

Publications

Biomedical Optics Express

Vectorial birefringence imaging by optical coherence microscopy for assessing fibrillar microstructures in the cornea and limbus

Qingyun Li, Karol Karnowski, Gavrielle Untracht, Peter B. Noble, Barry Cense, Martin Villiger, and David D. Sampson

Date: 2020

<https://doi.org/10.1364/BOE.382755>

Optics Letters

Computational aberration correction in spatiotemporal optical coherence (STOC) imaging

Dawid Borycki, Egidijus Aukorius, Piotr Wegrzyn, and Maciej Wojtkowski

Date: 2020

<https://doi.org/10.1364/OL.384796>

Biomedical Optics Express

Crosstalk-free volumetric in vivo imaging of a human retina with Fourier-domain full-field optical coherence tomography

Egidijus Aukorius, Dawid Borycki, and Maciej Wojtkowski

Date: 2019

<https://doi.org/10.1364/BOE.10.006390>

Frontiers in Systems Neuroscience

Cortical Inactivation Does Not Block Response Enhancement in the Superior Colliculus

Katarzyna Kordecka, Andrzej Foik, Agnieszka Wierzbicka and Wioletta Waleszczyk

Date: 2020

<https://doi.org/10.3389/fnsys.2020.00059>

Nature Biomedical Engineering

Restoration of visual function in adult mice with an inherited retinal disease via adenine base editing

Susie Suh, Elliot Choi, Henri Leinonen, Andrzej Foik, Gregory Newby, Wei-Hsi Yeh, Zhiqian Dong, Philip Kiser, David Lyon, David Liu and Krzysztof Palczewski

Date: 2020

<https://doi.org/10.1038/s41551-020-00632-6>

Biomedical Optics Express

Frequency-doubled femtosecond Er-doped fiber laser for two-photon excited fluorescence imaging

Dorota Stachowiak, Jakub Boguslawski, Aleksander Gluszek, Zbigniew Laszczuch, Maciej Wojtkowski, and Grzegorz Sobon

Date: 2020

<https://doi.org/10.1364/BOE.396878>

Biomedical Optics Express

Two-photon microperimetry with picosecond pulses

Marcin Marzejon, Lukasz Kornaszewski, Jakub Boguslawski, Piotr Ciacka, Milosz Martynow, Grazyna Palczewska, Sebastian Mackowski, Krzysztof Palczewski, Maciej Wojtkowski, and Katarzyna Komar

Date: 2020

<https://doi.org/10.1364/BOE.411168>

Proceedings of the National Academy of Sciences

Noninvasive two-photon optical biopsy of retinal fluorophores

Grazyna Palczewska, Jakub Boguslawski, Patrycjusz Stremplewski, Lukasz Kornaszewski, Jianye Zhang, Zhiqian Dong, Xiao-Xuan Liang, Enrico Gratton, Alfred Vogel, Maciej Wojtkowski, and Krzysztof Palczewski

Date: 2020

<https://doi.org/10.1073/pnas.2007527117>

Biomedical Optics Express

Two-photon microperimetry: sensitivity of human photoreceptors to infrared light

Daniel Ruminski, Grazyna Palczewska, Maciej Nowakowski, Agnieszka Zielinska, Vladimir Kefalov, Katarzyna Komar, Krzysztof Palczewski, and Maciej Wojtkowski

Date: 2019

<https://doi.org/10.1364/BOE.10.004551>

Analytical Chemistry

High-Throughput Monitoring of Bacterial Cell Density in Nanoliter Droplets: Label-Free

Detection of Unmodified Gram-Positive and Gram-Negative Bacteria

Natalia Pacocha, Jakub Boguslawski, Michal Horka, Karol Makuch, Kamil Lizewski, Maciej Wojtkowski, and Piotr Garstecki

Date: 2020

<https://doi.org/10.1021/acs.analchem.0c03408>

Optics Letters

Multimode fiber enables control of spatial coherence in Fourier-domain full-field optical coherence tomography for in vivo corneal imaging

E. Auksorius, D. Borycki, M Wojtkowski

Date: 2021

<https://doi.org/10.1364/OL.417178>

Proceedings , Ophthalmic Technologies XXXI;

Effects of laser pulse duration in two-photon vision threshold measurements

Marcin Marzejon, Lukasz Kornaszewski, Maciej Wojtkowski, Katarzyna Komar,

Date: 2021

<https://doi.org/10.1117/12.2582735>

Biomedical Optics Express

Smartphone-based optical palpation: towards elastography of skin for telehealth applications

