

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

1. B. Xu, W. Du, J. Li, Y. Hu, L. Yang, C. Zhang, G. Li, Z. Lao, J. Ni, J. Chu, D. Wu, S. Liu, and K. Sugioka, "High efficiency integration of three-dimensional functional microdevices inside a microfluidic chip by using femtosecond laser multifoci parallel microfabrication", *Sci. Rep.* **6**, 19989 (2016).
2. Y. Hanada, T. Ogawa, K. Koike, and K. Sugioka, "Making the invisible visible: a microfluidic chip using a low refractive index polymer", *Lab Chip* **16**, 2481-2486 (2016).
3. Z. Wang, Y. Liao, P. Wang, J. Qi, L. Qiao, K. Sugioka, and Y. Cheng, "Formation of in-volume nanogratings in glass induced by spatiotemporally focused femtosecond laser pulses", *Adv. Opt. Technol.* **5**, 81-85 (2016).
4. C. Zhang, Y. Hu, W. Du, P. Wu, S. Rao, Z. Cai, Z. Lao, B. Xu, J. Ni, J. Li, G. Zhao, D. Wu, J. Chu, and K. Sugioka, "Optimized holographic femtosecond laser patterning method towards rapid integration of high-quality functional devices in microchannels", *Sci. Rep.* **6**, 33281 (2016).
5. F. He, J. Yu, Y. Tan, W. Chu, C. Zhou, Y. Cheng, and K. Sugioka, "Tailoring femtosecond 1.5- μm Bessel beams for manufacturing high-aspect-ratio through-silicon vias", *Sci. Rep.* **7**, 40785 (2017).
6. J. Xu, H. Kawano, W. Liu, Y. Hanada, P. Lu, A. Miyawaki, K. Midorikawa, and K. Sugioka, "Controllable alignment of elongated microorganisms in a 3D microspace using electrofluidic devices manufactured by hybrid femtosecond laser microfabrication", *Microsystems Nanoengin.* **3**, 16078 (2017).

(2) 著書・解説など / Book Editions, Review Papers

1. K. Sugioka, "Progress in ultrafast laser processing and future prospects", *Nanophotonics* **5**, 17-37 (2016).
2. K. Sugioka and S. Kaierle, "Optics for material processing", *Adv. Opt. Technol.* **5**, 15-16 (2016).
3. S. M. Yalisove, K. Sugioka, and C. P. Grigoropoulos, "Advances and opportunities of ultrafast laser synthesis and processing", *MRS Bulletin* **41**, 955-959 (2016).
4. F. Sima, J. Xu, D. Wu, and K. Sugioka, "Ultrafast laser fabrication of functional biochips: new avenues for exploring 3D micro- and nano-environments", *Micromachines* **8**, 40 (2017).
5. 杉岡幸次, "フェムト秒レーザーを用いた除去/付加複合3次元加工と応用", *OPTRONICS*, 413, 135-139 (2016).
6. 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", 平成27年度光産業

- 技術に関する報告書((財)光産業技術振興協会編) p.240-244 (2016).
7. 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", 平成 27 年度光産業技術に関する報告書((財)光産業技術振興協会編) p.275-276 (2016).
 8. 杉岡幸次, "Si の高品質・高アスペクト比微細加工を実現するフェムト秒ベッセルビーム最適化技術", ケミカルエンジニアリング, 61, 876-881 (2016).
 9. 杉岡幸次, "超短パルスベッセルビームによる高アスペクト TSV 加工技術", FORM TECH REVIEW, (2017).(in press)
 10. 杉岡幸次, "超短パルスレーザープロセッシング-最新の研究動向から産業応用まで-", 光アライアンス, (2017).(in press)
 11. 杉岡幸次, "フェムト秒ベッセルビームによる高品質・高アスペクト比 Si 貫通穴形成技術", OPTRONICS, (2017).

