

## Curriculum Vitae

### Akira Fujiwara

NTT Basic Research Laboratories  
3-1 Morinosato Wakamiya, Atsugi  
Kanagawa, Japan 243-0198

TEL: +81-46-240-2643

FAX: +81-46-240-4317

E-mail: [afuji@will.brl.ntt.co.jp](mailto:afuji@will.brl.ntt.co.jp)

<http://www.brl.ntt.co.jp/people/afuji/index.html>



Born in March 1967 in Tokyo, Japan

#### Research Interests

- Physics and application of low-dimensional structures
- Silicon nanostructures and their application to nanodevices
- Single-electron devices and their applications

#### Education

- 1994 Ph.D. in Applied Physics, The University of Tokyo
- 1991 M.S. in Applied Physics, The University of Tokyo
- 1989 B.S. in Applied Physics, The University of Tokyo

#### Employment

- 2007- Distinguished technical member, NTT BRL
- 2006- Group leader of Nanodevices Research Group, NTT BRL
- 1996 NTT Basic Research Laboratories (BRL)
- 1994 NTT LSI Laboratories

#### Professional Activities

- 2011.4-2012.3 Japanese Society of Applied Physics(JSAP) Executive Director
- 2010.4-2011.3 Japanese Society of Applied Physics(JSAP) Director
- 2008.10- Special committee of Emerging Research Devices WG, STRJ (Semiconductor Technology Roadmap Committee of Japan)
- 2003.7-2004.7 Guest researcher at the National Institute of Standards and Technology (NIST), Gaithersburg, MD, USA
- 2007.8 Lecturer(Non-Full-time), The University of Tokyo

#### Awards and Honors

- Young Scientist Award, the Minister of MEXT (Ministry of Education, Culture, Sports, Science, and Technology), 2006.
- Japanese Journal of Applied Physics (JJAP) Paper Awards, 2006
- Japanese Journal of Applied Physics (JJAP) Paper Awards, 2003
- SSDM (International Conference on Solid State Devices and Materials) Paper Award, 1999
- SSDM (International Conference on Solid State Devices and Materials) Young Researcher Award, 1998

#### Government Fund

- 2011-2014 The Funding Program for Next Generation World-Leading Researchers (NEXT Program), JSPS

## Publications:

- [1] N. Ogasawara, [A. Fujiwara](#), N. Ohgushi, S. Fukatsu, Y. Shiraki, Y. Katayama, and R. Ito: Well-Width Dependence of Photoluminescence Excitation-Spectra in Gaas-Alxga1-Xas Quantum-Wells, *Physical Review B* **42**, 9562-9565 (1990).
- [2] [A. Fujiwara](#), S. Fukatsu, Y. Shiraki, and R. Ito: Resonant Electron-Capture in Algaas/Gaas Quantum-Well Structures, *Institute of Physics Conference Series*, 195-198 (1992).
- [3] [A. Fujiwara](#), S. Fukatsu, Y. Shiraki, and R. Ito: Observation of Resonant Electron-Capture in Algaas/Gaas Quantum-Well Structures, *Surface Science* **263**, 642-645 (1992).
- [4] S. Fukatsu, H. Yoshida, [A. Fujiwara](#), Y. Takahashi, Y. Shiraki, and R. Ito: Spectral Blue Shift of Photoluminescence in Strained-Layer Si1-Xgex/Si Quantum-Well Structures Grown by Gas-Source Si Molecular-Beam Epitaxy, *Applied Physics Letters* **61**, 804-806 (1992).
- [5] S. Fukatsu, H. Yoshida, N. Usami, [A. Fujiwara](#), Y. Takahashi, Y. Shiraki, and R. Ito: Systematic Blue Shift of Exciton Luminescence in Strained Si1-Xgex/Si Quantum-Well Structures Grown by Gas Source Silicon Molecular-Beam Epitaxy, *Thin Solid Films* **222**, 1-4 (1992).
- [6] S. Fukatsu, H. Yoshida, N. Usami, [A. Fujiwara](#), Y. Takahashi, Y. Shiraki, and R. Ito: Quantum Size Effect of Excitonic Band-Edge Luminescence in Strained Si1-Xgex/Si Single Quantum-Well Structures Grown by Gas-Source Si Molecular-Beam Epitaxy, *Japanese Journal of Applied Physics Part 2-Letters* **31**, L1319-L1321 (1992).
- [7] S. Fukatsu, N. Usami, H. Yoshida, [A. Fujiwara](#), Y. Takahashi, Y. Shiraki, and R. Ito: Intense Photoluminescence from Strained Si1-Xgex/Si Quantum-Well Structures, *Journal of Crystal Growth* **127**, 489-493 (1993).
- [8] [A. Fujiwara](#), S. Fukatsu, and Y. Shiraki, in *Gallium Arsenide and Related Compounds 1993*, (1994), Vol. 136, p. 245-248.
- [9] S. Fukatsu, [A. Fujiwara](#), K. Muraki, Y. Takahashi, and Y. Shiraki: Time-of-Flight Measurement of Carrier Transport and Carrier Collection in Strained Si1-Xgex/Si Quantum-Wells, *Journal of Vacuum Science & Technology B* **12**, 1156-1159 (1994).
- [10] K. Muraki, Y. Takahashi, [A. Fujiwara](#), S. Fukatsu, and Y. Shiraki: Enhancement of Free-to-Bound Transitions Due to Resonant Electron-Capture in Be-Doped Algaas/Gaas Quantum-Wells, *Solid-State Electronics* **37**, 1247-1250 (1994).
- [11] [A. Fujiwara](#), K. Muraki, S. Fukatsu, Y. Shiraki, and R. Ito: Enhancement of Nonradiative Recombination Due to Resonant Electron-Capture in Alxga1-Xas/Gaas Quantum-Well Structures, *Physical Review B* **51**, 14324-14329 (1995).
- [12] [A. Fujiwara](#), Y. Takahashi, S. Fukatsu, Y. Shiraki, and R. Ito: Resonant Electron-Capture in Alxga1-Xas/Alas/Gaas Quantum-Wells, *Physical Review B* **51**, 2291-2301 (1995).
- [13] K. Muraki, [A. Fujiwara](#), S. Fukatsu, Y. Shiraki, and Y. Takahashi: Evidence for resonant electron capture and charge buildup in GaAs/AlxGa1-xAs quantum wells, *Physical Review B* **53**, 15477-15480 (1996).
- [14] [A. Fujiwara](#), Y. Takahashi, K. Murase, and M. Tabe: Time-Resolved Measurement of Single-Electron Tunneling in a Si Single-Electron Transistor with Satellite Si Islands, *Applied Physics Letters* **67**, 2957-2959 (1995).
- [15] Y. Takahashi, [A. Fujiwara](#), M. Nagase, H. Namatsu, K. Kurihara, K. Iwadate, and K. Murase: Si single-electron transistors on SIMOX substrates, *Ieice Transactions on Electronics* **E79C**, 1503-1508 (1996).
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- [17] [A. Fujiwara](#), Y. Takahashi, and K. Murase: Observation of single electron-hole recombination and photon-pumped current in an asymmetric Si single-electron transistor, *Physical Review Letters* **78**, 1532-1535 (1997).
- [18] [A. Fujiwara](#), Y. Takahashi, H. Namatsu, K. Kurihara, and K. Murase: Suppression of effects of

- parasitic metal-oxide-semiconductor field-effect transistors on Si single-electron transistors, *Japanese Journal of Applied Physics Part 1-Regular Papers Short Notes & Review Papers* **37**, 3257-3263 (1998).
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