



## Daniel Palanker, PhD

Professor of Ophthalmology and, by courtesy, of Electrical Engineering

 NIH Biosketch available Online

 Curriculum Vitae available Online

### CONTACT INFORMATION

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### Bio

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#### BIO

Daniel Palanker is a Professor of Ophthalmology and Director of the Hansen Experimental Physics Laboratory at Stanford University. He received MSc in Physics in 1984 from the Yerevan State University in Armenia, and PhD in Applied Physics in 1994 from the Hebrew University of Jerusalem, Israel.

Dr. Palanker is working on optical and electronic technologies for diagnostic, therapeutic, surgical and prosthetic applications, primarily in ophthalmology. In the field of biomedical optics, these studies include interferometric imaging of neural signals, and laser-tissue interactions with applications to retinal laser therapy and to ocular surgery. In the field of electro-neural interfaces, Dr. Palanker is developing retinal prosthesis for restoration of sight to the blind and implants for electronic control of organs.

Several of his developments are in clinical practice world-wide: Pulsed Electron Avalanche Knife (PEAK PlasmaBlade, Medtronic Inc.), Patterned Scanning Laser Photocoagulator (PASCAL, Topcon Inc.), Femtosecond Laser System for Cataract Surgery (Catalys, Johnson&Johnson), Neural stimulator for enhanced tear secretion (TrueTear, Allergan Inc.). Photovoltaic Retinal Prosthesis (PRIMA, Pixium Vision) is in clinical trials.

#### ACADEMIC APPOINTMENTS

- Professor, Ophthalmology
- Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Director, Hansen Experimental Physics Laboratory, (2016- present)
- Director of Research, Department of Ophthalmology, (2003-2018)

#### HONORS AND AWARDS

- Bartimaeus Award, The World Congress on Artificial Vision "The Eye and The Chip". (2019)
- Bressler Prize in Vision Science, Lighthouse Guild (2016)
- Scientific Achievement Award, Alcon Research Institute (2016)

- Translational Research Award for development of the Non-damaging Retinal Laser Therapy, SPIE - International Society for Optics and Photonics (2014)
- R&D 100 award for the OCT-Guided Femtosecond Laser for Cataract Surgery, with OptiMedica Corp., R&D 100 (2012)
- Medical Design Excellence Award for development of the Pulsed Electron Avalanche Knife (PEAK), Medical Design Excellence Awards; Canon Communications (2009)
- R&D 100 Award for the Pattern Scanning Laser Photocoagulator (PASCAL). with OptiMedica Inc., R&D Journal (2007)
- Pascal Rol award for the best paper on Ophthalmic Technologies Conference (SPIE, Photonics West), SPIE (2004)
- Winner of the Collegiate Inventors Competition, US National Inventors Hall of Fame (2001)
- First Place in Instrumentation and Devices: Plasma-based Cutting Instrument for Vitreoret. Surgery, US Vitreous Society (2000)
- Dr. Shlomiuk award for outstanding Ph.D. Research., The Hebrew University of Jerusalem, Israel (1995)
- Wolf Foundation scholarship for outstanding doctoral students., The Wolf Foundation (1992)
- Prof. Rabau award for application of the ArF excimer laser to In Vitro Fertilization., Israel Society for Fertility Research (1991)

## PROFESSIONAL EDUCATION

- Postdoctoral, Stanford University , Picosecond Free Electron Laser Center (1997)
- PhD, Hebrew University of Jerusalem, Israel , Applied Physics (1995)
- MSc, Yerevan State University, USSR , Physics (1984)

## LINKS

- Palanker Lab Home Page: <https://web.stanford.edu/~palanker/lab/index.html>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Interactions of electric field and light with biological cells and tissues: mechanisms and applications to diagnostics, therapeutics and prosthetics.

Specific fields of interest include:

Electro-neural interfaces;

Laser therapy and microsurgery;

Electronic control organs;

Optical detection of neural signaling.

