

C. Selected peer-reviewed publications (in chronological order.)

(Publications selected from more than 350 peer-reviewed publications. The publications listed concern either the development of large-scale multielectrode array (MEA) systems to study neural systems or the neurobiology results based on the application of these MEA systems. The other ~300 publications are in the field of high energy physics.)

1. "The Retinal Readout Array", A. Litke and M. Meister, Nucl. Instrum. Meth. A310 (1991) 389.
2. "An Advanced Pixel Detector", A. M. Litke, Nucl. Instrum. Meth. A386 (1997) 167.
3. "The Retinal Readout System: an Application of Microstrip Detector Technology to Neurobiology", A. M. Litke, Nucl. Instrum. Meth. A418 (1998) 203.
4. "The Retinal Readout System: A Status Report", A. M. Litke, Nucl. Instrum. Meth. A435 (1999) 242.
5. "Fabrication of microelectrode arrays for neural measurements from retinal tissue", W. Cunningham, K. Mathieson, F. A. McEwan, A. Blue, R. McGeachy, J. A. McLeod, C. Morris-Ellis, V. O'Shea, K. M. Smith, A. Litke and M. Rahman, J. Phys. D: Appl. Phys. 34 (2001) 2804.
6. "Large Scale Imaging of Retinal Output Activity", A. M. Litke, E. J. Chichilnisky, W. Dabrowski, A. A. Grillo, P. Grybos, S. Kachiguine, M. Rahman and G. Taylor, Nucl. Instrum. Meth. A501 (2003) 298.
7. "A Low Noise Multichannel Integrated Circuit for Recording Neuronal Signals Using Microelectrode Arrays", W. Dabrowski, P. Grybos and A. M. Litke, Biosensors and Bioelectronics 19 (2004) 749.
8. "What Does the Eye Tell the Brain?: Development of a System for the Large-Scale Recording of Retinal Output Activity", A. M. Litke, N. Bezayiff, E. J. Chichilnisky, W. Cunningham, W. Dabrowski, A. A. Grillo, M. Grivich, P. Grybos, P. Hottowy, S. Kachiguine, R. S. Kalmar, K. Mathieson, D. Petrusca, M. Rahman and A. Sher, IEEE Transactions on Nuclear Science 51 (2004) 1434.
9. "Large-Area Microelectrode Arrays for Recording of Neural Signals", K. Mathieson, S. Kachiguine, C. Adams, W. Cunningham, D. Gunning, V. O'Shea, K. M. Smith, E. J. Chichilnisky, A. M. Litke, A. Sher, and M. Rahman, IEEE Transactions on Nuclear Science 51 (2004) 2027.
10. "Fidelity of the ensemble code for visual motion in primate retina", E. S. Frechette, A. Sher, M. I. Grivich, D. Petrusca, A. M. Litke, E. J. Chichilnisky, J. Neurophysiology 94 (2005) 119.
11. "Development of front-end ASICs for imaging neuronal activity in live tissue", W. Dabrowski, P. Grybos, P. Hottowy, A. Skoczen, K. Swientek, A.A. Grillo, S. Kachiguine, A.M. Litke and A. Sher, Nucl. Instrum. Meth. A541 (2005) 405.
12. "30 μm spacing 519-electrode arrays for in vitro retinal studies", D. Gunning, C. Adams, W. Cunningham, K. Mathieson, V. O'Shea, K.M. Smith, E.J. Chichilnisky, A.M. Litke and M. Rahman, Nucl. Instrum. Meth. A546 (2005) 148.
13. "The structure of multi-neuron firing patterns in primate retina", J. Shlens, G. D. Field, J.L. Gauthier, M.I. Grivich, D. Petrusca, A. Sher, A.M. Litke and E.J. Chichilnisky, J. Neuroscience 26 (2006) 8254.
14. "Electrical Stimulation of Mammalian Retinal Ganglion Cells With Multielectrode Arrays", C. Sekirnjak, P. Hottowy, A. Sher, W. Dabrowski, A. M. Litke, and E. J. Chichilnisky, J. Neurophys. 95 (2006) 3311.
15. "Performance of ultra-high-density microelectrode arrays", D.E. Gunning, E.J. Chichilnisky, A.M. Litke, V. O'Shea, K.M. Smith and K. Mathieson, Nucl. Instrum. Meth. A576 (2007) 215.
16. "Large-scale multielectrode recording and stimulation of neural activity", A. Sher, E.J. Chichilnisky, W. Dabrowski, A.A. Grillo, M. Grivich, D. Gunning, P. Hottowy, S. Kachiguine, A.M. Litke, K. Mathieson and D. Petrusca, Nucl. Instrum. Meth. A579 (2007) 895.

