

Johannes Wachs

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Associate Professor
Corvinus University Budapest
Senior Research Fellow
Center for Economics and Regional Studies

Education

Ph.D., Network Science , summa cum laude	2015-2019	Central European University
Advisor: Prof. János Kertész, Thesis: Network Approaches to the Study of Corruption		
M.Sc., Applied Math , with distinction	2010-2012	Central European University
B.S., Mathematics and Economics , cum laude	2005-2009	Tulane University

Academic Positions

Corvinus University Budapest , April 2023- present	Budapest, HU
- Associate Professor, Institute of Data Analytics and Information Science.	
Centre for Economic and Regional Studies , April 2023 - present	Budapest, HU
- Senior Research Fellow	
Vienna Uni. of Econ. & Business , April 2020-April 2023	Vienna, AT
- Assistant Professor, Institute for Data, Process, and Knowledge Management.	
Complexity Science Hub Vienna , April 2020-April 2023	Vienna, AT
- Resident Faculty	
RWTH Aachen University , March 2019-April 2020	Aachen, DE
- Postdoctoral Fellow, Chair of Computational Social Sciences (Prof. Dr. Markus Strohmaier)	
Visiting Positions:	
- Hungarian Academy of Sciences, Summer 2018. Host: Dr. Balázs Lengyel	Budapest, HU
- Oxford Internet Institute, Winter 2018. Host: Dr. Taha Yasseri	Oxford, UK
- Hertie School of Governance, Summer 2016. Host: Dr. Mihály Fazekas	Berlin, DE

Grants and Awards

Co-PI, CSH Coordinator – *Crisis Response and Intervention Supported by Semantic Data Pooling (CRISP)*. Austrian Research Promotion Agency (FFG), 2021-2024. Total: 872k €, CSH Share: **215k €**

PI – *Geography of Open Source Software*. City of Vienna-WU Jubilee Fund, 2020-2021. **16k €**

PI – *Open (Science) Data Usage - A linkage infrastructure*. WU Projects Fund, 2021. **18.5k €**

Team member of 1st Place submission *Public procurement corruption risks: Harnessing Big Data for better fiscal governance and growth* at the IMF Anti-Corruption Challenge, 2020. **\$50k**

Honorable Mention for the 2018 Lijphart/Przeworski/Verba Dataset Award from the Comparative Politics Section of the American Political Science Association for *opentenders.eu*.

Best presentation award: No Country for Asylum Seekers? Euro Symp. on Societal Challenges in Computational Soc. Sci., Zurich, 2019. (Coauthor)

Best presentation award: Girls Who Code: Gender Differences in Behavior and Outcome on Stack Overflow, Euro Symp. on Societal Challenges in Computational Soc. Sci, London, 2018. (Coauthor)

Academic Achievement Award for First-Year Doctoral Students, CEU, 2016.

Publications in Journals and Peer-Reviewed Conference Proceedings

All papers available at <https://johanneswachs.com>.

* indicates paper independent of PhD supervisor, † indicates co-first author, ‡ indicates JW is corresponding author.

[20] *‡ **J. Wachs**: *Digital Traces of Brain Drain: Developers during the Russian Invasion of Ukraine*. EPJ: Data Science (2023).

[19] *† W. Schueller, **J. Wachs**†, Vito D. P. Servedio, Stefan Thurner, Vittorio Loreto: *Evolving Collaboration, Dependencies, and Use in the Rust Open Source Software Ecosystem*. Forthcoming at: Nat. Scientific Data (2022).

[18] * M. Fazekas, R. Ferrali, **J. Wachs**: *Agency independence, campaign contributions, and favouritism in US federal government contracting*. J. of Public Admin. Res. and Theory (2022).

[17] *‡ **J. Wachs**, M. Nitecki, W. Schueller, A. Polleres: *The Geography of Open Source Software: Evidence from GitHub?* Technological Forecasting & Social Change (2022).

[16] * S. Sikdar, R.S. Sachdeva, **J. Wachs**, F. Lemmerich, M. Strohmaier: *The Effects of Gender in Online Product Reviews*. Frontiers in Big Data (2022).

[15] *‡ **J. Wachs** and B. Vedres: *Does Crowdfunding Really Foster Innovation? Evidence from the Board Game Industry*. Technological Forecasting and Social Change (2021).

[14] G. Tóth†, **J. Wachs**†, R. Clemente, A. Jacobi, B. Ságvári, J. Kertész, B. Lengyel: *Inequality is rising where social network segregation interacts with urban topology*. Nature Comms. (2021).

[13] *‡ T. Gessler, G. Tóth, **J. Wachs**: *No Country for Asylum Seekers? How Short-term Exposure to Refugees Influences Attitudes in Hungary*. Political Behavior (2021).

[12] * N. Hagar, **J. Wachs**, A. Horvát: *Publishing patterns reflect political polarization in news media*. New Media & Society (2021).

[11] *‡ L. Moldon, M. Strohmaier, **J. Wachs**: *How Gamification Affects Software Developers: Cautionary Evidence from a Natural Experiment on GitHub*. Proceedings of the International Conference on Software Engineering (ICSE 2021).

[10] *‡ M. Papoutsoglou, **J. Wachs**, G. Kapitsaki: *Mining DEV for social and technical insights about software development*. Proc. of the Int. Conference on Mining Software Repositories (MSR 2021).

