

Division of Electrical Engineering and Computer Science	Research field	High-speed Electronics	Lab. ID EC12
Laboratory web site			
Research subjects			
Silicon Photonics: Photonic devices (high-speed photodetector, functional optical waveguide, etc.) fabricated by silicon LSI technology. Optical Wireless Power Transmission: Construct an wireless power charging system using semiconductor laser and solar cell.			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
Master course students: The research subject is decided by discussion with supervisor.			
Doctor course students: Students find the esearch subject by themselves. All students: Journal intoroduction (bimonthly), Progress report (weekly), Presentation at a conference, Writing the journal paper.			
Daily life in the laboratory, etc.			
All members decide the schedule by themselves. They must attend the progress report and the journal introduction.			
Message or comments by the laboratory faculty staffs			
We hope for active students who like opoelectronics.			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2021.3	Design and Evaluation of Multifunctional SOI Optical Waveguides		
2020.3	Optical Wireless Power Transmission System to Moving Object using Image Recognition Method		
2019.3	Development of Optical Wireless Power Transmission for Moving Objects		
2018.3	Polarization splitting devices fabricated by CMOS processes		
2017.3	Basic study of optical power transmission for high efficiency		
2016.3	Fabrication and characterization of organic light-emitting transistor using F8T2 active layer		
2016.3	Fabrication and characterization of Si3N4 optical waveguide using CF4 dry etching		
2016.3	Development of CAD Tools for Photonic Integrated Circuits, and Design of Functional Photonic Circuits using Directional Coupler		
2016.3	Fabrication and evaluation of Ta2O5 rib type single mode optical waveguide by spin coating		
2015.3	Fabrication and Characterization of Light-Emitting Electrochemical Cell using MEH-PPV		
2015.3	Fabrication and Evaluation of Surface Emitting Laser using an Organic Material: Coumarin6		
2014.3	Development of Ultra-Fast Photodetectors using SOI Wafer and Compound Semiconductor on Si Substrate		
2014.3	Study on Reduction of Wavelength Dependence and Enhancement of Propagation Band of Silicon Optical Circuits		
2013.3	Fabrication and characterization of the organic emission device using Alq3 and MEH-PPV		
2013.3	Ferroelectric and optical propagation property of PZT, PLZT on Si substrate		
2012.9	Waveguide-type Grating Coupler toward integration with Optical Waveguide and Vertical Injection-type Si Photodetedor		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2020.9	Design and Measurement of the Silicon Slab Optical Waveguide		
2020.9	Study of Optical Wireless Power Transmission to Moving Objects		
2015.3	A study of ultrahigh speed optical integrated circuits on Si substrate		
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