Current research projects include:

1) Laser-Tissue Interactions: Retinal rejuvenation by pulsed hyperthermia; Multiphoton interactions and their surgical applications.

2) Photovoltaic Retinal Prosthesis:

Photovoltaic restoration of sight to patients blinded by retinal degeneration.

3) Electronic Control of Organs:

Secretion of tears and reversible vasoconstriction by pulsed electrical stimulation: mechanisms and applications.

4) Retinal Plasticity:

Migration and rewiring of retinal neurons in response to injury and cell transplantation: applications to models of retinal degeneration and therapy.

5) Interferometric detection of neural signaling.

## Teaching

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### COURSES

#### 2023-24

- Introduction to Electro-neural Interfaces: NEPR 230, OPHT 207 (Spr)

#### 2022-23

- Introduction to Electro-neural Interfaces: OPHT 207 (Aut)

### STANFORD ADVISEES

#### Med Scholar Project Advisor

Sarthak Shah

#### Doctoral Dissertation Reader (AC)

Alex Gogliettino, Sasi Madugula

#### Postdoctoral Faculty Sponsor

Keith Ly

#### Doctoral Dissertation Advisor (AC)

Anna Kochnev Goldstein, Andrew Shin, Yueming Zhuo

## Publications

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### PUBLICATIONS

- **Three-dimensional electro-neural interfaces electroplated on subretinal prostheses.** *Journal of neural engineering*  
Butt, E., Wang, B. Y., Shin, A., Chen, Z. C., Bhuckory, M., Shah, S., Galambos, L., Kamins, T., Palanker, D., Mathieson, K.  
2024
- **Three-dimensional electro-neural interfaces electroplated on subretinal prostheses.** *bioRxiv : the preprint server for biology*  
Butt, E., Wang, B., Shin, A., Chen, Z. C., Bhuckory, M., Shah, S., Galambos, L., Kamins, T., Palanker, D., Mathieson, K.  
2023
- **Prosthetic Visual Acuity with the PRIMA System in Patients with Atrophic Age-related Macular Degeneration at 4 years follow-up.** *medRxiv : the preprint server for health sciences*  
Muqit, M., Le Mer, Y., Olmos de Koo, L., Holz, F. G., Sahel, J. A., Palanker, D.  
2023
- **Cellular migration into a subretinal honeycomb-shaped prosthesis for high-resolution prosthetic vision.** *Proceedings of the National Academy of Sciences of the United States of America*  
Bhuckory, M. B., Wang, B. Y., Chen, Z. C., Shin, A., Huang, T., Galambos, L., Vounotrypidis, E., Mathieson, K., Kamins, T., Palanker, D.  
2023; 120 (42): e2307380120
- **3D electronic implants in subretinal space: long-term follow-up in rodents.** *bioRxiv : the preprint server for biology*  
Bhuckory, M., Wang, B. Y., Chen, Z. C., Shin, A., Pham-Howard, D., Shah, S., Monkongpitukkul, N., Galambos, L., Kamins, T., Mathieson, K., Palanker, D.  
2023
- **The role of stimulation selectivity in visual acuity with subretinal prostheses**  
Wang, B., Bhuckory, M., Chen, Z., Shin, A., Jensen, N., Galambos, L., Mathieson, K., Kamins, T., Werginz, P., Palanker, D.

