



2016

BURGERS SYMPOSIUM

Conference Centre 'De Werelt' in Lunteren

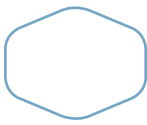
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JUNE

2016

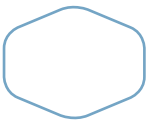


THURSDAY 16 JUNE

GENERAL PROGRAMME

Thursday 16 June 2016

10.00 - 11.00	Registration, coffee/tea
11.00 - 11.10	Plenary: opening (Prof. Hans van Duijn)
11.10 - 12.00	Plenary: Burgers Lecture by Prof. Jeroen van Beeck (VKI, Brussel)
12.00 - 13.00	Lunch
13.00 - 14.45	Parallel sessions : 1 Turbulence and 2 Flow with particles
14.45 - 15.15	Tea / coffee break
15.15 - 15.45	Plenary: pitches by first-year PhD students
15.45 - 17.30	Parallel sessions : 3 Multi-phase flow and 4 Biological systems
17.30	Drinks
Evening programme :	18.30 - 20.00 Joint dinner
	20.30 - 21.30 Plenary: After-dinner Lecture by Prof. John Videler (Groningen & Leiden)
	21.30 Socialising & drinks

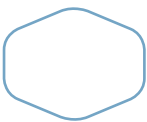


FRIDAY 17 JUNE

GENERAL PROGRAMME

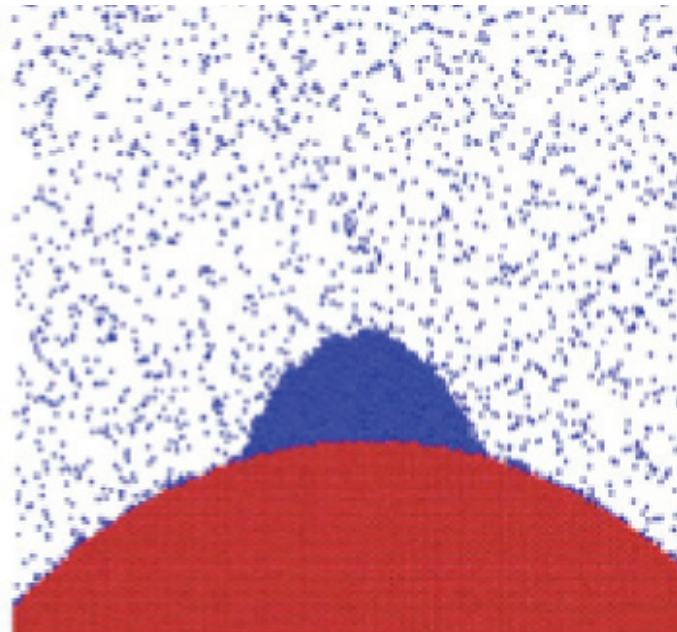
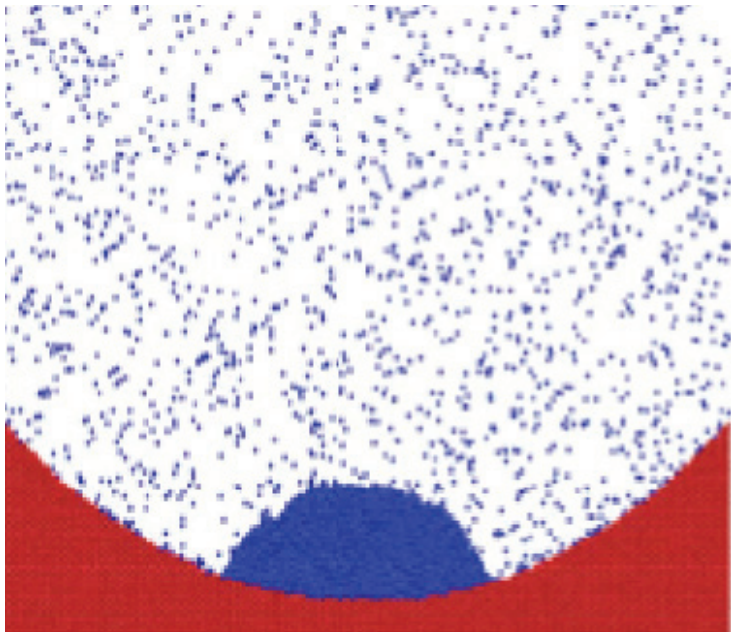
Friday 17 June 2016

09.00 - 10.30	Parallel sessions : 5 CFD Methods and 6 Flow with particles
10.30 - 11.00	Coffee / tea break
11.00 - 12.30	Parallel sessions : 7 Multi-phase flow and 8 Reacting flow
12.30 - 13.30	Lunch
13.30 - 15.00	Parallel sessions : 9 Turbulence and 10 Micro fluid-dynamical systems
15.00 - 15.20	Tea / coffee break
15.20 - 16.00	Plenary: Awards session
	Charles Hoogendoorn Award (KIVI)
	Laudatio by jury + presentation by recipient
	Leen van Wijngaarden Prize
	Laudatio by jury + presentation by recipient
	Announcement of the Young Scientist Awards
16.00	Closure & drinks



