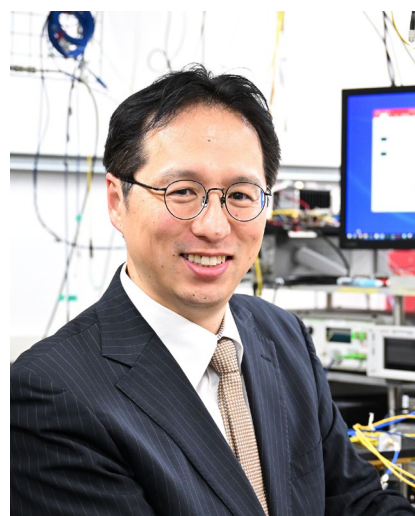


NAME

Takasumi TANABE

ADDRESS

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**DATE OF BIRTH**

June 3, 1976, Japan

EDUCATION

Ph.D.	Integrated Design Engineering,	Keio University, Japan	March 2004
M.S.	Integrated Design Engineering,	Keio University, Japan	September 2001
B.S.	Electronics and Electrical Engineering,	Keio University, Japan	March 2000

APPOINTMENTS

April 2024 – present	Department Chair of the Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Japan
April 2018 – present	Professor, Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Japan
April 2012 – March 2018	Associate Professor, Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Japan
April 2010 – March 2012	Lecturer, Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Yokohama, Japan
April 2009 – March 2010	Research Scientist, NTT Basic Research Laboratories, NTT Corporation, Atsugi, Japan
April 2004 – March 2009	Researcher, NTT Basic Research Laboratories, NTT Corporation, Atsugi, Japan
November 2002 – March 2004	Research Associate, 21st Century Center of Excellence (COE) Program in optical and electronic device technology for access network, Keio University, Yokohama, Japan

AWARDS & RECOGNITION

Jan 2025	Fellow, Optica
June 2011	Ando Incentive Prize for the Study of Electronics, Japan
April 2011	The Commendation for Science and Technology by the Minister of Education,

November 2007 Culture, Sports, Science and Technology, The Young Scientists' Prize
The 6th Annual Scientific American 50 Award, "Light Manipulation."

PROFESSIONAL ACTIVITIES

Society membership:

Fellow, Optica
Member, IEEE Photonics Society
Member, SPIE
Member, The Japan Society of Applied Physics
Senior Member, The Laser Society of Japan
Member: The Institute of Electronics, Information and Communication Engineers
Member: The Optical Society of Japan

Scientific journals:

Deputy Editor-in-Chief, The Review of Laser Engineering, The Laser Society of Japan, June 2022 – Present
Editorial Board Member, Scientific Reports, Nature Publishing Group, February 2017- Present
Associate Editor, AIP Advances, American Institute of Physics, April 2013 - Present
Senior Editor, IEEE J. Selected Topics in Quantum Electronics, IEEE, April 2022 – Mar 2023
Editorial Board, OYO BUTURI, The Japan Society of Applied Physics, April 2014 – March 2016
Editorial Board Secretary, The Review of Laser Engineering, The Laser Society of Japan, April 2011 – May 2022

Committees in international conferences:

Program Chair, The 14th Advanced Lasers and Photon Sources (ALPS2025), 2025
Program Vice Chair, International Conference on Nano-photonics, Nano-optoelectronics, and Quantum Technology (ICNNQ2025), 2025
Technical Program Committee, Asia Communications and Photonics Conference (ACP) 2024, 2024
Technical Program Committee, SPIE/COS Photonics Asia 2024, 2024
Technical Program Committee, Nonlinear Photonics (NP) 2024, 2024
Program Chair, The 12th Advanced Lasers and Photon Sources (ALPS2024), 2024
Program Vice Chair, International Conference on Nano-photonics and Nano-optics (ICNN2024), 2024
Program Chair, The 11th Advanced Lasers and Photon Sources, 2023
Program Vice Chair, International Conference on Nano-photonics and Nano-optics (ICNN2023), 2023
The 12th Asia-Pacific Laser Symposium (APLS2023) 2023, Steering Committee (Secretary), 2023
Technical Program Committee, Nonlinear Photonics (NP2022) 2022, 2022
Technical Program Sub-Committee Chair (C8), CLEO Pacific Rim 2022, 2022
General Chair (S&I), CLEO:2022, 2022
Program Committee, The 10th Advanced Lasers and Photon Sources, 2022
Program Vice Chair, International Conference on Nano-photonics and Nano-optics (ICNN2022), 2022
Steering Committee, The 3th International Workshop on OptoMechanics and Brillouin-Mandelstam Scattering (WOMBAT), 2022

