



jorisdegroote

There is always a way.

Research activities

- September 2020–
present **Numerical simulation of fluid-structure interaction**, *Ghent University*, Faculty of Engineering and Architecture.
Full Professor
- October 2014–
August 2020 **Numerical simulation of fluid-structure interaction**, *Ghent University*, Faculty of Engineering and Architecture.
Associate Professor
- February 2013–
September 2014 **Numerical simulation of fluid-structure interaction**, *Ghent University*, Faculty of Engineering and Architecture.
10% Associate Professor and 90% postdoctoral fellow of the Research Foundation - Flanders (FWO)
- October 2010–
January 2013 **Partitioned simulation of fluid-structure interaction and other coupled problems**, *Ghent University*, Faculty of Engineering and Architecture (Prof. Jan Vierendeels).
Postdoctoral fellow of the Research Foundation - Flanders (FWO)
- June 2010–
September 2010 **Efficient analysis of fluid-structure interaction problems in structural dynamics**, *Ghent University*, Faculty of Engineering and Architecture (Prof. Jan Vierendeels).
Project of the Research Foundation - Flanders (FWO)
- October 2006–
May 2010 **Development of Algorithms for the Partitioned Simulation of Strongly Coupled Fluid-Structure Interaction Problems**, *Ghent University*, Faculty of Engineering and Architecture (Prof. Jan Vierendeels).
Ph. D. fellow of the Research Foundation - Flanders (FWO)
- September 2006 **Numerical study of bubble detachment**, *Ghent University*, Faculty of Engineering and Architecture.

Foreign research stays

- July 2011–
September 2011 **Gradient-based optimization for parameter identification studies with partitioned fluid-structure interaction simulations**, *Technical University of Munich*, Chair of Structural Analysis, Department of Engineering and Geodesy (Prof. Kai-Uwe Bletzinger).
Grant for a long stay abroad of the Research Foundation - Flanders (FWO)
- July 2008–
August 2008 **Comparison of monolithic and partitioned fluid-structure interaction**, *Massachusetts Institute of Technology*, Finite Element Research Group, Department of Mechanical Engineering (Prof. Klaus-Jürgen Bathe).
Grant for a long stay abroad of the Research Foundation - Flanders (FWO)

September 2007–
June 2008 **Adaptation of Reduced-Order Models**, *Massachusetts Institute of Technology*, Aerospace Computational Design Laboratory, Department of Aeronautics and Astronautics (Prof. Karen Willcox).
Grant for a long stay abroad of the Research Foundation - Flanders (FWO)

Education

- October 2006–
April 2010 **Ph.D. in Electromechanical Engineering**, *Ghent University*, Faculty of Engineering and Architecture, Development of Algorithms for the Partitioned Simulation of Strongly Coupled Fluid-Structure Interaction Problems.
- October 2004–
June 2006 **Master of Science in Electromechanical Engineering**, *Ghent University*.
summa cum laude
- October 2001–
June 2004 **Bachelor of Science in Electromechanical Engineering**, *Ghent University*.
summa cum laude
- September 1995–
June 2001 **Latin-Mathematics**, *Sint-Aloysiuscollege, Ninove*.
summa cum laude

Teaching experience

- March 2025 **Lecturer**, *Fluid-Structure Interaction for Nuclear Applications (partim)*, von Karman Institute for Fluid Dynamics.
Overview and computational techniques
- February 2025–
present **Lecturer**, *Heat and Flow Engineering*, Ghent University, Belgium.
See course description.
- October 2024–
present **Lecturer**, *Computational Fluid Dynamics*, Ghent University, Belgium.
Theory
See course description.
- February 2022–
present **Lecturer**, *Fluid Machines*, Ghent University, Belgium.
See course description.
- September 2020 **Lecturer**, *Fluid-Structure Interaction for Industrial Applications (partim)*, von Karman Institute for Fluid Dynamics.
Overview and computational techniques
- October 2018–
September 2024 **Lecturer**, *Cross-Course Project*, Ghent University, Belgium.
See course description.
- October 2018–
September 2026 **Lecturer**, *Fluid Mechanics*, Ghent University, Belgium.
Theory
See course description.
- October 2014–
September 2025 **Lecturer**, *Numerical Optimisation*, Ghent University, Belgium.
Theory
See course description.
- October 2014–
September 2025 **Lecturer**, *Computational Fluid Dynamics*, Ghent University, Belgium.
Theory
See course description.
- October 2014–
September 2025 **Lecturer**, *Turbomachines*, Ghent University, Belgium.
Theory
See course description.
- October 2013–
September 2018 **Lecturer**, *Doctoral Course on Mathematical Techniques for Engineering Science*, Ghent University, Belgium.
Theory and exercises
- October 2011–
September 2017 **Lecturer**, *Fluid-structure interaction*, Ghent University, Belgium.
Theory and exercises
- October 2011–
September 2014 **Guest lecturer**, *Advanced Multi-physics Modeling for Medical Applications*, Ghent University, Belgium.
Theory

December 2008, August 2011	Lecturer , <i>JMBC Burgers course on Fluid-structure interaction (partim)</i> , Delft University of Technology, The Netherlands. Theory and exercises
October 2006– September 2014	Teaching Assistant , <i>Fluid Mechanics</i> , Ghent University, Belgium, Prof. Jan Vieren-deels. Exercises, laboratory work and CFD-project

See course description.

Ph.D. students

September 2025– present	Reduced-order modelling of thermo-elastohydrodynamic lubrication in gears , <i>Mehran Soleimani</i> , Supervisor.
September 2025– present	Development of efficient simulation methods for the coupling between air flow, particle or yarn motion, control and video processing , <i>Alireza Maddah</i> , Supervisor.
September 2024– present	Multi-fidelity simulation of airborne wind energy devices , <i>Maxim Notable</i> , Supervisor.
February 2023– present	Computational modelling of liquid droplet impingement on wind turbine blades using CFD-FSI , <i>Vinayak Ramachandran Nambiar</i> , Supervisor.
March 2022– present	Experimental study of passive control of the flow around a high lift-to-drag ratio airfoil at very high altitude , <i>Matija Avirović</i> , Supervisor.
October 2022– present	Development of a numerical multi-physics method to analyze the vibration characteristics of rotating components in liquid metal , <i>Kamiel Ceusters</i> , Supervisor.
September 2022– present	Modelling of close contact melting in phase change materials for thermal energy storage , <i>Victor Van Riet</i> , Supervisor.
September 2020– present	Development of techniques to simulate the interaction between airjets and a flexible, fuzzy yarn , <i>Axel Bral</i> , Supervisor.
June 2020– present	Optimization of flexible aircraft models for airborne wind energy , <i>Niels Pynaert</i> , Supervisor.
June 2020– present	Adjoint optimization of composite blades , <i>Tom De Bruyn</i> , Supervisor.
September 2019– present	Fluid-structure interaction simulations of cardiovascular problems , <i>Amith Balusubramanya</i> , Supervisor.
November 2020– August 2025	Flight control of flapping-wing micro air vehicles using CFD simulations and reinforcement tunning , <i>Romain Poletti</i> , Supervisor.
January 2018– September 2024	Development of fluid-structure interaction algorithms for tents subjected to ponding water and wind flow , <i>Navaneeth Kodunthirappully Narayanan</i> , Supervisor.
September 2019– August 2024	Computational biomechanics modeling of the cerebrospinal fluid: model development and application to Chiari type 1 malformation , <i>Sarah Vandenbulcke</i> , Supervisor.
September 2019– July 2024	Scale-resolved aero-servo-elastic simulation of large wind turbines using the actuator line method , <i>François Trigaux</i> , Advisor.
February 2020– December 2023	CFD-FSI modelling of thermo-elastohydrodynamic lubrication in line contacts , <i>Peyman Havaej</i> , Supervisor.
October 2019– September 2023	Development of fluid-structure interaction algorithms and application to elastohydrodynamic lubrication , <i>Nicolas Delaissé</i> , Supervisor.
October 2017– June 2023	Deterministic and stochastic simulation of flow-induced vibrations in tube bundles , <i>Henri Dolfen</i> , Supervisor.

October 2017–November 2021	Analytical study of multi-secant quasi-Newton methods for optimization problems , <i>Nicolas Boutet</i> , Supervisor.
September 2015–April 2021	Patient-specific computational fluid dynamics models of the human left heart using the Chimera technique , <i>Federico Canè</i> , Supervisor.
October 2017–February 2021	Development of reduced order modeling methods for incompressible flows with heat transfer and parametric boundary conditions , <i>Kelbij Star</i> , Supervisor.
October 2016–October 2020	Efficient quasi-Newton methods for steady free surface flow , <i>Toon Demeester</i> , Supervisor.
September 2016–September 2020	Development of numerical modelling techniques for air-jet weft insertion , <i>Lucas Delcour</i> , Supervisor.
September 2016–September 2020	Computational analysis of two-phase flow-induced vibration in heat exchanger and piping geometries , <i>Laurent De Moerloose</i> , Supervisor.
September 2015–September 2020	Wind-structure interactions of tensile surface structures: evaluating the wind load distributions over and the steady aero-elastic responses of hyperbolic paraboloid roofs and canopies , <i>Jimmy Colliers</i> , Supervisor.
September 2015–February 2020	Development and application of surrogate-assisted optimization under uncertainty strategies for unmanned aerial vehicles , <i>Jolan Wauters</i> , Supervisor.
September 2014–November 2019	Fluid-structure interaction simulations of wind turbines with composite blades , <i>Gilberto Santo</i> , Supervisor.
October 2012–October 2018	Efficient methods for automated conversion of wind turbine blade designs into high-fidelity finite element modelling with shell and solid elements , <i>Mathijs Peeters</i> , Supervisor.
February 2014–September 2017	Splicing and weaving of yarns with air jets , <i>Akil Osman</i> , Supervisor.
September 2012–December 2016	Integrating valve leaflet motion into patient-specific numerical blood flow simulations of the human heart: strategies and challenges , <i>Alessandra Bavo</i> , Supervisor.
February 2012–June 2016	Computational analysis of a twin screw expander for small scale ORC systems , <i>Iva Papes</i> , Supervisor.
October 2011–September 2015	Computational analysis of flow-induced vibrations in fuel rod bundles of next generation nuclear reactors , <i>Jeroen De Ridder</i> , Supervisor.
October 2010–September 2014	Numerical modelling of the fluid-structure interaction in complex vascular geometries , <i>Joris Bols</i> , Advisor.
October 2010–September 2014	Fluid-structure interaction simulation of (repaired) aortic coarctation , <i>Liesbeth Taelman</i> , Advisor.
October 2009–September 2013	Wind-structure interaction simulations of ovaling vibrations in silo groups , <i>Jeroen Hillewaere</i> , Advisor.
December 2007–November 2012	Fluid-structure modeling in the feto-placental circulation: On the umbilical vein and ductus venosus bifurcation , <i>Paul Roger Leinan</i> , Supervisor.

Master students

October 2024–present	Fluid-structure interaction of a 10 MW reference wind turbine , <i>Loïke Vieren-deels</i> , Supervisor.
October 2024–present	Safety analysis of a small modular reactor using CFD with overset grids , <i>Jarno Verhofstadt</i> , Supervisor.
October 2024–present	Improving the efficiency of oil-injected screw compressors , <i>Sven Vancayzeele</i> , Supervisor.

October 2024–present	Multi-fidelity aero-elastic analysis of a soft kite for airborne wind energy applications , <i>Nathan Van de Vondel</i> , Supervisor.
October 2024–present	Aeroelastic analysis of high-altitude pseudo-satellite wing , <i>Thomas Kerkhofs</i> , Supervisor.
October 2024–present	Advanced fan modelling with CFD , <i>Damien De Groote</i> , Supervisor.
October 2024–present	Fluid-structure interaction in aortic growth and remodelling , <i>Robbe Rotsaert</i> , Supervisor.
October 2023–September 2024	Feasibility study of utility-scale vertical axis wind turbines for offshore wind energy production , <i>Carlos Ackerman</i> , Supervisor.
October 2023–September 2024	Comparative numerical study on the fluid-structure interaction of floating flexible elements , <i>Viktor Cromheeke</i> , Supervisor.
October 2023–June 2024	Simulating the cleaning process in a combine harvester using a coupled particle-flow approach , <i>Michiel D'Oosterlinck</i> , Supervisor.
October 2023–June 2024	Multi-fidelity aerodynamic analysis of a megawatt-scale airborne wind energy reference model , <i>Maxim Notable</i> , Supervisor.
October 2023–June 2024	High-fidelity aerodynamic analysis of multi-kite airborne wind energy systems , <i>Hannelore Renders</i> , Supervisor.
October 2022–February 2024	Balancing the sound generation and efficiency of a centrifugal fan by optimizing the tongue geometry , <i>Lars Bogaert</i> , Supervisor.
February 2023–September 2023	Modification on profile reed of an air jet weaving machine to reduce consumption of compressed air , <i>Debora Bekele</i> , Supervisor.
October 2022–September 2023	A comparative study of steady-state and transient calculation methods for the simulation of flow circulated by a pulsator , <i>Seppe Verspecht</i> , Supervisor.
October 2022–June 2023	Combining conventional and airborne wind energy systems: an aerodynamic analysis of the wake interaction using CFD , <i>Severijn D'hoedt</i> , Supervisor.
October 2022–June 2023	Fluid-structure interaction simulations of turbulence-induced vibrations using the Pressure Fluctuation Model , <i>Brenden Duvillier</i> , Supervisor.
February 2022–January 2023	Improving the efficiency of the cleaning process in a combine harvester , <i>Pierre Vansteenkiste</i> , Supervisor.
October 2021–September 2022	Developing a high-fidelity tether model for airborne wind energy , <i>Maarten Matthijs</i> , Supervisor.
October 2021–June 2022	Mass and heat transfer modelling in screw heat exchangers using CFD , <i>Victor Van Riet</i> , Advisor.
October 2021–June 2022	Determining the vibration frequencies of a pump for a high-density fluid , <i>Michiel Van Damme</i> , Supervisor.
October 2021–June 2022	Aeroelastic analysis of a soft kite for airborne wind energy , <i>Pieter-Jan Declercq</i> , Supervisor.
October 2021–June 2022	Oil-jet cooling of motors in electric vehicles , <i>Aaron De Weerdt</i> , Supervisor.
October 2021–June 2022	An improved model for calculating wind forces on ships , <i>Laurens Cromheeke</i> , Supervisor.
October 2021–June 2022	Study of cavitation in liquid lead-bismuth eutectic in a pump , <i>Kamiel Ceusters</i> , Supervisor.
October 2021–June 2022	Aerodynamic research, design and implementation of the rear wing of the UGent Racing car , <i>Sven Suenens</i> , Supervisor.

October 2020– June 2021	Fluid-structure interaction simulation of a wire-wrapped tube array using overset grids, <i>Dieter Van Hauwermeiren</i> , Supervisor.
October 2020– June 2021	Stability analysis of a flexible plane using high fidelity fluid-structure interaction simulations, <i>Thomas Laureijs</i> , Supervisor.
October 2019– June 2020	Numerical investigation of the flow field around a tube bundle subjected to two-phase cross-flow, <i>Axel Bral</i> , Supervisor.
October 2019– June 2020	Influence of uncertain geometry on flow-induced vibrations using computational fluid dynamics, <i>Basile Lievens</i> , Supervisor.
October 2019– June 2020	Parametric study of the dynamic stability characteristics of a UAV using surrogate modeling, <i>Pieter-Jan Degroote</i> , Supervisor.
October 2018– September 2019	Analysis and design of a radial fan discharging directly in the atmosphere, <i>Wout Verbiest</i> , Supervisor.
October 2018– June 2019	Fluid-structure interaction simulation of a catamaran, <i>Alec Bagué</i> , Supervisor.
October 2018– June 2019	Optimization of the control surfaces of an unmanned aerial vehicle, <i>Cedric Bouckaert and Ruben Demeersseman</i> , Supervisor.
October 2018– June 2019	Investigation into the use of multiple main nozzle inlets on air-jet weaving looms, <i>Nicolas Delaissé</i> , Supervisor.
October 2018– June 2019	Design and optimization of an endless pool, <i>Victor Mommerency</i> , Supervisor.
October 2017– September 2018	Optimization of technology for deployment of inflatable river weirs with steel gate, <i>Jeroen Casters</i> , Supervisor.
October 2017– September 2018	Analysis of the dynamics of a culvert valve for navigation lock levelling, <i>Ares De Groote</i> , Supervisor.
October 2017– June 2018	Analysis of blade loading due to wake effects in wind turbine farms, <i>Simon Allosserie and Matthias Debysen</i> , Supervisor.
October 2017– June 2018	Multi-Objective Optimization of an Unmanned Aerial Vehicle, Using Surrogate Modelling and Game Theory, <i>Renaud Boury and Nathan De Mazière</i> , Supervisor.
October 2017– June 2018	Robust design of an Unmanned Aerial Vehicle, <i>Vince Browaeys</i> , Supervisor.
October 2017– June 2018	Design and optimisation of a compact torque converter, <i>Simon Holvoet</i> , Supervisor.
October 2017– June 2018	Investigation of the vibrations of a vertical tube subjected to internal two-phase flow, <i>Alexander Meire</i> , Supervisor.
October 2017– June 2018	Study of cross flow fan behaviour in a combine, <i>Jasper Taets</i> , Supervisor.
October 2017– June 2018	Analysis of the wind loading on a large scale conveyor belt, <i>Dries Van Cauteren</i> , Supervisor.
October 2017– June 2018	Comparison and validation of numerical models for large-scale vortices in an array of cylinders, <i>Bart Verzelen</i> , Supervisor.
October 2016– June 2017	Optimization of a hydraulic torque converter's efficiency, <i>Cedric Buffel and Arne Degrande</i> , Supervisor.
October 2016– June 2017	Simulation model for the temperature behaviour in a train brake, <i>Kwinten De Rijck</i> , Supervisor.
October 2016– June 2017	Optimization of the Winglets of an Unmanned Aerial Vehicle, <i>Christof De francq</i> , Supervisor.

- October 2016–
June 2017 **Uncertainty Quantification of an Unmanned Aerial Vehicle**, *Henri Dolfen*, Supervisor.
- October 2016–
September 2017 **Multi Fidelity Optimization of the Stall Characteristics of an Unmanned Aerial Vehicle**, *Jelle Meyers*, Supervisor.
- October 2016–
June 2017 **Analysis of the forces acting on the shaft of a large dredge pump**, *Katrijn Van Lierde*, Supervisor.
- October 2016–
September 2017 **Development of an accurate and fast model for the design of hydraulic torque converters**, *Nicola Zwaenepoel*, Supervisor.
- October 2015–
June 2016 **Optimisation of the impeller in a milk cooling tank**, *Pieter Boone*, Supervisor.
- October 2015–
June 2016 **Numerical investigation of periodic large-scale vortex-induced vibrations in an array of cylinders in axial flow**, *Laurent De Moerloose*, Supervisor.
- October 2015–
June 2016 **Optimization of the stall characteristics of an unmanned aerial vehicle**, *Lucas Delcour*, Supervisor.
- October 2015–
June 2016 **Optimization of the stall characteristics of an unmanned aerial vehicle**, *Toon Demeester*, Supervisor.
- October 2015–
June 2016 **Dynamic fluid loading of an open impeller in a centrifugal pump**, *Cedric Devriese*, Supervisor.
- October 2015–
June 2016 **Analysis of a pump-turbine for an energy storing island**, *Kobe Mertens and Pieter Schacht*, Supervisor.
- October 2015–
June 2016 **Study and optimization of the air flow in a channel**, *Arjan Missinne*, Supervisor.
- October 2015–
June 2016 **Optimization of the landing of an unmanned aerial vehicle**, *Xavier van Heule*, Supervisor.
- October 2015–
June 2016 **Optimisation of a human-powered aircraft using fluid-structure interaction simulations**, *Bob Vanderhoydonck*, Supervisor.
- October 2015–
June 2016 **Aerodynamic optimisation of spokes of bike wheels**, *Arnout Wittevrongel*, Supervisor.
- October 2014–
June 2015 **CFD analysis of a screw expander using real gas models**, *Lazhar Abdelli*, Supervisor.
- October 2014–
June 2015 **Assessment of the force spectrum induced by turbulence on an array of cylinders in incompressible axial flow**, *Pieter Aerts*, Supervisor.
- October 2014–
June 2015 **Modelling of an electromagnetically controlled valve in a compressible flow**, *Thomas Bonami*, Supervisor.
- October 2013–
June 2014 **Numerical analysis and design of main nozzles for air weaving machines**, *Ine Hertens*, Supervisor.
- October 2013–
January 2015 **Study of the dynamic fluid load on an open impeller in a centrifugal pump**, *Martijn Deprez*, Supervisor.
- October 2013–
June 2014 **Development of a CFD simulation methodology for the modification of an axial turbine in a turbocharger**, *Thibault De Jaeger*, Supervisor.
- October 2013–
June 2014 **CFD modelling of a wind concentrator for increased yield of small wind turbines in low wind areas**, *Maxim Luyckx and Toon Van Obbergen*, Supervisor.
- October 2013–
June 2014 **Study of wake effects in wind turbine parks**, *David Schillebeeckx*, Supervisor.
- October 2012–
June 2013 **Aeroelastic study of wind turbine blades**, *Sergei Maertens*, Supervisor.
- February 2012–
August 2012 **Evaluation of an auxiliary feedwater system at the Doel 4 nuclear power plant**, *Jan De Jonge*, Supervisor.

- October 2011–
January 2013 **Numerical simulation of the flow around wind turbine blades**, *Koen Van der Biest*, Counsellor.
- October 2011–
August 2012 **Simulation of the fluid-structure interaction of the lead-bismuth cooling fluid with the beam tube of the MYRRHA reactor**, *Michiel Van Damme*, Supervisor.
- October 2011–
June 2012 **Optimisation of air curtains for shielding refrigerated rooms**, *Anke Asselman*, Supervisor.
- October 2010–
June 2011 **Simulation and optimization of the fluid-structure interaction in an axial membrane pump**, *Jan Alexander*, Supervisor.
- October 2009–
June 2010 **Simulation of fluid-structure interaction in a membrane pump**, *Joris Bols and Liesbeth Taelman*, Counsellor, awarded with the Atlas Copco Airpower prize.
- October 2009–
June 2010 **Simulation and optimization of a piezofan**, *Brecht Debrouwere*, Counsellor.
- October 2008–
June 2009 **Aeroelastic study of the oscillations of a silo**, *Bert Van Querkelberghe*, Counsellor.
- October 2007–
June 2008 **Numerical simulation of fluid-structure interaction on hydrodynamic impact**, *Koen Stoop and Steve Vermeulen*, Counsellor.
- October 2006–
June 2007 **Study of the interaction between the flow and flexible inhibitors in solid rocket boosters**, *Stefaan Techel*, Counsellor.

Grants

- September 2025–
August 2029 **EU Horizon Doctoral Network, Coupled Problems for Decarbonization in Industry and Power Generation (COMBINE)**, Co-applicant with Uwe Hampel and 11 other partners.
- September 2025–
August 2029 **Strategic basic research project of Flanders Make, Predicting coupled dynamic systems under variations (PICASSO)**, Applicant with Guillaume Crevecoeur, Jeroen De Maeyer, Abdellatif Bey-Temsamani.
- September 2024–
August 2027 **Research project of the Energy Transition Fund, Measuring, calibrating and validating airborne wind energy system simulation tools in offshore conditions (MAVERICK)**, Applicant with Guillaume Crevecoeur, Grégoire Winckelmans, Philippe Chatelein and Reinhart Paelinck.
- October 2023–
September 2026 **Postdoctoral fellowship of the Special Research Fund of Ghent University, Next generation algorithms for partitioned fluid-structure interaction**, Nicolas Delaissé.
Applicant
- October 2023–
September 2026 **Junior postdoctoral fellowship of the Research Foundation - Flanders (FWO), A fundamental understanding of latent thermal energy storage heat exchanger by decomposition and integration of energy fractions in order to obtain general methods for design and experimental characterization**, Wim Beyne.
Applicant
- April 2023–
July 2023 **Grant for a long stay abroad of the Research Foundation - Flanders (FWO), Simulation of two-dimensional motion during melting using enthalpy porosity methods**, Victor Van Riet.
- October 2022–
September 2024 **Research and development project of Flanders Innovation & Entrepreneurship (VLAIO), CFD simulation to predict homogeneity of temperature and velocity**, Applicant with Petersime.
- November 2022–
October 2026 **Ph. D. fellowship of the Special Research Fund of Ghent University, Modelling of close contact melting in phase change materials for thermal energy storage**, Victor Van Riet.

- October 2022–September 2025 **Junior postdoctoral fellowship of the Research Foundation - Flanders (FWO),** *Development of surrogate-assisted algorithms for combined design and trajectory optimization of dynamic mechatronic systems*, Jolan Wauters. Co-applicant
- October 2022–September 2026 **Ph. D. fellowship of the Belgian Nuclear Research Centre,** *Development of a Numerical Multi-Physics Method to Analyze the Vibration Characteristics of Rotating Components in Liquid Metal*, Kamiel Ceusters.
- June 2022–May 2026 **EU Horizon Research and Innovation Action,** *Gathering expertise on vibration impact in nuclear power generation (GO-VIKING)*, Co-applicant.
- November 2021–October 2025 **Ph. D. fellowship strategic basic research of the Research Foundation - Flanders (FWO),** *Development of techniques to simulate the interaction between air jets and a flexible, fuzzy yarn*, Axel Bral.
- October 2021–September 2026 **Research project of the Energy Transition Fund,** *Developing the tools and insight to expand the Belgian offshore wind farms with airborne wind energy systems (BORNE)*, Applicant with Guillaume Crevecoeur and Grégoire Winckelmans.
- November 2020–October 2024 **Ph. D. fellowship of the Special Research Fund of Ghent University,** *Development of techniques to simulate the interaction between air jets and a flexible, fuzzy yarn*, Axel Bral.
- November 2020–October 2024 **Ph. D. fellowship strategic basic research of the Research Foundation - Flanders (FWO),** *Real-time optimization of bio-inspired wings using the deformable overset method and machine learning*, Romain Poletti.
- September 2019–August 2023 **Strategic basic research project of the Research Foundation - Flanders (FWO),** *Computational Modelling of Thermo-Elastohydrodynamic Lubricated Contacts (ContactLub)*, Co-applicant with Dieter Fauconnier.
- July 2019–June 2023 **Research and development project of Flanders Innovation & Entrepreneurship (VLAIO),** *Virtual drawing and bunching (ViDB)*, Co-applicant with Bekaert.
- October 2017–September 2020 **Research and development project of Flanders Innovation & Entrepreneurship (VLAIO),** *Towards eco-efficient weaving by exploring flow fields (ECOFLOW)*, Co-applicant with Jan Vierendeels.
- October 2017–September 2021 **Ph. D. fellowship of the Belgian Nuclear Research Centre,** *Development of Reduced Order CFD models for the application of Uncertainty Quantification*, Kelbij Star.
- October 2016–September 2020 **Ph. D. fellowship of the Research Foundation - Flanders (FWO),** *Reducing flow-induced vibration in steam generators and heat exchangers using two-phase fluid-structure interaction simulations*, Laurent De Moerloose.
- October 2016–September 2020 **Ph. D. fellowship of the Special Research Fund of Ghent University,** *Simulation of the dynamic behavior of a weft thread in an air-jet weaving loom*, Lucas Delcour.
- January 2016–December 2019 **Starting grant of the Special Research Fund of Ghent University,** *Improving efficiency and safety of devices with flow along cylinders using fluid-structure interactions simulations (ESFLOC)*.
- April 2015–March 2019 **EU Horizon 2020 Research and Innovation Action,** *Thermal hydraulics Simulations and Experiments for the Safety Assessment of MEtal cooled reactors (SESAME)*, Co-applicant.
- April 2015–March 2019 **EU Horizon 2020 Research and Innovation Action,** *MYRRHA Research and Transmutation Endeavour (MYRTE)*, Co-applicant.
- February 2015–January 2019 **Strategic basic research project of Agency for Innovation by Science and Technology (IWT),** *Efficient uncertainty quantification for optimization in robust design of industrial applications (EUFORIA)*, Co-applicant.

January 2014–December 2018	Research project of the Research Foundation - Flanders (FWO) , <i>Fluid-structure interaction simulations of wind turbines with composite blades</i> , Applicant with Wim Van Paepengem.
January 2013–December 2015	Research and development project of Agency for Innovation by Science and Technology (IWT) , <i>Optimized design for weaving machine main nozzles (ODMN)</i> , Co-applicant with Jan Vierendeels.
February 2012–January 2016	Strategic basic research project of Agency for Innovation by Science and Technology (IWT) , <i>Next generation of organic Rankine cycles (ORCNext)</i> , Co-applicant with Jan Vierendeels.
January 2012–December 2016	Research project of the Research Foundation - Flanders (FWO) , <i>Fundamental numerical and experimental study of flame spread over surfaces in case of fire</i> , Co-applicant with Bart Merci.
October 2011–September 2015	Ph. D. fellowship of the Research Foundation - Flanders (FWO) , <i>Computational analysis of flow-induced vibrations in fuel rod bundles of next generation nuclear reactors</i> , Jeroen De Ridder.
July 2011–September 2011	Grant for a long stay abroad of the Research Foundation - Flanders (FWO) , <i>Gradient-based optimization for parameter identification studies with partitioned fluid-structure interaction simulations</i> , Joris Degroote.
October 2010–September 2014	Post-doc fellowship of the Research Foundation - Flanders (FWO) , <i>Partitioned simulation of fluid-structure interaction and other coupled problems</i> , Joris Degroote.
September 2007–June 2008	Grant for a long stay abroad of the Research Foundation - Flanders (FWO) , <i>Adaptation of Reduced-Order Models</i> , Joris Degroote.
October 2006–May 2010	Ph. D. fellowship of the Research Foundation - Flanders (FWO) , <i>Development of Algorithms for the Partitioned Simulation of Strongly Coupled Fluid-Structure Interaction Problems</i> , Joris Degroote.

Honours

November 2024	Best poster award , <i>Belgian Nuclear Society - Young Generation poster competition</i> , Effect of stochastic bow on the vibration characteristics of a fuel bundle in axial flow, Henri Dolfen.
December 2022	Best thesis award , <i>SCK-CEN Academy for Nuclear Science and Technology</i> , Numerical study of cavitation in liquid lead-bismuth eutectic, Kamiel Ceusters.
February 2022	Best paper award , <i>Journal of Sailing Technology in 2021</i> , Dynamic Stability Analysis of a Hydrofoiling Sailing Boat Using CFD, Alec Bagué, Toon Demeester, Joris Degroote, Evert Lataire.
February 2021	Best paper award , <i>9th International Conference on System Modeling and Optimization, Budapest, Hungary</i> , New approach for secant update generalized version of PSB, Nicolas Boutet, Rob Haelterman, Joris Degroote.
August 2020	Honorable Mention , <i>2020 Mandles Prize for Hydrofoil Excellence</i> , Dynamic Stability Analysis of a Hydrofoiling Craft Using Computational Fluid Dynamics, Alec Bagué, Toon Demeester, Joris Degroote, Evert Lataire.
October 2019	Best poster award , <i>44th Woudschoten Conference of Dutch-Flemish Scientific Computing Society, Zeist, the Netherlands</i> , Boundary control of finite volume-based POD-Galerkin reduced order models for buoyancy-driven flows, Kelbij Star, Giovanni Stabile, Sokratia Georgaka, Francesco Belloni, Gianluigi Rozza, Joris Degroote.
March 2017	Best paper award , <i>International Multiconference of Engineers and Computer Scientists, Hong Kong</i> , Coupling of Partitioned Physics Codes with Quasi-Newton Methods, Rob Haelterman, Alfred Bogaers, Joris Degroote, Silviu Cracana.

- October 2012 **Best poster award**, 37th Woudschoten Conference, Zeist, the Netherlands.
- April 2012 **Quadrennial award “Prof. D. De Meulemeester-Piot”**, A.I.G., Award for a Ph.D. thesis in engineering with possible applications in textile technology.
- April 2011 **Finalist for the 2010 ECCOMAS Ph.D. Award**, European Community on Computational Methods in Applied Sciences, BNCM Best Ph.D. Thesis Award.
- December 2010 **Biennial award “Andreas De Leenheer” for Beta sciences**, International Club of Flanders.
- July 2006 **Sidmar prize**, Sidmar N.V., Master thesis *Numerical study of bubble and droplet dynamics with partitioned solvers* at the Faculty of Engineering of the Ghent University.
- July 2006 **Boulvin-Van Engelen prize**, A.I.G., Award for the engineering student with the highest academic achievement over the entire engineering program at the Ghent University.

Articles in journals listed in the ISI Web of Science (a1)

- V. Van Riet, W. Beyne, and J. Degroote. A partitioned interface-tracking method for convective melting of constrained saturated solids. *International Journal of Heat and Mass Transfer*, pages 1–12, 2025. In press.
- A. Bral, J. Peeters, L. Daelemans, and J. Degroote. Development and validation of an actuator line method for fuzzy yarns in high-speed air flow. *International Journal for Numerical Methods in Engineering*, pages 1–17, 2025. doi: 10.1002/nme.70108, In press.
- S. Vandenbulcke, P. Condron, H. Dolfen, S. Soroush, S. Holdsworth, J. Degroote, and P. Segers. Evaluating amplified magnetic resonance imaging as an input for computational fluid dynamics models of the cerebrospinal fluid. *Interface Focus*, 15(20240039):1–11, 2025. doi: 10.1098/rsfs.2024.0039.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Coupling approaches to simulate dynamic wind effects on a membrane structure with ponding water. *Computers & Structures*, 312(107699):1–22, 2025. doi: 10.1016/j.compstruc.2025.107699.
- W. Beyne, M. De Paepe, and J. Degroote. A sizing model for a tube in tube sensible thermal energy storage heat exchanger with solid storage material. *Journal of Energy Storage*, 105(114622):1–17, 2025. doi: 10.1016/j.est.2024.114622.
- P. Havaej, J. Degroote, and D. Fauconnier. Thermo-mechanical response of TEHL contacts under dynamic loading conditions. *Tribology International*, 201(110280):1–19, 2025. doi: 10.1016/j.triboint.2024.110280.
- R. Poletti, A. Calado, L.K. Koloszar, J. Degroote, and M.A. Mendez. On the unsteady aerodynamics of flapping wings under dynamic hovering kinematics. *Physics of Fluids*, 36(8):1–20, 2024. doi: 10.1063/5.0215531.
- A. Bral, L. Daelemans, and J. Degroote. A method to determine local aerodynamic force coefficients from fiber-resolved 3D flow simulations around a staple fiber yarn. *Multibody System Dynamics*, pages 1–25, 2024. doi: 10.1007/s11044-024-09992-2.
- T. Shockner, I. Salman, V. Van Riet, W. Beyne, M. De Paepe, J. Degroote, and G. Ziskind. Simultaneous close-contact metling on two asymmetric surfaces: demonstration, modeling and application to thermal storage. *International Journal of Heat and Mass Transfer*, 232(125950):1–25, 2024. doi: 10.1016/j.ijheatmasstransfer.2024.125950.
- V. Van Riet, T. Demeester, K. Couvreur, Z. Ahmed, M. Vervaecke, M. De Paepe, and J. Degroote. Multi-phase modelling of loose, unsaturated soil's continuous motion using a three-phase Eulerian approach. *Computers and Geotechnics*, 171(106386):1–18, 2024. doi: 10.1016/j.comgeo.2024.106386.
- S. Vandenbulcke, P. Condron, S. Safei, H. Kumar, S. Holdsworth, J. Degroote, and P. Segers. A computational fluid dynamics study to assess the impact of coughing on cerebrospinal fluid

dynamics in Chiari type 1 malformation. *Scientific Reports*, 14(12717):1–15, 2024. doi: 10.1038/s41598-024-62374-8.

A. Balasubramanya, L. Maes, F. Rega, V. Mazzi, U. Morbiducci, N. Famaey, J. Degroote, and P. Segers. Hemodynamics and wall shear metrics in a pulmonary autograft: Comparing a fluid-structure interaction and computational fluid dynamics approach. *Computers in Biology and Medicine*, 176(108604):1–18, 2024. doi: 10.1016/j.combiomed.2024.108604.

T. Spenke, N. Delaissé, J. Degroote, and N. Hosters. On the number of subproblem iterations per coupling step in partitioned fluid-structure interaction simulations. *International Journal for Numerical Methods in Engineering*, 125(7):1–28, 2024. doi: 10.1002/nme.7420.

H. Dolfen, S. Vandewalle, and J. Degroote. Effect of stochastic deformation on the vibration characteristics of a tube bundle in axial flow. *Nuclear Engineering and Design*, 411(112412):1–14, 2023. doi: 10.1016/j.nucengdes.2023.112412.

N. Delaissé, T. Demeester, R. Haelterman, and J. Degroote. Quasi-Newton methods for partitioned simulation of fluid-structure interaction reviewed in the generalized Broyden framework. *Archives of Computational Methods in Engineering*, 30:3271–3300, 2023. doi: 10.1007/s11831-023-09907-y.

P. Havaej, J. Degroote, and D. Fauconnier. Sensitivity of TEHL simulations to the use of different models for the constitutive behaviour of lubricants. *Lubricants*, 11(151):1–21, 2023. doi: 10.3390/lubricants11030151.

P. Havaej, J. Degroote, and D. Fauconnier. A quantitative analysis of double-sided surface waviness on TEHL line contacts. *Tribology International*, pages 1–38, 2023. doi: 10.1016/j.triboint.2023.108389.

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Wing deformation of an airborne wind energy system in crosswind flight using high-fidelity fluid-structure interaction. *Energies*, 16(2):1–16, 2023. doi: 10.3390/en16020602.

A. Bral, L. Daelemans, and J. Degroote. A novel technique to simulate and characterize yarn mechanical behavior based on a geometrical fiber model extracted from microcomputed tomography imaging. *Textile Research Journal*, 93(9–10):2042–2062, 2023. doi: 10.1177/00405175221137009.

J. Wauters, J. Degroote, I. Couckuyt, and G. Crevecoeur. SAMURAI: A new asynchronous Bayesian optimization technique for optimization-under-uncertainty. *American Institute of Aeronautics and Astronautics Journal*, pages 1–24, 2022. doi: 10.2514/1.J061112.

T. Demeester, N. Delaissé, E.H. van Brummelen, R. Haelterman, and J. Degroote. On the effect of nonlinearity and Jacobian initialization on the convergence of the generalized Broyden quasi-Newton method. *International Journal for Numerical Methods in Engineering*, pages 1–19, 2022. doi: 10.1002/nme.6998.

N. Boutet, J. Degroote, and R. Haelterman. A symmetric grouped and ordered multi-secant quasi-Newton update formula. *Optimization Methods and Software*, pages 1–10, 2021. doi: 10.1080/10556788.2022.2053970.

N. Delaissé, T. Demeester, D. Fauconnier, and J. Degroote. Surrogate based acceleration of quasi-Newton techniques for fluid-structure interaction simulations. *Computers & Structures*, 260(106720):1–21, 2022. doi: 10.1016/j.compstruc.2021.106720.

H. Dolfen, J. De Ridder, L. Brockmeyer, E. Merzari, G. Kennedy, K. Van Tichelen, and J. Degroote. A multi-stage approach of simulating turbulence induced-vibrations in a wire-wrapped tube bundle for fretting wear prediction. *Journal of Fluids and Structures*, 109(103460):1–27, 2022. doi: 10.1016/j.jfluidstructs.2021.103460.

L. Delcour, A. Bral, L. Van Langenhove, and J. Degroote. Investigating the influence of compressibility on the second mode flutter instability of a clamped-free cylinder in axial flow using fluid-structure interaction simulations with the chimera technique. *Journal of Fluids and Structures*, 109(103469):1–18, 2022. doi: 10.1016/j.jfluidstructs.2021.103469.

J. Wauters and J. Degroote. Surrogate-assisted parametric study of a wing fence for unmanned aerial vehicles. *Journal of Aircraft*, 58(3):562–579, 2021. doi: 10.2514/1.C035836.

- L. De Moerloose, A. Bral, T. Demeester, M. De Paepe, and J. Degroote. Effect of a new synthetic bubble model on forces in simulations of two-phase flows in tube bundles. *European Journal of Mechanics B-Fluids*, 90:49–62, 2021. doi: 10.1016/j.euromechflu.2021.08.003.
- K. Star, G. Stabile, F. Belloni, G. Rozza, and J. Degroote. A novel iterative penalty method to enforce boundary conditions in finite volume POD-Galerkin reduced order models for fluid dynamics problems. *Communications in Computational Physics*, 30(1):34–66, 2021. doi: 10.4208/cicp.OA-2020-0059.
- K. Star, B. Sanderse, G. Stabile, G. Rozza, and J. Degroote. Reduced order models for the incompressible Navier-Stokes equations on collocated grids using a 'discretize-then-project' approach. *International Journal for Numerical Methods in Fluids*, 93(8):2694–2722, 2021. doi: 10.1002/fld.4994.
- T. Demeester, E.H. van Brummelen, and J. Degroote. An efficient quasi-Newton method for three-dimensional steady free surface flow. *International Journal for Numerical Methods in Fluids*, 93(8):2581–2610, 2021. doi: 10.1002/fld.4989.
- J. Wauters and J. Degroote. ESLA: a new surrogate-assisted single-loop reliability-based design optimization technique. *Structural and Multidisciplinary Optimization*, 63:2653–2671, 2021. doi: 10.1007/s00158-020-02808-9.
- K. Star, G. Spina, F. Belloni, and J. Degroote. Development of a coupling between a system thermal-hydraulic code and a reduced order CFD model. *Annals of Nuclear Energy*, 153(105056):1–16, 2021. doi: 10.1016/j.anucene.2020.108056.
- N. Boutet, R. Haelterman, and J. Degroote. Secant update generalized version of PSB: a new approach. *Computational Optimization and Applications*, 78:953–982, 2021. doi: 10.1007/s10589-020-00256-1.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Monolithic and partitioned approaches to determine static deformation of membrane structures due to ponding. *Computers & Structures*, 244(106419):1–22, 2021. doi: 10.1016/j.compstruc.2020.106419.
- K. Star, G. Stabile, G. Rozza, and J. Degroote. A POD-Galerkin reduced order model of a turbulent convective buoyant flow of sodium over a backward-facing step. *Applied Mathematical Modelling*, 89(1):486–503, 2021. doi: 10.1016/j.apm.2020.07.029.
- L. Delcour, L. Van Langenhove, and J. Degroote. Towards simulation of force and velocity fluctuations due to turbulence in the relay nozzle jet of an air jet loom. *Textile Research Journal*, 91(9–10):990–1008, 2021. doi: 10.1177/0040517520968285.
- T. Demeester, E.H. van Brummelen, and J. Degroote. An efficient quasi-Newton method for two-dimensional steady free surface flow. *International Journal for Numerical Methods in Fluids*, 92(7):785–801, 2020. doi: 10.1002/fld.4806.
- G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. Effect of rotor-tower interaction, tilt angle and yaw misalignment on the aeroelasticity of a large horizontal axis wind turbine with composite blades. *Wind Energy*, 23(7):1578–1595, 2020. doi: 10.1002/we.2501.
- J. Wauters and J. Degroote. Development of an adaptive infill criterion for constrained multi-objective asynchronous surrogate-based optimization. *Journal of Global Optimization*, pages 1–21, 2020. doi: 10.1007/s10898-020-00903-1.
- J. Colliers, J. Degroote, M. Mollaert, and L. De Laet. Mean pressure coefficient distributions over hyperbolic paraboloid roof and canopy structures with different shape parameters in a uniform flow with very small turbulence. *Engineering Structures*, 205(110043):1–21, 2020. doi: 10.1016/j.engstruct.2019.110043.
- L. De Moerloose and J. Degroote. A study of the vibration of a horizontal u-bend subjected to an internal upwards flowing air-water mixture. *Journal of Fluids and Structures*, 93(102883):1–28, 2020. doi: 10.1016/j.jfluidstructs.2020.102883.
- G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. Fluid-structure interaction simulations of a wind gust impacting on the blades of a large horizontal axis wind turbine. *Energies*, 13(509):1–20, 2020. doi: 10.3390/en13030509.