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ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2023

- **Explantation of subretinal prostheses with planar and 3-D configurations**  
Bhuckory, M., Shin, A., Wang, B., Galambos, L., Kamins, T., Palanker, D.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2023
- **Optimal Photovoltaic Pixels for High-Resolution Subretinal Prosthesis**  
Chen, Z., Wang, B., Goldstein, A., Palanker, D.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2023
- **Electronic Retinal Prostheses.** *Cold Spring Harbor perspectives in medicine*  
Palanker, D.  
2023
- **Interferometric thermometry of ocular tissues for retinal laser therapy.** *Biomedical optics express*  
Veysset, D., Zhuo, Y., Hattori, J., Bhuckory, M., Palanker, D.  
2023; 14 (1): 37-53
- **Electronic photoreceptors enable prosthetic visual acuity matching the natural resolution in rats.** *Nature communications*  
Wang, B., Chen, Z. C., Bhuckory, M., Huang, T., Shin, A., Zuckerman, V., Ho, E., Rosenfeld, E., Galambos, L., Kamins, T., Mathieson, K., Palanker, D.  
2022; 13 (1): 6627
- **Photovoltaic implant simulator reveals resolution limits in subretinal prosthesis.** *Journal of neural engineering*  
Chen, Z. C., Wang, B., Kochnev Goldstein, A., Butt, E., Mathieson, K., Palanker, D.  
2022
- **Pixel size limit of the PRIMA implants: from humans to rodents and back.** *Journal of neural engineering*  
Wang, B. Y., Chen, Z. C., Bhuckory, M., Kochnev Goldstein, A., Palanker, D.  
2022
- **Interferometric imaging of thermal expansion for temperature control in retinal laser therapy** *BIOMEDICAL OPTICS EXPRESS*  
Veysset, D., Ling, T., Zhuo, Y., Pandiyan, V., Sabesan, R., Palanker, D.  
2022; 13 (2): 728-743
- **A Smartphone-Based Near-Vision Testing System: Design, Accuracy, and Reproducibility Compared With Standard Clinical Measures** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*  
Kim, D., Webel, A. D., Blumenkranz, M. S., Kim, Y., Yang, J., Yu, S., Kwak, H., Palanker, D., Toy, B., Myung, D.  
2022; 53 (2): 79-84
- **Interferometric imaging of thermal expansion for temperature control in retinal laser therapy.** *Biomedical optics express*  
Veysset, D., Ling, T., Zhuo, Y., Pandiyan, V. P., Sabesan, R., Palanker, D.  
2022; 13 (2): 728-743
- **Simultaneous perception of prosthetic and natural vision in AMD patients** *NATURE COMMUNICATIONS*  
Palanker, D., Le Mer, Y., Mohand-Said, S., Sahel, J. A.  
2022; 13 (1): 513
- **Questions about the role of P3HT nanoparticles in retinal stimulation.** *Nature nanotechnology*  
Palanker, D., Glowacki, E. D., Ghezzi, D.  
2021
- **Simultaneous Perception of Prosthetic and Natural Vision in Patients with Geographic Atrophy**  
Palanker, D. V., Le Mer, Y., Hornig, R., Buc, G., Mohand-Said, S., Sahel, J.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Dynamic Transcriptional and Translational Profiling of Reactive Muller Glia Following Retinal Injury**  
Ashouri, M., Bhuckory, M., Nahmou, M., Hay, S., Knasel, C. M., Cameron, E. G., Wang, S., Palanker, D. V., Goldberg, J. L.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Optically configurable confinement of electric field with photovoltaic retinal prosthesis**  
Chen, Z., Wang, B., Bhuckory, M., Huang, T., Galambos, L., Mathieson, K., Kamins, T., Palanker, D. V.

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ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021