Rowan W. Sanderson, Qi Fang, Andrea Curatolo, Aiden Taba, Helen M. DeJong, Fiona M. Wood, and Brendan F. Kennedy

Date: 2021

<https://doi.org/10.1364/BOE.424567>

Investigative Ophthalmology & Visual Science

Improved detection of corneal deformation asymmetries in keratoconus patients using multi-meridian deformation imaging

Judith S. Birkenfeld; Andrea Curatolo; Ashkan Eliasy; Eduardo Martinez-Enriquez; Alejandra Varea; Ana Gonzalez-Ramos; Ahmed Abass; Bernardo Teixeira Lopes; Jesus Merayo-Llodes; Ahmed Elsheikh; Susana Marcos

Date: 2021

High-frame rate multi-meridian corneal imaging of air-puff induced deformation for improved detection of keratoconus

Curatolo, A., Birkenfeld, J. S., Martinez-Enriquez, E., Germann, J., Elias, A., Abass, A., Solaris, J., Karnowski, K., Wojtkowski, M., Elsheikh, A., and Marcos, S.

Date: 2020

Biomedical Optics Express

Estimation of scleral mechanical properties from air-puff optical coherence tomography

David Bronte-Ciriza, Judith S. Birkenfeld, Andres de la Hoz, Andrea Curatolo, James A. Germann, Lupe Villegas, Alejandra Varea, Eduardo Martinez-Enriquez, and Susana Marcos

Date: 2021

<https://doi.org/10.1364/BOE.437981>

Investigative Ophthalmology & Visual Science

Pupillary Light Reflex induced by two-photon vision

A. Zielinska, P. Ciacka, M. Szkulmowski and K. Komar

Date: 2021

<https://doi.org/10.1167/jovs.62.15.23>

Optics Letters

Multimode fiber as a tool to reduce crosstalk in Fourier-domain full-field optical coherence tomography

E. Aukorius, D. Borycki, P. Wegrzyn, I. Zickiene, K. Adomavicius, B. L. Sikorski, M. Wojtkowski

Date: 2022

<https://doi.org/10.1364/OL.449498>

Journal of Clinical Investigation

In vivo imaging of the human eye using a two-photon excited fluorescence scanning laser ophthalmoscope

J. Boguslawski, G. Palczewska, S. Tomczewski, J. Milkiewicz, P. Kasprzycki, D. Stachowiak, K. Komar, M. J. Marzejon, B. L. Sikorski, A. Hudzikowski, A. Gluszek, Z. Laszczuch, K. Karnowski, G. Sobon, K. Palczewski, M. Wojtkowski

Date: 2022

<https://doi.org/10.1172/JCI154218>

Scientific Reports

Infrared- and white-light retinal sensitivity in glaucomatous neuropathy

G. Labuz, A. Rayamajhi, K. Komar, R. Khoramnia, G. U. Auffarth

Date: 2022

<https://doi.org/10.1038/s41598-022-05718-6>

Biomedical Optics Express

Femtosecond Er-doped fiber laser source tunable from 872 to 1075 nm for two-photon vision studies in humans

D. Stachowiak, M. Marzejon, J. Boguslawski, Z. Laszczuch, K. Komar, M. Wojtkowski, and G. Sobon

Date: 2022

<https://doi.org/10.1364/BOE.452609>

Biomedical Optics Express

Light-adapted flicker optoretinograms captured with a spatio-temporal optical coherence-tomography (STOC-T) system

Sławomir Tomczewski, Piotr Wegrzyn, Dawid Borycki, Egidijus. Auksorius, Maciej Wojtkowski, Andrea Curatolo

Date: 2022

<https://doi.org/10.1364/BOE.444567>

Diagnostics

Two-Photon Vision in Age-Related Macular Degeneration: A Translational Study

G. Labuz, A. Zielinska, L. J. Kessler, A. Rayamajhi, K. Komar, R. Khoramnia, G. U. Auffarth

Date: 2022

<https://doi.org/10.3390/diagnostics12030760>

JCI Insight

Inhibition of ceramide accumulation in AdipoR1^{-/-} mice increases photoreceptor survival and improves vision

Dominik Lewandowski, Andrzej T. Foik, Roman Smidak, Elliot H. Choi, Jianye Zhang, Thanh Hoang, Aleksander Tworak, Susie Suh, Henri Leinonen, Zhiqian Dong, Antonio F.M. Pinto, Emily Tom, Jennings Luu, Joan Lee, Xiuli Ma, Erhard Bieberich, Seth Blackshaw, Alan Saghatelian, David C. Lyon, Dorota Skowronska-Krawczyk, Marcin Tabaka, and Krzysztof Palczewski

