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Cognitive, Linguistic & Psychological Sciences

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Education

- 2001 – 2006 Ph.D. in Neuroscience
Mass. Institute of Technology (Cambridge, MA), Brain & Cognitive Sciences Department
Advisor: Prof. Tomaso Poggio
- 1999 – 2000 M.Sc. in Statistics and Probability Theory
Université de Rennes (Rennes, France)
- 1997 – 2000 M.Sc. in EECS
Ecole Nationale Supérieure des Télécommunications de Bretagne (Brest, France)
Major in image processing
- 1995 – 1997 BSc in Math and Physics (Classes préparatoires aux Grandes Ecoles)
Lycée Pasteur (Neuilly, France)

Professional appointments

- 2021 – Full Professor
Brown University, Department of Cognitive, Psychological & Linguistic Sciences and Computer Science
- 2020– Associate Director
Brown University, Center for Computational Brain Science
- 2019– International Chair in AI
ANR-3IA Artificial and Natural Intelligence Toulouse Institute (Toulouse, France)
- 2018 – Faculty Director
Brown University, Center for Computation and Visualization (Brown University)
- 2017 –2021 Associate Professor (tenured)
Brown University, Department of Cognitive, Psychological and Linguistic Sciences

- 2013 – 2017 Manning Assistant Professor
Brown University, Department of Cognitive, Psychological and Linguistic Sciences
- 2011 – 2020 Associate Director
Carney Behavioral Phenotyping Core Facility (Brown University)
- 2010 – 2013 Assistant Professor
Brown University, Department of Cognitive, Psychological and Linguistic Sciences
- 2006 – 2009 Postdoctoral Associate
Mass. Institute of Technology (Cambridge, MA), McGovern Institute for Brain Research

Completed Publications

All publications are available on the lab website at serre-lab.cips.brown.edu.

Citations can be found on my Google Scholar [profile](#).

Current citation count: 15K, h-index: 42, i10-index: 71.

[†] and [‡] mean equal contributions.

Chapters in books

- G. Lindsay & T. Serre. Deep learning networks and visual perception. Oxford Research Encyclopedia of Psychology, 2021
- M. Ricci & T. Serre. Hierarchical models of the visual system. Encyclopedia of Computational Neuroscience, 2020
- D. Mely & T. Serre. Towards a system-level theory of computation in the visual cortex. In: Computational and Cognitive Neuroscience of Vision, 2016
- T. Serre. Hierarchical models of the visual system. Encyclopedia of Computational Neuroscience, 2014
- T. Serre & M. Giese. Elements for a neural theory of the processing of dynamic faces. In: Dynamic Faces: Insights from Experiments and Computation. Edited by Cristóbal Curio, Heinrich H. Bülhoff and Martin A. Giese. MIT Press, 2010
- B. Heisele, T. Serre, S. Prentice & T. Poggio. Hierarchical classification and feature reduction for fast face detection with support vector machines. In: Handbook of Pattern Recognition and Computer Vision, third edition, 2005

Articles under review

- B. T. Fel & T. Serre. CRAFT: Concept recursive Activation FacTorization for Explainability, in sub
- S. Shahamatdar*, D. Saeed-Vafa*, D. Linsley*, F. Khalil, K. Lovinger, L. Li, H. McLeod, S. Ramachandran**, T. Serre**. Deceptive learning in histopathology, in sub
- T. Fel, M. Ducoffe, D. Vigouroux, R. Cadene, M. Capelle, C. Nicodeme, T. Serre. Don't lie to me! Robust and efficient explainability with verified perturbation analysis, in sub

Refereed journal and conference proceedings articles

- M. Vaishnav & T. Serre. GAMR: A Guided Attention Model for (visual) Reasoning. In: International Conference on Learning Representations (ICLR), 2023

- L.N. Govindarajan, J.S. Calvert, S.R. Parker, M. Jung, R. Darie, P. Miranda, E. Shaaya, D.A. Borton & T. Serre. Fast Inference of Spinal Neuromodulation for Motor Control using Amortized Neural Networks, *Journal of Neural Engineering*, 2022
- A.K. Ashok, L.N. Govindarajan, D. Linsley, D. Sheinberg & T. Serre. The emergence of visual simulation in task-optimized recurrent neural networks. *NeurIPS workshop on Shared Visual Representations in Human & Machine Intelligence*, 2022
- A. Zerroug, M. Vaishnav & J. Colin, S. Muslick & T. Serre. A benchmark for compositional visual reasoning. In: *Neural Information Processing Systems (NeurIPS)*, 2022
- T. Fel*, I. F. Rodriguez*, D. Linsley* & T. Serre. Aligning deep neural network strategies for object recognition with humans. In: *Neural Information Processing Systems (NeurIPS)*, 2022
- M. Chalvidal, T. Serre & R. VanRullen. A Discourse on MetODS: Meta-optimized dynamical synapses for meta-reinforcement learning. In: *Neural Information Processing Systems (NeurIPS)*, 2022
- J. Colin*, T. Fel*, R. Cadene & T. Serre. What I cannot predict, I do not understand: A human-centered evaluation framework for explainability methods. In: *Neural Information Processing Systems (NeurIPS)*, 2022
- V. Boutin, L. Singhal, X. Thomas & T. Serre. Diversity vs. recognizability: Human-like generalization in one-shot generative models. In: *Neural Information Processing Systems (NeurIPS)*, 2022
- L.N. Govindarajan, R. Kakodkar & T. Serre. A practitioner's guide to improve the logistics of spatiotemporal deep neural networks. In: *Workshop on visual observation and analysis of Vertebrate And Insect Behavior (VAIB)*, 2022
- T. Fel, L. Hervier, D. Vigouroux, A. Poche, J. Plakoo, R. Cadene, M. Chalvidal, J. Colin, T. Boissin, L. Bethune, A. Picard, C. Nicodeme, L. Gardes, G. Flandin & T. Serre. Xplique: A deep learning explainability toolbox. *CVPR workshop on XAI4CV: Explainable Artificial Intelligence for Computer Vision*, 2022
- M. Vaishnav, R. Cadene, A. Alamia, D. Linsley, R. VanRullen & T. Serre. Understanding the computational demands underlying visual reasoning, *Neural Computation*, 2022
- T Fel, D. Vigouroux, R. Cadene & T. Serre. How good is your explanation? Algorithmic stability measures to assess the quality of explanations for deep neural networks, *Winter Conference on Applications of Computer Vision (WACV)*, 2022
- A. Ben Tanfous, A. Zerroug, D. Linsley & T. Serre. How and what to learn: Taxonomizing self-supervised learning for 3D action recognition, *Winter Conference on Applications of Computer Vision (WACV)*, 2022
- E.J. Spagnuolo, P. Wilf & T. Serre. Decoding family-level features for modern and fossil leaves from computer-vision heat maps. *American Journal of Botany*, 2022
- J.W. Linsley, D.A. Linsley, J. Lamstein, G. Ryan, K. Shah, N.A. Castello, V. Oza, J. Kalra, S. Wang, Z. Tokuno, A. Javaherian, T. Serre & S. Finkbeiner. Super-human cell death detection with biomarker-optimized neural networks, *Science Advances*, 7(50), 2021
- P. Wilf, S.L. Wing, H.W. Meyer, J.A. Rose, R. Saha, T. Serre, N.R. Cúneo, M.P. Donovan, D.M. Erwin, M.A. Gandolfo, E. González-Akre, F. Herrera, S. Hu, A. Iglesias, K.R. Johnson, T.S. Karim & X. Zou. An image dataset of cleared, x-rayed, and fossil leaves vetted to plant family for human and machine learning, *PhytoKeys*, 187, 93-128, 2021
- D. Linsley, G. Malik, J.K. Kim, L. Govindarajan, E. Mingolla, T. Serre. Tracking without re-recognition in humans and machines, *Neural Information Processing Systems (NeurIPS)*, 2021
- T. Fel, R. Cadene, M. Chalvidal, M. Cord, D. Vigouroux, T. Serre. Look at the variance! Efficient black-box explanations with Sobol-based sensitivity analysis, *Neural Information Processing Systems (NeurIPS)*, 2021
- D. Amso, L.N. Govindarajan, P. Gupta, H. Baumgartner, A. Lynn, K. Gunther, D. Placido, T. Sharma, V. Veerabadran, K. Thakkar, K. Kim, S. & T. Serre. Using computational analysis of behavior to discover the developing relationship between spatial navigation, visual attention, and memory, *PsychArxiv*, 2021

