Curriculum vitae

YOUNGHYUN KIM

Dr. Younghyun Kim is an Associate Professor at Hanyang University ERICA, specializing in silicon photonics, semiconductor device integration, and advanced photonic packaging for AI semiconductor applications. His research focuses on electronic–photonic co-integration and the design of active and passive photonic devices, optical interposers, and glass-based photonic substrates for next-generation co-packaged optics systems

Associate professor, Ph.D.
School of Semiconductor Convergence Engineering, BK21 FOUR ERICA-ACE Center, College of Advanced Technology and Convergence, Hanyang University ERICA
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EDUCATION

The University of Tokyo, Japan, Ph.D., Apr 2012 - Mar 2015

Dept. of Electrical Engineering,Graduate School of Engineering (GPA : 3.9/4.0)
Thesis: "Study on strain-induced enhancement of plasma dispersion effect and free-carrier absorption for SiGe optical modulators/attenuators"
Advisor: Prof. Mitsuru Takenaka and Prof. Shinichi Takagi

The University of Tokyo, Japan, M.E., Apr 2010 - Mar 2012

Dept. of Electrical Engineering,
Graduate School of Engineering (GPA : 3.9/4.0)
Thesis: "Research on SiGe based Modulator for Opto-Electronic Integrated Circuit"
Advisor: Prof. Mitsuru Takenaka and Prof. Shinichi Takagi

The University of Tokushima, Japan, B.E., Apr 2007 - Mar 2010

Electrical Electronic Engineering,
Faculty and School of Engineering (GPA : 5.0/5.0),
Department Rank 1, First early graduation for 6 semesters in E.E. department Thesis: "Study on C-V Characteristics of GaN MOSFETs"
Advisor: Prof. Yasuo Ohno and Prof. Jin-Ping Ao

WORK EXPERIENCE

Hanyang University ERICA, Associate professor, Sep 2024 - Present

Hanyang University ERICA, Assistant professor, Sep 2020 - Aug 2024

Department of Photonics and Nanoelectronics Department of Applied Physics (Joint appointment)

Technical Advisor, Mar 2024 - Present

PhotoniSol, Inc.

IMEC, R&D Engineer, Jul 2018 - Aug 2020

Si Photonics team, I/O interconnect group

Yonsei University, Postdoctoral Researcher, Apr 2017 - May 2018

High Speed Circuit & System Lab., Prof. Woo-young Choi
Alternative military service in South Korea (병역특례, 3-years obligation, Apr 2015 - Apr 2018)

Seoul Semiconductor/Viosys, Senior engineer, Apr 2015 - Mar 2017

Frontier R&D center
Alternative military service in South Korea (병역특례, 3-years obligation, Apr 2015 - Apr 2018)

IMEC, Belgium, Internship, Aug 2014 - Sept 2014

Si photonics team,
Advisor: Dr. Marianna Pantouvaki and Dr. Joris Van Compenhout

Samsung Advanced Institute of Technology, Korea, Internship Jul 2013 - Aug 2013

Graphene transistor team,
Advisor: Dr. Hyun Jae Song and Dr. Seongjun Park

RESEARCH INTERESTS

Semiconductor Device Physics and Engineering

- Silicon Photonics : Optical modulator, Laser diodes, Optical coupling, Optical I/O, Co-packaged optics
- Semiconductor memory : 2T-DRAM, Ferroelectric FET
- Memory in pixel: Ferroelectric FET, Charge-trapping FET

RESEARCH GRANTS

- June 1, 2025 – December 31, 2029, 2.5D Optical Interposer Technology for Co-Packaged Opto-Chiplet Integration based on Advanced Photonic Packaging, Ministry of Science and ICT (MSIT), Republic of Korea , National Research Foundation of Korea (NRF)
- October 1, 2024 – September 30, 2028, Development of an AI-Based Intelligent Optical Sensing System for Real-Time 6G Communication Event Detection, Ministry of SMEs and Startups (MSS), Republic of Korea, Korea Institute of Startup & Entrepreneurship Development (KISED)
- April 1, 2024 – March 31, 2027, International Collaborative Research on Ultra-High-Speed/Low-Latency Tbps-Class Optical I/O Devices based on Silicon Photonics and Optical Transceiver