- **Subretinal monopolar photovoltaic arrays provide pixel size-independent stimulation threshold and 40  $\mu$ m resolution under spatiotemporal modulation**  
Wang, B., Bhuckory, M., Chen, Z., Huang, T., Galambos, L., Mathieson, K., Kamins, T., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Retinal integration with a subretinal honeycomb-shaped prosthesis**  
Bhuckory, M., Chen, Z., Wang, B., Huang, T., Galambos, L., Shin, A., Kamins, T., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Vertical-junction photodiodes for smaller pixels in retinal prostheses.** *Journal of neural engineering*  
Huang, T. W., Kamins, T. n., Chen, Z. C., Wang, B. Y., Bhuckory, M. n., Galambos, L. n., Ho, E. n., Ling, T. n., Afshar, S. n., Shin, A. n., Zuckerman, V. n., Harris, J. S., Mathieson, et al  
2021
- **Real-Time Optimization of the Current Steering for Visual Prosthesis**  
Chen, Z., Wang, B., Palanker, D., IEEE  
IEEE.2021: 592-596
- **Reply to Farrell: Experimental evidence is the ultimate judge for model assumptions.** *Proceedings of the National Academy of Sciences of the United States of America*  
Ling, T., Boyle, K. C., Palanker, D.  
2020
- **On optimal coupling of the "electronic photoreceptors" into the degenerate retina.** *Journal of neural engineering*  
Werginz, P., Wang, B., Chen, Z. C., Palanker, D.  
2020
- **Photovoltaic Restoration of Central Vision in Atrophic Age-Related Macular Degeneration.** *Ophthalmology*  
Palanker, D., Le Mer, Y., Mohand-Said, S., Muqit, M., Sahel, J. A.  
2020
- **Current Distribution on Capacitive Electrode-Electrolyte Interfaces** *PHYSICAL REVIEW APPLIED*  
Chen, Z., Ryzhik, L., Palanker, D.  
2020; 13 (1)
- **Local photoreceptor degeneration causes local pathophysiological remodeling of retinal neurons.** *JCI insight*  
Denlinger, B. n., Helft, Z. n., Teliias, M. n., Lorach, H. n., Palanker, D. n., Kramer, R. H.  
2020; 5 (2)
- **Sensory Particles with Optical Telemetry**  
Ganesan, K., Flores, T. A., Le, B. Q., Muratore, D. G., Patel, N., Mitra, S., Murmann, B., Palanker, D., IEEE  
IEEE.2020
- **The optoretinogram reveals the primary steps of phototransduction in the living human eye.** *Science advances*  
Pandiyan, V. P., Maloney-Bertelli, A. n., Kuchenbecker, J. A., Boyle, K. C., Ling, T. n., Chen, Z. C., Park, B. H., Roorda, A. n., Palanker, D. n., Sabesan, R. n.  
2020; 6 (37)
- **High-speed interferometric imaging reveals dynamics of neuronal deformation during the action potential.** *Proceedings of the National Academy of Sciences of the United States of America*  
Ling, T. n., Boyle, K. C., Zuckerman, V. n., Flores, T. n., Ramakrishnan, C. n., Deisseroth, K. n., Palanker, D. n.  
2020
- **Decoding network-mediated retinal response to electrical stimulation: implications for fidelity of prosthetic vision.** *Journal of neural engineering*  
Ho, E. n., Shmakov, A. n., Palanker, D. n.  
2020
- **Harmonic-balance circuit analysis for electro-neural interfaces.** *Journal of neural engineering*  
Chen, Z. C., Wang, B. Y., Palanker, D. n.  
2020

