Registration info

Registration is obligatory in order to prepare material, receipts, certificates, and refreshments

Registration fee: US$ 400 (no on-line registration, make check payable to "Princeton University" and simply bring it to the course), cash accepted

Registration includes: course notes, USB memory stick, receipt, certificate of attendance, and refreshments

Preferred registration deadline: August 31, 2013

Registration form

Please fill the registration form and mail it or e-mail it to the contact address below

Short course on Structural Health Monitoring using Fiber Optic Sensors, Registration Form	
Name	
Affiliation	
Street	
City/State/ZIP	
Phone	
Fax	
e-mail	
Signature	

Contact address

Branko Glisic
Princeton University
E330 EQuad
Princeton NJ, 08544
Phone: 1-609-258-8278
Fax: 1-609-258-2760
e-mail: bglisic@princeton.edu
www.princeton.edu/~bglisic/Short_Course_2013.html

Venue and transportation

Attendees are responsible for their own transportation, accommodation, and meals

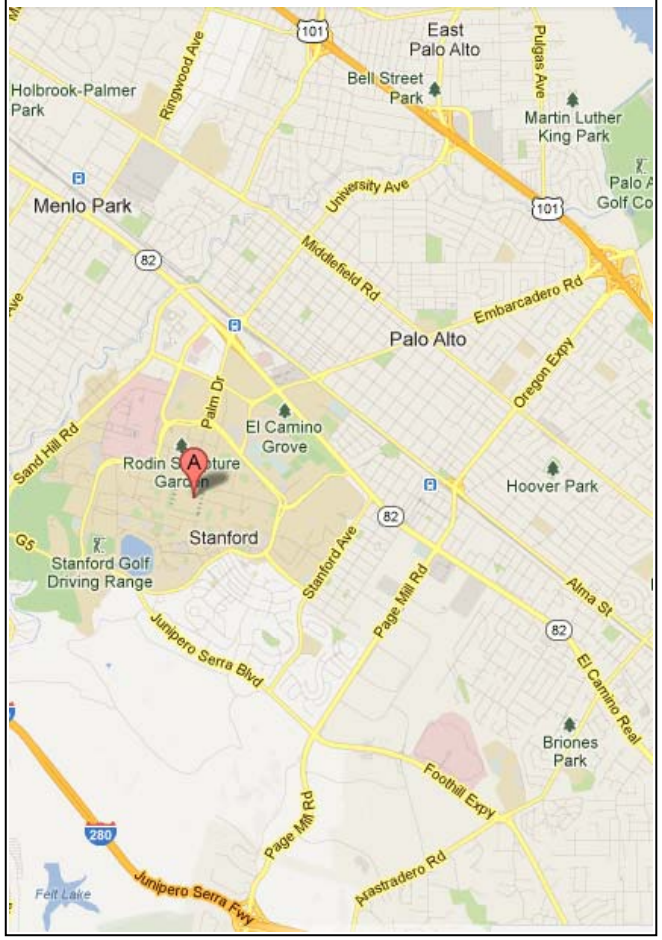
Venue: Stanford University, details will follow

Driving directions: Stanford University, details will follow

Parking: Details will follow

Hotels: any hotel in Palo Alto, California or in the environments

Meals: Details will follow



SHM*lab* at Princeton University organizes:

DRAFT

Short course on Structural Health Monitoring using Fiber Optic Sensors

Held as a post-event of IWSHM 2013 at Stanford University, CA

Room To Be Determined

September 13, 2013, 8:30AM-4:00PM

A one-day course for civil engineers, researchers, practitioners, infrastructure managers and owners

About lecturer

Prof. Branko Glisic has been engaged in R&D of structural health monitoring (SHM) methods and fiber-optic sensors (FOS) since 1996. He was involved at different levels of responsibility in numerous SHM projects, EU and NSF funded projects, and internal R&D projects. Since February 2009, he has been an Assistant Professor with the Department of Civil and Environmental Engineering at Princeton University where he funded SHM*lab*. His expertise and current research interest include SHM methods and strategies, structural analysis, FOS and advanced sensory systems, and model-based and model-free data analysis.

About course

Structural health monitoring (SHM) is a process aimed at providing accurate and in-time information concerning structural health condition and performance. The information obtained from monitoring is generally used to increase the safety, plan and design maintenance activities, verify hypotheses, reduce uncertainty, and to widen the knowledge concerning the structure being monitored.

Recent developments in fiber optic sensing (FOS) technologies made possible global structural monitoring using long-gauge sensors and integrity monitoring using truly distributed sensors. These sensors combined in appropriate topologies and networks can provide for assessment of wide range of parameters relevant for structural behavior.

The aim of this course is to transfer the knowledge on SHM and FOS. Targeted groups are those who can take benefits from SHM: civil engineers, practitioners, consultants, contractors, infrastructure managers, owners, researchers and students.

Covered topics include brief introduction to the SHM, overview of available FOS technologies, and SHM methods based on FOS technologies. The topics are illustrated through numerous examples taken from practice.

Course schedule

Friday, September 13, 2013: Lectures and activities		
8:30-9:00 am	Welcome, registration, distribution of material, coffee, refreshments	30 min.
9:00-9:40	Introduction to Structural Health Monitoring • *Motivation, aims, benefits, SHM process*	40 min.
9:40-10:40	Overview of Fiber Optic Sensing technologies • *Monitoring systems,* • *Discrete strain and temperature sensors* • *Performance comparisons, advantages and challenges* • *Distributed strain and temperature sensors* • *Performance comparisons, advantages and challenges*	60 min.
10:40-10:55	Coffee break, refreshments	15 min.
10:55-11:30	Monitoring projects – examples from practice • *New I35W Minneapolis Bridge, USA (courtesy of Roctest Inc.)* • *Halifax Metro Centre, Canada (courtesy of Roctest Inc.)*	35 min.
11:30-12:30	Sensors types and interpretation of measurement • *Strain components (mechanical, thermal, creep and shrinkage)* • *Analysis of strain measurement* • *Dependence of measurement on gauge-length of sensor*	60 min.
12:30-1:30	Lunch break	60 min.
1:30-2:25	Sensor topologies and global structural monitoring • *Simple, parallel, crossed, and triangular topology* • *Global structural monitoring* • *Integrity monitoring*	55 min.
2:25-3:10	Global structural monitoring – data analysis examples from practice • *High-rise buildings Punggol EC26 (courtesy of Roctest Inc.) and Pinnacle@Duxton (courtesy of HDB), Singapore* • *Semiconductor facility piles testing, Taiwan (courtesy of Roctest Inc.)* • *Streicker Bridge, Princeton, USA and NJ23/US202 overpass, Wayne, NJ, USA*	45 min.
3:10-3:50	Integrity monitoring – examples from practice • *Concrete pipeline full scale testing, USA* • *Fatigue cracking monitoring of Gota Bridge, Sweden (courtesy of Roctest Inc.)* • *Streicker Bridge, Princeton, USA*	40 min.
3:50-4:00	Survey, closing remarks, coffee and refreshments	10 min.