- G. Malik, D. Linsley, T. Serre & E. Mingolla. The challenge of appearance-free object tracking with feedforward neural networks. CVPR Workshop on Dynamic Neural Networks Meets Computer Vision, 2021
- M. Chalvidal, M. Ricci, R. VanRullen & T. Serre. Go with the flow: Adaptive Control for Neural ODEs. In: International Conference on Learning Representations, 2021
- V. Boutin, A. Zerroug, M. Jung & T. Serre. Iterative VAE as a predictive brain model for out-of-distribution generalization, NeurIPS workshop on Shared Visual Representations in Human and Machine Intelligence, 2020
- A. Alamia, C. Luo, M. Ricci, J. Kim, T. Serre & R. VanRullen. Differential involvement of EEG oscillatory components in sameness vs. spatial-relation visual reasoning tasks, eNeuro, 2020
- D. Linsley[†], A.K. Ashok[†], L.N. Govindarajan[†], R. Liu & T. Serre. Stable and expressive recurrent vision models. In Proc. Neural Information Processing Systems, 2020.
- M. Ricci, R. Cadene & T. Serre. Same-different conceptualization: A machine vision perspective. Current Opinion in Behavioral Sciences, 2020
- K.N. Schuch[†], L.N. Govindarajan[†], Y. Guo, S.N. Baskoylu, S. Kim, B. Kimia, T. Serre[‡] & A.C. Hart[‡]. Discriminating between sleep and exercise-induced fatigue using computer vision and behavioral genetics, Journal of Neurogenetics, 2020
- G. Kreiman & T. Serre. Beyond the feedforward sweep: feedback computations in the visual cortex. The year in cognitive neuroscience, 2020
- J.K. Kim[†], D. Linsley[†], K. Thakkar & T. Serre. Disentangling neural mechanisms for perceptual grouping. In Proc. International Conference on Learning Representations, 2020
- D. Linsley[†], J.K Kim[†] & T. Serre. Recurrent neural circuits for contours detection. In Proc. International Conference on Learning Representations, 2020
- O. Kott[†], D. Linsley[†], A. Karagounis, C. Jeffers, G. Dragan, Ali Amin, T. Serre[‡] & B. Gershman[‡]. Development of a deep learning algorithm for the histopathologic diagnosis and Gleason grading of prostate cancer biopsies: A pilot study. European urology focus. PII: S2405-4569(19)30344-X, 2019
- T. Serre. Deep learning: The good, the bad and the ugly. Annual Review of Vision Science, Vol. 5:399-426, 2019
- D. Linsley, D. Schiebler, S. Eberhardt & T. Serre. Learning what and where to attend. In Proc. International Conference on Learning Representations, 2019
- D.A. Mely, D. Linsley & T. Serre. Complementary surrounds explain diverse contextual phenomena across visual modalities. Psychological Review, 125(5), 769-784, 2018
- H. Goodwill, G. Manzano-Nieves, M. Gallo, H.I. Lee, E. Oyerinde, T. Serre & K. Bath. Early life Stress Leads to sex differences in the development of depressive-like outcomes in a mouse model. Neuropsychopharmacology, 2018
- D. Linsley, J. Kim, V. Veerabadran, C. Windolf & T. Serre. Learning long-range spatial dependencies with horizontal gated-recurrent units. Proc. Neural Information Processing Systems, 2018
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- J.K Kim, M. Ricci & T. Serre. Not-So-CLEVR: Learning same-different relations strains feedforward neural networks. Interface Focus (special issue on 'Understanding images in biological and computer vision'), 8(4), 2018
- M. Ricci, J.K. Kim & T. Serre. Same-different problems strain convolutional neural networks. Annual Meeting of the Cognitive Science Society, 2018
- M. A. White, E. Kim, A. Duffy, R. Adalbert, B.U. Phillips, O.M. Peters, J. Stephenson, S. Yang, F. Massenzio, Z. Lin, S. Andrews, A. Segonds-Pichon, J. Metterville, L.M. Saksida, R. Mead, R.R Ribchester, Y. Barhomi, T. Serre, M.P.

- Coleman, J. Fallon, T.J. Bussey, R.H. Brown Jr & J. Sreedharan. TDP-43 gains function due to perturbed autoregulation in a Tardbp knock-in mouse model of ALS-FTD. *Nature Neuroscience*, 21(4):552-563, 2018
- D. Linsley, J.W. Linsley, T. Sharma, N. Meyers & T. Serre. Learning to predict action potentials end-to-end from calcium imaging data. *IEEE Annual Conference on Information Sciences and Systems*, 2018
- D Linsley, S Eberhardt, T Sharma, P Gupta & T Serre. What are the visual features underlying human versus machine vision? In *Proc. IEEE ICCV, Workshop on the Mutual Benefit of Cognitive and Computer Vision*, 2017
- S. Eberhardt[†], J. Cader[†] & T. Serre. How deep is the feature analysis underlying rapid visual categorization? In: *Proc. Neural Information Processing Systems (NIPS)*, 2016
- T. Serre. Models of visual categorization. *WIREs Cognitive Science*, 7(3), 197–213, 2016
- P. Wilf, S. Zhang, S. Chikkerur, S.A. Little, S.L. Wing & T. Serre. Computer vision cracks the leaf code. *Proceedings of the National Academy of Sciences*, 113(12), 3305–3310, 2016
- A. Pascarella, C. Todaro, M. Clerc, T. Serre and M. Piana. Source modeling of ElectroCorticoGraphy (ECoG) data: Analysis of stability and spatial filtering. *J. Neurosci. Methods*, 263, 134 - 144, 2016
- D. Mely, J.K. Kim, M. McGill, Y. Guo & T. Serre. A systematic comparison between visual cues for boundary detection. *Vision Research (Special Issue on vision and the statistics of the natural environment)*. *Vision Research*, 120, 93 - 107, 2016
- H. Kuehne, J. Galle & T. Serre. An end-to-end generative framework for video segmentation and recognition. In *Proc. IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2016
- M. Cauchoix[†], S. Crouzet[†], D. Fize & T. Serre. Fast ventral stream neural activity enables rapid categorization. *NeuroImage*, Volume 125, 280-290, 2016.
- S.M. Parker & T. Serre. Unsupervised invariance learning of transformation sequences in a model of object recognition yields selectivity for non-accidental properties. *Frontiers in Computational Neuroscience*, (Special Issue on Integrating computational and neural findings in visual object perception), 2015
- I. Sofer, S. Crouzet & T. Serre. Explaining the timing of natural scene understanding with a computational model of perceptual categorization. *PLOS Computational Biology*, 2015
- J.W. Hofmann, X. Zhao, M. De Cecco, A.L. Peterson, L. Pagliaroli, J. Manivannan, G.B. Hubbard, Y. Ikeno, Y. Zhang, B. Feng, X. Li, T. Serre, W. Qi, H. Van Remmen, R.A. Miller, K.G. Bath, R. de Cabo, H. Xu, N. Neretti & J.M. Sedivy. Reduced expression of MYC increases longevity and enhances healthspan. *Cell*, 160, 477–488, 2015
- Y. Zhang, S. Zhang, Q. Huang & T. Serre. Learning sparse prototypes for crowd perception via ensemble coding mechanisms. In: *Proc. 5th International Workshop on Human Behavior Understanding*, 2014
- H. Kuehne, A. Arslan & T. Serre. The language of actions: Recovering the syntax and semantics of goal-directed human activities. In: *Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Columbus, Ohio, 2014
- D. Reichert & T. Serre. Neuronal synchrony in complex-valued deep networks. In: *Proc. International Conference on Learning Representations*, 2014
- M. Cauchoix, G. Barragan-Jason, T. Serre[‡] & E.J. Barbeau[‡]. The neural dynamics of face detection in the wild revealed by MVPA. *J. Neurosci*, 34(3), 856-854, 2014
- C. Tan, J. Singer, T. Serre, D. Sheinberg & T. Poggio. Neural representation of action sequences: How far can a simple snippet-matching model take us? In: *Proc. Neural Information Processing Systems*, 2014
- T. Poggio & T. Serre. Models of the visual cortex. *Scholarpedia*, 8(4):3516, 2013
- M.P. Leussis, E.M. Berry-Scott, M. Saito, H. Jhuang, G. de Haan, O. Alkan, C.J. Luce, J.M. Madison, P. Sklar, T. Serre, D.E. Root & T.L. Petryshen. The ankyrin 3 (ANK3) bipolar disorder gene regulates mood-related behaviors that are modulated by lithium and stress. *Biological Psychiatry*, 2012

