Stanford



Daniel Palanker, PhD

Professor of Ophthalmology and, by courtesy, of Electrical Engineering

NIH Biosketch available Online Curriculum Vitae available Online

CONTACT INFORMATION

- **Alternate Contact**

  Heidi Wong - Administrative Assistant

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Bio

BIO

Daniel Palanker is a Professor of Ophthalmology and, by courtesy, of Electrical Engineering 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 cellular physiology. 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, Iridex Inc.), Femtosecond Laser System for Cataract Surgery (Catalys, J&J), 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, (2016-2021)
- Director of Research, Department of Ophthalmology, (2003-2018)

HONORS AND AWARDS

- Translational Research Award for Restoration of Sight in Age-Related Macular Degeneration, SPIE - International Society for Optics and Photonics. (2024)
- ARVO Silver Fellow, ARVO - Association for Research in Vision and Ophthalmology (2022)
- 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 RoI 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

CURRENT RESEARCH AND SCHOLARLY INTERESTS

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

Specific fields of interest include:

Electro-neural interfaces;

Electronic control organs;

Optical detection of neural signaling.

Current research projects include:

1) Photovoltaic Retinal Prosthesis:

Photovoltaic restoration of sight to patients blinded by retinal degeneration.

2) Electronic Control of Organs:

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

3) Label-free optical imaging of retinal physiology: Interferometric detection of neural signals in the retina, interferometric imaging of physiological signals.

Teaching

COURSES

2025-26

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

2023-24

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

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Keith Ly

Doctoral Dissertation Advisor (AC)

Nathan Jensen, Anna Kochnev Goldstein

Publications

PUBLICATIONS

- **Biomimetic scaffolds mimic human subretinal debris for preclinical testing of prosthetic vision.** *bioRxiv : the preprint server for biology*
  Bhuckory, M. B., Mamchik, V., Ly, K., Jensen, N., Shautsova, V., Devaud, Q., Shin, A., Pham-Howard, D., Dalal, R., Galambos, L., Kamins, T., Palanker, D.
  2026
- **Early Receptor Potential in Electro-and Optoretinography**
  Zaman, M., Bhuckory, M., Pham-Howard, D., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Histological findings after subretinal implantation of the PRIMA photovoltaic array in patients with geographic atrophy due to AMD.** *Ophthalmology. Retina*
  Herwig-Carl, M. C., Loeffler, K. U., Liermann, Y. N., Bulirsch, L. M., Liegl, R., Hornig, R., Palanker, D., Kilani, A., Ach, T., Sahel, J. A., Wolf, A., Holz, F. G.
  2026
- **Residual photoreceptors affect the response of a degenerate retina to electrical stimulation.** *Proceedings of the National Academy of Sciences of the United States of America*
  Ly, K., Bhuckory, M. B., Pham-Howard, D., Kochnev Goldstein, A., Jensen, N., Palanker, D.
  2026; 123 (22): e2537064123
- **Detailed Shape Perception with the PRIMA Photovoltaic Retina Implant**
  Hornig, R., Corazzol, M., Palanker, D., Brodie, F., Sahel, J., Holz, F.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Vision Restoration with the Prima Implant: Pivotal Trial Outcomes and Sub-Group Analysis**
  Sahel, J., Le Mer, Y., Muqit, M., Olmos, L. C., Brodie, F., Corazzol, M., Hornig, R., Palanker, D., Holz, F.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Prosthetic vision in Age-related Macular Degeneration: from text to face recognition and higher resolution**
  Palanker, D., Kochnev-Goldstein, A., Park, J., Jensen, N., Ly, K.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Network-mediated subretinal stimulation is essential for prosthetic grating acuity**
  Ly, K., Bhuckory, M., Pham-Howard, D., Kochnev-Goldstein, A., Jensen, N., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026

- **Image multiplexing for selective stimulation of the inner retina with photovoltaic arrays**
  Jensen, N., Ly, K., Bhuckory, M., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Progressive ETDRS Visual Acuity Improvement in Relation to Implant Resolution and Training with the PRIMA System in Geographic Atrophy**
  Corazzol, M., Hornig, R., Palanker, D., Le Mer, Y., Sahel, J., Holz, F. G., Brodie, F.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2026
- **Maximizing the fidelity of a photovoltaic subretinal prosthesis for human patients.** *Journal of neural engineering*
  Jensen, N., Ly, K., Kochnev Goldstein, A., Devaud, Q., Palanker, D.
  2026
- **Simulation of prosthetic vision with the PRIMA system and enhancement of face representation.** *Journal of neuroengineering and rehabilitation*
  Kochnev Goldstein, A., Park, J., Zhou, Y., Jensen, N., Palanker, D.
  2026
- **Reversible isomerization of rhodopsin imaged in-vivo with phase-sensitive OCT**
  Zaman, M., Zhuo, Y., Li, H., Bhuckory, M., Pham-Howard, D., Ling, T., Palanker, D.
  edited by Hammer, D. X., Nankivil, D., Tao, Y. K.
  SPIE-INT SOC OPTICAL ENGINEERING.2026
- **Interferometric imaging of the reversible rhodopsin dynamics in the living rat eye.** *Nature communications*
  Zhuo, Y., Li, H., Bhuckory, M., Pham-Howard, D., Palanker, D.
  2025; 16 (1): 10730
- **On the physiological processes underlying optoretinography [Invited].** *Biomedical optics express*
  Li, H., Zhuo, Y., Pandiyan, V. P., Zaman, M. A., Ling, T., Sabesan, R., Palanker, D.
  2025; 16 (11): 4333-4352
- **On the physiological processes underlying optoretinography [Invited]** *BIOMEDICAL OPTICS EXPRESS*
  Li, H., Zhuo, Y., Pandiyan, V., Zaman, M., Ling, T., Sabesan, R., Palanker, D.
  2025; 16 (11): 4333-4352
- **Subretinal Photovoltaic Implant to Restore Vision in Geographic Atrophy Due to AMD.** *The New England journal of medicine*
  Holz, F. G., Le Mer, Y., Muqit, M. M., Hattenbach, L. O., Cusumano, A., Grisanti, S., Kodjikian, L., Pileri, M. A., Matonti, F., Souied, E., Stanzel, B. V., Szurman, P., Weber, et al
  2025
- **Amorphous silicon resistors enable smaller pixels in photovoltaic retinal prosthesis.** *Journal of neural engineering*
  Shin, A., Jensen, N., Butt, E., An, J., Pham-Howard, D., Galambos, L., Mathieson, K., Kamins, T., Palanker, D.
  2025
- **Accelerated Simulation of Multi-Electrode Arrays Using Sparse and Low-Rank Matrix Techniques** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Jensen, N., Chen, Z., Goldstein, A., Palanker, D.
  2025; 72 (8): 2321-2330
- **Restoration of Sight with Electronic Retinal Prostheses.** *Annual review of vision science*
  Palanker, D., Weiland, J. D., Rosin, B., Sahel, J. A.
  2025
- **Restoration of Central Vision with the PRIMA System in Patients with Geographic Atrophy: Preliminary Results from the PRIMAVERA trial**
  Muqit, M., Holz, F. G., Le Mer, Y., Olmos, L. C., Palanker, D., Hornig, R., Sahel, J.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Response of the degenerate retina to electrical stimulation is affected by residual photoreceptors**
  Ly, K., Pham-Howard, D., Bhuckory, M., Goldstein, A., Jensen, N., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025