(3) 招待講演 / Invited Talks

1. K. Sugioka, F. Sima, J. Xu, D. Wu, and K. Midorikawa, "Hybrid subtractive and additive 3D femtosecond laser processing for integrated biochip fabrication", 4th Int. Symp. on Laser Interaction with matter (LIMIS 2016), Chengdu, China, Nov. (2016).
Plenary talk.
2. K. Sugioka, " Hybrid subtractive and additive femtosecond laser 3D micro machining", 5th Industrial Laser Appl. Sym. (ILAS 2017), Belton, Grantham, UK, March (2017).
Plenary talk.
3. K. Sugioka, F. Hei, and Y. Cheng, "Fabrication of High-Aspect-Ratio Through-Silicon Vias", 4th Int. Academy of Photon. and Laser Engin. (IAPLE) Conference, Port Douglas, Australia, Aug. (2016). **Keynote talk.**
4. K. Sugioka, " Ultrafast laser micro and nano processing – From fundamentals to applications", 5th Int. School on Lasers in Materials Science (SLIMS 2016), Venice, Italy, July (2016). **Tutorial talk.**
5. K. Sugioka, F. He, and Y. Cheng, "Fabrication of high-aspect-ratio through Si vias by tailored femtosecond Bessel beams at 1.5 μm wavelength", Int. Symp. on Optoelectronic Technol. and Appl. 2016 (OTA 2016), Beijin, China, May (2016).
6. K. Sugioka, F. He, and Y. Cheng, "Tailored 1.5- μm femtosecond bessel beams for fabrication of high-aspect-ratio through Si Vias", The 7th Shanghai-Tokyo Advanced Research Symposium on Ultrafast Intense Laser Science (STAR7), Hayama, Japan, May (2016).
7. K. Sugioka, F. He, and Y. Cheng, "Tailored Bessel beam using a binary phase plate: Applications to fabrication of high - quality, high - sapect - ratio through Si Vias (TSVs)", 2nd Workshop on Progress on Ultrafast Laser Modification of Materials (PULMM 2016), Neuchatel, Switzerland, June (2016).

8. F. Sima, D. Wu, J. Xu, K. Midorikawa, and K. Sugioka, "Femtosecond laser micro- and nanoengineering of 3D environments for cancer cell study", Int. Conf. on Small Science (ICSS 2016), Prague, Czech, June (2016).
9. K. Sugioka, J. Xu, F. Sima, H. Kawano, A. Miyawaki, and K. Midorikawa, "Hybrid subtractive and additive 3D processing using femtosecond laser", 2016 Light Conference, Changchun, China, July (2016).
10. K. Sugioka, J. Xu, F. Sima, H. Kawano, A. Miyawaki, and K. Midorikawa, "Hybrid subtractive and additive 3D microprocessing using femtosecond laser for functional biochip fabrication", The 10th International Conference on Photo-Excited Processes and Applications (ICPEPA-10), Brasov, Romania, August-Sept. (2016).
11. F. Sima, D. Wu, J. Xu, K. Midorikawa, and K. Sugioka, "Ship-in-a-bottle integration of biomimetic architecture into lab-on-a-chip by femtosecond laser 3D processing: application to cancer research", 24th Int. Conf. on Advanced Laser Technology (ALT'16), Galway, Ireland, Sept. (2016).
12. K. Sugioka, F. He, and Y. Cheng, "Tailored femtosecond Bessel beams for fabrication of high-aspect-ratio through Si vias (TSVs)", 25th Int. Cong. on Applications of Lasers & Electro-Optics (ICALEO 2016), San Diego, USA, Oct. (2016).
13. K. Sugioka, F. He, and Y. Cheng, "Tailored femtosecond Bessel beams for fabrication of high-aspect-ratio through Si vias", SPIE Int. Conf. on Laser-based Micro- and Nanoprocessing XI (LBMN XI), San Francisco, USA, Jan.-Feb. (2017).
14. F. Sima, D. Serien, D. Wu, J. Xu, K. Midorikawa, and K. Sugioka, "Micro and nano-biomimetic structures for cell migration study fabricated by hybrid subtractive and additive 3D femtosecond laser processing", SPIE Int. Conf. on Laser-based Micro- and Nanoprocessing XI (LBMN XI), San Francisco, USA, Jan.-Feb. (2017).
15. K. Sugioka, F. Sima, J. Xu, and K. Midorikawa, "Hybrid subtractive and additive 3D femtosecond laser processing: application for fabrication of novel biochips", 2017 Int. Conf. on Frontiers in Theoretical and Applied Physics (FTAPS 2017), Sharjah, UAE, Feb. (2017).
16. 杉岡幸次, "超短パルスレーザープロセッシング - 最新の研究動向から産業応用まで", JIAL・グローバルテクノロジーセミナー、9月、横浜 (2016). **基調講演**.
17. 杉岡幸次, "高品質・高アスペクト比微細加工を実現するフェムト秒ベッセルビーム最適化技術", 平成 28 年度新技術説明会、5月、東京 (2016).
18. 杉岡幸次, "フェムト秒レーザーを用いた除去/付加複合3次元加工と応用", OPIE'16 共催セミナー「レーザー光を用いた超精密・超微細 3D プリンティングの最前線」、5月、東京 (2016).
19. 杉岡幸次, "整形フェムト秒ベッセルビームによる TSV 作製", 2016 年度第1回TSV 応用研究会、6月、東京 (2016).
20. 杉岡幸次, "超短パルスレーザー加工の基礎と応用", 光産業技術振興協会平成28