- J. Zhang, Y. Barhomi & T. Serre. A new biologically inspired color image descriptor. In: Proc. of European Computer Vision Conference, 2012
- M. Cauchoix, A. Arslan, D. Fize & T. Serre. The neural dynamics of visual processing in monkey extrastriate cortex: A comparison between univariate and multivariate techniques. Neural Information Processing Systems – Workshop on Machine Learning and Interpretation in Neuroimaging, 2012
- S.M. Crouzet & T. Serre. What are the visual features underlying rapid recognition? Front. Psychology (Special issue on 'The Timing of Visual Recognition') 2:326. DOI: 10.3389/fpsyg.2011.00326, 2011
- H. Kuhne, H. Jhuang, E. Garrote, T. Poggio & T. Serre. HMDB: A large database for human motion recognition. In: Proc. IEEE International Conference on Computer Vision (ICCV), 2011
- Y. Zhang[†], E. Meyers[†], N. Bichot, T. Serre, T. Poggio & R. Desimone. Object decoding with attention in inferior temporal cortex. Proceedings of the National Academy of Sciences. 108(21), 8850-8855, 2011
- S. Chikkerur, T. Serre, C. Tan & T. Poggio. What and Where: A Bayesian inference theory of attention. In: Vision Research, 55(22), 2233–2247, Oct 2010
- T. Serre & T. Poggio. A neuromorphic approach to computer vision. In: the Communications of the Association for Computing Machinery (CACM), 53(10), 54-61, Oct 2010
- H. Jhuang, E. Garrote, X. Yu, V. Khilnani, T. Poggio, A. Steele & T. Serre. Automated home-cage behavioral phenotyping of mice. Nature Communications 1(1), DOI:10.1038/ncomms1064, 2010
- R. Kliper, T. Serre, D. Weinshall & I. Nelken. The story of a single cell: Peeking into the semantics of spikes. In: Proc. International Workshop on Cognitive Information Processing, 2010
- L. Reddy, N. Tsuchyia & T. Serre. Reading the mind's eye: Decoding object information during mental Imagery from fMRI patterns. Neuroimage, 50(2), 818-825, 2010
- T. Serre, G. Kreiman, M. Kouh, C. Cadieu, U. Knoblich & T. Poggio. A quantitative theory of immediate visual recognition. In: Progress in Brain Research, Computational Neuroscience: Theoretical Insights into Brain Function, 165, 33-56, 2007
- T. Serre, A. Oliva & T. Poggio. A feedforward architecture accounts for rapid categorization. Proceedings of the National Academy of Science, 104(15), 6424-6429, 2007
- T. Serre, L. Wolf, S. Bileschi, M. Riesenhuber & T. Poggio. Object recognition with cortex-like mechanisms. In: IEEE Transactions on Pattern Analysis and Machine Intelligence, 29 (3), 411-426, 2007
- H. Jhuang, T. Serre, L. Wolf & T. Poggio. A biologically inspired system for action recognition. In: Proc. IEEE International Conference on Computer Vision (ICCV), 2007
- B. Heisele, T. Serre & T. Poggio. A component-based framework for face detection and identification. In: International Journal of Computer Vision, 74(2), 167-181, 2007
- R. Sigala, T. Serre, T. Poggio & M. Giese. Learning features of intermediate complexity for the recognition of biological motion. In: Proc. International Conference on Artificial Neural Networks (ICANN) 2005, Warsaw, Poland, 241-246, 2005
- T. Serre, L. Wolf & T. Poggio. Object recognition with features inspired by visual cortex. In: Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), San Diego, 2005
- Y. Ivanov, B. Heisele & T. Serre. Using component features for face recognition. In: Proc. International Conference on Automatic Face and Gesture Recognition, Seoul, Korea, 2004
- B. Heisele, T. Serre, S. Prentice & T. Poggio. Hierarchical classification and feature reduction for fast face detection with support vector machines. In: Pattern Recognition, 36, 2007-2017, 2003
- B. Heisele, T. Serre, M. Pontil, T. Vetter & T. Poggio. Categorization by learning and combining object parts. In: Proc. Advances in Neural Information Processing Systems (NIPS), Vancouver, Canada, 2002

- T. Serre, J. Louie, M. Riesenhuber & T. Poggio. On the role of object-specific features for real-world object recognition in biological vision. In: Workshop on Biologically Motivated Computer Vision (BMCV), Tübingen, Germany, November 2002
- B. Heisele, T. Serre, M. Pontil & T. Poggio. Component-based face detection. In: Proceedings of IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), IEEE Computer Society Press, Kauai, Hawaii, Vol. 1, 657-662, 2001
- B. Heisele, T. Serre, S. Mukherjee & T. Poggio. Feature reduction and hierarchy of classifiers for fast object detection in video images. In: Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Kauai, Hawaii, Vol. 2, 18-24, 2001

Non-refereed articles

- D. Amso, L. Govindarajan, P. Gupta, H. Baumgartner, A. Lynn, K. Gunther, D. Placido, T. Sharma, V. Veerabadran, K. Thakkar, S. Kim & T. Serre. Using computational analysis of behavior to discover developmental change in memory-guided attention mechanisms in childhood, psychArXiv, 2021
- Linsley, Drew, Junkyung Kim, David Berson, and Thomas Serre. Robust Neural Circuit Reconstruction from Serial Electron Microscopy with Convolutional Recurrent Networks, arXiv, 2018.
- S. Baele, A. Thomasson, D. Yanov, & T. Serre. Interdisciplinary Introduction to Categorization, *Émulations - Revue de sciences sociales*, (8), p. 115-121, 2018. DOI: 10.14428/emulations.008.008.