- **Scaffold on photovoltaic prosthesis replicates the human subretinal debris layer for preclinical studies in rats**
  Bhuckory, M., Shin, A., Ly, K., Mamchik, V., Jensen, N., Devaud, Q., Pham-Howard, D., Goldstein, A., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Reversible isomerization of rhodopsin imaged in a living eye with phase-sensitive OCT**
  Zhuo, Y., Li, H., Bhuckory, M., Palanker, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Amorphous silicon resistors enable smaller pixels in photovoltaic retinal prosthesis.** *bioRxiv : the preprint server for biology*
  Shin, A., Jensen, N., Butt, E., An, J., Pham-Howard, D., Galambos, L., Mathieson, K., Kamins, T., Palanker, D.
  2025
- **Retinal thermal deformations measured with phase-sensitive optical coherence tomography in vivo.** *Light, science & applications*
  Zhuo, Y., Bhuckory, M., Li, H., Hattori, J., Pham-Howard, D., Veysset, D., Ling, T., Palanker, D.
  2025; 14 (1): 151
- **Enhancing prosthetic vision by upgrade of a subretinal photovoltaic implant in situ.** *Nature communications*
  Bhuckory, M. B., Monkongpitukkul, N., Shin, A., Kochnev Goldstein, A., Jensen, N., Shah, S. V., Pham-Howard, D., Butt, E., Dalal, R., Galambos, L., Mathieson, K., Kamins, T., Palanker, et al
  2025; 16 (1): 2820
- **Accelerated Simulation of Multi-Electrode Arrays Using Sparse and Low-Rank Matrix Techniques.** *bioRxiv : the preprint server for biology*
  Jensen, N., Charles Chen, Z., Kochnev Goldstein, A., Palanker, D.
  2024
- **Light-evoked deformations in rod photoreceptors, pigment epithelium and subretinal space revealed by prolonged and multilayered optoretinography.** *Nature communications*
  Tan, B., Li, H., Zhuo, Y., Han, L., Mupparapu, R., Nanni, D., Barathi, V. A., Palanker, D., Schmetterer, L., Ling, T.
  2024; 15 (1): 5156
- **3D electronic implants in subretinal space: Long-term follow-up in rodents.** *Biomaterials*
  Bhuckory, M. B., Wang, B. Y., Chen, Z. C., Shin, A., Pham-Howard, D., Shah, S., Monkongpitukkul, N., Galambos, L., Kamins, T., Mathieson, K., Palanker, D.
  2024; 311: 122674
- **On selectivity of neural stimulation with subretinal photovoltaic implants**
  Goldstein, A., Jensen, N., Wang, B., Bhuckory, M., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Non-Damaging Laser Retinal Therapy (NRT) for Type 2 Macular Telangiectasia: Three years follow-up**
  Lavinsky, D., Chaves, A., Schneider, W., Oliveira, M., Luz, P., Lavinsky, F., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Transcriptional and Translational Profiling of Reactive Muller Glia Following Cell-type specific Retinal Injury**
  Ashouri, M., Bhuckory, M., Xia, X., Nahmou, M., Tsien, C., Huie, E., Li, B., Cameron, E., Wang, S., Palanker, D. V., Goldberg, J.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Letter Acuity and Reading with a Subretinal Photovoltaic Implant in Geographic Atrophy**
  Muqit, M., Le Mer, Y., de Koo, L., Holz, F. G., Sahel, J., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Mapping the retinal resistivity with electrical impedance tomography for modeling of retinal stimulation**
  Shah, S., Goldstein, A., Chen, Z., Vasireddy, P., Bhuckory, M., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Replacement of a subretinal prosthesis with a higher-resolution array improves grating acuity in the same animal**
  Bhuckory, M., Monkongpitukkul, N., Shin, A., Goldstein, A., Shah, S., Pham-Howard, D., Dalal, R., Galambos, L., Kamins, T., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024
- **Enhancing Prosthetic Vision by Upgrade of a Subretinal Photovoltaic Implant in situ.** *bioRxiv : the preprint server for biology*

Bhuckory, M. B., Monkongpitukkul, N., Shin, A., Goldstein, A. K., Jensen, N., Shah, S. V., Pham-Howard, D., Butt, E., Dalal, R., Galambos, L., Mathieson, K., Kamins, T., Palanker, et al
2024

- **Prosthetic Visual Acuity with the PRIMA Subretinal Microchip in Patients with Atrophic Age-Related Macular Degeneration at 4 Years Follow-up.** *Ophthalmology science*
  Muqit, M. M., Le Mer, Y., Olmos de Koo, L., Holz, F. G., Sahel, J. A., Palanker, D.
  2024; 4 (5): 100510
- **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.
  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., Buckhory, 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.
  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., Telias, 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**
  Pandiyan, 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
- **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
- **Grating Acuity of Prosthetic Vision in Blind Rats Matches the Pixel Pitch of Photovoltaic Subretinal Arrays Below 50 mu 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
- **y 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., Hovhannisyan, 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*
  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*
  Lei, X., Kane, S., Cogan, S., Lorach, H., Galambos, L., Huie, P., Mathieson, K., Kamins, T., Harris, J., Palanker, D.
  2016; 13 (4): 046016-?
- **Optimization of return electrodes in neurostimulating arrays** *JOURNAL OF NEURAL ENGINEERING*
  Flores, T., Goetz, G., Lei, X., Palanker, D.
  2016; 13 (3)
- **Nondamaging Retinal Laser Therapy: Rationale and Applications to the Macula** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Lavinsky, D., Wang, J., Huie, P., Dalal, R., Lee, S. J., Lee, D. Y., Palanker, D.
  2016; 57 (6): 2488-2500

- **Implantation of Modular Photovoltaic Subretinal Prosthesis.** *Ophthalmic surgery, lasers & imaging retina*
  Lee, D. Y., Lorach, H., Huie, P., Palanker, D.
  2016; 47 (2): 171-174
- **Photovoltaic Pixels for Neural Stimulation: Circuit Models and Performance.** *IEEE transactions on biomedical circuits and systems*
  Boinagrov, D., Lei, X., Goetz, G., Kamins, T. I., Mathieson, K., Galambos, L., Harris, J. S., Palanker, D.
  2016; 10 (1): 85-97
- **Electronic enhancement of tear secretion.** *Journal of neural engineering*
  Brinton, M., Chung, J. L., Kossler, A., KooK, K. H., Loudin, J., Franke, M., Palanker, D.
  2016; 13 (1): 016006-?
- **Retinal safety of near infrared radiation in photovoltaic restoration of sight.** *Biomedical optics express*
  Lorach, H., Wang, J., Lee, D. Y., Dalal, R., Huie, P., Palanker, D.
  2016; 7 (1): 13-21
- **Evolution of Concepts and Technologies in Ophthalmic Laser Therapy** *ANNUAL REVIEW OF VISION SCIENCE, VOL 2*
  Palanker, D.
  2016; 2: 295-319
- **Finesse of transparent tissue cutting by ultrafast lasers at various wavelengths** *JOURNAL OF BIOMEDICAL OPTICS*
  Wang, J., Schuele, G., Palanker, D.
  2015; 20 (12)
- **Finesse of transparent tissue cutting by ultrafast lasers at various wavelengths.** *Journal of biomedical optics*
  Wang, J., Schuele, G., Palanker, D.
  2015; 20 (12): 125004
- **Interactions of Prosthetic and Natural Vision in Animals With Local Retinal Degeneration** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Lorach, H., Lei, X., Galambos, L., Kamins, T., Mathieson, K., Dalal, R., Huie, P., Harris, J., Palanker, D.
  2015; 56 (12): 7444-7450
- **Interactions of Prosthetic and Natural Vision in Animals With Local Retinal Degeneration.** *Investigative ophthalmology & visual science*
  Lorach, H., Lei, X., Galambos, L., Kamins, T., Mathieson, K., Dalal, R., Huie, P., Harris, J., Palanker, D.
  2015; 56 (12): 7444-50
- **Contrast Sensitivity With a Subretinal Prosthesis and Implications for Efficient Delivery of Visual Information.** *Investigative ophthalmology & visual science*
  Goetz, G., Smith, R., Lei, X., Galambos, L., Kamins, T., Mathieson, K., Sher, A., Palanker, D.
  2015; 56 (12): 7186-94
- **Contrast Sensitivity With a Subretinal Prosthesis and Implications for Efficient Delivery of Visual Information** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Goetz, G., Smith, R., Lei, X., Galambos, L., Kamins, T., Mathieson, K., Sher, A., Palanker, D.
  2015; 56 (12): 7186-7194
- **Safety of cornea and iris in ocular surgery with 355-nm lasers.** *Journal of biomedical optics*
  Wang, J., Chung, J. L., Schuele, G., Vankov, A., Dalal, R., Wiltberger, M., Palanker, D.
  2015; 20 (9): 095005-?
- **Safety of cornea and iris in ocular surgery with 355-nm lasers.** *Journal of biomedical optics*
  Wang, J., Chung, J. L., Schuele, G., Vankov, A., Dalal, R., Wiltberger, M., Palanker, D.
  2015; 20 (9): 95005-?
- **Integration of Perforated Subretinal Prostheses With Retinal Tissue.** *Translational vision science & technology*
  Adekunle, A. N., Adkins, A., Wang, W., Kaplan, H. J., de Castro, J. F., Lee, S. J., Huie, P., Palanker, D., McCall, M., Pardue, M. T.
  2015; 4 (4): 5-?
- **Development of Animal Models of Local Retinal Degeneration.** *Investigative ophthalmology & visual science*

