

2023 - present **Senior Research Fellow in Computational Neuroscience** (University College London)
Researcher with Tim Behrens 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 modelling 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

- 2025 University College London – Guest Lecturer on a statistical neuroscience graduate course.
- 2018-2023 University of Cambridge – Teaching Assistant
3rd year theoretical chemistry, mathematical biology, and computational neuroscience.
- 2021 Neuromatch Academy – Teaching Assistant, computational neuroscience.
- 2021-2025 Co-supervision of 1 undergraduate, 1 master's, 4 PhD rotations, and 5 PhD students.

Fellowships

- 2019 - 2023 **Cambridge Gates Scholarship**.
- 2016 - 2019 Scholar of Magdalene College, Cambridge.
- 2015 *British Chamber of Commerce in Denmark Scholar*.

Prizes

- 2015 - 2018 GWHP Memorial Prize for best performance in undergraduate chemistry.
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, eLife, NeurIPS,
Nature Communications, Neural Computation, Current Biology.

Invited Talks

A mechanistic theory of planning in prefrontal cortex

- 2025 Copenhagen University Workshop on Computational Models of Planning.
- 2024 Neuroscience Academy Denmark Annual Meeting.
- 2024 The Fifth International Convention on the Mathematics Of Neuroscience and AI.
- 2024 DeepMind NeuroLab workshop.

A recurrent network model of planning with replays

- 2025 Cosyne workshop on agents in neuroscience
- 2024 Brown University (Thomas Serre Lab).
- 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

- 2025 **Kristopher T. Jensen**, Peter Doohan, Mathias Sablé-Meyer, Sandra Reinert, Alon Baram, Thomas Akam, and Timothy Behrens.
A mechanistic theory of planning in prefrontal cortex. *bioRxiv*.
- 2024 **Kristopher T. Jensen**. An introduction to reinforcement learning for neuroscience. *Neurons, Behavior, Data analysis, and Theory*.
- 2024 **Kristopher T. Jensen**, Guillaume Hennequin*, and Marcelo Mattar*.
A recurrent network model of planning explains hippocampal replay and human behavior. *Nature Neuroscience*.
- 2024 Ana González-Rueda, **Kristopher T. Jensen**, ..., Marco Tripodi.
Kinetic features dictate sensorimotor alignment in the superior colliculus. *Nature*.
- 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. *eLife*.
- 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

- 2025 **NAD Computational Neuroscience Workshop (organizer).**
 Workshop hosted by Neuroscience Academy Denmark to promote computational research.
- 2025 **Frontiers in Theoretical Neuroscience (poster).**
 A mechanistic theory of planning in prefrontal cortex.
- 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*.