



Swedish Research School in Tribology

Detailed Programme

Biotribology

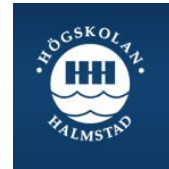
“The knowledge of friction and wear in human joints”

May 10-13, 2011

Luleå University of Technology
(Lecture room: E231)

Tuesday 10th May

8:20-8:30	Course start
8:30-9:05	An introduction to Biotribology (NE)
9:10-10:20	Structure, function & dysfunction of “ <i>other</i> synovial joints” (JT)
10:30-11:10	UHMWPE in orthopaedic implants (NE)
11:15-12:15	Orthopaedic overview, aging of hip and knee implants “symptoms, diagnosis, consequences & how to improve it” (K-G N)
12:15-13:15	Lunch
13:20-15:20	Total Knee Replacement “operation broadcasting”
15:40-16:50	Biological materials & biomaterials (IH)
16:50-17:30	Guidelines and discussions about the project work (team building, choice of project etc). The group work will be presented on Friday 13/5 for evaluation. (NE)
18:00	Dinner



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Wednesday 11th May

- 8:30-9:45** Tribology of synovial joints (IH)
- 10:00-11:10** Host response to prosthetic wear debris of UHMWPE (JT)
- 11:20 -12:30** Bio-lubrication (IH)
- 12:30-13:30** Lunch
- 13:30-14:45** Biological activity of prosthetic metal & ceramic nanoparticles (JT)
- 15:00-16:30** Group work and discussion with teachers (NE)
- 16:30-17:30** Failure analyses of revised implants (NE)
- 18:00** Dinner

Thursday 12th May

- 8:15-9:25** Functional surfaces and surface characterisation (B-G R)
- 9:30-10:35** Biotribocorrosion, part I (SH)
- 10:45-11:45** Biomechanics of Spine and TDR (CP)
- 12:00-13:00** Lunch
- 13:00-14:10** Cemented and un-cemented implants, PMMA (PM)
- 14:30-15:30** Biotribocorrosion, part II (SH)
- 16:00-17:00** Finalizing the group work for presentation on Friday 13th May (NE)



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Friday 13th May (8:30-10:30): PhD students will present their project work

Course givers:

(K-G N)- Kjell G Nilsson, Professor in Orthopaedics, Umeå University Hospital

(B-G R)- Bengt-Göran Rosen, Professor in Machine Eng, Halmstad University

(JT) - Dr. Joanne Tipper, Senior Lecturer in Medical Engineering, Leeds University

(IH)- Dr. Irina Hussainova, Senior Research Scientist, Materials Eng, Tallinn University

(CP)- Dr. Cecilia Persson, Researcher, Materials in Medicine, Uppsala University, Sweden

(PM)- Dr. Paula Marques, Senior Lecturer in Nanomaterials, Aveiro University, Portugal

(SH)- Dr. Xinming (Simon) Hu, Research Fellow, Mechanical Eng, Leeds University

(NE)- Nazanin Emami, Associate Professor and lecturer in biomaterials and biotribology,
LTU, Sweden