

Alexandra Kling

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Publications

PUBLICATIONS

- **Cell-type specific repertoire of responses to natural scenes in primate retinal ganglion cells.** *Frontiers in cellular neuroscience*
Kling, A., Brackbill, N., Rhoades, C., Gogliettino, A., Sher, A., Litke, A., Chichilnisky, E. J.
2025; 19: 1600167
- **Decomposition of retinal ganglion cell electrical images for cell type and functional inference.** *Journal of neural engineering*
Wu, E. G., Rudzite, A. M., Bohlen, M. O., Li, P. H., Kling, A., Cooler, S., Rhoades, C., Brackbill, N., Gogliettino, A. R., Shah, N. P., Madugula, S. S., Sher, A., Litke, et al
2025
- **S-cone signals in the primate retina are sampled by a wide variety of ganglion cell types**
Kling, A., Brackbill, N., Rhoades, C., Litke, A., Sher, A., Chichilnisky, E. J.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Unexpected ON-OFF Responses of Smooth Monostratified Ganglion Cells in the Primate Retina**
Hofflich, B., Kling, A., Cooler, S., Raval, V., Rieke, F., Manookin, M. B., Sher, A., Litke, A., Chichilnisky, E. J.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Direct-Print 3D Electrodes for Large-Scale, High-Density, and Customizable Neural Interfaces.** *Advanced science (Weinheim, Baden-Wuerttemberg, Germany)*
Wang, P., Wu, E. G., Uluşan, H., Zhao, E. T., Phillips, A. J., Kling, A., Hays, M. R., Vasireddy, P. K., Madugula, S., Vilku, R., Hierlemann, A., Hong, G., Chichilnisky, et al
2024: e2408602
- **Functional diversity in the output of the primate retina.** *bioRxiv : the preprint server for biology*
Kling, A., Cooler, S., Manookin, M. B., Rhoades, C., Brackbill, N., Field, G., Rieke, F., Sher, A., Litke, A., Chichilnisky, E. J.
2024
- **Fixational eye movements enhance the precision of visual information transmitted by the primate retina.** *Nature communications*
Wu, E. G., Brackbill, N., Rhoades, C., Kling, A., Gogliettino, A. R., Shah, N. P., Sher, A., Litke, A. M., Simoncelli, E. P., Chichilnisky, E. J.
2024; 15 (1): 7964
- **Rapid ganglion and amacrine cell type classification using temporal cross-correlation in the macaque retina**
Hofflich, B., Kling, A., Cooler, S., Raval, V., Brackbill, N., Rhoades, C., Wu, E., Rieke, F., Manookin, M. B., Sher, A., Litke, A., Chichilnisky, E. J.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Diverse functional properties of polyaxonal amacrine cells in the primate retina**
Kling, A., Hofflich, B., Cooler, S., Brackbill, N., Rhoades, C., Wu, E., Litke, A., Sher, A., Chichilnisky, E. J.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Decomposition of retinal ganglion cell electrical images for cell type and functional inference.** *bioRxiv : the preprint server for biology*
Wu, E. G., Rudzite, A. M., Bohlen, M. O., Li, P. H., Kling, A., Cooler, S., Rhoades, C., Brackbill, N., Gogliettino, A. R., Shah, N. P., Madugula, S. S., Sher, A., Litke, et al
2023
- **Fixational Eye Movements Enhance the Precision of Visual Information Transmitted by the Primate Retina.** *bioRxiv : the preprint server for biology*

- Wu, E. G., Brackbill, N., Rhoades, C., Kling, A., Gogliettino, A. R., Shah, N. P., Sher, A., Litke, A. M., Simoncelli, E. P., Chichilnisky, E. J.
2023
- **Inferring light responses of primate retinal ganglion cells using intrinsic electrical signatures.** *Journal of neural engineering*
Zaidi, M., Aggarwal, G., Shah, N. P., Karniol-Tambour, O., Goetz, G., Madugula, S. S., Gogliettino, A., Wu, E. G., Kling, A., Brackbill, N., Sher, A., Litke, A. M., Chichilnisky, et al
2023
 - **Direct-print three-dimensional electrodes for large- scale, high-density, and customizable neural inter- faces.** *bioRxiv : the preprint server for biology*
Wang, P., Wu, E. G., Uluşan, H., Phillips, A. J., Rose Hays, M., Kling, A., Zhao, E. T., Madugula, S., Vilku, R. S., Vasireddy, P. K., Hier-Lemann, A., Hong, G., Chichilnisky, et al
2023
 - **Inference of Electrical Stimulation Sensitivity from Recorded Activity of Primate Retinal Ganglion Cells.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Madugula, S. S., Vilku, R., Shah, N. P., Grosberg, L. E., Kling, A., Gogliettino, A. R., Nguyen, H., Hottowy, P., Sher, A., Litke, A. M., Chichilnisky, E. J.
2023
 - **Joint physiological and connectomic analysis of neural circuitry in the primate retina**
Aji, I., Kling, A., Haverkamp, S., Watkins, P., Chichilnisky, E. J., Briggman, K. L.
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 - **Morphological identification of novel functional ganglion and amacrine cell types in macaque retina**
Kling, A., Manookin, M. B., Rieke, F., Cooler, S., Sher, A., Litke, A., Chichilnisky, E. J.
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 - **High-fidelity reproduction of visual signals by electrical stimulation in the central primate retina.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Gogliettino, A. R., Madugula, S. S., Grosberg, L. E., Vilku, R. S., Brown, J., Nguyen, H., Kling, A., Hottowy, P., Dąbrowski, W., Sher, A., Litke, A. M., Chichilnisky, E. J.
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 - **Suppression without inhibition: how retinal computation contributes to saccadic suppression.** *Communications biology*
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 - **Automated identification of ganglion and amacrine cell types in a large primate retina dataset**
Cooler, S., Kling, A., Wu, E., Rhoades, C., Brackbill, N., Sher, A., Litke, A., Chichilnisky, E.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
 - **Unusual properties of novel ganglion cell and amacrine cell types in macaque and human retina**
Kling, A., Wu, E., Cooler, S., Rhoades, C., Brackbill, N., Litke, A., Sher, A., Chichilnisky, E. J.
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 - **Inferring retinal ganglion cell light response properties from intrinsic electrical feature**
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 - **Inference of nonlinear receptive field subunits with spike-triggered clustering.** *eLife*

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- **Reconstruction of natural images from responses of primate retinal ganglion cells.** *eLife*

Brackbill, N. n., Rhoades, C. n., Kling, A. n., Shah, N. P., Sher, A. n., Litke, A. M., Chichilnisky, E. J.
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- **Unusual Physiological Properties of Smooth Monostratified Ganglion Cell Types in Primate Retina.** *Neuron*

Rhoades, C. E., Shah, N. P., Manookin, M. B., Brackbill, N., Kling, A., Goetz, G., Sher, A., Litke, A. M., Chichilnisky, E. J.
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