Program Committee, The 9th Advanced Lasers and Photon Sources, 2021
 Program Vice Chair, International Conference on Nano-photonics and Nano-optics (ICNN2021), 2021
 Program Chair (S&I), CLEO:2020, 2020
 Program Committee, The 8th Advanced Lasers and Photon Sources, 2020
 Program Committee/Steering Committee, International Conference on Nano-photonics and Nano-optoelectronics (ICNN2020), 2020
 Technical Program Sub-Committee Chair (SI7), CLEO:2019, 2019
 Program Committee, The 7th Advanced Lasers and Photon Sources, 2019
 Program Committee/Steering Committee, International Conference on Nano-photonics and Nano-optoelectronics (ICNN2019), 2019
 Technical Program Sub-Committee Chair (SI7), CLEO:2018, 2018
 Program Committee/Steering Committee, International Conference on Nano-photonics and Nano-optoelectronics (ICNN2018), 2018
 Program Committee, The 6th Advanced Lasers and Photon Sources, 2018
 Technical Program Committee (SI7), CLEO:2017, 2017
 Program Committee, The 24th Congress of the International Commission for Optics (ICO-24), 2017
 Program Committee/Steering Committee, International Conference on Nano-photonics and Nano-optoelectronics (ICNN2017), 2017
 Program Committee/Steering Committee, The 6th Advanced Lasers and Photon Sources, 2017
 International Advisory Committee, COMPTHELIX-2017
 Technical Program Committee (S&I 7), CLEO:2016, 2016
 Program Committee/Steering Committee, The 5th Advanced Lasers and Photon Sources, 2016
 Program Committee/Steering Committee, The 4th Advanced Lasers and Photon Sources, 2015
 Program Committee/Secretariat, The 3rd Advanced Lasers and Photon Sources, 2014
 Steering Committee, The second Japan-France Frontiers of Engineering (JFFoE), 2012
 Program Sub-Committee, CLEO/Pacific Rim, 2009
 Sub-Committee, IEEE/LEOS Ultrafast Optics and Electronics, 2007
 Sub-Committee, IEEE/LEOS Ultrafast Optics and Electronics, 2006

Referees:

Science, Nature, Nature Photonics, Nature Materials, Nature Physics, Nature Communications, Communications Physics, Scientific Reports, Optics Express, Optics Letters, Optica, Photonics Research, Journal of the Optical Society of America B, Applied Optics, Physical Review A, Applied Physics Letters, AIP Advances, ACS Photonics, Journal of Lightwave Technology, IEEE Photonics Technology Letters, IEEE Journal of Quantum Electronics, Nanophotonics, etc.

TEACHING

Keio University, 2010 - present

- Photonic Nanostructure (Graduate School) (International course / in English) (-present)
- Photonics (Undergraduate course) (in Japanese) (- present)
- Photonic device technologies (Undergraduate course) (in Japanese) (-present)
- Laboratory (Undergraduate course) (in Japanese) (-present)
- Global Leadership Seminar (Undergraduate course) (in Japanese) (2016, 2017)

Keio University, 2001-2004 (as a Teaching Assistant)

- Electromagnetism (Undergraduate course) (in Japanese)
- Laser Laboratory (Undergraduate course) (in Japanese)

RESEARCH INTEREST

Broad definition

Photonics, Electro-optics

Research topics

Keywords: Micro and Nano-sized optical cavities, optical nonlinearity, frequency comb, photonic crystal

2010 – Present: frequency comb in optical microcavities, high-Q photonic crystal nanocavities

2004 – 2010: High-Q photonic crystal nanocavities and their nonlinear optical applications

2001 – 2004: Coherent control of molecules in high-intensity laser fields

2000 – 2001: Femtosecond pulse shaping using feedback loop and PG-FROG traces

SELECTED INVITED TALKS

- [1] T. Tanabe, R. Imamura, and S. Fujii, “Mode-locking induced by exceptional point proximity in coupled microresonators,” The 16th Pacific Rim Conference on Lasers and Electro-Optics (CLEO-PR 2024), We1B-1, Incheon, Aug. 4-9 (2024). (invited)
- [2] S. Fujii, K. Wada, Y. Kakinuma, and T. Tanabe, “Fabrication of dispersion engineered ultrahigh-Q crystalline optical microresonator for broad-bandwidth optical parametric oscillation,” SPIE Photonics West 2021, 11672-6, online, Feb 6-11 (2021). (invited)
- [3] S. Fujii and T. Tanabe, “Experimental and numerical demonstration of tunable octave-wide four-wave mixing in dispersion engineered microresonators,” SPIE Photonics West 2020, 11274-19, San Francisco, Feb 1-6 (2020). (invited)
- [4] T. Tanabe, *et al.*, “Kerr comb generation in a mode coupled system,” SPIE Photonics West, 10904-20, San Francisco, Feb 2-7 (2019). (invited)
- [5] T. Tanabe, *et al.*, “Stimulated Raman scattering comb in a silica microcavity,” *Integrated Photonics Research, Silicon, and Nano-Photonics (IPR 2017)*, IM4A.3, New Orleans, 24-27 July (2017). (invited)
- [6] T. Tanabe, *et al.*, “Photon trapping, delaying and dynamic-control using ultra-small high-Q photonic crystal cavities,” in *Conference on Lasers and Electro-Optics / Quantum Electronics and Laser Science Conference (CLEO/QELS'07)*, CFQ1, Baltimore, May 8-10 (2007). (invited)

SELECTED CONTRIBUTED TALKS

- [1] R. Imamura, S. Fujii, A. Nakashima, and T. Tanabe, “Vicinity of exceptional point-induced mode-locking in coupled microresonators,” CLEO:2024, STu3Q.4, North Carolina, May 5-10 (2024).
- [2] S. Kogure, T. Ohtsuka, S. Fujii, H. Kumazaki, S. Tanaka, Y. Hashimoto, Y. Kobayashi, T. Araki, K. Furusawa, N. Sekine, and T. Tanabe, “FEC-free optical data transmission with a chip-integrated microresonator frequency comb source,” CLEO:2022, STh4K.2, San Jose (Hybrid), May. 15-20 (2022).
- [3] T. Tanabe, *et al.* “Dynamic release of short pulse from ultrahigh-Q nanocavities via adiabatic wavelength conversion,” In *Conference on Lasers and Electro-Optics / Quantum Electronics and Laser Science Conference (CLEO/QELS'08)*, QPDB1, San Jose, May 4-9 (2008). (post-deadline paper)
- [4] T. Tanabe, *et al.*, “Time-domain observation of photon trapping in ultra-small high-Q photonic crystal nanocavities,” in *Conference on Lasers and Electro-Optics / Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies 2006 (CLEO/QELS'06)*, QPDA7, Long Beach, May 21-26 (2006). (post-deadline paper)

- [5] T. Tanabe, *et al.*, "Fast on-chip all-optical switches and memories using silicon photonic crystal with extremely low operating energy," in *Conference on Lasers and Electro-Optics / Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies 2005 (CLEO/QELS'05)*, QPDA5, Baltimore, May 22-27 (2005). ([post-deadline paper](#))

SCIENTIFIC PUBLICATIONS

As of February 2025

112 publications in referred international journals

H-index: 41 (Google Scholar)

The sum of the Times Cited: 8593 (Google Scholar)

<https://scholar.google.co.jp/citations?user=Bz53ENYAAAAJ>

Researcher ID: B-4230-2009

FULL LIST OF SCIENTIFIC PUBLICATIONS

(Only international journals)

- [1] R. Imamura, S. Fujii, K. Nagashima, and T. Tanabe,
"Scalable fabrication of erbium-doped high-Q silica microtoroid resonators via sol-gel coating,"
Optics Continuum, Vol. 4, No. 3, pp. 5112-521 (2025).
- [2] T. Murakami, K. Wada, S. Kogure, R. Takabayashi, L. Yang, R. Shibata, H. Kumazaki, S. Watanabe, A. Ishizawa, T. Tanabe, and S. Fujii,
"Architecture for coherent dual-comb spectroscopy and low-noise photonic microwave generation using mechanically actuated soliton microcombs,"
Optics Letters, Vol. 50, No. 4, pp. 1417-1420 (2025).
- [3] S. Kogure, R. Sugano, S. Fujii, and T. Tanabe,
"Transition between low- and high-noise modulation instability microcombs in a silicon nitride microresonator,"
Japanese Journal of Applied Physics, Vol. 64, No. 1, 012003 (2025).
- [4] K. Tanikawa, S. Fujii, S. Kogure, S. Tanaka, S. Tasaka, K. Wada, S. Kawanishi, and T. Tanabe,
"Field Trial of Low-Latency, Short-Reach Optical Communication Employing a Microresonator Frequency Comb Light Source,"
IEICE Transactions on Electronics (2024) (advance online publication).
- [5] R. Imamura, S. Fujii, A. Nakashima, and T. Tanabe,
"Exceptional point proximity-driven mode-locking in coupled microresonators,"
Optics Express, Vol. 32, No. 13, pp. 22280-22290 (2024).
- [6] R. Sugano, J. Kokubu, T. Kodama, S. Jin, J. Hofs, J. Zhang, M. Okano, and T. Tanabe,
"Compact photonic crystal spectrometer with resolution beyond the fabrication precision,"
Optics Express, Vol. 32, No. 12, pp. 21563-21576 (2024).
- [7] S. Fujii, K. Wada, S. Kogure, and T. Tanabe,
"Mechanically actuated Kerr soliton microcombs,"
Laser and Photonics Reviews, 2301329 (2024).
- [8] S. Sota, K. Handa, S. Fujii, T. Tanabe, Y. Uzawa, K. Furusawa, and N. Sekine,
"Fabrication of silicon nitride based high-Q microring resonators prepared by hot-wire CVD method and their applications to frequency comb generation,"
Optical Materials Express, Vol. 15, No. 5, pp. 1128-1138 (2024).
- [9] D. Moreno, S. Fujii, A. Nakashima, D. Lemcke, A. Uchida, P. Sanchis, and T. Tanabe

- "Synchronization of two chaotic microresonator frequency combs,"
Optics Express, Vol. 32, No. 2, pp. 2460-2472 (2024).
- [10] S. Sugawara, S. Fujii, S. Kawanishi, and T. Tanabe,
"Stability and mutual coherence of Raman combs in high-Q silica microresonators,"
Optics Continuum, Vol. 2, Issue 7, pp. 1588-1596 (2023).
- [11] S. Fujii, K. Wada, R. Sugano, H. Kumazaki, S. Kogure, Y. K. Kato, and T. Tanabe,
"Versatile tuning of Kerr soliton microcombs in crystalline microresonators,"
Communication Physics, Vol. 6, 1 (2023).
- [12] R. Tokunaga, K. Kinoshita, R. Imamura, K. Nagashima, R. Imafuku, K. Nakagawa, T. Tanabe, and H. Maki,
"Carbon Nanotubes Coupled with Silica Toroid Microcavities as Emitters for Silicon-Integrated Photonics,"
ACS Applied Nano Materials Journal, Vol. 5, No. 10, pp. 14328-14335 (2022).
- [13] A. Nakashima, S. Fujii, R. Imamura, K. Nagashima, and T. Tanabe,
"Deterministic generation of a perfect soliton crystal with a saturable absorber,"
Optics Letters, Vol. 47, No. 6, pp. 1458-1461 (2022). (**Editor's Pick**)
- [14] S. Fujii, S. Tanaka, T. Ohtsuka, S. Kogure, K. Wada, H. Kumazaki, S. Tasaka, Y. Hashimoto, Y. Kobayashi, T. Araki, K. Furusawa, N. Sekine, S. Kawanishi, and T. Tanabe,
"Dissipative Kerr soliton microcombs for FEC-free optical communications over 100 channels,"
Optics Express, Vol. 30, No. 2, pp. 1351-1364 (2022).
- [15] Y. Hayama, S. Fujii, T. Tanabe, and Y. Kakinuma,
"Theoretical approach on the critical depth of cut of single crystal MgF₂ and application to a microcavity,"
Precision Engineering, Vol. 73, pp. 234-243 (2022).
- [16] T. S. L. P. Suzuki, A. Nakashima, K. Nagashima, R. Ishida, R. Imamura, S. Fujii, S. Y. Set, S. Yamashita, and T. Tanabe,
"Design of a passively mode-locking whispering-gallery-mode microlaser,"
Journal of the Optical Society of America B, Vol. 38, No. 10, pp. 3172-3178 (2021).
- [17] K. Kato, T. Takagi, T. Tanabe, S. Moriyama, Y. Morita, and H. Maki,
"Manipulation of phase slips in carbon-nanotube-templated niobium-nitride superconducting nanowires under microwave radiation,"
Scientific Reports, Vol. 10, 14278 (2020).
- [18] S. Fujii, Y. Hayama, K. Imamura, H. Kumazaki, Y. Kakinuma, and T. Tanabe,
"All-precision-machining fabrication of ultrahigh-Q crystalline optical microresonators,"
Optica, Vol. 7, No. 6, pp. 694-701 (2020).
- [19] S. Fujii and T. Tanabe,
"Dispersion engineering and measurement of whispering gallery mode microresonator for Kerr frequency comb generation,"
Nanophotonics, Vol. 9, No. 5, pp. 1087-1104 (2020). (review paper).
- [20] Y. Zhuang, H. Kumazaki, S. Fujii, R. Imamura, N. A. B. Daud, R. Ishida, H. Chen, and T. Tanabe,
"Coupling of a whispering gallery mode to a silicon chip with photonic crystal,"
Optics Letters, Vol. 44, No. 23, pp. 5731-5734 (2019). (**Editor's pick**)
- [21] T. Tanabe, S. Fujii, and R. Suzuki,
"Review on microresonator frequency comb,"
Japanese Journal of Applied Physics, Vol. 58, SJ-0801 (9 pages) (2019). (**progress review paper**)
- [22] S. Fujii, S. Tanaka, M. Fuchida, H. Amano, Y. Hayama, R. Suzuki, Y. Kakinuma, and T. Tanabe,
"Octave-wide phase-matched four-wave mixing in dispersion engineered crystalline microresonators,"

