

# Curriculum Vitae



**Name:** Joni Welman Simatupang

**Date of Birth:** September 13, 1978

**Marital Status:** Married with Natalia Purba (on July 16, 2011)

**Nationality:** Indonesian

**Email:** [joniwsntust@yahoo.co.id](mailto:joniwsntust@yahoo.co.id) (preferred) & [joniws1978@gmail.com](mailto:joniws1978@gmail.com)

**Address:** Jl. Bambu Hitam Gg. Berlian No. 13, RT.004/01, Kel. Bambu Apus, Kec. Cipayung, Jakarta Timur, 13890.

## Higher Educations:

### **September 2009- January 2014 (Graduated at January 14, 2014)**

National Taiwan University of Science and Technology (NTUST), Taipei, Taiwan

Doctor Degree (Ph.D.) in Department of Electronic and Computer Engineering, College of Electrical Engineering and Computer Science (CEECS)

Major: Optical Fiber Communication Systems & Networks

### **September 2007- July 2009 (Graduated at July 30, 2009)**

National Taiwan University of Science and Technology (NTUST), Taipei, Taiwan

Master Degree (Msc.Eng) in Department of Electronic Engineering, College of Electrical Engineering and Computer Science (CEECS)

Major: Design and Fabrication of Semiconductor Optoelectronic Devices

### **September 1997- July 2003 (Graduated at July 13, 2003)**

University of Indonesia (UI), Depok-West Java, Indonesia

Bachelor Degree in Faculty of Electrical Engineering (S.T.)

Major: Electronics (Semiconductor Device Technology)

## Teaching, Working, and Research Experiences:

### **February 2010- July 2011**

Contract Lecturer of **Physics** Courses for Undergraduate students in Dept. of Electronic Engineering, NTUST (Supervised by Prof. Hsing-Lung Chen)

### **September 2001- July 2002**

Assistant Lecturer of **Semiconductor Technology** Course for Undergraduate Students in Faculty of Electrical Engineering, UI (Supervised by Prof. Dr. Ir. Djoko Hartanto, M.Sc)

### **September 2003-July 2007**

Worked as a **Field Staff for High School Ministry** in Yayasan Perkantas (Persekutuan Kristen Antar Universitas), Jakarta

(Supervised by Ir. Daniel Adipranata, M.Div and Alex Nanlohy S.Sos, M.A.)

### **September 2007-January 2014**

Member of **Optoelectronics Device and Optical Networks Labs (ONL403, EE-812)**, NTUST.

(Supervised by Prof. San-Liang Lee)

### **September 1999- July 2001**

Member of **Sensor Device Research Group (SDRG)** in Faculty of Electrical Engineering, UI

(Supervised by Prof. Dr. Ir. Djoko Hartanto, M.Sc)

## **Achievements and Involvements:**

### **Academic**

IEEE Graduate Student Member since March 2009 and will be a Member since Feb 2014.

Chair of Academic Writing Seminar in NTUST, organized by ISA (Indonesian Student Association) at Nov.27, 2010.

### **Organizational**

Ad-Hoc Team to revised the AD/ART of NTUST-ISA (October-December 2013)

Vice President of NTUST-ISA (Indonesian Student Association) July 2010-June 2011.

Board Member of PPI (Perhimpunan Pelajar Indonesia) Taiwan Feb 2010-Oct. 2011.

### **Cultural**

Head of Programme Division of ICE (Indonesian Culture Exhibition) NTUST in Feb 2008.

Involved in ICE (Indonesian Culture Exhibition) NTUST as choir conductor in 2011 and 2013.

### **Spiritual**

Worship Leader in Friendship Presbyterian Church (FPC) Taipei from 2008-2010.

Leader of Indonesian Christian Students Fellowship (ICSF) NTUST since September 2008.

Chair of Jakarta Christian Student Fellowship July 2001-June 2002.

# Research Publications

## International and National Conferences

1. **J.W. Simatupang** and S.L. Lee, “*Simple Performance Analysis of Cross-Seeding WDM-PON Using Transfer Matrix Method,*” Poster Presentation in Optics and Photonics Taiwan, International Conference (OPTIC 2013), Poster 2013-THU-P0201-P004 [*Nominated for the best poster award*], National Central University (NCU), Chung-Li, Dec.5-7, 2013.
2. P.D. Pukhrambam, M.H. Chuang, S.L. Lee, G. Keiser, Y.Jr. Hung, and **J.W. Simatupang**, “*Performance enhancement of radio-over-fiber system by optical injection locking of a directly modulated semiconductor laser,*” Oral Presentation in Photonics Global Conference (PGC) 2012, Paper c12a383, Singapore, Dec.13-16, 2012.
3. **J.W. Simatupang** and S.L. Lee, “*Analysis of Rayleigh backscattering effects in 105 km long-reach RSOA-based hybrid WDM/TDM PONs,*” Oral Presentation in OPTIC 2012, Paper 98415675 [*Nominated for the best (oral) paper award*], National Taiwan University (NTU), Taipei, Dec.6-8, 2012.
4. C.Y. Lin, M.H. Chuang, **J.W. Simatupang**, M.R Lee and S.L. Lee, “*An ASE Source Based WDM-PON System with a Remotely Pumped EDFA,*” Oral Presentation in OPTIC 2012, Paper 98220135, National Taiwan University (NTU), Taipei, Dec.6-8, 2012.
5. **J.W. Simatupang** and S.L. Lee, “*Theoretical and Simulation Analysis on Potential Impairments in Bidirectional WDM-PONs,*” Oral Presentation in 3<sup>rd</sup> International Conference on Photonics (ICP) 2012, Penang, Malaysia, Oct.1-3, 2012. [*This paper has been indexed in IEEEExploreDigitalLibrary:<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=6362335>*]
6. Y.L. Shieu, S.C. Lin, **J.W. Simatupang**, C.Y. Lin, C.W. Lee, and S.L. Lee, “*RSOA-based Simultaneous Bidirectional Transmission of WiMAX and NRZ Signals over WDM-PON,*” Oral Presentation in International Photonics Conference (IPC) 2011, Paper B-FR-II5-7, National Cheng Kung University (NCKU), Tainan, Taiwan, Dec.8-10, 2011.
7. **J.W. Simatupang**, S.L. Lee, Y.T. Pan, and S.C. Lin, “*Low Cost Light Source for WDM-PON Based on Injected Taper FP-LD,*” Oral Presentation in Annual Indonesian Scholar Conference in Taiwan (AISCT) 2011, Paper 75, Asia University (AU), Taichung, Taiwan, March 19, 2011.

