Research outputs:

Bifurcation theory for vortices with application to boundary layer eruption
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Vorticity topology of vortex pair interactions at low Reynolds numbers
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Preface: Seventh International Symposium on Bifurcations and Instabilities in Fluid Dynamics (BIFD2017): Preface
Research output: Contribution to journal › Editorial – Annual report year: 2018 › Research › peer-review

Canards in stiction: on solutions of a friction oscillator by regularization
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

On the approximation of the canard explosion point in singularly perturbed systems without an explicit small parameter
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Singular limit analysis of a model for earthquake faulting
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Sparse identification of a predator-prey system from simulation data of a convection model
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Topological bifurcations in the evolution of coherent structures in a convection model
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Topological fluid mechanics of the formation of the Kármán-vortex street
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Bifurcations of a creeping air–water flow in a conical container
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Patterns of a slow air-water flow in a semispherical container
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review
Sixth International Symposium on Bifurcations and Instabilities in Fluid Dynamics (BIFD2015): Foreword
Research output: Contribution to journal › Editorial – Annual report year: 2016 › Research › peer-review

Bifurcation Analysis of Structures in a Convection Model
Research output: Contribution to conference › Poster – Annual report year: 2015 › Research › peer-review

Codimension three bifurcation of streamline patterns close to a no-slip wall: A topological description of boundary layer eruption
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Extending the zero-derivative principle for slow–fast dynamical systems
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Mixed-Mode Oscillations Due to a Singular Hopf Bifurcation in a Forest Pest Model
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Predicting optimal back-shock times in ultrafiltration hollow fiber modules II: Effect of inlet flow and concentration dependent viscosity
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Vortex breakdown in a truncated conical bioreactor
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

5th International Symposium on Bifurcations and Instabilities in Fluid Dynamics (BIFD2013) Foreword
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

An Iterative Method for the Approximation of Fibers in Slow-Fast Systems
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Bifurcation Analysis and Dimension Reduction of a Predator-Prey Model for the L-H Transition
Research output: Contribution to journal › Poster – Annual report year: 2014 › Research

Mathematical modelling of dextran filtration through hollow fibre membranes
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Predicting optimal back-shock times in ultrafiltration hollow fibre modules through path-lines
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Rotation reversal in a 1D turbulence spreading model
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Topology of helical fluid flow
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Vorticity generation and conservation for two-dimensional interfaces and boundaries
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

An iterative method for the canard explosion in general planar systems
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review
Bifurcation and instability problems in vortex wakes
Research output: Contribution to journal › Conference article – Annual report year: 2007 › Research › peer-review

Hopf Bifurcation, Trends, Cycles, Square Waves, and Chaos in Economic Growth Models with Time Delays
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2007 › Research › peer-review

Point Vortex Models of Bluff Body Wakes
Research output: Contribution to journal › Conference article – Annual report year: 2007 › Research › peer-review

Proceedings of the Second International Symposium on Instability and Bifurcations in Fluid Dynamics
Research output: Book/Report › Book – Annual report year: 2007 › Research › peer-review

Streamline topology in the near wake of a circular cylinder at moderate Reynolds numbers
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Streamline topology: Patterns in fluid flows and their bifurcations
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

The influence of imperfections on the flow structure of steady vortex breakdown bubbles
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Bifurcation of Vortex Breakdown Patterns in a Circular Cylinder with two Rotating Covers
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Mixed Mode Oscillations due to the Generalized Canard Phenomenon
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2006 › Research › peer-review

Streamline Patterns and their Bifurcations near a wall with Navier slip Boundary Conditions
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Vortex Breakdown Generated by off-axis Bifurcation in a cylinder with rotating covers
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Structures and Bifurcations in Fluid Flows with Applications to Vortex Breakdown and Wakes

Relaxation oscillations and canard in a nonlinear model of discontinuous plastic deformation in metals at very low temperature
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

Streamline patterns and their bifurcations near a wall with Navier boundary conditions
Research output: Book/Report › Report – Annual report year: 2005 › Research › peer-review

Bifurcation of vortex breakdown patterns
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2004 › Research › peer-review

Relaxation oscillations and canards in a nonlinear model for discontinuous plastic deformation in metals at very low temperatures
Streamline topology of the near wake of a circular cylinder at low Reynolds numbers
Research output: Contribution to conference > Poster – Annual report year: 2004 > Research > peer-review

Canard explosion in a model for discontinuous plastic deformation
Research output: Chapter in Book/Report/Conference proceeding > Article in proceedings – Annual report year: 2004 > Research > peer-review

Low-dimensional modeling of a driven cavity flow with two free parameters
Research output: Contribution to journal > Journal article – Annual report year: 2003 > Research > peer-review

Bifurcation to Infinity, Canards, and Chaotic Waves In Cubic Autocatalator Kinetics
Research output: Book/Report > Report – Annual report year: 2001 > Research > peer-review

Explosion of limit cycles and chaotic waves in a simple nonlinear chemical system
Research output: Contribution to journal > Journal article – Annual report year: 2001 > Research > peer-review

Streamline Patterns and their Bifurcations using Methods from Dynamical Systems
Research output: Chapter in Book/Report/Conference proceeding > Book chapter – Annual report year: 2001 > Research > peer-review

Topology of vortex Breakdown bubbles in a cylinder with rotating bottom and Free surface
Research output: Contribution to journal > Journal article – Annual report year: 2001 > Research > peer-review

Evaluation of POD-based decomposition techniques applied to parameter-dependent non-turbulent flows
Research output: Contribution to journal > Journal article – Annual report year: 2000 > Research > peer-review

