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: 2017 › 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 › Editorial – 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
Dam, M., Brøns, M., Juul Rasmussen, J., Naulin, V. & Xu, G., 2014. 1 p.
Research output: Contribution to conference › 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 analysis and dimension reduction of a predator-prey model for the L-H transition
Dam, M., Brøns, M., Juul Rasmussen, J., Naulin, V. & Xu, G., 2013, In : Physics of Plasmas. 20, 10, p. 102302
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Recent progress in the relative equilibria of point vortices — In memoriam Hassan Aref
Beelen, P., Brøns, M., Krishnamurthy, V. S. & Stremler, M. A., 2013, In : I U T A M. Procedia. 7, p. 3-12
Research output: Contribution to journal › Conference article – Annual report year: 2013 › Research › peer-review

Vorticity generation and wake transition for a translating circular cylinder: Wall proximity and rotation effects
Research output: Contribution to journal › Journal article – Annual report year: 2013 › 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: 2012 › Research › peer-review

Bilinear Relative Equilibria of Identical Point Vortices
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Statistical modelling of the interplay between solute shape and rejection in porous membranes
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Canard explosion of limit cycles in templator models of self-replication mechanisms
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review
Stabilization of vortices in the wake of a circular cylinder using harmonic forcing
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Bifurcation analysis in a vortex flow generated by an oscillatory magnetic obstacle
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Canards and mixed-mode oscillations in a forest pest model
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Continuation of Sets of Constrained Orbit Segments
Schilder, F., Brøns, M., Chamoun, G. C. & Dankowicz, H., 2010
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2010 › Research

Topology of vortex creation in the cylinder wake
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Dye visualization near a three-dimensional stagnation point: application to the vortex breakdown bubble
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Experimental vortex breakdown topology in a cylinder with a free surface
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

A coaxial vortex ring model for vortex breakdown
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Introduction to focus issue: Mixed mode oscillations: Experiment, computation, and analysis
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Two-vortex model for vortex breakdown
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › 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
Relaxation oscillations and canards in a nonlinear model for discontinuous plastic deformation in metals at very low temperatures
Research output: Book/Report › Report – Annual report year: 2004 › Research › peer-review

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: 2003 › 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
Brøns, M. & Sturis, J., 2001
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
Christensen, E. A., Brøns, M. & Sørensen, J. N., 1998
Research output: Book/Report › Report – Annual report year: 1998 › Research › peer-review
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
Research output: Book/Report › Report – Annual report year: 1998 › Research › peer-review

Streamline topology of steady axisymmetric vortex breakdown in a cylinder with co- and counter-rotating end-covers
Research output: Book/Report › Report – Annual report year: 1998 › Research › peer-review

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
Aref, H. & Brøns, M., 1997
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
Brøns, M., 1997, MAT, DTU.
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
Brøns, M., Hjorth, P. G. & Kliem, W., 1996, In : Zeitschrift fuer Angewandte Mathematik und Mechanik. 76, 6, p. 75-76
Research output: Contribution to journal › Journal article – Annual report year: 1996 › Research › peer-review

Introduction to Dynamics, Supplementary Notes 0211/1743
Brøns, M., 1996
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
Brøns, M., 1996, In : Zeitschrift fuer Angewandte Mathematik und Mechanik. 76, 5, p. 73-74
Research output: Contribution to journal › Journal article – Annual report year: 1996 › Research › peer-review

Topological fluid dynamics of interfacial flows
Brøns, M., 1994, In : Physics of Fluids. 6, 8, p. 2730-2737
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.
Iversen, V. B. & Brøns, M.
01/04/1968 → 15/12/1976
Project: PhD

Operations Research in Production Planning - Interconnections between Production and Demand.
Vidal, R. V. V. & Brøns, M.
01/02/1969 → 28/05/1971
Project: PhD

Methods for Control of Complex Dynamics Systems.
Drud, A. & Brøns, M.
01/08/1973 → 20/04/1977
Project: PhD

ECOSYSTEMS - An Operational Research Approach
Beyer, J. & Brøns, M.
15/12/1976 → 15/12/1976
Project: PhD

Topology of Exotic Wakes
Nielsen, A. R., Brøns, M. & Heil, M.
Forskningsrådshansfinansiering
01/09/2017 → 31/08/2020
Project: PhD

Hvirveldynamik og strømningstopologi
Andersen, M., Brøns, M., Bohr, T., Kanso, E. & Stremler, M. A.
Technical University of Denmark
01/08/2010 → 22/11/2013
Project: PhD
Topologisk Fluid Dynamik: Bifurkationer og strukturer i strømninger
Bisgaard, A. V., Brøns, M., Sørensen, J. N., Sørensen, M. P., Krupa, M., Ottesen, J. T. & Krupa, M.
DTU-lønnet stipendie
01/02/2002 → 02/01/2006
Project: PhD

Hæmodynamisk modellering af hjertet
Adeler, P. T., Barker, V. A., Larsen, J. K., Thomsen, P. G., Brøns, M., Verdonck, P. & Grisen, G.
Innovationsfonden
01/08/1997 → 15/01/2002
Project: PhD

Simulering og identifikation af strukturer i komplexe fluidstrømninger
DTU stipendium
01/09/1996 → 26/03/2000
Project: PhD

Bedømmelse af den atmosfæriske turbulens over områder af varierende overfladetype
Falk, A. K. V., Brøns, M., Ditlevsen, O. D. & Heimburg, T.
Forskerakademiets Samfinansier
01/01/1996 → 08/07/1999
Project: PhD

