



**DRAFT Program** for the lectures on:

*Dynamic Calculation Methods for Building Energy Assessment* 19-24 June, 2016  
at the Civil Engineering School, University of Granada, Spain.

The opening and closing session will be presented by CIEMAT and DYNASTEE  
Note that, lectures will not last more than 60 minutes. Exercise time is planned to be at least 1 hour  
and will be scheduled before a coffee or lunch break from Monday until Friday.

**Sunday** 19 June. Lecture room 101

17:00 Welcome; lecturers and participants introduction

*Participants are requested to send two slides (PPT or PDF) to introduce them. See example.*

*One slide about themselves and one about the argumentation for participating, e.g. expertise.*

18:30 Socialising and connecting time.

19:30 End

**Monday** 20 June.

9:00 Salon de Action

Welcome by the director of Civil Engineering School of University of Granada

9:30 Introduction lecture on in-situ measurements and analysis by P. Baker (invited expert).

10:30 Coffee break and move to Lecture room 101

11:00 H. Bloem; Training makes sense; the Homework exercise of the In-Situ wall.

12:00 Exercise time

13:00 lunch

14:30 P. Strachan; Dynamic thermal modelling and simulation - energy flows and uncertainty

15:30 Coffee break

16:00 Exercise time

**Tuesday** 21 June.

09:00 MJ. Jimenez; Guidelines to dynamic analysis; Different approaches. Physical aspects.

10:00 Exercise time and coffee break

11:00 P. Bacher; Introduction to time-series analysis.

12:00 Exercise time

13:00 lunch

14:30 P. Bacher. Tutorial on grey-box modelling. Introduction to CTSM-R

15:30 Coffee break

16:00 Exercise time



**Wednesday** 22 June.

9:00 P. Strachan; Dynamic thermal modelling and simulation - validation and calibration.

10:00 Exercise time and coffee break

11:00 P. Bacher. Guidelines to dynamic analysis; Statistical aspects 13:00 lunch

14:30 MJ. Jimenez; Practical aspects of modelling in different case studies: Integrated PV ventilated systems and other tests in sunny weather conditions.

15:30 Coffee break

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16:00 Exercise time  
17:30 Bus transport to Alhambra; social event. Guided visit  
21:30 Evening dinner with all participants and lecturers  
23:00 Returning back to hotel.

**Thursday 23 June.**

9:00 H. Bloem. Model simplification and uncertainty - the limitations  
10:00 Coffee break  
10:30 Exercise time  
13:00 lunch

14:30 H. Madsen. Time Series Analysis for Physical Modelling – Identification of Model Structure  
15:30 Coffee break  
16:00 Exercise time

**Friday 24 June.**

9:00 H. Bloem; General aspects of Application of Dynamic Methods - the wider dimension  
10:00 Coffee break  
10:30 H. Madsen. Time Series Analysis for Physical Modelling – Parameter Estimation and Model Validation  
11:30 Exercise time  
13:00 lunch  
  
14:30 Exercise time and time for further questions  
15:30 Coffee break  
16:00 Closing lecture  
17:00 End of the Summer School 2016



Monday and Wednesday will have two blocks of exercises, while Tuesday, Thursday and Friday will have 3 blocks of exercises which makes roughly half of the week available for exercise time. Note that this is a preliminary program (but almost final) and small changes can take place.

Before the Summer School takes place, all participants are asked to perform an analysis exercise on reference data from a simple in-situ wall experiment. This allows the lecturers to get some prior information about the level of the participants.