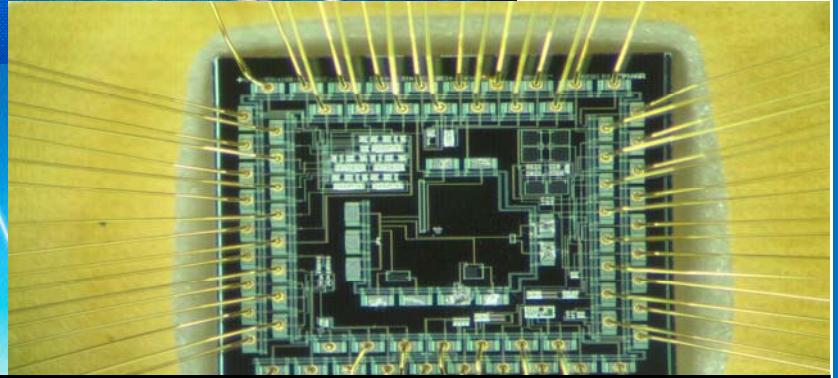
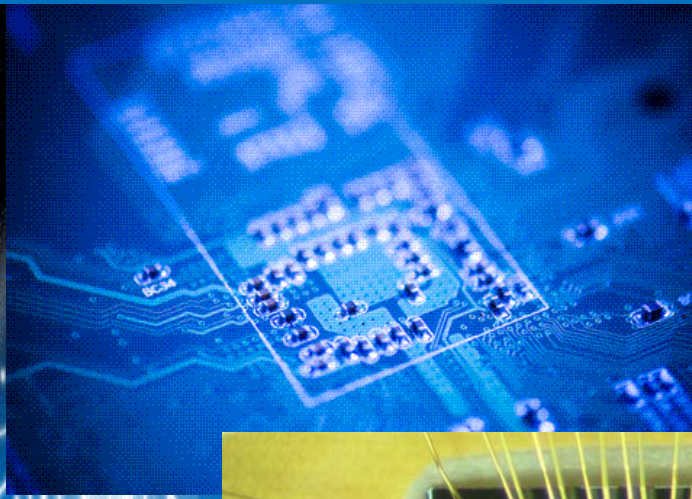


HRDF Claimable*

*subject to approval



5-Day Short Course on

WIRELESS CIRCUITS DESIGN and SYSTEMS

14 – 18 December 2009

WHO SHOULD ATTEND?

Engineers and Engineering Managers, Research students, Lecturers, who are involved in Wireless Communication Systems Design, are recommended to attend this short course.

Organised by:



UNIVERSITI SAINS MALAYSIA

USM

School of Electrical &
Electronic Engineering

Venue:

Eureka Complex, Universiti
Sains Malaysia, Penang

in collaboration with:

Centre of
Engineering
Excellence



Indian Institute of
Technology, Kanpur

More information and technical enquiries:

Dr. Khoo Bee Ee - Event Coordinator

beekhoo@eng.usm.my

04-5996032/5996008

COURSE OBJECTIVES

This workshop aims to assist participants to:

1. Learn theory as well as simulation and design of filters, amplifier and oscillator using Advanced Design System Software (ADS); and
2. Introduce various aspects of cutting edge wireless cellular communication technologies: 3G and Beyond.

COURSE CO-ORDINATOR

Ajit K. Chaturvedi



Ajit received his Bachelors, Masters and Ph.D. degrees from Indian Institute of Technology, Kanpur. Currently, he is the Head and professor in the department of Electrical Engineering at Indian Institute of Technology, Kanpur.

He is a recipient of Distinguished Teacher's award from IIT Kanpur and Tan Chin Tuan fellowship from Nanyang Technical University, Singapore. His research interests are in the areas of communications theory and systems, mobile communications, and spread spectrum systems. He has over ten years of experience teaching courses on wireless communications and has published extensively in reputed journals and conferences.

Mohd Fadzil Ain

Fadzil graduated with B.Eng from Universiti Teknologi Malaysia, MSc from Universiti Sains Malaysia and PhD from University of Birmingham, all in Electrical and Electronic Engineering specializing in RF and microwave communication. At present, he is a senior lecturer having vast experiences in RF, Wireless and Microwave circuit design. His hands-on experience in electronic combined with deepest theoretical knowledge bringing him to be an excellence scholar in RF and wireless field.



Adrish Banerjee



Adrish received his Bachelors degree from Indian Institute of Technology, Kharagpur and Masters and Ph.D. degree from University of Notre Dame, Indiana. He is currently an Assistant Professor in the department of Electrical

Engineering at Indian Institute of Technology, Kanpur. He has been a visiting faculty to National Yunlin University of Science and Technology, Taiwan and Chung-Ang University, Seoul, South Korea. Under Erasmus-Mundus program he was a visiting faculty in Politecnico di Torino, Italy. He is a recipient of Microsoft Research India young faculty award, and Institute of Engineers India young engineer award. His research interests are in the physical layer aspects of wireless communications, particularly error control coding, cognitive radio and OFDM systems.

Aditya K. Jagannatham



Aditya received his Bachelors degree from the Indian Institute of Technology, Bombay and M.S. and Ph.D. degrees from the University of California, San Diego. From April '07 to May '09 he was employed as a senior wireless systems engineer at Qualcomm Inc., San Diego, California, where he worked on developing 3G UMTS/WCDMA

mobile chipsets as part of the Qualcomm CDMA technologies division. His research interests are in the area of wireless communications and networking, sensor and ad-hoc networks, digital video processing for wireless systems, wireless 3G/4G cellular standards and CDMA/OFDM/MIMO wireless technologies. He has contributed to the 802.11n high throughput wireless LAN standard and received the Upendra Patel Achievement Award for his efforts towards developing HSDPA/HSUPA/HSPA+ WCDMA technologies at Qualcomm.

