

Fill this form and fax or email a copy before  
October 1st:

Dr. Mario Paolone - University of Bologna

Phone: +39.051.209.3477

Fax: +39.051.209.3470

E-mail: [mario.paolone@unibo.it](mailto:mario.paolone@unibo.it)

## Pre-Registration Form

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Company main activity: \_\_\_\_\_

### COURSE FEES

The course fees include lectures, documentation,  
coffee breaks and lunches.

Members of the EES-UETP:	€ 525
University non members of the EES UETP:	€ 900
Industry non members of the EES-UETP:	€ 1500

The Course Secretariat will acknowledge the  
registration by email after the reception of the  
Registration Form filled in any part.

The organization will send an invoice to each  
registered participant, after the reception of the  
payment.

### ACCOMODATION

To book a room please contact the following  
address not later than **October 1st** specifying  
“EES-UETP Course” when booking.

Milvia Cenacchi  
KC Travel  
Via Morgagni, 5  
40122 Bologna  
Tel +39.051.260304  
Fax +39.051.265602  
E-mail: [m.cenacchi@kctravel.it](mailto:m.cenacchi@kctravel.it)

### INFORMATION AND REGISTRATION

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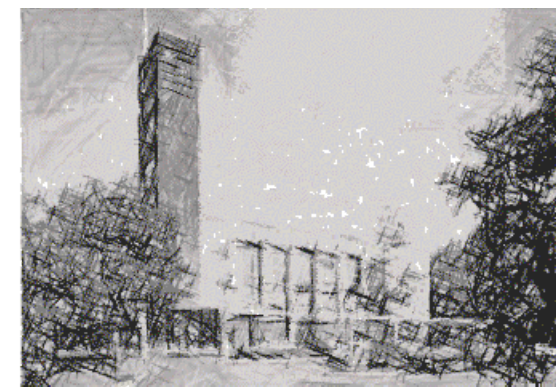


Electric Energy Systems  
University Enterprise Training Partnership

<http://www.eesuetp.unibo.it/>

2007 Course Program

## SIMULATION AND ANALYSIS OF POWER SYSTEM TRANSIENTS



October 24-26, 2007

University of Bologna  
Department of  
Electrical Engineering  
Bologna, Italy

**SPONSORS**

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## OBJECTIVES

The objective of this course is to give to beginner and intermediate participants a good hands-on experience on the simulation and analysis of power systems transients in general. The course will cover modeling issues for switching, lightning, grounding, distributed generation, rotating machine dynamics, wind generation and applications of power electronics devices.

## INTENDED AUDIENCE

This course is intended for professionals from Power Transmission, Distribution and Production companies, Telecommunications companies, professional engineers, consultants and post-graduate students.

## COURSE DURATION AND LOCATION

Three days from Wednesday 24th to Friday 26th of October 2007.

Faculty of Engineering of the University of Bologna, Viale Risorgimento, 2, 40136, Bologna, Italy.

## CONTENTS

1. Theoretical backgrounds to the simulation of transients: from electromechanical to electromagnetic transients. (J. Mahseredjian and C.A. Nucci).
2. Simulation and analysis methods: load-flow, steady-state and time-domain. (J. Mahseredjian and C.A. Nucci).
3. Power equipment models: transformers, transmission lines, cables, surge arresters, switches and rotating machines with inherent controls (J. Mahseredjian).
4. Models for switching studies: limitations, application range, examples (H. Dommel).

5. Transformer models from switching to lightning studies: current practice, advanced models (H. Dommel).
6. Simulation examples of complete cases from load-flow to transients with control systems (J. Mahseredjian).
7. Distributed Networks with Embedded generation (A. Borghetti and M. Paolone).
8. Cable systems: basic theory, impedance, admittance, application limits, and numerical examples (A. Ametani).
9. Lightning protection of power systems, including power quality issues (C.A. Nucci and M. Paolone).
10. Lightning Surges : standard models, limits and problems of existing models, and recent trend to adopt a numerical electromagnetic analysis (A. Ametani)
11. Practical insulation coordination studies, from simple to advanced cases including corona (D. Mader).
12. Practical Power System Studies: switching transients, complex systems with various modelling levels and integration of wind generation, Distributed Generation. (A. Borghetti, D. Mader, J. Mahseredjian, C.A. Nucci, M. Paolone).

## INSTRUCTORS

**A. Ametani**

Doshisha University  
Japan

**A. Borghetti**

University of Bologna  
Italy

**H. Dommel**

University of British Columbia  
Canada

**D. Mader**

Entergy  
USA

**J. Mahseredjian**

École Polytechnique de Montréal  
Canada

**C. A. Nucci**

University of Bologna  
Italy

**M. Paolone**

University of Bologna  
Italy

## COURSE COORDINATION

**Dr. Jean MAHSEREDJIAN**

École Polytechnique de Montréal  
Montréal, CANADA

[jean.mahseredjian@polymtl.ca](mailto:jean.mahseredjian@polymtl.ca)

**Dr. Carlo Alberto NUCCI**

University of Bologna  
Bologna, Italy

[carloalberto.nucci@unibo.it](mailto:carloalberto.nucci@unibo.it)