Conference Abstracts (since 2010)

- T. Serre, D. Linsley & J. Kim. What is the function of the orientation-tilt illusion? Vision Sciences Society (VSS), May 2020.
- M. Ricci, A. Soni, Y. Zhang, M. Jung & T. Serre. Kura-Net: Exploring systems of coupled oscillators with deep learning. Computational and System Neuroscience (CoSyNe) conference, March 2020.
- O. Kott, D. Linsley, A. Amin, A. Karagounis, C. Jeffers, D. Golijanin, T. Serre, B. Gershman. Development of a Deep Learning Algorithm for the Histopathologic Diagnosis and Gleason Grading of Prostate Cancer Biopsies. BIDMC Artificial Intelligence / Machine Learning Symposium Feb 27, 2020.
- O. Kott, S. Li, D. Linsley, A. Amin, B. Golijanin, D. Golijanin, T. Serre & B. Gershman, A Deep Learning Algorithm for the Diagnosis and Gleason Grading of Whole Slide Images of Prostate Cancer Core Biopsies. Annual Meeting of the American Urology Association, 2020.
- D. Linsley, JK. Kim, & T. Serre. The function of contextual illusions. CSHL: From Neuroscience to Artificially Intelligent Systems. 2020
- A. Zerroug, D. Linsley, & T. Serre. A recurrent neural model for color constancy. Neuromatch conference. 2020.
- D. Linsley, JK. Kim, & T. Serre. The function of contextual illusions. Neuromatch conference. 2020
- O. Kott*, D. Linsley*, T. Serre & B. Gershman. Automated histopathological diagnosis and Gleason grading of prostate biopsies with machine learning. Annual Meeting of the American Urological Association. 2019
- Linsley D, Kim J, & Serre T. 2019. Optimizing a recurrent neural architecture for contour detection produces a tilt illusion. Conference on Cognitive Computational Neuroscience.
- Kim J, Linsley D, & Serre T. 2019. Disentangling neural mechanisms for perceptual grouping. Conference on Cognitive Computational Neuroscience.
- D. Linsley, D. Shiebler, S. Eberhardt & T. Serre. Global-and-local attention networks for visual recognition. Conference on Cognitive Computational Neuroscience, 2018.

- D. Linsley, J. Kim, V. Veerabadrán & T. Serre. Learning long-range spatial dependencies with horizontal gated-recurrent units. Conference on Cognitive Computational Neuroscience 2018. Archived at <https://ccneuro.org/2018/proceedings/1116.pdf>.
- D. Linsley & T. Serre. Large-scale system identification of mouse primary visual cortex. Society for Neuroscience, 2018
- J.W. Linsley, D. Linsley, A. Javaherian, M. Cobb, A. Baral, T. Serre & S. Finkbeiner. Life and death decisions- Classifying and predicting death in neurodegenerative disease. Deep learning in biomedicine symposium, 2018
- D. Linsley, S. Eberhardt & T. Serre T. Large-scale identification of the visual features used for object recognition with ClickMe.ai, 2018. Vision Sciences Society (VSS), 2018
- D. Linsley, S. Eberhardt, D. Schiebler & T. Serre. Large-scale discovery of visual features for object recognition. Conference on Computational and Mathematical Models in Vision, 2017
- S. Eberhardt, T. Nguyen, P. Wilf, S. Wing & T. Serre. Automated leaf analysis with deep learning and its potential for the fossil record. Annual Meeting of the Geological Society of America. Vol. 48, No. 7. Session #218 “T49. Geobiology of Earth-Life Systems II”, 2016
- A. Pascarella, C. Todaro, M. Clerc, T. Serre & M. Piana, Source modeling of ECoG data: stability analysis and spatial filtering. BioMag 2016 Conference. Abstract No.: 13_1006. Topic Category: 13. Methods and Modeling 2: Source Localization: Approaches, Simulations, Models, Multiple Sources, 2016
- D. Mély & T. Serre. Towards a unified model of classical and extra-classical receptive fields. Conference on Computational and Mathematical Models in Vision, 2016
- S. Eberhardt, J. Cader & T. Serre. How Deep is the feature analysis underlying rapid visual categorization? Conference on Computational and Mathematical Models in Vision, 2016
- D. Mély & T. Serre. A canonical circuit for object constancy across visual modalities. Abstract #III-75. Conference on Computational and System Neuroscience (CoSyNe), 2016
- J. Kim & T. Serre. Models of disparity computation in the visual cortex: Computational-level analysis and electrophysiology. Abstract #I-78. Conference on Computational and System Neuroscience (CoSyNe), 2016
- A. Pascarella, C. Todaro,, M. Clerc, T. Serre and M. Piana. Source modeling of ElectroCorticoGraphy (ECoG) data: Analysis of stability and spatial filtering. International Conference on Biomagnetism (BioMag), 2016
- D. Mély & T. Serre. A canonical circuit for visual contextual integration explains induction effects across visual modalities, Vision Science Society, 2015
- J. Kim, D. Mély & T. Serre. A critical evaluation of computational mechanisms of binocular disparity processing in V1, Conference on Computational and Mathematical Models in Vision, 2015
- D. Mély & T. Serre. A canonical circuit for visual contextual integration explains induction effects across visual modalities. Conference on Computational and Mathematical Models in Vision, 2015
- A.M. Duffy, X. Li, C. Schmiedel, S. Mentzer, K. Bath, T. Serre, J. Fallon. Automated Continuous Behavioral Monitoring reveals novel phenotypes in mouse models of ALS and Muscular Dystrophy. Muscular Dystrophy Association, 2015
- M. Clerc, C. Todaro, A. Pascarella, T. Serre & M.A Piana. BeamFormer for source localization in ElectroCorticoGraphy. Biomag 2014
- Y. Barhomi, S. Bonneaud, A. Janke, W. Warren & T. Serre. A data-driven approach to learning strategies for the visual control of navigation, Vision Science Society, 2014
- D. Mely, J.K. Kim, M. McGill, Y. Guo & T. Serre. Visual cue diagnosticity for boundary detection in natural scenes: A computational study, Vision Science Society, 2014