- Optics Letters**, Vol. 44, No. 12, pp. 3146-3149 (2019). **(Editor's pick)**
- [23] P. Minzioni, C. Lacava, T. Tanabe, J. Dong, X. Hu, G. Csaba, W. Porod, G. Singh, A. Willner, A. Almaiman, V. Torres-Company, J. Schroeder, A. Peacock, M. Strain, F. Parmigiani, G. Contestabile, M. Giampiero, D. Marpaung, Z. Liu, J. Bowers, L. Chang, S. Fabbri, M. Vázquez, V. Bharadwaj, S. Eaton, P. Lodahl, X. Zhang, B. Eggleton, B. Munro, K. Nemoto, O. Morin, J. Laurat, and J. Nunn,
“Roadmap on all-optical processing,”
Journal of Optics, Vol. 21, No. 6, 063001 (55 pages) (2019). **(review paper)**
- [24] R. Suzuki, S. Fujii, A. Hori, and T. Tanabe,
“Theoretical study on dual-comb generation and soliton trapping in a single microresonator with orthogonally polarized dual-pumping,”
IEEE Photonics Journal, Vol. 11, No. 1, 6100511 (11 pages) (2019).
- [25] N. A. B. Daud and T. Tanabe,
“Photolithographically fabricated silicon photonic crystal nanocavity photoreceiver with laterally integrated p-i-n diode,”
AIP Advances, Vol. 8, No. 10, 105224 (7 pages) (2018).
- [26] S. Fujii, Y. Okabe, R. Suzuki, T. Kato, A. Hori, Y. Honda, and T. Tanabe,
“Analysis of mode coupling assisted Kerr comb generation in normal dispersion system,”
IEEE Photonics Journal, Vol. 10, No. 5, 4501511 (11 pages) (2018).
- [27] T. Kumagai, N. Hirota, K. Sato, K. Namiki, H. Maki, and T. Tanabe,
“Saturable absorption by carbon nanotubes on silica microtoroids,”
Journal of Applied Physics, Vol. 123, 233104 (6 pages) (2018).
- [28] Y. Honda, W. Yoshiki, T. Tetsumoto, S. Fujii, K. Furusawa, N. Sekine, and T. Tanabe,
“Brillouin lasing in coupled silica toroid microcavities,”
Applied Physics Letters, Vol. 112, 201105 (5 pages) (2018). **(Featured Article / SCILIGHT)**
- [29] R. Suzuki, A. Kubota, A. Hori, S. Fujii, and T. Tanabe,
“Broadband gain induced Raman comb formation in a silica microresonator,”
Journal of the Optical Society of America B, Vol. 35, No. 4, pp. 933-938 (2018). **(Editor's pick)**
- [30] Y. Mizumoto, H. Itobe, H. Kangawa, M. Fuchida, T. Tanabe, and Y. Kakinuma,
“Development of CaF₂-brass hybrid WGM microcavity by using ultra-precision machining,”
Mechanical Engineering Letters, Vol. 4, pp. 17-00491 (8 pages) (2018).
- [31] S. Fujii, T. Kato, R. Suzuki, A. Hori, and T. Tanabe,
“Transition between Kerr comb and stimulated Raman comb in a silica whispering gallery mode microcavity,”
Journal of the Optical Society of America B, Vol. 35, No. 1, pp. 100-106 (2018). **(Editor's pick)**
- [32] S. Fujii, A. Hori, T. Kato, R. Suzuki, Y. Okabe, W. Yoshiki, A. C.-Jinnai, and T. Tanabe,
“Effect on Kerr comb generation in a clockwise and counter-clockwise mode coupled microcavity,”
Optics Express, Vol. 25, No. 23, pp. 28969-28982 (2017).
- [33] R. Suzuki, T. Kato, T. Kobatake, and T. Tanabe,
“Suppression of optomechanical parametric oscillation in a toroid microcavity assisted by a Kerr comb,”
Optics Express, Vol. 25, No. 23, pp. 28806-28816 (2017).
- [34] T. Tetsumoto, H. Kumazaki, K. Furusawa, N. Sekine, and T. Tanabe,
“Design, fabrication and characterization of a high Q silica nanobeam cavity with orthogonal resonant modes,”
IEEE Photonics Journal, Vol. 9, No. 5, 4502609 (9 pages) (2017).
- [35] W. Yoshiki, Y. Honda, T. Tetsumoto, K. Furusawa, N. Sekine, and T. Tanabe,