年度第2回多元技術融合光プロセス研究会、8月、東京 (2016).

21. Daniela Serien, “About the potential of proteinaceous microfabrication in biomedical applications”, 第 77 回応用物理学会秋季学術講演会、9 月、新潟 (2016).
22. 杉岡幸次, “レーザー加工分野の最新動向”, 平成28年光産業技術振興協会光産業動向セミナー、10月、横浜 (2016).
23. 杉岡幸次, ”フェムト秒レーザーによる3次元加工とそのバイオ応用”, 第 177 回レーザー協会研究会、1月、東京 (2017).

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

1. 17th Int. Sym. on Laser Precision Microfabrication (LPM 2016), Xi-an, China, May (2016).
2. SPIE Photonics West LASE 2016, San Francisco, USA, Jan-Feb. (2017).
3. エクストリームフォトニクスセミナー, Thomas Lippert, “Deposition of Thin Films by Pulsed Laser Deposition (PLD) and Laser-Induced Forward Transfer (LIFT)”, 和光, 1 月 27 日, (2017).
4. エクストリームフォトニクスセミナー, Jörn Wochnowski, “Selected Coating Technologies like Chemical Vapour Deposition with Organometallic Compounds for Modification of the Inner Surface of Micro-and Nanostructured Materials”, 和光, 3 月 28 日, (2017).

(5) 特許出願 / Patent Applications

1. 杉岡幸次, ”レーザービーム整形装置および除去加工装置”、特願 2016-024150, 2016 年 2 月 10 日.

(6) 特筆すべき事項・トピックス(雑誌表紙などの掲載記事) / Topics

1. 化学工業日報, “高アスペクト比 TSV 理研、レーザー技術活用”, 2017 年 1 月 19 日
2. 日刊工業新聞, “直径 7 マイクロメートルシリコン基板深さ 100 マイクロメートル穴貫通理研が技術”, 2017 年 1 月 19 日
3. 日経産業新聞, “シリコン基板 微小・高精度な穴あけ 理研、強力レーザーで”, 2017 年 1 月 26 日

言語について

原則オリジナルの言語での記載とし、日英併記は不要とする。

•論文など、英文のものは英文のみ。

•日本で出願している特許などは日本語のままでも構わない。