17. "Identification and characterization of a Y-like primate retinal ganglion cell type", D. Petrusca, M.I. Grivich, A. Sher, G.D. Field, J.L. Gauthier, M. Greschner, J. Shlens, E.J. Chichilnisky, A.M. Litke, *J. Neuroscience* 27 (2007) 11019.
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19. "Spatial properties and functional organization of small bistratified ganglion cells in primate retina", G. D. Field, A. Sher, J. L. Gauthier, M. Greschner, J. Shlens, A. M. Litke, E. J. Chichilnisky, *J. Neuroscience* 27 (2007) 13261.
20. "A maximum entropy model applied to spatial and temporal correlations from cortical networks in vitro", A. Tang, D. Jackson, J. Hobbs, W. Chen, J. L. Smith, H. Patel, A. Prieto, D. Petrusca, M. I. Grivich, A. Sher, P. Hottowy, W. Dabrowski, A. M. Litke, J. M. Beggs, *J. Neuroscience* 28 (2008) 505.
21. "High-resolution electrical stimulation of primate retina for epiretinal implant design", C. Sekirnjak, P. Hottowy, A. Sher, W. Dabrowski, A. M. Litke and E. J. Chichilnisky, *J. Neuroscience* 28 (2008) 4446. PMID: PMC2681084
22. "Direction selectivity in the retina is established independent of visual experience and cholinergic retinal waves", J. Elstrott, A. Anishchenko, M. Greschner, A. Sher, A. M. Litke, E.J. Chichilnisky, M. B. Feller, *Neuron* 58 (2008) 499. PMID: PMC2474739
23. "Spatio-temporal correlations and visual signaling in a complete neuronal population", J. W. Pillow, J. Shlens, L. Paninski, A. Sher, A. M. Litke, E. J. Chichilnisky, E. P. Simoncelli, *Nature* 454 (2008) 995. PMID: PMC2684455
24. "High spatial resolution probes for neurobiology applications", D.E. Gunning, C.J. Kenney, A.M. Litke, K. Mathieson, *Nucl. Instrum. Meth. A*604 (2009) 104-107.
25. "Receptive Fields in Primate Retina Are Coordinated to Sample Visual Space More Uniformly", Gauthier JL, Field GD, Sher A, Greschner M, Shlens J, Litke AM, Chichilnisky EJ, *PLoS Biol* 7 (2009) e1000063 PMID: PMC2672597
26. "Uniform signal redundancy of parasol and midget ganglion cells in primate retina", Gauthier JL, Field GD, Sher A, Shlens J, Greschner M, Litke AM, Chichilnisky EJ, *J Neurosci.* 29 (2009) 4675.
27. "The structure of large-scale synchronized firing in primate retina", Shlens J, Field GD, Gauthier JL, Greschner M, Sher A, Litke AM, Chichilnisky EJ, *J Neurosci.* 29 (2009) 5022. PMID: PMC2678680
28. "High-sensitivity rod photoreceptor input to the blue-yellow color opponent pathway in macaque retina", Field GD, Greschner M, Gauthier JL, Rangel C, Shlens J, Sher A, Marshak DW, Litke AM, Chichilnisky EJ., *Nature Neurosci.* 12 (2009) 1159-64.
29. "Loss of responses to visual but not electrical stimulation in ganglion cells of rats with severe photoreceptor degeneration", Sekirnjak C, Hulse C, Jepson LH, Hottowy P, Sher A, Dabrowski W, Litke AM, Chichilnisky EJ. *J Neurophysiol.* 102 (2009) 3260-9.
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31. "Receptive field mosaics of retinal ganglion cells are established without visual experience", Anishchenko A, Greschner M, Elstrott J, Sher A, Litke AM, Feller MB, Chichilnisky EJ., *J Neurophysiol.* 103 (2010) 1856-64.
32. "Maximum Entropy Approaches to Living Neural Networks", Yeh F-C, Tang A, Hobbs JP, Hottowy P, Dabrowski W, Sher A, Litke AM, Beggs JM, *Entropy* 12 (2010) 89-106. doi:10.3390/e12010089.
33. "Functional connectivity in the retina at the resolution of photoreceptors", Field GD, Gauthier JL, Sher A, Greschner M, Machado TA, Jepson LH, Shlens J, Gunning DE,

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 40. "Properties and application of a multichannel integrated circuit for low-artifact, patterned electrical stimulation of neural tissue", [Hottowy P](#), [Skoczeń A](#), [Gunning DE](#), [Kachiguine S](#), [Mathieson K](#), [Sher A](#), [Wiącek P](#), [Litke AM](#), [Dąbrowski W.](#), J Neural Eng. 9 (2012) 066005. doi: 10.1088/1741-2560/9/6/066005.
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 44. "A Polyaxonal Amacrine Cell Population in the Primate Retina", Greschner M, Field G, Li P, Schiff M, Gauthier J, Ahn D, Sher A, Litke A, Chichilnisky E, Journal of Neuroscience 34 (2014) 3597-3606.
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