- **FUNCTIONAL AND STRUCTURAL EFFECTS OF NONDAMAGING RETINAL LASER THERAPY FOR MACULAR TELANGIECTASIA TYPE 2: A Randomized Sham-Controlled Clinical Trial.** *Retina (Philadelphia, Pa.)*  
Lavinsky, D. n., Silva, M. O., Chaves, A. E., Schneider, W. F., Lavinsky, F. n., Palanker, D. n.  
2020
- **Cortical Interactions between Prosthetic and Natural Vision.** *Current biology : CB*  
Arens-Arad, T., Farah, N., Lender, R., Moshkovitz, A., Flores, T., Palanker, D., Mandel, Y.  
2019
- **Performance of complex visual tasks using simulated prosthetic vision via augmented-reality glasses.** *Journal of vision*  
Ho, E., Boffa, J., Palanker, D.  
2019; 19 (13): 22
- **Chronic Electrical Stimulation for Tear Secretion: Lacrimal vs. anterior ethmoid nerve.** *The ocular surface*  
Kossler, A. L., Brinton, M., Patel, Z. M., Dalal, R., Ta, C. N., Palanker, D.  
2019
- **Characteristics of prosthetic vision in rats with subretinal flat and pillar electrode arrays.** *Journal of neural engineering*  
Ho, E., Lei, X., Flores, T. A., Lorach, H., Huang, T. W., Galambos, L., Kamins, T., Harris, J. S., Mathieson, K., Palanker, D.  
2019
- **Retinal Laser Therapy Preserves Photoreceptors in a Rodent Model of MERTK-Related Retinitis Pigmentosa.** *Translational vision science & technology*  
Kang, S., Lorach, H., Bhuckory, M. B., Quan, Y., Dalal, R., Palanker, D.  
2019; 8 (4): 19
- **Restoration of Sight in Geographic Atrophy using a Photovoltaic Subretinal Prosthesis**  
Palanker, D. V., Le Mer, Y., Hornig, R., Buc, G., Deterre, M., Bismuth, V., Sahel, J.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Effect of Proliferative Diabetic Retinopathy on Development of Neovascular AMD: a Big Data Analysis**  
Brodie, F., Stell, L., Bhuckory, M., Zuckerman, V., Vounotrypidis, E., Sanislo, S., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Optoretinogram: stimulus-induced optical changes in photoreceptors observed with phase-resolved line-scan OCT**  
Pandiyani, V., Bertelli, A., Kuchenbecker, J. A., Park, B., Palanker, D. V., Roorda, A., Sabesan, R.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Photovoltaic restoration of sight in age-related macular degeneration**  
Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Pillar electrodes reduce in-vivo stimulation thresholds for subretinal prosthesis**  
Ho, E., Huang, T., Lei, X., Flores, T., Lorach, H., Kamins, T., Galambos, L., Mathieson, K., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Honeycomb-shaped subretinal prosthesis enables cellular-scale pixels**  
Flores, T., Huang, T., Bhuckory, M., Lorach, H., Chen, Z., Dalal, R., Lei, X., Galambos, L., Kamins, T., Mathieson, K., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Cortical response to combined prosthetic and visible stimuli exhibits similarities to natural visual processing**  
Mandel, Y., Arens-Arad, T., Farah, N., Moshkovitz, A., Lender, R., Flores, T., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Titration for selective RPE therapy using a continuous line scanning laser**  
Bhuckory, M., Flores, T., Shao, X., Dalal, R., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Non-Damaging Laser Therapy (NRT) for Macular Telangiectasia Type 2: Randomized Clinical Trial**  
Lavinsky, D., Chaves, A., Schneider, W., Oliveira, M., Lavinsky, F., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019

