

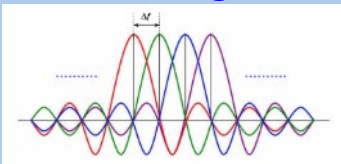
研究方向 research topics

1. 光電整合的5G行動通訊 Fiber-Wireless integrated 5G Mobile Communications
2. 光纖通訊的數位訊號處理 Digital Signal Processing of Optical Fiber Communications
3. 太赫茲通訊系統 Tera-Hertz Communication systems (> 100 GHz)

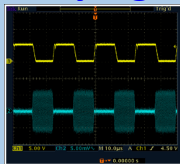
研究方法 research methods



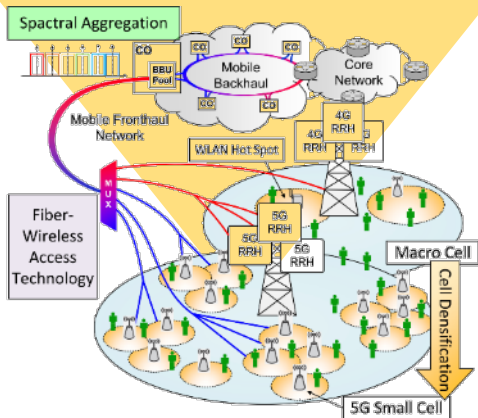
OFDM signal



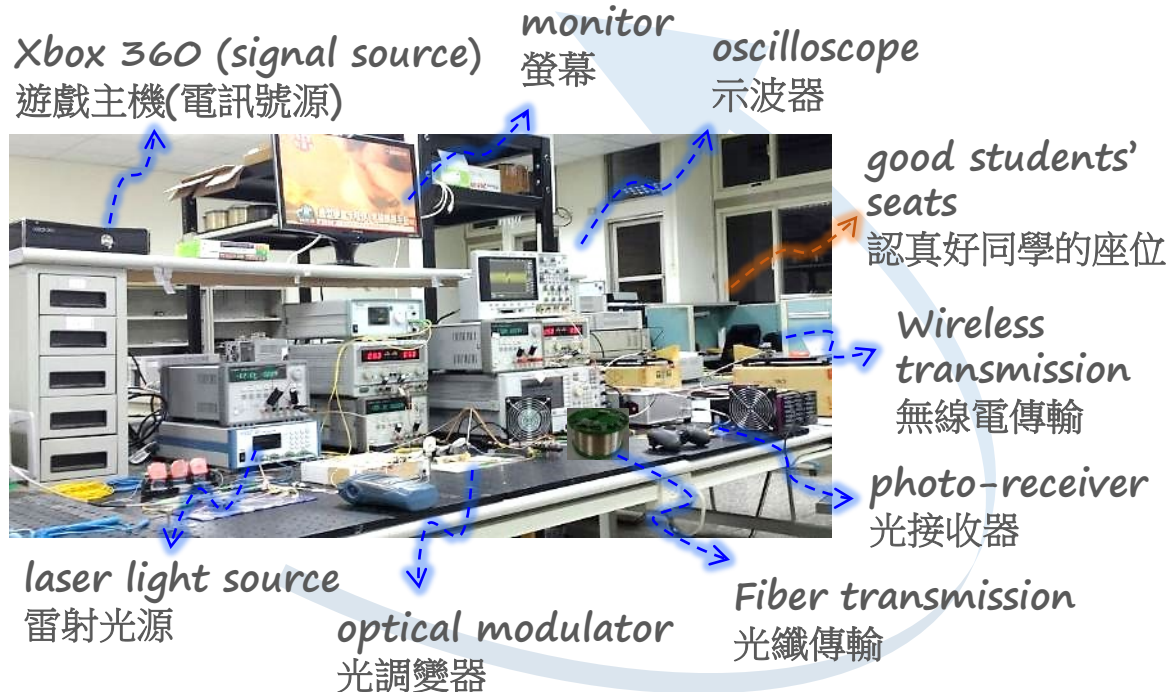
binary signal



Fiber-Wireless integrated networks



實驗展示 experimental demonstrations



指導教授 advisor

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畢業生 alumni

- 莊承哲 (通訊所), 2019/09~2021/10, 聯發科 Media Tech
- 林偉芸(光電所), 2019/09~2021/10, 台積電 TSMC
- 林長瑩(光電所), 2018/09-2020/08, 高通 Qualcomm
- 許晉維(通訊所), 2018/09-2020/08, 聯發科 Media Tech
- 蔡勝宸(通訊所), 2018/09-2020/08, 高通 Qualcomm
- 黃建凱(通訊所), 2017/09-2019/08, 台積電 TSMC
- 曾家祥(光電所), 2017/09-2019/08, 台積電 TSMC



合作與實習 cooperation and internship

科技部

Ministry of Science and Technology

- 提昇下世代行動前段/後段網路容量之研究 (2016-2017)
- 第五代行動通訊高成本效益光學行動網路前段上下行系統 (2017-2018)
- 提升微型服務區接取數量的高成本效益光纖無線整合行動通訊 (2018-2019)
- 智慧型無偏振追蹤的偏振態多工光載微波第五代行動通訊前段網路 (2020-2022)



工業技術研究院

Industrial Technology
Research Institute

- 矽光子接收器於光載射頻的應用
- 基於多輸入多輸出的高移動性可見光通訊系統分析與設計於醫療場域之應用



Georgia Institute
of Technology



- B. Wu, J.-H. Yan, G.-K. Chang et al., "Polarization-Insensitive Remote Access Unit for Radio-Over-Fiber Mobile Fronthaul System by Reusing Polarization Orthogonal Light Waves," IEEE Photon. J. 8, 1-8, 2016.
- M. Xu, J.-H. Yan, G.-K. Chang et al., "Bidirectional fiber-wireless access technology for 5G mobile spectral aggregation and cell densification," IEEE/OSA J. Opt. Commun. Netw. 8, B104-B110, 2016.
- S. Shen, J.-H. Yan, K.-M. Feng, G.-K. Chang et al., "Polarization Tracking Free PDM Supporting Hybrid Digital-Analog Transport for Fixed-Mobile Systems," IEEE Photon. Lett., under revision, 2018.



國立成功大學
National Cheng Kung University



- Y.-H. Hung, J.-H. Yan, K.-M. Feng, S.-K. Hwang, "Photonic microwave carrier recovery using period-one nonlinear dynamics of semiconductor lasers for OFDM-RoF coherent detection," Opt. Lett. 42, 2402-2405 (2017)

Designing The Future



株式会社KDDI総合研究所

- internship in 2015: 張慕凡, 廖奕廷
- internship in 2016: 劉幸娟, 葉子語
- internship in 2018: Govind Sharan Yadav, 黃煦閑