- N. Boutet, R. Haelterman, and J. Degroote. Secant update version of quasi-Newton PSB with weighted multisecant equations. *Computational Optimization and Applications*, 75(2):441–466, 2020. doi: 10.1007/s10589-019-00164-z.
- F. Bertocchi, M. Rohde, D. De Santis, A. Shams, H. Dolfen, J. Degroote, and J. Vieren-deels. Fluid-structure interactions of a 7-rods bundle: benchmarking numerical simulations with experimental data. *Nuclear Engineering and Design*, 356(110394):1–12, 2020. doi: 10.1016/j.nucengdes.2019.110394.
- J. Wauters, I. Couckuyt, N. Knudde, T. Dhaene, and J. Degroote. Multi-objective optimization of a wing fence on an unmanned aerial vehicle using surrogate-derived gradients. *Structural and Multidisciplinary Optimization*, 61(1):353–364, 2020. doi: 10.1007/s00158-019-02364-x.
- H. Dolfen, F. Bertocchi, M. Rohde, and J. Degroote. Vibrations in a 7-rod bundle subject to axial flow: simulations and experiments. *Nuclear Engineering and Design*, 353(110227):1–12, 2019. doi: 10.1016/j.nucengdes.2019.110227.
- F. Canè, M. Selmi, G. De Santis, A. Redaelli, P. Segers, and J. Degroote. Mixed impact of torsion on LV hemodynamics: a CFD study based on the chimera technique. *Computers in Biology and Medicine*, 112(103363):1–12, 2019. doi: 10.1016/j.combiomed.2019.103363.
- L. Delcour, J. Peeters, and J. Degroote. Three-dimensional fluid-structure interaction simulations of a yarn subjected to the main nozzle flow of an air-jet weaving loom using a Chimera technique. *Textile Research Journal*, 90(2):194–212, 2020. doi: 10.1177/0040517519862884.
- J. Wauters, J. Degroote, and J. Vierendeels. Comparative study of transitional turbulence models for the prediction of high angle of attack and hysteresis behavior. *American Institute of Aeronautics and Astronautics Journal*, 57(6):1–16, 2019. doi: 10.2514/1.J057249.
- K. Star, F. Belloni, G. Van den Eynde, and J. Degroote. POD-identification reduced order model of linear transport equations for control purposes. *International Journal for Numerical Methods in Fluids*, 90(8):375–388, 2019. doi: 10.1002/fld.4724.
- G. Santo, M. Peeters, W. Van Paepgem, and J. Degroote. Dynamic load and stress analysis of a large horizontal axis wind turbine using full scale fluid-structure interaction simulation. *Renewable Energy*, 140:212–226, 2019. doi: 10.1016/j.renene.2019.03.053.
- G. Santo, M. Peeters, W. Van Paepgem, and J. Degroote. Numerical investigation of the effect of tower dam and rotor misalignment on performance and loads of a large wind turbine in the atmospheric boundary layer. *Energies*, 12(7):1208, 2019. doi: 10.3390/en12071208.
- J. Colliers, M. Mollaert, J. Degroote, and L. De Laet. Prototyping of thin shell wind tunnel models to facilitate experimental wind load analysis on curved canopy structures. *Journal of Wind Engineering and Industrial Aerodynamics*, 188:308–322, 2019. doi: 10.1016/j.jweia.2019.03.004.
- D. Zeinali, A. Gupta, G. Maragkos, G. Agarwal, T. Beji, M. Chaos, Y. Wang, J. Degroote, and B. Merci. Study of the importance of non-uniform mass density in numerical ssimulations of fire spread over MDF panels in corner configuration. *Combustion and Flame*, 200:303–315, 2019. doi: 10.1016/j.combustflame.2018.11.020.
- J. Wauters and J. Degroote. On the study of transitional low-Reynolds number flows over airfoils operating at high angles of attack and their prediction using transitional turbulence models. *Progress in Aerospace Sciences*, 103:52–68, 2018. doi: 10.1016/j.paerosci.2018.10.004.
- M. Peeters, G. Santo, J. Degroote, and W. Van Paepgem. High-fidelity finite element models of composite wind turbine blades with shell and solid elements. *Composite Structures*, 200:521–531, 2018. doi: 10.1016/j.compstruct.2018.05.091.
- M. Peeters, G. Santo, J. Degroote, and W. Van Paepgem. Comparison of shell and solid finite element models for the static certification tests of a 43m wind turbine blade. *Energies*, 11(6-1346):1–18, 2018. doi: 10.3390/en11061346.
- I. Lahouli, R. Haelterman, J. Degroote, M. Shimoni, G. De Cubber, and R. Attia. Accelerating existing non-blind image deblurring techniques through a strap-on limited-memory

switched Broyden method. *IEICE Transactions on Information and Systems*, 101(5):1–8, 2018. doi: 10.1587/transinf.2017MVP0022.

L. De Moerloose, P. Aerts, J. De Ridder, J. Degroote, and J. Vierendeels. Numerical investigation of large-scale vortices in an array of cylinders in axial flow. *Journal of Fluids and Structures*, 78:277–298, 2018. doi: 10.1016/j.jfluidstructs.2018.01.002.

D. Zeinali, S. Verstockt, T. Beji, T. Maragkos, J. Degroote, and B. Merci. Experimental study of corner fires - part i: Inert panel tests. *Combustion and Flame*, 189:472–490, 2018. doi: 10.1016/j.combustflame.2017.09.034.

D. Zeinali, S. Verstockt, T. Beji, T. Maragkos, J. Degroote, and B. Merci. Experimental study of corner fires - part ii: Flame spread over MDF panels. *Combustion and Flame*, 189:491–505, 2018. doi: 10.1016/j.combustflame.2017.10.023.

A. Osman, L. Delcour, I. Hertens, J. Vierendeels, and J. Degroote. Toward three-dimensional modeling of the interaction between the air flow and a clamped-free yarn inside the main nozzle of an air jet loom. *Textile Research Journal*, 89(6):914–925, 2019. doi: 10.1177/0040517518758006.

T. Demeester, J. Degroote, and J. Vierendeels. Stability analysis of a partitioned iterative method for steady free surface flow. *Journal of Computational Physics*, 354:387–392, 2018. doi: 10.1016/j.jcp.2017.10.053.

L. Delcour, J. Peeters, and J. Degroote. Development of an iterative procedure with a flow solver for optimizing the yarn speed in a main nozzle of an air jet loom. *Journal of The Textile Institute*, pages 1–14, 2018. doi: 10.1080/00405000.2018.1529219.

L. De Moerloose, L. Taelman, P. Segers, J. Vierendeels, and J. Degroote. Analysis of several subcycling schemes in partitioned simulations of strongly coupled fluid-structure interaction. *International Journal for Numerical Methods in Fluids*, 89:181–195, 2018. doi: 10.1002/fld.4688.

M. Peeters, G. Santo, J. Degroote, and W. Van Paepengem. The concept of segmented wind turbine blades: a review. *Energies*, 10(8):1112, 2017. doi: 10.3390/en10081112.

J. De Ridder, K. Van Tichelen, J. Degroote, and J. Vierendeels. Predicting modal characteristics of a cluster of cylinders in axial flow: from potential flow solutions to coupled CFD-CSM calculations. *Journal of Fluids and Structures*, 74:90–110, 2017. doi: 10.1016/j.jfluidstructs.2017.07.006.

A. Osman, B. Malengier, S. De Meulemeester, J. Peeters, J. Vierendeels, and J. Degroote. Simulation of air flow–yarn interaction inside the main nozzle of an air jet loom. *Textile Research Journal*, pages 1–11, 2017. doi: 10.1177/0040517517697646.

A.M. Bavo, A.M. Pouch, J. Degroote, J. Vierendeels, J.H. Gorman, R.C. Gorman, and P. Segers. Patient-specific CFD models for intraventricular flow analysis from 3D ultrasound imaging: comparison of three clinical cases. *Journal of Biomechanics*, 50:144–150, 2017. doi: 10.1016/j.jbiomech.2016.11.039.

A.M. Bavo, A.M. Pouch, J. Degroote, J. Vierendeels, J.H. Gorman, R.C. Gorman, and P. Segers. Patient-specific CFD simulation of intraventricular haemodynamics based on 3D ultrasound imaging. *Biomedical Engineering Online*, 15(1):107–122, 2016. doi: 10.1186/s12938-016-0231-9.

A. Osman, S. De Meulemeester, B. Malengier, J. Degroote, and J. Vierendeels. Numerical and experimental analysis of ends-together yarn splicing. *Textile Research Journal*, 87(12):1457–1468, 2017. doi: 10.1177/0040517516654109.

I. Papes, J. Degroote, and J. Vierendeels. Development of a thermodynamic low order model for a twin screw expander with emphasis on pulsations in the inlet pipe. *Applied Thermal Engineering*, 103:909–919, 2016. doi: 10.1016/j.applthermaleng.2016.04.159.

S. Ulaganathan, I. Couckuyt, T. Dhaene, J. Degroote, and E. Laermans. High dimensional Kriging metamodel utilising gradient information. *Applied Mathematical Modelling*, 40(9–10):5256–5270, 2016. doi: 10.1016/j.apm.2015.12.033.

- A.M. Bavo, G. Rocatello, F. Iannaccone, J. Degroote, J. Vierendeels, and P. Segers. Fluid-structure interaction simulation of prosthetic aortic valves: Comparison between immersed boundary and arbitrary Lagrangian-Eulerian techniques for the mesh representation. *PLOS ONE*, 11(4):e0154517, 2016. doi: 10.1371/journal.pone.0154517.
- D. De Wilde, B. Trachet, N. Debusschere, F. Iannaccone, A. Swillens, J. Degroote, J. Vierendeels, G.R.Y. De Meyer, and P. Segers. Assessment of shear stress related parameters in the carotid bifurcation using mouse-specific FSI simulations. *Journal of Biomechanics*, 49(11):2135–2142, 2016. doi: 10.1016/j.biomech.2015.11.048.
- J. Bols, L. Taelman, G. De Santis, J. Degroote, B. Verhegge, P. Segers, and J. Vierendeels. Unstructured hexahedral mesh generation of complex vascular trees using a multi-block grid-based approach. *Computer Methods in Biomechanics and Biomedical Engineering*, 19(6):663–672, 2016. doi: 10.1080/10255842.2015.1058925.
- L. Taelman, J. Bols, J. Degroote, V. Muthurangu, J. Panzer, J. Vierendeels, and P. Segers. Differential impact of local stiffening and narrowing on hemodynamics in repaired aortic coarctation: an FSI study. *Medical & Biological Engineering & Computing*, 54(2–3):497–510, 2016. doi: 10.1007/s11517-015-1336-1.
- E. Merzari, P. Fischer, H. Yuan, K. Van Tichelen, S. Keijers, J. De Ridder, J. Degroote, J. Vierendeels, H. Doolaard, V.R. Gopala, and F. Roelofs. Benchmark exercise for fluid flow simulations in a liquid metal fast reactor core. *Nuclear Engineering and Design*, 298:218–228, 2016. doi: 10.1016/j.nucengdes.2015.11.002.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Predicting turbulence-induced vibration in axial annular flow by means of large-eddy simulations. *Journal of Fluids and Structures*, 61:115–131, 2016. doi: 10.1016/j.jfluidstructs.2015.10.011.
- S. Ulaganathan, I. Couckuyt, T. Dhaene, J. Degroote, and E. Laermans. Performance study of gradient-enhanced Kriging. *Engineering with Computers*, 32(1):15–34, 2016. doi: 10.1007/s00366-015-0397-y.
- I. Papes, J. Degroote, and J. Vierendeels. New insights in twin screw expander performance for small scale ORC systems from 3D CFD analysis. *Applied Thermal Engineering*, 91:535–546, 2015. doi: 10.1016/j.applthermaleng.2015.08.034.
- J. Hillewaere, J. Degroote, J. Vierendeels, G. Lombaert, and G. Degrande. Wind-structure interaction simulations of ovaling vibrations in silo groups. *Journal of Fluids and Structures*, 59:328–350, 2015. doi: 10.1016/j.jfluidstructs.2015.09.013.
- B. Trachet, J. Bols, J. Degroote, B. Verhegge, N. Stergiopoulos, J. Vierendeels, and P. Segers. An animal-specific FSI model of the abdominal aorta in anesthetized mice. *Annals of Biomedical Engineering*, 43(6):1298–1309, 2015. doi: 10.1007/s10439-015-1310-y.
- S. Annerel, T. Claessens, L. Taelman, J. Degroote, P. Segers, G. Van Nooten, P. Verdonck, and J. Vierendeels. Influence of valve size, orientation and downstream geometry of an aortic BMHV on leaflet motion and clinically used valve performance parameters. *Annals of Biomedical Engineering*, 43(6):1370–1384, 2015. doi: 10.1007/s10439-014-1102-9.
- J. De Ridder, O. Doaré, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Simulating the fluid forces and fluid-elastic instabilities of a clamped-clamped cylinder in turbulent axial flow. *Journal of Fluids and Structures*, 55:139–154, 2015. doi: 10.1016/j.jfluidstructs.2015.03.001.
- P. Segers, L. Taelman, J. Degroote, J. Bols, and J. Vierendeels. The aortic reservoir-wave as a paradigm for arterial haemodynamics: insights from three-dimensional fluid-structure interaction simulations in a model of aortic coarctation. *Journal of Hypertension*, 33(3):554–563, 2015. doi: 10.1097/HJH.0000000000000449.
- B. Ameel, J. Degroote, H. Huisseune, J. Vierendeels, and M. De Paepe. Interaction effects between parameters in a vortex generator and louvered fin compact heat exchanger. *International Journal of Heat and Mass Transfer*, 77:247–256, 2014. doi: 10.1016/j.ijheatmasstransfer.2014.04.073.
- S. Annerel, T. Claessens, J. Degroote, P. Segers, and J. Vierendeels. Validation of a numerical FSI simulation of an aortic BMHV by in vitro PIV experiments. *Medical Engineering & Physics*, 36(8):1014–1023, 2014. doi: 10.1016/j.medengphy.2014.05.004.

- B. Ameel, J. Degroote, C. T'Joen, H. Huisseune, S. De Schampheleire, J. Vierendeels, and M. De Paepe. Accounting for the effect of the heat exchanger length in the performance evaluation of compact fin and tube heat exchangers. *Applied Thermal Engineering*, 65(1–2):544–553, 2014. doi: 10.1016/j.applthermaleng.2014.01.061.
- L. Taelman, J. Degroote, A. Swillens, J. Vierendeels, and P. Segers. Fluid-structure interaction simulation of pulse propagation in arteries: numerical pitfalls and hemodynamic impact of local stiffening. *International Journal of Engineering Science*, 77:1–13, 2014. doi: 10.1016/j.ijengsci.2013.12.002.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Modal characteristics of a flexible cylinder in turbulent axial flow from numerical simulations. *Journal of Fluids and Structures*, 43:110–123, 2013. doi: 10.1016/j.jfluidstructs.2013.09.001.
- P.R. Leinan, J. Degroote, T. Kiserud, B. Skallerud, J. Vierendeels, and L.R. Hellevik. Velocity profiles and hemodynamics of the ductus venosus shunt; a fluid-structure interaction study. *Biomechanics and Modeling in Mechanobiology*, 12(5):1019–1035, 2013. doi: 10.1007/s10237-012-0460-1.
- B. Ameel, J. Degroote, C. T'Joen, P. De Jaeger, H. Huisseune, S. De Schampheleire, J. Vierendeels, and M. De Paepe. Optimization of X-shaped louvered fin and tube heat exchangers while maintaining the physical meaning of the performance evaluation criterion. *Applied Thermal Engineering*, 58(1–2):136–145, 2013. doi: 10.1016/j.applthermaleng.2013.04.016.
- J. Degroote. Partitioned simulation of fluid-structure interaction: Coupling black-box solvers with quasi-Newton techniques. *Archives of Computational Methods in Engineering*, 20(3):185–238, 2013. doi: 10.1007/s11831-013-9085-5.
- J. Bols, J. Degroote, B. Trachet, B. Verhegge, P. Segers, and J. Vierendeels. Inverse modelling of image-based patient-specific blood vessels: zero-pressure geometry and initial stress incorporation. *ESAIM: Mathematical Modelling and Numerical Analysis*, 47(4):1059–1075, 2013. doi: 10.1051/m2an/2012057.
- L. Taelman, J. Degroote, P. Verdonck, J. Vierendeels, and P. Segers. Modeling hemodynamics in vascular networks using a geometrical multiscale approach: numerical aspects. *Annals of Biomedical Engineering*, 41(7):1445–1458, 2013. doi: 10.1007/s10439-012-0717-y.
- A. Swillens, L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Comparison of non-invasive methods for measurement of local pulse wave velocity using FSI-simulations and in vivo data. *Annals of Biomedical Engineering*, 41(7):1567–1578, 2013. doi: 10.1007/s10439-012-0688-z.
- J. Bols, J. Degroote, B. Trachet, B. Verhegge, P. Segers, and J. Vierendeels. A computational method to assess in vivo stresses and unloaded configuration of patient-specific blood vessels. *Journal of Computational and Applied Mathematics*, 246:10–17, 2013. doi: 10.1016/j.cam.2012.10.034.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Computational aspects of simulating wind induced ovaling vibrations in silo groups. *Journal of Computational and Applied Mathematics*, 246:161–173, 2013. doi: 10.1016/j.cam.2012.06.033.
- G. De Santis, M. Conti, B. Trachet, T. De Schrijver, M. De Beule, J. Degroote, J. Vierendeels, F. Auricchio, P. Segers, P. Verdonck, and B. Verhegge. Hemodynamic impact of stent-vessel (mal)apposition following carotid artery stenting: mind the gaps! *Computer Methods in Biomechanics and Biomedical Engineering*, 16(6):648–659, 2013. doi: 10.1080/10255842.2011.629997.
- B. Ameel, H. Huisseune, J. Degroote, P. De Jaeger, J. Vierendeels, and M. De Paepe. On fin efficiency in interrupted fin and tube heat exchangers. *International Journal of Heat and Mass Transfer*, 60:557–566, 2013. doi: 10.1016/j.ijheatmasstransfer.2013.01.028.
- D.A. Steinman, Y. Hoi, P. Fahy, L. Morris, M.T. Walsh, N. Aristokleous, A.S. Anayiotos, A. Arzani, S.C. Shadden, P. Berg, G. Janiga, J. Bols, P. Segers, N.W. Bressloff, M. Cibis, F.H. Gijsen, S. Cito, J. Pallares, L.D. Browne, J.A. Costelloe, A.G. Lynch, J. Degroote, J. Vierendeels, W. Fu, A. Qiao, S. Hodis, D.F. Kallmes, H. Kalsi, Q. Long, V.O. Kheyfets,

- E.A. Finol, K. Kono, A.M. Malek, A. Lauric, P.G. Menon, K. Pekkan, M.E. Moghadam, A.L. Marsden, M. Oshima, K. Katagiri, V. Peiffer, Y. Mohamied, S. Sherwin, J. Schaller, L. Goubergrits, G. Usera, M. Mendina, K. Valen-Sendstad, D.F. Habets, J. Xiang, H. Meng, Y. Yu, G.E. Karniadakis, N. Schaffer, and F. Loth. Variability of computational fluid dynamics solutions for pressure and flow in a giant aneurysm: the ASME 2012 summer bioengineering conference CFD challenge. *Journal of Biomechanical Engineering - Transactions of the ASME*, 135(2):021016, 2013. doi: 10.1115/1.4023382.
- S. Kubacki, J. Rokicki, E. Dick, J. Degroote, and J. Vierendeels. Hybrid RANS/LES of plane jets impinging on a flat plate at small nozzle-plate distances. *Archives of Mechanics*, 65(2):143–166, 2013. .
- J. Degroote, M. Hojjat, E. Stavropoulou, R. Wüchner, and K.-U. Bletzinger. Partitioned solution of an unsteady adjoint for strongly coupled fluid-structure interactions and application to parameter identification of a one-dimensional problem. *Structural and Multidisciplinary Optimization*, 47(1):77–94, 2013. Source code, doi: 10.1007/s00158-012-0808-2.
- S. Annerel, J. Degroote, T. Claessens, S. Dahl, B. Skallerud, L.R. Hellevik, P. Van Ransbeeck, P. Segers, P. Verdonck, and J. Vierendeels. A fast strong coupling algorithm for the partitioned fluid-structure interaction simulation of BMHVs. *Computer Methods in Biomechanics and Biomedical Engineering*, 15(12):1281–1312, 2012. doi: 10.1080/10255842.2011.586946.
- J. Degroote, I. Couckuyt, J. Vierendeels, P. Segers, and T. Dhaene. Inverse modelling of an aneurysm's stiffness using surrogate-based optimization and fluid-structure interaction simulations. *Structural and Multidisciplinary Optimization*, 46(3):457–469, 2012. doi: 10.1007/s00158-011-0751-7.
- S. Annerel, J. Degroote, T. Claessens, P. Segers, P. Verdonck, and J. Vierendeels. The upstream boundary condition influences the leaflet opening dynamics in the numerical FSI simulation of an aortic BMHV. *International Journal for Numerical Methods in Biomedical Engineering*, 28(6–7):745–760, 2012. doi: 10.1002/cnm.2470.
- J. Hillewaere, D. Dooms, B. Van Quekelberghe, J. Degroote, J. Vierendeels, G. De Roeck, and G. Degrande. Unsteady Reynolds averaged Navier-Stokes simulation of the post-critical flow around a closely spaced group of silos. *Journal of Fluids and Structures*, 30:51–72, 2012. doi: 10.1016/j.jfluidstructs.2012.01.010.
- S. Annerel, J. Degroote, T. Claessens, S. Dahl, B. Skallerud, L.R. Hellevik, P. Van Ransbeeck, P. Segers, P. Verdonck, and J. Vierendeels. Application of a strong FSI coupling scheme for the numerical simulation of BMHV dynamics: study of wall shear stress on the valve leaflets. *Progress in Computational Fluid Dynamics*, 12(2–3):68–79, 2012. .
- J. Degroote and J. Vierendeels. Multi-level quasi-Newton coupling algorithms for the partitioned simulation of fluid-structure interaction. *Computer Methods in Applied Mechanics and Engineering*, 225–228:14–27, 2012. doi: 10.1016/j.cma.2012.03.010.
- S.K. Dahl, J. Vierendeels, J. Degroote, S. Annerel, L.R. Hellevik, and B. Skallerud. FSI simulation of asymmetrical mitral valve dynamics during diastolic filling. *Computer Methods in Biomechanics and Biomedical Engineering*, 15(2):121–130, 2012. doi: 10.1080/10255842.2010.517200.
- A. Swillens, G. De Santis, J. Degroote, L. Lovstakken, J. Vierendeels, and P. Segers. Accuracy of carotid strain estimates from ultrasonic wall tracking: a study based on multiphysics simulations and in-vivo data. *IEEE Transactions on Medical Imaging*, 31(1):131–139, 2012. doi: 10.1109/TMI.2011.2165959.
- J. Degroote. On the similarity between Dirichlet-Neumann with interface artificial compressibility and Robin-Neumann schemes for the solution of fluid-structure interaction problems. *Journal of Computational Physics*, 230(17):6399–6403, 2011. doi: 10.1016/j.jcp.2011.05.012.
- W. Van Paepengem, C. Blommaert, I. De Baere, J. Degrieck, G. De Backer, J. De Rouck, J. Degroote, J. Vierendeels, S. Matthys, and L. Taerwe. Slammering wave impact of a composite buoy for wave energy applications: design and large scale testing. *Polymer Composites*, 32(5):700–713, 2011. doi: 10.1002/pc.21089.

- J. Degroote and J. Vierendeels. Multi-solver algorithms for the partitioned simulation of fluid-structure interaction. *Computer Methods in Applied Mechanics and Engineering*, 200(25–28):2195–2210, 2011. doi: 10.1016/j.cma.2011.03.015.
- J. Degroote, P. Bruggeman, R. Haelterman, and J. Vierendeels. Bubble simulations with an interface tracking technique based on a partitioned fluid-structure interaction algorithm. *Journal of Computational and Applied Mathematics*, 234(7):2303–2310, 2010. doi: 10.1016/j.cam.2009.08.096.
- A. Swillens, J. Degroote, J. Vierendeels, L. Lovstakken, and P. Segers. A simulation environment for validating ultrasonic blood flow and vessel wall imaging based on fluid-structure interaction simulations: ultrasonic assessment of arterial distension and wall shear rate. *Medical Physics*, 37(8):4318–4330, 2010. doi: 10.1118/1.3462592.
- J. Degroote, K. Willcox, and J. Vierendeels. Interpolation among reduced-order matrices to obtain parametrized models for design, optimization and probabilistic analysis. *International Journal for Numerical Methods in Fluids*, 63(2):207–230, 2010. doi: 10.1002/fld.2089.
- J. Degroote, R. Haelterman, S. Annerel, P. Bruggeman, and J. Vierendeels. Performance of partitioned procedures in fluid-structure interaction. *Computers & Structures*, 88(7–8):446–457, 2010. doi: 10.1016/j.compstruc.2009.12.006.
- J. Degroote, S. Annerel, and J. Vierendeels. Stability analysis of Gauss-Seidel iterations in a partitioned simulation of fluid-structure interaction. *Computers & Structures*, 88(5–6):263–271, 2010. doi: 10.1016/j.compstruc.2009.09.003.
- J. Degroote, A. Swillens, P. Bruggeman, R. Haelterman, P. Segers, and J. Vierendeels. Simulation of fluid-structure interaction with the interface artificial compressibility method. *International Journal for Numerical Methods in Biomedical Engineering*, 26(3):276–289, 2010. doi: 10.1002/cnm.1276.
- J. Degroote, A. Souto-Iglesias, W. Van Paepgem, S. Annerel, P. Bruggeman, and J. Vierendeels. Partitioned simulation of the interaction between an elastic structure and free surface flow. *Computer Methods in Applied Mechanics and Engineering*, 199(33–36):2085–2098, 2010. Data files, doi: 10.1016/j.cma.2010.02.019.
- R. Haelterman, J. Degroote, D. Van Heule, and J. Vierendeels. On the similarities between the quasi-Newton inverse least squares method and GMRes. *SIAM Journal on Numerical Analysis*, 47(6):4660–4679, 2010. doi: 10.1137/090750354.
- J. Degroote, P. Bruggeman, and J. Vierendeels. A coupling algorithm for partitioned solvers applied to bubble and droplet dynamics. *Computers & Fluids*, 38(3):613–624, 2009. doi: 10.1016/j.compfluid.2008.06.004.
- J. Degroote, K.-J. Bathe, and J. Vierendeels. Performance of a new partitioned procedure versus a monolithic procedure in fluid-structure interaction. *Computers & Structures*, 87(11–12):793–801, 2009. doi: 10.1016/j.compstruc.2008.11.013.
- R. Haelterman, J. Degroote, D. Heule, and J. Vierendeels. The quasi-Newton least squares method: a new and fast secant method analyzed for linear systems. *SIAM Journal on Numerical Analysis*, 47(3):2347–2368, 2009. doi: 10.1137/070710469.
- J. Degroote, P. Bruggeman, R. Haelterman, and J. Vierendeels. Stability of a coupling technique for partitioned solvers in FSI applications. *Computers & Structures*, 86(23–24):2224–2234, 2008. doi: 10.1016/j.compstruc.2008.05.005.
- P. Bruggeman, J. Liu, J. Degroote, M.G. Kong, J. Vierendeels, and C. Leys. DC excited glow discharges in atmospheric pressure air in pin-to-water electrode systems. *Journal of Physics D-Applied Physics*, 41(21):11pp, 2008. Article number 215201, doi: 10.1088/0022-3727/41/21/215201.
- P. Bruggeman, P. Guns, J. Degroote, J. Vierendeels, and C. Leys. Influence of the water surface on the glow-to-spark transition in a metal-pin-to-water electrode system. *Plasma Sources Science & Technology*, 17(4):7pp, 2008. Article number 045014, doi: 10.1088/0963-0252/17/4/045014.

P. Bruggeman, J. Degroote, C. Leys, and J. Vierendeels. Electrical discharges in the vapour phase in liquid-filled capillaries. *Journal of Physics D-Applied Physics*, 41(19):4pp, 2008. Article number 194007, doi: 10.1088/0022-3727/41/19/194007.

P. Bruggeman, J. Van Slycken, J. Degroote, J. Vierendeels, P. Verleysen, and C. Leys. DC electrical breakdown in a metal pin-water electrode system. *IEEE Transactions on Plasma Science*, 36(4):1138–1139, 2008. doi: 10.1109/TPS.2008.917294.

P. Bruggeman, E. Ribezi, J. Degroote, J. Vierendeels, and C. Leys. Plasma characteristics and electrical breakdown between metal and water electrodes. *Journal of Optoelectronics and Advanced Materials*, 10(8):1964–1967, 2008. .

P. Bruggeman, E. Ribezi, A. Maslani, J. Degroote, A. Malesevic, R. Rego, J. Vierendeels, and C. Leys. Characteristics of atmospheric pressure air discharges with a liquid cathode and a metal anode. *Plasma Sources Science & Technology*, 17(2):11pp, 2008. Article number 025012, doi: 10.1088/0963-0252/17/2/025012.

P. Bruggeman, J. Degroote, J. Vierendeels, and C. Leys. DC-excited discharges in vapour bubbles in capillaries. *Plasma Sources Science & Technology*, 17(2):7pp, 2008. Article number 025008, doi: 10.1088/0963-0252/17/2/025008.

P. Bruggeman, L. Graham, J. Degroote, J. Vierendeels, and C. Leys. Water surface deformation in strong electrical fields and its influence on electrical breakdown in a metal pin-water electrode system. *Journal of Physics D-Applied Physics*, 40(16):4779–4786, 2007. doi: 10.1088/0022-3727/40/16/007.

J. Vierendeels, L. Lanoye, J. Degroote, and P. Verdonck. Implicit coupling of partitioned fluid-structure interaction problems with reduced order models. *Computers & Structures*, 85(11–14):970–976, 2007. doi: 10.1016/j.compstruc.2006.11.006.

Articles in journals with a wide distribution (a2)

F. Canè, L. Delcour, A.C.L. Redaelli, P. Segers, and J. Degroote. A CFD study on the interplay of torsion and vortex guidance by the mitral valve on the left ventricular washout making use of overset meshes (chimera technique). *Frontiers in Medical Technology*, 4(1018058):1–17, 2022. doi: 10.3389/fmedt.2022.1018058.

A. Bagué, J. Degroote, T. Demeester, and E. Lataire. Typhoon: a vortex-lattice method for assessing dynamic stability characteristics of hydrofoil crafts. *International Shipbuilding Progress*, 68(1–2):61–78, 2021. doi: 10.3233/ISP-210006.

A. Bagué, J. Degroote, T. Demeester, and E. Lataire. Dynamic stability analysis of a hydrofoiling sailing boat using CFD. *Journal of Sailing Technology*, 6(1):58–72, 2021. doi: 10.5957/jst/2021.6.1.58.

R. Haelterman, A. Bogaers, J. Degroote, and N. Boutet. Quasi-Newton methods for the acceleration of multi-physics codes. *IAENG International Journal of Applied Mathematics*, 47(3):352–360, 2017. hdl: 10204/10049.

B. Vanderhoydonck, G. Santo, J. Vierendeels, and J. Degroote. Optimization of a human-powered aircraft using fluid-structure interaction simulations. *Aerospace*, 3(3):1–25, 2016. doi: 10.3390/aerospace3030026.

R. Haelterman, J. Degroote, J. Vierendeels, and D. Van Heule. Extending Broyden's method to interaction problems. *Revue d'analyse numérique et de théorie de l'approximation*, 37(2):169–180, 2008. hdl: 1854/LU-686784.

Articles in journals without peer review (a4)

A. Bral, L. Daelemans, and J. Degroote. Efficiently simulating staple fiber yarns in air-jet weaving. *Textile Technology - Melland International*, 24 February 2025.

N. Delaissé, P. Havaej, D. Fauconnier, and J. Degroote. A two-phase flow solver with variable liquid compressibility and temperature equation for partitioned simulation of elastohydrodynamic lubrication. *arXiv, Computational Engineering, Finance, and Science*(arXiv:2412.12779):1–24, 2024. doi: 10.48550/arXiv.2412.12779.

J. Degroote. Bellen en druppels door het oog van de computer. *Het Ingenieursblad*, 76(9):22–26, 2007.

J. Vierendeels, J. Degroote, K. Dumont, L. Lanoye, and P. Verdonck. Artificial heart valve takes shape. *Fluent News*, 15(1):10, Spring 2006.

Books as author or co-author (b1)

J.D. Anderson, J. Degroote, G. Degrez, E. Dick, R. Grundmann, and J. Vierendeels. *Computational Fluid Dynamics: An Introduction*. A von Karman Institute Book. Springer, Berlin Heidelberg, third edition, 2009. J.F. Wendt (Editor).

Chapters in books as author or co-author (b2)

J. Degroote, T. Demeester, and N. Delaissé. Computational methods for fluid-structure interaction. In A. Shams, editor, *Computational fluid-structure interaction for nuclear reactor applications*, pages 1–25. Woodhead Publishing, United Kingdom, 2023. ISBN: 0128228091, 9780128228098.

G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. Analysis of the aerodynamic loads on a wind turbine in off-design conditions. In A. de Montlaur and E. Ferrer, editors, *Recent advances in CFD for Wind and Tidal Offshore Turbines*, pages 51–59. Springer, Switzerland, 2019. ISBN: 978-3-030-11887-7.

J. De Ridder, L. De Moerloose, K. Van Tichelen, J. Vierendeels, and J. Degroote. Simulations of flow-induced vibrations in tube bundles using URANS. In F. Roelofs, editor, *Thermal Hydraulics Aspects of Liquid Metal Cooled Nuclear Reactors*, pages 293–310. Woodhead Publishing, United Kingdom, 2018. ISBN: 978-0-08-101980-1.

R. Haelterman, A. Bogaers, and J. Degroote. A comparison of different quasi-Newton acceleration methods for partitioned multi-physics codes. In S.I. Ao, H.K. Kim, O. Castillo, A.H.S. Chan, and H. Katagiri, editors, *Transactions on Engineering Technologies - International MultiConference of Engineers and Computer Scientists 2017*, pages 135–152. Springer, Singapore, 2017. ISBN: 978-981-10-7487-5.

T. Claessens, P. Verdonck, P. Segers, J. Vierendeels, S. Annerel, J. Degroote, and P. Van Ransbeeck. Mechanical valve fluid dynamics and thrombus initiation. In K.B. Chandran, H.S. Udaykumar, and J.M. Reinhardt, editors, *Image-based computational modeling in the human circulatory and pulmonary systems*, pages 437–462. Springer, Berlin Heidelberg, 2011. ISBN: 978-1-4419-7349-8.

J. Vierendeels, J. Degroote, and S. Annerel. Stability issues in partitioned FSI calculations. In H.-J. Bungartz, M. Mehl, and M. Schäfer, editors, *Fluid Structure Interaction II: Modelling, Simulation, Optimization*, pages 83–102. Springer, Berlin Heidelberg, 2010. ISBN: 978-3-642-14205-5.

Articles in proceedings of conferences listed in the ISI Web of Science (p1)

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Moving control surfaces in a geometry-resolved CFD model of an airborne wind energy system. In *10th the Science of Making Torque from Wind (TORQUE)*, volume 2767:022041, pages 1–9, Florence, Italy, 29–31 May 2024. IOP Publishing. ISSN: 1742-6588, doi: 10.1088/1742-6596/2767/2/022041.

M. Vervaecke, D. Fauconnier, and J. Degroote. Fluid-structure interaction modeling of dry wire drawing by coupling OpenFOAM models of lubricant film and metal wire. In *18th OpenFOAM Workshop, IOP Conference Series-Materials Science and Engineering*, volume 1312:012008, pages 1–21, Genoa, Italy, 11–14 July 2024. IOP Publishing. ISSN: 1757-8981, doi: 10.1088/1757-899X/1312/1/012008.

N. Pynaert, J. Wauters, G. Crevecoeur, and J. Degroote. Unsteady aerodynamic simulations of a multi-megawatt airborne wind energy reference system using computational fluid dynamics. In *9th the Science of Making Torque from Wind (TORQUE)*, volume 2265:042060 of *Journal of Physics: Conference Series*, pages 1–10, Delft, the Netherlands, 1–3 June 2022. IOP Publishing. ISSN: 1742-6588, doi: 10.1088/1742-6596/2265/4/042060.

- N.K. Narayanan, R. Wüchner, and J. Degroote. Calculation of static deformation of membrane structures under the load of ponding water. In *60th Anniversary Symposium of the International Association for Shell and Spatial Structures (IASS Symposium) & 9th International Conference on Textile Composites and Inflatable Structures (Structural Membranes)*, pages 1187–1194, Barcelona, Spain, 7–10 October 2019.
- A. Meire, L. De Moerloose, and J. Degroote. Numerical investigation of pressure fluctuations and vibrations for upward two-phase flow in a pipe. In *ASME PVP*, volume V004T04A036, pages 1–7, San Antonio, TX, United States of America, 14–19 July 2019. ISBN: 978-0-7918-5895-0, doi: 10.1115/PVP2019-93994.
- T. Demeester, E.H. van Brummelen, and J. Degroote. Combining a least-squares approximate jacobian with an analytical model to couple a flow solver with free surface position update. In *8th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 360–368, Sitges, Spain, 3–5 June 2019.
- L. Delcour, L. Van Langenhove, and J. Degroote. FSI simulation of an axially moving flexible cylinder entrained by a supersonic flow. In *8th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 541–552, Sitges, Spain, 3–5 June 2019.
- L. De Moerloose and J. Degroote. Numerical and analytical investigation of subcycling in the flow problem of a strongly-coupled partitioned fluid-structure interaction simulation. In *8th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 562–573, Sitges, Spain, 3–5 June 2019.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Coupling of structural solver and volume-conserving solver for form-finding of membrane structures subjected to ponding. In *8th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 144–155, Sitges, Spain, 3–5 June 2019.
- T. Demeester, E.H. van Brummelen, and J. Degroote. Extension of a fast method for 2D steady free surface flow to stretched surface grids. In *8th International Conference on Computational Methods in Marine Engineering*, pages 235–246, Göteborg, Sweden, 13–15 May 2019.
- L. De Moerloose, J. De Ridder, J. Degroote, and J. Vierendeels. Numerical study of the amplitude and the convection speed of periodic large-scale vortices in a square array of cylinders subjected to axial flow. In *26th International Conference on Nuclear Engineering*, pages 1–10, London, United Kingdom, 22–26 July 2018.
- J. Degroote, L. Delcour, L. De Moerloose, H. Dolfen, and J. Vierendeels. Fluid-structure interaction simulations of flexible cylinders in confined axial flow. In *5th Joint US-European Fluids Engineering Summer Conference*, pages 1–7, Montreal, Canada, 15–20 July 2018.
- G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. Transient modelling of the rotor-tower interaction of wind turbines using fluid-structure interaction simulations. In *7th International Conference on Coupled Problems in Science and Engineering*, pages 1–12, Rhodes Island, Greece, 12–14 June 2017.
- R. Haelterman, I. Lahouli, M. Shimon, and J. Degroote. Limited memory switched Broyden method for faster image deblurring. In *15th IAPR International Conference on Machine Vision Applications*, pages 1–4, Nagoya, Japan, 8–12 May 2017.
- G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. The effect of gravity in transient fluid-structure interaction simulations of a large wind turbine with composite blades. In *7th International Conference on Textile Composites and Inflatable Structures*, pages 1–12, Munich, Germany, 9–11 October 2017.
- J. Degroote, I. Hertens, A. Osman, and J. Vierendeels. Simulation of the interaction between a slender flexible cylinder and an axial high-speed air flow. In *2017 ASME Pressure Vessels & Piping Conference*, pages 1–10, Waikoloa, HI, United States of America, 16–20 July 2017.
- S. Ullaganathan, I. Couckuyt, T. Dhaene, J. Degroote, and E. Laermans. A hybrid sequential sampling based metamodeling approach for high dimensional problems. In *14th IEEE International Conference on Machine Learning and Applications*, pages 1–11, Miami, FL, United States of America, 9–11 December 2015.