PARTICIPATING GROUPS

TUD-PE	3ME - Process & Energy Boersma
TUD-FM	3ME - Fluid Mechanics Westerweel, Henkes, Roekaerts, Eckhardt
TUD-TP	Chemical Technology - Transport Phenomena Kleijn, Mudde, vdAkker
TUD-AM	Applied Mathematics Vuik / Heemink
TUD-EFM	Civil Engineering & Geosciences - Environmental Fluid Mechanics Reniers, Uijttewaal, Pietrzak
UT-EFD	Mechanical Engineering - Engineering Fluid Dynamics Venner
UT-MMS	Mathematics - Multiscale Modelling & Simulation Geurts
UT-PCF	Science & Technology - Physics of Complex Fluids Mugele
UT-PoF	Science & Technology - Physics of Fluids Lohse, DvdMeer, Snoeijer, Versluis, Verzicco, Prosperetti
UT-SFI	Chemical Engineering - Soft Matter, Fluidics and Interfaces Lammertink
UT-TE	Engineering Technology - Thermal Engineering Th vdMeer
UT-MSM	Engineering Technology - Multi-Scale Modelling Luding
UT-WEM	Engineering Technology - Water Engineering Management Hulscher
TUE-CASA	Mathematics & Computer Science - Centre for Analysis, Scientific Computing & Applications Koren, Peletier
TUE-CPI	Chemical Engineering - Chemical Process Intensification van Sint Annaland
TUE-ET	Mechanical Engineering - Energy Technology van Brummelen, Smeulders, van Steenhoven
TUE-MMM	Chemical Engineering - Modelling of Multiphase Flows Kuipers
TUE-MRF	Mechanical Engineering - Multiphase and Reacting Flows Deen, de Goey, Kuerten
TUE-MS	Mechanical Engineering - MicroSystems den Toonder
TUE-MTP	Applied Physics - Mesoscopic Transport Phenomena Darhuber, Harting, Snoeijer
TUE-PP	Applied Physics - Plasma Physics Kroesen
TUE-WDY	Applied Physics - Vortex Dynamics & Turbulence Clercx, van Heijst, Toschi, Geurts
RUG-CMNM	Computational Mechanics & Numerical Mathematics Verstappen, Veldman
UU-IMAU	Institute of Marine and Atmospheric Research Utrecht Maas, Dijkstra
WUR-EZ	Wageningen University - Experimental Zoology van Leeuwen



13.00-14.45

THURSDAY 16 JUNE

1 TURBULENCE

J KOK (NLR)

Anne Engels - Uncertainty quantification for correlated inputs

TUE-CASA | Crommelin

Maurits Silvis - Physically consistent turbulence models for large-eddy simulation

RUG-CMNM | Verstappen

Felix Beckebanze - Internal wave beam damped by shear stress in two lateral boundary layers

UU-IMAU | Frank

Vamsi Spandan - Bubbly Taylor-Couette turbulence (numerics)

UT-PoF | Verzicco

Hadi Rajaei - Isotropy versus anisotropy at large and small scales in rotating convective turbulence

TUE-WDY | Clercx, Kunnen, Toschi

Henk Benschop - Drag reduction by herringbone riblet texture in Direct Numerical Simulations of turbulent channel flow

TUD-FM | Breugem

Xiaojuan Zhu - Taylor-Couette turbulence with rough walls (numerics)

UT-PoF | Verzicco

Maurice Hendriks - Modelling and experiments for by-pass pigging with speed control

TUD-FM | Breugem

15.45-17.30

THURSDAY 16 JUNE

3 MULTI-PHASE FLOW

J JANSSEN (UNILEVER)

Faraz Khatami - A novel approach for efficient and accurate computational use of multiphase thermodynamic tables

TUD-AM | Moeller

Ahad Zarghami - A comparative assessment of Lattice Boltzmann and Volume of Fluid approaches for generic multiphase problems

TUD-TP | Kenjeres

Paolo Cifani - High-order interface methods for simulating bubble dynamics in turbulent flow

UT-MMS | Geurts

Ramon Voncken - A numerical study of concentration polarization in fluidized bed membrane reactors

TUE-CPI | Roghair

Cees Haringa - Scale-down of industrial scale fermentors using Euler-Lagrange CFD: A penicillin case study

TUD-TP | Mudde

Ellen Norde - Eulerian method for in-engine icing in mixed phase and glaciated icing conditions