Streamline topologies near simple degenerate critical points in two-dimensional flow away from boundaries
Research output: Contribution to journal > Journal article – Annual report year: 1999 > Research > peer-review

Streamline topology of steady axisymmetric vortex breakdown in a cylinder with co- and counter-rotating end-covers
Research output: Contribution to journal > Journal article – Annual report year: 1999 > Research > peer-review

Evaluation of POD-based decomposition techniques applied to parameter-dependent non-turbulent flows

On stagnation points and streamline topology in vortex flows
Research output: Contribution to journal > Journal article – Annual report year: 1998 > Research > peer-review

Streamline topologies near simple degenerate critical points in two-dimensional flow away from boundaries

Streamline topology of steady axisymmetric vortex breakdown in a cylinder with co- and counter-rotating end-covers

Topological fluid mechanics of Axisymmetric Flow
Research output: Chapter in Book/Report/Conference proceeding > Article in proceedings – Annual report year: 1998 > Research > peer-review

Circle maps and the Devil's staircase in a periodically perturbed Oregonator
Research output: Contribution to journal > Journal article – Annual report year: 1997 > Research > peer-review
Local and global bifurcations at infinity in models of glycolytic oscillations
Research output: Contribution to journal › Journal article – Annual report year: 1997 › Research › peer-review

On Stagnation points and streamline topology in vortex flows
Research output: Book/Report › Report – Annual report year: 1997 › Research › peer-review

Progress in Industrial Mathematics at ECMI 96
Research output: Book/Report › Book – Annual report year: 1997 › Research › peer-review

Streamline topology of axisymmetric flows
Research output: Book/Report › Report – Annual report year: 1997 › Research › peer-review

Circle Maps and the Devil's Staircase in a Chemical Oscillator
Research output: Book/Report › Report – Annual report year: 1996 › Research › peer-review

Coriolis Effects in the Dynamics of a Rotating Elastic Structure
Research output: Contribution to journal › Journal article – Annual report year: 1996 › Research › peer-review

Dynamics of a Simple Rotating Structure
Research output: Contribution to journal › Journal article – Annual report year: 1996 › Research › peer-review

Introduction to Dynamics, Supplementary Notes 0211/1743
Research output: Book/Report › Book – Annual report year: 1996 › Research › peer-review

Topological Fluid Mechanics of Axisymmetric Flows
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1996 › Research

Topological Fluid Mechanics of Axisymmetric Flows
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 1996 › Research

Topological Fluid Mechanics with Applications to Free Surfaces and Axisymmetric Flows
Research output: Contribution to journal › Journal article – Annual report year: 1996 › Research › peer-review

Topological fluid dynamics of interfacial flows
Research output: Contribution to journal › Journal article – Annual report year: 1994 › Research › peer-review

Projects:

On the Accuracy in Measurements of Time Intervals and Traffic Intensities with Application to Teletraffic and Simulation.
Project: PhD

Operations Research in Production Planning - Interconnections between Production and Demand.
Project: PhD

Methods for Control of Complex Dynamics Systems.
Project: PhD
ECOSYSTEMS - An Operational Research Approach  
Project: PhD

Topology of Exotic Wakes  
Project: PhD

Hvirveledynamik og strømningstopologi  
Project: PhD

Topologisk Fluid Dynamik: Bifurkationer og strukturer i strømninger  
Project: PhD

Hæmodynamisk modelering af hjertet  
Project: PhD

Simulering og identifikation af strukturer i komplexe fluidstrømninger  
Project: PhD

Bedømmelse af den atmosfæriske turbulens over områder af varierende overfladetype  
Project: PhD

Selv-organiserede processer og kohærente strukturer i kontinuumsystemer  
Project: PhD

Bifurkationsstrukturer i kobled nonlinear oscillatorer med særlig henblik på biologiske systemer  
Project: PhD

Laminar-turbulent omslag i roterende strømning  
Project: PhD

From non-smooth to smooth - on regularization using slow-fast theory  
Project: PhD

Aircraft, Bifurcation and Control  
Project: PhD

Endelig-dimensionale dynamiske systemer i fluid mekanik  
Project: PhD

Nonlinear Fluid -  
Project: PhD

Osmotically driven flows in micro and nanofluidic systems and their applications to sugar transport in plants  
Project: PhD

Fluid Dynamics of Animal Locomotion  
Project: PhD

Design af digitale optiske filter  
Project: PhD
Topology Optimization in Micro- and Nanofluidic Systems
Project: PhD

Topological fluid dynamics: Symmetry breaking and fluid interfaces
Project: PhD

Matematisk modellering af membranseparation
Project: PhD

Analysis of Body-Vortex Interactions
Project: PhD

Dynamical Systems Approach to L-H Transition in Magnetically Confined Plasma
Project: PhD

Homoclinic Bifurcation to Infinity
Project: Research

Reduction methods for Partial Differential Equations
Project: Research

Bifurcation in Chemical Systems
Project: Research

Stagnation Points in Point Vortex Flows
Project: Research

Three-dimensional topology of the vortex breakdown
Project: Research

Second International Symposium on Bifurcations and Instabilities in Fluid Dynamics
Project: Research

Applied topological fluid mechanics: Bioreactors and bluff body wakes
Project: Research

Maciej Krupa
Project: Research

Topological Fluid Mechanics
Project: Research

Dynamics of Plane Euler Elastica
Project: Research

European Consortium for Mathematics in Industry (ECMI)
Project: Research

Activities: