

FENG YUAN

Hardware Engineer

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I am currently working as an embedded system engineer at Palette Pty Ltd, Australia. Prior to that, I completed the Master of Philosophy(Engineering) degree at the University of Melbourne (UoM). My research work is focused on short-reach optical communication systems with **19 papers** published till now. Before admitted by UoM, I got my BEng degree from the University of Science and Technology of China (USTC) majoring in automatic control. During this period, I received various scholarships and awards with a final GPA ranking of **2 in 86**.

EMPLOYMENT

2017.7–Present : Embedded System Engineer at Palette Pty Ltd, Australia

2016.7–2016.12 : Teaching Support at the University of Melbourne

EDUCATION

Master of Philosophy (MPhil-Engineering): the University of Melbourne (Melbourne, Victoria, Australia), 2014–2017

- ❖ *Research Topic*: Short-reach Optical Communication Using Directly Modulated Lasers
- ❖ *Grade*: Thesis (95%) and Coursework (5%) with Final Grade 91/100
- ❖ *Publications*: 8 Journal Papers and 11 Conference Papers. (My Google Scholar Profile)

Bachelor of Engineering (BEng): the University of Science and Technology of China (HeFei, AnHui, P.R.China), 2010–2014

- ❖ *Coursework*: Top 3% in Department
- ❖ *Undergraduate Research Program*: Design of High-Accuracy Actuator Controllers in Active Optics
- ❖ *Degree Thesis*: 3D Printer Design and Implementation

ACADEMIC RECORDS

❑ MPhil Final Mark	:	91/100 (H1)
❑ Bachelor Overall GPA	:	3.91/4.3 (Ranking: 2/86)
❑ Bachelor Major GPA	:	4.02/4.3
❑ Bachelor Math-Related GPA	:	4.09/4.3
❑ IELTS Score (Dec.,2016)	:	8.0/9.0 (L8.5+R9.0+W6.5+S7.5)

AWARDS

- ❖ Melbourne International Research Scholarship/Melbourne International Fee Remission Scholarship (MIRS/MIFRS) — UoM
- ❖ School-level Excellence for Undergraduate Research Program — USTC
- ❖ China Aerospace Science and Technology Corporation Scholarship — USTC
- ❖ The Institute of Electronics Chinese Academy of Sciences Scholarship — USTC
- ❖ Outstanding Student Scholarship — USTC
- ❖ RoboGame of USTC (A Robot Design Contest) Honorable Mention — USTC
- ❖ Outstanding Volunteer of the 31st Chinese Control Conference — USTC

PUBLICATIONS

❖ *Journal Articles*

- [1] D. Che, **F. Yuan**, and W. Shieh, "Maximum likelihood sequence estimation for optical complex direct modulation," *Optics Express*, vol. 25, no. 8, pp. 8730–8738, 2017.
- [2] **F. Yuan**, D. Che, and W. Shieh, "Receiver bandwidth effects on complex modulation and detection using directly modulated lasers," *Optics Letters*, vol. 41, no. 9, pp. 2041–2044, 2016.
- [3] D. Che, **F. Yuan**, and W. Shieh, "Towards high-order modulation using complex modulation of semiconductor lasers," *Optics Express*, vol. 24, no. 6, pp. 6644–6649, 2016.
- [4] D. Che, **F. Yuan**, H. Khodakarami, and W. Shieh, "Duobinary pulse shaping for frequency chirp enabled complex modulation," *Optics Letters*, vol. 41, no. 17, pp. 3968–3971, 2016.
- [5] D. Che, **F. Yuan**, Q. Hu, and W. Shieh, "Frequency chirp supported complex modulation of directly modulated lasers," *Journal of Lightwave Technology*, vol. 34, no. 8, pp. 1831–1836, 2016.
- [6] D. Che, **F. Yuan**, and W. Shieh, "High-fidelity angle-modulated analog optical link," *Optics Express*, vol. 24, no. 15, pp. 16320–16328, 2016.
- [7] D. Che, Q. Hu, **F. Yuan**, Q. Yang, and W. Shieh, "Enabling complex modulation of directly modulated signals using laser frequency chirp," *IEEE Photonics Technology Letters*, vol. 27, no. 22, pp. 2407–2410, 2015.
- [8] Q. Hu, D. Che, Y. Wang, **F. Yuan**, Q. Yang, and W. Shieh, "Complex modulation and detection with directly modulated lasers," *Optics Express*, vol. 23, no. 25, pp. 32809–32819, 2015.

❖ *Conference Papers*

- [9] D. Che, **F. Yuan**, and W. Shieh, "100-Gb/s Complex Direct Modulation over 1600-km SSMF Using Probabilistic Transition Estimation," in *Proceedings Optical Fiber Communication Conference* (Los Angeles, California, United States, 2017), p. M3C.5.
- [10] D. Che, **F. Yuan**, and W. Shieh, "Adiabatic Chirp Impact on the OSNR Sensitivity of Complex Direct Modulation: An Experiment Investigation," in *Proceedings Optical Fiber Communication Conference* (Los Angeles, California, United States, 2017), p. Th2A.47.
- [11] D. Che, **F. Yuan**, and W. Shieh, "200-Gb/s Polarization-Multiplexed DMT using Stokes Vector Receiver with Frequency-Domain MIMO," in *Proceedings Optical Fiber Communication Conference* (Los Angeles, California, United States, 2017), p. Tu3D.4.
- [12] W. Shieh, A. Li, D. Che, **F. Yuan**, Hamid Khodakarami, "Stokes-vector direct detection for optical communications," *Proc. SPIE 10130*, Next-Generation Optical Communication: Components, Sub-Systems, and Systems VI, 101300G, 2017.
- [13] **F. Yuan**, D. Che, Q. Hu, and W. Shieh, "Characterization of thermal frequency modulation of a DFB laser using digital coherent detection," in *Proceedings Optical Fiber Communication Conference* (Anaheim, California, United States, 2016), p. W2A.25.
- [14] D. Che, **F. Yuan**, and W. Shieh, "Towards high-order PAM utilizing large frequency chirp of directly modulated lasers," in *Proceedings Optical Fiber Communication Conference* (Anaheim, California, United States, 2016), p. W1A.4.
- [15] D. Che, **F. Yuan**, Q. Hu, and W. Shieh, "Complex modulation of directly modulated lasers for medium reach optical communications," in *Proceedings Optical Fiber Communication Conference* (Anaheim, California, United States, 2016), p. Tu2A.5.
- [16] D. Che, **F. Yuan**, and W. Shieh, "Ultrahigh-Fidelity Mobile Fronthaul Using Analog Angle Modulation", in *Proceedings European Conference on Optical Communication* (Dusseldorf, Germany, 2016).
- [17] D. Che, **F. Yuan**, H. Khodakarami and W. Shieh, "Duobinary Pulse-Shaped Complex Modulation of Directly Modulated Lasers", in *Proceedings European Conference on Optical Communication* (Dusseldorf, Germany, 2016).
- [18] D. Che, **F. Yuan**, Q. Yang, H. Khodakarami, Y. Wang, J. Fang, and W. Shieh, "Reinventing Optical Direct Modulation by Frequency Chirp," in *Asia Communications and Photonics Conference* (Wuhan, China, 2016), p. AF1C.3.
- [19] D. Che, Q. Hu, **F. Yuan**, and W. Shieh, "Enabling complex modulation using the frequency chirp of directly modulated lasers," in *Proceedings European Conference on Optical Communication* (Valencia, Spain, 2015), pp. 1-3.

PERSONAL PROFICIENCY

- ❖ **Programming Languages:** C/C++, C#, Java, Python, Haskell, Scheme, Matlab
- ❖ **Hardware:** Single-chip microcomputers, CPLD, FPGA
- ❖ **Other Skills:** Optical fiber polishing and splicing