

# Tingyi Gu

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## EDUCATION

- Columbia University**, Graduate School of Arts and Sciences New York, NY  
PhD in Electrical Engineering Oct. 2010 – Mar. 2014
- Columbia University**, The Fu Foundation School of Engineering and Applied Sciences New York, NY  
M.S. in Electrical Engineering May 2009 – Oct. 2010
- Shanghai Jiao Tong University**, School of Electronic Information Shanghai, China  
B.S. in Information Technology. Honor Class Sep. 2004 – Jun. 2008

## RESEARCH EXPERIENCE

- University of Delaware (UD)**, Newark, DE  
2016 – Assistant Professor (tenure track), Department of Electrical and Computer Engineering
- Princeton University**, Princeton, NJ  
2015 – 2016 Postdoctoral Research Associate, under supervision of Prof. Craig B. Arnold
- Hewlett-Packard Laboratories (HP Labs)**, Palo Alto, CA  
2014 - 2015 Postdoctoral Research Scientist, under supervision of Dr. Raymond G. Beausoleil
- Alcatel-Lucent Bell Laboratories**, Holmdel, NJ  
2013 - 2013 Summer Intern, under supervision of Dr. Po Dong
- Columbia University**, New York, NY  
2009 - 2014 Graduate Research Assistant, under supervision of Prof. Chee Wei Wong

## RELEVANT EXPERIENCE

### *Career Development*

- Jun. 2018 *University of Delaware Research Foundation Seed Grant*
- Oct. 2017 *AFOSR Young Investigator Program Award (43 Nationwide)*
- Jul. 2017 *NASA Early Faculty Career Award (8 Nationwide)*
- Jun. 2017 *NASA EPSCoR SEED Grant*
- Sep. 2016 *Bell Lab Prize Finalist (13 Nationwide)*
- May 2015 *PRISM Postdoctoral Fellowship, Princeton University*
- Mar. 2013 *Material Research Society Energy Forum Travel Award*
- Jun. 2013 *Chinese Government Award for Outstanding Self-financed Student Abroad (50 Nationwide)*
- Sep. 2012 *IEEE Photonics Society Graduate Student Fellowship (8 Nationwide)*
- Feb. 2012 *SPIE Scholarship in Optics & Photonics*

### *Research Highlights*

- Jun. 2017 Awarded a flight opportunity on *International Space Station* of integrated photonic devices
- Oct. 2015 Work on graphene-silicon photonics featured on *ACS Editors' Choice*
- Jul. 2012 Work on graphene-silicon photonics featured on cover of *Nature Photonics*, reported by *PhysOrg*, *ScienceDaily*, *EurekAlert*, *Photonics*, *Nanowerk*, *GraphiteBlog*, *Columbia News*.
- May 2010 Work on gated ICCD featured in *Electronics Weekly*, *VerticalNews*

### *Awards of Supervised Students*

- Apr. 2018 Graduate student Anishkumar Soman received *Udel Summer Doctoral Fellowship Award* for collaborative work at Army Research Lab at Adelphi
- Mar. 2018 Graduate student Hwaseob Lee received *Udel Bendett Fellowship*

- Mar. 2018 Graduate student Zi Wang received *Udel Charles Ih Fellowship*  
 Mar. 2017 Graduate student Dun Mao received *Udel Bendett Fellowship*  
 Mar. 2017 Graduate student Anishkumar Soman received *Udel Charles Ih Fellowship*  
 Sep. 2017 Graduate student Anishkumar Soman received *Udel Professional Development Award*