Lorach, H., Kung, J., Beier, C., Mandel, Y., Dalal, R., Huie, P., Wang, J., Lee, S., Sher, A., Jones, B. W., Palanker, D.
2015; 56 (8): 4644-4652

- **Integration of Perforated Subretinal Prostheses With Retinal Tissue** *TRANSLATIONAL VISION SCIENCE & TECHNOLOGY*
  Adekunle, A. N., Adkins, A., Wang, W., Kaplan, H. J., de Castro, J. F., Lee, S. J., Huie, P., Palanker, D., McCall, M., Pardue, M. T.
  2015; 4 (4)
- **Performance of photovoltaic arrays in-vivo and characteristics of prosthetic vision in animals with retinal degeneration** *VISION RESEARCH*
  Lorach, H., Goetz, G., Mandel, Y., Lei, X., Kamins, T. I., Mathieson, K., Huie, P., Dalal, R., Harris, J. S., Palanker, D.
  2015; 111: 142-148
- **Photovoltaic restoration of sight with high visual acuity.** *Nature medicine*
  Lorach, H., Goetz, G., Smith, R., Lei, X., Mandel, Y., Kamins, T., Mathieson, K., Huie, P., Harris, J., Sher, A., Palanker, D.
  2015; 21 (5): 476-482
- **Photovoltaic restoration of sight with high visual acuity** *NATURE MEDICINE*
  Lorach, H., Goetz, G., Smith, R., Lei, X., Mandel, Y., Kamins, T., Mathieson, K., Huie, P., Harris, J., Sher, A., Palanker, D.
  2015; 21 (5): 476-U254
- **Serum Inflammatory Markers After Rupture Retinal Laser Injury in Mice** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*
  Paulus, Y. M., Kuo, C., Morohoshi, K., Nugent, A., Zheng, L. L., Nomoto, H., Blumenkranz, M. S., Palanker, D., Ono, S. J.
  2015; 46 (3): 362-368
- **NONDAMAGING PHOTOTHERMAL THERAPY FOR THE RETINA Initial Clinical Experience With Chronic Central Serous Retinopathy** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Lavinsky, D., Palanker, D.
  2015; 35 (2): 213-222
- **Role of molecular photodissociation in ultrafast laser surgery** *Conference on Optical Interactions with Tissue and Cells XXVI*
  Wang, J., Schuele, G., Huie, P., Palanker, D. V.
  SPIE-INT SOC OPTICAL ENGINEERING.2015
- **Photovoltaic Restoration of Sight with High Visual Acuity in Rats with Retinal Degeneration** *25th Conference on Ophthalmic Technologies held as a part of the SPIE Photonics West BiOS Meeting*
  Palanker, D., Goetz, G., Lorach, H., Mandel, Y., Smith, R., Boinagrov, D., Lei, X., KAMINS, T., Harris, J., Mathieson, K., Sher, A.
  SPIE-INT SOC OPTICAL ENGINEERING.2015
- **Reply to Rattay.** *Journal of neurophysiology*
  Boinagrov, D., Palanker, D.
  2014; 112 (10): 2666-?
- **Inner retinal preservation in rat models of retinal degeneration implanted with subretinal photovoltaic arrays** *EXPERIMENTAL EYE RESEARCH*
  Light, J. G., Fransen, J. W., Adekunle, A. N., Adkins, A., Pangeni, G., Loudin, J., Mathieson, K., Palanker, D. V., Mccall, M. A., Pardue, M. T.
  2014; 128: 34-42
- **Inner retinal preservation in rat models of retinal degeneration implanted with subretinal photovoltaic arrays.** *Experimental eye research*
  Light, J. G., Fransen, J. W., Adekunle, A. N., Adkins, A., Pangeni, G., Loudin, J., Mathieson, K., Palanker, D. V., Mccall, M. A., Pardue, M. T.
  2014; 128: 34-42
- **Miniature Electrical Stimulator for Hemorrhage Control** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Brinton, M. R., Mandel, Y., Dalal, R., Palanker, D.
  2014; 61 (6): 1765-1771
- **Miniature electrical stimulator for hemorrhage control.** *IEEE transactions on bio-medical engineering*
  Brinton, M. R., Mandel, Y., Dalal, R., Palanker, D.
  2014; 61 (6): 1765-1771
- **Selectivity of direct and network-mediated stimulation of the retinal ganglion cells with epi-, sub- and intraretinal electrodes.** *Journal of neural engineering*

Boinagrov, D., Pangratz-Fuehrer, S., Goetz, G., Palanker, D.
2014; 11 (2): 026008-?

- **Selectivity of direct and network-mediated stimulation of the retinal ganglion cells with epi-, sub- and intraretinal electrodes.** *Journal of neural engineering*
  Boinagrov, D., Pangratz-Fuehrer, S., Goetz, G., Palanker, D.
  2014; 11 (2): 026008-?
- **Subvisible retinal laser therapy: titration algorithm and tissue response.** *Retina (Philadelphia, Pa.)*
  Lavinsky, D., Sramek, C., Wang, J., Huie, P., Dalal, R., Mandel, Y., Palanker, D.
  2014; 34 (1): 87-97
- **Non-damaging Laser Therapy of the Macula: Titration Algorithm and Tissue Response** *24th Conference on Ophthalmic Technologies as a part of the SPIE Photonics West BiOS Meeting*
  Palanker, D., Lavinsky, D., Dalal, R., Huie, P.
  SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Holographic display system for restoration of sight to the blind.** *Journal of neural engineering*
  Goetz, G. A., Mandel, Y., Manivanh, R., Palanker, D. V., Cižmár, T.
  2013; 10 (5): 056021-?
- **Vasoconstriction by Electrical Stimulation: New Approach to Control of Non-Compressible Hemorrhage** *SCIENTIFIC REPORTS*
  Mandel, Y., Manivanh, R., Dalal, R., Huie, P., Wang, J., Brinton, M., Palanker, D.
  2013; 3
- **Cortical responses elicited by photovoltaic subretinal prostheses exhibit similarities to visually evoked potentials.** *Nature communications*
  Mandel, Y., Goetz, G., Lavinsky, D., Huie, P., Mathieson, K., Wang, L., Kamins, T., Galambos, L., Manivanh, R., Harris, J., Palanker, D.
  2013; 4: 1980-?
- **Restoration of retinal morphology and residual scarring after photocoagulation.** *Acta ophthalmologica*
  Lavinsky, D., Cardillo, J. A., Mandel, Y., Huie, P., Melo, L. A., Farah, M. E., Belfort, R., Palanker, D.
  2013; 91 (4): e315-23
- **Restoration of Retinal Structure and Function after Selective Photocoagulation** *JOURNAL OF NEUROSCIENCE*
  Sher, A., Jones, B. W., Huie, P., Paulus, Y. M., Lavinsky, D., Leung, L. S., Nomoto, H., Beier, C., Marc, R. E., Palanker, D.
  2013; 33 (16): 6800-6808
- **Optical patient interface in femtosecond laser-assisted cataract surgery: Contact corneal applanation versus liquid immersion** *JOURNAL OF CATARACT AND REFRACTIVE SURGERY*
  Talamo, J. H., Gooding, P., Angeley, D., Culbertson, W. W., Schuele, G., Andersen, D., Marcellino, G., Essock-Burns, E., Batlle, J., Feliz, R., Friedman, N. J., Palanker, D.
  2013; 39 (4): 501-510
- **Modulation of Transgene Expression in Retinal Gene Therapy by Selective Laser Treatment** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Lavinsky, D., Chalberg, T. W., Mandel, Y., Huie, P., Dalal, R., Marmor, M., Palanker, D.
  2013; 54 (3): 1873-1880
- **EFFECT OF INTRAVITREAL TRIAMCINOLONE ACETONIDE ON HEALING OF RETINAL PHOTOCOAGULATION LESIONS** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Nomoto, H., Lavinsky, D., Paulus, Y. M., Leung, L., Dalal, R., Blumenkranz, M. S., Palanker, D.
  2013; 33 (1): 63-70
- **Ocular safety limits for 1030 nm femtosecond laser cataract surgery** *Conference on Ophthalmic Technologies XXIII as a part of the SPIE Photonics West BiOS Meeting*
  Wang, J., Sramek, C., Paulus, Y. M., Lavinsky, D., Schuele, G., Anderson, D., Dewey, D., Palanker, D. V.
  SPIE-INT SOC OPTICAL ENGINEERING.2013
- **Hemorrhage Control by Microsecond Electrical Pulses** *Conference on Terahertz and Ultrashort Electromagnetic Pulses for Biomedical Applications*
  Mandel, Y., Manivanh, R., Dalal, R., Huie, P., Wang, J., Brinton, M., Palanker, D.