- R. Le, D. Mely & T. Serre. Computational Mechanisms Responsible for the Hermann Grid Illusion, Vision Science Society, 2014
- S. Parker, D. Reichert & T. Serre. Selectivity for non-accidental properties emerges from learning object transformation sequences, Vision Science Society, 2014
- T. Serre, I. Sofer, & S. Crouzet. A simple rapid categorization model accounts for variations in behavioral responses across rapid scene categorization tasks, Vision Science Society, 2014
- D. Reichert & T. Serre. Binding by synchrony in complex-valued deep neural networks. Computational System Neuroscience (Cosyne), 2014
- S. Bonneaud, W. H. Warren, K. Olfers, G. Irwin, T. Serre. Towards a biologically-inspired vision system for the control of locomotion in complex environments, Vision Science Society, 2013
- I. Sofer, K.R. Lee, P. Sailamul, S. Crouzet & T. Serre. Understanding the nature of the visual representations underlying rapid categorization tasks, Vision Science Society, 2013
- D. Mély & T. Serre. Computational models of contour detection: role of lateral connections, inhibition and normalization, Vision Science Society, 2013
- P. Wilf, S. Chikkerur, S. Little, S. Wing & T. Serre. Leaf Architecture: Computer Vision Cracks the Leaf Code, Botany 2013
- D. Mely & T. Serre. Computational models of contour detection: Role of lateral connections, inhibition and normalization, Computational System Neuroscience (Cosyne) 2013
- P. Wilf, S. Chikkerur, S. Little, S. Wing & T. Serre. Computer vision cracks the leaf code. Geological Society of America (GSA), 2012
- I. Sofer & T. Serre. Using decision models to study the time course of visual recognition, Vision Science Society 2012
- M. Cauchoix, S. Crouzet, D. Fize & T. Serre. Visual features and dynamics of rapid recognition in monkey visual cortex. Society for Neuroscience, 2011
- M.P. Leussis, E.M. Berry-Scott, H. Jhuang, M. Saito, K. Ilesley, T. Poggio, P. Sklar, T. Serre & T.L. Petryshen. Role of Ankyrin 3 in regulating bipolar-related behaviors. World Congress on Psychiatric Genetics, 2011
- C. Tan, T. Serre & T. Poggio. How does the visual system create complex shape and motion features? Vision Science Society 2011
- S. M. Crouzet, T. Stemmler, M. Capps, M. Fahle, & T. Serre. Single-trial decoding of binocular rivalry switches from oculometric and pupil data. Vision Science Society 2011
- A. Arslan, J. Singer, M. Cauchoix, J. Madsen, G. Kreiman & T. Serre. The neural basis of rapid visual recognition: Neural decoding and Granger causality analysis of connectivity. Vision Science Society 2011
- J. Corbett & T. Serre. ERP signatures of Gestalt cues predict perceptual segmentation. Vision Science Society 2011
- I. Sofer, D. Weinshall & T. Serre. Analysis of similarity matrices and its application to the study of semantic and visual information processing in the inferior temporal cortex. Vision Science Society 2011
- A.B. Arslan, M. Cauchoix, D. Fize, G. Kreiman, J.R. Madsen, T. Serre & J.M. Singer. Neural decoding of natural object categories from intracranial field potentials: A comparison between human and monkey. Society for Neuroscience, Nov. 2010
- E. M. Meyers, Y. Zhang, N. Bichot, T. Serre, T. Poggio & R. Desimone. The representation of objects in inferior temporal cortex with and without attention. Society for Neuroscience, Nov. 2010.
- D. Hassabis, C. Tan, T. Serre & T. Poggio. Identifying objects from brain activity in high-level visual cortex. Society for Neuroscience, Nov. 2010

- S. Pandian, N. Edelman, H. Jhuang, T. Serre, T. Poggio & M. Constantine-Paton. An automated action initiation system reveals behavioral deficits in MyosinVa deficient mice. Society for Neuroscience, Nov. 2010.
- C. Tan, V. Yorgan, T. Serre, D. Sheinberg & T. Poggio. Do dorsal stream neurons encode combinations of local motion direction? Society for Neuroscience, Nov. 2010
- T. Poggio, H. Jhuang & T. Serre. Computational mechanisms of motion processing in visual area MT. Society for Neuroscience, Nov. 2010
- M Cauchoix, T Serre, G Kreiman & D Fize. Fast decoding of natural object categories from intracranial field potentials in monkey's visual cortex. Vision Science Society, May 2010
- C Tan, J Singer, T Serre, D Sheinberg & T Poggio. How STS recognizes actions: Predicting single-neuron responses in higher visual cortex. Vision Science Society, May 2010

Invited and contributed talks and lectures (since 2010)

- May 2023 Columbia University (NYC), Center for Theoretical Neuroscience seminar series
- Jan 2023 University of Texas (Austin, TX), Center for Perceptual Systems seminar series
- Nov 2022 MIT (Cambridge, MA), 9.520/6.860: Statistical Learning Theory and Applications
- Sep 2022 Bernstein workshop on "Symmetries in neuroscience" (Berlin, Germany)
- Aug 2022 Center for Brains, Minds & Machines Summer School (Woods Hole, MA)
- July 2022 International Conference on Mathematical Neuroscience (ICMNS), Keynote
- June 2022 Comp. Cognitive Science Colloquium, Center for Cognitive Science (TU Darmstadt, Germany)
- May 2022 VSS Symposium on Perceptual Organization (St Pete's Beach, FL)
- Nov 2021 MIT (Cambridge, MA), 9.520/6.860: Statistical Learning Theory and Applications
- Nov 2021 Albert Einstein College of Medicine, Einstein's Machine Learning series (New York, NY)
- Oct 2021 Simons foundation workshop on "ML for Large-Scale Neuroscience" (New York, NY)
- Oct 2021 Collaborative Research in Computational Neuroscience (CRNS) workshop (New York, NY)
- Aug 2021 Center for Brains, Minds & Machines Summer School (Woods Hole, MA)
- Apr 2021 ICLR workshop "Generalization beyond the training distribution in brains and machines"
- Feb 2021 Harvard (Cambridge, MA), Neuro 1400: Biological and Artificial Intelligence
- Jan 2021 Facebook AI Research (Paris, France)
- Dec 2020 MIT (Cambridge, MA), Center for Brains, Minds and Machines Debates (invited discussant)
- Nov 2020 MIT (Cambridge, MA), 9.520/6.860: Statistical Learning Theory and Applications
- Oct 2020 Washington University (St Louis, MO), Department of Neuroscience Seminar Series
- Sept 2020 Institut de Neurosciences de la Timone (Marseille, France)
- Aug 2020 Center for Brains, Minds & Machines Summer School (Woods Hole, MA)
- July 2020 Annual Computational Neuroscience (CNS) Meeting (Melbourne, Australia), Workshop on "Machine learning and mechanistic modeling for understanding brain in health and disease"
- June 2020 Bristol University (UK), "Generalization in Mind and Machine" Seminar Series
- June 2020 Annual Meeting of the Vision Science Society (St Pete's Beach, FL)
- Feb 2020 Harvard (Cambridge, MA), NEURO140 Biological and Artificial Intelligence
- Feb 2020 Annual Interdisciplinary Conference (Jackson Hole, WY)
- Jan 2020 Paul-Sabatier University (Toulouse, France)

Jan 2020 Ecole Polytechnique Fédérale de Lausanne (EPFL; Lausanne, Switzerland)

Nov 2019 MIT (Cambridge, MA), Brains, Minds and Machines Seminar Series

Nov 2019 University of Rhode Island (North Kingstown, RI) – RI-AI Meetup

Nov 2019 OSHEANCon'19 (Providence, RI) Keynote speaker

Oct 2019 Dartmouth University (NH), Department of Epidemiology

Aug 2019 Symposium on How Humans and Machines Learn to See (Ebsdorfergrund, Germany)

Aug 2019 Center for Brains, Minds & Machines summer school (Woods Hole, MA)

Jun 2019 IEEE CVPR workshop on Mutual benefits of cognitive and computer vision keynote

May 2019 John Hopkins University (Baltimore, MA), Department of Cognitive Science

Mar 2019 York University (Toronto, Canada), Center for Vision Research

Feb 2019 IEEE CVPR Area Chair workshop (San Diego, CA)

Feb 2019 UMass (Amherst, MA), Psychological and Brain Sciences Department

Aug 2018 ECVP Workshop on 3D shape: What is the state of the art? Trieste (Italy)

Feb 2018 Workshop on Understanding images in biological and computer vision. The Royal Society, London.

