

數位通訊實驗室

Digital Communication Lab

簡介

數位通訊實驗室之研究可區分為無線通訊與光纖通訊之兩大應用。前者針對在正交頻率分工(OFDM)之峰均功率比值(PAPR)抑制和感知無線電(CR)之換手機制進行研究；後者則改善光分碼多工(OCDMA)與波長多工(WDMA)之混成機制下之錯誤機率。加入本實驗室之成員，對信號與系統，數位與類比通訊系統，以及統計通訊理論，皆有基本之了解。學生經本實驗室之訓練後，大學部專題生多能錄取一流國立大學之電資相關研究所就讀，研究生皆可進入台灣各科學園區之電子公司，成為日後產業界之中堅。

Introduction

The research topics in Digital Communication Lab can be divided into the applications on wireless communications and those on optical communications. In the former, peak-to-average power ratio (PAPR) reduction in the orthogonal frequency division multiplexing (OFDM) and handover mechanism in the cognitive radio (CR) are the two major subjects focused by this lab. In the latter, the hybrid system of optical code division multiple access (OCDMA) with wavelength division multiple access (WDMA) is developed and has been continuously improved, with the emphasis on the performance enhancement from the standpoint of error probability suppression. Those who joined the lab before possessed the fundamental understanding of signals and systems, digital as well as analog communication systems, and statistical communication theories. After they obtained their undergraduate or graduate degrees, they either entered prestige graduate institutes of first- or second-tiered national universities or were recruited by electronic companies in the industrial parks all over Taiwan.