Technologies, Ministry of Science and ICT (MSIT), Republic of Korea, National Research Foundation of Korea (NRF)
- April 1, 2023 – December 31, 2026, Development of a 400 Gbps QSFP-DD Optical Transceiver Based on Silicon Photonics with Chip-on-Board Packaging Technology, Ministry of Science and ICT (MSIT), Republic of Korea, Institute for Information & Communications Technology Planning & Evaluation (IITP)

TEACHING

Conference

- (Technical Seminar) 2025 Advanced Photonic Packaging Technology Seminar @ Hanyang University ERICA (sponsored by the Next-Generation Intelligent Semiconductor Program), Aug. 18 2025. [Link]
- (Tutorial) The Optical Society of Korea (OSK) Summer Conference 2025 — “From Wafer to Co-Packaged Optics: A Tutorial on Silicon Photonics Integration,” Jul. 9 2025. [Link]
- (Tutorial) The Optical Society of Korea (OSK) Winter Conference 2024 — “Harmonizing Light and Silicon: The Art of Integration in Silicon Photonics,” Feb. 15 2024. [Link]
- (Tutorial) Conference on Optoelectronics and Optical Communications (COOC 2023) — “Silicon Photonics: Fabrication and Integration Process,” Jun. 1 2023. [Link]

Lecture

- (Undergraduate) Optoelectronic Devices, Optical Communication Engineering, Semiconductor Device Physics, Semiconductor Device Processing, Engineering Programming, Electromagnetics, Display Engineering
- (Graduate) Integrated Optics, Advanced CMOS Technology, TCAD Device Simulation, Artificial Intelligence and SPICE Modeling Using Python (ICPBL)

HONORS AND AWARD

President’s Award, National Academy of Engineering of Korea (NAEK) — 2021 Campus Patent Universiade Competition (한국공학한림원회장상, 2021년도 캠퍼스 특허 유니버시아드), Nov. 24, 2021 [Link]
Award for Doctoral thesis in School of engineering, March 24 2015
Japan Government Scholarship (MEXT) for Ph.D. student, April 2012 - March 2015
Japan Government Scholarship (MEXT) for M.S. student, April 2010 - Mar 2012
Early Graduation in 3 years (Department Rank 1), March 23, 2010
Best student Awards of Nichia Co. for outstanding academic records, June 25 2009
Best student Awards of Nichia Co. for outstanding academic records, July 3 2008
Award for International Communication of English Ability, July 2 2008
Best student Award for courses in liberal arts, April 24 2008
Korea-Japan Government Joint Scholarship, March 2006 - March 2010

