

Marvin Rainer Maechler, Ph.D.

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SUMMARY

Cognitive neuroscientist interested in how we pay attention. 5+ years of experience in generating, analyzing, and communicating data. I study human behavior using psychophysics, neuroimaging, and visual illusions.

WORK EXPERIENCE

Cognitive Neuroscientist at Dartmouth College

2017 - 2023

- Collected and analyzed behavioral, pupillometric, and fMRI data. Disseminated results in peer-reviewed publications.
- Presented findings to international audiences in the form of conference talks and posters presentations.
- Evaluated research articles as peer reviewer for scientific journals.
- Mentored undergraduate researchers in the lab, including 1 senior honors thesis.
- Taught review sessions and lab sections for 4 classes. Assisted with grading papers and exams.

Research and Teaching Assistant at University of Regensburg

2016 - 2017

- Created processing pipeline for neuroimaging data in MATLAB, which was used to teach neuroimaging techniques to undergraduate and graduate students.
- Taught bi-weekly review section for large (> 200 people) lecture series. Helped with designing exams.
- Assisted with data collection in behavioral and fMRI experiments.

AWARDS

Marie A. Center Award for Excellence in Research

2022

Travel Award for the European Conference on Visual Perception 2019 in Leuven, Belgium

2019

SKILLS

Programming	MATLAB, R, Python, Bash
Statistical analysis	hypothesis testing, regression, t-test, ANOVA, multilevel modelling, machine learning
Data collection	psychophysics, eye tracking, pupillometry, fMRI

EDUCATION

Ph.D. in Cognitive Neuroscience at **Dartmouth College**

2017 - 2023

M.A. in Psychology at **Dartmouth College**

2017 - 2020

B.Sc. in Psychology at **University of Regensburg**

2014 - 2017

PUBLICATIONS

* authors contributed equally

Cavanagh, P., Caplovitz, G. P., Lytchenko, T. K., **Maechler, M. R.**, Tse, P. U., & Sheinberg, D. (2023). The architecture of object-based attention. *Psychonomic Bulletin & Review*.

Frank*, S. M., **Maechler***, **M. R.**, Fogelson, S. V., & Tse, P. U. (2023). Hierarchical categorization learning is associated with representational changes in the dorsal striatum and posterior frontal and parietal cortex. *Human Brain Mapping*.

Harris, C. W., Finn, K. R., Kieseler, M.-L., **Maechler, M. R.**, & Tse, P. U. (2023). Deepaction: A matlab toolbox for automated classification of animal behavior in video. *Scientific Reports*.

Cavanagh, P., Anstis, S., Lisi, M., Wexler, M., **Maechler, M. R.**, 't Hart, M. B., Shams-Ahmar, M., & Saleki, S. (2022). Exploring the frame effect. *Journal of Vision*, 22(12), 5–5.

Desrochers, T. M., Ahuja, A., **Maechler, M. R.**, Shires, J., Yusif Rodriguez, N., & Berryhill, M. E. (2022). Caught in the acts: Defining abstract cognitive task sequences as an independent process. *Journal of Cognitive Neuroscience*, 34(7), 1103–1113.

- Maechler, M. R.**, Cavanagh, P., & Tse, P. U. (2021). Attentional tracking takes place over perceived rather than veridical positions. *Attention, Perception, & Psychophysics*, *83*(4), 1455–1462.
- Maechler, M. R.**, Heller, N. H., Lisi, M., Cavanagh, P., & Peter, U. T. (2021). Smooth pursuit operates over perceived not physical positions of the double-drift stimulus. *Journal of Vision*, *21*(11), 6–6.
- Erlikhman, G., Lytchenko, T., Heller, N. H., **Maechler, M. R.**, & Caplovitz, G. P. (2020). Object-based attention generalizes to multisurface objects. *Attention, Perception, & Psychophysics*, *82*(4), 1599–1612.