Date: 2022

<https://doi.org/10.1172/jci.insight.156301>

European Conferences on Biomedical Optics 2021 (ECBO), OSA Technical Digest (Optical Society of America, 2021)

Swept-sources for OCT are perceived due to two-photon vision

M.J. Marzejon, L. Kornaszewski, J. Boguslawski, M. Wojtkowski, and K. Komar

Date: 2021

2019 11th International Symposium on Image and Signal Processing and Analysis (ISPA)

Pupil detection supported by Haar feature based cascade classifier for two-photon vision examinations

M. Martynow, A. Zielinska, M. Marzejon, M. Wojtkowski, K. Komar

Date: 2019

[10.1109/ISPA.2019.8868706](https://doi.org/10.1109/ISPA.2019.8868706)

Proc. SPIE 11079, Medical Laser Applications and Laser-Tissue Interactions IX

Solid state versus fiber picosecond infrared lasers applied to two-photon vision tests

M. Marzejon, K. Komar, L. Kornaszewski, M. Wojtkowski

Date: 2019

[10.1117/12.2527118](https://doi.org/10.1117/12.2527118)

Acta Neurobiol Exp

Optical coherence tomography reveals heterogeneity of the brain tissue and vasculature in the ischemic region after photothrombotic stroke in mice

Hubert Dolezyczek, Piotr Kasprzycki, Jakub Włodarczyk, Maciej Wojtkowski, Monika Malinowska

Date: 2022

DOI: [10.55782/ane?2022?010](https://doi.org/10.55782/ane?2022?010)

Investigative Ophthalmology & Visual Science

Towards spectral sensitivity curve for two-photon vision mechanism

Marcin Marzejon, Agnieszka Zielinska, Dorota Stachowiak, Grzegorz Sobon, Maciej Wojtkowski, Katarzyna Komar

Date: 2022

Investigative Ophthalmology & Visual Science

Contrast Sensitivity Function of Two-Photon Vision

Agnieszka Zielinska, Oliwia Kaczko, Marcin Marzejon, Juliusz Solarz-Niesluchowski, Maciej Szkulmowski, Katarzyna Komar

Date: 2022

eNeuro

Visual System Hyperexcitability and Compromised V1 Receptive Field Properties in Early-Stage Retinitis Pigmentosa in Mice.

Leinonen, H., Lyon, D.C., Palczewski, K., and Foik, A.T.

Date: 2022

<https://doi.org/10.1523/ENEURO.0107-22.2022>

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series

Two-photon excited fluorescence scanning laser ophthalmoscope for in vivo imaging of the human eye

Jakub Boguslawski, Grazyna Palczewska, Michal Dabrowski, Slawomir Tomczewski, Jadwiga Milkiewicz, Dorota Stachowiak, Katarzyna Komar, Marcin Marzejon, Bartosz L. Sikorski, Arkadiusz Hudzikowski, Aleksander Gluszek, Zbigniew Laszczyn, Grzegorz Sobon, Krzysztof Palczewski, Maciej Wojtkowski

Date: 2021

<https://doi.org/10.1364/TRANSLATIONAL.2022.TTu2B.4>

Investigative Ophthalmology & Visual Science

The effect of cataract on two-photon visual thresholds

Katarzyna Komar, Marcin J. Marzejon, Anna Matuszak, Bartosz Sikorski, Maciej Wojtkowski

Date: 2021

[\(none\)](#)

Investigative Ophthalmology & Visual Science

The limits of perception of light by two-photon vision

Katarzyna Komar, Agnieszka Zielinska, Daniel Ruminski, Marcin Marzejon, Piotr Ciacka, Lukasz Kornaszewski, Silvestre Manzanera; Pablo Artal, Maciej Wojtkowski

Date: 2019

[\(none\)](#)

Brain Research Bulletin

Kisspeptin-13 prevented the electrophysiological alterations induced by amyloid-beta pathology in rat: Possible involvement of stromal interaction molecules and pCREB

Shima Ebrahimi Khonacha , Seyed Hamidreza Mirbehbahani, Mona Rahdar, Shima Davoudi, Mehdi Borjkhani, Fariba Khodagholi, Fereshteh Motamedi, Mahyar Janahmadi

Date: 2022

<https://doi.org/10.1016/j.brainresbull.2022.03.003>

Physica B: Condensed Matter

Propagation length enhancement of surface plasmon polaritons in ultrafine Au nanodisk array, the role of kinky breather and periodic lump

Morteza A. Sharif, Kousha Hadi, Mehdi Borjkhani

Date: 2022

<https://doi.org/10.1016/j.physb.2022.413768>

Pathogens

Both *Neisseria gonorrhoeae* and *Neisseria sicca* Induce Cytokine Secretion by Infected Human Cells, but Only *Neisseria gonorrhoeae* Upregulates the Expression of Long Non-Coding RNAs

Jagoda P³aczekiewicz, Monika Adamczyk-Pop³awska, Ewa Koz³owska, Agnieszka Kwiatek

Journal: Pathogens

Date: 2022

<https://doi.org/10.3390/pathogens11040394>

Nature Communications

In vivo base editing rescues cone photoreceptors in a mouse model of early-onset inherited retinal degeneration.

