

LOCATION:

Technical University Eindhoven,
Building W-Hoog,
lecture room 4.24

COURSE FEE:

The course fee for Ph.D. students from registered JMBC groups is 150 euro, which includes course materials, lunch, course dinner and accommodation.

HOTEL ACCOMMODATION:

A number of rooms have been reserved at the Hotel Queen Eindhoven and Sandton Hotel Eindhoven, both are within walking distance from the train station and the university.

For JMBC PhDs, the hotel reservation is done by the JMBC (if you indicate that you need accommodation at the registration form).

Other participants are required to book the hotel themselves; when making a reservation, please indicate that you are a participant of the "Biological Fluid Mechanics" course.

The hotel details are:

QUEEN HOTEL,

Markt 7, 5611 EB Eindhoven

T: +31 (0)40 245 2480;

E: info@queeneindhoven.nl

SANDTON HOTEL,

Stratumsewijk 23d, 5611 NA Eindhoven

T: +31 (0)40 – 2121330;

E: info@sandtoneindhoven.nl

Please contact Mrs. Linda van Gils
(l.j.m.v.gils@tue.nl) if you need any help.

For non-JMBC PhD students, the fee is 150 euro, but without reimbursement for the accommodation. Financial support by ERCOFTAC may be requested, please contact Anton van Steenhoven

For non-students, the fee is 250 euro, excluding accommodation.

REGISTRATION:

Registration is only possible by filling in the hard copy registration form (given in JMBC course guide) and sending it back to the JMBC secretariat or by online registration (http://www.jimburgercentrum.org/Registration_JMBC-PhD_Courses.html).

For information about the course, please contact:

Christian Poelma

(c.poelma@tudelft.nl, +31 (0)15-2782620) or

Anton van Steenhoven

(a.a.v.steenhoven@tue.nl, +31 (0)40-247 2132).

UPDATES OF THE INFORMATION ARE TO BE FOUND AT:

www.ahd.tudelft.nl/bio

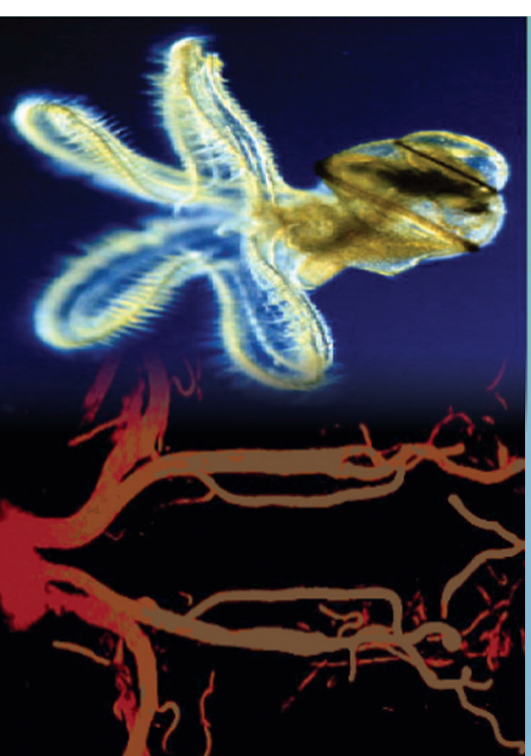
J.M. BURGERSCENTRUM/ERCOFTAC COURSE

"Biological Fluid Mechanics"

March 9-13, 2009

TU Eindhoven

The Netherlands



ORGANISERS:

C. Poelma

F.N. van de Vosse

A.A. van Steenhoven



J.M. Burgerscentrum



Following the successful first course, a new course will be taught in 2009 on "Biological Fluid Dynamics".

The course will give an introduction in the broad field of fluid flow problems in biology.

TOPICS INCLUDE:

a recap of basics of fluid mechanics, external flows (swimming and flying, interaction of plankton and turbulence), internal flows (microcirculation, hemodynamics in large arteries, flow in flexible tubes, respiratory system, etc.).

Examples of relevant experimental techniques, as well as simulation techniques will be discussed.

The course will be taught by a team of experts in each field.

SCHEDULE AND SPEAKERS

MONDAY: Fundamentals of fluid mechanics

12.30-13.30: Registration and Lunch
13.30-16.30: Basics of fluid mechanics: Frans van de Vosse (TU/e) and Anton van Steenhoven (TU/e)
16.30-17.00: Brief introduction by participants
18.00-20.00: Diner with participants

TUESDAY: Principles of propulsion of birds, insects and fishes

09.00-10.30: Low-Reynolds propulsion of animals: Gertjan van Heijst (TU/e)
10.45-11.45: Fluid mechanics of high-Reynolds propulsion: David Lentink (WUR/Harvard)
11.45-12.30: Swimming: Johan van Leeuwen (WUR)
12.45-14.00: Lunch
14.00-14.45: Flying: David Lentink (WUR/Harvard)
14.45-15.30: Swimming at low and intermediate Reynolds numbers: Luca van Duren (Deltares)
15.45-16.30: Turbulence influence on plankton and marine snow: Herman Clercx (TU/e)

WEDNESDAY: Cardiovascular system

09.00-11.30: Steady and unsteady flows in arteries: Frans van de Vosse (TU/e)
11.45-12.30: Haemodynamics: clinical studies: Frank Gijsen (EUR)
12.45-14.00: Lunch
14.00-15.30: Waves in flexible tubes: Frans van de Vosse (TU/e)
15.45-16.30: Analysis of cardiac and vascular function: Nico Westerhof (VUMC)
17.00-18.30: Lab tour and drinks

THURSDAY: Micro-circulation and respiratory system

09.00-10.30: Microcirculation: Anton van Steenhoven (TU/e)
10.45-11.30: Flow and cardiovascular development: Christian Poelma (TUD)
11.45-12.30: Organ perfusion imaging: Michel Versluis (UT)
12.45-14.00: Lunch
14.00-15.30: The respiratory system: Christoph Brückner (TU Freiberg)
15.45-16.30: The vocal folds: Mico Hirschberg (TU/e)

FRIDAY: Workshop

09.00-12.00: Presentations by participants (20 minutes each), chairman: Rini van Dongen (TU/e)
12.00-13.00: Lunch

AFFILIATION LECTURERS:

Deltares: Dutch institute for Delta Technology
EUR: Erasmus Universiteit Rotterdam, NL
Harvard: Harvard University, USA
TUD: Technical University Delft, NL
TU/e: Technical University Eindhoven, NL
TU Freiberg: TU Bergakademie Freiberg, Germany
UT: University Twente, NL
VUMC: VU University Medical Center, NL
WUR: Wageningen University and Research Centre, NL