

2023 - present **Senior Research Fellow in Computational Neuroscience** (University College London)
Researcher in the Behrens Group at the Sainsbury Wellcome Centre using mathematical and computational methods to study the neural underpinnings of planning and decision making.

Education

2019 - 2023 **PhD Computational Neuroscience** (University of Cambridge)
Supervisor: [Dr Guillaume Hennequin](#)
Thesis: [Strong and weak principles of Bayesian machine learning for systems neuroscience](#).

2018 - 2019 **MPhil Computational Biology** (University of Cambridge)
Result: Distinction (1st of 19 students)

2015 - 2018 **BA Natural Sciences** (University of Cambridge)
Result: First Class Honors (1st of 112 students)

Research

2023 **Meta Reality Labs**
Intern in the CTRL-labs division developing [neuromotor interfaces for handwriting](#).

2022 **UC San Diego Department of Cognitive Science** (Supervisor: [Dr Marcelo Mattar](#))
• Studying planning & decision making with behaviour, neural recordings, and deep RL.

2019 - 2022 **Harvard Center for Brain Science** (Supervisor: [Professor Bence Ölveczky](#))
• Analysis & modelling of the stability of neural dynamics associated with motor memories.

2018 - 2019 **Janelia Research Campus** (Supervisor: [Professor Vivek Jayaraman](#))
• Analysis & modelling of connectomic & RNAseq data from the fly head direction circuit.

2017 - 2018 **Cambridge Centre for Computational Chemistry** (Supervisor: [Dr Alex Thom](#))
• Development of a Hartree Fock-based method for modeling electron transfer reactions.

2016 - 2017 **Aarhus University Department of Biomedicine** (Supervisor: [Professor Yonglun Luo](#))
• Investigation of factors affecting the efficiency of CRISPR/Cas9 for genome editing.

Teaching

2018-2023 University of Cambridge – Teaching Assistant
3rd year theoretical chemistry, mathematical biology, and computational neuroscience.

2021 Neuromatch Academy – Teaching Assistant, computational neuroscience.

Fellowships

2019 - 2023 [Cambridge Gates Scholarship](#)

2016 - 2019 Scholar of Magdalene College, Cambridge

2018 [Janelia Undergraduate Scholar](#)

2015 *British Chamber of Commerce in Denmark* Scholar

Prizes

2015 - 2018 GWHP Memorial Prize for best performance in undergraduate chemistry.
Gill, Bundy & B.C. Saunders prizes for excellence in university examinations.
BP Prizes for the best performance in practical chemistry and theoretical chemistry.

2014 & 2015 Silver medal – The International Chemistry Olympiad.

2014 & 2015 First place – The Scandinavian Chemistry Olympiad.

Reviewing

Nature, Nature Neuroscience, Neuron, Nature Methods, NeurIPS,
Nature Communications, Neural Computation, Current Biology

Invited Talks

- An attractor model of planning in frontal cortex**
2024 [The Fifth International Convention on the Mathematics Of Neuroscience and AI.](#)
2024 DeepMind NeuroLab workshop.
- A recurrent network model of planning with replays**
2023 Harvard University/Janelia Research Campus (Albert Lee lab).
2023 DeepMind NeuroLab workshop.
2023 Bristol Computational Neuroscience Unit.
2023 NYU Department of Psychology.
2023 University of California, Berkeley (David Foster lab).
2022 Sainsbury Wellcome Centre (Timothy Behrens lab).
2022 Gatsby Computational Neuroscience Unit (Maneesh Sahani lab).
2022 Oxford University (Chris Summerfield lab).
- Bayesian machine learning for topological analyses of neural data**
2022 NeurIPS workshop on symmetry and geometry in neural representations.
2022 Cosyne workshop on motor-driven cognition.
- Representational stability and continual learning in neuroscience and AI**
2022 [ContinualAI.](#)
2021 The Weizmann Institute of Science (Yaniv Ziv lab).
- Gaussian processes for neural data analysis**
2023 Bernstein workshop on symmetry, invariance, and neural representations.
2021 Imperial College London (Juan Gallego lab).
2021 [MIT Brain and Cognitive Sciences tutorial.](#)
2021 Harvard University (Bence Ölveczky lab).

