

NANO KOREA 2020

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EDUCATION

Toyama University, Toyama, Japan	Ph.D	Engineering	2020
Kyoto University, Kyoto, Japan	MS	Science, Physics	1995
Kyoto University, Kyoto, Japan	BS	Science	1993

PROFESSIONAL ACTIVITIES

- Senior Research Engineer, Supervisor, Group Leader, in Compound Semiconductor Device Research Group, Materials and Devices Laboratory, NTT Device Technology Laboratories and NTT Photonics Laboratories, Japan (2012 to Present)
- Senior Research Engineer, in Terabit Devices Technology Laboratory, NTT Photonics Laboratories, Japan (2009-2012)
- Research Engineer, in Terabit Devices Technology Laboratory, NTT Photonics Laboratories, Japan (2003-2006)
- Researcher, in Terabit Devices Technology Laboratory, NTT Photonics Laboratories, Japan (1999-2003)
- Researcher, in Quantum Devices Laboratory, NTT LSI Laboratories, Japan (1995-1999)

MAIN SCIENTIFIC PUBLICATION

- "Monolithic Integration of Resonant Tunneling Diodes, Schottky Barrier Diodes and 0.1- μm -gate High Electron Mobility Transistors for High-Speed ICs," Hideaki Matsuzaki, Jiro Osaka, Toshihiro Itoh, Kimikazu Sano, and Koichi Murata, Jpn. J. Appl. Phys., Vol. 40, Part 1, No. 4A (2001) pp. 2186–2190
- "Analysis of Transient Response and Operating Speed of MOBILE," Hideaki Matsuzaki, Hiroyuki Fukuyama, and Takatomo Enoki, IEEE Trans. On Electron Devices, Vol. 51, No. 4 (2004) pp. 616-622
- "Lateral Scale-Down of InGaAs/InAs Composite-Channel HEMTs with Tungsten-Based Tiered Ohmic Structure for 2-S/mm gm and 500-GHz f_T ," Hideaki Matsuzaki, Takashi Maruyama, Toshihiko Kosugi, Hiroyuki Takahashi, Masami Tokumitsu, and Takatomo

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Enoki, IEEE Trans. On Electron Devices, Vol. 54, No. 3 (2007) pp. 378-384

- "3-S/mm extrinsic transconductance of InP-based high electron mobility transistor by vertical and lateral scale-down," Hideaki Matsuzaki, Takashi Maruyama, Takatomo Enoki, and Masami Tokumitsu, IEE Electron. Lett. Vol. 42, No. 15 (2006) pp. 883-884
- "Lg = 25 nm InGaAs/InAlAs high-electron mobility transistors with both f_T and f_{max} in excess of 700 GHz," Hyeon-Bhin Jo, Do-Young Yun, Ji-Min Baek, Jung-Hee Lee, Tae-Woo Kim, Dae-Hyun Kim, Takuya Tsutsumi, Hiroki Sugiyama and Hideaki Matsuzaki, Applied Physics Express, Vol. 12, No. 5 (2019) p. 054006
- "A 42-GHz Bandwidth Avalanche Photodiodes Based on III-V Compounds for 106-Gbit/s PAM4 Applications," Masahiro Nada, Toshihide Yoshimatsu, Fumito Nakajima, Kimikazu Sano and Hideaki Matsuzaki, Journal of Lightwave Technology, vol. 37, no. 2 (2019) pp. 260-265
- "Feasibility Study of Wafer-Level Backside Process for InP-Based ICs," Takuya Tsutsumi, Hiroshi Hamada, Kimikazu Sano, Minoru Ida, Hideaki Matsuzaki, IEEE Trans. On Electron Devices, Vol. 66, No. 9, (2019) pp. 3771-3776
- "High Power and High Speed SOA Assisted Extended Reach EADFB Laser (AXEL) for 53-Gbaud PAM4 Fiber-Amplifier-Less 60-km Optical Link," Takahiko Shindo, Naoki Fujiwara, Shigeru Kanazawa, Masahiro Nada, Yasuhiko Nakanishi, Toshihide Yoshimatsu, Atsushi Kanda, Mingchen Chen, Yoshitaka Oiso, Kimikazu Sano, Hideaki Matsuzaki, to be published in Journal of Lightwave Technology

RESEARCH INTERESTS

- Scaling-down technology of InP-based HEMTs
- Integration technology of InP-based HEMTs for THz-band IC and its application
- High-speed and High-sensitivity InP-based avalanche photodiode (APD) for optical communications systems
- High-power and High-speed InP-based electro-absorption modulated laser (EML) for optical communications systems