PUBLICATION

JOURNAL

- Heeyun Jung, Myung-Joon Kwack, and **Younghyun Kim***. "Simulation study of a highly efficient dual-apodized a-Si/SiN grating coupler using a metal bottom reflector on a glass substrate for co-packaged optics", Japanese Journal of Applied Physics (2025) [Link]
- Hyunji Jeong‡, Dae-Hwan Ahn‡, Seoungmin Park, Gijun Ju, Jae-Hoon Han, and **Younghyun Kim***. "Visible Light Wavelength-Dependent Erasing in AOS-Based Charge Trap TFTs for Enhanced Neuromorphic Display Performance", ACS Applied Electronic Materials, Vol. 7, Iss. 12, 5463-5472 (2025) [Link]
- Hyeongrak Lim, Seong Kwang Kim, Seung Woo Lee, Youngkeun Park, Jaejoong Jeong, Hojin Jeong, Jinha Lim, Dae-Myeong Geum, Jaehoon Han, **Younghyun Kim**, Jaeyong Jeong, Byung Jin Cho, Sanghyeon Kim. "Heterogeneous 3D Sequential CFET with Strain-Engineered Ge (100) Top-Channel pMOSFET on Bulk Si (100) nMOSFET", IEEE Transactions on Electron Devices, Vol. 72, Iss. 7, 3422-3428 (2025) [Link]
- Daehong Kim, Jeroen De Coster, Joris Van Campenhout, Yoojin Ban, Dimitrios Velenis, Huseyin Sar, Hakim Kobbi, Rafal Magdziak, **Younghyun Kim***. "Insertion loss and polarization-dependent loss measurement improvement to enable parallel silicon photonics wafer-level testing", Optics and Lasers in Engineering, Vol. 186 (2025) [Link]
- Taewon Jin, Kyungjin Jo, Seokhyeon Yoon, Heeyun Jung, Seokyoung Shin, Hyunji Jeong, Kangseok Kim, and **Younghyun Kim***. "Next-Generation Semiconductor Packaging: Status of Co-Packaged Optics based on Silicon Photonics", *"Journal of the Microelectronics and Packaging Society, 31, no.4 (2024) : 29-36.* [[Link]] (https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART0031
- Tae Hyeon Noh‡, Simin Chen‡, Hyo-Bae Kim, Taewon Jin, Seoung min Park, Seong Ui An, Xinkai Sun, Jaekyun Kim, Jae-Hoon Han, Ji-Hoon Ahn*, Dae-Hwan Ahn*, and **Younghyun Kim***, "First demonstration of 2T0C-FeDRAM: a-ITZO FET and double gate a-ITZO/a-IGZO FeFET with record-long multibit retention time of > 4 bits and > 2000 sec", Nanoscale, 2040-3364, 2024 [Link]
- Seong Ui An‡, Dae-Hwan Ahn‡, Gijun Ju, Simin Chen, Yo Seop Ji, Jae-Hoon Han, Jaekyun Kim, **Younghyun Kim***, "Effect of Source/Drain Electrode Materials on the Electrical Performance and Stability of Amorphous Indium-Tin-Zinc-Oxide FETs", IEEE Transactions on Electron Devices, Iss.1557-9646, p1-6,2024 [Link]
- Simin Chen‡, Dae-Hwan Ahn‡, Taehyeon Noh, and **Younghyun Kim***, "TCAD Simulation Study of a Recessed Channel Ferroelectric-Gate Field-Effect Transistor with a Dual Ferroelectric Gate Stack for Memory Application", Journal of the Korean Physical Society, Vol. 85, Iss. 1, 47-55, 2024 [Link]
- Xinkai Sun‡, Jae-Hoon Han‡, Zhenyuan Xiao, Simin Chen, Taewon Jin, Taehyeon Noh, Seoungmin Park, Jaekyun Kim, Jidong Jin*, **Younghyun Kim***, "High Performance Indium-Tin-Zinc-Oxide Thin Film Transistors with Hexamethyldisilazane Passivation", ACS Applied Electronic Materials, Vol. 6, Iss. 4, 2442-2448, 2024 [Link]
- Seong Kwang Kim, Hyeong-Rak Lim, Jaejoong Jeong, Seung Woo Lee, Juhyuk Park, Joon Pyo Kim, Jaeyong Jeong, Bong Ho Kim, Seung-Yeop Ahn, Youngkeun Park, Dae-Myoung Geum, **Younghyun Kim**, Yongku Baek, Byung Jin Cho, and Sanghyeon Kim*, "Heterogeneous 3D Sequential CFETs with Ge (110) Nanosheet p-FETs on Si (100) bulk n-FETs", IEEE Transactions on Electron Devices, Vol. 71, Iss. 1, p392-399, 2024 [Link]
- Daehong Kim, Jung-Tack Yang, Woo-Young Choi, and **Younghyun Kim***, "Improved Far-Field Angle in Narrow-Ridge High-Power Laser Diodes Using a Double Stripe Structure", IEEE Photon. J. Vol.15, Iss.6, 2023 [Link]

