

VENUE

School of Science and Technology (SST),
University of Malaysia Sabah, Kota Kinablu,
Sabah.

TENTATIVE PROGRAM

Day 1 (26 Oct 2009)

9.00-10.00am

**INTRODUCTION TO SIGNAL
PROCESSING & ANALYSIS**

10.15-12.00pm

**TIME-DOMAIN AND SPECTRAL
DOMAIN ANALYSES**

2.00-3.45pm

NONSTATIONARY SIGNAL ANALYSIS

4.00-5.30pm

DEMONSTRATIONS & CASE STUDIES

Day 2 (27 Oct 2009)

9.00-12.15pm

**FRACTAL AND MULTIFRACTAL
ANALYSIS**

2.00-3.45pm

**STOCHASTIC PROCESSES AND
SIGNAL MODELLING**

4.00-5.15pm

DEMONSTRATIONS & CASE STUDIES

PARTICIPANTS

This workshop provides an excellent opportunity for researchers, postgraduate and senior undergraduate students to learn various techniques used in contemporary signal processing and analysis. Among the topical highlights are spectral analysis, nonstationary signal analysis, fractals/multifractals, wavelet transforms and stochastic processes. Multidisciplinary applications and case studies to be covered include signals from engineering problems, corrosion noises, biomedical and physiology signals, bioacoustic, financial time series, etc.

ORGANIZER

Energy, Vibration and Sound Research Group (e-VIBS), School of Science and Technology (SST), University of Malaysia Sabah (UMS).

REGISTRATION

Interested participants are required to register for the workshop. The registration fee is RM30.00 per person. Participants will receive a complimentary copy handout. Please send the completed registration form to the contact address. Selected participants will be informed through e-mail with letter of invitation to participate in the workshop.

CONTACT ADDRESS

Associate Prof. Dr. Jedol Dayou

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e-VIBS Workshop

WORKSHOP ON MULTIDISCIPLINARY SIGNAL PROCESSING AND ANALYSIS

26th & 27th October 2009
School of Science and Technology
University Malaysia Sabah

ORGANIZED BY



**ENERGY, VIBRATION AND SOUND
RESEARCH GROUP (e-VIBS)**
School of Science and Technology



UNIVERSITI MALAYSIA SABAH

BACKGROUND

Complex signal processing, analysis and modeling is now becoming important component in many applications that incorporate digital electronics and smart systems. The availability of large amount of data, especially in real-time applications such as condition monitoring, medical signal processing, financial time series, internet/communication network, etc., require powerful and reliable techniques for data storage, processing, information retrieval and interpretation. Signals from complex systems exhibit various features such as nonstationarity, fractal/multifractal scaling or chaos, and strong temporal correlation. These properties are often signatures of the dynamical state of the system and therefore can be used for characterization. This workshop explores some of the recent techniques and multidisciplinary applications.

OBJECTIVES OF THE WORKSHOP

- To introduce various recent techniques for processing and analysis of complex signals.
- To demonstrate the applications of digital signal processing combined with fractal/multifractal theory, stochastic processes for modeling signals or time series found in multidisciplinary areas of research.
- To provide hands-on practical skills with case study sessions.

SPEAKERS

- 1. Associate Prof. Dr. Sithi V Muniandy**
Received BSc (Hons) and MSc in Physics from the National University of Malaysia and PhD (Mathematics) from the University of Oxford in 1992, 1995 and 1998, respectively. He is currently an associate professor at the University of Malaya. His research interests include applications of fractal/multifractal analysis, wavelet analysis, stochastic processes, fractional calculus, diffusion and transport phenomena in non-equilibrium systems.
- 2. Associate Prof. Dr. Jedol Dayou**
Received BSc (Hons) and MSc in Physics and Nuclear Science from National University of Malaysia and PhD in Noise and Vibration Control from University of Southampton in 1992, 1996 and 1999, respectively. He is currently an associate professor at University of Malaysia Sabah (UMS). His research interests include renewable energy, acoustics and vibration.
- 3. Mr. Ng Chee Han**
Received BSc (Hons) in Physics with Electronics from UMS in 2007. He is currently a master student of UMS. His research interests include bioacoustics, information theory, artificial intelligence and time-frequency analysis.

Registration Form

e-VIBS Workshop

WORKSHOP ON MULTIDISCIPLINARY SIGNAL PROCESSING AND ANALYSIS

26th & 27th October 2009
School of Science and Technology
University Malaysia Sabah

Title: Prof/Dr./Mr./Mrs./Ms

Name:

Address:

Tel: _____

Fax: _____

E-mail: _____

Interest/Specialization: