# Stephen James Guion

626 S Broad St, Philadelphia, PA, USA
+1 (802) 595-9517 | guion.stephen@gmail.com | https://www.innovatomics.com

## PROFILE

- Early career transdisciplinary researcher, science communicator, and accessibility advocate with expertise in cross-sector collaboration, science and technology policy & forecasting, multidisciplinary coaching, and mentorship.
- Skilled in comprehensive research networks, quantitative & qualitative analysis, science communication & diplomacy, and comprehensive teaching and mentorship.
- Strong passions for international collaboration, disability accessibility & advocacy, direct and tangible impacts, science & technology responsible innovation, and political awareness.

## CITIZENSHIP

United States of America

## LANGUAGES

**English:** Native/ Bilingual

**German:** Professional

**Italian:** Intermediate

**Russian:** Elementary

## EDUCATION

**Master of Science (M.Sc.), Systemic Neuroscience & Ethics**, 2017–2019

*Ludwig Maximilian University of Munich*, Graduate School of Systemic Neuroscience, Munich, DE

Concentrations: Emerging Technologies; Computational Social Sciences; Research Ethics

Thesis for M.Sc. Qualifications: *"Keeping Tempo: Quantifying Temporal Coordination and Inter-Agent Coupling in Social Interactions"*

Supervisors: Prof Dr Ophelia Deroy; Prof Dr Merle T Fairhurst

**Honors Bachelor of Science (Hnrs B.Sc.), Psychology**, 2013–2017

*George Mason University*, Fairfax, VA, USA

Study Abroad: CAPA International, *Art History & Communication Sciences*, Florence, IT [S4 | 2014]

Concentrations: Systems Biology; Human Factors Engineering; Quant/Qualitative Analysis

Thesis for B.Sc. Qualifications: *"Illuminating Expectations: The Effects of Expectancy on Physiological Arousal and Cognitive Performance under Blue-Enriched Lighting Conditions"*

Supervisors: Prof Dr Craig McDonald; Prof Dr Linda Chrosniak; Dr John Graybeal

## CONFERENCES, PRESENTATIONS & TALKS

- [Abstract Submitted] *Intersectionalities between Neurotechnology and Social Embeddedness: Exploring Polanyi's Double Movement in the Implantable Brain-Computer Interface Market*

  Neuroethics 2025 "Neuroethics at the Intersection of the Brain and Artificial Intelligence"
- Panel Expert Discussion Chair, *Forecasting Education* [June 2024; Berlin, Germany]

  9th Max Planck Symposium for Alumni "The future of education across the world"
- *What If Doughnut Economics Were Actually a Doughnut?*

  8th Max Planck Symposium for Alumni and Early Career Researchers "The rise of social, economic and environmental justice" [June 2023, Berlin, Germany]
- *Circumnavigating the Openness Paradox in Transdisciplinary Collaboration*

  8th Max Planck Symposium for Alumni and Early Career Researchers "The rise of social, economic and environmental justice" [June 2023, Berlin, Germany]

- *Neurocognitive Investigation of Risk Foresight Implementation in the Rider/Coach Relationship*

  Motorcycle Safety Foundation [Virtual]
- *Using social innovation, foresight workshops, and neuro-peace nomothetic models to incite local community actions in transboundary water conflict regions*

  6th Max Planck Symposium for Alumni and Early Career Researchers 2021 "Water – more expensive than gold" [June 2021, Virtual]

## CONTINUED EDUCATION & CERTIFICATES

- **Political Economy of Sustainable Development**, *University of Vermont* (Dr Trisha Shrum)

  "Introduction to the political economy of sustainable development from the theoretical perspective of complex adaptive socio-ecological systems. Political economy assesses relationships between the state, market, and civil society to understand how humans satisfy their material needs (human provisioning) through interaction with their social and natural environments." [https://www.uvm.edu/cals/cdae/graduate_courses]
- **Advanced Microeconomics**, *University of Vermont* (Dr Qingbin Wang)

  "Principles and applications of advanced microeconomics: consumer and market demand, firm and market supply, perfect and imperfect markets, partial and general equilibrium, and policy analysis." [https://www.uvm.edu/cals/cdae/graduate_courses]
- **Science and Democracy Network**, 20th Annual Meeting 2021 (mentor: Prof David Guston)

  "The Annual Meeting provides a forum for discussing empirical research on important topics in the contemporary politics of science and technology. These meetings train young professionals, foster dialogue among scholars from across the globe, and build an improved knowledge base for public policy by highlighting issues of importance to national, regional, and global communities of scholars and practitioners." [https://stsprogram.org/sdn/meeting/archive/annual- meeting-2021/]
- **Developing Foresight Capacity for Climate Resilient Agricultural Development**, *SADC E-Learning, 2021*