- Seong Kwang Kim, Hyeong-Rak Lim, Jaejoong Jeong, Seung Woo Lee, Juhyuk Park, Joon Pyo Kim, Jaeyong Jeong, Bong Ho Kim, Seung-Yeop Ahn, Youngkeun Park, Dae-Myoung Geum, **Younghyun Kim**, Yongku Baek, Byung Jin Cho, and Sanghyeon Kim*, "Heterogeneous 3D Sequential CFETs with Ge (110) Nanosheet p-FETs on Si (100) bulk n-FETs", IEEE Transactions on Electron Devices, Vol. 71, Iss. 1, p392-399, 2024 [Link]
- Youngjoo Bae, Seong Ui An, Taewon Jin, and **Younghyun Kim***, "A PAM-4 100Gbps single-drive strained SiGe optical lumped Mach-Zehnder modulator for O-band application", IEEE Jour. of Quant. Elec. Vol. 59, Iss.6, 2023 [Link]
- Kangseok Kim, Gijun Ju, and **Younghyun Kim***, "Numerical analysis on light extraction efficiency of a core-shell nanorod light-emitting diode", Curr. Opt. Photon. 7(5): 496-503, 2023 [Link]
- Taewon Jin, Sanghyeon Kim, Jae-Hoon Han, Dae-Hwan Ahn, Seong Ui An, Tae Hyeon Noh, Xinkai Sun, Cheol Jun Kim, Juhyuk Park, and **Younghyun Kim***, "Demonstration of programmable light intensity of a micro-LED with a Hf-based ferroelectric ITZO TFT for Mura-free displays", Nanoscale Advances (2023) [Link]
- Sung Bok Seo, Sanghee Nah, Muhammad Sajjad, Nirpendra Singh, Youngwook Shin, **Younghyun Kim**, Jaekyun Kim, and Sangwan Sim, "Ultrafast tunable broadband optical anisotropy in two-dimensional ReS_2", Physical Review Applied, Vol.18, 14010 2022 [Link]
- **Younghyun Kim***, Didit Yudistra, Bernadette Kunert, Marina Baryshinikova, Reynald Alcotte, Cenk Ibrahim Ozdemir, Sanghyeon Kim, Sebastien Lardenois, Peter Verheyen, Joris Van Campenhout, and Marinna Pantouvaki, "Monolithic GaAs/Si V-groove depletion-type optical phase shifters integrated in a 300mm Si photonics platform", Photonics Research, Vol. 10, Issue 6, pp. 1509-1516, 2022. [Link]
- Sung Bok Seo, Sanghee Nah, Muhammad Sajjad, Nirpendra Singh, Youngwook Shin, Younghyun Kim, Jaekyun Kim, and Sangwan Sim, "Ultrafast tunable broadband optical anisotropy in two-dimensional ReS_2", Physical Review Applied, Accepted 8 June 2022 [Link]
- Shinick Han, **Younghyun Kim**, Donghee Son, Hyoung Won Baac, Sang Min Won, and Changhwan Shin, "Study on memory characteristics of fin-shaped feedback field effect transistor", Semiconductor Science and Technology, Technol. 37 065006, 2022. [Link]
- **Younghyun Kim**, Jae-Hoon Han*, Daehwan Ahn and Sanghyeon Kim, "Heterogeneously-integrated optical phase shifters for next-generation modulators and switches on a Silicon photonics platform: A review", Micromachines , vol. 12, 625, 2021. [Link]
- **Younghyun Kim*** , Taewon Jin, and Youngjoo Bae. "A comparative simulation study on lateral and L shape pn-junction phase shifters for single-drive 50 Gbps lumped Mach-Zehnder modulators", Japanese Journal of Applied Physics, vol. 60, 052002, 2021. [Link]
- Sanghyeon Kim, **Younghyun Kim***, Yoojin Ban, Marianna Pantouvaki, and Joris Van Campenhout: "Simulation study of a monolithic III-V/Si V-groove carrier depletion optical phase shifter", IEEE Journal of Quantum Electronics 56, p. 6300208, Feb. 5th, 2020. [Link]
- Jung-Tack Yang, **Younghyun Kim**, Marzieh Pournoury, Jae-Bong Lee, Dong-Soo Bang, Tae-Kyung Kim, and Woo-Young Choi: "Influence of Emitter Width on the Performance of 975-nm (In,Ga)(As,P)/(Al,Ga)As High-power Laser Diodes", Current Optics and Photonics, Vol. 3, No. 5, pp. 445-450, Oct. 25th, 2019. [Link]
- Minkyu Kim, Myungjin Shin, Min-Hyeong Kim, Byung-Min Yu, **Younghyun Kim**, Yoojin Ban, Stefan Lischke, Christian Mai, Lars Zimmermann, and Woo-Young Choi, "Large-signal SPICE model for depletion-type silicon ring modulators", Photonics Research Vol. 7, Issue 9, pp. 948-954, Aug. 7th, 2019. [Link]

