

Publications

Press AT[#], Ungelenk L^{*}, Medyukhina A, Pennington SA, Nietzsche S, Kan C, Lupp A, Dahmen U, Wang R, Settmacher U, Wetzker R, Figge MT, Clemens MG, Bauer M (2023) Sodium thiosulfate refuels the hepatic antioxidant pool reducing ischemia-reperfusion-induced liver injury. *Free Radic Biol Med* 204, 151-160.

Belyaev I^{*}, Marolda A^{*}, Praetorius JP, Sarkar A, Medyukhina A, Hünniger K, Kurzai O, Figge MT (2022) Automated characterisation of neutrophil activation phenotypes in *ex vivo* human *Candida* blood infections. *Comput Struct Biotechnol J* 20, 2297-2308.

Belyaev I^{*}, Praetorius JP^{*}, Medyukhina A, Figge MT (2021) Enhanced segmentation of label-free cells for automated migration and interaction tracking. *Cytometry A* 99(12), 1218-1229.

Sommerfeld O, Medyukhina A, Neugebauer S, Ghait M, Ulferts S, Lupp A, König R, Wetzker R, Schulz S, Figge MT, Bauer M, Press AT (2021) Targeting complement C5a receptor 1 for the treatment of immunosuppression in sepsis. *Mol Ther* 29(1), 338-346.

Gerst R, Medyukhina A, Figge MT (2020) MISA++: A standardized interface for automated bioimage analysis. *SoftwareX* 11, 100405.

Medyukhina A, Figge MT (2020) DeconvTest: Simulation framework for quantifying errors and selecting optimal parameters of image deconvolution. *J Biophotonics* 13(4), e201960079.

Medyukhina A^{*}, Blickendorf M^{*}, Cseresnyés Z, Ruef N, Stein JV, Figge MT; ^{*} authors contributed equally (2020) Dynamic spherical harmonics approach for shape classification of migrating cells. *Sci Rep* 10(1), 6072.

Shopova IA, Belyaev I, Dasari P, Jahreis S, Stroe MC, Cseresnyés Z, Zimmermann AK, Medyukhina A, Svensson C-M, Krüger T, Szeifert V, Nietzsche S, Conrad T, Blango MG, Kniemeyer O, von Lilienfeld-Toal M, Zipfel PF, Ligeti E, Figge MT, Brakhage AA (2020) Human neutrophils produce antifungal extracellular vesicles against *Aspergillus fumigatus*. *mBio* 11(2), e00596-20.

Al-Zaben N^{*}, Medyukhina A^{*}, Dietrich S, Marolda A, Hünniger K, Kurzai O, Figge MT; ^{*} authors contributed equally (2019) Automated tracking of label-free cells with enhanced recognition of whole tracks. *Sci Rep* 9(1), 3317.

Maurer M, Gresnigt MS, Last A, Wollny T, Berlinghof F, Pospich R, Cseresnyes Z, Medyukhina A, Graf K, Gröger M, Raasch M, Siwczak F, Nietzsche S, Jacobsen ID, Figge MT, Hube B, Huber O, Mosig AS (2019) A three-dimensional immunocompetent intestine-on-chip model as *in vitro* platform for functional and microbial interaction studies. *Biomaterials* 220, 119396.

Dennhardt S, Pirschedl W, Wissuwa B, Daniel C, Gunzer F, Lindig S, Medyukhina A, Kiehnkopf M, Rudolph WW, Zipfel PF, Gunzer M, Figge MT, Amman K, Coldewey S (2018) Modeling hemolytic-uremic syndrome: In-depth characterization of distinct murine models reflecting different features of human disease. *Front Immunol* 9, 1459.

Dudeck J^{*}, Medyukhina A^{*}, Figge MT^{**}, Dudeck A^{**}; ^{*} authors contributed equally; ^{**} corresponding authors, authors contributed equally (2018) Waffenübergabe im Immunsystem. *Laborjournal* 4, 40-43. (Review)

Schaarschmidt B, Vlaic S, Medyukhina A, Neugebauer S, Nietzsche S, Gonnert FA, Rödel J, Singer M, Kiehn topf M, Figge MT, Jacobsen ID, Bauer M, Press AT (2018) Molecular signatures of liver dysfunction are distinct in fungal and bacterial infections in mice. *Theranostics* 8(14), 3766-3780.

Svensson C-M, Medyukhina A, Belyaev I, Al-Zaben N, Figge MT (2018) Untangling cell tracks: Quantifying cell migration by time lapse image data analysis. *Cytometry A* 93(3), 357-370. (Review)

Dudeck J^{*}, Medyukhina A^{*}, Froebel J, Svensson C-M, Kotrba J, Gerlach M, Gradtke AC, Schröder B, Speier S, Figge MT^{**}, Dudeck A^{**}; authors contributed equally; ^{**}corresponding authors, authors contributed equally (2017) Mast cells acquire MHCII from dendritic cells during skin inflammation. *J Exp Med* 214(12), 3791-3811.

Klingberg A, Hasenberg A, Ludwig-Portugall I, Medyukhina A, Männ L, Brenzel A, Engel DR, Figge MT, Kurts C, Gunzer M (2017) Fully automated evaluation of total glomerular number and capillary tuft size in murine nephritic kidneys using lightsheet microscopy. *J Am Soc Nephrol* 28(2), 452-459.

Buhlmann D^{*}, Eberhardt HU^{*}, Medyukhina A, Prodinger WM, Figge MT, Zipfel PF, Skerka C^{*} authors contributed equally (2016) FHR3 Blocks C3d-Mediated Coactivation of Human B Cells. *J Immunol* 197(2), 620-629.

Legesse FB, Medyukhina A, Heuke S, Popp J (2015) Texture analysis and classification in coherent anti-Stokes Raman scattering (CARS) microscopy images for automated detection of skin cancer. *Computerized Medical Imaging and Graphics* 43, 36-43.

Medyukhina A, Timme S, Mokhtari Z, Figge MT (2015) Image-based Systems Biology of Infection. *Cytometry A* 87(6), 462-470.

Bergner N, Medyukhina A, Geiger KD, Kirsch M, Schackert G, Krafft C, Popp J (2013) Hyperspectral unmixing of Raman micro-images for assessment of morphological and chemical parameters in non-dried brain tumor specimens. *Anal Bioanal Chem* 405(27), 8719-8728.

Medyukhina A, Meyer T, Heuke S, Vogler T, Dietzek B, Popp J (2013) Automated seeding-based nuclei segmentation in nonlinear optical microscopy. *Applied optics* 52(28), 6979-6994.

Medyukhina A, Meyer T, Schmitt M, Romeike BF, Dietzek B, Popp J (2012) Towards automated segmentation of cells and cell nuclei in nonlinear optical microscopy. *J Biophotonics* 5(11-12), 878-888.

Meyer T, Bergner N, Medyukhina A, Dietzek B, Krafft C, Romeike BF, Reichart R, Kalff R, Popp J (2012) Interpreting CARS images of tissue within the C-H-stretching region. *J Biophotonics* 5(10), 729-733.

Medyukhina A, Vogler N, Latka I, Kemper S, Böhm M, Dietzek B, Popp J (2011) Automated classification of healthy and keloidal collagen patterns based on processing of SHG images of human skin. *J Biophotonics* 4(9), 627-636.

Vogler N, Medyukhina A, Latka I, Kemper S, Böhm M, Dietzek B, and Popp J (2011) Towards multimodal nonlinear optical tomography-experimental methodology. *Laser Physics Letters* 8(8), 617-624.

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