Paul Van Liedekerke

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personal site
Nationality: Belgian
Date of birth: 07/17/1976

OVERVIEW

Model and method development of complex physical phenomena (fluids, granular matter, living matter). Software development (C++/python).

APPOINTMENTS

Research associate/engineer 2018-
IfaDo Leibniz institute, Dortmund (Germany)

- Simulation of early liver development in embryos using high resolution cell-based models.
- Model for cell migration, mechanical interaction with Extracellular matrix.

Expert engineer 2013-2017
INRIA, Paris

- Model development for the investigation of mechanical stress response of cells.

Postdoctoral researcher 2007-2012
K.U.Leuven (Belgium)

- Food engineering: model development for optimization of egg albumen draining. Bilateral project with Dutch company MOBA.
- Implementation of a parallelized (MPI) simulator for complex fluids in the "LAMMPS" software platform (C++). Collaboration with MI Fraunhofer institute, Freiburg.
- Multi-scale modeling framework for impact mechanics and bruising of cells and tissues. Internal KULeuven project.

Research engineer/PhD student 2001-2007
K.U.Leuven (Belgium)

- Development of Discrete Element Model for the optimization of granular flow in agricultural machines. Bilateral collaboration with company BASF.
- Model construction for tractor suspensions - Multi-body dynamics.

EDUCATION

Habilitation à diriger des recherches (Ingénierie) TBO 2019
Sorbonne Universités UPMC Paris VI

PhD in Bio-Engineering 2007
K.U.Leuven, Belgium

Complementary Studies in Environmental Sciences 2001
University of Ghent, Belgium

Master of Physics 1999
University of Ghent, Belgium

TEACHING

Invited lecturer for EU ImageInLife 09/2018
Seignosse, France

Visiting professor 2013-2018
K.U.Leuven, Faculty of Engineering

Classes in master course 2015-2016
UPMC paris IV

TECHNICAL SKILLS

Programming languages / computer
C/C++, Python, Git, Matlab, OpenMP – Linux, MS Office.

Mathematical methods
Discrete Element Methods, Stochastic Differential Equations, Agent-Based Models, Finite Element method.

Languages
Dutch (mother tongue), English (advanced), French (very good), German (basic understanding, took a few classes.)

GRANTS/AWARDS

FWO (Fonds voor Wetenschappelijk Onderzoek - Flanders) 550.000 euros
"A multilevel, integrative approach for the study of cellmatrix mechanics and mechanotransduction during cell adhesion" - (co-promotor).