- **Younghyun Kim**, Youngkwan Jo, Minkyu Kim, Byung-Min Yu, Stefan Lischke, Dieter Knoll, Lars Zimmermann, and Woo-Young Choi "Parametric Optimization for High-speed Si Micro Ring Modulators", Japanese Jour. of applied physics, vo.58, 062006, Jun. 1st., 2019. [Link]
- **Younghyun Kim**, Jung-Tack Yang and Woo-Young Choi, "High-power broad-area laser diode performance improvement with a double pedestal structure", Japanese Jour. of applied physics, vo.58, 042004, Apr. 1st, 2019 [Link]
- Junichi Fujikata, Masataka Noguchi, **Younghyun Kim**, Jaehoon Han, Shigeki Takahashi, Takahiro Nakamura and Mitsuru Takenaka "High-speed and highly efficient Si optical modulator with strained SiGe layer", Applied Physics Express, vol. 11, no. 3, Mar 1st, 2018. [Link]
- M. Takenaka, **Y. Kim**, J. Han, J. Kang, Y. Ikku, Y. Cheng, J. Park, M. Yoshida, S. Takashima, and S. Takagi: "Heterogeneous CMOS Photonics based on SiGe/Ge and III-V Semiconductors Integrated on Si Platform," Journal of Selected Topics of Quantum Electronics, Invited paper, Vol. 23, Iss. 3, Jan. 27th, 2017. [Link]
- Mitsuru Takenaka, **Younghyun Kim**, Jae-Hoon Han, Jian Kang, and Shinichi Takagi: "Challenges and Opportunities of Near and Mid-Infrared Photonics Based on SiGe and Ge," ECS Trans. 2016 volume 75, issue 8, 447-459, Aug. 18th, 2016. [Link]
- **Younghyun Kim***, Junichi Fujikata, Shigeki Takahashi, Mitsuru Takenaka, and Shinichi Takagi: "First demonstration of SiGe-based carrier-injection Mach-Zehnder modulator with enhanced plasma dispersion effect," Optics Express, Vol. 24, No. 3, p.1979, Jan. 25th, 2016. [Link]
- **Younghyun Kim***, Junichi Fujikata, Shigeki Takahashi, Mitsuru Takenaka, and Shinichi Takagi: "Demonstration of record-low injection-current variable optical attenuator based on strained SiGe with optimized lateral pin junction," Optics Express, Vol. 23, No. 9, p.12354, May 1st, 2015. [Link]
- **Younghyun Kim***, Mitsuru Takenaka, and Shinichi Takagi: "Numerical Analysis of Carrier-Depletion Strained SiGe Optical Modulators With Vertical p-n Junction", IEEE Journal of Quantum Electronics, vol. 51, no. 4, Mar. 4th, 2015. [Link]
- **Younghyun Kim***, Mitsuru Takenaka, Takenori Osada, Masahiko Hata, and Shinichi Takagi: "Fabrication and evaluation of propagation loss of Si/SiGe/Si photonic-wire waveguides for Si based optical modulator", Thin Solid Films 557, pp. 342-345, Apr. 30th, 2014. [Link]
- Minsoo Kim, **Younghyun Kim**, Masafumi Yokoyama, Ryosho Nakane, SangHyeon Kim, Mitsuru Takenaka, and Shinichi Takagi: "Tunnel field-effect transistors with germanium/strained-silicon hetero-junctions for low power applications", Thin Solid Films 557, pp. 298-301, Apr. 30th, 2014. [Link]
- **Younghyun Kim***, Mitsuru Takenaka, Takenori Osada, Masahiko Hata, and Shinichi Takagi: "Strain-induced enhancement of plasma dispersion effect and free-carrier absorption in SiGe optical modulators", Scientific Reports 4, no.4683, Apr. 15th, 2014. [Link]
- **Younghyun Kim***, Jaehoon Han, Mitsuru Takenaka, and Shinichi Takagi: "Low temperature Al2O3 surface passivation for carrier-injection SiGe optical modulator," Optics Express, Vol. 22, No. 7, p.7458, Mar. 24th, 2014 [Link]
- **Younghyun Kim***, Masafumi Yokoyama, Noriyuki Taoka, Mitsuru Takenaka, and Shinichi Takagi: "Ge-rich SiGe-on-insulator for waveguide optical modulator application fabricated by Ge condensation and SiGe regrowth," Optics Express, Vol. 21, Iss. 17, pp. 19615-19623, Aug. 13th, 2013. [Link]
- **Younghyun Kim***, Mitsuru Takenaka, Takenori Osada, Masahiko Hata, and Shinichi Takagi : "Strain-induced enhancement of plasma dispersion effect and free-carrier absorption in SiGe optical modulators", arXiv:1304.1229, Submitted Apr. 4th, 2013. [Link]

