Curriculum Vitae — Vitaliy Roud, Dr. rer. oec.
Researcher and lecturer. Science, technology and innovation studies

Vitaliy has 16 years of research, teaching and policy advice experience in the field of innovation studies, and skills in quantitative and qualitative research to address complex socio-economic phenomena using both traditional and novel data sources. He publishes in high-profile peer-reviewed journals and provided policy-relevant applied knowledge to promote evidence-based decision making. Russian delegate to the OECD Technology and Innovation Policy Workgroup (2012–2014). Member of the OECD/Eurostat Oslo Manual Revision working group (2015–2018).

Foci

- Business innovation studies — innovation strategies, organizational culture for innovation, open innovation, ecological innovation and transformative innovation.

- Governance of innovation systems, technological upgrading and catch-up, transformative dynamics, path dependence and bounded change, efficiency of institutions and linkages; industry-science cooperation; patterns of innovation behavior, taxonomies of innovation; evidence for systemic and diagnosis-based innovation policy.

- Measurement of innovation, innovation surveys, composite indexes and scoreboards. Micro, macro- and meso-level indicators to capture firm strategies, development, change, technological upgrading, dissemination of advanced production technologies and organizational practices, impact of R&D and research evaluation.

- (Micro-)econometrics of innovation and technology, machine learning-enabled studies of innovation and digital trace of innovation.

Positions

- **Zagreb School of Economics and Management (ZSEM),** Zagreb, Croatia
2022–present, Researcher and Lecturer, Department of Mathematics and Economics.
  - Research and management of research projects in the area of Innovation
  - Teaching at undergraduate and graduate levels

- **National Research University Higher School of Economics (HSE),** Moscow, Russia **(15 years)**
2018–2022, Deputy Head, Associate Professor, Laboratory for Economics of Innovation, Institute for Statistical Studies and Economics of Knowledge (ISSEK)
http://issek.hse.ru/en/
2006–2018, Researcher, Laboratory for Economics of Innovation, ISSEK HSE
  - Research and management of research projects in the area of Innovation Studies, postgraduate education and supervision
  - Policy advice and consultancy for governmental bodies, businesses and international organizations
  - Running and assessing large-scale data collection exercises
  - Foresight projects at national and sectoral levels

- **Lomonosov Moscow State University,** Moscow, Russia **(4 years)**
2003–2006 Junior Researcher, Optimal Control Department, Faculty of Calculative Mathematics and Cybernetics, http://oc.cs.msu.ru/
  - Applied mathematics: dynamic modelling in economics, optimal control theory. Scientific programming in MATLAB, MAPLE, Delphi.

Membership

- OECD/Eurostat Oslo Manual Revision working group (2015–2018)

- European Manufacturing Survey Consortium Workgroup (2009–2017) – research centers from 18 countries, coordinated by ISI Fraunhofer, Karlsruhe, Germany

- OECD Technology and Innovation Policy Workgroup (Delegate on behalf of Ministry of Science and Education, Russian Federation, 2012–2014)

Personal info
Male, 38, married, 2 children.
✉ vitaliy.roud@zsem.hr
🌐 https://roud.tech
📍 Moscow, Russian Federation
Languages: Russian (native), English (fluent)

Degrees

- **Dr. rer. oec.**, Technical University Berlin, magna cum laude (2018)
Dissertation: Understanding the heterogeneity of innovation behavior. Firm-level taxonomies as tools for addressing the growing complexity of innovation
- **M. A. in Economics**, New Economic School, Moscow, Russian Federation (2008)
- **Specialist in applied mathematics and programming**, Lomonosov Moscow State University, Faculty of Computational Mathematics and Cybernetics, Optimal Control Department, with honors (2005)

Core competences

- Broad perspective on Science, Technology and Innovation Studies
- Design, assessment and use of indicators for evidence-based policymaking using qualitative, quantitative and computational approaches
- Systems Thinking