SPIE-INT SOC OPTICAL ENGINEERING.2013

- **Optical Modulation of Transgene Expression in Retinal Pigment Epithelium** *Conference on Ophthalmic Technologies XXIII as a part of the SPIE Photonics West BiOS Meeting*
  Palanker, D., Lavinsky, D., Chalberg, T., Mandel, Y., Huie, P., Dalal, R., Marmor, M.
  SPIE-INT SOC OPTICAL ENGINEERING.2013
- **In-vivo Performance of Photovoltaic Subretinal Prosthesis** *Conference on Ophthalmic Technologies XXIII as a part of the SPIE Photonics West BiOS Meeting*
  Mandel, Y., Goetz, G., Lavinsky, D., Huie, P., Mathieson, K., Wang, L., Kamins, T., Manivanh, R., Harris, J., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2013
- **Vasoconstriction by electrical stimulation: new approach to control of non-compressible hemorrhage.** *Scientific reports*
  Mandel, Y., Manivanh, R., Dalal, R., Huie, P., Wang, J., Brinton, M., Palanker, D.
  2013; 3: 2111-?
- **Cortical responses elicited by photovoltaic subretinal prostheses exhibit similarities to visually evoked potentials.** *Nature communications*
  Mandel, Y., Goetz, G., Lavinsky, D., Huie, P., Mathieson, K., Wang, L., Kamins, T., Galambos, L., Manivanh, R., Harris, J., Palanker, D.
  2013; 4: 1980-?
- **Femtosecond plasma mediated laser ablation has advantages over mechanical osteotomy of cranial bone** *LASERS IN SURGERY AND MEDICINE*
  Lo, D. D., Mackanos, M. A., Chung, M. T., Hyun, J. S., Montoro, D. T., Grova, M., Liu, C., Wang, J., Palanker, D., Connolly, A. J., Longaker, M. T., Contag, C. H., Wan, et al
  2012; 44 (10): 805-814
- **Upper threshold of extracellular neural stimulation** *JOURNAL OF NEUROPHYSIOLOGY*
  Boinagrov, D., Pangratz-Fuehrer, S., Suh, B., Mathieson, K., Naik, N., Palanker, D.
  2012; 108 (12): 3233-3238
- **Retinal safety of near-infrared lasers in cataract surgery** *JOURNAL OF BIOMEDICAL OPTICS*
  Wang, J., Sramek, C., Paulus, Y. M., Lavinsky, D., Schuele, G., Anderson, D., Dewey, D., Palanker, D.
  2012; 17 (9)
- **Photovoltaic retinal prosthesis: implant fabrication and performance** *JOURNAL OF NEURAL ENGINEERING*
  Wang, L., Mathieson, K., Kamins, T. I., Loudin, J. D., Galambos, L., Goetz, G., Sher, A., Mandel, Y., Huie, P., Lavinsky, D., Harris, J. S., Palanker, D. V.
  2012; 9 (4)
- **Therapeutic Window of Retinal Photocoagulation With Green (532-nm) and Yellow (577-nm) Lasers** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology (ARVO)*
  Sramek, C. K., Leung, L. B., Paulus, Y. M., Palanker, D. V.
  SLACK INC.2012: 341–47
- **Photovoltaic retinal prosthesis with high pixel density** *NATURE PHOTONICS*
  Mathieson, K., Loudin, J., Goetz, G., Huie, P., Wang, L., Kamins, T. I., Galambos, L., Smith, R., Harris, J. S., Sher, A., Palanker, D.
  2012; 6 (6): 391-397
- **Photovoltaic Retinal Prosthesis with High Pixel Density.** *Nature photonics*
  Mathieson, K., Loudin, J., Goetz, G., Huie, P., Wang, L., Kamins, T. I., Galambos, L., Smith, R., Harris, J. S., Sher, A., Palanker, D.
  2012; 6 (6): 391-397
- **Panretinal Photocoagulation for Proliferative Diabetic Retinopathy** *AMERICAN JOURNAL OF OPHTHALMOLOGY*
  Palanker, D., Blumenkranz, M. S.
  2012; 153 (4): 780-781
- **LONG-TERM SAFETY, HIGH-RESOLUTION IMAGING, AND TISSUE TEMPERATURE MODELING OF SUBVISIBLE DIODE MICROPULSE PHOTOCOAGULATION FOR RETINOVASCULAR MACULAR EDEMA** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Luttrull, J. K., Sramek, C., Palanker, D., Spink, C. J., Musch, D. C.
  2012; 32 (2): 375-386

- **Photovoltaic retinal prosthesis for restoring sight to the blind: implant design and fabrication** *Conference on Micromachining and Microfabrication Process Technology XVII*
  Wang, L., Mathieson, K., Kamins, T. I., Loudin, J., Galambos, L., Harris, J. S., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Fifty Years of Ophthalmic Laser Therapy** *ARCHIVES OF OPHTHALMOLOGY*
  Palanker, D. V., Blumenkranz, M. S., Marmor, M. F.
  2011; 129 (12): 1613-1619
- **Femtosecond laser capsulotomy Reply** *JOURNAL OF CATARACT AND REFRACTIVE SURGERY*
  Friedman, N. J., Palanker, D. V., Schuele, G., Andersen, D., Marcellino, G., Seibel, B. S., Battle, J., Feliz, R., Talaino, J. H., Blumenkranz, M. S., Culbertson, W. W.
  2011; 37 (12): 2231-2232
- **Photodiode Circuits for Retinal Prostheses** *IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS*
  Loudin, J. D., Cogan, S. F., Mathieson, K., Sher, A., Palanker, D. V.
  2011; 5 (5): 468-480
- **THE IMPACT OF PULSE DURATION AND BURN GRADE ON SIZE OF RETINAL PHOTOCOAGULATION LESION Implications for Pattern Density** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Palanker, D., Lavinsky, D., Blumenkranz, M. S., Marcellino, G.
  2011; 31 (8): 1664-1669
- **Femtosecond laser capsulotomy** *JOURNAL OF CATARACT AND REFRACTIVE SURGERY*
  Friedman, N. J., Palanker, D. V., Schuele, G., Andersen, D., Marcellino, G., Seibel, B. S., Battle, J., Feliz, R., Talamo, J. H., Blumenkranz, M. S., Culbertson, W. W.
  2011; 37 (7): 1189-1198
- **Non-damaging Retinal Phototherapy: Dynamic Range of Heat Shock Protein Expression** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Sramek, C., Mackanos, M., Spitler, R., Leung, L., Nomoto, H., Contag, C. H., Palanker, D.
  2011; 52 (3): 1780-1787
- **SELECTIVE RETINAL THERAPY WITH MICROSECOND EXPOSURES USING A CONTINUOUS LINE SCANNING LASER** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Paulus, Y. M., Jain, A., Nomoto, H., Sramek, C., Gariano, R. F., Andersen, D., Schuele, G., Leung, L., Leng, T., Palanker, D.
  2011; 31 (2): 380-388
- **Improving the therapeutic window of retinal photocoagulation by spatial and temporal modulation of the laser beam** *JOURNAL OF BIOMEDICAL OPTICS*
  Sramek, C., Leung, L., Leng, T., Brown, J., Paulus, Y. M., Schuele, G., Palanker, D.
  2011; 16 (2)
- **New Horizons in Retinal Laser Treatment: Sublethal Laser Therapy.** *Retinal Physician*
  Y. M. Paulus, C. Sramek, M.S. Blumenkranz, D. Palanker
  2011
- **Photovoltaic Retinal Prosthesis** *Conference on Ophthalmic Technologies XXI*
  Loudin, J., Mathieson, K., Kamins, T., Wang, L., Galambos, L., Huie, P., Sher, A., Harris, J., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2011
- **Impact of Pulse Duration and Burn Grade on Size of Retinal Photocoagulation Lesion: Implications for Pattern Density.** *RETINA*
  D. Palanker, D. Lavinsky, M.S. Blumenkranz, G. Marcellino.
  2011
- **Optical breakdown in transparent media with adjustable axial length and location** *OPTICS EXPRESS*
  Toytman, I., Simanovski, D., Palanker, D.
  2010; 18 (24): 24688-24698
- **Femtosecond Laser-Assisted Cataract Surgery with Integrated Optical Coherence Tomography** *SCIENCE TRANSLATIONAL MEDICINE*

