

C u r r i c u l u m V i t a e

Łukasz
Lach

PERSONAL DETAILS

- Marital status: married, two children
- Date of birth: 24 September 1983
- Place of birth: Żywiec, Poland
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EDUCATION

- 2014 – 2020 Cracow University of Economics:
Habilitation thesis titled *Tracing key sectors and important input-output coefficients Methods and applications*.
The post-doctoral degree in economics and finance awarded with honours at the Cracow University of Economics – the biggest and the second oldest university of economics in Poland.
- 2008 – 2014 Cracow University of Economics:
PhD thesis titled *The main determinants of economic growth in Poland in the early years of the XXI century* completed under the supervision of professor Henryk Gurgul. The PhD degree in economics awarded with honours.
- 2005 – 2008 Jagiellonian University in Cracow:
Faculty of Mathematics and Informatics;
MSc in Applied Mathematics (specialization chosen during the ISMN) in 2008 (average grade equal to 5.0, i.e. the highest possible average that can be obtained in Poland).
- 2003 – 2005 Jagiellonian University in Cracow:
Faculty of Physics, Astronomy and Applied Computer Science;
Inter-Faculty Individual Studies in Mathematics and Natural Sciences (ISMN).

PROFESSIONAL EXPERIENCE

- April 2023 – present: Chairman of Economics and Finance Scientific Discipline Board at AGH University of Krakow, Poland.
- December 2020 – present: Associate Professor in Department of Applications of Mathematics in Economics at AGH University of Krakow, Poland.
- October 2014 – December 2020: Assistant Professor in Department of Applications of Mathematics in Economics at University of Science and Technology in Cracow, Poland.
- October 2008 – September 2014: Research Assistant in Department of Applications of Mathematics in Economics at University of Science and Technology in Cracow, Poland.

- **Courses taught:**

- Input-output analysis;
- Econometrics;
- Multivariate Econometrics;
- Financial Econometrics;
- Probability and Statistics;
- Mathematics;
- Algebra and Calculus;
- Integral Calculus.

- **Publications:**

Since 2009 I have published 45 research papers in peer-reviewed journals (including 24 papers in journals covered in JCR). I have also published one book. Selected publications (in chronological order):

- **Books**

- Tracing key sectors and important input-output coefficients: Methods and applications. Warsaw: C.H. Beck, 2020.

- **Papers**

- (with M. Suder, H. Gurgul, B. Barbosa and A. Machno) ***The Effectiveness Of Atm Withdrawal Forecasting Methods In Different Market Conditions***, forthcoming in: *Technological Forecasting and Social Change* (JCR 2023 Impact Factor: 12).
- (with H. Gurgul, M. Suder and K. Szpyt) The use of TBATS models in forecasting the size of withdrawals from ATMs, *Entrepreneurial Business and Economics Review* 11, 181-204, 2023 (JCR 2023 Impact Factor: 0,473).
- ***Optimization based structural decomposition analysis as a tool for supporting environmental policymaking***, *Energy Economics* 115, art. no. 106332, 2022 (JCR 2021 5-Year Impact Factor: 9.489).
- ***On the plausibility of using linear programming to trace important input-output coefficients in the framework of tolerable limits***, *Economic Systems Research* 33, 417-426, 2021 (JCR 2017 5-Year Impact Factor: 4.744).
- (with H. Gurgul) ***Linkages-based indicators of production-source sectoral eco-efficiency with application to Polish data***, *Journal of Cleaner Production*, 279, art. no. 123545, 2020 (2019 5-Year Impact Factor: 7.491), <https://doi.org/10.1016/j.jclepro.2020.123545>.
- (with H. Gurgul) ***Tracing VARDI coefficients: A proposal***, *Economic Systems Research* 31, 324–344, 2019 (JCR 2017 5-Year Impact Factor: 4.744).
- (with H. Gurgul) ***Sectoral linkages at the beginning of the 21st century: the role of Polish economy in global production structures***, *Communist and Post-Communist Studies*, 51(4): 299-314 (JCR 2017 5-Year Impact Factor: 1.023).
- (with H. Gurgul) ***On using dynamic IO models with layers of techniques to measure value added in global value chains***, *Structural Change and Economic Dynamics* (JCR 2017 Impact Factor: 1.542), <https://doi.org/10.1016/j.strueco.2018.07.004>.
- (with H. Gurgul) ***Regional patterns in technological progress of Poland: The role of EU structural funds***, *Central European Journal of Operations Research* (JCR 2016 5-Year Impact Factor:0.904), <https://doi.org/10.1007/s10100-018-0556-5>.
- (with H. Gurgul) ***Some Remarks on a Social Network Approach to Identifying Key Sectors***, *Economic Systems Research*, 30: 120-135, 2018 (JCR 2016 5-Year Impact Factor: 4.864).
- (with H. Gurgul) ***On approximating the accelerator part in dynamic input-output models***, *Central European Journal of Operations Research*, <https://doi.org/10.1007/s10100-017-0502-y> (JCR 2016 5-Year Impact Factor:0.904).
- (with H. Gurgul) ***Structural Change Versus Turnpike Optimality: A Polish Perspective***, *Communist and Post-Communist Studies* 50(1): 65–76, 2017, (JCR 2015 5-Year Impact Factor: 0.667).
- (with H. Gurgul and T. Wójtowicz) ***Impact of U.S. Macroeconomic News Announcements on Intraday Causalities on Selected European Stock Markets***. *Czech Journal of Economics and Finance* 66(5): 405-425, 2016 (JCR 2016 5-Year Impact Factor: 0.754).
- (with H. Gurgul) ***Simulating evolution of interindustry linkages in endogenous dynamic IO model with layers of techniques***, *Metroeconomica*, 67(4), 632-666, 2016 (JCR 2016 5-Year Impact Factor: 0.765).
- (with H. Gurgul) ***Key sectors in the post-communist CEE economies: What does the transition***

data say?, *Communist and Post-Communist Studies* 48(1): 15–32, 2015 (JCR 2016 5-Year Impact Factor: 0.667).

- **Oil usage, gas consumption and economic growth: Evidence from Poland**, *Energy Sources, Part B: Economics, Planning, and Policy* 10(3): 223-232, 2015 (JCR 2016 5-Year Impact Factor: 1.193).
- (with H. Gurgul) **Globalization and economic growth: Evidence from two decades of transition in CEE**, *Economic Modelling* 36: 99-107, 2014 (JCR 2016 5-Year Impact Factor: 1.573).
- (with H. Gurgul) **Political instability and economic growth: Evidence from two decades of transition in CEE**, *Communist and Post-Communist Studies* 46(2): 189-202, 2013 (JCR 2016 5-Year Impact Factor: 0.667).
- (with H. Gurgul) **Financial Development and Economic Growth in Poland in Transition: Causality Analysis**, *Czech Journal of Economics and Finance* 62(4): 347-367, 2012 (JCR 2016 5-Year Impact Factor: 0.754).
- (with H. Gurgul) **The electricity consumption versus economic growth of the Polish economy**, *Energy Economics* 34(2): 500–510, 2012 (JCR 2016 5-Year Impact Factor: 4.410).
- (with H. Gurgul and R. Mestel) **The relationship between budgetary expenditure and economic growth in Poland**, *Central European Journal of Operations Research* 20: 161–182, 2012 (JCR 2016 5-Year Impact Factor: 0.904).
- (with H. Gurgul) **The association between stock market and exchange rates for advanced and emerging markets – A case study of the Swiss and Polish economies**, *Betriebswirtschaftliche Forschung und Praxis* 64(2): 190-212, 2012 (JCR 2016 5-Year Impact Factor: 0.207).
- (with H. Gurgul) **The role of coal consumption in the economic growth of the Polish economy in transition**, *Energy Policy* 39: 2088–2099, 2011 (JCR 2015 5-Year Impact Factor: 4.599).
- (with H. Gurgul) **The causal link between Polish stock market and key macroeconomic aggregates**, *Betriebswirtschaftliche Forschung und Praxis* 4: 367–383, 2010 (JCR 2016 5-Year Impact Factor: 0.207).

Grants:

- *The Energy Transition Observatory as an instrument for supporting the socio-economic development of Poland*– research project funded by The National Centre for Research and Development in Poland between 2023 and 2026.
- *Structural change in the Polish economy: Lessons from the first decades of transition and perspectives on the future*– research project funded by the National Science Centre in Poland between 2016 and 2019.
- *The main determinants of economic growth in Poland in the period 2000-2009* – research project funded by the National Science Centre in Poland between 2012 and 2013.

Scientific cooperation with abroad:

- Coordination of visits of researchers from FernUniversität Hagen (prof. G. Broesel's team, May 2011), Universität des Saarlandes (dr J. Knoll, May 2012; prof. M. Olbrich, November 2013) and Technischen Universität Ilmenau (dr W. von Hessling, November 2012) at Department of Applications of Mathematics in Economics, University of Science and Technology in Cracow, Poland;
- Research paper co-authored with professor R. Mestel from the Karl-Franzens-Universität Graz (Austria) published in *Central European Journal of Operations Research* in 2012;
- Research cooperation with dr David Roodman from the Center for Global Development in Washington and professor Lee Adkins from Oklahoma State University acknowledged in the paper published in *Communist and Post-Communist Studies* in 2013;
- Invitation sent by the Croatian Science Foundation to support the review process of grant applications in economics;
- Referee for: *Economic Systems Research, Economic Modelling, Spatial Economic Analysis, Energy Economics, Science of the Total Environment, Energy Policy, Metroeconomica, Papers in Regional Science, Journal of Economic Studies, Communist and Post-Communist Studies, East European Politics & Societies and Cultures, Polish Journal of Economics, Central European Journal of Operations Research, Journal of Asian Economics, Czech Journal of Economics and Finance, Economic Research, International Journal of Sustainable Economy, Energy Exploration and Exploitation, Journal of Economics and International Trade, British Journal of Economics, Management and Trade, African Journal of Business Management, Environmental & Socio-Economic Studies.*

Other Professional Activities and Services:

- March 2021 - present: Expert of the Polish Accreditation Committee (area: economics and finance);
- January 2020 - present: Scientific editor of *Managerial Economics* (ISSN 1898-1143, e-ISSN 2353-3617).

Training and consulting:

- December 2015, March 2016, April 2016, November 2016, March 2017, June 2017, October 2017, June 2019: Professional training courses in statistic and econometric software packages for economists at National Bank of Poland.
- July 2014: Professional Internship Program (Asseco Company).
- 2013-2015: Scientific consultant responsible for software implementation of specific econometric procedures used in managing bank branches in Poland (Asseco Company, Euronet Company).

AWARDS AND HONOURS

- 2021, 2022, 2023: AGH University of Science and Technology Rector's Award (1st degree) for the Outstanding Research Performance (grant: Initiative for Excellence – Research University);
- 2020: AGH University of Science and Technology Rector's Award (2nd degree) for the Outstanding Research Performance;
- 2019: AGH University of Science and Technology Rector's Award (3rd degree) for the Outstanding Research Performance;
- 2018: AGH University of Science and Technology Rector's Individual Award for the Outstanding Research Performance (2nd degree);
- 2017: Scholarship of the Minister of Science and Higher Education of Poland for Outstanding Young Scientists (the most prestigious scientific scholarship in Poland; awarded for the longest possible period);
- 2017: AGH University of Science and Technology Rector's Individual Award for the Outstanding Research Performance (2nd degree).
- 2016 and 2015: AGH University of Science and Technology Rector's Individual Award for the Outstanding Research Performance (3rd degree).
- 2014: Representative of Poland nominated by the Foundation for Polish Science and accepted by the Council for the Lindau Nobel Laureate Meetings for the participation in the 5th Lindau Nobel Laureate Meeting on Economic Sciences;
- 2013: AGH University of Science and Technology Rector's Award (of highest degree) for the Outstanding Research Performance;
- 2013: START Scholarship awarded by the Foundation for Polish Science;
- 2012: AGH University of Science and Technology Rector's Award (of highest degree) for the Outstanding Research Performance;
- 2012: START Scholarship (the most prestigious scholarship for young researchers in Poland) awarded by the Foundation for Polish Science ;
- 2011: AGH University of Science and Technology Rector's Award (of highest degree) for the Outstanding Research Performance.

LANGUAGES AND OTHER QUALIFICATIONS

- English: fluent;
- Programming in GAMS, Matlab, Stata, EViews, Gretl, R;
- Driving licence.

HOBBIES

- Meeting interesting people;
- Volleyball.