Oct 2017 Rochester Institute of Technology, Center for Imaging Science (NY)

May 2017 New England Machine Learning Day (Cambridge, MA)

Jan 2017 Forty-two Annual Interdisciplinary Conference (Breckenridge, CO)

Nov 2016 University of Central Florida (Orlando, FL), Department of Computer Science

Oct 2016 Cornell University (Ithaca, NY), Distinguished Speakers in Behavioral and Brain Sciences

Aug 2016 University of Barcelona (Barcelona, Spain)

Aug 2016 Workshop on Visual Neuroscience and Computer Science pre-ECVP symposium (Barcelona, Spain).

Jun 2016 Consortium of Northeastern Herbaria meeting (Providence, RI)

May 2016 Workshop on Deep Learning (Cambridge, MA)

Jan 2016 Forty-first Annual Interdisciplinary Conference (Breckenridge, CO)

May 2015 Genova University (Genova, Italy), Computer Science seminar

May 2015 Workshop on Deep Learning (Bertinoro, Italy)

May 2015 Columbia University (New York, NY), Theoretical Neuroscience Seminar

Apr 2015 Mass. Institute of Technology (Cambridge, MA), Brains, Minds and Machines Seminar

Mar 2015 University of Maryland (University Park, MD), Neuroscience Seminar

Nov 2014 Institut de la Vision (Paris, France)

Oct 2014 Washington University (St Louis, MO)

Sep 2014 Bristol-Myers Squibb (Wallingford, CT)

Sep 2014 Indiana University (Bloomington, IN)

Sep 2014 Johns Hopkins University Applied Physics Laboratory (Laurel, MD)

July 2014 Université de Bretagne Sud (Lorient, France)

July 2014 Telecom Bretagne (Brest, France)

July 2014 NeuroStic Conference (Paris, France)

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| May 2014 | Design Automation Conference (San Francisco, CA) |
| Apr 2014 | Vision Science Society annual meeting (St. Pete Beach, FL) [contributed] |
| Apr 2014 | MIT, 9.S913 - Understanding Visual Attention through Computation (Boston, MA) |
| Nov 2013 | Workshop on Learning Data Representation (Cambridge, MA) |
| Apr 2013 | SUNY University (New York, NY) |
| Jul 2012 | IPAM Graduate Summer School: Deep Learning, Feature Learning (Los Angeles, CA) |
| Jul 2012 | Neuromorphic Engineering workshop (Telluride, CO) |
| Jan 2012 | The University of Memphis (Memphis, TE) |
| Mar 2011 | Edinburgh University (UK) |
| Mar 2011 | Harvard Univ., Schwartz Institute for Theoretical Neuroscience seminar series (Cambridge, MA) |
| Feb 2011 | Workshop on Grand Challenges in Neural Computation (Santa Fe, NM) |
| Jan 2011 | Scene Understanding (SUnS) symposium (Cambridge, MA) |
| Nov 2010 | Brown University (Applied math department, Theory seminar) |
| Jun 2010 | Workshop on the “Interplay between inversion methods and mathematical models in the applied sciences” (Cagliari, Italy) |
| Mar 2010 | Columbia University (New York, NY) |
| Feb 2010 | Max Planck Institute for Cybernetics (Tubingen, Germany) |
| Jan 2010 | Los Alamos National Laboratory (Los Alamos, NM) |

Patents

- T. Serre et al., Method and system for automated behavior classification of test subjects, US Patent US20180225516A1. Issued 2019
- T. Serre et al., High-performance vision system exploiting key features of visual cortex, US Patent 7606777. Issued October 20, 2009
- Y. Ivanov and T. Serre, Confidence weighted classifier combination for multi-modal identification, US Patent 20060120609. Issued June 8, 2006

Research Grants

Current grants

Project title: Brain-inspired deep learning models of visual reasoning

Funding agency: ONR

Grant type: Research grant

Grant number: N00014-19-1-2029

Role: PI

Award: \$1,947,983

Duration: 2018–2023

Project title: Leveraging Computer Vision to Augment Suicide Risk

Funding agency: NIH/NIMH

Grant type: Research grant

Grant number: R21 MH127231

Role: co-PI

Award: \$275,000
Duration: 2021–2023

Project title: Origins of southeast Asian rainforests from paleobotany and machine learning

Funding agency: NSF
Grant type: Collaborative research grant in Frontier Research in Earth Sciences (FRES)
Grant number: EAR-1925481
Role: co-PI (Wilf/Gandolfo/Serre)
Award: \$665,000
Duration: 2019–2024

Project title: Oscillatory processes for visual reasoning in deep neural networks

Funding agency: NSF
Grant type: CRCNS US-France Research grant
Grant number: IIS-1912280
Role: co-PI (PIs: Serre/VanRullen)
Award: \$548,809
Duration: 2019–2022

Project title: Intelligent Spine Interface (ISI)

Funding agency: DARPA
Grant type: Research grant
Grant number: D19AC00015
Role: Co-I (PI: Borton)
Award: \$6,307,353
Duration: 2019–2022

Completed grants

Project title: Next-generation machine vision for automated behavioral phenotyping of knock-in ALS-FTD mouse models

Funding agency: NIH/NINDS
Grant type: R21 research grant
Grant number: R21 NS 112743
Role: MPI (Fallon/Serre)
Award: \$450,000
Duration: 2020–2022

Project title: Understanding the neural basis of the volitional state through continuous recordings in humans

Funding agency: NIH/NINDS
Grant type: U01 research grant
Grant number: U01 NS 098968
Role: Co-I (PI: Cash, MGH)
Award: \$133,217
Duration: 2016–2019

Project title: Automating pathology with deep learning

Funding agency: NIGMS / Advance-CTR
Grant type: U54 research grant
Grant number: U54GM115677
Role: PI
Award: \$50,000
Duration: 2018–2019

Project title: Naturalistic data collection in the SmartPlayroom

Funding agency: NIH/NIMH
Grant type: R21 research grant
Grant number: R21 MH 113870
Role: co-PI (Amso/Serre)
Award: \$446,875
Duration: 2017–2019

Project title: WildCog: Evolution and local adaptation of cognitive abilities and brain structure in the wild

Funding agency: Human Frontier Science Program (HFSP)
Grant type: Research grant
Grant number: RGP0006/2015
Role: co-PI (Chaine/Morand-Ferron/Serre)
Award: \$235,123
Duration: 2015–2018

Project title: Scaling up computational models of visual processing in cortex

Funding agency: DARPA
Grant type: DARPA Young Faculty Award, DARPA Director's Award
Grant number: N66001-14-1-4037
Role: PI
Award: \$1,000,000
Duration: 2015–2018

Project title: Computational mechanisms of rapid visual categorization: Models and psychophysics

Funding agency: NSF
Grant type: NSF early career award
Grant number: IIS-1252951
Role: PI
Award: \$500,001
Duration: 2013–2018

Project title: Development of a machine vision system for high-throughput computational behavioral analysis

Funding agency: NSF
Grant type: I-Corps grant
Grant number: IIP-164456
Role: PI
Award: \$50,000
Duration: 2016

Project title: Towards a biologically-inspired vision system for the control of navigation in complex environments