- [9] J. Kertész, **J. Wachs**: *Complexity science approach to economic crime*, Nature Reviews Physics (Comment, 2020).
- [8] * M. Fazekas, **J. Wachs**: *Corruption and the network structure of public contracting markets across government change*, Politics and Governance (2020).
- [7] ‡ **J. Wachs**, M. Fazekas, J. Kertész: *Corruption Risk in Contracting Markets: A Network Science Perspective*, International Journal of Data Science and Analytics (2020).
- [6] ‡ **J. Wachs**, T. Yasseri, B. Lengyel, J. Kertész: *Social capital predicts corruption risk in towns*, Royal Society Open Science (2019).
- [5] ‡ **J. Wachs** and J. Kertész: *A network approach to cartel detection in public auction markets*, Nature: Scientific Reports (2019).
- [4] * A. May, **J. Wachs**, A. Hannak: *Gender Differences in Participation and Reward on Stack Overflow*, Empirical Software Engineering (2019). **Springer-Nature Highly Downloaded Research in Computer Science, 2019.**
- [3] *‡ **J. Wachs**, B. Daroczy, A. Hannak, K. Pall, C. Riedl: *And Now for Something Completely Different: Visual Novelty in an Online Network of Designers*, ACM Conf. on Web Sci. (WebSci 2018).
- [2] * E. Horvat, **J. Wachs**, R. Wang, A. Hannak: *The Role of Novelty in Securing Investors for Equity Crowdfunding Campaigns*, AAAI Conf. on Human Computation and Crowdsourcing (HCOMP 2018).
- [1] *‡ **J. Wachs**, A. Hannak, B. Daroczy, A. Voros: *Why Do Men Get More Attention? Exploring Factors Behind Success in an Online Design Community*, AAAI Conf. on Weblogs and Social Media (ICWSM 2017).

Manuscripts under revision or submitted

- [M3] *‡ W. Schueller, **J. Wachs**: *Modeling Interconnected Social and Technical Risks in Open Source Software Ecosystems*. <https://arxiv.org/pdf/2205.04268.pdf> (2022).
- [M2] *‡ **J. Wachs**: *Making Markets for Information Security: The Role of Online Platforms in Bug Bounty Programs*. <https://arxiv.org/pdf/2204.06905.pdf> (2022).
- [M1] * L. Lőrincz, J. Koltai, **J. Wachs**, K. Takács: *Do Diversity and Context Collapse Kill an Online Social Network?* Preprint available upon request (2021).

Public Policy Papers

- [P2] * A. Czibik, M. Fazekas, A.H. Sanchez, **J. Wachs**: *State Capture and Defence Procurement in the EU*. Report for the Open Society Institute for Europe (2021).
- [P1] * M. Fazekas, Y. Kazmina, **J. Wachs**: *Gender in public procurement: Extent, distribution, and impacts*. European Bank for Reconstruction and Development Research Report (2020).

Service

Editorial: Guest editor (with J. Kertész, E. David-Barrett, and M. Fazekas) of the forthcoming special issue: Data Science and Economic Crime, in EPJ: Data Science (2022).

Program Committee Member: IC2S2, NetSciX (mult.), Comp. Net (mult.); Euro Symp. on Societal Challenges in Comp. Soc. Sci., 2019; CompleNet, 2017, 2018; Comp. Soc. Sci. Winter Symp., 2015.

Journal Reviewing: IEEE Trans. Soft. Eng., Emp. Soft. Eng., Roy. Soc. Interface, Sci. Reports, Nature Comms., ACM Trans. Soc Comp., WebConf, Journal of Web Sci., EPJ: Data Science, Info. & Software Tech., Journal of Info. Sci., Internet Research. See Publons: <https://publons.com/researcher/1994392/>

Supervision: Reviewer of dissertation for Ph.D. in Criminology at Università Cattolica del Sacro Cuore, Milan, 2019. RWTH: 2 bachelor theses, WU: 11 bachelor theses, 4 master theses (some in progress); Co-supervisor of PhD student Hannah Schuster (WU).

Invited Talks

Online Teamarbeit: Soziale Faktoren in digitalen Gemeinschaften, March 2021, Uni. Vienna uniMind Workshop.

Corruption Networks Satellite at NetSci, Keynote, September 2020, Rome.

IAS Seminar, Invited talk, October 2019, Institute for Analytical Sociology, Linköping University.

RECENS Seminar, Invited talk, December 2017, Hungarian Academy of Sciences.

OMILAB Seminar, Invited talk, January 2017, The Open University of Israel.

Network Theory in the Study of Religion Workshop, Invited talk, September 2016, ELTE, Budapest.

Congreso Big Data, Keynote talk, July 2016, Quito, Ecuador.

Teaching Experience

Vienna Uni. of Econ. & Business

- Instructor: Data Science IV: Computational Social Science Vienna, AT
Repeated since Fall 2020
- Instructor: Data Science (Executive Academy) January 2022

RWTH Aachen University

- Instructor: Social Data Science Aachen, DE
Winter 2019/20
- Instructor: Social Networks Summer 2019

Other: Instructor: Data Mining, AIT Budapest, 2016, w/ Andras Benczur.

TA: Using Big Data for social science research CEU 2016; Scientific Python, CEU 2016, 2017.