Palanker, D. V., Blumenkranz, M. S., Andersen, D., Wiltberger, M., Marcellino, G., Gooding, P., Angeley, D., Schuele, G., Woodley, B., Simoneau, M., Friedman, N. J., Seibel, B., Batlle, et al
2010; 2 (58)

- **Multifocal laser surgery: Cutting enhancement by hydrodynamic interactions between cavitation bubbles** *PHYSICAL REVIEW E*
  Toytman, I., Silbergleit, A., Simanovski, D., Palanker, D.
  2010; 82 (4)
- **Strength-Duration Relationship for Extracellular Neural Stimulation: Numerical and Analytical Models** *JOURNAL OF NEUROPHYSIOLOGY*
  Boinagrov, D., Loudin, J., Palanker, D.
  2010; 104 (4): 2236-2248
- **Patterned Laser Trabeculoplasty** *OPHTHALMIC SURGERY LASERS & IMAGING*
  Turati, M., Gil-Carrasco, F., Morales, A., Quiroz-Mercado, H., Andersen, D., Marcellino, G., Schuele, G., Palanker, D.
  2010; 41 (5): 538-545
- **Patterned laser trabeculoplasty.** *Ophthalmic surgery, lasers & imaging : the official journal of the International Society for Imaging in the Eye*
  Turati, M., Gil-Carrasco, F., Morales, A., Quiroz-Mercado, H., Andersen, D., Marcellino, G., Schuele, G., Palanker, D.
  2010; 41 (5): 538-545
- **Anterior capsulotomy with a pulsed-electron avalanche knife** *JOURNAL OF CATARACT AND REFRACTIVE SURGERY*
  Palanker, D., Nomoto, H., Huie, P., Vankov, A., Chang, D. F.
  2010; 36 (1): 127-132
- **Improved safety of retinal photocoagulation with a shaped beam and modulated pulse** *Conference on Ophthalmic Technologies XX*
  Sramek, C., Brown, J., Paulus, Y. M., Nomoto, H., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Tissue Dissection with Ultrafast Laser Using Extended and Multiple Foci** *Conference on Optical Interactions with Tissue and Cells XXI*
  Toytman, I., Silbergleit, A., Simanovski, D., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Patterned Laser Trabeculoplasty.** *Ophthalmic Surgery Lasers and Imaging*
  M. Turati, F. Gil-Carrasco, A. Morales, H. Quiroz-Mercado, D. Andersen, G. Marcellino, G. Schuele, D. Palanker.
  2010; 41: 538-545
- **Short-pulse Laser Treatment: Redefining Retinal Therapy.** *Retinal Physician*
  Y. Paulus, D. Palanker, M.S. Blumenkranz.
  2010; 7 (1): 54-59
- **Short-pulse Laser Treatment: Redefining Retinal Therapy.** *Retinal Physician*
  Y. Paulus, D. Palanker, M.S. Blumenkranz.
  2010; 7 (1): 54-59
- **Comparative Healing of Surgical Incisions Created by the PEAK PlasmaBlade, Conventional Electrosurgery, and a Scalpel** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Loh, S. A., Carlson, G. A., Chang, E. I., Huang, E., Palanker, D., Gurtner, G. C.
  2009; 124 (6): 1849-1859
- **Dynamics of retinal photocoagulation and rupture** *JOURNAL OF BIOMEDICAL OPTICS*
  Sramek, C., Paulus, Y., Nomoto, H., Huie, P., Brown, J., Palanker, D.
  2009; 14 (3)
- **On illumination schemes for wide-field CARS microscopy** *OPTICS EXPRESS*
  Toytman, I., Simanovskii, D., Palanker, D.
  2009; 17 (9): 7339-7347
- **Effect of shape and coating of a subretinal prosthesis on its integration with the retina** *EXPERIMENTAL EYE RESEARCH*
  Butterwick, A., Huie, P., Jones, B. W., Marc, R. E., Marmor, M., Palanker, D.
  2009; 88 (1): 22-29

- **Solid state lasers for wide-field CARS microscopy** *Conference on Solid State Lasers XVIII - Technology and Devices*
  Simanovskii, D., Toytman, I., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Computational model of retinal photocoagulation and rupture** *Conference on Ophthalmic Technologies XIX*
  Sramek, C., Paulus, Y. M., Nomoto, H., Huie, P., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Finite element model of thermal processes in retinal photocoagulation** *Conference on Optical Interactions with Tissue and Cells XX*
  Sramek, C., Paulus, Y. M., Nomoto, H., Huie, P., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2009
- **High resolution optoelectronic retinal prosthesis** *Conference on Ophthalmic Technologies XIX*
  Loudin, J., Dinyari, R., Huie, P., Butterwick, A., Peumans, P., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2009
- **On mechanisms of interaction in electrosurgery** *NEW JOURNAL OF PHYSICS*
  Palanker, D., Vankov, A., Jayaraman, P.
  2008; 10
- **Healing of Retinal Photocoagulation Lesions** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Paulus, Y. M., Jain, A., Gariano, R. F., Stanzel, B. V., Marmor, M., Blumenkranz, M. S., Palanker, D.
  2008; 49 (12): 5540-5545
- **Pulsed electrical stimulation for control of vasculature: Temporary vasoconstriction and permanent thrombosis** *BIOELECTROMAGNETICS*
  Palanker, D., Vankov, A., Freyvert, Y., Huie, P.
  2008; 29 (2): 100-107
- **Electrosurgery with cellular precision** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Palanker, D. V., Vankov, A., Huie, P.
  2008; 55 (2): 838-841
- **Effect of pulse duration on size and character of the lesion in retinal photocoagulation** *ARCHIVES OF OPHTHALMOLOGY*
  Jain, A., Blumenkranz, M. S., Paulus, Y., Wiltberger, M. W., Andersen, D. E., Huie, P., Palanker, D.
  2008; 126 (1): 78-85
- **On Mechanisms of Interaction in Electrosurgery** *New Journal of Physics*
  D. Palanker, A. Vankov, P. Jayaraman
  2008; 10: 123022
- **Tissue damage by pulsed electrical stimulation** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Butterwick, A., Vankov, A., Huie, P., Freyvert, Y., Palanker, D.
  2007; 54 (12): 2261-2267
- **Wide-field coherent anti-Stokes Raman scattering microscopy with non-phase-matching illumination** *OPTICS LETTERS*
  Toytman, I., Cohn, K., Smith, T., Simanovskii, D., Palanker, D.
  2007; 32 (13): 1941-1943
- **Pulsed electron avalanche knife: new technology for cataract surgery** *BRITISH JOURNAL OF OPHTHALMOLOGY*
  Priglinger, S. G., Palanker, D., Alge, C. S., Kreutzer, T. C., Haritoglou, C., Grueterich, M., Kampik, A.
  2007; 91 (7): 949-954
- **Nanosecond plasma-mediated electrosurgery with elongated electrodes** *JOURNAL OF APPLIED PHYSICS*
  Vankov, A., Palanker, D.
  2007; 101 (12)
- **Image processing for a high-resolution optoelectronic retinal prosthesis** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Asher, A., Segal, W. A., Baccus, S. A., Yaroslavsky, L. P., Palanker, D. V.
  2007; 54 (6): 993-1004