Choi, E.H., Suh, S., Foik, A.T., Leinonen, H., Newby, G.A., Gao, X.D., Banskota, S., Hoang, T., Du, S.W., Dong, Z., et al.

Date: 2022

[10.1038/s41467-022-29490-3](https://doi.org/10.1038/s41467-022-29490-3)

Communications Biology

Traumatic brain injury to primary visual cortex produces long-lasting circuit dysfunction

Frankowski, J.C., Foik, A.T., Tierno, A., Machhor, J.R., Lyon, D.C., and Hunt, R.F.

Date: 2021

[10.1038/s42003-021-02808-5](https://doi.org/10.1038/s42003-021-02808-5)

Nature Biomedical Engineering

Restoration of visual function in adult mice with an inherited retinal disease via adenine base editing

Suh, S., Choi, E.H., Leinonen, H., Foik, A.T., Newby, G.A., Yeh, W.-H., Dong, Z., Kiser, P.D., Lyon, D.C., Liu, D.R., et al.

Date: 2020

[10.1038/s41551-020-00632-6](https://doi.org/10.1038/s41551-020-00632-6)

Frontiers in Systems Neuroscience

Cortical Inactivation Does Not Block Response Enhancement in the Superior Colliculus

Kordecka, K., Foik, A.T., Wierzbicka, A., and Waleszczyk, W.J.

Date: 2020

[10.3389/fnsys.2020.00059](https://doi.org/10.3389/fnsys.2020.00059)

Investigative Ophthalmology & Visual Science

Two-photon excited scanning laser ophthalmoscope enables fundus imaging in healthy volunteers

Grazyna Palczewska; Jakub Boguslawski; Michal Dabrowski; Dorota Stachowiak; Grzegorz Sobon; Krzysztof Palczewski; Maciej Wojtkowski

Date: 2022

Lab on a Chip

You will know by its tail: a method for quantification of heterogeneity of bacterial populations using single-cell MIC profiling

N. Pacocha, M. Zapotoczna, K. Makuch, J. Boguslawski, P. Garstecki

Date: 2022

[10.1039/D2LC00234E](https://doi.org/10.1039/D2LC00234E)

Photonics Letters of Poland

Impact of diurnal IOP variations on the dynamic corneal hysteresis measured with air-puff swept-source OCT

Karol Marian Karnowski, Ewa M±czyńska, Maciej Nowakowski, Bart³omiej Ka³u¿ny, Ireneusz Grulkowski, Maciej Wojtkowski

Date: 2018

<https://doi.org/10.4302/plp.v10i3.848>

Keratoconus Detection Based on a Single Scheimpflug Image

Alejandra Consejo; Jêdrzej Solarski; Karol Karnowski; Jos J Rozema; Maciej Wojtkowski; D. Robert Iskander

Date: 2020

<https://doi.org/10.1167/tvst.9.7.36>

Journal of Biophotonics

Jones matrix-based speckle-decorrelation angiography using polarization-sensitive optical coherence tomography

Peijun Gong, Qingyun Li, Qiang Wang, Karol Karnowski, David D. Sampson

Date: 2020

<https://doi.org/10.1002/jbio.202000007>

Biomedical Optics Express

Longitudinal in-vivo OCM imaging of glioblastoma development in the mouse brain

Hubert Dolezyczek, Mounika Rapolu, Paulina Niedzwiedziuk, Karol Karnowski, Dawid Borycki, Joanna Dzwonek, Grzegorz Wilczynski, Monika Malinowska, and Maciej Wojtkowski

Date: 2020

<https://doi.org/10.1364/BOE.400723>

Journal of Biomedical Optics

Influence of tissue fixation on depth-resolved birefringence of oral cavity tissue samples

Karol Karnowski, Qingyun Li, Anima Poudyal, Martin Villiger, Camile S. Farah, David D. Sampson

Date: 2020

<https://doi.org/10.1117/1.JBO.25.9.096003>

Biomedical Optics Express

Multi-meridian corneal imaging of air-puff induced deformation for improved detection of biomechanical abnormalities