  "The SADC Futures e-learning course provides an interactive and exciting way to learn about the fundamentals of foresight in your own time. The certified course consists of key modules, which break down the foresight process intro different methods and tools that you can apply." [https://ccafs.cgiar.org/research-themes/priorities-and-policies-for-csa/projects/sadc-futures/the-project]
- **Promoting Access to Medical Technologies and Innovation: Executive Course on the intersections between public health, intellectual property and trade**, *World Intellectual Property Organization Distance Learning Academy*, 2020

  "The purpose of this course is to give you an overview of the interplay between the distinct policy domains of health, trade and intellectual property. The course describes how they affect access to, and influence innovation in medical technologies. The course was developed by, and draws together the respective areas of expertise of the World Health Organization (WHO), WIPO and the World Trade Organization (WTO)." [https://welc.wipo.int/acc/index.jsf?page=courseCatalog.xhtml&lang=en&cc=DL701ENT#plus_DL701ENT]
- **General Course on Intellectual Property**, *World Intellectual Property Organization Distance Learning Academy*, 2020

  This course provides a more in-depth view of the fundamentals of IP law, and is considered as indispensable to pursue more advanced courses of study on specific areas of IP law. [https://welc.wipo.int/acc/index.jsf?page=select_program.xhtml]

## INDEPENDENT RESEARCH VENTURES

**Founder & Chief Scientific Officer**, *[UN]disciplined Ventures* | 2020 – Present

[UN]disciplined Ventures is a group of frontier companies and organizations leading the way towards a sustainable and equitable tomorrow harnessing a range of theoretical and applied methods, such as collaborative R&D, speculative design, forecasting strategy, principles of (un)design, and modern philosophy to tackle local and global challenges. Find work here https://www.innovatomics.com, or see Project samples below:

- "Publishing X Musicology X Sound Engineering: The Future of Academic Publishing and Outreach" [Read Here]
- "Social Psychology X Communications Dynamics: Communication Dialectics between the Openness Paradox & the Spiral of Silence" [Read Here]

- Philosophy X Systems Theory | The Deontological Privilege of Conceptual Engagement: Transitioning Modern Philosophical Engagement to Systemic Consequentialism [Read Here]
- “Economics X Computational Neuroscience: 3-toroidal Expansion of Raworth's Doughnut Economics”
- “Thucydides X Semantics: Ontological Tragedy of Epistemology—a Case for Dominant Problematics” [Read Here]
- “Space Economics X Science Policy | Reciprocity in Asset Management: The urgent need of reciprocality between space technology development and natural capital conservation efforts.” [Read Here]
- “Surgical Neurotechnology X Social Embeddedness | Intersectionalities between Neurotechnology and Social Embeddedness: Exploring Polanyi's Double Movement in the Implantable Brain-Computer Interface Market” [Read Here]
- Art History X Sustainable Development | Is Sustainability A 17Th-Century Dutch Pronk Told Through 19Th-Century English Pigment? [Read Here]
- Behavioral Economics X Statistical Ambiguity | From $R^2\ to\ \eta^2\ to\ \omega^2$ : Caveat Factorem Convergeniae [Read Here]
- GIS X Visual Arts X Science Data Education | Geospatial Glitch Art [Read Here]

## MEMBERSHIPS & AFFILIATIONS

**Rowing Athlete**, *Pennsylvania Athletic Club (Penn AC) Rowing Association*

**Workgroup Co-Lead**, *Implantable Brain-Computer Interface Collaborative Community (iBCI-CC)*

**Diplomacy Activism Member**, *Union of Concerned Scientists (UCS) Science Network*

**Assembly Member & North American Rep**, *Max Planck Society Alumni Association (MPAA)*

## SKILLS

- Leadership & Facilitation Skills
- Progress Monitoring & Goal Attainment
- Qualitative & Quantitative Analysis
- Analytical Thinking & Assessment
- Microsoft Office Suite & CANVA
- Multidisciplinary Experiment Protocol Development
- Mental Health Support & Resource Allocation
- Outreach Programming Specialist
- Project & Time Management
- SPSS, R-Studio, Python, MATLAB

## WORK EXPERIENCE

**Community Engagement Associate**, Triple Bottom Brewing, Philadelphia, PA | 2023–2024

- Demonstrated enthusiasm for acquiring comprehensive knowledge about our distinguished collection of beers and the ways of the beer industry.
- Exhibited an unwavering commitment to fostering and sustaining a secure and welcoming work environment through DEI practices and mentorship.
- Showcased exceptional communication skills characterized by clarity, empathy, and respect.
- Displayed adaptability to effectively navigate both high and low volume markets.
- Manifested a dedication to the principles of hospitality, relationship-building, and inclusivity.
- Emanated enthusiasm for continual learning, coupled with the ability to receive and implement constructive feedback.