Job-related skills

- Experience in course development, teaching and organizing the educational processes
- Expertise along the full cycle of data production, analysis, quality assessment and policy advice acquired through a range of research projects
- Experience in working with national statistical offices, governmental bodies and international organizations
- Ability to act both as an independent researcher and as a team member/leader
- Project management
- Experience in writing contest-based funding applications; presenting and communications vis-à-vis clients from public administration and business

Data skills

- Applied econometrics and qualitative+quantitative analysis (mixed methods)
- Machine learning and computational social science approaches
- Data visualization
- Data integration, ETL

Technical skills

R: tidyverse, knitr, ggplot2, RMarkdown
Python: pandas, matplotlib, scikit-learn
Stata, SPSS, Atlas TI, SQL.
MS Office 365, advanced Excel + VBA, RStudio, Jupyter, basic LaTeX, GIT.

- Coordinator of Government's Expert Group "From Stimulating Innovation to Innovation-based Growth" within the Revision of Strategy of Socio-Economic Development of the Russian Federation to the 2020 (2011)

Teaching

- **The original course Economics of Innovation** (Master's Programme 'Governance of Science, Technology and Innovation', year 1, in english**)**
  2018–present: developed a new course to provide comprehensive and structured overview of the up-to-date and classical literature on the Economics of Innovation. Delivered lectures and seminars.
  2014–2018: seminars
- **Contributions to the course Measurement of Science, Technology and Innovation** (Master's Programme 'Governance of Science, Technology and Innovation', year 1, in english)
  2014–2019: lectures and seminars on measurement of innovation
- **Contributions to the course Research Methods for Science, Technology and Innovation** (Master's Programme 'Governance of Science, Technology and Innovation', year 1, in english)
  2015–2019: topics in quantitative methods of social and economic research
- **Contributions to the Research seminar** (Master's Programme 'Governance of Science, Technology and Innovation', year 2, in English)
  2016–present: lectures on research projects planning and implementation, useful software and productivity tricks.
- **Vocational training for professionals**
  Examples: Training for the Russian national statistics office staff on innovation measurement (2019); Empirical evidence for Innovation Policy, special training for public administration of Vietnam, HSE (June 2015); Expert consultancy for the state officials on innovation and innovation measurement (2011–present).
- **Teaching overseas**
  International Workshop at Cape Peninsula University of Technology, Cape Town, South Africa, 2018 – a lecture "Micro evidence for heterogeneity of innovation strategies."
  Bromley Memorial Event, an international workshop on the Science, Technology and Innovation policy, University of Ottawa, Canada, 2012 – a lecture discussing the development, structure and functioning of Russian innovation policies.
- **Supervision**
  Supervision of MSc dissertations and term papers for the Master's Programme 'Governance of Science, Technology and Innovation' – up to 4 per year, 2018–present
  Management of Research Assistants within the Laboratory for Economics of Innovation, 2011–present.

Awards and Honors

2021 – Award of 15 years of excellent academic performance, HSE.

2020 – Award for publications in high-profile academic journals, HSE.

2018 – Best teacher Department Award, HSE

2018 – Award for publications in high-profile academic journals, HSE.

2016 – Award for publications in high-profile academic journals, HSE.

2013 – Acknowledgement for excellent performance, HSE

Certificates

2021 – Computational Social Science Methods. University of California, Davis, through Coursera (online).

2021 – Introduction to Learning Experience Design. Universal University, Moscow, Russia (online)

2018 – Introduction to R language for Socio-economic Analysis. HSE, Moscow, Russia

2015 – Introduction to Latent Class Modelling. Statistical Innovations Inc., Belmont, US (online).

