

# John Kyle Cooper

📍 Tokyo, Japan   🌐 Website   🔗 LinkedIn   🐙 GitHub

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## ■ Professional Summary

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Research builder and data analyst working at the intersection of human behavior, experimental systems, and AI-assisted scientific workflows. I use programming, data analysis, and pragmatic AI tools to turn complex research questions into experiments, prototypes, analyses, and usable evidence.

## ■ Research and Technical Strengths

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**Research Practice:** Problem framing, experimental design, human-subject research, scientific writing

**Programming and Analysis:** Python, MATLAB, R, and JavaScript for research data analysis, automation, scripting, and experimental workflows

**Experimental Systems:** Audiovisual tasks, stimulus workflows, EEG systems, Unity and VR environments

**Agentic AI Workflows:** Codex, skills, context and memory management, PRD/ARD/Markdown planning docs, structured grilling, and coding support

**Collaboration:** Cross-disciplinary teams, participant studies, technical documentation, presentations

## ■ Education

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**PhD**   **KU Leuven**, Biomedical Sciences - Leuven, Belgium   Oct 2021 – Oct 2025

**MSc**   **University of Rochester**, Biomedical Engineering - Rochester, New York   Aug 2019 – May 2021

**BSc**   **Texas A&M University**, Biomedical Engineering - College Station, Texas   May 2019

- Germany Biosciences Program, Bonn, Germany
- Greece Engineering Ethics, Thessaloniki, Greece

## ■ Research and Technical Experience

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**IRCN, The University of Tokyo**, Project Researcher - Tokyo, Japan   Nov 2025 – present

- Study insight, creativity, and problem solving using controlled puzzle tasks and human-centered experimental methods.
- Develop research workflows for turning ambiguous questions about creativity into measurable tasks, participant procedures, and analyzable data.
- Explore AI-supported methods for evaluating creative ideas and supporting research design.

**KU Leuven**, FWO Strategic Basic Research PhD Fellow - Leuven, Belgium   Nov 2021 – Oct 2025

- Built and maintained experiment and data workflows for neuroimaging studies of audiovisual speech perception and hearing outcomes.
- Applied Python, MATLAB, R, and scikit-learn to process time-series data and support forecasting models for speech understanding.
- Redesigned an interactive Unity-based audiovisual experiment to support controlled studies of realistic listening and human-computer interaction conditions.

**University of Rochester**, Research Assistant - Rochester, New York   Aug 2019 – May 2021

- Designed and implemented a Python-based experimental setup for audiovisual neuroimaging research, achieving sub-millisecond video playback timing.
- Supported studies of speech perception and audiovisual congruence by coordinating experimental procedures, participant scheduling, and lab operations.

**Texas A&M University**, Research Assistant - College Station, Texas   Aug 2016 – May 2019

- Built VR and hardware prototypes for optical coherence tomography research, including an Unreal Engine viewer for 3D cochlear scans and fabricated power supply boxes for experimental scanning.

**Lynntech Inc. and Enmodes GmbH**, Biomedical Engineering Design Teammate - Jan 2017 – May 2019

College Station, Texas and Aachen, Germany

- Contributed to early-stage biomedical device design projects, including an orthotic rehabilitation device and a prototype respiratory support system.

## ■ Selected Publications

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- Objectively measuring audiovisual effects in noise using virtual human speakers** Apr 2025  
J. K. Cooper, J. Vanthornhout, A. van Wieringen, T. Francart  
<https://doi.org/10.1177/23312165251333528> (Trends in Hearing)
- Neural Tracking of Audiovisual Effects in Noise Using Deep Neural Network-Generated Virtual Humans** June 2025  
J. K. Cooper, J. Vanthornhout, A. van Wieringen, T. Francart  
<https://doi.org/10.1101/2025.06.02.656280> (bioRxiv)
- Musical training does not enhance neural sound encoding at early stages of the auditory system: A large-scale multisite investigation** Sept 2024  
K. L. Whiteford, ..., J. K. Cooper, ..., A. J. Oxenham  
<https://doi.org/10.1101/2024.09.02.610856> (Nature Communications)

## ■ Communication and Outreach

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- IRCN, The University of Tokyo**, Student Outreach Instructor - Tokyo, Japan 2026  
• Led an outreach session on creativity, LLM-supported idea evaluation, and EEG as a method for studying brain activity.
- KU Leuven**, R Programming Teaching Assistant - Leuven, Belgium 2024  
• Taught introductory R programming and statistics concepts to audiology students.
- University of Rochester**, Biomaterials Teaching Assistant - Rochester, New York 2020  
• Led lab sessions, review sessions, and office hours for biomaterials students.

## ■ Honors

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- FWO Strategic Basic Research Fellowship (2021-2025)
- Belgian American Educational Foundation Fellow (2021)
- Best "New Neuromorph" Award, Telluride Neuromorphic Cognition Engineering Workshop (2022)
- Fulbright Semifinalist for Open Study/Research Award to Belgium (2021)
- BME Graduate Student Teaching Assistant Award Honorable Mention (2020)
- Eagle Scout (2014)