup>th</sup>/27<sup>th</sup>, 2024 – 7<sup>th</sup> LISER and IDSC of IZA Workshop: *Matching Workers and Jobs Online - New Developments and Opportunities for Social Science and Practice* (with Professors A. [Agan](#), T. [Le Barbanchon](#) and B. Petrolongo as keynote speakers). LISER and IZA, Belval Campus, Luxembourg (Scientific Organizers: N. Askitas, M. Bia, A. Dober, C. Gathmann, and P. Kuhn).

June 24<sup>th</sup>/26<sup>th</sup>, 2024 – COMPIE Conference. Invited Speaker at the [Roundtable: Is cross-country research using admin data possible and useful?](#)

June 20<sup>th</sup>/21<sup>st</sup>, 2023 – International Conference on “*Machine Learning in Program Evaluation, High-dimensionality and Visualization Techniques*” (with Professors G. Imbens, M. Huber, S. Vansteelandt and F. Mealli as keynote speakers). LISER and University of Luxembourg, Belval Campus, <https://www.liser.lu/?type=news&id=2339> (Scientific Organizer of the conference).

June 21<sup>st</sup>/24<sup>th</sup>, 2022 – 8<sup>th</sup> Annual Conference of the International Association for Applied Econometrics (IAAE).

September 28<sup>th</sup>, 2021 – Joint Research Centre, ISPRA, CCME Seminar on *Double Machine Learning for Sample Selection*.

December 18<sup>th</sup>/20<sup>th</sup>, 2021 – 14th International Conference of the ERCIM WG on “*Computational and Methodological Statistics*” (member of the Scientific Program Committee).

September 30<sup>th</sup>, October 1<sup>st</sup> 2021 – 16<sup>th</sup> IZA and 3<sup>th</sup> IZA/CREST Conference: “*Labor Market Policy Evaluation*”.

June 23<sup>rd</sup>/25<sup>th</sup>, 2021 – COMPIE 2021 Conference on “*Developments in the Theory and the applications of the counterfactual methods for policy impact evaluation*”.

December 19<sup>th</sup>/21<sup>st</sup>, 2020 – 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (Chair of the Session on ‘*Public Policy Analysis and Machine Learning*’).

February 3<sup>rd</sup>/4<sup>th</sup>, 2020 – [Winter School on “Causal Mediation Analysis and Machine Learning”](#), LISER, Luxembourg (Scientific Organizer of the conference).

December 19<sup>th</sup>/20<sup>th</sup>, 2019 – [12th International Conference of the ERCIM Working Group on “Computational and Methodological Statistics”](#), London, UK.

April 11<sup>th</sup>/13<sup>th</sup>, 2018 – EUROCIM – European Causal Inference Meeting, Florence, Italy.

October 6<sup>th</sup>, 2017 – 13th IZA Conference: “*Labor Market Policy Evaluation*”, Bonn, Germany.

July 13<sup>th</sup>/14<sup>th</sup>, 2017 – International Conference on “*Causal Inference, Program Evaluation and External validity*”, (keynote speakers Professors A. Flores-Lagunes, D. Rubin and F. Mealli invited as keynote speakers) LISER, Luxembourg (Scientific Organizer of the conference).

November 11<sup>th</sup>/12<sup>th</sup>, 2016 – Invited Speaker at the Munich Workshop on “*Uncovering Causal Mechanisms*”, Germany.

November 9<sup>th</sup>/10<sup>th</sup>, 2016 – Workshop on “*Theory and Practice of Programme Evaluation: Evidence from Regression Discontinuity Design based Methods*” (keynote speakers Professors F. Mealli and A. Mattei), LISER, Belval campus, Luxembourg (Scientific Organizer of the workshop).

June 13<sup>th</sup>/17<sup>th</sup>, 2016 – Invited Speaker at the ISBA International Society for “*Bayesian Analysis*”, Forte Village Resort Convention Center Sardinia, Italy.

June, 15<sup>th</sup>/17<sup>th</sup>, 2015 – Invited Speaker at the INGRID Expert workshop “*Local statistics for decision-making on well-being and vulnerability*”, Livorno, Italy.

June, 9<sup>th</sup>/12<sup>th</sup>, 2015 – “*Social and labor market policy evaluation with administrative data*” (with Professors B. Sianesi, F. Mealli, B. Fitzenberger, A. FloresLagunes, O. Mitnik and M. Grabka invited as key note speakers), LISER, Belval campus, Luxembourg (Scientific Organizer of the conference).

