



TITLE: ComFlo: Computational Fluid Dynamics Short Course

LECTURER: Dr. Roel Luppés

Postdoctoral Fellow - Institute of Mathematics and Computing Science,
University of Groningen

<http://www.math.rug.nl/~veldman/cfd-gallery.html>

TIME: 6-8pm Tuesday November 14 and 6-8pm Wednesday November 15
(revised schedule)

PLACE: Room 415 in Machray Hall, University of Manitoba, Building #18 on the Fort Garry Campus map <http://umanitoba.ca/about/map/index.html>

FOOD: vegetarian pizza and drinks.

FEE: students \$10, others \$20, payable to IIMS, University of Manitoba.

HOSTS:

Dr. Richard Gordon, Radiology, Computer Science, and Electrical & Computer Engineering, University of Manitoba: GordonR@ms.UManitoba.ca
<http://www.umanitoba.ca/faculties/medicine/radiology/stafflist/rgordon.html>

Dr. Abba Gumel, Mathematics and Director, Institute of Industrial & Mathematical Sciences (IIMS), University of Manitoba
<http://www.umanitoba.ca/institutes/iims/about.shtml>, GumelAb@cc.umanitoba.ca

SPONSORS: Canadian Space Agency and the IIMS

Dr. Luppés is here through November 24 for collaboration on the fluid dynamics of the cytoplasm in amphibian embryos under normal, Mars and microgravity. ComFlo is a state of the art two phase fluids simulation computer program. He will lecture on the mathematical basis for ComFlo and its results in embryology, tsunami behavior, and partially filled fuel tanks in orbit.

OUTLINE:

- * Introduction
- * Mathematical Models and Equations
- * Numerical Techniques part1: Discretisation
- * Numerical Techniques part2: Solvers
- * Numerical Methods for Two-Phase Flows