- **Optoelectronic retinal prosthesis: system design and performance** *Eye and the Chip World Congress on Artificial Vision*
  Loudin, J. D., Simanovskii, D. M., VijayRaghavan, K., Sramek, C. K., Butterwick, A. F., Huie, P., McLean, G. Y., Palanker, D. V.
  IOP PUBLISHING LTD.2007: S72–S84
- **Nanosecond plasma-mediated electrosurgery with elongated electrodes** *Journal of Applied Physics*
  A. Vankov, D. Palanker
  2007; 101: 124701
- **Patterned retinal coagulation with a scanning laser** *17th Conference on Ophthalmic Technologies*
  Palanker, D., Jain, A., Paulus, Y., Andersen, D., Blumenkranz, M. S.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Non-scanning CARS microscopy using wide-field geometry** *Conference on Multiphoton Microscopy in the Biomedical Sciences VII*
  Toytman, I., Cohn, K., Smith, T., Simanovskii, D., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Progress towards a high-resolution retinal prosthesis** *17th Conference on Ophthalmic Technologies*
  Butterwick, A., Vankov, A., Huie, P., Vijayraghavan, K., Loudin, J., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Pulsed Electron Avalanche Knife (PEAK-fc): New Technology for Cataract Surgery** *British Journal of Ophthalmology*
  S.G. Priglinger, D. Palanker, C.S. Alge, T.C. Kreutzer, C. Haritoglou, M. Grueterich, A. Kampik
  2007; 91: 949-954
- **Image processing for a high-resolution optoelectronic retinal prosthesis** *IEEE Transactions on Biomedical Engineering*
  A Asher, WA Segal, SA Baccus, LP Yaroslavsky, DV Palanker
  2007; 54 (6): 993-1004
- **Gene transfer to rabbit retina with electron avalanche transfection** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Chalberg, T. W., Vankov, A., Molnar, F. E., Butterwick, A. F., Huie, P., Calos, M. P., Palanker, D. V.
  2006; 47 (9): 4083-4090
- **Cellular tolerance to pulsed hyperthermia** *PHYSICAL REVIEW E*
  Simanovskii, D. M., Mackanos, M. A., Irani, A. R., O'Connell-Rodwell, C. E., Contag, C. H., Schwettman, H. A., Palanker, D. V.
  2006; 74 (1)
- **Pulsed electron avalanche knife for capsulotomy in congenital and mature cataract** *23rd Congress of the European-Society-of-Cataract-and-Refractive-Surgeons*
  Priglinger, S. G., Haritoglou, C., Palanker, D., Kook, D., Grueterich, M., Mueller, A., Alge, C. S., Kampik, A.
  ELSEVIER SCIENCE INC.2006: 1085–88
- **Semiautomated patterned scanning laser for retinal photocoagulation** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Blumenkranz, M. S., Yellachich, D., Andersen, D. E., Wiltberger, M. W., Mordaunt, D., Marcellino, G. R., Palanker, D.
  2006; 26 (3): 370-376
- **Plasma-mediated transfection of RPE** *16th Conference on Ophthalmic Technologies*
  Palanker, D., Chalberg, T., Vankov, A., Huie, P., Molnar, F. E., Butterwick, A., Calos, M., Marmor, M., Blumenkranz, M. S.
  SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Noninvasive dosimetry and monitoring of TTT using spectral imaging** *16th Conference on Ophthalmic Technologies*
  Schuele, G., Molnar, F. E., Yellachich, D., Vitkin, E., Perelman, L. T., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Dynamic range of safe electrical stimulation of the retina** *16th Conference on Ophthalmic Technologies*
  Butterwick, A. F., Vankov, A., Huie, P., Palanker, D. V.
  SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Pulsed electron avalanche knife (PEAK-fc) for dissection of retinal tissue** *ARCHIVES OF OPHTHALMOLOGY*
  Priglinger, S. G., Haritoglou, C., Palanker, D. V., Alge, C. S., Gandorfer, A., Kampik, A.
  2005; 123 (10): 1412-1418

- **Pulsed electron avalanche knife in vitreoretinal surgery** *108th Annual Meeting of the American-Academy-of-Ophthalmology*
  Priglinger, S. G., Haritoglou, C., Mueller, A., Grueterich, M., Strauss, R. W., Alge, C. S., Gandorfer, A., Palanker, D., Kampik, A.
  LIPPINCOTT WILLIAMS & WILKINS.2005: 889–96

- **Optical spectroscopy noninvasively monitors response of organelles to cellular stress** *4th Inter Workshop on Optical Imaging from Bench to Bedside*
  Schuele, G., Vitkin, E., Huie, P., O'Connell-Rodwell, C., Palanker, D., Perelman, L. T.
  SPIE-SOC PHOTOPTICAL INSTRUMENTATION ENGINEERS.2005

- **Design of a high-resolution optoelectronic retinal prosthesis.** *Journal of neural engineering*
  Palanker, D., Vankov, A., Huie, P., Baccus, S.
  2005; 2 (1): S105-20

- **Design of a high-resolution optoelectronic retinal prosthesis** *JOURNAL OF NEURAL ENGINEERING*
  Palanker, D., Vankov, A., Huie, P., Baccus, S.
  2005; 2 (1): S105-S120

- **Cellular tolerance to pulsed heating** *Conference on Optical Interactions with Tissue and Cells XVI*
  Simanovskii, D., Sarkar, M., Irani, A., O'Connell-Rodwell, C., Contag, C., SCHWETTMAN, A., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2005: 254–259

- **Optical monitoring of thermal effects in RPE during heating** *15th Conference on Ophthalmic Technologies*
  Schuele, G., Huie, P., Yellachich, D., Molnar, F. E., O'Conell-Rodwell, C., Vitkin, E., Perelman, L. T., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2005: 194–200

- **Towards high-resolution optoelectronic retinal prosthesis** *15th Conference on Ophthalmic Technologies*
  Palanker, D., Huie, P., Vankov, A., Asher, A., Baccus, S.
  SPIE-INT SOC OPTICAL ENGINEERING.2005: 223–233

- **Migration of retinal cells through a perforated membrane: Implications for a high-resolution prosthesis** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Palanker, D., Huie, P., Vankov, A., Aramant, R., Seiler, M., Fishman, H., Marmor, M., Blumenkranz, M.
  2004; 45 (9): 3266-3270

- **The chick chorioallantoic membrane as a model tissue for surgical retinal research and simulation** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
  Leng, T., MILLER, J. M., Bilbao, K. V., Palanker, D. V., Huie, P., Blumenkranz, M. S.
  2004; 24 (3): 427-434

- **Design of a neurotransmitter-based retinal prosthetic chip powered by the ambient light.** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Fishman, H. A., Palanker, D. V., Mehenti, N. Z., Marmor, M. F., Bent, S. F., Blumenkranz, M. S.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2004: U126–U126

- **A genetic reporter of thermal stress defines physiologic zones over a defined temperature range** *FASEB JOURNAL*
  O'Connell-Rodwell, C. E., Shriver, D., Simanovskii, D. M., Mcclure, C., Cao, Y. A., Zhang, W. S., Bachmann, M. H., Beckham, J. T., Jansen, E. D., Palanker, D., Schwettman, H. A., Contag, C. H.
  2004; 18 (2): 264-271

- **Electro-adhesive forceps for tissue manipulation** *14th Conference on Ophthalmic Technologies*
  Vankov, A., Huie, P., Blumenkranz, M., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2004: 270–274

- **Attracting retinal cells to electrodes for high-resolution stimulation** *14th Conference on Ophthalmic Technologies*
  Palanker, D. V., Huie, P., Vankov, A., Freyvert, Y., Fishman, H., Marmor, M. F., Blumenkranz, M. S.
  SPIE-INT SOC OPTICAL ENGINEERING.2004: 306–314

- **Non-invasive monitoring of the thermal stress in RPE using light scattering spectroscopy** *14th Conference on Ophthalmic Technologies*
  Schuele, G., Huie, P., Vankov, A., Vitkin, E., Fang, H., Hanlon, E. B., Perelman, L. T., Palanker, D.
  SPIE-INT SOC OPTICAL ENGINEERING.2004: 95–99

