Paul Van Liedekerke

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

OVERVIEW

Expert in mathematical modeling and method development for complex physical phenomena (fluids, granular matter flow, living matter). Software development (C++/python) and data analysis (matlab/python).

APPOINTMENTS

Research associate/engineer **2018-now**
INRIA and IfaDo Leibniz institute

- Software development: "TiSim", a simulator for tissue mechanics (high resolution models).

Expert engineer **2013-2017**
INRIA (Team Mamba), Paris

- Model development and investigation of tissue and tumor growth.
- Modeling of diffusion processes in tissues.
- Responsible for EU "Notox" project. Supervision of several PhD/Master students.

Postdoctoral researcher **2007-2012**
K.U.Leuven

- Food engineering: fluid model development for optimization of egg albumen draining process. Consulting for MOBA (Dutch company).
- Implementation of simulator for complex fluids in *LAMMPS* software (www.lammps.sandia.gov).
- Visiting researcher at EMI Fraunhofer institute, Freiburg, Germany.
- Modeling of tissue impact mechanics, multi-scale modeling of tissue (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. Consulting in bilateral collaboration with company BASF.
- Model construction for tractor suspensions - using multi-body dynamics software.

EDUCATION

Habilitation à diriger des recherches (Ingénierie) **TBO 2019**
Sorbonne Université, 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

TECHNICAL SKILLS

Programming languages // Softwares // OS
C/C++, Python, Git, Matlab, OpenMP // Paraview, Deal.II (FEM), OpenFoam // Linux, MS windows and related software.

Mathematical methods
Discrete Element Methods, CFD (Smoothed Particle Hydrodynamics, FV), Agent-Based Models, Stochastic Differential Equations (master equations, Monte Carlo), FEM.

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

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 VI

GRANTS/AWARDS

FWO (Fonds voor Wetenschappelijk Onderzoek - Flanders) **550k euros**
"A multilevel, integrative approach for the study of cell-matrix mechanics and mechanotransduction during cell adhesion" - (co-promotor).