Funding agency: ONR
Grant type: Research grant
Grant number: N000141110743
Role: PI
Award: \$839,227
Duration: 2011–2014

Project title: Development of a machine-learning and computer-vision platform for automated behavioral analysis

Grant type: Sponsored research
Role: PI
Award: \$262,639
Duration: 2012–2013

Project title: Towards a human-level neuromorphic artificial visual system
Funding agency: Defense Advanced Research Projects Agency (DARPA)
Grant type: Research grant
Grant number: N10AP20013
Role: PI
Award: \$543,332.
Duration: 2010–2011

Service

To the University

2019 – Center for the Neurobiology of Cells and Circuits Steering Committee
2018 – OVPR’s Research Computing Advisory Committee co-chair
2018 – Data Science Initiative Executive Committee
2018 – Data Science Initiative Campus Advisory Board co-chair
2015 – Research Computing Advisory Committee member
2014 – Independent concentration advisor in "Intelligent Systems" and "Computational neuroscience"
2013 – Carney Cluster Executive Committee
2011 – Freshman and sophomore advisor
2013 – 2020 – Computation in Brain and Mind Initiative Steering Committee
2012 – 2020 – Academic Technology Steering Committee
2015 – 2018 – Cognitive Science undergraduate concentration advisor

To the profession

2023 – Area Chair International Conference on Learning Representations (ICLR)
2023 – Area Chair IEEE Computer Vision and Pattern Recognition conference (CVPR)
2022 – Area Chair Neural Information Processing Systems (NeurIPS) conference
2022 – Area Chair International Conference on Machine Learning (ICML)
2022 – Area Chair International Conference on Learning Representations (ICLR)
2022 – Area Chair IEEE Computer Vision and Pattern Recognition conference (CVPR)
2021 – Area Chair Neural Information Processing Systems (NeurIPS) conference
2021 – Area Chair International Conference on Machine Learning (ICML)
2021 – Area Chair International Conference on Learning Representations (ICLR)
2021– – Deputy Editor PLOS computational biology
2019– – Board of Reviewing Editors eLIFE
2017 – – Section Editor (Visual System) for the Encyclopedia of Computational Neuroscience
2015 – 2021 – Domain expert for IARPA’s Machine Intelligence from Cortical Networks (MICrONS) program
2020 – Area Chair Neural Information Processing Systems (NeurIPS) conference
2019 – Senior Program Committee 2020 AAAI Conference on Artificial Intelligence
2019 – Area Chair IEEE Computer Vision and Pattern Recognition conference (CVPR)
2018 – Area Chair IEEE Computer Vision and Pattern Recognition conference (CVPR)

- 2011 –2018 Associate Editor Frontiers in Perception Science
- 2017 Co-organizer of the [Beyond Deep Learning](#) symposium
- 2017 Local Chair for the Collaborative Research in Computational Neuroscience annual PI meeting
- 2015 Local Chair IEEE International Conference on Development and Learning and on Epigenetic Robotics
- 2014 Area Chair IEEE Computer Vision and Pattern Recognition conference (CVPR)
- 2011 Area Chair Neural Information Processing Systems (NeurIPS) conference
- 2006 –2011 Co-organizer of the MIT Scene Understanding Symposium (SUnS)

Ad-hoc reviewing (past two years)

Organizations and funding agencies: (French) National Research Agency (ANR), European Research Council (ERC), Human Frontier Science Program (HFSP), National Science Foundation (NSF), National Institute of Health (Analytics and Statistics for Population Research Panel B (ASPB) study section).

Journals: Current Biology, Journal of Vision, Nature Neuroscience, Neuron, Proceedings of the National Academy of Sciences (PNAS), Science.

To the community

- 2020 Brown-RISD AI lab with Profs. Valla and Cardini at RISD. Press release [here](#).
- 2019 Lecture on high-level vision in Chris Rose's studio at RISD
- 2018 Lecture on high-level vision in Chris Rose's studio at RISD
- 2017 Lecture on high-level vision in Chris Rose's studio at RISD
- 2016 Lecture on high-level vision in Chris Rose's studio at RISD
- 2014 Lecture on high-level vision in Chris Rose's studio at RISD
- 2012 Communicating science project with Chris Rose and design student (RISD)

Sample media coverage

- Oct 2019 [Venture Beat](#). Intel and Brown University researchers embark on a two-year project to bridge spinal cord breaks using AI.
- May 2019 [Brown Daily Herald](#). Brain research blooms at Brown.
- Apr 2019 [Brown Daily Herald](#). Carney Institute settles in above Brown bookstore.
- Sep 2018 [Brown news](#). Brown researchers teach computers to see optical illusions.
- July 2018 [Brown news](#). Research identifies a key weakness in modern computer vision systems
- Mar 2016 Brown news. Meeting of the minds leads to brain science technology venture.
- Mar 2016 Science Daily. Leaf mysteries revealed through the computer's eye.
- Mar 2016 Wired. A computer with a great eye is about to transform botany.
- Mar 2016 Brown news. Computer vision can help classify leaves.
- Sep 2015 Science Daily. Making the easiest judgments first, when viewing new environments.
- Sep 2015 News Medical Science. People make the easiest judgments first when analyzing scenery.
- Sep 2015 Brown news. In analyzing a scene, we make the easiest judgments first.
- Oct 2011 Pour la recherche magazine.

Last updated: 10/21/2022

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| Aug 2010 | Brown news. Computer-based video analysis boosts data gathering in behavioral studies. |
| Aug 2010 | Revue Emulations. Catégorisation socio-politique: Entretien croisé. |
| July 2009 | Science & Vie magazine. Cerveau: Le voici tout près d'être mis en équation. |
| Jan 2009 | Biomedical computation review. Reverse engineering the brain. |
| Aug 2008 | PC Magazine. Understanding the brain. |
| Feb 2008 | Research featured as part of the BBC series Visions of the future. |
| Feb 2008 | IEEE Comp. in Science & Engineering. Computer vision inspired by the human brain. |
| Feb 2008 | Scientific American. Visionary Research: Teaching computers to see like a human. |
| Jun 2007 | Biomedical Computation Review. News Bytes. |
| May 2007 | EyeNet. When computer vision imitates life. |
| Apr 2007 | MIT Tech Talk, Apr 4, 2007. Computer model mimics the blink of an eye. |
| Apr 2007 | The Economist. Easy on the eyes. |
| Apr 2007 | New Scientist. Visual-cortex simulator sees animals as humans do. |
| Feb 2007 | Naval Res. Enterprise Newsletter. Mimicking how the brain recognizes street scenes. |
| Feb 2007 | MIT Tech Talk. Computer model mimics how the brain recognizes objects. |
| Feb 2007 | Technology review. Biologically inspired vision systems. |
| Feb 2007 | Slashdot. Recognizing scenes like the brain does. |
| Jul 2006 | Technology Review. Reverse-Engineering the brain. |

