CSE Seminar - Fluid-Structure Interaction

Preliminary Session

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31.01.2013
Workload and Grading

All information is also available online!

TODO

- write a paper
- write reviews about two papers of other students
- give a talk

Grading

- weights: 2 (paper) : 1 (two reviews) : 2 (talk)
- 4 ECTS
Supervisors

- Miriam Mehl, mehl@in.tum.de
- Tobias Neckel, neckel@in.tum.de
- Benjamin Uekermann, uekerman@in.tum.de (send papers, reviews and slides only to him)
<table>
<thead>
<tr>
<th>Topic</th>
<th>Discipl.</th>
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<tbody>
<tr>
<td>1 Fluidmechanics basics (modeling)</td>
<td>E</td>
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<tr>
<td>2 FEM for fluid equations and moving geometries</td>
<td>M</td>
</tr>
<tr>
<td>3 Structural mechanics basics and discretization with FEM</td>
<td>E+M</td>
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<td>4 Monolithic Coupling</td>
<td>M+E</td>
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<td>5 Partitioned Coupling</td>
<td>M+E</td>
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<td>6 Added-mass effect (stability analysis)</td>
<td>M</td>
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<tr>
<td>7 Data mapping for non-matching grids</td>
<td>CS</td>
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<td>8 Peano as fluid simulation tool</td>
<td>CS+E</td>
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<tr>
<td>9 Comsol as structure simulation tool</td>
<td>CS+E</td>
</tr>
<tr>
<td>10 preCICE as coupling environment for partitioned FSI</td>
<td>CS</td>
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Registration

- per email to uekerman@in.tum.de
- deadline: 20.02.2013
- max. 10 students
- write a short motivation letter (half page)
- send your CV and your TUM grades (if you already have grades)
- send your three topic favorites (ordered)
Schedule

20.02.2013 12:00 registration deadline
till 22.02.2013 you get your topic
till 15.04.2013 arrange meeting with your supervisor, get your literature

≈ 15.04.2013 (t.b.a.) opening lecture, overview over the field
in between write your paper
≈ 02.06.2013 (t.b.a.) paper deadline, anonymous
≈ 05.06.2013 (t.b.a.) distribution of papers for reviews
in between write your reviews
≈ 23.06.2013 (t.b.a.) deadline reviews, anonymous
in between individual discussion of your paper with your supervisor, arrange meeting
in between write final paper, prepare slides
≈ 07.07.2013 (t.b.a.) deadline final paper and slides
≈ 10.-12.07.2013 (t.b.a.) talks, mandatory attendance
afterwards notification of results
Paper

- pdf, 7-10 pages, font size 12, line spacing 1, A4
- for the structure of your paper, follow e.g.
Reviews

- pdf, 2-3 pages each, font size 12, line spacing 1, A4
- the following points need to be covered by a review:
  - language and spelling
  - structure (correct/intuitive order, useful abstract and conclusion, etc.)
  - consistency of the presentation (notation, figures, graphs, etc.)
  - quality of the explanations
Talk

- 25-30 min, ≈ 10-15 slides
- the students should understand everything you explain (not only your supervisor)
- focus on the important things!
- don’t overlap too much with the other talks (if there’s doubt, ask!)
- test it!
- length is strict! (we will interrupt you)
Important Notes

- deadlines are severly strict (check web page for exact dates)
- take care to completely avoid any act of plagiarism for your paper/talk
- plagiarism conceives in particular:
  - not citing material that you used (including websites)
  - even if you cite, do not copy text from other sources directly into your paper (also not, if you change the order of sentences or sections)
- write everything in your own words
- cite any material you create your text from
Summary

- registration deadline: 20.02.2013
- for registration and all your materials, email to uekerman@in.tum.de
- all information available on the web page