Andrea Curatolo, Judith S. Birkenfeld, Eduardo Martinez-Enriquez, James A. Germann, Geethika Muralidharan, Jesús Palací, Daniel Pascual, Ashkan Eliasy, Ahmed Abass, Jêdrzej Solarski, Karol Karnowski, Maciej Wojtkowski, Ahmed Elsheikh, and Susana Marcos

Date: 2020

<https://doi.org/10.1364/BOE.402402>

Imaging the small with the small: Prospects for photonics in micro-endomicroscopy for minimally invasive cellular-resolution bioimaging

Gavrielle R. Untracht, Karol Karnowski and David D. Sampson

Date: 2021

<https://doi.org/10.1063/5.0052258>

Superior Imaging Performance of All-Fiber, Two-Focusing-Element Microendoscopes

Karol Karnowski; Gavrielle Untracht; Michael Hackmann; Onur Cetinkaya; David Sampson

Date: 2022

<https://doi.org/10.1109/JPHOT.2022.3203219>

Towards spatially mapped frequency response of human photoreceptor length variation with flicker optoretinography

A. Curatolo, S. Tomczewski, P. Wegrzyn, D. Borycki, E. Auksorius, and M. Wojtkowski,

Date: 2022

Corneal biomechanical parameters of keratoconus patients from cross-meridian air-puff deformation optical coherence tomography and finite element modeling

J. Birkenfeld, A. Curatolo, A. Eliasy, E. Martinez-Enriquez, A. Varea, A. M. Gonzalez Ramos, A. Abass, B. Lopes Teixeira, J. Merayo-Llodes, A. Elsheikh, and S. Marcos

Date: 2022

Air puff-coupled multi-spot OCT for assessment of asymmetries in corneal biomechanics

K. Karnowski, J. Milkiewicz, A. Pachacz, A. Curatolo, O. Cetinkaya, R. Pietruch, P. Ciacka, A. Eliasy, A. Abass, A. Elsheikh, S. Marcos, and M. Wojtkowski

Date: 2022

A novel co-axial and acoustic pre-compensation approach for tissue excitation in optical coherence tomography vibrography

R. McAuley, A. Nolan, A. Curatolo, S. Alexandrov, S. Marcos, M. Leahy, and J. Birkenfeld

Date: 2022

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022)

Design of a low-cost, versatile, whole-eye scanner for optical coherence tomography

M. P. Urizar, A. de Castro, E. Gamba, O. Cetinkaya, S. Marcos, and A. Curatolo

Date: 2022

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022)

Simultaneous multi-spot OCT measurements of air induced corneal deformations

K. Karnowski, J. Milkiewicz, A. Pachacz, A. Curatolo, O. Cetinkaya, R. Pietruch, A. Consejo, M. M. Bartuzel, P. Ci±æka, A. Eliasy, A. Abass, A. Elsheikh, S. Marcos, and M. Wojtkowski

Date: 2022

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022)

Hysteresis in vibrational resonance modes of model corneas measured with Optical Coherence Tomography Vibrography utilizing a co-axial acoustic stimulation technique and pre-compensation

R. McAuley, A. Nolan, A. Curatolo, S. Alexandrov, F. Zvietcovich, A. Varea, S. Marcos, J. S. Birkenfeld, and M. Leahy

Date: 2022

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022)

In vivo frequency characterization of human photoreceptors response to a flicker stimulus with optoretinography

S. Tomczewski, P. Wegrzyn, D. Borycki, A. Curatolo, and M. Wojtkowski

Date: 2022

IONS-21 Conference

Design of a robust long-range optical delay line for low-cost ocular biometry

M. P. Urizar, A. de Castro, E. Gamba, and A. Curatolo

Date: 2020

XIII Spanish National Meeting on Optics, Sedoptica

Applications of the ImTOPScanner for the investigation of ocular biomechanical parameters

J. Birkenfeld, A. Abass, S. Alexandrov, D. Bronte-Ciriza, A. Curatolo, A. Eliasy, J. German, A. Ramos, A. de la Hoz, K. Karnowski, B. L. Teixeira, E. Martinez-Enriquez, R. McAuley, A. Nolan, J. Solarski, A. Varea, L. Villegas, A. Elsheikh, M. Leahy, J. Merayo-Llves, M. Wojtkowski, and S. Marcos

Date: 2020

Optical Coherence Elastography: Imaging Tissue Mechanics on the Micro-Scale (2021)

Optical Coherence Elastography Imaging Probes

R. W. Sanderson, Q. Fang, A. Curatolo, and B. F. Kennedy

Date: 2020

ACS omega 7

Characterization of Cyclophilin from Thaumarchaeota Nitrosopumilus maritimus: Implications on the Diversity of Chaperone-like Activity in the Archaeal Domain.

Kaushik, Vineeta and Manisha Goel

Date: 2021

[10.1021/acsomega.1c03216](https://doi.org/10.1021/acsomega.1c03216)

iScience

Spatio-Temporal Optical Coherence Tomography provides full thickness imaging of the chorioretinal complex

Egidijus Auksorius, Dawid Borycki, Piotr Wegrzyn, Bartosz L. Sikorski, Kamil Lizewski, Ieva Zickiene, Mounika Rapolu, Karolis Adomavicius, Slawomir Tomczewski, Maciej Wojtkowski

Date: 2022

<https://doi.org/10.1016/j.isci.2022.105513>

Biomedical Optics Express

Continuous-wave parallel interferometric near-infrared spectroscopy (CW ?NIRS) with a fast two-dimensional camera

Saeed Samaei, Klaudia Nowacka, Anna Gerega, ˆanna Pastuszek, and Dawid Borycki

Date: 2022

<https://doi.org/10.1364/BOE.472643>

Membranes

The Structural Changes in the Membranes of Staphylococcus aureus Caused by Hydrolysable Tannins Witness Their Antibacterial Activity

Olchowik-Grabarek, E.; S kowski, S.; Kwiatek, A.; P aczekiewicz, J.; Abdulladjanova, N.; Shlyonsky, V.; Swiecicka, I.; Zamaraeva, M.

Date: 2022

<https://doi.org/10.3390/membranes12111124>

Nature Communications

In vivo base editing rescues cone photoreceptors in a mouse model of early-onset inherited retinal degeneration.

Choi EH, Suh S, Foik AT, Leinonen H, Newby GA, Gao XD, Banskota S, Hoang T, Du SW, Dong Z, Raguram A, Kohli S, Blackshaw S, Lyon DC, Liu DR, Palczewski K.

Date: 2022

doi: [10.1038/s41467-022-29490-3](https://doi.org/10.1038/s41467-022-29490-3)

Aging Cell

Stress induced aging in mouse eye.

Xu Q, Rydz C, Nguyen Huu VA, Rocha L, Palomino La Torre C, Lee I, Cho W, Jabari M, Donello J, Lyon DC, Brooke RT, Horvath S, Weinreb RN, Ju WK, Foik A, Skowronska-Krawczyk D.

Date: 2022

doi: [10.1111/accel.13737](https://doi.org/10.1111/accel.13737)

22nd Polish-Slovak-Czech Optical Conference on Wave and Quantum Aspects of Contemporary Optics

Methods of determining the contrast sensitivity function for two-photon vision

Oliwia Kaczko , Agnieszka Zieli ska, Marcin J Marzejon, Juliusz Solarz-Nies uchowski, Jacek Pniewski, Katarzyna Komar

Date: 2022

<https://doi.org/10.1117/12.2664174>

Advanced Materials Technologies

Microfluidic 3D Printing of Emulsion Ink for Engineering Porous Functionally Graded Materials

Martina Marcotulli, Maria Celeste Tirelli, Marina Volpi, Jakub Jaroszewicz, Chiara Scognamiglio, Piotr Kasprzycki, Karol Karnowski, Wojciech Iwiński, Giancarlo Ruocco, Marco Costantini, Gianluca Cidonio, Andrea Barbetta

Date: 2022

<https://doi.org/10.1002/admt.202201244>

Biomedical Optics Express

Laser pulse train parameters determine the brightness of a two-photon stimulus

Marcin Marzejon, Łukasz Kornaszewski, Maciej Wojtkowski, Katarzyna Komar

Date: 2023

<https://doi.org/10.1364/BOE.489890>

STAR Protocols

In vivo imaging of the human retina using a two-photon excited fluorescence ophthalmoscope

Jakub Bogus³awski, S³awomir Tomczewski, Micha³ D[±]browski, Katarzyna Komar, Jadwiga Milkiewicz, Grażyna Palczewska, Krzysztof Palczewski and Maciej Wojtkowski

Date: 2023

[10.1016/j.xpro.2023.102225](https://doi.org/10.1016/j.xpro.2023.102225)

International Journal of Molecular Sciences

Towards a New Biomarker for Diabetic Retinopathy: Exploring RBP3 Structure and Retinoids Binding for Functional Imaging of Eyes In Vivo

Vineeta Kaushik, Luca Gessa, Nelam Kumar, Humberto Fernandes

Date: 2023

[10.3390/ijms24054408](https://doi.org/10.3390/ijms24054408)