## **OUTREACH TO THE GENERAL PUBLIC**

March 20<sup>th</sup> 2018 – Invited speaker at the workshop “*La technologie change l'évaluation dans le monde et au Luxembourg*”, Banque européenne d'investissement, Luxembourg Ville. ([Actualités - Solep](#)).

December 7<sup>th</sup>, 2018 – Scientific organizer of the National Conference on “*Évaluation des politiques du Marché de Travail au Luxembourg*”, joint with the Ministry of Labor and beneficiaries of the ESF projects implemented in Luxembourg.

June 26<sup>th</sup>, 2019 – Invited speaker at the IDEA Foundation for discussion on the “*Retour sur la rencontre annuelle des organes de gouvernance d’IDEA autour du thème de l’évaluation des politiques publiques*” in Luxembourg and abroad, with invited members from the European Court of Auditors, House of Representatives in Luxembourg, Observatory of the Training Programs, University of Luxembourg (<https://www.fondation-idea.lu/2019/06/27/retour-sur-la-recontre-annuelle-de-tous-les-organes-de-gouvernance-idea-autour-de-levaluation-des-politiques-publiques>)

## **SUPERVISION**

Supervision of PhD students in applied econometrics and policy evaluation at the University of Luxembourg: Mattia Laudi “*IMPACT-AI: Investigating the Influence of Artificial Intelligence on Regional Economies and Firm Dynamics*”; Charilaos Lygidakis (with Prof. Claus Vögele) “*The D<sup>2</sup>Rwanda mixed-methods study including a cluster-randomised controlled clinical trial*”; Salvatore Di Salvo (complementary domain expert and CET member “*Data Science of Digital History*”. Two Master students at the IMPALLA Program, implemented at LISER in 2014 and 2015.

Served as a *member of the Scientific Committee* for the PhD thesis defenses of Niccolò Gentile (September 2022) and Alemayehu Taye (March 2023), both candidates for the PhD in Economic Sciences at the University of Luxembourg.

## **PEER-REVIEWED PUBLICATIONS**

**Bia M.** (2025) Book chapter titled “*Administrative Data Access in Luxembourg*”, to appear in Data-Driven Learning in the EU, edited by Fabio Berton and Paolo Paruolo, Springer Nature (forthcoming).

Gentile N., **Bia M.**, Clark A., D’Ambrosio C., Tkatchenko A. (2025) “*What Makes a Satisfying Life? Prediction and Interpretation with Machine-Learning Algorithms*”, The Review of Income and Wealth, 71(2), e7003, (<https://doi.org/10.1111/roiw.70003>).

**Bia M.**, Blanco G., Valentova M. (2025) “*The Heterogeneous Impact of Parental Leave Take Up on the Wage Distribution: Evidence from Luxembourg*”, Econometric Reviews, 44(3), 356-383 (<https://doi.org/10.1080/07474938.2024.2417167>).

Moran V., **Bia M.**, Thill P., Suhrcke M., Nolte E., Burlot E., Fagherazzi G., (2024) “*The impact of patient registration on utilization and quality of care: a propensity score matching and staggered difference-in-differences analysis of a cohort of 16,775 people with type 2 diabetes*”, BMC Primary Care, 25, 254.

**Bia M.**, Huber M., Laffers L. (2024) “*Double machine learning for sample selection models*”, Journal of Business and Economic Statistics, 42(3), 958-969 (<https://doi.org/10.1080/07350015.2023.2271071>).

**Bia, M.**, Flore-Lagunes A., Mercatanti A. (2022) “*Evaluation of language training programs in Luxembourg using Principal Stratification*”, Observational Studies, 8(1), 1-44 (<https://doi.org/10.1353/obs.0.0000>).

**Bia M.**, Mattei A., Mercatanti A. (2022) “Assessing Causal Effects in a longitudinal observational study with ‘truncated’ outcomes due to unemployment and nonignorable missing data”, Journal of Business and Economic Statistics, 40(2), 718-729 (<https://doi.org/10.1080/07350015.2020.1862672>).

Uwizihiwe J.P., Lygidakis C., **Bia M.**, Dukundane D., Asiimwe-Kateera B., Nsanzimana S., Vögele C., Kallestrup P. (2022) *Cultural adaptation and psychometric evaluation of the Kinyarwanda version of the problem areas in diabetes-39 (D-39) questionnaire*”, Health and Quality of Life Outcomes, 19(183) (<https://doi.org/10.1186/s12955-021-01821-w>).