8. **J.W. Simatupang** and S.L. Lee, “*Low Cost Light Source for WDM-PON Based on Injected Taper FP-LD,*” Oral Presentation in OPT 2010, Paper OPT2-O-08, Southern Taiwan University of Technology (STUT), Tainan, Taiwan, Dec.3-4, 2010.
9. O. Haobijam, G. Keiser, Y.Jr. Hung, Z.R. Lin, and **J.W. Simatupang**, “*Optical Coupler Asymmetry Effects on OCT Measurements,*” Poster Presentation in OPT 2010, Paper OPT6-P-014, Southern Taiwan University of Technology (STUT), Tainan, Taiwan, Dec.3-4, 2010.
10. **J.W. Simatupang**, S.L. Lee, Y.T. Pan, Y.Jr. Hung, Y.R. Huang, J.S. Wang, and S.C. Lin, “*Vertical InGaAsP/InP Taper FP-LD for Injection-Locking Applications,*” Oral Presentation in National Conference on OPT 2009, National Taiwan Normal University (NTNU), Taipei, Taiwan, Dec.11-12, 2009.
11. **J.W. Simatupang**, W.S. Wu, and S.L. Lee, “*The Study of Relative Etching Rate of Masked InP/InGaAsP in Fabrication of Vertical Taper-Waveguide by Diffusion Limited Etching,*” Oral Presentation in International Conference on Materials and Metallurgical Technology (ICOMMET) 2009, Paper IM 6, Kampus ITS Sukolilo-Surabaya, Indonesia, June 24-25, 2009.
12. W.S. Wu, **J.W. Simatupang**, and S.L. Lee, “*Design and Fabrication of Fabry-Perot Laser Diodes with Vertical Tapered-Waveguide by Diffusion-Limited Etching,*” Oral Presentation in OPT2008, Paper Sat-S37-05, Taipei International Convention Center (TICC), Taipei, Taiwan, Dec.5-6, 2008.

## International Journals

1. **J.W. Simatupang** and S.L. Lee, “*Transfer matrix analysis of backscattering and reflection effects on WDM-PON systems,*” Optics Express, **21**(23), 27565-27577 (2013) [**SCI Journal: IF:3.546**].
2. **J.W. Simatupang**, S.L. Lee, and Y.R. Huang, “*Performance analysis of cross-seeding WDM-PON systems using transfer matrix method,*” **In preparation to be submitted to a high-quality SCI Journal (2014).**
3. **J.W. Simatupang**, “*Theoretical Analysis On Optical Beat Interferometric Noises in Bidirectional Single-Fiber Single-Wavelength Transmission Over WDM-PON Systems,*” **In press, 2014 [International Journal of Technology (IJTech), ISSN: 2086-9614]**

### **National Journals /Bulletin:**

1. **Joni Welman Simatupang**, “Simulation and Analysis of Rayleigh Backscattering Effects in 105 Km Long-Reach RSOA-Based Hybrid WDM/TDM PON Transmissions,” in *Jurnal Teknologi Indonesia (JTI)* **Vol. 36, No. 1, April 2013** issue of *Jurnal LIPI (Lembaga Ilmu Pengetahuan Indonesia)*.
2. **Joni Welman Simatupang**, “Theoretical Analysis of Backreflections in Bidirectional Wavelength Division Multiplexing-Passive Optical Networks,” in **Vol. 2, No. 1 March 2013** issue of *Buletin Teknik Elektro dan Informatika (Bulletin of Electrical Engineering and Informatics)*, Universitas Ahmad Dahlan (UAD) Yogyakarta.
3. **Joni Welman Simatupang**, “Vertical Taper InGaAsP/InP Fabry-Perot Laser Diode for Injection-Locking Applications in WDM-PON Systems,” *Jurnal Sains dan Teknologi EMAS FT-UKI*, **Vol. 20, No. 1, Maret 2010**.
4. **Joni Welman Simatupang**, Wen-Sheng Wu, and San-Liang Lee, “Relative Etching Rates of Vertical Down Taper-Ridge Waveguide by Diffusion-Limited Etching,” *Jurnal Sains dan Teknologi EMAS FT-UKI*, **Vol. 19, No. 1, Maret 2009**.

### **Reference:**

Sang-Liang Lee, Distinguished Professor and Vice-President of National Taiwan University of Science and Technology (NTUST), Taiwan-Tech, Taipei, Taiwan.

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