



Master on Numerical Methods in Engineering

ACCEPTANCE OF INTERNSHIP WORK PLAN

Name of the student	Alba Navarro Casanova
Company/Institution/ Department	CIMNE
Name of the external supervisor	Ilaria Iaconeta
Start and end dates	19/04/17-31/07/17
Total number of hours	450

Topic: Analysis of the Material Point Method (MPM) in solid mechanics.

Main tasks:

- Study of the Material Point Method (MPM) formulation and its implementation in Kratos Multiphysics .
- Study of Simo-Ju damage model and its implementation in Kratos Multiphysics.
- Validation of MPM coupled with the Simo-Ju damage model by means of the comparison between 2D and 3D MPM numerical models and typical laboratory tests, such as Compression test, Brazilian Test and Shear test for concrete.
- The MPM results are compared also with the results obtained throughout a discrete technique (the Discrete Element Method).
- Bibliographic research on possible alternatives for the improvement of the method.

Additional remarks:



Any change in the information contained in the internship agreement must be authorized by the local master coordinator.

Date: 10/07/17

Student's signature

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External supervisor's signature

A handwritten signature in black ink, appearing to read 'Laria Lucovete'.

Antonia Larese

A handwritten signature in black ink, appearing to read 'Antonia Larese'.