- “All-optical tunable buffering with coupled ultra-high Q whispering gallery mode microcavities,”
Scientific Reports, Vol. 7, 28758 (2017).
- [36] N. A. B. Daud, Y. Ooka, T. Tabata, T. Tetsumoto, and T. Tanabe,
“Electro-optic modulator based on photolithography fabricated $p-i-n$ integrated photonic crystal nanocavity,”
IEICE Transactions on Electronics, Vol. E100-C, No.8, pp.670-674 (2017).
- [37] Y. Mizumoto, H. Kangawa, H. Itobe, T. Tanabe, and Y. Kakinuma,
“Influence of crystal anisotropy on subsurface damage in ultra-precision cylindrical turning of CaF_2 ,”
Precision Engineering, Vol. 49, pp. 104-114 (2017).
- [38] S. Fujii, T. Kato, R. Suzuki, and T. Tanabe,
“Third-harmonic blue light generation from Kerr clustered combs and dispersive waves,”
Optics Letters, Vol. 42, No. 10, pp. 2010-2013 (2017).
- [39] Y. Ooka, T. Tetsumoto, N. A. B. Daud, and T. Tanabe,
“Ultrasmall in-plane photonic crystal demultiplexers fabricated with photolithography,”
Optics Express, Vol. 25, No. 2, pp. 1521-1528 (2017).
- [40] T. Kato, A. Hori, R. Suzuki, S. Fujii, T. Kobatake, and T. Tanabe,
“Transverse mode interaction via stimulated Raman scattering comb in a silica microcavity,”
Optics Express, Vol. 25, No. 2, pp. 857-866 (2017).
- [41] S. Vyas, T. Tanabe, M. Tiwari, and G. Singh,
“Chalcogenide photonic crystal fiber for ultraflat mid-infrared supercontinuum generation,”
Chinese Optics Letters, Vol. 14, No. 12, pp. 123201 (5 pages) 2016.
- [42] W. Yoshiki, Y. Honda, M. Kobayashi, T. Tetsumoto, and T. Tanabe,
“Kerr-induced controllable adiabatic frequency conversion in an ultra-high Q silica toroid microcavity,”
Optics Letters, Vol. 41, No. 23, pp. 5482-5485 (2016).
- [43] A. C.-Jinnai, T. Kato, S. Fujii, T. Nagano, T. Kobatake, and T. Tanabe,
“Broad bandwidth third-harmonic generation via four-wave mixing and stimulated Raman scattering in a microcavity,”
Optics Express, Vol. 24, No. 23, pp. 26322-26331 (2016).
- [44] S. Vyas, T. Tanabe, G. Singh and M. Tiwari,
“Ultraflat broadband supercontinuum in highly nonlinear $\text{Ge}_{11.5}\text{As}_{24}\text{Se}_{64.5}$ photonic crystal fibres,”
Ukrainian Journal of Physical Optics, Vol. 17, No. 3, pp. 132–139 (2016).
- [45] A. Godbole, P. P. Dali. V. Janyani, T. Tanabe, and G. Singh,
“All optical scalable logic gates using Si_3N_4 microring resonators,”
IEEE Journal of Selected Topics in Quantum Electronics, Vol. 22, No. 6, 5900308 (2016).
- [46] Y. Nakagawa, Y. Mizumoto, T. Kato, T. Kobatake, H. Itobe, Y. Kakinuma, and T. Tanabe,
“Dispersion tailoring of a crystalline whispering gallery mode microcavity for a wide-spanning optical Kerr frequency comb,”
Journal of the Optical Society of America B, Vol. 33, No. 9, pp. 1913-2920 (2016).
- [47] Y. Mizumoto, H. Kangawa, Y. Nakagawa, H. Itobe, T. Tanabe, and Y. Kakinuma,
“Influence of nose radius on surface integrity in ultra-precision cylindrical turning of single-crystal calcium fluoride,”
Procedia CIRP, Vol. 45, 139-142 (2016).
- [48] T. Kato, A. C.-Jinnai, T. Nagano, T. Kobatake, R. Suzuki, W. Yoshiki, and T. Tanabe,
“Hysteresis behavior of Kerr frequency comb generation in a high-quality-factor whispering gallery mode microcavity,”