## SELECTED PUBLICATIONS

1. Hwaseob Lee, Thomas Kananen, Anishkumar Soman, **Tingyi Gu**, Influence of surface roughness on microring based phase shifters (In review)
2. Dun Mao, Thomas Kananen, Jeffery Sinsky, Nicholas W. Petrone, James Hone, Po Dong, **Tingyi Gu**, Bandwidth limitation of directly contacted graphene-silicon optoelectronics, *ACS Applied Electronic Materials* (2019)
3. Tiantian Li, Dun Mao, Nicholas Petrone, Robert Grassi, Hao Hu, Yunhong Ding, Zhihong Huang, Mingbin Yu, Guoqiang Lo, Dim-Lee Kwong, James C. Hone, Tony Low, Chee Wei Wong, **Tingyi Gu**, Spatially controlled electrostatic doping in graphene p-i-n junction for hybrid silicon photodiode, *NPJ 2D Materials and Applications* **2**, 36 (2018)
4. **Tingyi Gu**, Hyuncheol Jeong, Kengran Yang, Fan Wu, Nan Yao, Rodney D. Priestley, Claire E. White, and Craig B. Arnold, Anisotropic crystallization in solution processed chalcogenide thin film by linearly polarized laser, *Applied Physics Letters* **110**, 041904 (2017)
5. **Tingyi Gu**, Jia Gao Evgeny E. Ostoumov, Hyuncheol Jeong, Fan Wu, Roman Fardel, Nan Yao, Rodney D. Priestley, Gregory D. Scholes, YueLin Loo and Craig B. Arnold, Photoluminescence of functionalized germanium nanocrystals embedded in arsenic sulfide glass, *ACS Applied Materials & Interfaces*, accepted (2017)
6. Daeha Joung, **Tingyi Gu** and Jeong-Hyun Cho, Tunable optical transparency in self-assembled three-dimensional polyhedral graphene oxide, *ACS Nano* **10**, 9586-9594 (2016)
7. [ACS editor's choice] **Tingyi Gu**, Andrei Andryieuski, Yufeng Hao, Chee Wei Wong, James C. Hone, A. Lavrinenko, Tony Low and Tony F. Heinz, Photonic and plasmonic guided modes in graphene-silicon photonic crystals, *ACS Photonics* **11**, 1552-1558 (2015)
8. [Invited] Po Dong, Youngkai Chen, **Tingyi Gu**, Larry L. Buhl, David T. Neilson and Jeffery H. Sinsky, Reconfigurable 100Gb/s silicon photonic networks-on-chip, *OSA/IEEE Journal of Optical Communications and Networking* **7**, A37-A43 (2015)
9. **Tingyi Gu**, Youngkai Chen, Chee Wei Wong and Po Dong, Cascaded uncoupled dual-ring modulator, *Optical Letters* **39**, 4974-4977 (2014)
10. **Tingyi Gu**, Mingbin Yu, Dim-Lee Kwong, and Chee Wei Wong, Molecular absorption induced thermal bistability in PECVD silicon nitride ring resonators, *Optics Express* **22**, 18412-18420 (2014)
11. Jinghui Yang, **Tingyi Gu**, Jiangjun Zheng, Mingbin Yu, Patric Lo, Dim-Lee Kwong and Chee Wei Wong, Radio-frequency regenerative oscillations in silicon high-Q heterostructured photonic crystal cavities, *Applied Physics Letters* **16**, 5 (2014)
12. [cover article] **Tingyi Gu**, Nick Petrone, James F. McMillan, Arend van der Zande, Mingbin Yu, Guoqiang Lo, DimLee Kwong, James Hone, and Chee Wei Wong, Regenerative oscillation and four-wave mixing in graphene optoelectronics, *Nature Photonics* **6**, 554 (2012)
13. **Tingyi Gu**, Serdar Kocaman, Xiaodong Yang, James F. McMillan, Ming-Bin Yu, Guo-Qiang Lo, Dim-Lee Kwong, and Chee Wei Wong, Deterministic integrated tuning of multi-cavity resonances and phase for slow-light in coupled photonic crystal cavities, *Applied Physics Letters* **98**, 121103(2011)
14. **Tingyi Gu**, Mohamed A. El-Emawy, Kai Yang, Andreas Stintz, and Luke F. Lester, Resistance to edge recombination in GaAs-based dots-in-a-well solar cells, *Applied Physics Letters* **95**, 261106 (2009)