REGISTRATION FORM

Name: Mr./Ms_____

Age: _____ yrs.

Status: Student/Faculty/others_____

Institution:_____

Address:_____

_____

Phone & Fax:_____

E-mail:_____

Category: ILA member/ Non ILA member/ Industrial participants

I am interested in attending: Course-I, Course-II/Course-III (parallel sessions)

	I	II	III
(a) Course fee Rs			
(b) Lodging and boarding: Rs.			
Total (a+b): Rs.			

Draft Details:

DD No. _____Date: _____

Name of Bank_____

Amount: Rs. _____

Signature

Who could attend?

- M. Sc. / M. Tech. students in appropriate disciplines,
- Process/ R&D engineers beginning their career in these fields,
- Young researchers.

Course Fees:

Fees per course per participant is:

Rs. 200 for ILA members/ ILA corporate member

Rs. 400 for Non ILA members.

Rs. 600 for participants from Industry.

In addition, Rs. 150 per day per person will have to be paid towards lodging and boarding for duration of stay, 5th and/or 6th Dec.' 05).

Contact: Interested participants may fill the registration form and send it to

Dr. S.R. Mishra,
General Secretary II, ILA,
R&D Block-A, CAT,
Indore- 452 013

along with DD drawn in favour of **"Indian Laser Association",** payable at State Bank of India, Sukhniwas Branch, Indore (Code 8484); latest by **31st Oct. 2005**.

** *Kindly note that course will be conducted only if minimum number of registered participants is 10 per course.*

Short ILA courses on

Laser Applications & related topics

(5th & 6th December 2005)

Organised at

VIT

Vellore Institute of Technology
Deemed University
Vellore, Tamil Nadu

Convener

Dr. S.R. Mishra,

Organizing Secretaries

Dr. E. James Jebaseelan Samuel

Shri. P. Ramesh Babu

Preceding the Fifth DAE-BRNS National Laser Symposium, **NLS-5**, at Vellore Institute of Technology, Vellore during December 7-10, 2005, Indian Laser Association (ILA) is organising short courses on Lasers Applications & related topics on 5th and 6th Dec. 2005.

Objectives:

- To give young researchers an exposure to in the chosen areas.
- To build up capability to handle research/technical problems and
- An opportunity to interact with peers in the chosen areas.

Visit our web site**:**

www.cat.ernet.in/sitelink/ila/index.html

Course contents are:

No.	Title	Coordinator
I	Data Acquisition, Signal conditioning and controls	Mr. Viraj Bhanage
II	Biomedical Applications of lasers	Dr. P.K.Gupta
III	Laser Material Processing	Dr. A.K.Nath

In order to have closer interaction with the Course Coordinators, the number of participants will be limited to 30 per course. Course-I is scheduled on December 5 while Courses II and III will run concurrently on December 6. Thus a participant can enroll in a maximum of two courses, i.e. course I and one from the Courses II or III.

Course-I: Data acquisition, signal conditioning and controls:

- **Detectors:** This course will scan through various detectors available for measurement of UV VIS IR light. The course will compare various detectors and the selection criterion of these detectors. Some of the detectors to monitor position will be covered as well.
- **Signal conditioning**: Circuits for various detectors used for measuring Laser Energy/Power, Light measurement for Meteorology,
- **Data acquisition**: Electronics Data acquisition cards, Stand alone modules, Image acquisition cards their specifications, selection criteria for these cards depending on application.
- **Buses for Instrumentation**: Various buses used for instrumentation & Instrument. RS-232, GPIB, RS-485, USB. Application of these instrument buses, add on cards, stand alone modules for variety of lab experiments. PC based data acquisition system & Virtual Instrument.
- **Position control systems**: Stepper motor, 5-Phase stepping motor, DC motor, Selecting mechanical multi-axis system, understanding specifications & specifying the system depending on application. Drive Electronics, Position feedback sensors, their accuracy & specifications. Peizo positioning, micro-motor, Nano-motor concept.

Course-II: Biomedical applications of lasers

- **Introduction to tissue optics :** Biological microstructure, Light propagation in turbid medium. Optical Imaging through turbid medium: Introduction to techniques for filtering out multiply scattered light (Tradeoff between depth of imaging and resolution), Optical coherence tomography (Basic principle, instrumentations and applications), Diffuse optical tomography (Principles and applications)
- **Optical diagnosis:** Fluorescence and Raman spectroscopy of biological systems, Basics, instrumentation and applications.
- **Optical micromanipulation:** Introduction to optical micromanipulation tools (Tweezers, Spanners and micro beams), Representative applications.
- **Phototherapy:** Effect of light on living systems, Surgical applications, Other therapeutic applications.

Course-III : Laser Material Processing (LMP)

- **Laser Material Interaction**: Laser power coupling, Interaction phenomena, Significance of coupling and interaction phenomena in laser material processing.
- **Lasers for LMP** : Solid State Nd:YAG Laser, CO_2 laser, Diode laser, Fiber Laser, Comparison & Economics, Laser safety.
- **Laser Material Processing**: Laser cutting, drilling, welding, surface hardening, surface alloying, surface cladding, metal forming, and laser rapid prototyping: their Principles, process characteristics, processing parameters, advantages & disadvantages, Industrial applications.

Participants can contact the following for their boarding and lodging at VIT during the ILA course:

Organizing Secretaries

Dr. E. James Jebaseelan Samuel
Dept. of Physics,VIT,Vellore 632 014,
Tamil Nadu.
Email: nls2005@rediffmail.com
Ph :0416-2202359 (O), 9443041541 Mob

Shri. P.Ramesh Babu
Dept of Physics,VIT,Vellore 632 014,
Tamil Nadu.
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