- Jin-Ping Ao, Nakatani Katsutoshi, Sogawa Yuji, Akamatsu Shiro, **Kim Young Hyun**, Miyashita Takahiro, Motoyama Shin-ichi and Yasuo Ohno : "GaN MOSFET with a gate SiO2 insulator deposited by silane-based plasma-enhanced chemical vapor deposition", physica status solidi (c), Vol.8, No.2, pp.457-460, Jan. 13th, 2011. [Link]

PATENT (Granted)

- US11024784B2, Display apparatus and manufacturing method thereof(디스플레이 장치와 그 제작 방법), June 1, 2021 [Link]
- US11024786B2, Display apparatus and manufacturing method thereof(디스플레이 장치와 그 제작 방법), June 1, 2021 [Link]
- US11018285B2, Display apparatus and manufacturing method thereof(디스플레이 장치와 그 제작 방법), May 25, 2021 [Link]
- US10833057B2, Display apparatus and manufacturing method thereof(디스플레이 장치와 그 제작 방법), Nov 10, 2020 [Link]
- US10775667B2, Display apparatus (디스플레이 장치), Sept 15, 2021 [Link]
- KR1020190137521, 레이저 다이오드 구조 및 제조 방법(Laser diode structure and manufacturing method), April 16, 2020 [Link]
- US10606121B2, Display apparatus (디스플레이 장치), March 31, 2020 [Link]
- US10332949B2, Display apparatus (디스플레이 장치), June 25, 2019 [Link]
- US10312225B2, Display apparatus and manufacturing method thereof (디스플레이 장치와 그 제작 방법), June 4, 2019 [Link]
- US9997688B2, Display apparatus and manufacturing method thereof (디스플레이 장치와 그 제작 방법), June 12, 2018 [Link]
- US9887184B2, Display apparatus and manufacturing method thereof (디스플레이 장치와 그 제작 방법), February 6, 2018 [Link]
- US10096647B2, Display apparatus having a plurality of reflective electrodes (다수의 반사 전극을 가지는 디스플레이 장치), October 9, 2018 [Link]
- US10068884B2, Display apparatus and manufacturing method thereof (디스플레이 장치와 그 제작 방법), September 4, 2018 [Link]
- US10050026B2, Display apparatus (디스플레이 장치), August 14, 2018 [Link]
- US9978727B2, Display apparatus and manufacturing method thereof (디스플레이 장치와 그 제작 방법), May 22, 2018 [Link]
- US10146070B2, Optical modulator and method of manufacturing same (광학 변조기와 이의 제조 방법), December 4, 2018 [Link]

Conference

- Heeyun Jung, Myung-Joon Kwack, and **Younghyun Kim***, "High-Performance SiN Grating Coupler with a Metal Bottom Reflector on Glass for Co-Packaged Optical Systems", OECC2025, Sapporo Japan
- Kang Seok Kim, Young Joo Bae, Min Kyu Kim, and **Younghyun Kim***, "Proposal and Simulation of a Compact SIS-type MZ Modulator with CROW Structure for Optical I/O Applications", OECC2024, Melbourne Australia [Link]
- Simin Chen, Dae-Hwan Ahn, Seong Ui An, and **Younghyun Kim***, "Simulation of a Recessed Channel Ferroelectric-Gate Field-Effect Transistor with a Dual Ferroelectric Gate Stack for Memory Application", EDTM2023, Seoul [Link]

- Seong Kwang Kim, Hyeong-Rak Lim, Jaejoong Jeong, Seung Woo Lee, Joon Pyo Kim, Jaeyoung Jeong, Bong Ho Kim, Seung-Yeop Ahn, Youngkeun Park , Dae-Myoung Geum, **Younghyun Kim**, Yongku Baek, Byung Jin Cho, and Sang Hyeon Kim, "Heterogeneous 3D Sequential CFET with Ge (110) Nanosheet p-FET on Si (100) bulk n-FET by Direct Wafer Bonding", IEDM2023, San Francisco [Link]
- Artemisia Tsiara, **Younghyun Kim**, Didit Yudistira, Bernadette Kunert, Marina Baryshnikova, Marianna Pantouvaki, Joris Van Campenhout, Kristof Croes, "Impact of Seed Annealing on the Reliability of Monolithic III-V/Si Optical Phase Shitters", ECOC2022, Basel 2022 [Link]
- **Younghyun Kim***, Sanghyeon Kim, Yoojin Ban, Sebastien Lardenois, Didit Yudistira, Marianna Pantouvaki, and Joris Van Campenhout, "Proposal and Simulation of a Low Loss, Highly Efficient Monolithic III-V/Si Optical Phase Shifter", GFP2019, Singapole [Link]
- **Y. Kim**, J.-T Yang and W.-Y Choi: "Simulation of high-power laser diode with improved heat sinking structure using epitaxial liftoff technique", SPIE Photonics West, San Franscisco, USA roc. SPIE 10514, High-Power Diode Laser Technology XVI, 105140C (27 February 2018) [Link]
- M. Takenaka, **Y. Kim**, J. Han, J. Kang and S. Takagi: "CMOS Photonics Based on SiGe and Ge for near and Mid-infrared Photonic Integrated Circuits (Invited)", Solid State Devices and Materials (SSDM), Tsukuba, Japan, (2016)
- M. Takenaka, **Y. Kim**, J. Han, J. Kang, Y. Ikku, Y. Cheng, J. Park, S. Kim and S. Takagi: "Heterogeneous integration of SiGe/Ge and III-V for Si photonics (Invited)", SPIE Photonics Europe 2016, Brussels, (2016)
- M. Takenaka, **Y. Kim**, J. Han, J. Kang, Y. Ikku, Y. Cheng, J. Park, S. Kim and S. Takagi: "CMOS Photonics Technologies Based on Heterogeneous Integration of SiGe/Ge and III-V on Si (Invited)", International Electron Devices Meeting (IEDM), Washington, DC, USA, (2015)
- Junichi Fujikata, Masataka Noguchi, **Younghyun Kim**, Shigeki Takahashi, Takahiro Nakamura, and Mitsuru Takenaka: "High speed and highly efficient Si optical modulator with strained SiGe layer", Proc. GFP, Vancouver, BC (2015).