Selected Publications

- 2024 **Kristopher T. Jensen**, Guillaume Hennequin*, and Marcelo Mattar*.
[A recurrent network model of planning explains hippocampal replay and human behavior.](#)
Nature Neuroscience.
- 2023 **Kristopher T. Jensen.**
[An introduction to reinforcement learning for neuroscience.](#)
arXiv.
- 2023 Jake P. Stroud, Michał J. Wójcik, **Kristopher T. Jensen**, Makoto Kusunoki, Mikiko Kadohisa, John Duncan, Mark G. Stokes, Máté Lengyel.
[Ignorance is bliss: effects of noise and metabolic cost on cortical task representations.](#)
bioRxiv.
- 2022 **Kristopher T. Jensen**, Naama Kadmon Harpaz, Steffen B. E. Wolff, Ashesh K. Dhawale, and Bence P. Ölveczky.
[Long-term stability of single neuron activity in the motor system.](#) *Nature Neuroscience.*
- 2022 Marine Schimel, Ta-Chu Kao, **Kristopher T. Jensen**, and Guillaume Hennequin.
[iLQR-VAE : control-based learning of input-driven dynamics with applications to neural data.](#)
The International Conference on Learning Representations (oral).
- 2021 **Kristopher T. Jensen***, Ta-Chu Kao*, Jasmine T. Stone, and Guillaume Hennequin.
[Scalable Bayesian GPFA with automatic relevance determination and discrete noise models.](#)
Advances in Neural Information Processing Systems.
- 2021 Ta-Chu Kao*, **Kristopher T. Jensen***, Alberto Bernacchia, and Guillaume Hennequin.
[Natural continual learning: success is a journey, not \(just\) a destination.](#)
Advances in Neural Information Processing Systems.

- 2020 **Kristopher T. Jensen**, Ta-Chu Kao, Marco Tripodi, and Guillaume Hennequin.
Manifold GPLVMs for discovering non-Euclidean latent structure in neural data.
Advances in Neural Information Processing Systems.
- 2020 Daniel B. Turner-Evans, **Kristopher T. Jensen***, Saba Ali*, Tyler Paterson*, Arlo Sheridan*, Robert P. Ray, Tanya Wolff, Gerald M. Rubin, Davi D. Bock, and Vivek Jayaraman.
The neuroanatomical ultrastructure and function of a biological ring attractor. *Neuron*.
- 2018 **Kristopher T. Jensen**, Raz L. Benson, Salvatore Cardamone, and Alex J. W. Thom.
Modeling electron transfers using quasidiabatic Hartree-Fock states.
Journal of Chemical Theory and Computation.
- 2017 **Kristopher T. Jensen**, Lasse Fløe, Trine S. Petersen, Jinrong Huang, Fengping Xu, Lars Bolund, Yonglun Luo, and Lin Lin.
Chromatin accessibility and guide sequence secondary structure affect CRISPR-Cas9 gene editing efficiency. *FEBS Letters*.

Conferences

- 2023 **Bernstein Conference** (*poster*).
An RNN model of planning explains hippocampal replay and human behavior.
- 2023 **Computational and Systems Neuroscience (Cosyne)** (*organizer*).
Workshop on the use of generative models for neural and behavioral data analysis.
- 2023 **Computational and Systems Neuroscience (Cosyne)** (*poster*).
An RNN model of planning explains hippocampal replay and human behavior.
- 2022 **Reinforcement learning and decision making** (*poster*).
Learning goal-directed behavior in humans and RNNs.
- 2021 **Champalimaud Research Symposium** (*poster*).
Gaussian process latent variable models for neural data analysis.
- 2021 **Computational and Systems Neuroscience (Cosyne)** (*poster*).
Beyond the Euclidean brain: inferring non-Euclidean latent trajectories from spike trains.
- 2020 **From Neuroscience to Artificially Intelligent System** (*poster*).
Self-supervised learning for multisensory integration in biologically inspired networks.
- 2020 **Bernstein Conference** (*contributed talk*).
mGPLVM – Beyond the Euclidean brain.
- 2018 **Janelia Undergraduate Scholars Symposium** (*poster*).
Angular velocity integration in *Drosophila melanogaster*.