Biomedical Optics Express

Estimation of the full shape of the crystalline lens in-vivo from OCT images using eigenlenses

E. Martínez-Enríquez, A. Curatolo, A. de Castro, J. S. Birkenfeld, A. M. González, A. Mohamed, M. Ruggeri, F. Manns, Z. Fernando, and S. Marcos

Date: 2023

<https://doi.org/10.1364/BOE.477557>

Scientific Reports

Co-axial acoustic-based optical coherence vibrometry probe for the quantification of resonance frequency modes in ocular tissue

R. McAuley, A. Nolan, A. Curatolo, S. Alexandrov, F. Zvietcovich, A. Varea Bejar, S. Marcos, M. Leahy, and J. S. Birkenfeld

Date: 2022

<https://doi.org/10.1038/s41598-022-21978-8>

Technical Digest Series (Optica Publishing Group) Proceedings

Flicker optoretinography (f-ORG) with chirped frequency stimulus for retinal tissue characterisation

M. Wojtkowski, S. Tomczewski, P. Wêgrzyn, and A. Curatolo

Date: 2023

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Technical Digest Series (Optica Publishing Group) Proceedings

Spatio-temporal optical coherence tomography (STOC-T) for high-resolution imaging of the human and mouse retina in vivo

D. Borycki, P. Wêgrzyn, A. Egidijus, W. Kulesza, S. Tomczewski, A. Curatolo, and M. Wojtkowski,

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<https://doi.org/10.1364/BODA.2023.DTh2A.2>

Technical Digest Series (Optica Publishing Group) Proceedings

A low-cost, non-mechanical optical beam scanner: experimental proof-of-concept for whole-eye OCT imaging

M. P. Urizar, Á. de la Pe?a, E. Gamba, A. de Castro, S. Marcos, and A. Curatolo

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SPIE BIOS (SPIE, 2023) Proceedings

Long-range frequency-domain optical delay line based on a spinning tilted mirror for low-cost ocular biometry

M. P. Urizar, A. de Castro, E. Gamba, Á. de la Pe?a, O. Cetinkaya, S. Marcos, and A. Curatolo

Date: 2023

<https://doi.org/10.1117/12.2652952>

Low-resource and cost-effective camera-based optical palpation for breast cancer detection and burn scar assessment

Q. Fang, R. Sanderson, S. Choi, A. Taba, A. Curatolo, D. Lakhiani, R. Zilkens, K. Newman, B. Dessauvagie, H. DeJong, F. Wood, C. Saunders, and B. Kennedy

Date: 2023

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Improved tool tracking algorithm for eye surgery based on combined color space masks

K. Gromada, B. Piotrowski, P. Ci±æka, A. Kurek, and A. Curatolo

Date: 2023

<https://doi.org/10.1117/12.2654602>

Intraoperative ophthalmic OCT system tracking surgical tools at 200 Hz

P. Ci±æka, K. Karnowski, and A. Curatolo

Date: 2023

<https://doi.org/10.1117/12.2649761>

Clinical prototype of multi-spot air-puff OCT for assessment of corneal biomechanical asymmetry

K. Karnowski, J. Milkiewicz, A. Pachacz, A. Curatolo, O. Cetinkaya, R. Pietruch, A. Consejo, M. Bartuzel, A. Eliasy, A. Abass, A. Elsheikh, S. Marcos, and M. Wojtkowski

Date: 2023

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Spatio-temporal optical coherence tomography (STOC-T) focal plane adjustment in the mouse retina aided by a fundus camera

W. Kulesza, K. Łuczkiwicz, P. Węgrzyn, S. Tomczewski, D. Borycki, P. Ci±æka, O. Cetinkaya, M. Wielgo, K. Kordecka, A. Galińska, E. Aukorius, A. Foik, R. Zawadzki, M. Wojtkowski, and A. Curatolo

Date: 2023

<https://doi.org/10.1117/12.2652956>

High-speed, in vivo, volumetric imaging of mouse retinal tissue with spatio-temporal optical coherence tomography (STOC-T)

P. Wegrzyn, S. Tomczewski, D. Borycki, W. Kulesza, M. Wielgo, K. Kordecka, A. Galińska, O. Cetinkaya, P. Ci±æka, E. Auksorius, A. Foik, R. Zawadzki, M. Wojtkowski, and A. Curatolo

Date: 2023

<https://doi.org/10.1117/12.2648893>

SPIE BiOS (SPIE, 2023) Proceedings

Frequency characterization of human photoreceptors' response to light with the use of chirped flicker stimulus optoretinography