REGISTRATION FEE

Covers course print material, refreshment, lunch and Certificate of Attendance.

PROGRAM FEE

RM3,500 per participant

Registration & other enquiries:

KHAIROL ANUAR HAZIR MOHAMMED

USAINS HOLDING SDN BHD

04-653 4372 / 012-286 9048

khairol@usainsgroup.com / khairol_usains@yahoo.com

RECOMMENDED ACCOMMODATION

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E-mail: questhouse@usainsgroup.com

www.usainsgroup.com/guesthouse

HOTEL VISTANA

213, Jalan Bukit Gambir

Bukit Jambul, 11950 Pulau Pinang.

Tel: 04-646 8000

Fax: 04-646 8343

www.ytlhotels.com.my

CERTIFICATE OF ATTENDANCE

In recognition of successful program completion, you will be presented with a Certificate of Attendance. This will reflect on your commitment towards your continued personal and professional development.



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WIRELESS CIRCUITS DESIGN AND SYSTEMS

PROGRAM MODULE & SCHEDULE

DAY 1 : COORDINATOR – USM (9 a.m. – 5 p.m.)

Module 1 : Receiver And Transmitter Architecture

- Wireless System Building Block, Modulation (Analog/Digital, IQ Mod/Demod), Receiver Architecture, Transmitter Architecture, Transceiver Architecture

Module 2 : Amplifier, Mixer And Oscillator Design

- RF LNA design, RF Power Amplifier design, RF mixer design (active and passive), RF oscillator design

DAY 2 : COORDINATOR – USM (9 a.m. – 5 p.m.)

Module 3 : RF Filter And RF Passive Circuit Design

- Lumped element and microstrip filter, antenna, Duplexer, Isolator, Power Splitter/Divider/Combiner, Coupler, Propagation Modes, Noise Analysis

Module 4 : RF Measurements

- Amplifier measurement, Filter measurement, Mixer Measurement

DAY 3 : COORDINATOR – IITK (9 a.m. – 5 p.m.)

Module 5 : Introduction to Digital Communications

- Modulation techniques, pulse shaping, matched filtering, equalization, coherent and non-coherent detection, channel capacity, noisy channel coding theorem, capacity of Additive White Gaussian Noise ((AWGN) channel.

Module 6 : Introduction to Wireless Communications

- Fading channel models, performance of digital modulation techniques in fading channels, diversity in wireless communications, basics of cellular communications and Multiple Input Multiple Output (MIMO) systems

Module 7 : Wireless Technologies

- Code Division Multiple Access (CDMA), Orthogonal Frequency Division Multiplexing (OFDM)

DAY 4 : COORDINATOR – IITK (9 a.m. – 5 p.m.)

Module 8 : Wireless Standards

- GSM, EDGE, UMTS

Module 9 : Laboratory Module-I

- Introduction to Matlab. Simulation of digital communication system. Introduction to fading channel models and communication over fading channels.

DAY 5 : COORDINATOR – IITK (9 a.m. – 5 p.m.)

Module 10 : Wireless Standards

- LTE, LTE-A

Module 11 : MLaboratory Module-II

- Implementation of CDMA systems and implementation of MIMO-OFDM system.

CERTIFICATE OF ATTENDANCE PRESENTATION

REGISTER NOW !

WIRELESS CIRCUITS DESIGN AND SYSTEMS

Contact: Mr. Khairol Anuar at 04-653 4372 / 012-286 9048 / khairol@usainsgroup.com / khairol_usains@yahoo.com

Fax or send registration form to : **Usains Holding Sdn. Bhd.**, Ground Floor, Kompleks EUREKA, Universiti Sains Malaysia, 11800 USM PENANG. Fax : 04-657 2210

Please register the following name/names: (Please use separate sheet, if required)

Item	Participants Name (Please print clearly or attach business card)	Position & Email
1.		
2.		
3.		
4.		
5.		
6.		
Industry Sector:		
Company:		
Address:		
Postcode:		
Contact Person:		*Mobile Phone:
*Telephone No.:	*Fax No.	*E-mail:

Mode of Payment

I enclose		Number	Bank	No. of Participants:	
<input type="checkbox"/>	Crossed Cheque			Early Birds:	
<input type="checkbox"/>	Bank Draft			Group Discount:	
<input type="checkbox"/>	Money Order				
<input type="checkbox"/>	LO/PO			Total Sum:	RM
Payment must be made payable to 'Usains Holding Sdn. Bhd.'					

1. **Bank Transfer** (Please fax your Bank-in Slip as proof of payment (Print your name & details on the slip))

Payee Name: **Usains Holding Sdn. Bhd.**

Details: **WIRELESS CIRCUITS DESIGN AND SYSTEMS**

Name of Bank: **CIMB Bank Berhad (USM Branch), Universiti Sains Malaysia, 11800 USM Penang.**

Account Number: **0709-0006708-05-7**

2. A **Local Order (LO)** or **Purchase Order (PO)** must be presented before the event.

The Organizer reserves the right to refrain a registered participant from taking part in the event if no proof of payment can be presented. This only applies to registered participants who have NOT paid the registration fee PRIOR to the event date.

Cancellation / Substitution

A full refund less administration fee of RM50.00 will be given for cancellation received not later than 5 days before the course. No refund will be made after this period. However, substitute participants are welcomed at no extra charge provided written notice of at **least 5 days** before the event is given to the Organizer.

Disclaimer

The Organizer reserves the right to reschedule or cancel any part of its published programme or venue due to unforeseen circumstances and will not accept liability for costs incurred by participants or their organizations for the cancellation of travel arrangements and/or accommodation reservations as a result of the course being cancelled or postponed. Advance notice will be given if there is such changes or cancellation.