2014 – Mixed Methods in Social Sciences. HSE, Moscow, Russia

2012 – Microeconometrics. HSE/New Economic School, Moscow, Russia

2008 – Technology Foresight for Practitioners. A specialized course on Roadmapping. UNIDO, Prague, Czech Republic

2008 – PMI PMBOK Project Management Basics. PM Expert, a certified PMI educational center, Moscow, Russia

Other interests

- History and philosophy of science, technology and innovation studies
- Open and reproducible research, digitalization of science, novel formats of academic output delivery and presentation (e.g., papers with integrated data and code powered by Jupyter or RMarkdown, Elsevier's 'executable papers')
- Future of computational social sciences and the "digital trace" of innovation
- Foundations for systems thinking and systems dynamics, mathematical category theory.
- Critical thinking, cognitive biases. New Rationality as extending the elements of the scientific method to the tasks of everyday life, such as information search on controversial topics (like 5G or vaccination) or fighting fake news — *and the crisis of rational thinking in the COVID times*. Eliezer Yudkowsky's 'Harry Potter and the Methods of Rationalilty' Mainfesto and the LessWrong community.
- Experimental music
- Chinese tea tradition

Competition-based applied research projects (examples)

Statistics of STI:

▪ Revision of the OECD/Eurostat Guidelines for Collecting, Reporting and Using Data on Innovation (Oslo Manual) and Proposals for putting Oslo Manual into Survey Practice (Eurostat, OECD, 2016–2018)
Delivered two working papers that systematize best practices of the empirical studies of innovation strategies to support the design of final chapters of the Manual. Contributed to delivery of survey guidelines and recommendations for Eurostat Community Innovation Survey.

▪ Monitoring Survey of Innovation Behavior of Enterprises (HSE, 2009–present) in collaboration with the European Manufacturing Survey (ISI Fraunhofer, Karlsruhe, Germany and research centers from 18 countries, 2009–2017)
Head of project, organizer and analyst of large-scale enterprise survey on the innovation strategies, dissemination of technologies and organizational concepts, demand on policy support instruments.

▪ Developing innovation statistics for agriculture (Ministry of Agriculture of the Russian Federation, 2015–2016)
As an analyst, systematized international practice of innovation measurement in agriculture, adopted the general Oslo Manual recommendations for the specificity of the innovation in agricultural sector. Participated in introduction of the guidelines into the national innovation survey.

Performance of National innovation systems:

▪ Comprehensive overviews of the Russian National innovation system (chapters for Global Innovation Index Analytical Report, 2012, 2016; Strategy 2020 for Socio-Economic Development of the Russian Federation; etc., 2008–present)
Delivery of analytical reports, provision of statistical data for the international statistical databases and outlooks (OECD, UNESCO).

▪ Doing Science: operationalizing and measuring climate for research and development (Ministry of Science and Education of the Russian Federation, 2017–2019)
Developed the conceptual framework and the survey methodology to capture the attitudes and expectations of the national R&D performers, participated in analysis and presentation of the results.

Foresight:

▪ Technological Roadmap for Light Emitting Diodes Industry in Russian Federation (Rusnano, 2008–2010)
Project coordination and team management, development of the framework, analysis and systematization of experts' inputs, production of deliverables.

▪ National S&T Foresight (Ministry of Science and Education of the Russian Federation, 2006–2008)
Research analyst, participated at all the stages of the project.

Publications

Articles in leading peer-reviewed journals

10. Roud V., Vlasova V. Firm-level innovation culture in the age of open innovation. Submitted to the Special Issue of Technovation, 30 October 2021.

9. Vlasova V., Roud V. Strategies of industry-science cooperation in the Russian manufacturing sector // The Journal of *Technology Transfer.* 2020. Vol. 45. No. 3. P. 870-907.

8. Gershman M., Roud V., Thurner T. Open innovation in Russian state-owned enterprises // *Industry and Innovation.* 2019. Vol. 26. No. 2. P. 199-217.

7. Gershman M., Gokhberg L., Kuznetsova T., Roud V. Bridging S&T and innovation in Russia: A historical perspective // *Technological Forecasting and Social Change.* 2018. No. 133. P. 132-140.

6. Roud V., Thurner T. The Influence of State-Ownership on Eco-Innovations in Russian Manufacturing Firms // *Journal of Industrial Ecology.* 2018. Vol. 22. No. 5. P. 1213-1227.

5. Roud V. Understanding the heterogeneity of innovation modes: Performance effects, barriers, and demand for state support // *Technological Forecasting and Social Change.* 2018. Vol. 133. P. 238-253.