Academic honors, fellowships, honorary societies

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| 2022 | PAMI Mark Everingham Prize for pioneering human action recognition datasets. |
| 2021 | PAMI Helmholtz Prize for paper with significant impact on computer vision research (Kuhne et al. HMDB: A large database for human motion recognition. In: Proc. IEEE International Conference on Computer Vision (ICCV), 2011) |
| 2019 | Awarded International Chair in AI (Artificial and Natural Intelligence Toulouse Institute, France) |
| 2016 | DARPA Director's award |
| 2016 | Distinguished Speaker in Behavioral and Brain Sciences, Cornell University (Ithaca, NY) |
| 2014 | DARPA Young Faculty award |
| 2014 | Professeur Invité, Lorient University (Lorient, France) |
| 2013 | NSF Early Career award |
| 2013 | Manning Assistant Professorship |
| 2013 | National Academies Keck Futures Initiative panelist on 'The informed brain in a digital world' |
| 2012 | Teaching with Technology Course Design Award |
| 2011–2012 | Sheridan Junior Faculty Teaching Fellows Program |
| 2010 | Finalist for the Packard fellowship for science & engineering |
| 2008 | Finalist for the Burroughs Wellcome Fund career award at the scientific interface |

Teaching (last three years)

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| Spring 2022 | CLPS 1590 Deep Learning in Brains, Minds & Machines. 24 students |
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| Fall 2022 | CLPS 1291 Computational Cognitive Science. 32 students |
| Spring 2022 | CLPS 1590 Deep Learning in Brains, Minds & Machines. 24 students |
| Spring 2021 | CLPS 0950 Introduction to Programming. 76 students |
| Spring 2020 | CLPS 0950 Introduction to Programming. 42 students |

Mentoring

Postdoctoral fellows (14)

| | |
|-----------|--|
| 2022– | J. Jang |
| 2020– | L. Goetschalckx |
| 2020–2022 | V. Boutin (ANITI) |
| 2020–2021 | A. Ben Tafous (industry) |
| 2019– | R. Liu (co-advised with M. Frank) |
| 2019–2021 | M. Jung (industry) |
| 2016–2021 | D. Linsley (Assistant Professor of Research, Brown University) |
| 2015–2017 | S. Eberhardt (industry) |
| 2013–2014 | S. Zhang (Professor, Harbin Institute of Technology) |
| 2012–2014 | D. Reichert (DeepMind) |
| 2012–2013 | S. Bonneaud (industry) |
| 2010–2012 | S. Crouzet (industry) |
| 2011 | H. Jhuang (industry) |
| 2010–2011 | J. Corbett (Lecturer, Brunel University London) |

Graduate students (16 advised)

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| 2022– | M. Lepori (CS; co-advised with E. Pavlick) |
| 2022– | S. Muzellec (ANITI; co-advised with R. VanRullen) |
| 2021– | T. Fel (ANITI) |
| 2021– | A. Ashok (CLPS) |
| 2020– | M. Chalvidal (ANITI; co-advised with R. VanRullen) |
| 2019– | A. Zerroug (ANITI) |
| 2019– | M. Vaishnav (ANITI) |
| 2019– | I. Rodriguez (CLPS) |
| 2018– | A. Ahmed (Neuroscience) |
| 2017– | L. Govindarajan (CLPS) |
| 2016– | P. Sailamul (CLPS) |
| 2014–2020 | M. Ricci (CLPS; currently a postdoc at Harvard) |
| 2014–2019 | J.K. Kim (CLPS; currently at DeepMind) |
| 2011–2016 | D. Mely (CLPS; currently at Google Brain) |
| 2011–2014 | I. Sofer (CLPS; currently in the industry) |

2010–2015 A. Arslan (CLPS; currently in the industry)

Full-time research staff (15)

2022–2023 A. Arjun
2021–2022 A. Nakaraj
2020–2021 M. Reuter
2019–2020 A. Ashok
2018–2019 K. Thakkar
2018–2019 D. Yang
2018–2019 R. Saha
2017–2018 V. Veerabadran
2017–2018 T. Sharma
2016–2018 Y. Haji
2015–2018 P. Gupta
2015–2016 Y. Wang
2012 Y. Guo
2011–2015 X. Li
2010–2011 M. Capps
2010–2016 Y. Barhomi

Ph.D. thesis committees (11)

2022 J. Bai (Cognitive Science, Advisor: W. Warren)
2019 D. Burk (Neuroscience, Advisor: D. Sheinberg)
2019 R. Xia (Neuroscience, Advisor: D. Sheinberg)
2018 S. Guan (Neuroscience, Advisor: D. Sheinberg)
2016 J. Hynes (Neuroscience, Advisor: M. Paradiso)
2015 B. Kent (CLPS, Advisor: R. Burwell)
2014 K. Rio (CLPS, Advisor: W. Warren)
2014 T. Wiecki (CLPS, Advisor: M. Franck)
2011 J.H. Park (CLPS, Advisor: S. Sloman)
2010 S. Dimitriadis (CLPS, Advisor: J. Anderson)
2010 D. Buchanan (CLPS, Advisor: D. Sobel)

External examiner on Ph.D. dissertation (9)

2022 S. Stabinger (Innsbruck University, AT. Advisor: A. Rodríguez-Sánchez)
2021 P. Mehrani (York University, OT. Advisor: John Tsotsos)
2021 Y. Chen (Stony Brook University, NY. Advisor: Greg Zelinsky)
2020 R. Cadene (Sorbonne, France. Advisor: Matthieu Cord)
2020 A. Doerig (EPFL, Switzerland. Advisor: Michael Herzog)

2019 I. Hadji (York University, ON. Advisor: Richard Wildes)
2017 G. Lindsay (Columbia, NY. Advisor: Ken Miller)
2014 M. Cauchoix (CNRS, France. Advisor: Denis Fize)
2015 J. Zhang (Hefei University, China, Advisor: Jun Gao)

Masters students (3)

2017–2018 A. Karagounis (CS)
2017–2018 A. Jones (CS)
2013–2014 M. Spector (CLPS)

Undergraduate honors thesis students (14)

2022 I. Logonria-Valenzuela (Cognitive Neuroscience)
2019 C. Jeffers (Computational Biology)
2019 D. Murphy (Applied Math/Computer Science)
2018 M. Winter (Independent concentration)
2018 C. Holtz (Cognitive Neuroscience)
2016 J. Cader (Independent concentration)
2016 Z. Nado (Computer Science)
2015 R. Feinman (Applied Math)
2015 S. Parker (Neuroscience)
2014 J.K. Kim (Independent concentration)
2014 R. Martens (CLPS)
2013 S. Shahamatdar (Bio-engineering)
2012 G. Riesen (Cognitive neuroscience). Departmental award
2012 E. Sanford (Neuroscience)

International/visiting graduate students (19)

2018–2019 Y. Jiao (East China University of Science and Technology, China)
2017–2018 L. Xu (Xi'an Jiaotong University, China)
2016 A. Singh (Cambridge University, UK)
2015 A. Adoubib (Ecole Normale Supérieure des Télécommunications de Bretagne, France)
2015 O. Boisard (Université de Bourgogne, France)
2014 J. Brochard (Ecole Normale Supérieure, France)
2014 R. Danilo (Université de Bretagne Sud, France)
2013 J. Brochard (Ecole Normale Supérieure, France)
2012 K. Lee (KAIST, S. Korea)
2012 J.P. Noel (Gustavus Adolphus College, MN)
2012 K. Olfer (Leiden University, Netherlands)
2012 P. Sailamul (KAIST, S. Korea)

2012 G. Irwin (Osnabrueck University, Germany)
2012 S. Zhang (Harbin Institute of Technology, China)
2011 M. Cauchoix (CNRS, France)
2010 H. Kuehne (Karlsruhe University, Germany)
2010 K. Olfer (Leiden University, Netherlands)
2010 T. Stemmler (Bremen University, Germany)
2010 M. Cauchoix (CNRS, France)
2010 E. Garrote (University of the Basque Country, Spain)