Lygidakis C., Uwizihiwe J.P., **Bia M.**, Kallestrup P., Dukundane D., Asiimwe-Kateera B., Niyonsenga S.P., Pierre S., Vögele C. (2021) “Cultural adaptation and psychometric evaluation of the Kinyarwanda version of the problem areas in diabetes (PAID) questionnaire”, Health and Quality of Life Outcomes, 19(183) (doi: 10.1186/s12955-021-01821-w).

Lygidakis H., Uwizihiwe J.P., **Bia M.**, Uwinkindi, F., Kallestrup P., Vögele C. (2021) “Quality of life among adult patients living with diabetes in Rwanda: a cross-sectional study in outpatient clinics”, BMJ Open, 11 (<http://dx.doi.org/10.1136/bmjopen-2020-043997>).

Lygidakis H. Kallestrup P., Kallestrup P., **Bia M.**, Condo J., Vögele C. (2019) “Community- and mHealth-based integrated management of diabetes in primary healthcare in Rwanda (D<sup>2</sup>Rwanda): the protocol of a mixed-methods study including a cluster randomized controlled trial”, BMJ Open, 9(7) (<http://dx.doi.org/10.1136/bmjopen-2018-028427>) Open Access.

Blanco G., **Bia M.**, (2019) “Inference for treatment effects of job training on wages: using bounds to compute Fisher’s exact p-value”, Applied Economics Letters, 26(17), 1424-1428 (<https://doi.org/10.1080/13504851.2018.1564113>).

Bellani L, **Bia M.** (2019) “The Long-Run Impact of Childhood Poverty and the Mediating Role of Education”, Journal of the Royal Statistical Society: Series (A), 182(1), 37-38 (<https://doi.org/10.1111/rssa.12388>).

Bellani L, Bia M. (2017) “The Impact of growing up poor in the EU”. Atkinson, T. and Marlier, E., editors, Income, work and deprivation in Europe. Eurostat Statistical.

**Bia M.**, Flores C., Flores-Lagunes A., Mattei A. (2014) “A stata package for the application of semiparametric estimators of dose–response functions”, The Stata Journal, 14(3), 580-604 (<https://journals.sagepub.com/doi/pdf/10.1177/1536867X1401400307>).

**Bia M.**, Van Kerm P. (2014) “Space filling location selection”, The Stata Journal, 14(3), 605-622 (<https://journals.sagepub.com/doi/pdf/10.1177/1536867X1401400308>).

**Bia M.**, Flores C., Flores-Lagunes A., Mattei A. (2013) “Semiparametric Estimators of Dose-Response Functions: Evidence from Job Corps Data”, in *Advances in Latent Variables*, Eds. Brentari E., Carpita M., Vita e Pensiero, Milan, Italy, ISBN 978 88 343 2556 8.

**Bia M., Mattei A.** (2012) “*Assessing the Effect of the Amount of Financial Aids to Piedmont Firms Using the Generalized Propensity Score*”, Statistical Methods and Applications, 21, 485-516 (<https://link.springer.com/article/10.1007/s10260-012-0193-4>).

Pasquariello M., **Bia M.**, Cassone A. (2011) “*Local labor systems of North-West Italian regions: the results of a territorial economic analysis through the principal component analysis*”, Rivista di Economia e Statistica del Territorio, (1), 43-81.

**Bia M., Mattei A.** (2008) “*A Stata Package for the Estimation of the Dose-Response Function through Adjustment for the Generalized Propensity Score*”, The Stata Journal, 8(3), 354-373 (<https://journals.sagepub.com/doi/pdf/10.1177/1536867X0800800303>).

#### PEER-REVIEWED PUBLISHED SOFTWARES

**Bia M., Flores, C., Flores-Lagunes A., Mattei A.** (2014) “DRF: *Stata module* for the application of semiparametric estimators of dose-response functions”, Statistical Software Components, Boston College Department of Economics.

**Bia M., P. Van Kerm,** (2014) “SPACEFILL: *Stata module* to implement a space-filling location selection algorithm”, Statistical Software Components, Boston College Department of Economics.

**Bia M., Mattei A.** (2009) “[DOSERESPONSE: Stata module to estimate dose-response function through adjustment for the generalized propensity score](#)”, Statistical Software Components, Boston College Department of Economics.

#### WORKING PAPERS

**Bia M., D’Ambrosio C., Huber M., Menta G.** (2025) “*Harnessing Genetic Variants for Local Average Treatment Effect Estimation*”, LISER working paper series (forthcoming).

**Bia M., Huber M., Laffers L.** (2020) “*Double machine learning for sample selection models*”, <https://arxiv.org/abs/2012.00745>.

**Bia M., Flores-Lagunes A., Mercatanti A.** (2019) “*Evaluation of Language Training Programs in Luxembourg using Principal Stratification*”, IZA DP No. 11973.