4. Kratzer J., Meissner D., Roud V. Open innovation and company culture: Internal openness makes the difference // *Technological Forecasting and Social Change.* 2017. Vol. 119. P. 128-138.

3. Thurner T., Roud V. Greening strategies in Russia's manufacturing – from compliance to opportunity // *Journal of Cleaner Production.* 2016. Vol. 112. No. 4. P. 2851-2860.

2. Gokhberg L., Roud V. Structural changes in the national innovation system: longitudinal study of innovation modes in the Russian industry // *Economic Change and Restructuring.* 2016. Vol. 49. No. 2. P. 269-288.

1. Thurner T., Gershman M., Roud V. Partnerships as internationalization strategy: Russian entrepreneurs between local restrictions and global opportunities // *Journal of International Entrepreneurship.* 2015. Vol. 13. No. 2. P. 118-137.

Articles in other peer-reviewed journals

8. Vlasova V., Roud V. Cooperative strategies in the age of open innovation: choice of partners, geography and duration // *Foresight and STI Governance*. 2020. Vol. 14. No. 4. P. 80-94.

7. Vlasova V., Kuznetsova T., Roud V. Drivers and limitations of Russia's development based on the evidence provided by the Global Innovation Index // *Voprosy Economiki*. 2017. Vol. 8. P. 24-41. (in Russian)

6. Zaichenko S. A., Kuznetsova T., Roud V. Features of Interaction Between Russian Enterprises and Research Organisations in the Field of Innovation // *Foresight and STI Governance.* 2014. Vol. 8. No. 1. P. 6-23.

5. Gokhberg L., Kitova G. A., Roud V. Tax Incentives for R&D and Innovation: Demand versus Effects // *Foresight and STI Governance.* 2014. Vol. 8. No. 3. P. 18-41.

4. Kuznetsova T., Roud V. Competition, Innovation and Strategy: Empirical Evidence from Russian Enterprises // *Voprosy Economiki.* 2013. Vol. 12. P. 24-41. (in Russian)

3. Fursov K., Roud V. The Role of Statistics in the Debate on Science, Technology, and Innovation // *Voprosy Economiki.* 2011. Vol. 8. P. 138-150. (in Russian)

2. Gokhberg L., Kuznetsova T., Roud V. Analysis of Innovation Modes in the Russian Economy: Methodological Approaches and First Results // *Foresight-Russia*, 2010. Vol. 4. № 3. P. 18-30. (in Russian)

1. Sokolov A., Karasev O., Roud V. Delphi-based Long-term Forecast for the Russian Nano Industry // *Russian Nanotechnologies.* 2009. Vol. 4. № 5-6. P. 33-40. (in Russian)

Book Chapters

6. Roud V. Innovation surveys as evidence for technological upgrading and catch-up studies. In: J.D. Lee, K. Lee, D. Meissner, S. Radosevic, N. Vonortas (eds) The Challenges of Technology and Economic Catch-Up in Emerging Economies, 2021. Oxford University Press (in print). ISBN: 9780192896049

5. Roud V., Sokolov A., Meissner D. Nanotechnology for High-Tech Industries: Light-Emitting Diodes, in: Emerging Technologies for Economic Development / Ed. by D. Meissner, L. Gokhberg, O. Saritas. Springer, 2019. Ch. 3. P. 49-76.

4. Gokhberg L., Roud V. How to Design a National Innovation System in a Time of Global Innovation Networks: A Russian Perspective, in: The Global Innovation Index 2016. Winning with Global Innovation / Ed. by S. Dutta, B. Lanvin, S. Wunsch-Vincent. Geneva, Fontainebleau, Ithaca, NY: Cornell University, INSEAD, and WIPO, 2016. Ch. 13. P. 159-166.

