Minutes of Meeting

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| Date : 19 April | Location : Chris’s Office |

# Attendees:

Gib, Jagir, Chris, Hashem

# Agenda:

* Checking the finally transformed mesh with Euler angles and small local changes.
* Discussing the proper values for the constitutive equations.
* The status pf the derivatives of the nodes which are considered for DM BC.
* Reviewing the minutes of the previous session and the involved tasks.

# Hashem’s action items

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| No | Item Description | Date allocated | Date completed | Remarks |
| 1 | Document the python code used to setup the problem to identify the growth rates that reproduce the observed growth kinematics | 1st Feb 2018 |  | DM BC, and solver section in FlowChart need modification. |
| 2 | Present a draft thesis outline highlighting aspects that have been completed, that are under preparation and those that need to done to meet the examination criteria. | 9th Feb 2018 | 8th March 2018 |  |
| 4 | Complete simulations to determine growth laws for all stages. | 9th Feb 2018 |  | Expected to be completed by April 2018 |
| 5 | Prepare and submit a conference paper (say IEEE EMBS etc) | 9th Feb 2018 |  | Expected to be completed by May 2018 |
| 6 | Submit a manuscript describing the inverse modelling process (targeted towards a computer/numerical methods journal) | 9th Feb 2018 |  | Expected to be completed by June 2018 |
| 7 | Register the meshes such that the landmarks chosen to satisfy boundary kinematic constraints, i.e., the landmark’s dof is constrained along specific coordinate axis. | 29th March 2018 | 19th April  2018 |  |
| 8 | Setup OpenCMISS-IRON on hpc6 | 9th Feb 2018 |  | Waiting for Hugh to install dependencies separately |
| 9 | Find/justify/refer the rates for constitutive equations | 19th Apr 2018 |  |  |

# Thesis writing progress

List of planned thesis chapters, major sections and their progress

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| --- | --- | --- | --- |
| Chapter No/Title | Progress % | Target Completion Date | Review/Comments |
| Chapter 0, 1 | 100 | 08th April 2018 | Updated existing notes |
| Chapter 2 | 100 | 13th April 2018 | Derived from existing report |
| Chapter 3 | 60 | 23rd April 2018 | Derived from existing report |
| Chapter 4 | 10 | 04th May 2018 | Only structural outline exists |
| Chapter 5 | 60 | 09th May 2018 | Derived from existing report |
| Chapter 6 | 10 | 19th May 2018 | Only structural outline exists |
| Chapter 7 | 30 | 21st May 2018 | Updated based on current outcomes |
| Appendix | 40 | 30th May 2018 | Growth documentation ongoing |

# Major decisions

* There are two different approaches for solving the growth problem. The discussion is still ongoing about this topics, finalised decisions will be put in action immediately.
* Proper values needs to be defined, justified and cited for the rates of the Mooney-Rivlin constitutive models.
* Nodes that are used for DM BC, do not necessarily need to have fixed for their derivatives. This point needs to be considered.

# Remarks

* Finite elasticity formulation is probably explained in opencmiss notes.
* Hpc2 is not fast, and it will expire soon.