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Theses of the Ph.D. Dissertation
Budapest, 2017

1 Introduction

2 DualMouse SPIM

3 B^{3}D image compression algorithm

other papers cited here huisken [1] muvi spim [2]

4 New scientific results

journal publications b3d [J1] light-sheet review [J2] mouse SPIM [J3] LS-RESOLFT [J4]

conference presentations LSFM2016 [C1] FOM2016 [C2] FOM2017 [C3]

5 Application of the results

The Author's journal publications

[J1] B. Balazs, J. Deschamps, M. Albert, J. Ries, and L. Hufnagel. "A real-time compression library for microscopy images". *bioRxiv* (July 2017), p. 164624. DOI: 10.1101/164624 (cit. on p. 1).

[J2] G. de Medeiros, B. Balázs, and L. Hufnagel. “Light-sheet imaging of mammalian development”. *Seminars in Cell & Developmental Biology*. TelocytesTissue morphodynamics 55 (July 2016), pp. 148–155. DOI: 10.1016/j.semcdb.2015.11.001 (cit. on p. 1).

[J3] P. Strnad, S. Gunther, J. Reichmann, U. Krzic, B. Balazs, G. de Medeiros, N. Norlin, T. Hiiragi, L. Hufnagel, and J. Ellenberg. “Inverted light-sheet microscope for imaging mouse pre-implantation development”. *Nature Methods* 13.2 (Feb. 2016), pp. 139–142. DOI: 10.1038/nmeth.3690 (cit. on p. 1).

[J4] P. Hoyer, G. d. Medeiros, B. Balázs, N. Norlin, C. Besir, J. Hanne, H.-G. Kräusslich, J. Engelhardt, S. J. Sahl, S. W. Hell, and L. Hufnagel. “Breaking the diffraction limit of light-sheet fluorescence microscopy by RESOLFT”. *Proceedings of the National Academy of Sciences* 113.13 (Mar. 2016), pp. 3442–3446. DOI: 10.1073/pnas.1522292113 (cit. on p. 1).

The Author’s conference presentations

[C1] B. Balázs, M. Albert, and L. Hufnagel. “GPU-based image processing for multiview microscopy data”.

Presented at Focus on Microscopy 2016. Sept. 2016 (cit. on p. 1).

[C2] B. Balázs, M. Albert, and L. Hufnagel. *GPU-based image processing for multi-view microscopy data.* Mar. 2016 (cit. on p. 1).

[C3] B. Balázs, M. Albert, and L. Hufnagel. *GPU-based image processing for multi-view microscopy data.* Presented at Focus on Microscopy 2017. Apr. 2017 (cit. on p. 1).

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[1] J. Huisken, J. Swoger, F. Del Bene, J. Wittbrodt, and E. H. K. Stelzer. "Optical Sectioning Deep Inside Live Embryos by Selective Plane Illumination Microscopy". *Science* 305.5686 (2004), pp. 1007–1009 (cit. on p. 1).

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