*[Gap in Work History: Relocation, Service Industry Employment]*

**Vocational Rehabilitation Job Coach**, *HireAbility (VT-DAIL)*, Burlington, VT | 2022 – 2023

- Collaborated with Vocational Rehabilitation clients to comprehensively assess their skills, interests, and career aspirations, tailoring employment plans to individual needs.
- Developed and implemented personalized employment plans, offering hands-on coaching and mentorship to enhance clients' job readiness, ensuring alignment with their unique abilities and goals.
- Conducted thorough job searches, leveraging market knowledge to identify and present diverse employment opportunities to clients. Provided guidance throughout the application process, optimizing their chances of successful placement.

- Designed and facilitated targeted training sessions aimed at improving clients' job-related skills, fostering independence, and boosting self-confidence in diverse workplace environments.
- Cultivated and maintained strong relationships with employers, actively collaborating to create customized job opportunities that align with the skills and capabilities of clients.
- Monitored clients' workplace integration, consistently evaluating progress and addressing challenges promptly. Implemented adaptive strategies to optimize their success and ensure sustained employment.
- Played a pivotal role in the development and implementation of strategies to promote workplace inclusivity, diversity, and accommodation, fostering a supportive environment for clients and employers alike.
- Generated comprehensive reports documenting client outcomes, highlighting success stories, program effectiveness, and areas for continuous improvement, contributing to ongoing program enhancement.

*[Gap in Work History: Relocation, Service Industry Employment]*

**Research Specialist**, *Institute for Environmental Diplomacy & Security*, Burlington, VT | 2021–2022

- Facilitated and organized international conferences, overseeing logistics and ensuring seamless execution. Managed nonprofit correspondences, fostering collaboration and partnerships to advance citizen science research initiatives.
- Conducted in-depth research on digital twin and serious gaming innovations, contributing valuable insights to the Institute's projects at the intersection of technology and environmental diplomacy.
- Played a key role in the development and implementation of citizen science research projects, involving community engagement and collaboration with diverse stakeholders to address environmental challenges.
- Collaborated with the Transboundary Water InCooperation Network (TWIN), contributing to initiatives that promote sustainable water management practices and enhance cross-border cooperation.
- Engaged with Highlands 2 Oceans (H2O) initiatives, actively participating in projects aimed at preserving and managing ecosystems spanning highland regions to oceans.
- Supported the Just Transitions Lab, contributing to research and initiatives focused on fostering fair and equitable transitions to sustainable and resilient environmental practices.
- Worked on projects related to Ethical AI at the Human-Technology Frontier, exploring the ethical implications of artificial intelligence in environmental diplomacy and security.

*[Gap in Work History: Relocation, CoViD-19 Pandemic, Service Industry Employment]*

**Graduate Researcher**, *CVBE Research Group, Ludwig Maximilian University*, Munich, DE | 2019

- Developed and implemented computational models to quantify social interaction dynamics, employing agent-based modeling and employing a variety of analytical methods including linear, nonlinear, and fractal approaches.
- Conducted a comprehensive literature review across interdisciplinary fields to inform novel approaches for modeling social cognition, demonstrating the ability to integrate insights from diverse sources into research methodologies.
- Led a study titled "Keeping Tempo: Quantifying Temporal Coordination and Inter-Agent Coupling in Social Coordination," supervised by Prof. Dr. Ophelia Deroy and Dr. Merle T. Fairhurst.
- Reviewed multidimensional approaches to interpret components of successful inter-agent alignment, including collaboration, coupling, and synchronization, providing recommendations for choosing appropriate computational models based on research focus.
- Analyzed walking coordination data using linear and nonlinear methods, identifying main effects and interaction effects, and employing a cluster phase analysis to reveal hybrid dynamics in long-term walking coordination.
- Shared research findings, contributing to the understanding of dynamic social interaction contexts, particularly temporal coordination within group walking.

- Proposed a novel decision flow chart for merging experimental investigation with computational design, emphasizing the importance of connecting novel approaches to previously established models.
- Highlighted the multidimensional nature of the model, including information exchange configurations, social relevancy clusters, and compatibility with diverse statistical analysis frameworks.
- Explored future advancements in inter-model adaptability, such as applying the same node-edge-node topology while employing different models of oscillatory unit synchronization and coordination.
- Discussed implications of the research for social robotics, human-machine interaction, computational psychiatry, and clinical neuroscience, emphasizing the potential applications of computational models in understanding shared collective behavior and social cognition.