Selv-organiserede processer og kohærente strukturer i kontinuumsystemer
Forskerakademiets Samfinansier
01/10/1994 → 15/04/1999
Project: PhD

Bifurkationsstrukturer i koblete ikke-lineære oscillatorer med særlig henblik på biologiske systemer
Knudsen, C., Mosekilde, E., Brøns, M. & Bohr, T.
Gammel ordning u/skema-SU
01/08/1991 → 17/06/1994
Project: PhD

Laminar-turbulent omslag i roterende strømning
Christensen, E. A., Brøns, M., Larsen, P. S. & Sørensen, J. N.
Gammel ordning u/skema-SU
01/07/1991 → 30/05/1994
Project: PhD

From non-smooth to smooth - on regularization using slow-fast theory
Technical University of Denmark
15/10/2014 → 13/12/2017
Project: PhD

Aircraft, Bifurcation and Control
Cromme, M., Brøns, M., Stoustrup, J., Jørgensen, S. B. & Perram-John, W.
DTU stipendium
01/12/1994 → 13/10/1998
Project: PhD

Endelig-dimensionale dynamiske systemer i fluid mekanik
Hartnack, J. N. & Brøns, M.
DTU stipendium
01/09/1996 → 29/09/1999
Nonlinear Fluid -
Jensen, J. S., Thomesen, J. J., Blekhman, I., Brøns, M. & Olhoff, N.
DTU stipendium
01/02/1996 → 21/06/1999
Project: PhD

Osmotically driven flows in micro and nanofluidic systems and their applications to sugar transport in plants
Jensen, K. H., Bruus, H., Bohr, T., Brøns, M., Eijkel, J. C. T. & Schulz, A.
DTU, Samfinansiering
01/08/2007 → 20/04/2011
Project: PhD

Fluid Dynamics of Animal Locomotion
DTU, Samfinansiering
15/08/2007 → 02/02/2011
Project: PhD

Design af digitale optiske filtre
Mikkelsen, C. I., Bruus, H., Hansen, M. F., Brøns, M., Rasmussen, J. J. & Schönfeld, F.
DTU-lønnet stipendie
01/02/2001 → 29/08/2005
Project: PhD

Topology Optimization in Micro- and Nanofluidic Systems
Gregersen, M. M., Bruus, H., Hansen, O., Brøns, M., Hardt, S. & Ramos Reyes, A.
DTU-lønnet stipendie
01/01/2006 → 20/05/2009
Project: PhD

Topological fluid dynamics: Symmetry breaking and fluid interfaces
Balci, A., Brøns, M., Henriksen, C., Hartnack, J. N. & Blackmore, D.
Stipendie fra udlandet
01/09/2012 → 19/11/2015
Project: PhD

Matematisk modellering af membranseparation
Vinther, F., Brøns, M., Meyer, A. S., Sørensen, M. P., Hassager, O., Jönsson, A. & Davis, R. H.
Technical University of Denmark
01/04/2010 → 20/03/2014
Project: PhD

Analysis of Body-Vortex Interactions
Technical University of Denmark
01/01/2008 → 30/03/2011
Project: PhD

Dynamical Systems Approach to L-H Transition in Magnetically Confined Plasma
Dam, M., Brøns, M., Naulin, V., Rasmussen, J. J., Sørensen, M. P., Garcia, O. E. & Jensen, M. H.
Technical University of Denmark
15/12/2013 → 17/01/2018
Project: PhD
Homoclinic Bifurcation to Infinity
Brøns, M. & Sturis, J.
01/01/1996 → …
Project: Research

Reduction methods for Partial Differential Equations
Brøns, M., Sørensen, J. N. & Christensen, E. A.
01/01/1996 → …
Project: Research

Bifurcation in Chemical Systems
Brøns, M. & Bar-Eli, K.
01/01/1996 → …
Project: Research

Stagnation Points in Point Vortex Flows
Brøns, M. & Aref, H.
01/01/1996 → …
Project: Research

Three-dimensional topology of the vortex breakdown
Brøns, M. & Spohn, A.
01/08/1997 → …
Project: Research

BIFD2006: Second International Symposium on Bifurcations and Instabilities in Fluid Dynamics
Brøns, M. & Sørensen, J. N.
Forskningsrådene - STVF
01/08/2006 → 31/03/2007
Project: Research

Applied topological fluid mechanics: Bioreactors and bluff body wakes
Brøns, M. & Hourigan, K.
Forskningsrådene - STVF
01/09/2006 → 06/03/2007
Project: Research

Maciej Krupa
Brøns, M.
Gaver, Private danske Fonde
18/09/2003 → 31/12/2004
Project: Research

Topological Fluid Mechanics
Brøns, M. & Hartnack, J. N.
01/01/1997 → …
Project: Research

Dynamics of Plane Euler Elastica
Gravesen, J., Brøns, M., Hjorth, P. G., Markvorsen, S. & Sinclair, R.
01/09/1997 → …
Project: Research

European Consortium for Mathematics in Industry (ECMI)
Sørensen, M. P., Poulsen, N. K., Brøns, M., Hjorth, P. G., Skovgaard, O. & Christensen, O.
01/01/1991 → …
Project: Research
Activities:

SIAM Conference on Applications of Dynamical Systems 2017
Morten Brøns (Participant), Kristian Uldall Kristiansen (Participant), Alan R. Champneys (Chairman), John Hogan (Chairman)
22 May 2017
Activity: Attending an event › Participating in or organising a conference