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Medizinisches Laserzentrum Lübeck GmbH in Kooperation mit  
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## Preise & Auszeichnungen

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## Publikationsliste

- Vogel A, Noack J, Hüttmann G, Linz N, Freidank S, Paltauf G** (2006) Femtosecond laser nano surgery of biological cells and tissues. *Proc. 4<sup>th</sup> Int. Congress on Laser Advanced Materials Processing (LAMP2006)*, 16. – 19. Mai 2006, Kyoto, Japan (published online in Sept 2006).
- Vogel A, Noack J, Hüttmann G, Linz N, Freidank S, Paltauf G** (2007) Mechanisms of femtosecond laser nano surgery of biological cells and tissues. In Masuhara H, Kawata S, Tokunaga F (Eds) *Nano Biophotonics: Science and Technology, Proc. 3rd Internat. Nanophotonics Symposium Handai, Osaka University*, 06th – 08th July 2006, Osaka, Japan, Elsevier, 273-286
- Vogel A, Horneffer V, Lorenz K, Linz N, Freidank S, Hüttmann G, Gebert A** (2007) Principles of laser microdissection and catapulting of histologic specimens and live cells. In: Berns M and Greulich KO (eds.) *Laser Manipulation of Cells and Tissues*, Academic Press, Elsevier, San Diego, 153-205
- Horneffer V, Linz N, Vogel A** (2007) Mechanisms of laser-induced separation and transport of living cells. *J Biomed Opt* **12**:054016,1-13
- Vogel A, Linz N, Freidank S, Paltauf G** (2008) Femtosecond laser induced nanocavitation in water: implications for optical breakdown threshold and cell surgery. *Phys. Rev. Lett.* **100**: 038102
- Linz N**: Controlled nonlinear energy deposition in transparent dielectrics by femtosecond and nanosecond optical breakdown. *Dissertation 2010*, Der andere Verlag, ISBN 978-3-86247-076-1

## Eingeladene Vorträge

**Linz N, Freidank S, Vogelmann H, Trickl T, Vogel A:** Wavelength dependence of nanosecond and femtosecond optical breakdown in water. *SPIE-Symposium "Biomedical Optics", Conference 7175 "Optical Interactions with Tissues and Cells XX"*, 24.-29. January 2009, San Jose, CA, USA.

**Linz N, Liang XX, Freidank S, Noack J, Vogel A:** Controlled nonlinear energy deposition in transparent materials – experiments and theory. *Tenth International Conference on Laser Ablation (COLA 2009)*, 22.-27. November 2009, Singapore.

**Linz N, Freidank S, Liang XX, Eckert S, Faust S, Schwed S, Vogel A:** Femtosecond and nanosecond laser nanosurgery: New perspectives for controlled nonlinear energy deposition exemplified on ophthalmic surgery. *SPIE-Symposium "Biomedical Optics", Conference "Optical Interactions with Tissue and Cells XXIII"*, 21.-26. January 2012, San Francisco, CA, USA.

## Vorträge

**Linz N, Freidank S, Paltauf G, Vogel A:** Time-resolved investigations of fs-laser-induced nanocavitation in water, and comparison to numerical predictions. *WLT Laser Summerschool, Laser Zentrum Hannover*, 28. –30. June 2006, Hannover, Germany.

**Linz N, Freidank S, Paltauf G, Vogel A:** Femtosecond-Laser-Induced Nanocavitation: Time-Resolved Investigation and Comparison to Numerical Predictions. Poster, *Gordon Research Conference Lasers in Medicine and Biology*, 02.-07. July 2006, Plymouth, NH, USA.

**Linz N, Horneffer V, Freidank S, Vogel A:** Dosimetry in cellular optoperforation by real-time monitoring of bubble formation. *SPIE-Symposium "Biomedical Optics", Conference 6435 "Optical Interactions with Tissues and Cells XVIII"*, 22.-24. January 2007, San Jose, CA, USA.

**Linz N, Freidank S, Paltauf G, Vogel A:** Femtosecond laser induced nanocavitation. *SPIE-Symposium "Lasers and Applications in Science and Technology", Conference 6460 "Commercial and Biological Applications of Ultrafast Laser VII"*, 22.-24. January 2007, San Jose, CA, USA.

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**Linz N, Freidank S, Eckert S, Paltauf G, Vogel A:** Laser Induced Nanocavitation for Transient Perforation of Cell Membranes. *9th Int. Symposium on Laser Precision Manufacturing (LPM) 2008*, 16.-20. June 2008, Quebec, Canada.

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**Linz N, Freidank S, Eckert S, Schlott K, Faust S, Schwed S, Vogel A:** Precise and fast creation of LASIK flaps with nanosecond laser pulses from a compact 150 kHz UV laser system. *SPIE-Symposium "Biomedical Optics", Conference "Ophthalmic Technologies XXII"*, 21.-26. January 2012, San Francisco, CA, USA.

**Linz N, Freidank S, Eckert S, Schlott K, Faust S, Schwed S, Vogel A:** Microchip laser technology for precise and fast creation of LASIK flaps. *SPIE-Symposium "Lasers and Applications in Science and Technology", Conference "Frontiers in Ultrafast Optics: Biomedical, Scientific, and Industrial Applications XII"*, 21.-26. January 2012, San Francisco, CA, USA.

## Patente

**Vogel A, Linz N, Freidank B** (06/2007) *Verfahren zur Laserbearbeitung transparenter Materialien*. German patent application DE 10 2007 028 042.6. B3 Patent granted in April 2008, and published 07.08.2008.

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**Vogel A, Linz N, Freidank B** (11/2009) *Method for laser machining transparent materials*. US patent US 2010/0163540 A1, publication date 1. July 2010

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