



UNIVERSITÀ DI PISA

DIPARTIMENTO DI INGEGNERIA STRUTTURALE

**Dottorato in Ingegneria delle Strutture**

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## A V V I S O D I S E M I N A R I O

*Nell'ambito delle iniziative promosse  
dal Corso di Dottorato in Ingegneria delle Strutture*

**giovedì 8 luglio, alle ore 16.00,**

il Prof. **Marshall LEITMAN**,  
della *Case Western University*, Cleveland (Ohio),

terrà un seminario dal titolo

### **Optimizing fuel consumption: some simple variational approaches**

**Abstract.** We consider first a car, experiencing linear resistance, which must travel a fixed distance in a fixed time. The car starts and ends at rest. The optimal strategy for minimizing losses is easily found by the classical indirect method of the calculus of variations. The problem is less simple if additional constraints on the velocity or acceleration are imposed. Nevertheless, a satisfactory strategy still exists and can be computed numerically. A more challenging problem arises when the car must start at rest with zero acceleration but with the final velocity unspecified. Finally the case where the resistance is non-linear is examined. The results for the first problem are essentially the same but numerically more challenging.

**Il seminario sarà tenuto nella sala riunioni del DIS.**

Pisa, 30 giugno 2004

Il Presidente del Corso di Dottorato  
(*Prof. Stefano Bennati*)