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	Current Position:	Assistant Professor
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RESEARCH INTERESTS

Nanophotonics, Nonlinear optics, Medical Photonics, Daylighting Technologies, Urban Science

EDUCATIONAL BACKGROUND

- Ph.D. Electrical and Electronic Engineering, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore (2014).
- BEng. (1st Class Hons.) Electrical and Electronic Engineering (Photonics Major), School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore (2010).

WORKING EXPERIENCE

- Assistant Professor, School of Electrical and Computer Engineering, Xiamen University Malaysia, Sepang, Malaysia (2018-present).
- Visiting Assistant Professor, Science and Math Cluster, Singapore University of Technology and Design, Singapore (2018-present).
- Postdoctoral Research Fellow, Lee Kuan Yew Center of Innovative Cities, Singapore University of Technology and Design, Singapore (2016-2018).
- Postdoctoral Research Fellow, SUTD-MIT International Design Center, Singapore University of Technology and Design, Singapore (2014-2016).

HONORS/AWARDS/GRANTS

- Publons Peer Review Awards 2018 (Top 1% Reviewers in Physics)
- IOP Outstanding Reviewer Award 2017
- OSA Publishing Scientific Peer-Review Recognition 2016–2017
- Publons Peer Review Awards 2017
- OSA Publishing Scientific Peer-Review Recognition 2014–2015
- OCPA Best Poster Award (3rd place in photonics)
- Ph.D. Research Scholarship
- Qioptiq Gold Medal
- Micron Semiconductor Innovation Award
- ASEAN Scholarship

PROJECTS

Innovative lighting solutions for sustainability and conservation in Singapore LKYCIC-Ministry of National Development Singapore	(2016-2018)
Design of ultrahigh nonlinear photonic and plasmonic devices Ministry of Education Singapore ACRF Tier 2	(2014-2017)
Design of graphene-based plasmonic optoelectronic devices SUTD-MIT International Design Center (IDG21200106 and IDD21200103)	(2013-2015)
Design of metal-based plasmonic optoelectronic devices A*STAR-SERC No. 0921540098	(2011-2013)

REPRESENTATIVE PUBLICATION

1. **K. J. A. Ooi**, Y. S. Ang, Q. Zhai, D. T. H. Tan, L. K. Ang, C. K. Ong, "Nonlinear plasmonics of three-dimensional Dirac semimetals," *APL Photonics* 2018. ([Invited Paper, Accepted](#))
2. D. T. H. Tan, **K. J. A. Ooi**, and D. K. T. Ng, "Nonlinear optics on silicon rich nitride – a high nonlinear figure of merit CMOS platform," *Photonics Res.* **6**, B50–B56 (2018). ([Invited Review](#))
3. **K. J. A. Ooi**, D. K. T. Ng, A. M. Agarwal, L. C. Kimerling, and D. T. H. Tan, "Giant optical parametric gains via ultra-silicon-rich nitride," *Opt. Photonics News* **28**, 52 (2017). ([Special Issue](#))
4. **K. J. A. Ooi** and D. T. H. Tan, "Nonlinear graphene plasmonics," *Proc. R. Soc. A* **473**, 20170433 (2017). ([Invited Review, Front Cover Article](#))
5. **K. J. A. Ooi**, Y. S. Ang, J. L. Cheng, L. K. Ang, and D. T. H. Tan, "Electronic scattering of graphene plasmons in the terahertz nonlinear regime," *IEEE J. Sel. Top. Quantum Electron.* **23**, 5100206 (2017).
6. **K. J. A. Ooi**, D. K. T. Ng, T. Wang, A. K. L. Chee, S. K. Ng, L. K. Ang, Q. Wang, A. M. Agarwal, L. C. Kimerling, and D. T. H. Tan, "Pushing the limits of CMOS optical parametric amplifiers with USRN:Si₇N₃ above the two-photon absorption edge," *Nat. Commun.* **8**, 13878 (2017).
7. **K. J. A. Ooi**, J. L. Cheng, J. E. Sipe, L. K. Ang, and D. T. H. Tan, "Ultrafast, broadband and configurable midinfrared all-optical switching in nonlinear graphene plasmonic waveguides," *APL Photonics* **1**, 046101 (2016). ([Editor's Pick](#))
8. **K. J. A. Ooi**, H. S. Chu, C. Y. Hsieh, D. T. H. Tan, and L. K. Ang, "Highly efficient mid-infrared on-chip electrical generation of graphene plasmons by inelastic electron tunnelling excitation," *Phys. Rev. Appl.* **3**, 054001 (2015).
9. **K. J. A. Ooi**, L. K. Ang, and D. T. H. Tan, "Waveguide engineering of graphene's nonlinearity," *Appl. Phys. Lett.* **105**, 111110 (2014).
10. **K. J. A. Ooi**, H. S. Chu, P. Bai, and L. K. Ang, "Electro-optical graphene plasmonic logic gates," *Opt. Lett.* **39**, 1629–1632 (2014).
11. **K. J. A. Ooi**, H. S. Chu, P. Bai, and L. K. Ang, "Mid-infrared active graphene nanoribbon plasmonic waveguide devices," *J. Opt. Soc. Am. B* **30**, 3111–3116 (2013).

12. **K. J. A. Ooi**, P. Bai, H. S. Chu, and L. K. Ang, "Ultracompact vanadium dioxide dual-mode plasmonic waveguide electroabsorption modulator," *Nanophotonics* **2**, 13–19 (2013).

INVITED TALKS

1. **K. J. A. Ooi**, "Dirac Optics in Various Dimensions," EPD Research Seminar, Singapore University of Technology and Design, Singapore, 26 September 2018.
2. **K. J. A. Ooi** and D. T. H. Tan, "Plasmonics of Nanostructures, Graphene and Beyond," in IEEE NMDC 2017, Singapore, 2–4 October 2017.
3. **K. J. A. Ooi** and D. T. H. Tan, "The Interaction of Nanostructures with Optical Fields," in CLEO-PR 2017, Singapore, 31 July – 4 August 2017.
4. **K. J. A. Ooi** and L. K. Ang, "Graphene for Nanophotonic and Nanoplasmonic Applications" in the BIT's 5th Annual World Congress in Nanoscience and Technology, Xi'an, China, 24–26 September 2015.
5. **K. J. A. Ooi** and L. K. Ang, "Electron beam excitation on doped graphene plasmon for generation of coherent radiation," in the 41st IEEE conference of plasma science (ICOPS 2014), Washington DC, USA, 25–29 May 2014.

JOURNAL REVIEWER

Publisher	Journal
Optical Society of America	Optics Letters
	Optics Express
	Optical Material Express
	Journal of the Optical Society of America B
	Applied Optics
	Photonics Research
American Institute of Physics	Optica
	Journal of Applied Physics
Institute of Electrical and Electronics Engineers	APL Photonics
	IEEE Photonics Technology Letters
	IEEE Journal of Selected Topics in Quantum Electronics
	IEEE Journal of Quantum Electronics
Institute of Physics	IEEE Transactions on Nanotechnology
	Nanotechnology
	Journal of Optics
Nature	Journal of Physics D: Applied Physics
	Nature Communications
Elsevier	Scientific Reports
	Optics Communications
	Photonics and Nanostructures – Fundamentals and Applications
Royal Society of Chemistry	Optik - International Journal for Light and Electron Optics
	Nanoscale
American Chemical Society	New Journal of Chemistry
	Analytical Chemistry
Degruyter	Nanophotonics