- Japanese Journal of Applied Physics**, Vol. 55, No. 7, 072201 (2016). (**SPOTLIGHTS**)
- [49] K. Masuda, S. Moriyama, Y. Morita, K. Komatsu, T. Takagi, T. Hashimoto, N. Miki, T. Tanabe, and H. Maki,
“Thermal and quantum phase slips in niobium-nitride nanowires based on suspended carbon nanotubes,”
Applied Physics Letters, Vol. 108, 222601 (2016).
- [50] H. Itobe, Y. Nakagawa, Y. Mizumoto, H. Kangawa, Y. Kakinuma, and T. Tanabe,
“Bi-material crystalline whispering gallery mode microcavity structure for thermo-opto-mechanical stabilization,”
AIP Advances, Vol. 6, No. 5, 055116 (2016).
- [51] Y. Ooka, N. A. B. Daud, T. Tetsumoto, and T. Tanabe,
“Compact resonant electro-optic modulator using randomness of a photonic crystal waveguide,”
Optics Express, Vol. 24, No. 10, pp. 11199-11207 (2016).
- [52] T. Kobatake, T. Kato, H. Itobe, Y. Nakagawa, and T. Tanabe,
“Thermal effects on Kerr comb generation in a CaF₂ whispering gallery mode microcavity,”
IEEE Photon. Journal, Vol. 8, No. 2, 4501109 (2016).
- [53] W. Yoshiki, A. C.-Jinnai, T. Tetsumoto, and T. Tanabe,
“Observation of energy oscillation between strongly-coupled counter-propagating ultra-high Q whispering gallery modes,”
Optics Express, Vol. 23, No. 24, pp. 30851-30860 (2015).
- [54] A. C.-Jinnai, W. Yoshiki, and T. Tanabe,
“Broad bandwidth pulse propagation through an ultrahigh- Q microcavity with a chirped pulse,”
Japanese Journal of Applied Physics, Vol. 54, No. 12, 12201 (2015).
- [55] Y. Kakinuma, S. Azami, and T. Tanabe,
“Evaluation of subsurface damage caused by ultra-precision turning in fabrication of CaF₂ optical micro resonator,”
CIRP Annals – Manuf. Technol., Vol. 64, No. 1, 117-120 (2015).
- [56] J. Nishimura, M. Kobayashi, R. Saito, and T. Tanabe,
“NaCl ion detection using a silica toroid microcavity,”
Applied Optics, Vol. 54, No. 20, pp. 6391-6396 (2015).
- [57] Y. Ooka, T. Tetsumoto, A. Fushimi, W. Yoshiki, and T. Tanabe,
“CMOS compatible high- Q photonic crystal nanocavity fabricated with photolithography on silicon photonic platform,”
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