- **STEM CELL THERAPIES, GENE-BASED THERAPIES, OPTOGENETICS, AND RETINAL PROSTHETICS: CURRENT STATE AND IMPLICATIONS FOR THE FUTURE** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*  
Wood, E. H., Tang, P. H., De la Huerta, I., Korot, E., Muscat, S., Palanker, D. A., Williams, G. A.  
2019; 39 (5): 820–35
- **Feasibility of Intraocular Projection for Treatment of Intractable Corneal Opacity** *CORNEA*  
Shim, S. Y., Gong, S., Rosenblatt, M. I., Palanker, D., Al-Qahtani, A., Sun, M. G., Zhou, Q., Kanu, L., Chau, F., Yu, C. Q.  
2019; 38 (4): 523–27
- **Feasibility of Intraocular Projection for Treatment of Intractable Corneal Opacity.** *Cornea*  
Shim, S. Y., Gong, S., Rosenblatt, M. I., Palanker, D., Al-Qahtani, A., Sun, M. G., Zhou, Q., Kanu, L., Chau, F., Yu, C. Q.  
2019
- **STEM CELL THERAPIES, GENE-BASED THERAPIES, OPTOGENETICS, AND RETINAL PROSTHETICS: CURRENT STATE AND IMPLICATIONS FOR THE FUTURE.** *Retina (Philadelphia, Pa.)*  
Wood, E. H., Tang, P. H., De la Huerta, I., Korot, E., Muscat, S., Palanker, D. A., Williams, G. A.  
2019
- **Honeycomb-shaped electro-neural interface enables cellular-scale pixels in subretinal prosthesis.** *Scientific reports*  
Flores, T. n., Huang, T. n., Bhuckory, M. n., Ho, E. n., Chen, Z. n., Dalal, R. n., Galambos, L. n., Kamins, T. n., Mathieson, K. n., Palanker, D. n.  
2019; 9 (1): 10657
- **Transplantation of Mature Photoreceptors in Rodents With Retinal Degeneration.** *Translational vision science & technology*  
Lorach, H. n., Kang, S. n., Bhuckory, M. B., Trouillet, A. n., Dalal, R. n., Marmor, M. n., Palanker, D. n.  
2019; 8 (3): 30
- **Full-field interferometric imaging of propagating action potentials** *LIGHT-SCIENCE & APPLICATIONS*  
Ling, T., Boyle, K. C., Goetz, G., Zhou, P., Quan, Y., Alfonso, F. S., Huang, T. W., Palanker, D.  
2018; 7
- **Femtosecond Lasers for Ophthalmic Surgery Enabled by Chirped-Pulse Amplification.** *The New England journal of medicine*  
Palanker, D.  
2018; 379 (23): 2267-2269
- **Femtosecond Lasers for Ophthalmic Surgery Enabled by Chirped-Pulse Amplification** *NEW ENGLAND JOURNAL OF MEDICINE*  
Palanker, D.  
2018; 379 (23): 2267–69
- **Restoring sight with RETINAL PROSTHESES** *PHYSICS TODAY*  
Palanker, D., Goetz, G.  
2018; 71 (7): 26–32
- **Vertical walls surrounding pixels in subretinal space reduce stimulation threshold and improve contrast**  
Flores, T., Huang, T., Lorach, H., Dalal, R., Lei, X., Kamins, T., Mathieson, K., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Long-term survival and integration of the retina/RPE allograft in rat models of retinal degeneration**  
Lorach, H., Kang, S., Trouillet, A., Dalal, R., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Grating Acuity of Prosthetic Vision in Blind Rats Matches the Pixel Pitch of Photovoltaic Subretinal Arrays Below 50  $\mu\text{m}$**   
Ho, E., Lorach, H., Huang, T., Lei, X., Flores, T., Kamins, T., Galambos, L., Mathieson, K., Palanker, D. V.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Long-term Rescue of Photoreceptors in a Rodent Model of Retinitis Pigmentosa Associated with MERTK Gene Mutation**  
Palanker, D. V., Kang, S., Dalal, R., Quan, Y., Lorach, H.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Stereotyped synaptic connectivity is restored during circuit repair in the adult mammalian retina**  
Beier, C., Palanker, D. V., Sher, A.

ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018

- **Stereotyped Synaptic Connectivity Is Restored during Circuit Repair in the Adult Mammalian Retina** *CURRENT BIOLOGY*  
Beier, C., Palanker, D., Sher, A.  
2018; 28 (11): 1818-+
- **Optimization of pillar electrodes in subretinal prosthesis for enhanced proximity to target neurons** *JOURNAL OF NEURAL ENGINEERING*  
Flores, T., Lei, X., Huang, T., Lorach, H., Dalal, R., Galambos, L., Kamins, T., Mathieson, K., Palanker, D.  
2018; 15 (3)
- **Optimization of pillar electrodes in subretinal prosthesis for enhanced proximity to target neurons.** *Journal of neural engineering*  
Flores, T., Lei, X., Huang, T., Lorach, H., Dalal, R., Galambos, L., Kamins, T., Mathieson, K., Palanker, D.  
2018; 15 (3): 036011
- **Mechanisms of electrical vasoconstriction** *JOURNAL OF NEUROENGINEERING AND REHABILITATION*  
Brinton, M., Mandel, Y., Schachar, I., Palanker, D.  
2018; 15: 43
- **Interferometric mapping of material properties using thermal perturbation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Goetz, G., Ling, T., Gupta, T., Kang, S., Wang, J., Gregory, P. D., Park, B., Palanker, D.  
2018; 115 (11): E2499–E2508
- **Temporal structure in spiking patterns of ganglion cells defines perceptual thresholds in rodents with subretinal prosthesis** *SCIENTIFIC REPORTS*  
Ho, E., Lorach, H., Goetz, G., Laszlo, F., Lei, X., Kamins, T., Mariani, J., Sher, A., Palanker, D.  
2018; 8: 3145
- **Spatiotemporal characteristics of retinal response to network-mediated photovoltaic stimulation** *JOURNAL OF NEUROPHYSIOLOGY*  
Ho, E., Smith, R., Goetz, G., Lei, X., Galambos, L., Kamins, T. I., Harris, J., Mathieson, K., Palanker, D., Sher, A.  
2018; 119 (2): 389–400
- **Full-field interferometric imaging of propagating action potentials.** *Light, science & applications*  
Ling, T., Boyle, K. C., Goetz, G., Zhou, P., Quan, Y., Alfonso, F. S., Huang, T. W., Palanker, D.  
2018; 7: 107
- **Comparison of Continuous-Wave and Micropulse Modulation in Retinal Laser Therapy** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Wang, J., Quan, Y., Dalal, R., Palanker, D.  
2017; 58 (11): 4722–32
- **Deafferented Adult Rod Bipolar Cells Create New Synapses with Photoreceptors to Restore Vision** *JOURNAL OF NEUROSCIENCE*  
Beier, C., Hovhannisyann, A., Weiser, S., Kung, J., Lee, S., Lee, D. Y., Huie, P., Dalal, R., Palanker, D., Sher, A.  
2017; 37 (17): 4635-4644
- **Enhanced Tearing by Electrical Stimulation of the Anterior Ethmoid Nerve** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*  
Brinton, M., Kossler, A. L., Patel, Z. M., Loudin, J., Franke, M., Ta, C. N., Palanker, D.  
2017; 58 (4): 2341-2348
- **Optophysiology of cardiomyocytes: characterizing cellular motion with quantitative phase imaging.** *Biomedical optics express*  
Cordeiro, C. n., Abilez, O. J., Goetz, G. n., Gupta, T. n., Zhuge, Y. n., Solgaard, O. n., Palanker, D. n.  
2017; 8 (10): 4652–62
- **Characterizing Cardiomyocytes Motion with Quantitative Phase Imaging**  
Cordeiro, C., Abilez, O., Gupta, T., Goetz, G., Solgaard, O., Palanker, D., IEEE  
IEEE.2017
- **NONDAMAGING RETINAL LASER THERAPY FOR TREATMENT OF CENTRAL SEROUS CHORIORETINOPATHY: What is the Evidence?** *Retina (Philadelphia, Pa.)*  
Wood, E. H., Karth, P. A., Sanislo, S. R., Moshfeghi, D. M., Palanker, D. V.  
2016: -?
- **Evolution of Concepts and Technologies in Ophthalmic Laser Therapy.** *Annual review of vision science*

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- Palanker, D.  
2016; 2: 295-319
- **Electronic approaches to restoration of sight.** *Reports on progress in physics. Physical Society (Great Britain)*  
Goetz, G. A., Palanker, D. V.  
2016; 79 (9): 096701-?
  - **SiC protective coating for photovoltaic retinal prosthesis.** *Journal of neural engineering*  
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