

(1)原著論文 (accept を含む) / Original Papers

1. K. Sugioka and Y. Cheng, "Fabrication of 3D microfluidic structures inside glass by femtosecond laser micromachining", *Appl. Phys. A114*, 215-221 (2014). (INVITED PAPER)
2. Y. Liao, B. Zeng, L. Qiao, L. Liu, K. Sugioka, and Y. Cheng, "Threshold effect in femtosecond laser induced nanograting formation in glass: influence of the pulse duration", *Appl. Phys. A114*, 223-230 (2014). (INVITED PAPER)
3. K. Sugioka and Y. Cheng, "Ultrafast lasers - reliable tools for advanced materials processing", *Light: Science & Applications* 3, e149 (2014). (INVITED PAPER)
4. D. Wu, S. Wu, J. Xu, L. Niu, K. Midorikawa, and K. Sugioka, "Hybrid femtosecond laser microfabrication to achieve true 3D glass/polymer composite biochips with multiscale features and high performance: the concept of ship-in-a-bottle biochip", *Laser & Photonics Reviews* 8, 458-467 (2014).
5. F. He, B. Zeng, W. Chu, J. Ni, K. Sugioka, Y. Cheng, and C. G. Durfee. "Characterization and control of peak intensity distribution at the focus of a spatiotemporally focused femtosecond laser beam", *Opt. Express* 22, 9734-9748.
6. Y. Liao, Y. Cheng, C. Liu, J. Song, F. Hei, Y. Shen, D. Chen, Z. Xu, Z. Fan, X. Wei, K. Sugioka, and K. Midorikawa, "Direct laser writing of sub-50 nm nanofluidic channels buried in glass for three-dimensional micro-nanofluidic integration", *Lab Chip* 13, 1626-1631 (2013).
7. J. Lin, Y. Xu, J. Song, B. Zeng, F. He, H. Xu, K. Sugioka, W. Fang, and Y. Cheng, "Low-threshold whispering-gallery-mode microlasers fabricated in a Nd:glass substrate by three-dimensional femtosecond laser micromachining", *Opt. Lett.* 38, 1458-1460 (2013).
8. F. A. Umran, Y. Liao, M. M. Elias, K. Sugioka, R. Stoian, G. Cheng, and Y. Cheng, "Formation of nanogratings in a transparent material with tunable ionization property by femtosecond laser irradiation", *Opt. Express* 21, 15259-15267 (2013).
9. S. Wu, D. Wu, J. Xu, H. Wang, T. Makimura, K. Sugioka, and K. Midorikawa, "Absorption mechanism of the second pulse in double-pulse femtosecond laser glass microwelding", *Opt. Express* 21, 24049-24059 (2013).
10. J. Xu, D. Wu, Y. Hanada, C. Chen, S. Wu, Y. Cheng, K. Sugioka, and K. Midorikawa, "Electrofluidics fabricated by space-selective metallization in glass microfluidic structures using femtosecond laser direct writing", *Lab Chip* 13, 4608-4616 (2013).
11. Y. Liao, L. L. Qiao, Z. H. Wang, M. Wang, L. Q. Liu, K. Sugioka, and Y. Cheng, "Fabrication of a liquid crystal light modulator by use of femtosecond-laser-induced nanoripples", *Opt. Mater. Express* 3, 1698-1704 (2013).
12. S. Nakashima, K. Sugioka, K. Tanaka, K. Midorikawa, and Mukai, "Optical and magneto-optical properties in Fe-doped glasses irradiated with femtosecond laser", *Appl. Phys. B113*, 451-456 (2013).
13. C. N. Liu, Y. Lia, F. He, J. X. Song, D. Lin, Y. Cheng, K. Sugioka, and K. Midorikawa, "Compact 3D microfluidic channel structures embedded in glass fabricated by femtosecond laser direct writing", *J. Laser Micro/Nanoengin.* 8, 170-174 (2013).