**Scientific Researcher & Technician**, *Technical University of Munich*, Munich, DE | 2018–2019

- Led the development, optimization, and application of polymer chemical engineering techniques, demonstrating a strong command of advanced methodologies to contribute to the lab's research objectives.
- Spearheaded technical troubleshooting, apparatus engineering, and the implementation of biosafety protocol regulations, ensuring the seamless operation of laboratory processes and adherence to safety standards.
- Executed comprehensive work for credit on the project titled "Optimizing Optical Imaging for Whole Brain Network Analysis," showcasing a commitment to high-quality research and contributing valuable insights to the field of neurotechnology.
- Collaborated with interdisciplinary teams to integrate cutting-edge techniques in polymer chemical engineering, fostering a collaborative environment that enhanced the lab's capacity for innovative research.
- Conducted rigorous literature reviews to stay abreast of advancements in neurotechnology, incorporating relevant findings into ongoing projects and ensuring the lab's methodologies were aligned with the latest scientific knowledge.
- Implemented and maintained rigorous quality control measures, ensuring the accuracy and reliability of experimental data, and contributing to the lab's reputation for producing high-quality research outcomes.
- Demonstrated leadership in training and mentoring junior team members, fostering a collaborative and knowledge-sharing environment within the lab.
- Presented research findings at internal meetings, contributing to the dissemination of knowledge and enhancing the lab's visibility within the scientific community.

**Visiting Research Fellow**, *Molecular Markers Lab, IRCCS*, *Fatebenefratelli*, Brescia, IT | 2018

- Spearheaded experimentation to standardize IP-LC-ESI-MS/MS diagnostic protocols for patient-derived blood plasma, contributing to the advancement of molecular markers in medical research.
- Acquired expertise in technology translation (MALDI → ESI) and conducted cost-benefit analysis, optimizing processes for efficient and effective implementation.
- Successfully completed credited work on "Amyloid-β Isoforms in Alzheimer's Disease," showcasing dedication to research and contributing valuable insights to the field.

**Researcher**, *Electron-Photon-Neuron Lab, MPI Biological Intelligence*, Martinsried, DE | 2017–2018

- Designed and tested novel heavy metal procedures for electron microscopy, focusing on metal-hematoxylin chelation protocols to advance technique development and optimization.
- Successfully completed credited work on "Whole Brain Staining for Electron Microscopy: Expanding BROPA," showcasing a commitment to research excellence and innovation.

*[Gap in Work History: Relocation, Service Industry Employment]*

**Research Assistant**, *George Mason University*, Fairfax, VA, USA | 2015–2017

- Conducted IRB-approved human participant-based physiological measures (e.g., ECG, GSR, TCD) in the Department of Cognitive and Behavioral Neuroscience to assess cognitive arousal during a standard auditory cognitive test under varying lighting conditions.

- Collaborated with Prof Dr Sheri Berkeley and doctoral students in the Department of Educational Psychology, contributing to an NSF-funded longitudinal study on self-regulation of students with learning disabilities during a project-based science activity as an REU participant.
- Supported Prof Dr Tuuli Morrill and doctoral students in the Department of Experimental Linguistics by assisting with data preparation and analysis for human-based prosody experiments.

**Neuroscience & Peacebuilding Intern**, *El-Hibri Foundation*, Washington, DC, USA | 2015

- Contributed to the development, preparation, and moderation of a grant-funded conference at American University titled, "*Innovations in Peace Education and Social Neuroscience*," showcasing organizational and coordination skills.
- Played a key role in the review of letters of intent, grant management, and philanthropic relations for the foundation's prospective grantees, supporting the funding initiatives through the neuroscience program.

## VOLUNTEERISM EXPERIENCE

**Civil Service Volunteer**, *SerVermont & AmeriCorps*, Burlington, VT | 2020–2021

- Served a year of AmeriCorps state civil service with the Learn, Earn, and Prosper (LEAP) Program at ReSOURCE, dedicated to empowering blind and visually impaired (BVI) youth.
- Facilitated three and seven-week residential summer work-based programs, fostering independence, confidence, and essential employment skills for BVI students.
- Coordinated workshops throughout the year, focusing on self-advocacy, job skills, assistive technology, and other crucial areas to enhance the participants' capabilities.
- Collaborated with ReSOURCE, an organization committed to environmental stewardship and economic opportunity, providing affordable goods and services while training over 1,800 individuals through Job Skills Training programs.
- Engaged in the Every Body Works AmeriCorps program, addressing economic opportunities by building service-based learning experiences to prepare for successful entry into the workforce.
- Participated in a professional Grant Writing seminar with the Director of HR at ReSOURCE, acquiring knowledge of grant resources and databases such as GuideStar.
- Contributed to Vermont's strong ranking (#3) for producing AmeriCorps members per capita through involvement with SerVermont.
- Worked towards addressing high unemployment rates through the Every Body Works AmeriCorps program, defining disability broadly to include anyone with a barrier to employment.
- Leveraged AmeriCorps service to gain practical experience in service-based learning, technical and professional training, and community engagement.

626 S Broad St, Philadelphia, PA
+1 (802) 595-9517 | guion.stephen@gmail.com