3. Gokhberg L., Roud V., Kuznetsova T. et al. Chapter 3 From stimulating innovation towards self-sustained growth, in: Strategy-2020: New growth model – new economic and social policy / Ed. By Mau V., Kuzminov Y. Delo. Moscow, 2013. Ch. 3. P. 92-126. (in Russian)

2. Meissner D., Roud V., Cervantes M. Innovation Policy or Policy for Innovation? – In Search of the Optimal Solution for Policy Approach and Organisation, in: Science, Technology and Innovation Policy for the Future — Potentials and Limits of Foresight Studies / Ed. by Meissner, Dirk, Gokhberg, Leonid, Sokolov, Alexander. L., NY, Dordrecht, Heidelberg: Springer, 2013. P. 247-255.

1. Gokhberg L., Roud V. The Russian Federation: A New Innovation Policy for Sustainable Growth, in: Global Innovation Index 2012: Stronger Innovation Linkages for Global Growth / Ed. by S. Dutta, R. Berger. Fontainebleau: INSEAD, WIPO, 2012. P. 121-131.

Working Papers

6. Roud V., Gokhberg L. Measuring innovation in the business sector: beyond manufacturing and services / Eurostat-OECD working papers for Oslo Manual Revision process. 2017.

5. Roud V., Meissner D. Featuring Open Innovation / Eurostat-OECD working papers for Oslo Manual Revision process. 2017.

4. Vlasova V., Roud V. Cooperating with Universities and R&D Organizations: Mainstream Practice or Peculiarity? / NRU Higher School of Economics. Series WP BRP "Science, Technology and Innovation". 2017. No. 75/STI/2017.

3. Roud V., Vlasova V. Firm-level Evidence on the Cooperative Innovation Strategies in Russian Manufacturing / NRU Higher School of Economics. Series WP BRP "Science, Technology and Innovation". 2016. No. 63/STI2016.

2. Gokhberg L., Kuznetsova T., Roud V. Exploring innovation modes of Russian companies: what does the diversity of actors mean for policymaking? / NRU Higher School of Economics. Series WP BRP "Science, Technology and Innovation". 2012. No. 01.

1. Roud V. Firm-level Research on Innovation and Productivity: Russian Experience / UNU-MERIT. Series MEIDE-2007 "Micro Evidence on Innovation in Developing Economies". 2007.

Analytical Reports and Data Books

9. HSE. Science and Technology Policy in Russia in the times of post-pandemia: search for new solutions. 2021. National Research University Higher School of Economics. (in Russian)

8. HSE. Doing Science – assessment of R&D climate and S&T policy in Russia. 2019. National Research University Higher School of Economics. (in Russian)

7. HSE. Model of the state statistical service in the digital age. 2018. National Research University Higher School of Economics. (in Russian)

6. HSE. Russian science in figures. 2018. National Research University Higher School of Economics. (in Russian)

5. HSE. Innovation surveys for agriculture and the related industries. 2017. National Research University Higher School of Economics. (in Russian)

4. Rusnano/HSE. Light emitting diodes industry: innovation technologies, products and markets. The Roadmap. Rusnano, 2014. (in Russian)

3. HSE. Innovation behavior of the Russian enterprises. 2012. National Research University Higher School of Economics. (in Russian)

2. HSE. Russian Innovation Index. 2012. National Research University Higher School of Economics. (in Russian)

1. HSE/IMEMO. Innovation development as a base for modernizing Russia's economy. 2008. National Research University Higher School of Economics/IMEMO RAS. (in Russian)

Participation in Conferences (examples)

International Workshop "Technological Upgrading and Economic Catch-up", George Washington University, Campinas University, University College London, HSE, Seoul National University: Campinas, Brazil, 2020.