(2)著書、解説等 / Book Editions, Review Papers

1. K. Sugioka and Y. Cheng, "Ultrafast Laser Processing: From Micro- to Nanoscale", (Pan Stanford Publishing, Singapore). (2013). (Editor)
2. K. Sugioka and Y. Cheng, "Femtosecond laser 3D micromachining for microfluidic and optofluidic applications", (Springer, London Heidelberg New York Dordrecht, 2013).
3. K. Sugioka and Y. Cheng, "Overview of ultrafast laser processing", K. Sugioka and Y. Cheng (Eds.) "Ultrafast Laser Processing: From Micro- to Nanoscale", (Pan Stanford Publishing, Singapore) p. 1-36 (2013).
4. Y. Cheng and K. Sugioka, "Fabrication of microfluidic chips and integrated optofluidic devices in glass by femtosecond laser direct writing", K. Sugioka and Y. Cheng (Eds.) "Ultrafast Laser Processing: From Micro- to Nanoscale", (Pan Stanford Publishing, Singapore) p. 489-518 (2013).
5. K. Sugioka, "Ultrafast laser micro- and nano-processing of glasses", P. Ossi (Ed.), *Lasers in Materials Science*, (Springer, Berlin) p. 359-380 (2014).

6. 杉岡幸次、“レーザ加工”、電気学会125年史((社)電気学会、東京) p. 433-434 (2013).
7. 杉岡幸次, "2.7 レーザ加工分野の市場動向: 2.7.1 はじめに", 光産業の動向((財)光産業技術振興協会編) p.202-208 (2013).
8. 杉岡幸次, "2.7 レーザ加工分野の市場動向: 2.7.3 おわりに", 光産業の動向((財)光産業技術振興協会編) p.230-231 (2013).
9. 杉岡幸次,"超短パルスレーザによる精密・微細加工技術", 機械技術 62, 41-44 (2014).

