



# A two days workshop on BIOMEDICAL INSTRUMENTATION

January 30 & 31, 2010 (Saturday and Sunday) Venue: Indian Institute of Science, Bangalore – 560 012.

Web: [www.isoi.in/biomed2010.html](http://www.isoi.in/biomed2010.html)



Non-invasive medical instruments have become indispensable in the clinic, especially in emergency and intensive care units, for continuous monitoring of physiological signals. Biomedical instrumentation to rapidly measure these physiological signals (example: ECG/ICG and blood oxygenation) reliably and precisely, has been a challenge. This workshop is aimed at imparting both technical and practical (through lab sessions) understanding of non-invasive biomedical instrumentation for monitoring physiological signals. This workshop also aims at providing clinical analysis of these measured physiological signals to diagnose the patient condition.

#### Main objectives of the workshop are

- Develop skills to understand current non-invasive physiological measurements and instrumentation associated with it.
- Develop knowledge to interpret and understand measured physiological signals.
- Impart necessary skills to acquire physiological signals reliably and precisely in real-time.

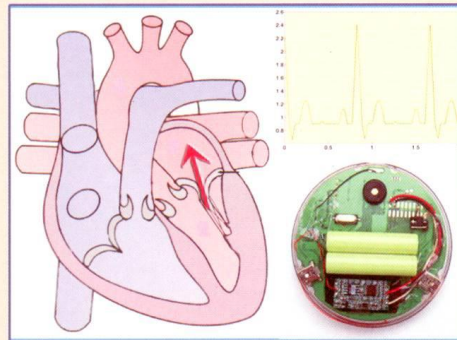
#### Modules of the workshop

##### Teaching Modules

- ❖ Sensors and physiological signal analysis
- ❖ Electrocardiography (ECG)
- ❖ Impedance cardiography (ICG)
- ❖ Blood Oxygenation
- ❖ Breathing signal measurements
- ❖ Diagnostic Ultrasonography

##### Laboratory Modules

- ❖ ECG/ICG measurements
- ❖ Pulse Oximeter
- ❖ Blood pressure measurements
- ❖ Ultrasonography



**Workshop Registration Fee** (10% concession for ISOI life members)

Academia/Non-profit/Government

Organizations : Rs. 5,000/-

Industry : Rs. 10,000/-

The payment (local check/DD) should be made in favor of “Instrument society of India”, payable at Bangalore.

Number of participants is restricted to 30, due to limited laboratory facilities.

Registration fee includes course materials, lunch and refreshments. Limited accommodation is available for out station participants.

Applications can be downloaded from : [www.isoi.in/biomed2010.html](http://www.isoi.in/biomed2010.html)

Last date for receipt of applications along with the registration fee is **18 December 2009** (last date for cancellation with full refund is 5 January, 2010).

#### Organised by

**INSTRUMENT SOCIETY OF INDIA**  
Department of Instrumentation  
Indian Institute of Science  
Bangalore - 560 012  
Ph : 080-23604533 / 22932273  
E-mail : [isoi@isu.iisc.ernet.in](mailto:isoi@isu.iisc.ernet.in)  
Website: [www.isoi.in](http://www.isoi.in)

#### Faculty

From I.I.Sc., Bangalore  
**Prof. J. Nagaraju**, Ph.D.  
**Prof. Phaneendra K. Yalavarthy**, Ph.D.  
**Prof. K. Rajan**, Ph.D.  
**Prof. R.M. Vasu**, Ph.D.  
and  
**Medical Doctors**

#### Workshop Coordinator

**Prof. J. Nagaraju**, Ph.D.,  
Department of Instrumentation  
Indian Institute of Science  
Bangalore 560 012  
Ph : 080-22932273  
E-mail: [solarjnr@gmail.com](mailto:solarjnr@gmail.com)