- **Prevention of tissue damage by water jet during cavitation** *JOURNAL OF APPLIED PHYSICS*
  Palanker, D., Vankov, A., Miller, J., Friedman, M., Strauss, M.
  2003; 94 (4): 2654-2661
- **Precision and safety of the pulsed electron avalanche knife in vitreoretinal surgery** *ARCHIVES OF OPHTHALMOLOGY*
  MILLER, J. M., Palanker, D. V., Vankov, A., Marmor, M. F., Blumenkranz, M. S.
  2003; 121 (6): 871-877
- **Transient optical elements: application to near-field microscopy** *JOURNAL OF MICROSCOPY-OXFORD*
  Simanovskii, D., Palanker, D., Cohn, K., Smith, T.
  2003; 210: 307-310
- **Bubble-free plasma blade for posterior segment surgery** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Sanislo, S. R., Palanker, D., Vankov, A., Bilbao, K., Marmor, M., Blumenkranz, M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2003: U665–U665
- **The pulsed electron avalanche knife in human vitreoretinal surgery; A status report** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Blumenkranz, M. S., Palanker, D., Sanislo, S. S., Marmor, M. H., Quiroz-Mercado, H., Koch, F., Kampik, A., Miesner, H., Amend, P.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2003: U99–U99
- **Prevention of tissue damage by water jet during cavitation** *Journal of Applied Physics*
  D. Palanker, A.Vankov, J. Miller, M. Friedman, M. Strauss
  2003; 94 (4): 2654-2661
- **Optimization of the pulsed electron avalanche knife for anterior segment surgery** *13th Conference on Ophthalmic Technologies*
  Palanker, D., Vankov, A., Bilbao, K., Marmor, M., Blumenkranz, M.
  SPIE-INT SOC OPTICAL ENGINEERING.2003: 56–61
- **Transient photoinduced diffractive solid immersion lens for infrared microscopy** *APPLIED PHYSICS LETTERS*
  Cohn, K., Simanovskii, D., Smith, T., Palanker, D.
  2002; 81 (19): 3678-3680
- **Intravascular drug delivery with a pulsed liquid microjet** *ARCHIVES OF OPHTHALMOLOGY*
  Fletcher, D. A., Palanker, D. V., Huie, P., Miller, J., Marmor, M. F., Blumenkranz, M. S.
  2002; 120 (9): 1206-1208
- **Effects of the pulsed electron avalanche knife on retinal tissue** *ARCHIVES OF OPHTHALMOLOGY*
  Palanker, D. V., Marmor, M. F., Branco, A., Huie, P., MILLER, J. M., Sanislo, S. R., Vankov, A., Blumenkranz, M. S.
  2002; 120 (5): 636-640
- **The Pulsed Electron Avalanche Knife (PEAK (TM)) for intraocular surgery in patients with proliferative vitreoretinal disorders** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Blumenkranz, M. S., Quiroz-Mercado, H., Sanislo, S. R., Garcia, G., Dubnack, S., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2002: U845–U845
- **Surgical therapy of central retinal vein occlusion by creation of choroidal retinal anastomosis** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Quiroz-Mercado, H., Blumenkranz, M. S., Palanker, D. V., Sanislo, S. R., Garcia-Aguirre, G., Magdalenic, R., Araya-Munoz, C. E., Ruiz, M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2002: U431–U431
- **A new pulsed liquid microjet lot potential treatment of retinal vascular occlusions** *Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology*
  Sanislo, S. R., Blumenkranz, M. S., Vankov, A., Palanker, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2002: U988–U988
- **Transient photoinduced diffractive solid immersion lens for infrared microscopy** *Applied Physics Letters*
  K. Cohn, D. Simanovskii, T. Smith, D. Palanker
  2002; 81 (19): 3678-3680

- **Effect of the probe geometry on dynamics of cavitation** *Conference on Laser Tissue Interaction XIII - Photochemical, Photothermal, and Photomechanical*
  Palanker, D., Vankov, A., Miller, J.
  SPIE-INT SOC OPTICAL ENGINEERING.2002: 112–117
- **Pulsed liquid microjet for intravascular injection** *12th Conference on Ophthalmic Technologies*
  Palanker, D., Fletcher, D., Miller, J., Huie, P., Marmor, M., Blumenkranz, M.
  SPIE-INT SOC OPTICAL ENGINEERING.2002: 72–75
- **Pulsed Electron Avalanche Knife (PEAK) for intraocular surgery** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Palanker, D. V., MILLER, J. M., Marmor, M. F., Sanislo, S. R., Huie, P., Blumenkranz, M. S.
  2001; 42 (11): 2673-2678
- **Near-field infrared microscopy with a transient photoinduced aperture** *APPLIED PHYSICS LETTERS*
  Simanovskii, D., Palanker, D., Cohn, K., Smith, T.
  2001; 79 (8): 1214-1216
- **Refraction contrast imaging with a scanning microlens** *APPLIED PHYSICS LETTERS*
  Fletcher, D. A., Crozier, K. B., Quate, C. F., Kino, G. S., Goodson, K. E., Simanovskii, D., Palanker, D. V.
  2001; 78 (23): 3589-3591
- **Pulsed liquid microjet for microsurgery** *APPLIED PHYSICS LETTERS*
  Fletcher, D. A., Palanker, D. V.
  2001; 78 (13): 1933-1935
- **Evaluation of toxicity in vitreoretinal application of the Pulsed Electron Avalanche Knife (PEAK).**
  Sanislo, S. R., Palanker, D. V., Miller, J., Marmor, M. F., Huie, P., Vankov, A., Branco, A., Blumenkranz, M. S.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2001: S429–S429
- **Refraction Contrast Imaging With A Scanning Microlens.** *Applied Physics Letters*
  D.A. Fletcher, K.B. Crozier, C.F. Quate, G.S. Kino, K.E. Goodson, D. Simanovskii, D.V. Palanker
  2001; 78 (23): 3589-3591
- **Pulsed liquid microjet for microsurgical applications** *Conference on Biomedical Instrumentation Based on Micro- and Nanotechnology*
  Palanker, D. V., Fletcher, D. A.
  SPIE-INT SOC OPTICAL ENGINEERING.2001: 36–39
- **Near-Field Infrared Microscopy With A Transient Photo-Induced Aperture.** *Applied Physics Letters*
  D. Simanovski, D. Palanker, K. Cohn, T. Smith
  2001; 79 (8): 1214-1216
- **Pulsed Liquid Microjet For Microsurgery.** *Applied Physics Letters*
  D. A. Fletcher, D. V. Palanker
  2001; 78 (13): 1933-35
- **On contrast parameters and topographic artifacts in near-field infrared microscopy** *JOURNAL OF APPLIED PHYSICS*
  Palanker, D. V., Simanovskii, D. M., Huie, P., Smith, T. I.
  2000; 88 (11): 6808-6814
- **Near-field infrared imaging with a microfabricated solid immersion lens** *APPLIED PHYSICS LETTERS*
  Fletcher, D. A., Crozier, K. B., Quate, C. F., Kino, G. S., Goodson, K. E., Simanovskii, D., Palanker, D. V.
  2000; 77 (14): 2109-2111
- **Near-field infrared imaging with a microfabricated solid immersion lens.** *Applied Physics Letters*
  D.A. Fletcher,, K.B. Crozier, C.F. Quate, G.S. Kino, K.E. Goodson, D. Simanovskii, D.V. Palanker
  2000; 77 (14): 2109-2111
- **Microfabricated solid immersion lens with metal aperture** *IEEE/LEOS International Conference on Optical MEMS*
  Fletcher, D. A., Simanovskii, D., Palanker, D., Crozier, K. B., Quate, C. F., Kino, G. S., Goodson, F. E.
  IEEE.2000: 133–134

- **On image formation in near-field infrared microscopy** *2nd Conference on Scanning and Force Microscopies for Biomedical Applications*
  Simanovskii, D. M., Palanker, D. V., Huie, P., Smith, T. I.
  SPIE-INT SOC OPTICAL ENGINEERING.2000: 182–88
- **On Contrast Parameters and Topographic Artifacts in Near-Field Infrared Microscopy.** *Journal of Applied Physics*
  D.V. Palanker, D.M. Simanovskii, P. Huie, T.I. Smith, H.A. Schwettman
  2000; 88 (11): 6808-6814
- **Near-field scanning optical microscopy in cell biology** *TRENDS IN CELL BIOLOGY*
  Lewis, A., Radko, A., Ben Ami, N., Palanker, D., Lieberman, K.
  1999; 9 (2): 70-73
- **Fast IR imaging with sub-wavelength resolution using a transient near-field probe (Tipless near-field microscopy)** *Conference on 3-Dimensional and Multidimensional Microscopy - Image Acquisition and Processing VI*
  Palanker, D. V., Smith, T. I., Schwettman, H. A.
  SPIE-INT SOC OPTICAL ENGINEERING.1999: 31–39
- **Pulse shape measurements using differential optical gating of a picosecond free electron laser source with an unsynchronized femtosecond Ti : sapphire gate** *OPTICS COMMUNICATIONS*
  Rella, C. W., Knippels, G. M., Palanker, D. V., Schwettman, H. A.
  1998; 157 (1-6): 335-342
- **Fast IR imaging with sub-wavelength resolution using a transient near-field probe** *International Symposium on Free Electron Laser Facilities and Applications (FELFA 98)*
  Palanker, D. V., Knippels, G. M., Smith, T. I., Schwettman, H. A.
  ELSEVIER SCIENCE BV.1998: 240–45
- **IR microscopy with a transient photo-induced near-field probe (tipless near-field microscopy)** *OPTICS COMMUNICATIONS*
  Palanker, D. V., Knippels, G. M., Smith, T. I., Schwettman, H. A.
  1998; 148 (4-6): 215-220
- **Early nonsurgical removal of chemically injured tissue enhances wound healing in partial thickness burns** *BURNS*
  Eldad, A., Weinberg, A., Breiterman, S., Chaouat, M., Palanker, D., Ben-Bassat, H.
  1998; 24 (2): 166-172
- **IR Microscopy with a Transient Photo-induced Near-field Probe (Tipless Near-field Microscopy).** *Optics Communications*
  D. V. Palanker, G.M.H. Knippels, T.I. Smith, H.A. Schwettman
  1998; 148 (4-6): 215-220
- **Pulse Shape Measurements Using Differential Optical Gating Of A Picosecond Free Electron Laser Source With An Unsynchronized Femtosecond Ti:Sapphire Gate.** *Optics Comm*
  C.W. Rella, G.M.H. Knippels, D. Palanker, H.A. Schwettman
  1998; 157 (1-6): 335-42
- **Fast IR Imaging with Sub-Wavelength Resolution using a Transient Near-field Probe.** *Nuclear Instruments and Methods in Physics, Section B: Beam Interactions with Materials and Atoms*
  D. V. Palanker, G.M.H. Knippels, T.I. Smith, H.A. Schwettman
  1998; 144: 240-245
- **Etched Chalcogenide Fibers for Near-Field IR Scanning Microscopy.** *Review of Scientific Instruments*
  M.A. Unger, D.A. Kossakovski, R. Kongovi, J.L. Beauchamp, D.V. Palanker
  1998; 69 (8): 2988-93
- **Vitreoretinal surgery assisted by the 193-nm excimer laser** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Hemo, I., Palanker, D., TUROVETS, I., Lewis, A., Zauberman, H.
  1997; 38 (9): 1825-1829
- **Electrical alternative to pulsed fiber-delivered lasers in microsurgery** *JOURNAL OF APPLIED PHYSICS*
  Palanker, D., TUROVETS, I., Lewis, A.
  1997; 81 (11): 7673-7680

- **Nanometer-sized electrochemical sensors** *ANALYTICAL CHEMISTRY*
  Shao, Y. H., Mirkin, M. V., Fish, G., Kokotov, S., Palanker, D., Lewis, A.
  1997; 69 (8): 1627-1634
- **Electrical Alternative to Pulsed Fiber-Delivered Lasers in Microsurgery.** *Appl. Phys.*
  Palanker D., Turovets I., Lewis A., J.
  1997; 81 (11): 7673-7680
- **Electric discharge-induced cavitation: A competing approach to pulsed lasers for performing microsurgery in liquid media** *Conference on Laser-Tissue Interaction VIII*
  Palanker, D., TUROVETS, I., Lewis, A.
  SPIE - INT SOC OPTICAL ENGINEERING.1997: 351–360
- **Electrical alternative to pulsed lasers in vitreoretinal surgery** *7th Conference on Ophthalmic Technologies*
  Palanker, D., TUROVETS, I., Lewis, A.
  SPIE - INT SOC OPTICAL ENGINEERING.1997: 67–73
- **Nanometer-Sized Electrochemical Sensors.** *Anal. Chem.*
  Y. Shao, M. V. Mirkin, G. Fish, S. Kokotov, D. Palanker, A. Lewis
  1997; 69: 1627-1634
- **Dynamics of ArF excimer laser-induced cavitation bubbles in gel surrounded by a liquid medium** *LASERS IN SURGERY AND MEDICINE*
  Palanker, D., TUROVETS, I., Lewis, A.
  1997; 21 (3): 294-300
- **Dynamics of cavitation bubble induced by 193 nm ArF excimer laser in concentrated sodium chloride solutions** *JOURNAL OF APPLIED PHYSICS*
  TUROVETS, I., Palanker, D., Kokotov, Y., Hemo, I., Lewis, A.
  1996; 79 (5): 2689-2693
- **Dynamics of Cavitation Bubble Induced by 193 nm ArF Excimer Laser in Concentrated Sodium Chloride Solutions.** *Journal of Applied Physics*
  Turovets I., Palanker D., Kokotov Yu, Hemo I., Lewis A
  1996; 79 (5): 2689-2693
- **ULTRAFAST RESPONSE MICROPIPETTE-BASED SUBMICROMETER THERMOCOUPLE** *REVIEW OF SCIENTIFIC INSTRUMENTS*
  Fish, G., Bouevitch, O., Kokotov, S., Lieberman, K., Palanker, D., TUROVETS, I., Lewis, A.
  1995; 66 (5): 3300-3306
- **Ultrafast Response Micropipette-Based Submicron Thermocouple.** *Review of Scientific Instruments*
  G. Fish, O. Bouevitch, S. Kokotov, K. Lieberman, D. Palanker, I. Turovets, A. Lewis
  1995; 66 (5): 3300-3306
- **ARF EXCIMER LASER-INDUCED BUBBLE FORMATION DURING IRRADIATION OF NACL SOLUTIONS** *PHOTOCHEMISTRY AND PHOTOBIOLOGY*
  TUROVETS, I., Palanker, D., Lewis, A.
  1994; 60 (5): 412-414
- **VITREORETINAL ABLATION WITH THE 193-NM EXCIMER-LASER IN FLUID MEDIA** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Palanker, D., Hemo, I., TUROVETS, I., Zauberman, H., Fish, G., Lewis, A.
  1994; 35 (11): 3835-3840
- **PERMEABILIZING MILLIONS OF CELLS WITH SINGLE PULSES OF AN EXCIMER-LASER** *BIOTECHNIQUES*
  TUROVETS, I., Lewis, A., Palanker, D., GILO, H., VILENZ, A., BRODER, J. C., Lewis, S.
  1993; 15 (6): 1022-?
- **INTERACTION BETWEEN HUMAN SPERM CELLS AND HAMSTER OOCYTES AFTER ARGON FLUORIDE EXCIMER-LASER DRILLING OF THE ZONA-PELLUCIDA** *FERTILITY AND STERILITY*
  Simon, A., Palanker, D., HARPAZEISENBERG, V., Lewis, A., Laufer, N.
  1993; 60 (1): 159-164

- **THE EFFICACY AND SAFETY OF ZONA-PELLUCIDA DRILLING BY A 193-NM EXCIMER LASER** *FERTILITY AND STERILITY*
  Laufer, N., Palanker, D., Shufaro, Y., Safran, A., Simon, A., Lewis, A.
  1993; 59 (4): 889-895
- **MICROSURGERY OF THE RETINA WITH A NEEDLE-GUIDED 193-NM EXCIMER LASER** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Lewis, A., Palanker, D., Hemo, I., Peer, J., Zauberman, H.
  1992; 33 (8): 2377-2381
- **EFFECT OF THE ARF EXCIMER LASER ON HUMAN ENAMEL** *LASERS IN SURGERY AND MEDICINE*
  Feuerstein, O., Palanker, D., FUXBRUNNER, A., Lewis, A., Deutsch, D.
  1992; 12 (5): 471-477
- **Statistical Approach for Subwavelength Measurements with a Conventional Light Microscope.** *Biophysical Journal*
  Palanker D., Lewis A.
  1991; 60: 1147-1155
- **TECHNIQUE FOR CELLULAR MICROSURGERY USING THE 193-NM EXCIMER LASER** *LASERS IN SURGERY AND MEDICINE*
  Palanker, D., OHAD, S., Lewis, A., Simon, A., SHENKAR, J., Penchas, S., Laufer, N.
  1991; 11 (6): 580-586
- **[Aggregation of cardiolipin liposomes induced by monovalent cations].** *Biofizika*
  Atsagortsian, A. Z., Vasiukov, A. E., Palanker, D. V., Nadzharian, G. N.
  1989; 34 (1): 49-53
- **The Effect of the Discreteness of Charge on the Potential Distribution in the Phospholipid Membrane.** *Proceedings of the Academy of Sciences of the Armenian Republic. Physical Series*
  Atsagortsjan A., Palanker D., Nadjarjan G.N
  1987; 22 (5): 266-272