(3)招待講演 / Invited Talks

1. K. Sugioka, "Femtosecond laser 3D micromachining and its applications to biochip fabrication", SPIE Photonics WEST - LASE 2014, San Francisco, USA, Feb. (2014). (PLENARY TALK)
2. K. Sugioka, "Femtosecond laser processing for biochip applications", 10th Pacific Rim Conf. on Lasers and Electro-Optics (CLEO/Pacific Rim 2013), Kyoto, Japan, July (2013). (TUTORIAL TALK)
3. K. Sugioka and K. Midorikawa, "VUV-UV multiwavelength excitation process for high-quality ablation of fused silica", SPIE Int. Symp. on Damage to VUV, EUV, and X-ray Optics IV, Prague, Czech, April. (2013).
4. K. Sugioka, D. Wu, and K. Midorikawa, "Ship-in-a-bottle biomicrochips fabricated by hybrid femtosecond laser processing", 1st Int. Workshop on Ultrafast Laser Modification of Materials, Corsica, France, April (2013).
5. Y. Cheng, Y. Liao, and K. Sugioka, "Micro/nano integration in glass with femtosecond laser", 2013 International Micro-Nano Technology and Application Symposium, Chongqing, China, April (2013).
6. Y. Cheng, Y. Liao, and K. Sugioka, "Femtosecond laser 3D nano-structuring enabled by extreme concentration of ultrafast light at nanometer scale", The 4th Shanghai-Tokyo Advanced Research (STAR4) Symposium on Ultrafast Intense Laser Science, Shanghai, China. (2013).
7. Y. Cheng, Y. Liao, and K. Sugioka, "Extreme nonlinear optics at nanoscale: enabling sub-50nm-scale 3D nanostructuring in glass", The 7th International Conference on Nanophotonics (ICNP)/3rd Conference on Advances in Optoelectronics and Micro/Nano Optics (AOM), Hong Kong China, May (2013).
8. K. Sugioka, D. Wu, and K. Midorikawa, "Ship-in-a-bottle biochips fabricated by hybrid femtosecond laser processing", 2013 Int. Conf. on Fundamentals of Laser Assisted Micro- and Nanotechnology (FLAMN-13), St. Petersburg, Russia, June (2013).
9. Y. Cheng, Y. Liao, and K. Sugioka, "Fabrication of functional micro- and nanofluidics embedded in glass using femtosecond laser microprocessing", 10th Pacific Rim Conf. on Lasers and Electro-Optics (CLEO/Pacific Rim 2013), Kyoto, Japan, July (2013).
10. K. Sugioka, D. Wu, and K. Midorikawa, "Hybrid femtosecond laser processing for fabrication of microfluidics and optofluidics", Optofluidics 2013, Hong-Kong, China, August (2013).
11. K. Sugioka, D. Wu, and K. Midorikawa, "Hybrid femtosecond laser processing for fabrication of highly functional biomicrochips", EUROMAT 2013 Symp. on Ultrafast Laser Processing and Functionalization of Materials for Technological Applications, Seville, Spain, Sept (2013).
12. K. Sugioka, S. Wu, and K. Midorikawa, "Efficient glass microwelding by double-pulse irradiation of femtosecond laser", 21st Int. Conf. on Advanced Laser Technology (ALT' 13), Budva, Montenegro, Sept. (2013).
13. Y. Cheng, Y. Liao, and K. Sugioka, "Femtosecond laser 3D nanofabrication in glass: enabling direct write of integrated micro/nanofluidic chips", SPIE Int. Symp. on Laser Applications in Microelectronic and Optoelectronic Manufacturing XIX (LAMOM XIX), San Francisco, USA, Feb. (2014).
14. 杉岡幸次, 緑川克美, "フェムト秒レーザによるバイオチップの作製", 第79回レーザ加工学会講演会、5月、大阪(2013).(特別講演)
15. 杉岡幸次, "レーザー微細加工の最前線 - 難加工材への展開やマイクロ・ナノ加工事例", 第6回レーザー加工技術展専門技術セミナー、4月、東京(2013).
16. 杉岡幸次, "フェムト秒レーザによるバイオチップの作製", 光産業技術振興協会平成25年度第2回多元技術融合光プロセス研究会、8月、東京 (2013).
17. 花田修賢, 杉岡幸次, "フェムト秒レーザーを用いたバイオチップの作製およびその応用", 第74回応用物理学会秋期学術講演会シンポジウム「医療・バイオ分野におけるレーザープロセッシングの新展開」、9月、田辺 (2013).
18. 杉岡幸次, "レーザ加工分野の最新動向", 平成25年光産業技術振興協会光産業動向セミナー、1

0月、横浜(2013).

19. 杉岡幸次, “励起状態を利用したレーザープロセス”, 応用物理学会励起ナノプロセス研究会 第9回研究会、12月、東京(2013).
20. 杉岡幸次, “フェムト秒レーザーによる3次元マイクロ・ナノ加工”, 第21回先端光量子科学アライアンスセミナー、12月、東京(2013).
21. D. Wu, K. Sugioka, and K. Midorikawa, “Two photon polymerization integration of microlens arrays into 3D microchannel for cell counting”, 第61回応用物理学会春期学術講演会、3月、相模原(2014).

(4)会議、シンポジウム、セミナー主催 / Meetings, Symposiums and Seminars

1. International Conference General Chair, “6th Int. Congress on Laser Advanced Materials Processing (LAMP2013)”, Niigata, Japan, July, 2013.

(5) その他特筆すべき事項・トピックス (新聞記事、雑誌表紙等) / Topics

1. K. Sugioka and Y. Cheng, “Fabrication of 3D microfluidic structures inside glass by femtosecond laser micromachining”, Advances in Engineering (<http://advanceseng.com/applied-physics/fabrication-3d-microfluidic-structures-inside-glass-femtosecond-laser-micromachining/>).
2. D. Wu, S. Wu, J. Xu, L. Niu, K. Midorikawa, and K. Sugioka, “Hybrid femtosecond laser microfabrication to achieve true 3D glass/polymer composite biochips with multiscale features and high performance: the concept of ship-in-a-bottle biochip”, Laser & Photonics Reviews 8 (3) (2014), Inside Front Cover.