S. Tomczewski, P. Wegrzyn, D. Borycki, M. Wielgo, A. Curatolo, and M. Wojtkowski

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<https://doi.org/10.1117/12.2649632>

Technical Digest Series (Optica Publishing Group, 2022) Proceedings

Functional and Structural Imaging of Retinal Tissue with Spatio-Temporal Optical Coherence Tomography (STOC-T)

P. Węgrzyn, D. Borycki, S. Tomczewski, K. Liżewski, E. Auksorius, A. Curatolo, and M. Wojtkowski

Date: 2022

<https://doi.org/10.1364/FIO.2022.FW7D.2>

Proceedings of the National Academy of Sciences (PNAS)

Stress resilience-enhancing drugs preserve tissue structure and function in degenerating retina via phosphodiesterase inhibition

Jennings C Luu, Aicha Saadane, Henri Leinonen, Elliot H Choi, Fangyuan Gao, Dominik Lewandowski, Maximilian Halabi , Christopher L Sander, Arum Wu, Jacob M Wang, Rupesh Singh, Songqi Gao, Emma M Lessieur, Zhiqian Dong, Grazyna Palczewska, Robert F Mullins, Neal S Peachey , Philip D Kiser, Marcin Tabaka, Timothy S Kern, Krzysztof Palczewski

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DOI: [10.1073/pnas.2221045120](https://doi.org/10.1073/pnas.2221045120)

Nature Communications

spinDrop: a droplet microfluidic platform to maximise single-cell sequencing information content

Joachim De Jonghe, Tomasz S Kaminski, David B Morse, Marcin Tabaka, Anna L Ellermann, Timo N Kohler, Gianluca Amadei, Charlotte E Handford, Gregory M Findlay, Magdalena Zernicka-Goetz, Sarah A Teichmann, Florian Hollfelder

Date: 2023

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SPIE Proceedings

Optimization-free method for multiple spectrometers alignment in polarization-sensitive optical coherence tomography

Piotr Kasprzycki, Maciej Szkulmowski, Maciej Wojtkowski, Karol Karnowski

Date: 2023

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From mouse to human: Accessing the biochemistry of vision in vivo by two-photon excitation.

G. Palczewska, M. Wojtkowski, K. Palczewski,

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Ocelli: a new comprehensive method for multimodal single-cell data analysis

Piotr Rutkowski, Marcin Tabaka

Date: 2023

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Distinct mouse models of Stargardt disease display differences in pharmacological targeting of ceramides and inflammatory responses,

Zachary J. Engfer, Dominik Lewandowski, Zhiqian Dong, Grazyna Palczewska, Jianye Zhang, Katarzyna Kordecka, Jagoda P³aczekiewicz, Damian Panas, Andrzej T. Foik, Marcin Tabaka, Krzysztof Palczewski,

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Biomed. Opt. Express

Optical beam scanner with reconfigurable non-mechanical control of beam position, angle, and focus for low-cost whole-eye OCT imaging

María Pilar Urizar, Enrique Gamba, Alberto de Castro, Álvaro de la Peña, Onur Cetinkaya, Susana Marcos, and

Andrea Curatolo

Date: 2023

<https://doi.org/10.1364/BOE.493917>

Biomed. Opt. Express

Long-range frequency-domain optical delay line based on a spinning tilted mirror for low-cost ocular biometry

María Pilar Urizar, Enrique Gamba, Alberto de Castro, Álvaro de la Peña, Daniel Pascual, Onur Cetinkaya, Susana Marcos, and Andrea Curatolo

Date: 2023

<https://doi.org/10.1364/BOE.501889>

Biocybernetics and Biomedical Engineering

Imaging the retinal and choroidal vasculature using Spatio-Temporal Optical Coherence Tomography (STOC-T)

Kamil Liżewski, Sławomir Tomczewski, Dawid Borycki, Piotr Węgrzyn, Maciej Wojtkowski,

Date: 2024

<https://doi.org/10.1016/j.bbe.2023.12.002>

Optics Letters

Chirped flicker optoretinography for in vivo characterization of human photoreceptors? frequency response to light

Sławomir Tomczewski, Piotr Węgrzyn, Maciej Wojtkowski, Andrea Curatolo, You Yourself and It Itself

Date: 2024

<https://doi.org/10.1364/OL.514637>

Biocybernetics and Biomedical Engineering

Multiwavelength laser doppler holography (MLDH) in spatiotemporal optical coherence tomography (STOC-T)

Dawid Borycki, Egidijus Auksorius, Piotr Węgrzyn, Kamil Liżewski, Sławomir Tomczewski, Ieva Riekiene, Karolis Adomavičius, Karol Karnowski, Maciej Wojtkowski

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