Roud V. "Innovation surveys as evidence for technological upgrading and catch-up studies."
International Workshop "New avenues of innovation measurement", Joanneum Research, Vienna, Austria, 2019.
Roud V. "Potential of innovation microdata to tackle challenges of modern policymaking."
The 23rd International Conference on Science and Technolo   4   dicators, Leiden University, Netherlands, 2018:
Roud V. "Bridging technological upgrading and innovati   scourses"
International Schumpeter Society Conference, Seoul National University, South Korea, 2018:
Roud V. "Technological upgrading of sectors through the prism of shifting firm-level innovation strategies"
OECD Blue Sky III Forum, Ghent, Belgium, 2016:
Roud V., Gokhberg L., "The quality of innovation statistics - Is data indifferent to the complexity of firm strategies?"
EU-SPRI Conference "Exploring new Avenues for Innovation and Research Policies", Lund, Sweden, 2016:
Roud V. "Heterogeneity of demand on innovation policy instruments: assessment and implications"
European Meeting on Applied Evolutionary Economics 2015, UNU-MERIT, Maastricht, Netherlands, 2015.
Roud V. "Capturing structural changes in national innovation system: longitudinal study of innovation modes in the Russian industry"
Bromley Memorial Event, an international workshop on the Science, Technology and Innovation policy, University of Ottawa, Canada, 2012.
Roud V. "Overview of science, technology and innovation policies in Russia".

- Long-lasting cooperation with the UNU MERIT Micro Evidence on Innovation and DEvelopment, later – Model Evidence on Innovation and DEvelopment (MEIDE) conference and its coordinators Prof. Dr. Pierre Mohnen and Prof . Dr. Jacques Mairesse:
MEIDE 9, UNU MERIT/HSE, Moscow, Russia, 2016.
Roud V. "Agents of the next industrial revolution: Dissemination of advanced technologies and organizational concepts in the Russian manufacturing"
Performed a role of local organizer, from the process of initial negotiation up to finally running the event.
Attracted more than 200 participants, around 80 from abroad.
MEIDE 8, New Delhi, India, 2015.
Roud V. "Persistence of Knowledge Production Function: firm-level evidence for innovation and performance debate"
MEIDE 6, UNU MERIT, Santiago, Chile, 2013.
Roud V. "Russian Industry: Modes of R&D and Links to Public Research"
MEIDE 5, Cape Town, South Africa, 2012.
Roud V. "Understanding the heterogeneity of innovation modes"
MEIDE 2, Beijing, China, 2008.
Roud V. "Patterns of innovative behaviour of Russian manufacturing firms: analysis of firm-level data"
MEIDE 1, UNU MERIT, Maastricht, 2007.
Roud V. "Firm-level research on innovation and productivity: Russian experience".

- Organization and regular contribution to annual HSE events 2007–present:
April International Academic Conference on Economic and Social Development, section Science, Technology and Innovation, HSE, Moscow, Russia.
Annual ISSEK conference "Foresight and STI Policy", ISSEK HSE Moscow, Russia

Works in Progress

Roud V., Plekhanov D., What helps firms in their digital transformation? An empirical investigation of contingency effects. Accepted at EUROMA20201.

Roud V. Technological inequality of the Russian high-tech manufacturing firms: a challenge for digital transformation? Accepted at the 18th International Schumpeter Society Conference 2021.

Roud V., Vlasova V., Vonortas, N. Innovation barriers vary across firms with different levels of innovation capabilities: can a good governance handle this?, presented at HSE April Conference, Moscow, 2021.

Roud V., Gokhberg L., Big-data enabled opportunities for measuring science, technology and innovation, a chapter for the Handbook of Innovation Indicators and Measurement, Second Edition (Fred Gault, Anthony Arundel eds.), signed contributor agreement. TBD autumn 2022.

Appendix —relevant certificates:

certificate

This certificate of completion certifies that

Vitaliy Roud

has successfully completed the course

Introduction to Learning Experience Design

during the period from March 9, 2021 to April 13, 2021
workload: 46 academic hours

S. Smyslova
Course Leader

E.Cherkes-zade
Director

UNIVERSAL
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Issued on:
April 30, 2021

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UC DAVIS

18-May-2021

Vitaliy Roud

has successfully completed

Computational Social Science Methods

an online non-credit course authorized by University of California, Davis and offered through Coursera

Martin Hilbert
Professor and Chair DE Computational Social Science
Dpt Communication, DataLab, and Graduate Group in Computer Science
University of California, Davis

Verify at coursera.org/verify/HNRX8FHSK9CL

Coursera has confirmed the identity of this individual and their participation in the course.