- **Younghyun Kim**, Junichi Fujikata, Shigeki Takahashi, Mitsuru Takenaka, and Shinichi Takagi: "SiGe-based carrier-injection Mach-Zehnder modulator with enhanced plasma dispersion effect in strained SiGe", OFC2015, Tu2A.7, Los Angeles, 24th Mar. 2015 [Link]
- **Younghyun Kim**, Junichi Fujikata, Shigeki Takahashi, Mitsuru Takenaka, and Shinichi Takagi: "Low Injection-current Variable Optical Attenuator by using strained SiGe with Optimized Lateral PIN junction", ISPEC, Tokyo, Nov. 2014.
- **Younghyun Kim**, Junichi Fujikata, Shigeki Takahashi, Mitsuru Takenaka, and Shinichi Takagi: "Record-low Injection-current Strained SiGe Variable Optical Attenuator with Optimized Lateral PIN junction", Proc. ECOC, P.2.6, Cannes (2014) [Link]
- **Younghyun Kim**, Mitsuru Takenaka, and Shinichi Takagi: "Simulation of carrier-depletion strained SiGe optical modulators with vertical p-n junction", Proc. GFP, ThP.5, Paris (2014).
- **Younghyun Kim**, Mitsuru Takenaka, Takenori Osada, Masahiko Hata, and Shinichi Takagi: "Strain-induced enhancement of free-carrier effects in SiGe for optical modulator and VOA applications", OFC2014 at San Francisco, Th1C.4. 13th Mar 2014 [Link]
- **Younghyun Kim**, Jaehoon Han, Mitsuru Takenaka, Shinichi Takagi, "Low temperature Al2O3 surface passivation for carrier injection type Si/strained SiGe/Si waveguide modulator", ISPEC, Tokyo, Nov. 2013.
- WuKang Kim, Yufei Kin, **Younghyun Kim**, SangHyeon Kim, Takenori Osada, Masahiko Hata, Mitsuru Takenka, and Shinichi Takagi, "Sb-diffused Source/Drain Ultra-thin Body Ge-On Insulator nMOSFETs Fabricated by Ge Condensation," D-6-5L, SSDM, Fukuoka, 2013.

- **Younghyun Kim**, Jaehoon Han, Mitsuru Takenaka, Shinichi Takagi, "Low temperature surface passivation for carrier injection type SiGe optical modulator," 10th International Conf. of Group IV Photonics at Seoul, 29th Aug 2013 [Link]
- **Younghyun Kim**, Takenori Osada, Masahiko Hata, Mitsuru Takenaka, Shinichi Takagi, "Evaluation of propagation loss of Si/SiGe/Si photonic-wire waveguides for Si based optical modulator," ICSI-8, Fukuoka, 4th Jun 2013.
- Minsoo Kim, **Younghyun Kim**, Masafumi Yokoyama, Ryosho Nakane, SangHyeon Kim, Mitsuru Takenaka and Shinichi Takagi, "Tunnel Field-Effect Transistors with Germanium/Strained-Silicon Hetero-junctions for Low Power Applications," ICSI-8, Fukuoka, 4th Jun 2013.
- **Younghyun Kim**, Mitsuru Takenaka, Shinichi Takagi, "Simulation of Si/SiGe/Si double heterostructure based carrier-injection modulator", ISPEC, Nov. 2012.
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