

Eric Schnell

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Personal Profile

I'm a recent PhD graduate from the London School of Economics in the department of Psychological and Behavioural Science. My research revolves around cooperation and understanding how it may have culturally evolved and continues to keep evolving. I take a computational approach to answering these questions, using methods such as evolutionary game theory, adaptive dynamics, and social network analysis.

Education

London School of Economics and Political Science (LSE)

London, UK

MPhil / PhD, Psychological and Behavioural Sciences

2021 - 2025

- **Dissertation:** The Cultural Evolution of Large-Scale Human Cooperation
- **Supervisors:** Dr. Michael Muthukrishna and Dr. Bradley Franks
- Attending with funding from the *Templeton World Charity Foundation* (TWCF0620)

University of California, Los Angeles (UCLA)

Los Angeles, USA

Graduate Fellow, Institute for Pure and Applied Mathematics

2024

- Fellow in the Mathematics of Intelligence research program

University of Toronto

Toronto, Canada

BSc, Mathematics and Cognitive Science Double Major, Religious Studies Minor

2016 - 2020

- Graduated with High Distinction
- CGPA: 3.8/4.0
- Dean's List 2016-2020

Work Experience

London School of Economics and Political Science

London, UK

Graduate Teaching Assistant

2023 - 2025

- Taught masters level classes for *Data for Data Scientists* and *Applied Machine Learning for Social Science*
- Courses covered how to work with databases, including storage and manipulation of large datasets, how to gather data online through the use of APIs and web scraping, and how to use machine learning algorithms including creating algorithms from scratch
- Course material was taught in R
- Graded formative assignments
- Received a student evaluation score of 4.6/5

London School of Economics and Political Science

London, UK

Summer School Class Teacher

2022 - 2024

- Taught class sections for *Foundations of Psychological Science* to summer school students
- Taught class sizes of 20 students with 60 students in total
- Graded all assignments, including an essay and a final exam
- Received a student evaluation score of 4.8/5

Publications

JOURNAL ARTICLES

Schnell, Eric & Muthukrishna, M. (2024). Reply to Gross et al.: Indirect reciprocity undermines large-scale cooperation under realistic conditions. *Proceedings of the National Academy of Sciences*, 121(27). <https://doi.org/10.1073/pnas.2410085121>

Schnell, Eric & Muthukrishna, M. (2024). Indirect Reciprocity Undermines Indirect Reciprocity Destabilizing Large-Scale Cooperation. *Proceedings of the National Academy of Sciences*, 121(19). <https://doi.org/10.1073/pnas.2322072121>

Schimmelpfennig, R., Razek, L., **Schnell, Eric**, & Muthukrishna, M. (2021). Paradox of Diversity in the Collective Brain. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 377(1843). <https://doi.org/10.1098/rstb.2020.0316>

Schnell, Eric & Xu, Y. (2021). A computational evaluation of gender asymmetry in semantic change. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 43.

UPCOMING PUBLICATIONS

Schnell, Eric, Schimmelpfennig, R., & Muthukrishna, M. (2026). The Cooperation Ladder: Scale-dependent payoffs and population dynamics create surges, stalls and reversals. *bioRxiv*. <https://doi.org/10.1101/2021.02.19.432029>

Schnell, Eric, Schimmelpfennig, R., Li, X., & Muthukrishna, M. (Under Review). Show Off or Hide It? Property Rights and Status Competition Shape Wealth Display, Evil Eye Beliefs, and Egalitarian Norms.

Kroupin, I., Slank, S., Zhou, W., Cheng, L., **Schnell, Eric**, Soter, L., Hare, B., Sinnott-Armstrong, W., & Muthukrishna, M. (In preparation). Beyond Tolerance: Comity as a Fragile Major Transition.

Schnell, Eric, Batistoni, T., & Muthukrishna, M. (In preparation). Competing Scales of Indirect Reciprocity.

CONFERENCE TALKS

Schnell, Eric. Competing Scales of Indirect Reciprocity. In: *Human Behavior and Evolution Society Conference*. Atlantic City, USA, 2025, June.

Schnell, Eric & Muthukrishna, M. Modelling Cooperation Through Time and Culture. In: *Society for Personality and Social Psychology: Historical Psychology Preconference*. Atlanta, USA, 2023, February.

Schnell, Eric & Muthukrishna, M. Competing Scales of Indirect Reciprocity. In: *Cultural Evolution Society meeting*. Aarhus, Denmark, 2022, September.

INVITED TALKS

Schnell, Eric. Cultural Evolution of Large-Scale Cooperation. In: *Dublin City University*. Dublin, Ireland, 2025, July.

Schnell, Eric. Scales of Cooperation. In: *Cognitive and Information Sciences, University of California Merced*. Merced, USA, 2024, November.

Schnell, Eric. The Size of the Stag Determines the Level of Cooperation. In: *Institute for Pure and Applied Mathematics*. Los Angeles, USA, 2024, October.

CONFERENCE POSTER

Schnell, Eric & Muthukrishna, M. The Size of the Stag Determines the Level of Cooperation. In: *Society for Personality and Social Psychology: Historical Psychology Preconference*. Denver, USA, 2025, February.

Schnell, Eric. Scales of Cooperation. In: *Institute for Pure and Applied Mathematics: Modeling Multi-Scale Collective Intelligences Workshop*. Los Angeles, USA, 2024, November.

Schnell, Eric & Muthukrishna, M. Indirect Reciprocity Undermines Indirect Reciprocity Destabilizing Large-Scale Cooperation. In: *Society for Personality and Social Psychology*. San Diego, USA, 2024, February.

Schnell, Eric & Muthukrishna, M. Paradox of diversity in the collective brain. In: *Royal Society meeting: The emergence of collective knowledge and cumulative culture in animals, humans and machines*. London, UK, 2022, March.

NON PEER REVIEWED

Abbas, M., Alharthi, D., Beckelhymer, D., Beylkin, G., ..., **Schnell, Eric**, ..., & Velez-Ginorio, J. (2025). White Paper: Mathematics of Intelligences. *Institute for Pure & Applied Mathematics*. <https://www.ipam.ucla.edu/reports/white-paper-mathematics-of-intelligences-2024/>

Reviewer

Evolutionary Human Sciences

Skills

Programming Python (Pandas, NumPy, Sympy, NetworkX, Scikit-learn. etc.), R, Java, Haskell

Miscellaneous Shell (Bash), \LaTeX (Overleaf/R Markdown), Microsoft Office, Git, Mathematica, MATLAB

Languages

English Native proficiency

French Native proficiency

References available upon request.