- I. Papes, L. Abdelli, J. Degroote, and J. Vierendeels. 3D CFD analysis of a twin screw expander with different real gas models for R245fa. In *2015 ASME International Mechanical Engineering Congress & Exposition*, pages 1–8, Houston, TX, United States of America, 13–19 November 2015.
- I. Papes, J. Degroote, and J. Vierendeels. Numerical simulation of a twin screw expander for performance prediction. In *9th International Conference on Compressors and Their Systems*, volume 90 of *IOP Conference Series: Materials Science and Engineering*, pages 1–8, London, United Kingdom, 7–9 September 2015.
- J. De Ridder, J. Degroote, and O. Doaré. Fluid-elastic instabilities of clamped-clamped aligned and inclined cylinders in turbulent axial flow. In *2015 ASME Pressure Vessels & Piping Conference*, pages 1–10, Boston, MA, United States of America, 19–23 July 2015.
- S. Ulaganathan, I. Couckuyt, T. Dhaene, J. Degroote, and E. Laermans. On the use of gradients in kriging surrogate models. In *2014 Winter Simulation Conference*, pages 1–10, Savannah, GA, United States of America, 7–10 December 2014.
- I. Papes, J. Degroote, and J. Vierendeels. 3D CFD analysis of a twin screw expander for small scale ORC systems. In *11th World Congress on Computational Mechanics/5th European Conference on Computational Mechanics/6th European Conference on Computational Fluid Dynamics*, pages 1–11, Barcelona, Spain, 20–25 July 2014.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Large-eddy simulations of turbulence-induced vibrations in annular pipe flow. In *ASME Pressure Vessels & Piping Conference*, pages 1–8, Anaheim, CA, United States of America, 20–24 July 2014.
- I. Papes, J. Degroote, and J. Vierendeels. 3D CFD analysis of an oil-injected twin screw expander. In *ASME International Mechanical Engineering Congress and Exposition*, pages 1–8, San Diego, CA, United States of America, 15–21 November 2013.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Wind-structure interaction simulations for the prediction of ovalling vibrations in silo groups. In *6th International Conference on Textile Composites and Inflatable Structures*, pages 1–12, Munich, Germany, 9–11 October 2013.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Numerical computation of modal characteristics of a clamped-clamped cylinder in turbulent axial pipe flow. In *ASME Pressure Vessels & Piping Conference*, pages 1–6, Paris, France, 14–18 July 2013.
- L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Speeding up fluid-structure interaction simulation of the blood flow in a flexible artery using sub-cycling: stability and accuracy. In *21th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 1–2, Sunriver, Oregon, United States of America, 26–29 June 2013.
- J. Bols, G. De Santis, J. Degroote, B. Verhegge, P. Segers, and J. Vierendeels. Automated hexahedral mesh generation in a complex vascular tree. In *21th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 1–2, Sunriver, Oregon, United States of America, 26–29 June 2013.
- J. Degroote, J. Bols, and L. Taelman. Comparison between two different decompositions for the solution of fluid-structure interaction problems. In *5th International Conference on Coupled Problems in Science and Engineering*, pages 1–9, Ibiza, Spain, 17–19 June 2013.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Modal characteristics of a flexible tube in turbulent axial water flow: a numerical approach and validation with experimental data. In *5th International Conference on Coupled Problems in Science and Engineering*, pages 1–9, Ibiza, Spain, 17–19 June 2013.
- J. Degroote, P. Segers, and J. Vierendeels. CFD challenge: Solutions using an open-source finite volume solver, OpenFOAM. In *20th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 139–140, Fajardo, Puerto Rico, United States of America, 20–23 June 2012.
- J. Bols, J. Degroote, G. De Santis, B. Trachet, P. Segers, and J. Vierendeels. CFD challenge: solutions using the commercial finite volume solver, fluent, and a pyFormex-generated full

hexahedral mesh. In *20th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 151–152, Fajardo, Puerto Rico, United States of America, 20–23 June 2012.

L. Taelman, J. Bols, J. Degroote, V. Muthurangu, S. Panzer, A. Swillens, J. Vierendeels, and P. Segers. Predicting the functional impact of residual aortic coarctation lesions using fluid-structure interaction simulations. In *20th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 453–454, Fajardo, Puerto Rico, United States of America, 20–23 June 2012.

A. Swillens, L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Assessing the accuracy of non-invasive measuring methods of pulse wave velocity: an analysis based on fluid-structure interaction simulations in the carotid artery. In *20th American Society of Mechanical Engineering Summer Bioengineering Conference*, pages 577–578, Fajardo, Puerto Rico, United States of America, 20–23 June 2012.

B. Ameel, J. Degroote, H. Huisseune, P. De Jaeger, J. Vierendeels, and M. De Paepe. Numerical optimization of louvered fin heat exchanger with variable louver angles. In *6th European Thermal Sciences Conference*, Journal of Physics Conference Series, pages 1–8, Poitiers, France, 4–7 September 2012.

A. Swillens, G. De Santis, J. Degroote, L. Lovstakken, J. Vierendeels, and P. Segers. Multi-physics modeling in support of ultrasonic image development: integration of fluid-structure interaction simulations and Field II applied to the carotid artery. In *IEEE International Ultrasonics Symposium*, pages 1587–1590, Orlando, FL, United States of America, 18–21 October 2011.

A. Swillens, G. De Santis, J. Degroote, L. Lovstakken, J. Vierendeels, and P. Segers. Strain estimation in the carotid artery from ultrasonic wall tracking: a multiphysics model study. In *IEEE International Ultrasonics Symposium*, pages 1766–1769, Orlando, FL, United States of America, 18–21 October 2011.

J. Degroote, J. Vierendeels, S. Vepa, and W. Van Paepegem. Fluid-structure interaction simulation of the breaking wave slamming on an absorber for a wave-energy converter. In *8th International Conference on Structural Dynamics*, pages 1–8, Leuven, Belgium, 4–6 July 2011.

J. Hillewaere, J. Degroote, J. Vierendeels, G. De Roeck, and G. Degrande. Unsteady Reynolds averaged Navier-Stokes simulation of the post-critical flow around a closely spaced group of silos. In *8th International Conference on Structural Dynamics*, pages 1–8, Leuven, Belgium, 4–6 July 2011.

J. Degroote and J. Vierendeels. A partitioned quasi-Newton solution technique for fluid-structure interaction problems using a coarsened grid to accelerate the convergence of the coupling iterations. In *4th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 100–111, Kos Island, Greece, 20–22 June 2011.

J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Computational fluid-structure interaction simulations for wind induced vibrations in silo groups. In *4th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 934–945, Kos Island, Greece, 20–22 June 2011.

K. Vepa, D. Van Nuffel, W. Van Paepegem, J. Degroote, and J. Vierendeels. Comparative study of slamming loads on cylindrical structures. In *30th International Conference on Ocean, Offshore and Arctic Engineering*, pages 279–286, Rotterdam, The Netherlands, 19–24 June 2011.

B. Debrouwere, J. Degroote, S. Annerel, and J. Vierendeels. Optimization of a piezoelectric fan using fluid-structure interaction simulation. In B.H.V. Topping, J.M. Adan, F.J. Pallarés, R. Bru, and M.L. Romero, editors, *7th International Conference on Engineering Computational Technology*, pages 1–13, Valencia, Spain, 14–17 September 2010. Civil-Comp Press. Paper 162, doi: 10.4203/ccp.94.162.

J. Bols, L. Taelman, J. Degroote, S. Annerel, and J. Vierendeels. Numerical analysis of the fluid-structure interaction in a membrane pump. In B.H.V. Topping, J.M. Adan, F.J. Pallarés, R. Bru, and M.L. Romero, editors, *7th International Conference on Engineering*

Computational Technology, pages 1–19, Valencia, Spain, 14–17 September 2010. Civil-Comp Press. Paper 154, doi: 10.4203/ccp.94.154.

A. Swillens, J. Degroote, J. Vierendeels, L. Lovstakken, and P. Segers. Synthetic vascular ultrasound imaging through coupled fluid-structure interaction and ultrasound simulations. In *6th World Congress of Biomechanics/14th International Conference on Biomedical Engineering/5th Asia Pacific Conference on Biomechanics*, pages 430–433, Singapore, Singapore, 1–6 August 2010.

J. Degroote, S. Annerel, and J. Vierendeels. A multi-solver quasi-Newton method for the partitioned simulation of fluid-structure interaction. In *9th World Congress on Computational Mechanics*, volume 10(1) of *IOP Conference Series: Materials Science and Engineering*, pages 1–10, Sydney, Australia, 19–23 July 2010. doi: 10.1088/1757-899X/10/1/012020.

S. Annerel, J. Degroote, and J. Vierendeels. Evaluation of a new implicit coupling algorithm for the partitioned fluid-structure interaction simulation of bileaflet mechanical heart valves. In *9th World Congress on Computational Mechanics*, volume 10(1) of *IOP Conference Series: Materials Science and Engineering*, pages 1–10, Sydney, Australia, 19–23 July 2010. doi: 10.1088/1757-899X/10/1/012125.

J. Degroote, S. Annerel, and J. Vierendeels. Multi-level quasi-Newton methods for the partitioned simulation of fluid-structure interaction. In *6th International Conference on Computational Fluid Dynamics*, pages 695–700, St. Petersburg, Russia, 12–16 July 2010.

Articles in proceedings of conferences (c1)

M. Avirović, C. Brunelli, C. Klein, B.G. Marinus, J. Degroote, and J. van Beeck. Laminar-turbulent transition detection on a DU89-13414 airfoil at low Reynolds number and low temperature using cryogenic temperature sensitive paint. In *AIAA Aviation Forum*, pages 1–9, Las Vegas, NV, United States of America, 21–25 July 2025. doi: 10.2514/6.2025-3379.

M. Avirović, J. van Beeck, B.G. Marinus, and J. Degroote. Flow topology over an airfoil at low Reynolds number. In *16th Symposium of the VKI PhD Research*, pages 1–14, Sint-Genesius-Rode, Belgium, 18–21 February 2025.

A. Bral, L. Daelemans, and J. Degroote. Towards a computationally efficient method to simulate the interactions between air jets and hairy yarns. In *Aachen-Dresden-Denkendorf International Textile Conference (ADD-ITC)*, pages 1–14, Stuttgart, Germany, 21–22 November 2024.

M. Avirović, C. Brunelli, K. Wynkes, C. Mengdel, B. Marinus, J. Degroote, and J. van Beeck. Design of measurement setup for high-altitude in-flight experiments on DU89-134/14 airfoil at low Reynolds number. In *34th Congress of the International Council of the Aeronautical Sciences*, pages 1–10, Florence, Italy, 9–13 September 2024.

M. Avirović, B.G. Marinus, J. Degroote, and J. van Beeck. Laminar-turbulent transition on a DU89-134 airfoil at low Reynolds number for use at high altitude. In *2024 AIAA Aviation and Aeronautics Forum*, pages 1–14, Las Vegas, NV, United States of America, 29 July–2 August 2024. doi: 10.2514/6.2024-3998.

W. Beyne, J. Degroote, and M. De Paepe. Experimental validation of a design model for latent thermal energy storage extended with sensible heat. In *9th European Thermal Sciences Conference*, volume 2766:012217, pages 1–6, Bled, Slovenia, 10–13 June 2024. IOP Publishing. ISSN: 1742-6588, doi: 10.1088/1742-6596/2766/1/012217.

V. Van Riet, T. Shockner, W. Beyne, G. Ziskind, M. De Paepe, and J. Degroote. Limitations of the enthalpy-porosity method for numerical simulation of close-contact melting on asymmetric surfaces. In *9th European Thermal Sciences Conference*, volume 2766:012214, pages 1–6, Bled, Slovenia, 10–13 June 2024. IOP Publishing. ISSN: 1742-6588, doi: 10.1088/1742-6596/2766/1/012214.

A. Bral, L. Daelemans, and J. Degroote. Towards an actuator line model for the interaction between air jets and slender structures. In *9th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Lisbon, Portugal, 3–7 June 2024.

N. Delaissé, T. Spenke, N. Hosters, and J. Degroote. A new approach towards assessing convergence of partitioned fluid-structure interaction simulations. In *9th European Congress on*

Computational Methods in Applied Sciences and Engineering, pages 1–12, Lisbon, Portugal, 3–7 June 2024.

H. Dolfen and J. Degroote. A synthetic bubble model as inlet for fluid-structure interaction simulations with two-phase flow. In *9th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–13, Lisbon, Portugal, 3–7 June 2024.

V. Van Riet, W. Beyne, M. De Paepe, and J. Degroote. Convergence behaviour of partitioned methods for conjugate heat transfer problems. In *9th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Lisbon, Portugal, 3–7 June 2024.

K. Ceusters, M. Van Damme, H. Dolfen, J. Degroote, K. Makhov, M. Iarmonov, K. Van Tichelen, and T. Verstraete. Validation in water of a new methodology for the vibrational analysis of rotating components in a high-density fluid. In *20th International Topical Meeting on Nuclear Reactor Thermal Hydraulics*, pages 1–12, Washington D.C., United States of America, 20–25 August 2023.

V. Van Riet, T. Demeester, K. Couvreur, J. Degroote, Z. Ahmed, and M. Vervaecke. Mass and heat transfer modelling of soil in screw heat exchangers using CFD. In *17th International Heat Transfer Conference*, pages 1–8, Cape Town, South Africa, 14–18 August 2023.

M. Avirović, C. Brunelli, B. Marinus, J. Degroote, and J. van Beeck. Numerical and experimental study of laminar-turbulent transition on a laminar airfoil at low reynolds number. In *AIAA Aviation Forum*, pages 1–13, San Diego, CA, United States of America, 12–16 June 2023.

N. Delaissé, T. Spenke, N. Hosters, and J. Degroote. The effect of the number of subproblem iterations in partitioned fluid-structure interaction simulation. In *10th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 1–11, Chania, Island of Crete, Greece, 5–7 June 2023.

R. Poletti, L. Koloszar, M.A. Mendez, J. van Beeck, and J. Degroote. Development of an FSI environment for the aerodynamic performance assessment of flapping wings. In *10th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 1–12, Chania, Island of Crete, Greece, 5–7 June 2023.

M. Vervaecke, D. Fauconnier, and J. Degroote. Fluid-structure interaction model of dry wire drawing with coupled axial velocity and layering. In *10th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 1–12, Chania, Island of Crete, Greece, 5–7 June 2023.

N. Delaissé, P. Havaej, D. Fauconnier, and J. Degroote. High-fidelity fluid-structure interaction simulation of elastohydrodynamically lubricated line contact. In *Tribology International Conference*, pages 1–5, Lisbon, Portugal, 26–28 April 2023.

H. Dolfen and J. Degroote. Transient vibration phenomenon due to passing of gap vortex street in FSI simulation of tube bundle with eccentricity. In *12th International Conference on Flow-Induced Vibration*, pages 1–7, Paris, France, 6–9 July 2022.

L. Delcour, L. Van Langenhove, and J. Degroote. FSI simulations of fluid-elastic instabilities of a clamped-clamped cylinder in axial flow. In *12th International Conference on Flow-Induced Vibration*, pages 1–7, Paris, France, 6–9 July 2022.

L. De Moerloose, M. De Paepe, and J. Degroote. Forces and displacements in a bend subjected to an air-water flow. In *12th International Conference on Flow-Induced Vibration*, pages 1–7, Paris, France, 6–9 July 2022.

F. Canè, L. Delcour, A. Redaelli, P. Segers, and J. Degroote. Role of mitral valve and ventricular torsion on left ventricle hemodynamics. In *7th International Conference on Computational and Mathematical Biomedical Engineering*, pages 1–4, Milan, Italy, 27–29 June 2022.

S. Vandebulcke, T. De Pauw, F. Dewaele, J. Degroote, and P. Segers. Impact of physiologically inspired boundary conditions on fluid pressure and flow in a computational fluid dynamics model of the cerebrospinal fluid. In *7th International Conference on Computational and Mathematical Biomedical Engineering*, pages 1–4, Milan, Italy, 27–29 June 2022.

- N. Pynaert, J. Wauters, G. Crevecoeur, and J. Degroote. High fidelity fluid-structure interaction of a multi-megawatt airborne wind energy reference system in cross-wind flight. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–13, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.137.
- H. Dolfen, D. Van Hauwermeiren, A. Bral, and J. Degroote. Fluid-structure interaction simulation of a wire-wrapped tube array using overset grids. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.125.
- N. Delaissé, D. Fauconnier, and J. Degroote. Accelerating quasi-Newton methods using various types of surrogate models. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–10, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.036.
- A. Bral, L. Daelemans, and J. Degroote. Microscale numerical simulation of yarn tensile behavior using a high-fidelity geometrical fiber model extracted from micro-CT imaging. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–9, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.176.
- M. Vervaecke, D. Fauconnier, and J. Degroote. Openfoam model of fluid-structure interaction in dry wire drawing. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–11, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.214.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Simulation of wind-induced excitation of a membrane structure with ponding water. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Oslo, Norway, 5–9 June 2022. doi: 10.23967/eccomas.2022.254.
- N. Boutet, R. Haelterman, and J. Degroote. Quasi-Newton: combining multi-secant and symmetric. In *17th Copper Mountain Conference on Iterative Methods*, pages 1–10, Copper Mountain, CO, United States of America, 4–8 April 2022. online.
- H.J. Uitslag-Doolaard, F. Roelofs, L. Brockmeyer, J. Degroote, I. Di Piazza, J. Pacio, S. Keijers, and K. Van Tichelen. Comparison of RANS, LES and experimental heat transfer results for a 19-rod bundle with wire spacers cooled by lead bismuth eutectic. In *19th International Topical Meeting on Nuclear Reactor Thermal Hydraulics*, pages 1–18, Brussels, Belgium, 6–11 March 2022. online.
- H. Dolfen, J. De Ridder, L. Brockmeyer, E. Merzari, G. Kennedy, K. Van Tichelen, and J. Degroote. Predicting fretting wear due to turbulence-induced vibration in a wire-wrapped fuel assembly. In *19th International Topical Meeting on Nuclear Reactor Thermal Hydraulics*, pages 1–16, Brussels, Belgium, 6–11 March 2022. online.
- R. Poletti, L. Koloszar, M. Mendez, J. Degroote, and J. van Beeck. Aerodynamics of hovering wings with the overset method and surrogate models. In *9th OpenFOAM Conference*, pages 1–7, Online, 19–20 October 2021.
- P. Havaej, J. Degroote, and D. Fauconnier. CFD-FSI analysis of two-dimensional thermo-elasto-hydrodynamic lubrication contacts. In *9th OpenFOAM Conference*, pages 1–17, Online, 19–20 October 2021.
- F. Canè, L. Delcour, A. Redaelli, P. Segers, and J. Degroote. Role of mitral valve and ventricular torsion on the left ventricle hemodynamics. In *7th International Conference on Computational and Mathematical Biomedical Engineering*, pages 1–4, Milan, Italy, 28–30 June 2021. online.
- N. Boutet, R. Haelterman, and J. Degroote. New approach for secant update generalized version of PSB. In *9th International Conference on System Modeling and Optimization*, pages 1–5, Budapest, Hungary, 3–5 February 2021.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Comparison of monolithic and partitioned approaches for ponding analysis of membrane structures. In *14th World Congress on Computational Mechanics/8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Paris, France, 11–15 January 2021. online, doi: 10.23967/wccm-eccomas.2020.092.

- N. Delaissé, T. Demeester, D. Fauconnier, and J. Degroote. Comparison of different quasi-Newton techniques for coupling of black box solvers. In *14th World Congress on Computational Mechanics/8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Paris, France, 11–15 January 2021. online, doi: 10.23967/wccm-eccomas.2020.088.
- L. De Moerloose, M. De Paepe, and J. Degroote. A novel inlet model for two-phase bubbly axial flow through a tube bundle. In *14th World Congress on Computational Mechanics/8th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–12, Paris, France, 11–15 January 2021. online, doi: 10.23967/wccm-eccomas.2020.030.
- A. Bagué, J. Degroote, T. Demeester, and E. Lataire. Typhoon: a vortex-lattice method for assessing dynamic stability characteristics of hydrofoil crafts. In *26th HISWA International Symposium on Yacht Design and Yacht Construction*, pages 1–7, Amsterdam, the Netherlands, 16–17 November 2020. online.
- A. Bagué, E. Lataire, T. Demeester, and J. Degroote. Dynamic stability analysis of a hydrofoiling sailing boat using CFD. In *5th Innov'Sail Conference*, pages 1–8, Gothenburg, Sweden, 15–17 June 2020. online.
- L. Delcour, J. Peeters, L. Van Langenhove, and J. Degroote. Towards numerical simulation of yarn insertion on air-jet weaving looms. In *Aachen-Dresden-Denkendorf International Textile Conference*, pages 1–11, Dresden, Germany, 28–29 November 2019.
- T. Demeester, E.H. van Brummelen, and J. Degroote. Towards a fast fitting method for 3D free surface flow. In *22nd Numerical Towing Tank Symposium (NuTTS)*, pages 1–6, Tomar, Portugal, 29 September – 1 October 2019.
- K. Star, G. Stabile, S. Georgaka, F. Belloni, G. Rozza, and J. Degroote. POD-Galerkin reduced order model of the Boussinesq approximation for buoyancy-driven enclosed flows. In *International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering*, pages 1–4, Portland, OR, United States of America, 25–29 August 2019.
- H. Dolfen, J. De Ridder, L. Brockmeyer, E. Merzari, G. Kennedy, K. Van Tichelen, and J. Degroote. Numerical simulations of the turbulence-induced vibrations of a wire-wrapped hexagonal fuel assembly. In *18th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH)*, pages 5092–5102, Portland, OR, United States of America, 18–22 August 2019.
- J. Wauters, V. Browaeys, H. Dolfen, and J. Degroote. Efficient robust design of a forward swept unmanned aerial vehicle using surrogates. In *AIAA Aviation Forum*, pages 1–8, Dallas, TX, United States of America, 17–21 June 2019.
- L. Delcour, J. Peeters, L. Van Langenhove, and J. Degroote. Time-dependent calculation of the velocity of a yarn launched by the main nozzle of an air-jet loom. In *19th World Textile Conference*, pages 1–6, Ghent, Belgium, 11–15 June 2019.
- J. Colliers, M. Mollaert, J. Degroote, and L. De Laet. Pressure coefficient distributions for the design of hypar membrane roof and canopy structures. In *6th TensiNet Symposium*, pages 84–94, Milan, Italy, 3–5 June 2019.
- L. De Moerloose and J. Degroote. Numerical investigation of an air-water flow through a 6" bend preceded by a U-bend. In *10th International Conference on Multiphase Flow*, pages 1–4, Rio de Janeiro, Brazil, 19–24 May 2019.
- L. De Moerloose, B. Verzelen, J. De Ridder, and J. Degroote. Analysis of the Kelvin-Helmholtz instability in a square cylinder array subjected to axial flow with LES and URANS. In *SESAME International Workshop*, pages 1–9, Petten, the Netherlands, 19–21 March 2019.
- F. Bertocchi, M. Rohde, D. De Santis, A. Shams, H. Dolfen, J. Degroote, and J. Vierendeels. Benchmark for fluid-structure interaction simulations of a 7-rods bundle experiment. In *SESAME International Workshop*, pages 1–14, Petten, the Netherlands, 19–21 March 2019.
- H. Dolfen, F. Bertocchi, M. Rohde, and J. Degroote. Numerical simulations of vortex-induced vibrations in a 7-rod bundle compared to experimental data. In *SESAME International Workshop*, pages 1–14, Petten, the Netherlands, 19–21 March 2019.

- T. Demeester, E.H. van Brummelen, and J. Degroote. An iterative fitting method for 2D supercritical steady free surface flow. In *21st Numerical Towing Tank Symposium (NuTTS)*, pages 1–5, Cortona, Italy, 30 September – 3 October 2018.
- L. De Moerloose, J. Vierendeels, and J. Degroote. Influence of the mass flow rate and void fraction on the vibration of a horizontal U-bend subjected to upwards flowing air/water-mixture. In *9th International Symposium on Fluid-Structure Interactions, Flow-Sound Interactions, Flow-Induced Vibration & Noise*, pages 1–6, Toronto, Canada, 8–11 July 2018.
- L. Delcour, J. Vierendeels, and J. Degroote. Simulations of a flexible cylinder in a confined region using a chimera technique. In *9th International Symposium on Fluid-Structure Interactions, Flow-Sound Interactions, Flow-Induced Vibration & Noise*, pages 1–6, Toronto, Canada, 8–11 July 2018.
- H. Dolfen, J. Vierendeels, and J. Degroote. Numerical and experimental investigation of vortex-induced vibrations of a bundle of cylinders in axial flow. In *9th International Symposium on Fluid-Structure Interactions, Flow-Sound Interactions, Flow-Induced Vibration & Noise*, pages 1–6, Toronto, Canada, 8–11 July 2018.
- L. Delcour, J. Peeters, J. Degroote, and J. Vierendeels. Fast computation of a smooth yarn's velocity in a main nozzle. In *7th European Conference on Computational Fluid Dynamics*, pages 1–12, Glasgow, United Kingdom, 11–15 June 2018.
- L. De Moerloose, J. Vierendeels, and J. Degroote. Effect of the liquid viscosity, wall wetting and mass flow rate on the flow through a horizontal U-bend subjected to an upwards flowing air/water-mixture. In *7th European Conference on Computational Fluid Dynamics*, pages 1–12, Glasgow, United Kingdom, 11–15 June 2018.
- T. Demeester, E.H. van Brummelen, J. Degroote, and J. Vierendeels. New techniques for solving the steady free surface flow problem. In *7th European Conference on Computational Fluid Dynamics*, pages 1–8, Glasgow, United Kingdom, 11–15 June 2018.
- J. Wauters, J. Degroote, and J. Vierendeels. Comparative study of transitional turbulence models for the prediction of high angle of attack and hysteresis behavior. In *7th European Conference on Computational Fluid Dynamics*, pages 1–12, Glasgow, United Kingdom, 11–15 June 2018.
- H. Dolfen, F. Bertocchi, M. Rohde, J. Vierendeels, and J. Degroote. Investigation of the gap vortex street in densely packed tube arrays in axial flow using CFD and experiments. In *7th European Conference on Computational Fluid Dynamics*, pages 1–12, Glasgow, United Kingdom, 11–15 June 2018.
- S.K. Star, J. Degroote, J. Vierendeels, G. Van den Eynde, and F. Belloni. Reduced order modelling using a POD-based identification method for parameterized PDEs. In *7th European Conference on Computational Fluid Dynamics*, pages 1–10, Glasgow, United Kingdom, 11–15 June 2018.
- G. Santo, M. Peeters, W. Van Paepengem, and J. Degroote. Analysis of the aerodynamic loads on a wind turbine in off-design conditions. In *7th European Conference on Computational Fluid Dynamics*, pages 1–12, Glasgow, United Kingdom, 11–15 June 2018.
- T. Demeester, J. Degroote, and J. Vierendeels. A novel fitting method for steady free surface flow. In *20th Numerical Towing Tank Symposium (NuTTS)*, pages 1–6, Wageningen, the Netherlands, 1–3 October 2017.
- R. Haelterman, A. Bogaers, J. Degroote, and S. Cracana. Coupling of partitioned physics codes with quasi-newton methods. In *25th International MultiConference of Engineers and Computer Scientists*, page 1, Hong Kong, 15–17 March 2017.
- B. Ameel, H. Huisseune, J. Degroote, Ö. Bagci, J. Vierendeels, and M. De Paepe. Comparison between metal foam and finned tube heat exchangers for HVAC applications. In *12th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics*, pages 1731–1736, Costa del Sol, Spain, 11–13 July 2016.
- J. De Ridder, K. Van Tichelen, J. Degroote, and J. Vierendeels. Vortex-induced vibrations by axial flow in a bundle of cylinders. In *11th International Conference on Flow-Induced Vibration*, pages 1–8, The Hague, The Netherlands, 4–6 July 2016.

- D. Zeinali, G. Agarwal, A. Gupta, G. Maragkos, R. Ning, M. Chaos, Y. Wang, T. Beji, J. Degroote, and B. Merci. Computational analysis of pyrolysis and flame spread for MDF panels placed in a corner configuration. In *8th International Seminar on Fire and Explosion Hazards*, pages 1–10, Hefei, China, 25–28 April 2016.
- I. Papes, J. Degroote, and J. Vierendeels. Dynamic model for the performance prediction of a twin screw expander in an ORC. In *3rd International Seminar on ORC Power Systems*, pages 1–9, Brussels, Belgium, 12–14 October 2015.
- H.J. Doolaard, K. Van Tichelen, S. Keijers, J. De Ridder, J. Degroote, E. Merzari, P. Fischer4, A. Shams, J. Vierendeels, and F. F. Roelofs. CFD benchmark for a heavy liquid metal fuel assembly. In *16th International Topical Meeting on Nuclear Reactor Thermalhydraulics*, page 11, Chicago, IL, United States of America, 30 August–4 September 2015.
- B. Ameel, J. Degroote, H. Huisseune, J. Vierendeels, and M. De Paepe. Investigation of the splitting of louvers for a louvered fin and tube heat exchanger. In *17th IAHR International Conference on Cooling Tower and Heat Exchanger*, pages 1–7, Gold Coast, Queensland, Australia, 7–11 August 2015.
- A.M. Bavo, G. Rocatello, J. Degroote, J. Vierendeels, and P. Segers. FSI simulation of bioprosthetic aortic valves: Comparison between IB and ALE for the mesh representation. In *4th International Conference on Computational & Mathematical Biomedical Engineering*, pages 1–4, Cachan, France, 29 June–1 July 2015.
- B. Trachet, J. Bols, J. Degroote, B. Verhegge, N. Stergiopoulos, J. Vierendeels, and P. Segers. Aortic hemodynamics in mice: setting up an animal-specific fluid-structure interaction model. In *4th International Conference on Computational & Mathematical Biomedical Engineering*, pages 1–4, Cachan, France, 29 June–1 July 2015.
- D. Zeinali, T. Beji, G. Maragkos, J. Degroote, and B. Merci. Experimental study of upward and lateral flame spread on MDF boards in corner configurations. In *2nd European Symposium on Fire Safety Science*, pages 35–40, Nicosia, Cyprus, 16–18 June 2015.
- J. De Ridder, J. Degroote, O. Doaré, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Simulation and analysis of fluid-elastic instabilities of a single rod in axial flow. In *14th International Congress on Advances in Nuclear Power Plants*, pages 1–11, Nice, France, 3–6 May 2015.
- B. Ameel, J. Degroote, H. Huisseune, J. Vierendeels, and M. De Paepe. Fin efficiency in x-shaped louvered fins. In *15th International Heat Transfer Conference*, pages 1–10, Kyoto, Japan, 10–15 August 2014.
- I. Papes, J. Degroote, and J. Vierendeels. Analysis of a twin screw expander for ORC systems using computational fluid dynamics with a real gas model. In *22nd International Compressor Engineering Conference*, pages 1–10, West Lafayette, IN, United States of America, 14–17 July 2014.
- B. Ameel, J. Degroote, H. Huisseune, J. Vierendeels, and M. De Paepe. Performance screening of a louvered fin and vortex generator combination. In *10th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics*, pages 1–5, Orlando, FL, United States of America, 14–26 July 2014.
- B. Ameel, H. Huisseune, J. Degroote, and M. De Paepe. On the comparison between compound louvered-vortex generator fins and X-shaped louvered fins. In *Eurotherm Seminar 96 on Convective Heat Transfer Enhancement*, pages 1–6, Brussels, Belgium, 17–18 September 2013.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Wind-structure interaction simulations of wind induced ovaling vibrations in silo groups. In *European-African Conference on Wind Engineering*, pages 1–8, Cambridge, United Kingdom, 7–11 July 2013.
- T. Beji, J. Degroote, and B. Merci. Parametric numerical analysis of fire-induced pressure variations in a well-confined and mechanically ventilated compartment. In *European Combustion Meeting*, pages 1–6, Lund, Sweden, 25–28 June 2013.

- J. Hillewaere, J. Degroote, A. Rezayat, S. Vanlanduit, G. Lombaert, J. Vierendeels, and G. Degrande. Numerical investigation of wind induced ovaling vibrations in silo groups. In *4th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering*, pages 1–19, Kos Island, Greece, 12–14 June 2013.
- S. Kubacki, J. Rokicki, E. Dick, J. Degroote, and J. Vierendeels. Hybrid RANS/LES of plane jets impinging on a flat plate at small nozzle-plate distances. In *20th Fluid Mechanics Conference*, pages 1–17, Gliwice, Poland, 17–20 September 2012.
- J. Degroote, M. Hojjat, E. Stavropoulou, R. Wüchner, and K.-U. Bletzinger. Partitioned solution of the unsteady adjoint equations for a strongly coupled fluid-structure interaction problem. In *6th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–18, Vienna, Austria, 10–14 September 2012.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. CFD prediction of aerodynamic pressures on silo surfaces to investigate wind induced ovaling vibrations. In *6th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–18, Vienna, Austria, 10–14 September 2012.
- J. De Ridder, J. Degroote, K. Van Tichelen, and J. Vierendeels. Partitioned simulation of long and slender cylinders corresponding to nuclear fuel rods vibrating in axial flow. In *6th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–10, Vienna, Austria, 10–14 September 2012.
- S. Annerel, L. Taelman, J. Bols, T. Claessens, J. Degroote, P. Segers, P. Verdonck, and J. Vierendeels. Analysis of the clinical performance of an aortic BMHV by numerical simulation. In *6th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–8, Vienna, Austria, 10–14 September 2012.
- B. Ameel, J. Degroote, C. T'Joen, J. Vierendeels, and M. De Paepe. Optimization of a louvered fin heat exchanger with individually variable louver angles. In *9th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics*, pages 1–5, St. Julian's, Malta, 16–18 July 2012.
- A. Nila, S. Vanlanduit, S. Vepa, D. Van Nuffel, W. Van Paepengem, J. Degroote, and J. Vierendeels. High speed particle image velocimetry measurements during water entry of rigid and deformable bodies. In *16th International Symposium on Applications of Laser Techniques to Fluid Mechanics*, pages 1–11, Lisbon, Portugal, 9–12 July 2012.
- J. Degroote, M. Hojjat, E. Stavropoulou, R. Wüchner, and K.-U. Bletzinger. Partitioned solution of the unsteady adjoint equations for the one-dimensional flow in a flexible tube. In *10th World Congress on Computational Mechanics*, pages 1–18, São Paulo, Brazil, 8–13 July 2012.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Computational prediction of wind induced vibrations in silo groups using 2D and 3D CFD simulations. In *10th World Congress on Computational Mechanics*, pages 1–10, São Paulo, Brazil, 8–13 July 2012.
- S. Kubacki, J. Rokicki, E. Dick, J. Degroote, and J. Vierendeels. Hybrid RANS/LES of plane jets impinging on a flat plate at small nozzle-plate distances. In *9th National Congress on Theoretical and Applied Mechanics*, pages 1–11, Brussels, Belgium, 9–11 May 2012.
- J. De Ridder, J. Degroote, K. Van Tichelen, and J. Vierendeels. Numerical simulation of long and slender cylinders vibrating in axial flow applied to the MYRRHA reactor. In *9th National Congress on Theoretical and Applied Mechanics*, pages 1–4, Brussels, Belgium, 9–11 May 2012.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Investigation of wind induced vibrations of silos using 2D and 3D CFD simulations. In *9th National Congress on Theoretical and Applied Mechanics*, pages 1–10, Brussels, Belgium, 9–11 May 2012.
- J. Bols, J. Degroote, B. Trachet, P. Segers, B. Verhegge, and J. Vierendeels. A computational method to assess initial stresses and unloaded configuration of patient-specific blood vessels. In *5th International Conference on Advanced Computational Methods in Engineering*, pages 1–10, Liège, Belgium, 14–17 November 2011.

- L. Taelman, J. Degroote, A. Swillens, J. Vierendeels, and P. Segers. Pulse wave analysis of grid and time step converged fluid-structure interaction calculations. In *5th International Conference on Advanced Computational Methods in Engineering*, pages 1–10, Liège, Belgium, 14–17 November 2011.
- J. Hillewaere, J. Degroote, G. Lombaert, J. Vierendeels, and G. Degrande. Wind induced ovaling vibrations in silo groups. In *5th International Conference on Advanced Computational Methods in Engineering*, pages 1–10, Liège, Belgium, 14–17 November 2011.
- J. Alexander, J. Degroote, and J. Vierendeels. Simulation and optimization of an axial impedance pump. In *ECCOMAS Conference on Simulation and Modeling of Biological Flows*, pages 1–11, Brussels, Belgium, 21–23 September 2011.
- A. Nila, S. Vanlanduit, S. Vepa, D. Van Nuffel, W. Van Paepengem, J. Degroote, and J. Vierendeels. High speed particle image velocimetry measurements during water entry of rigid bodies. In *9th International Symposium on Particle Image Velocimetry*, pages 1–5, Kobe, Japan, 21–23 July 2011.
- S. Annerel, J. Degroote, T. Claessens, S. Dahl, B. Skallerud, L.R. Hellevik, P. Van Ransbeeck, P. Segers, P. Verdonck, and J. Vierendeels. A strong FSI coupling scheme for simulating BMHV dynamics: study of wall shear stress on the valve leaflets. In *8th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries*, pages 1–10, Trondheim, Norway, 21–23 June 2011. SINTEF/NTNU.
- J. Degroote, I. Couckuyt, J. Vierendeels, P. Segers, and T. Dhaene. Inverse modelling of an aneurysm's elasticity using surrogate-based optimization of a three-dimensional fluid-structure interaction simulation. In *ECCOMAS Conference on CFD & Optimization*, pages 1–16, Antalya, Turkey, 23–25 May 2011.
- A. Swillens, L. Lovstakken, J. Degroote, J. Vierendeels, and P. Segers. Integrating computational biomechanics and ultrasound simulations to improve ultrasonic visualization and quantification of arterial mechanics. In P. Nithiarasu and R. Löhner, editors, *2nd International Conference on Mathematical and Computational Biomedical Engineering*, pages 1–4, Washington D.C., United States of America, 30 March–1 April 2011.
- S. Annerel, J. Degroote, T. Claessens, P. Van Ransbeeck, P. Segers, P. Verdonck, and J. Vierendeels. The influence of the upstream boundary condition in the numerical simulation of the opening of an aortic BMHV. In P. Nithiarasu and R. Löhner, editors, *2nd International Conference on Mathematical and Computational Biomedical Engineering*, pages 1–4, Washington D.C., United States of America, 30 March–1 April 2011.
- A. Swillens, J. Degroote, L. Lovstakken, P. Segers, and J. Vierendeels. Improving ultrasonic imaging of the vascular wall and blood flow using a multiphysics simulation tool integrating fluid-structure interaction and ultrasound simulations. In *IEEE International Ultrasonics Symposium*, pages 1–4, San Diego, California, United States of America, 11–14 October 2010.
- P. Rauwoens, J. Degroote, S. Wasan, J. Vierendeels, and B. Merci. Simulations of upward flame spread by coupling a pyrolysis model with a CFD calculation. In *12th International Conference on Fire Science and Engineering (Interflam)*, pages 1575–1580, Nottingham, United Kingdom, 5–7 July 2010.
- J. Degroote, S. Annerel, and J. Vierendeels. The influence of the structural model on the stability of coupling iterations in partitioned fluid-structure interaction simulations. In *5th European Conference on Computational Fluid Dynamics*, pages 1–16, Lisbon, Portugal, 14–17 June 2010.
- S. Annerel, J. Degroote, and J. Vierendeels. Numerical simulation of a 3D bileaflet mechanical heart valve: FSI coupling algorithm. In *5th European Conference on Computational Fluid Dynamics*, pages 1–11, Lisbon, Portugal, 14–17 June 2010.
- P. Rauwoens, J. Degroote, S. Wasan, J. Vierendeels, and B. Merci. Simulation of upward flame spread by coupling a pyrolysis model with a CFD calculation. In *5th European Conference on Computational Fluid Dynamics*, pages 1–12, Lisbon, Portugal, 14–17 June 2010.

- P. Rauwoens, J. Degroote, S. Wasan, J. Vierendeels, and B. Merci. Upward flame spread simulations by coupling an enthalpy-based pyrolysis model with CFD. In *6th International Seminar on Fire and Explosion Hazards*, pages 241–251, Leeds, United Kingdom, 11–16 April 2010.
- C. Blommaert, W. Van Paepegem, P. Dhondt, G. De Backer, J. Degrieck, J. De Rouck, M. Vantorre, J. Van Slycken, I. De Baere, H. De Backer, J. Degroote, J. Vierendeels, P. De Pauw, S. Matthys, and L. Taerwe. Large scale slamming tests on composite buoys for wave energy applications. In *17th International Conference on Composite Materials*, pages 1–3, Edinburgh, United Kingdom, 27–31 July 2009.
- J. Degroote, C. Blommaert, R. Haelterman, W. Van Paepegem, and J. Vierendeels. Partitioned simulation of the impact of a deformable composite structure on a water surface. In *3rd International Conference on Computational Methods for Coupled Problems in Science and Engineering*, pages 1–4, Ischia, Italy, 8–11 June 2009.
- S. Annerel, J. Degroote, and J. Vierendeels. A fluid-structure interaction algorithm for the simulation of a bileaflet prosthetic heart valve. In *8th National Congress on Theoretical and Applied Mechanics*, pages 1–5, Brussels, Belgium, 28–29 May 2009.
- S.K. Dahl, J. Vierendeels, J. Degroote, S. Annerel, B. Skallerud, and L.R. Hellevik. A fluid-structure interaction algorithm for the implicit coupling of the motion of two rigid mitral leaflets. In *5th National Conference on Computational Mechanics*, pages 1–14, Trondheim, Norway, 26–27 May 2009. ISBN: 978-8-251-92421-4.
- J. Degroote, R. Haelterman, S. Annerel, and J. Vierendeels. Coupling techniques for partitioned fluid-structure interaction simulations with blackbox solvers. In *10th MpCCI User Forum*, pages 1–10, Sankt Augustin, Germany, 17–18 February 2009.
- J. Degroote, R. Haelterman, S. Annerel, A. Swillens, P. Segers, and J. Vierendeels. An interface quasi-Newton algorithm for partitioned simulation of fluid-structure interaction. In *International Workshop on Fluid-Structure Interaction: Theory, Numerics and Applications*, pages 55–64, Herrsching am Ammersee, Germany, 29 September–1 October 2008 2009. Kassel University Press. ISBN: 978-3-89958-666-4.
- P. Bruggeman, J. Degroote, J. Vierendeels, and C. Leys. DC electrical breakdown between a metal electrode and a water surface. In *17th International Conference on Gas Discharges and their Applications*, pages 1–4, Cardiff, United Kingdom, 7–12 September 2008.
- J. Degroote, P. Bruggeman, R. Haelterman, and J. Vierendeels. Fluid-structure interaction coupling techniques based on sensitivities. In M. Papadrakakis and B. H. V. Topping, editors, *6th International Conference on Engineering Computational Technology*, pages 1–20, Athens, Greece, 2–5 September 2008. Civil-Comp Press. Paper 8, doi: 10.4203/ccp.89.8, ISBN: 978-1-905088-26-3.
- P. Bruggeman, J. Degroote, C. Leys, and J. Vierendeels. Electrical discharges in the vapor phase in liquid-filled capillaries. In *4th International Workshop on Microplasmas*, pages 1–5, Tainan, Taiwan, 28–31 October 2007.
- P. Bruggeman, E. Ribezl, J. Degroote, J. Vierendeels, and C. Leys. Plasma characteristics and electrical breakdown between metal and water electrodes. In *14th International Conference on Plasma Physics and Applications*, pages 1–4, Brasov, Romania, 14–18 September 2007.
- P. Bruggeman, J. Degroote, C. Leys, and J. Vierendeels. Plasma characteristics in air and vapor bubbles in water. In *28th International Conference on Phenomena in Ionized Gases*, pages 1–4, Prague, Czech Republic, 15–20 July 2007.
- P. Bruggeman, T. Verreycken, J. Degroote, J. Vierendeels, and C. Leys. Electrical discharges with a water electrode. In *3rd International Congress on Cold Atmospheric Pressure Plasmas: Sources and Applications*, pages 1–4, Ghent, Belgium, 10–13 July 2007.
- J. Degroote, J. Vierendeels, and E. Dick. Numerical simulation of bubble and droplet dynamics using partitioned solvers. In P. Wesseling, E. Oñate, and J. Périoux, editors, *4th European Conference on Computational Fluid Dynamics*, pages 1–17, Egmond aan Zee, The Netherlands, 5–8 September 2006. TU Delft. ISBN: 90-9020970-0.

J. Degroote and J. Vierendeels. Simulation of bubble growth and detachment with implicitly coupled partitioned solvers using a reduced order model. In *Euromech Colloquium 479: Numerical Simulation of Multiphase Flow with Deformable Interfaces*, pages 1–4, Scheveningen, The Netherlands, 14–16 August 2006.

J. Degroote, J. Vierendeels, and E. Dick. Calculation of the motion of a fluid-gas interface with partitioned solvers using a reduced order model. In *7th National Congress on Theoretical and Applied Mechanics*, pages 1–4, Mons, Belgium, 29–30 May 2006.

Abstracts in proceedings of conferences

N. Pynaert, M. Notable, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Geometry-resolved aero-servo-elastic simulation of an airborne wind energy system. In *7th Symposium on Fluid-Structure-Sound Interactions and Control*, pages 1–2, Oshawa, Canada, 27–31 July 2025.

V.R. Nambiar, A. Shadmani, D. Fauconnier, J. Degroote, and W. De Waele. Blade leading edge erosion protection: a high-speed rain droplet impact pressure and damage evolution in hyper-viscoelastic material. In *Wind Energy Science Conference (WESC)*, pages 1–4, Nantes, France, 25–27 June 2025.

H. Renders, T. Haas, N. Pynaert, and J. Degroote. High-fidelity aerodynamic analysis of multi-kite airborne wind energy systems. In *Wind Energy Science Conference (WESC)*, pages 1–3, Nantes, France, 25–27 June 2025.

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Towards aero-servo-elastic simulations of airborne wind energy systems using geometry-resolved computational fluid dynamics. In *Wind Energy Science Conference (WESC)*, pages 1–3, Nantes, France, 25–27 June 2025.

M. Notable, N. Pynaert, J. Wauters, G. Crevecoeur, and J. Degroote. Geometry-resolved cfd model with moving control surfaces for aerodynamic derivatives of an airborne wind energy system. In *Wind Energy Science Conference (WESC)*, pages 1–3, Nantes, France, 25–27 June 2025.

J. Degroote. Analysis of quasi-Newton methods for partitioned solution of coupled problems with nonlinearity in the secant conditions. In *11th International Conference on Coupled Problems in Science and Engineering*, page 1, Villasimius, Italy, 26–29 May 2025.

D. Di Cristofaro, A. Frangi, J. Degroote, and M. Cremonesi. An in-depth comparison of one-phase and two-phase fluid-structure interaction approaches for hydrofoil performance evaluation. In *11th International Conference on Coupled Problems in Science and Engineering*, page 1, Villasimius, Italy, 26–29 May 2025.

K. Ceusters, M. Iarmonov, K. Makhov, J. Pacio, T. Verstraete, and J. Degroote. Vibration prediction of a rotating structure submerged in a dense fluid by fluid-structure interaction. In *11th International Conference on Coupled Problems in Science and Engineering*, page 1, Villasimius, Italy, 26–29 May 2025.

V. Van Riet, W. Beyne, and J. Degroote. Meshing challenges during partitioned simulation of constrained melting. In *11th International Conference on Coupled Problems in Science and Engineering*, page 1, Villasimius, Italy, 26–29 May 2025.

J. Degroote, N. Delaissé, T. Spenke, and N. Hosters. Recent advances in quasi-Newton methods for partitioned simulation of fluid-structure interaction. In *5th International Conference on Computational Engineering*, page 1, Darmstadt, Germany, 30 September–2 October 2024. Keynote speaker.

J. Degroote and H. Dolfen. Development of a methodology to quantify the distribution of vibration frequency and damping for submerged elastic structures. In *16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics*, page 1, Vancouver, Canada, 21–26 July 2024.

N. Hosters, T. Spenke, N. Delaissé, and J. Degroote. On the number of subproblem iterations per coupling step and monitoring convergence in partitioned fluid-structure interaction

simulations. In *16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics*, page 1, Vancouver, Canada, 21–26 July 2024.

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Aero-servo simulations using a geometry-resolved CFD model of an airborne wind energy system. In *10th Airborne Wind Energy Conference*, page 1, Madrid, Spain, 24–26 April 2024.

T. Haas, N. Pynaert, and J. Degroote. Aerodynamic analysis of an airborne wind energy system in turbulent wind conditions. In *10th Airborne Wind Energy Conference*, page 1, Madrid, Spain, 24–26 April 2024.

S. D'hoedt, M. Notable, H. Renders, N. Pynaert, T. Haas, and J. Degroote. Multi-component overset simulations of airborne wind energy systems. In *10th Airborne Wind Energy Conference*, page 1, Madrid, Spain, 24–26 April 2024.

J. Degroote and N. Delaissé. Combining simplified models and iteration data to accelerate quasi-Newton coupling algorithms. In *Advances in Computational Mechanics (ACM 2023) - Computational Fluid-Structure Interaction: Frontiers in Methods and Applications (CFSI)*, page 1, Austin, TX, United States of America, 22–25 October 2023.

A. Bral, L. Daelemans, and J. Degroote. Characterizing a yarn's mechanical behaviour on microscale level using a high-fidelity geometrical fiber model. In *Highly Flexible Slender Structures*, pages 1–2, Rijeka, Croatia, 25–29 September 2023.

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Unsteady aerodynamic simulations of an airborne wind energy system in realistic flight and environmental conditions using computational fluid dynamics. In *19th EAWE PhD Seminar*, page 1, Hannover, Germany, 6–8 September 2023.

M. Vervaecke, D. Fauconnier, and J. Degroote. Fluid-structure interaction modeling of dry wire drawing by coupling openfoam models of lubricant film and metal wire. In *18th OpenFOAM Workshop*, pages 1–3, Genua, Italy, 11–14 July 2023.

J. Degroote, M. Schulte, and N. Hosters. Recent developments in quasi-newton techniques for partitioned simulation of coupled problems. In *10th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, page 1, Chania, Island of Crete, Greece, 5–7 June 2023.

A. Balasubramanya, L. Gheysen, N. Famaey, J. Degroote, and P. Segers. Fluid-structure interaction simulations in an idealized model of the dissected aorta: relation between false lumen pressure and outflow via side branches. In *Summer Biomechanics, Bioengineering and Biotransport Conference*, pages 1–2, Vail, CO, United States of America, 4–8 June 2023.

S. Vandenbulcke, T. De Pauw, F. Dewaele, J. Degroote, and P. Segers. Computational fluid dynamics study to investigate the impact of venous volume changes on cerebrospinal fluid pressure and flow. In *Summer Biomechanics, Bioengineering and Biotransport Conference*, pages 1–2, Vail, CO, United States of America, 4–8 June 2023.

T. Haas, N. Pynaert, and J. Degroote. Turbulence-induced unsteady aircraft aerodynamics with application to airborne wind energy. In *Wind Energy Science Conference*, page 1, Glasgow, United Kingdom, 23–26 May 2023.

N. Pynaert, T. Haas, J. Wauters, G. Crevecoeur, and J. Degroote. Unsteady aerodynamic simulations of an airborne wind energy reference system in realistic flight conditions using computational fluid dynamics. In *Wind Energy Science Conference*, page 1, Glasgow, United Kingdom, 23–26 May 2023.

A. Balasubramanya, P. Segers, J. Degroote, J. Vastmans, L. Maes, M. Pierlinck, F. Rega, and N. Famaey. Fluid-structure interaction of simplified ross procedure as stepping stone in a fluid-structure-growth framework of arterial tissues. In *9th World Congress of Biomechanics*, page 1, Taipei, Taiwan, 10–14 July 2022.

L. Gheysen, L. Maes, M. Peirlinck, J. Degroote, N. Famaey, and P. Segers. Biomechanical wall thickness and stiffness uncertainty quantification in a pre-stretched model of the dissected aorta. In *9th World Congress of Biomechanics*, page 1, Taipei, Taiwan, 10–14 July 2022.

- P. Havaej, J. Degroote, and D. Fauconnier. Thermal modelling strategies for TEHL of line contacts using CFD-FSI. In *7th World Tribology Congress*, page 1, Lyon, France, 10–15 July 2022.
- N. Pynaert, J. Wauters, G. Crevecoeur, and J. Degroote. High fidelity fluid-structure interaction of a multi-megawatt airborne wind energy reference system. In *9th Airborne Wind Energy Conference*, page 1, Milan, Italy, 22–24 June 2022.
- P. Havaej, J. Degroote, and D. Fauconnier. A numerical investigation of surface waviness effects on TEHL in line contacts. In *Nordtrib Conference*, page 1, Alesund, Norway, 14–17 June 2022.
- R. Poletti, L. Koloszar, M.A. Mendez, J. van Beeck, and J. Degroote. Comparison of low and high fidelity models for the analysis of flapping wing micro air vehicles. In *8th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Oslo, Norway, 5–9 June 2022.
- A. Balasubramanya, J. Vastmans, L. Maes, M. Pierlinck, P. Claus, F. Rega, J. Degroote, N. Famaey, and P. Segers. Fluid-structure interaction of simplified Ross procedure for assessment of in-vivo wall-shear stress dynamics. In *17th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease*, page 1, Rotterdam, the Netherlands, 21–22 April 2022.
- N. Delaissé, D. Fauconnier, and J. Degroote. Complementing black-box acceleration with surrogate information. In *3rd preCICE Workshop*, page 1, Stuttgart, Germany, 21–24 February 2022. online.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Simulating wind effects on ponded membrane structures. In *10th International Conference on Textile Composites and Inflatable Structures*, page 1, Munich, Germany, 13–15 September 2021. online.
- N. Boutet, R. Haelterman, and J. Degroote. Quasi-Newton optimization methods: combining multi-secant with symmetry. In *SIAM Conference on Optimization*, page 1, Spokane, WA, United States of America, 20–23 July 2021. online.
- N. Delaissé, T. Demeester, D. Fauconnier, and J. Degroote. Surrogate-based acceleration of the coupling of black-box solvers. In *6th EccoMas Young Investigators Conference*, page 1, Valencia, Spain, 7–9 July 2021. online, Invited talk.
- N.K. Narayanan, R. Wüchner, and J. Degroote. Coupling strategies for three phase coupling for the simulation of sloshing of ponding water on a flexible membrane due to wind excitation. In *9th International Conference on Coupled Problems in Science and Engineering*, page 1, Chia Laguna, Italy, 13–16 June 2021. online.
- N. Delaissé, D. Fauconnier, and J. Degroote. Surrogate-aided quasi-Newton techniques for fluid-structure interaction. In *9th International Conference on Coupled Problems in Science and Engineering*, page 1, Chia Laguna, Italy, 13–16 June 2021. online.
- N. Pynaert, J. Wauters, G. Crevecoeur, and J. Degroote. Computational fluid dynamics simulations of a multi-megawatt airborne wind energy reference system. In *3rd Wind Energy Science Conference*, page 1, Hannover, Germany, 25–28 May 2021. online.
- S.K. Star, G. Stabile, G. Rozza, and J. Degroote. Model order reduction for buoyancy-aided turbulent flow of a low Prandtl number fluid over a backward-facing step. In *14th World Congress on Computational Mechanics/8th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Paris, France, 11–15 January 2021. online.
- T. Demeester, E.H. van Brummelen, and J. Degroote. Combining black-box techniques with analytical models in quasi-Newton methods. In *14th World Congress on Computational Mechanics/8th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Paris, France, 11–15 January 2021. online.
- A. Balasubramanya, J. Degroote, L. Gheysen, N. Famaey, and P. Segers. CFD study of type-B aortic dissections with flap motion: proof of concept of overset meshing. In *19th National Day on Biomedical Engineering*, page 1, Brussels, Belgium, 27 November 2020. online.

- L. Gheysen, J. Degroote, N. Famaey, and P. Segers. Assessing modeling assumptions in structural analysis of type b aortic dissections: a study in idealized models. In *Virtual Physiological Human Conference*, page 2, Paris, France, 24–28 August 2020. online.
- N. Boutet, R. Haelterman, and J. Degroote. Secant update penalized Powell-Symmetric-Broyden. In *8th International Conference on System Modeling and Optimization*, page 1, Barcelona, Spain, 12–15 February 2020.
- H. Dolfen, J. De Ridder, L. Brockmeyer, E. Merzari, G. Kennedy, K. Van Tichelen, and J. Degroote. One-way FSI simulation of a wire-wrapped fuel rod. In *1st International Seminar on Fluid-Structure Interaction Modelling for Nuclear Fuel Assemblies*, page 1, Aix-en-Provence, France, 3–4 February 2020.
- K. Star, G. Stabile, S. Georgaka, F. Belloni, G. Rozza, and J. Degroote. Finite volume-based POD-Galerkin reduced order model for boundary control of unsteady natural convection. In *5th International Workshop on Reduced Basis, POD and PGD Model Reduction Techniques*, page 1, Paris, France, 20–22 November 2019.
- F. Canè, G. De Santis, A. Redaelli, P. Segers, and J. Degroote. Influence of ventricular torsion on left ventricular hemodynamics: a patient-specific model using the chimera technique. In *16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering*, page 1, New York City, NY, United States of America, 14–16 August 2019.
- F. Canè, M. Selmi, G. De Santis, A. Redaelli, P. Segers, and J. Degroote. Patient-specific modeling of the left ventricular hemodynamics using the chimera overset mesh technique. In *Summer Biomechanics, Bioengineering and Biotransport Conference*, pages 1–2, Seven Springs, PA, United States of America, 25–28 June 2019.
- K. Star, G. Stabile, S. Georgaka, F. Belloni, G. Rozza, and J. Degroote. Reduced order CFD modeling for uncertainty quantification. In *3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering*, page 1, 24–26 June 2019.
- H. Dolfen, F. Bertocchi, M. Rohde, and J. Degroote. Fluid-structure interaction simulations of the vibrations of a 7-pin rod bundle induced by a gap vortex street. In *8th International Conference on Computational Methods for Coupled Problems in Science and Engineering*, page 1, Sitges, Spain, 3–5 June 2019.
- F. Canè, G. De Santis, J. Degroote, and P. Segers. Does left ventricular torsion affect intraventricular fluid dynamics? In *17th National Day on Biomedical Engineering*, page 1, Brussels, Belgium, 30 November 2018.
- J. Wauters and J. Degroote. Multi-objective optimization of the stall characteristics of an unmanned aerial vehicle. In *5th European Conference on Computational Optimization*, page 1, Trier, Germany, 10–12 September 2018.
- T. Demeester, E.H. van Brummelen, J. Vierendeels, and J. Degroote. Calculation of a steady water surface using deforming grids and fluid-structure interaction techniques. In *13th World Congress on Computational Mechanics*, page 1, New York City, NY, United States of America, 22–27 July 2018.
- P. Segers, J. Degroote, and J. Vierendeels. Fluid-structure interaction in cardiovascular biomechanics: yes (because) we can? In *8th World Congress of Biomechanics*, page 1, Dublin, Ireland, 8–12 July 2018.
- F. Canè, J. Degroote, G. De Santis, and P. Segers. Impact of left ventricular torsion on flow dynamics: a CFD modeling study using the overset mesh method. In *8th World Congress of Biomechanics*, page 1, Dublin, Ireland, 8–12 July 2018.
- L. Delcour, J. Peeters, J. Vierendeels, and J. Degroote. Towards fast computation of a smooth yarn's velocity in air jet weaving looms. In *6th International Conference on Intelligent Textiles and Mass Customisation*, page 1, Ghent, Belgium, 16–18 October 2017.
- H. Dolfen, J. Wauters, J. Degroote, and J. Vierendeels. Uncertainty quantification of an unmanned aerial vehicle. In *Computational Modelling of Multi-Uncertainty and Multi-Scale Problems*, pages 1–2, Porto, Portugal, 12–14 September 2017.

- G. Santo, M. Peeters, W. Van Paepgem, and J. Degroote. Comparison between a chimera technique and sliding interfaces for fluid-structure interaction simulations of wind turbines. In *Wind Energy Science Conference*, page 1, Lyngby, Denmark, 26–29 June 2017.
- J. Degroote, A. Osman, B. Malengier, S. De Meulemeester, and J. Vierendeels. Comparison of fixed and deforming fluid grid approaches for simulation of fluid-structure interaction between yarn and supersonic flow. In *7th International Conference on Coupled Problems in Science and Engineering*, page 1, Rhodes Island, Greece, 12–14 June 2017.
- T. Demeester, J. Degroote, and J. Vierendeels. Stability analysis of a steady free surface flow calculation using the dynamic boundary condition for the surface update. In *7th International Conference on Computational Methods in Marine Engineering*, page 1, Nantes, France, 15–17 May 2017.
- J. Degroote, R. Haelterman, and J. Vierendeels. Partitioned solution of coupled problems using quasi-Newton methods. In *12th World Congress on Computational Mechanics*, page 1, Seoul, Korea, 24–29 July 2016.
- A.M. Bavo, A.M. Pouch, J. Degroote, J. Vierendeels, J.H. Gorman, R.C. Gorman, and P. Segers. Patient-specific CFD simulations of intraventricular haemodynamics based on 3D ultrasound imaging. In *2016 Summer Biomechanics, Bioengineering and Biotransport Conference*, pages 1–2, National Harbor, NH, United States of America, 29 June–2 July 2016.
- B. Ameel, J. Degroote, H. Huisseune, Ö. Bagci, J. Vierendeels, and M. De Paepe. Performance evaluation analysis of metal foam and flat tube heat exchangers for HVAC applications. In *7th European Thermal-Sciences Conference*, pages 1–2, Krakow, Poland, 19–23 June 2016.
- D. Zeinali, G. Agarwal, A. Gupta, G. Maragkos, N. Ren, M. Chaos, Y. Wang, T. Beji, J. Degroote, and B. Merci. A multistep computational analysis of pyrolysis and flame spread in corner configurations for MDF panels. In *9th International Conference on Structures in Fire*, pages 1–2, Princeton, NJ, United States of America, 8–10 June 2016.
- J. De Ridder, K. Van Tichelen, J. Degroote, and J. Vierendeels. Fluid-structure interaction in a cluster of cylinders exposed to axial flow: from low-order models to fully coupled CFD-CSM methods. In *7th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Crete Island, Greece, 5–10 June 2016.
- A. Osman, J. Degroote, and Vierendeels. Numerical optimisation of the supersonic flow acting on a cylinder in a nozzle. In *7th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Crete Island, Greece, 5–10 June 2016.
- G. Santo, M. Peeters, W. Van Paepgem, and J. Degroote. Transient modelling of the fluid-structure interaction of wind turbines with composite blades. In *7th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Crete Island, Greece, 5–10 June 2016.
- J. Wauters, J. Vierendeels, and J. Degroote. Optimization of the stall characteristics of an unmanned aerial vehicle using wing fences. In *7th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Crete Island, Greece, 5–10 June 2016.
- J. Degroote, R. Haelterman, and J. Vierendeels. Quasi-Newton techniques for the partitioned solution of coupled problems. In *7th European Congress on Computational Methods in Applied Sciences and Engineering*, page 1, Crete Island, Greece, 5–10 June 2016.
- D. Zeinali, G. Agarwal, A. Gupta, G. Maragkos, M. Chaos, T. Beji, J. Degroote, and B. Merci. A multistep computational analysis of pyrolysis and flame spread in corner configurations for MDF panels. In *8th FM Global Open Source CFD Fire Modeling Workshop*, pages 1–2, Norwood, MA, United States of America, 19–20 May 2016.
- J. Degroote, R. Haelterman, and J. Vierendeels. Solving time-dependent multi-physics problems using multiple instances of the same solvers. In *14th Copper Mountain Conference on Iterative Methods*, page 1, Copper Mountain, CO, United States of America, 20–25 March 2016.