Bellani L., **Bia M.** (2017) “*The Long-Run Impact of Childhood Poverty and the Mediating Role of Education*”, IZA Discussion Paper No. 10677.

**Bia M., Flores C., Flores-Lagunes A., Mattei A.** (2014) “*A Stata package for the application of semiparametric estimators of dose-response functions*”, LISER working paper series, n° 2013-17.

**Bia M., Van Kerm P.** (2013) “*Space filling location selection*”, LISER working paper series, n° 2013-17.

**Bia M., Flores C., Mattei A.** (2011) “*Nonparametric Spline-Based Estimators of Dose-Response Functions*”, LISER working paper series n° 2011-40.

## **REFEREEING**

Sage Publication ‘Propensity Score analysis’, Advanced Quantitative Techniques in the Social Sciences, Statistical Methods and Applications, Research in Economics Journal, Statistica, Review of Income and Wealth, Observational Studies, Empirical Economics, Journal for Labour Market Research, Research Policy, Statistical Methods in Medical Research, Computational Statistics, PLOS ONE, Journal of the Royal Statistical Society: Series (A), Journal of Applied Econometrics, The Stata Journal, Journal of Population Economics, Labour Economics, Statistics in Medicine, Bio-Medical Research Methodology.

## **GRANTS AWARDED**

PI of the CORE Grant “SYstemic firm traNsformation dEteRmined by Green and diGIItal innovations: what are the key X-drivers behind this change?” (SYNERGIX), (€664.000), 01/02/26 - 31/01/29.

WP leader in the RESCOM “Lecture Series on Causal Inference methods for real-world data” (PI Dr. Sophie Pilleron, LIH), (€12,000), 15/09/25 - 14/07/26.

PI RESCOM Grant for the “7<sup>th</sup> LISER and IDSC of IZA Workshop: Matching Workers and Jobs Online - New Developments and Opportunities for Social Science and Practice”, (€17,000), 26/09/24 - 27/09/24.

AFR Grant (FNR) “IMPACT-AI: Investigating the Influence of Artificial Intelligence on Regional Economies and Firm Dynamics”, 2024 – 2028, supervisor of the PhD candidate Mattia Laudi (€200,000).

PI of the Inter Mobility IN Project “Causal Mediation Analysis and Machine Learning based estimators” (CAME), with Prof. M. Huber, University of Fribourg, (€5,120), 30/05/22 – 29/05/2025

PI of the Project “Evaluation du programme opérationnel du Fonds Social Européen au titre de l’objectif ‘Investissement pour la croissance et l’emploi’ ”, 2018-2021, (€120,678) (competitive fund).

PI of the Project “European Social Fund (ESF) Project on the Evaluation of Active Labour Market Policy in Luxembourg” – EvaLab4Lux, 2015-2018, (€485,000) (competitive fund);

PI of the AFR Grant ‘Fonds National de la Recherche in Luxembourg’ (FNR), “Semi-parametric and non-parametric methods for the estimation of direct, indirect causal effect in policy evaluation”, 2010-2012, (€93,000) (competitive fund).

## **ON-GOING AND COMPLETED PROJECTS**

Scientific contact of the Project “Bilan de mesures et aides en faveur des personnes bénéficiant du statut de salarié handicapé” (MES-SH), Luxembourg Ministry of Labor (2025 - 2026), PI Blandine Lejealle.

Scientific contact of the Project “Reducing Disparities in Cancer Outcomes (REDICO)”, 2023 – 2027, PI Sophie Pilleron (Luxembourg Institute of Health / LIH) (€2,000,000) (competitive fund).

Scientific contact of the CORE “[Advancing and conducting the impact assessment of circular economy initiatives on all three sustainability pillars through integrated life cycle sustainability assessment, with a focus on PVC in the construction sector \(CIRCUSTAIN\)](#)”, (2023 – 2026) PI Thomas Schaubroeck (€481,000) (competitive fund).

Scientific contact of the CORE “Evaluation of parental leave in Luxembourg, focus on couples’ strategies and the role of workplace characteristics (PARENT)”, 2019 – 2021, PI Marie Valentova, (€540,000) (competitive fund).

Scientific contact of the CORE “Assessment of Primary Care Performance in Luxembourg (APPEAL)”, 2020 – 2023, PI Valerie Moran (€463,000) (competitive fund).

Scientific contact of the CORE “[Optimal policies in the market for childcare: theory and evidence from Luxembourg - Childcare](#)”, 2015-2018, PI Arnaud Dupuy/Bertrand Verheyden (€613,047) (competitive fund).