



## Master of Science in Computational Mechanics

### ACCEPTANCE OF INTERNSHIP WORK PLAN

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| Name of the student             | Mohammad Mohsen Zadehkamand                     |
| Company/Institution/Department  | Institute of Bioengineering of Catalonia (IBEC) |
| Name of the external supervisor | Dr. Marino Arroyo                               |
| Start and end dates             | June 12, 2017                                   |
| Total number of hours           | 280   |

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| Topic: Computational support of Traction Force Microscopy (TFM) in cell and tissue mechanics   |
| Main tasks: <ul style="list-style-type: none"><li>• Being familiar with the Traction Force Microscopy as a powerful approach for quantifying cell-material interactions.</li><li>• Improve the procedure of reconstructing cellular traction force on flat elastic substrates using numerical and experimental techniques. This involves solving large deformation elastostatics problems with boundary conditions obtained by particle image velocimetry from experiments.</li><li>• Study the behavior of cell dynamics, the relationship between cellular traction field (physical forces on their surrounding) and the cellular motions.</li></ul> |

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| Additional remarks:<br>Prof. Marino Arroyo is an associated researcher at IBEC. The internship will be co-supervised the group of Xavier Trepat at IBEC, more specifically by Ernest Latorre Ibars, a PhD researcher at UPC/IBEC. |
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**Any change in the information contained in the internship agreement must be authorized by the local master coordinator.**

Date:

Student's signature

External supervisor's signature

Marino Arroyo

Josep Sarrate