- R. Haelterman, D. Van Eester, J. Degroote, and S.-F. Cracana. Does Anderson always accelerate Picard? In *14th Copper Mountain Conference on Iterative Methods*, page 1, Copper Mountain, CO, United States of America, 20–25 March 2016.
- P. Segers, L. Taelman, J. Degroote, and J. Vierendeels. Re-reflection of backward propagating waves leads to amplification of the forward pressure wave in wave separation analysis. In *Association for Research into Arterial Structure and Physiology Conference*, page 1, Krakow, Poland, 15–17 October 2015.
- A. Bavo, A.M. Pouch, J. Degroote, R.C. Gorman, and P. Segers. Patient-specific computational fluid dynamic simulation of intraventricular hemodynamics: introducing mitral valve motion as prescribed boundary condition. In *2nd Conference on Computational Fluid Dynamics in Medicine and Biology*, page 1, Albufeira, Portugal, 30 August–4 September 2015.
- P. Segers, L. Taelman, J. Degroote, J. Bols, and J. Vierendeels. Fluid-structure interaction models of aortic coarctation and repair: lessons to be learned for hemodynamic analysis. In *2nd Conference on Computational Fluid Dynamics in Medicine and Biology*, page 1, Albufeira, Portugal, 30 August–4 September 2015.
- D. De Wilde, B. Trachet, F. Iannaccone, A. Swillens, J. Degroote, J. Vierendeels, G.R.Y. De Meyer, and P. Segers. Hemodynamic assessment of the carotid bifurcation in atherosclerotic mouse model using FSI simulations. In *2nd Conference on Computational Fluid Dynamics in Medicine and Biology*, page 1, Albufeira, Portugal, 30 August–4 September 2015.
- O. Cadot, J. Degroote, J. De Ridder, L. Divaret, O. Doaré, P. Moussou, and J. Vierendeels. Fluid forces exerted on slender cylinders in a flow. In *3rd Fluid & Elasticity Conference*, page 1, Biarritz, France, 22–24 June 2015.
- D. De Wilde, B. Trachet, N. Debusschere, F. Iannaccone, A. Swillens, J. Degroote, J. Vierendeels, G.R.Y. De Meyer, and P. Segers. FSI simulations for the hemodynamic assessment of the carotid bifurcation in an atherosclerotic mouse model. In *2015 Summer Biomechanics, Bioengineering and Biotransport Conference*, page 2, Snowbird, UT, United States of America, 17–20 June 2015.
- J. De Ridder, J. Degroote, O. Doaré, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Fluid forces and fluid-elastic instabilities of straight and inclined clamped-clamped cylinders in turbulent axial flow. In *6th International Conference on Coupled Problems in Science and Engineering*, page 1, Venice, Italy, 18–20 May 2015.
- I. Hertens, J. De Ridder, J. Vierendeels, and J. Degroote. Fluid-structure interaction simulation of a slender body in a supersonic air flow. In *6th International Conference on Coupled Problems in Science and Engineering*, page 1, Venice, Italy, 18–20 May 2015.
- A. Swillens, A. Caenen, D. Shcherbakova, M. Pernot, B. Verheghe, J. Degroote, J. Vierendeels, and P. Segers. The role of multiphysics modeling in establishing a robust ultrasound-based cardiovascular risk assessment. In *2015 International Congress on Ultrasonics*, page 1, Metz, France, 10–14 May 2015.
- D. Zeinali, G. Maragos, T. Beji, J. Degroote, and B. Merci. Numerical study of pyrolysis and flame spread in corner configurations. In *7th FM Global Open Source CFD Fire Modeling Workshop*, page 1, Norwood, MA, United States of America, 6–7 May 2015.
- J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Large-eddy simulations of turbulence-induced vibration in annular flow. In *11th World Congress on Computational Mechanics/5th European Conference on Computational Mechanics/6th European Conference on Computational Fluid Dynamics*, pages 1–2, Barcelona, Spain, 20–25 July 2014.
- J. Hillewaere, J. Degroote, J. Vierendeels, G. Lombaert, and G. Degrande. Analysis of wind-induced vibrations in silo groups. In *11th World Congress on Computational Mechanics/5th European Conference on Computational Mechanics/6th European Conference on Computational Fluid Dynamics*, pages 1–2, Barcelona, Spain, 20–25 July 2014.
- A.M. Bavo, F. Iannaccone, J. Degroote, K. Cathenis, J. Vierendeels, and P. Segers. 3D fluid-structure interaction simulations of a commercial bioprosthetic valve. In *11th World Congress*

on Computational Mechanics/5th European Conference on Computational Mechanics/6th European Conference on Computational Fluid Dynamics, pages 1–2, Barcelona, Spain, 20–25 July 2014.

L. Taelman, J. Bols, J. Degroote, J. Panzer, V. Muthurangu, J. Vierendeels, and P. Segers. Impact of the severity and stiffness of repaired coarctation on central aortic hemodynamics and its clinical assessment: a fluid-structure interaction study. In *7th World Conference on Biomechanics*, page 1, Boston, MA, United States of America, 6–11 July 2014.

L. Taelman, J. Bols, J. Degroote, V. Muthurangu, J. Panzer, J. Vierendeels, and P. Segers. Insights into the effect of local stiffness and residual narrowing on central hemodynamics seen in repaired aortic coarctation: a computational study. In *4th International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease*, page 1, Paris, France, 21–22 May 2014.

L. Taelman, J. Bols, J. Degroote, V. Muthurangu, S. Panzer, J. Vierendeels, and P. Segers. Evaluating the hemodynamic impact of isolated non-distensibility and residual narrowing after coarctation repair using a computational study. In *Association for Research into Arterial Structure and Physiology Conference*, page 1, London, United Kingdom, 17–19 October 2013.

I. Papes, J. Degroote, and J. Vierendeels. Numerical simulation of an oil injected twin screw expander for small scale ORC systems. In *2nd International Seminar on ORC Power Systems*, pages 1–4, Rotterdam, The Netherlands, 7–8 October 2013.

J. De Ridder, J. Degroote, K. Van Tichelen, P. Schuurmans, and J. Vierendeels. Calculating the modal characteristics of a flexible structure in turbulent flow. In *5th GACM Colloquium on Computational Mechanics*, page 1, Hamburg, Germany, 30 September–2 October 2013.

L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. The potential of sub-cycling to speed up fluid-structure interaction simulations. In *5th International Conference on Computational Bioengineering*, page 1, Leuven, Belgium, 11–13 September 2013.

A. Swillens, L. Lovstakken, J. Degroote, J. Vierendeels, and P. Segers. Multiphysics modeling to support the development of vascular ultrasound imaging. In *5th International Conference on Computational Bioengineering*, page 1, Leuven, Belgium, 11–13 September 2013.

L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Performance of cardiovascular fluid-structure interaction simulations using sub-cycling. In *19th Congress of the European Society of Biomechanics*, page 1, Patras, Greece, 25–28 August 2013.

J. Bols, G. De Santis, J. Degroote, B. Verhegge, P. Segers, and J. Vierendeels. Improved/extended method to auto-generate high-quality hexahedral meshes of complex vascular trees. In *19th Congress of the European Society of Biomechanics*, page 1, Patras, Greece, 25–28 August 2013.

A.M. Bavo, L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Computational fluid dynamic approach to the contact problem in simulations of flexible leaflet heart valves. In *19th Congress of the European Society of Biomechanics*, page 1, Patras, Greece, 25–28 August 2013.

J. Degroote. Partitioned simulation of fluid-structure interaction. In *Spring Meeting Werkgemeenschap Scientific Computing*, page 1, Amsterdam, the Netherlands, 17 May 2013.

L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Temporal stability of the flow simulation in a flexible artery using different time integration schemes and time step sizes for the fluid and the structure. In *11th Belgian Day on Biomedical Engineering*, page 1, Brussels, Belgium, 7 December 2012.

J. Degroote, M. Hojjat, E. Stavropoulou, R. Wüchner, and K.-U. Bletzinger. Partitioned solution of the unsteady adjoint equations for a one-dimensional fluid-structure interaction problem. In *37th Woudschoten Conference*, page 1, Zeist, the Netherlands, 3–5 October 2012. Poster, **Best poster award**.

L. Taelman, J. Degroote, J. Vierendeels, and P. Segers. Stability analysis of different combinations of time-integration schemes in fluid-structure interaction simulations. In *6th*

European Congress on Computational Methods in Applied Sciences and Engineering, pages 1–2, Vienna, Austria, 10–14 September 2012.

P.R. Leinan, T. Kiserud, J. Degroote, and L.R. Hellevik. Vessel geometry impact on the velocity profile in the human fetal ductus venosus umbilical vein bifurcation. In *10th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering*, page 1, Berlin, Germany, 11–14 April 2012.

L.R. Hellevik, P.R. Leinan, T. Kiserud, and J. Degroote. FSI simulation of the velocity profile in the human fetal ductus venosus. In *1st International Conference on Computational Fluid Dynamics in Medicine and Biology*, page 1, Dead Sea, Israel, 25–30 March 2012.

J. Bols, B. Trachet, J. Degroote, G. De Santis, B. Verhegge, P. Segers, and J. Vierendeels. A numerical model of the aorta of a mouse: A first step towards life-saving treatment. In *10th Belgian Day on Biomedical Engineering*, page 1, Brussels, Belgium, 2 December 2011.

L. Taelman, J. Degroote, J. Bols, V. Muthurangu, S. Panzer, A. Swillens, J. Vierendeels, and P. Segers. Predicting the functional impact of residual aortic coarctation lesions during exercise using advanced computer model simulations. In *10th Belgian Day on Biomedical Engineering*, page 1, Brussels, Belgium, 2 December 2011.

S. Annerel, T. Claessens, J. Bols, L. Taelman, J. Degroote, P. Van Ransbeeck, P. Segers, P. Verdonck, and J. Vierendeels. Anatomically realistic geometrical boundary conditions for the numerical FSI simulation of an aortic BMHV. In *5th International Conference on Advanced Computational Methods in Engineering*, page 1, Liège, Belgium, 14–17 November 2011.

V. Stratigaki, P. Troch, and J. Degroote. Numerical modelling of wake effects of a farm of wave energy converters: computational performance evaluation. In *5th International Conference on Advanced Computational Methods in Engineering*, page 1, Liège, Belgium, 14–17 November 2011.

L. Taelman, J. Degroote, J. Bols, V. Muthurangu, S. Panzer, A. Swillens, J. Vierendeels, and P. Segers. Predicting the functional impact of residual aortic coarctation lesions during exercise using advanced computer model simulations. In *Association for Research into Arterial Structure and Physiology Conference*, page 1, Paris, France, 13–15 October 2011.

A. Swillens, L. Lovstakken, J. Degroote, G. De Santis, J. Vierendeels, and P. Segers. In-vivo assessment of the accuracy of carotid strain estimates derived from ultrasonic wall tracking. In *Association for Research into Arterial Structure and Physiology Conference*, page 1, Paris, France, 13–15 October 2011. Poster.

J. Bols, L. Taelman, J. Degroote, and J. Vierendeels. Study of a membrane pump by simulating its fluid-structure interaction in a partitioned way. In *Physiological Fluid Mechanics Conference: The Cardiovascular System*, page 1, Uxbridge, United Kingdom, 14–15 July 2011.

L. Taelman, J. Degroote, A. Swillens, J. Vierendeels, and P. Segers. Fluid-structure interaction (FSI) simulation of wave travel and reflection in simplified models of the aorta. In *Physiological Fluid Mechanics Conference: The Cardiovascular System*, page 1, Uxbridge, United Kingdom, 14–15 July 2011.

J. Degroote and J. Vierendeels. Partitioned simulation of fluid-structure interaction: towards multi-solver and multi-level algorithms. In *Munich Multiphysics Meeting, Munich Centre of Advanced Computing (MAC) Summer Workshop*, page 1, Munich, Germany, 13 July 2011. **Invited talk.**

J. Bols, B. Trachet, J. Degroote, G. De Santis, P. Mortier, B. Verhegge, P. Segers, and J. Vierendeels. Structural simulation of a mouse-specific abdominal aorta. In *Summer Bioengineering Conference*, pages 1–2, Farmington, PA, United States of America, 22–25 June 2011. ASME.

L. Taelman, J. Degroote, S. Swillens, J. Vierendeels, and P. Segers. Analysis of aortic wave travel and reflection using advanced modeling methods in simplified geometries. In *Summer Bioengineering Conference*, pages 1–2, Farmington, PA, United States of America, 22–25 June 2011. ASME.

- L. Taelman, J. Degroote, S. Swillens, J. Vierendeels, and P. Segers. Pulse propagation and wave reflection in arteries: new insights using advanced modeling methods. In *21st Meeting of the European Society of Hypertension*, page 1, Milan, Italy, 17–20 June 2011.
- P. Rauwoens, J. Degroote, J. Vierendeels, and B. Merci. Coupling of a pyrolysis model with CFD for flame spread simulations in case of fire. In *10th COMBURA Symposium*, pages 63–64, Maastricht, The Netherlands, 12–13 October 2010.
- S. Annerel, J. Degroote, and J. Vierendeels. Evaluation of a new implicit coupling algorithm for the partitioned fluid-structure interaction simulation of bileaflet mechanical heart valves. In *6th International Conference on Computational Fluid Dynamics*, pages 1–2, St. Petersburg, Russia, 12–16 July 2010.
- K. Vepa, W. Van Paepgem, J. Degroote, and J. Vierendeels. Numerical investigation of deformable composite structures under slamming loads. In *2nd European Seminar on Coupled Problems*, page 90, Pilsen, Czech Republic, 28 June–2 July 2010.
- S. Annerel, J. Degroote, and J. Vierendeels. Numerical simulation of a 3D bileaflet mechanical heart valve using fluid-structure interaction. In *4th European Conference on Computational Mechanics*, pages 1–2, Paris, France, 16–21 May 2010.
- P. Rauwoens, J. Degroote, J. Vierendeels, and B. Merci. Simulation of flame spread along vertically oriented combustible surfaces. In *21st Journées de Études of the Belgian Section of the Combustion Institute*, pages 1–2, Liège, Belgium, 10–11 May 2010.
- A. Swillens, J. Degroote, J. Vierendeels, L. Lovstakken, and P. Segers. Investigating ultrasonic assessment of wall shear stress via coupled fluid-structure interaction and ultrasound simulations. In *5th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease*, page 43, Rotterdam, The Netherlands, 15–16 April 2010.
- J. Vierendeels, J. Degroote, R. Haelterman, and P. Bruggeman. Pseudo-compressibility method versus Aitken and ROM coupling for FSI in flexible tubes. In *International Workshop on Fluid-Structure Interaction: Theory, Numerics and Applications*, pages 1–2, Herrsching am Ammersee, Germany, 29 September–1 October 2008.
- J. Degroote, R. Haelterman, P. Bruggeman, and J. Vierendeels. Comparison of partitioned fluid-structure interaction techniques with black box solvers. In *International Workshop on Fluid-Structure Interaction: Theory, Numerics and Applications*, pages 1–2, Herrsching am Ammersee, Germany, 29 September–1 October 2008.
- P. Bruggeman, J. Degroote, R. Rego, J. Vierendeels, and C. Leys. Characteristics of DC excited discharges in water. In *19th Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases*, pages 1–2, Granada, Spain, 15–19 July 2008.
- P. Bruggeman, J. Degroote, J. Vierendeels, and C. Leys. DC excited plasma with dielectric covered metal electrode in water. In *10th European High Temperature Plasma Processes Conference*, page 1, Patras, Greece, 7–11 July 2008.
- J. Vierendeels, J. Degroote, R. Haelterman, and P. Bruggeman. Stability issues of implicit coupling methods for partitioned solvers in biomechanical applications. In *5th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–2, Venice, Italy, 30 June–5 July 2008. ECCOMAS.
- J. Degroote, P. Bruggeman, R. Haelterman, K. Willcox, and J. Vierendeels. Influence of the time step on the stability of the coupling iterations in a partitioned fluid-structure interaction simulation. In *5th European Congress on Computational Methods in Applied Sciences and Engineering*, pages 1–2, Venice, Italy, 30 June–5 July 2008. ECCOMAS.
- P. Bruggeman, J. Degroote, J. Vierendeels, and C. Leys. Characteristics of the different plasma regimes of discharges with water cathodes. In *35th IEEE International Conference on Plasma Science*, page 1, Karlsruhe, Germany, 15–19 June 2008.
- J. Degroote, P. Bruggeman, R. Haelterman, and J. Vierendeels. Bubble simulations with an interface tracking technique based on a partitioned fluid-structure interaction algorithm. In *4th International Conference on Advanced Computational Methods in Engineering*, page 1, Liège, Belgium, 26–28 May 2008.

- R. Haelterman, J. Degroote, J. Vierendeels, and D. Van Heule. Extending Broyden's method to interaction problems. In *International Conference Semicentennial "Tiberiu Popoviciu" Institute of Numerical Analysis*, page 1, Cluj-Napoca, Romania, 7–10 May 2008.
- R. Haelterman, J. Degroote, D. Van Heule, and J. Vierendeels. A new quasi-Newton secant method for arbitrary black-box linear problems. In *9th IMACS International Symposium on Iterative Methods in Scientific Computing*, page 1, Lille, France, 17–20 March 2008.
- P. Bruggeman, E. Ribezi, J. Degroote, J. Vierendeels, and C. Leys. Electrical discharges with liquid cathode. In *5th Technological Plasma Workshop*, page 1, Belfast, United Kingdom, 18–19 December 2007.
- P. Bruggeman, J. Degroote, C. Leys, and J. Vierendeels. Plasma characteristics and electrical breakdown in bubbles. In *10th Euregional Workshop on the Exploration of Low Temperature Plasma Physics*, page 1, Kerkrade, The Netherlands, 15–16 November 2007.
- J. Vierendeels, J. Degroote, L. Lanoye, and P. Verdonck. Convergence acceleration of fluid-structure interaction calculation with partitioned solvers based on reduced order modeling. In *2nd GACM colloquium on Computational Mechanics*, page 41, Munich, Germany, 10–12 October 2007.
- J. Vierendeels, J. Degroote, L. Lanoye, and P. Verdonck. Convergence acceleration of coupled problems with partitioned solvers. In *7th Enumath Conference*, pages 57–58, Graz, Austria, 10–14 September 2007.

Other publications

- J. Degroote. Partitioned fluid-structure interaction simulations using openfoam. In *8th FrenchBelgian OpenFOAM Users Conference*, Sint-Genesius-Rode, Belgium, 15–16 April 2025. Keynote speaker.
- J. Degroote, T. Haas, and N. Pynaert. Fluid-structure interaction simulations in wind energy. Seminar U.S. Association for Computational Mechanics (USACM) Energy & Earth System Technical Thrust Area, 15 April 2024. Invited talk, online.
- P. Havaej, J. Degroote, and D. Fauconnier. Poster: Advanced CFD-FSI modeling of 3D smooth TEHL line contacts. In *FEARS Research Symposium*, Ghent, Belgium, 26 October 2023.
- J. Degroote. Gradient- and surrogate-based identification of the stiffness of a tube with internal flow using fluid-structure interaction simulations. School for Simulation and Data Science (SSD) Seminar, 9 January 2023. Invited talk, Aachen, Germany.
- J. Degroote and N. Delaissé. Quasi-Newton methods for partitioned simulation of fluid-structure interaction. Seminar at Zienkiewicz Centre for Computational Engineering, 22 September 2022. Invited talk, Swansea, United Kingdom.
- J. Degroote. Partitioned fluid-structure interaction simulations with multiphase flow in a circular pipe. Recent Advances in MultiphasE flow-induced vibratioN (RAMEN) workshop of the MULTiphase Flow-induced Fluid-flexible structure InteractioN in Subsea applications (MUFFINS) project, 16–17 December 2020. Keynote speaker, Newcastle, United Kingdom.
- J. Wauters and J. Degroote. The drone age: Or, the postmodern prometheus, October 2020.
- J. Degroote. Short course on fluid-structure interaction. Chair of Structural Analysis, Technical University of Munich (TUM), 28–29 July 2011. PhD Seminar, Munich, Germany.
- J. Degroote. Partitioned simulation of fluid-structure interaction. Research Day of the Bavarian Graduate School of Computational Engineering, 14 July 2011. Invited talk, Munich, Germany.
- J. Degroote and J. Vierendeels. Strongly coupled fluid-structure interaction simulations with Ansys Fluent. Ansys User Group Meeting, 20 October 2010. Ter Hulpen, Belgium.
- J. Degroote and J. Vierendeels. Analysis and development of algorithms for the partitioned simulation of strongly coupled fluid-structure interaction problems. INRIA Meeting, 30 June 2010. Rocquencourt, France.

J. Degroote. Partitioned simulation of fluid-structure interaction. CASA Colloquium, Technische Universiteit Eindhoven (TUe), 3 February 2010. Invited talk, Eindhoven, The Netherlands.

J. Degroote and J. Vierendeels. Poster: Partitioned simulation of fluid-structure interaction. In *10th FirW PhD Symposium*, Ghent, Belgium, 9 December 2009.

J. Degroote and J. Vierendeels. Partitioned fluid-structure interaction with Fluent. Ansys User Group Meeting, 20 November 2008. Noordwijk aan Zee, The Netherlands.

J. Degroote and J. Vierendeels. Partitioned fluid-structure interaction. Workshop on FSI for Biomedical Applications at Norwegian University of Science and Technology (NTNU), 8-10 September 2008. Invited talk, Trondheim, Norway.

J. Degroote, P. Bruggeman, and J. Vierendeels. Poster: Stability analysis of the coupling iterations in fluid-structure interaction simulations. In *8th FirW PhD Symposium*, Ghent, Belgium, 5 December 2007.

J. Degroote. Adaptation of reduced-order models based on interpolation on a tangent space to a grassman manifold. Model Order Reduction Meeting at the Massachusetts Institute of Technology (MIT), 19 November 2007. Cambridge, MA, United States of America.

J. Degroote. Partitioned approach to numerical simulation of two-phase flow. Workshop on Two Phase Reacting Flows, 10-11 May 2007. Ghent, Belgium.

J. Degroote, J. Vierendeels, and E. Dick. Simulation of bubble dynamics with partitioned solvers. MuTEch Meeting, 1 February 2007. Leuven, Belgium.