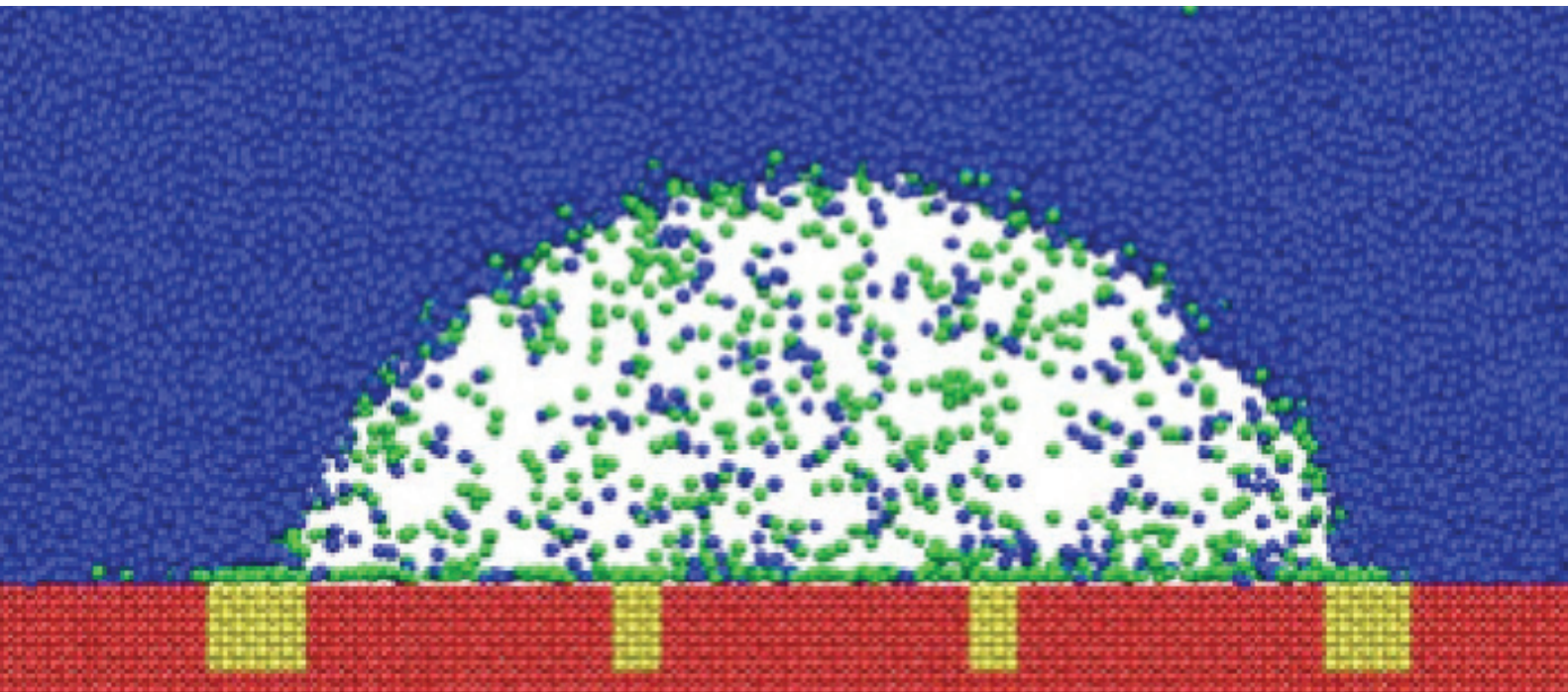
UT-EFD | Venner, vdWeide

Andries van Eckveld - Attenuation of whistling in vertical corrugated pipes by liquid addition

TUD-FM | Poelma

Anand Ashok - Stereoscopic PIV measurements in an axial cyclone

TUD-TP | Mudde



13.00-14.45

THURSDAY 16 JUNE

2 FLOW WITH PARTICLES

G ALBERTS (TNO)

Roy Sudeshna - Rheology of wet granular materials

UT-MSM | Weinhart

Rohit Maitri - Immersed-boundary direct numerical simulations of suspensions with solid particles

TUE-MMM | Padding, Peters

Palanisamy, D - Aggregation of spheres and rods with application towards flow batteries

UT-MSM | den Otter

Qingguang Xie - Capillary interactions and self-assembly of Janus particles at fluid interfaces

TUE-MTP | Harting

Rianne de Jong - Raindrop impact on sand

UT-PoF | DvdMeer

Dalila Vescovi - Merging fluid and solid granular behavior

UT-MSM | Luding

Bart Konijn - Modelling and numerical simulation of dense-phase dredging flows

UT-EFD | Kruyt

Varghese Mathai - Light particles in turbulence

UT-PoF | Sun, Lohse

15.45-17.30

THURSDAY 16 JUNE

4 BIOLOGICAL SYSTEMS

H REINTEN (OCE)

Francesca Tesser - Microfluidic experiments for bacteria growth under flow

TUE-WDY | Toschi, Clercx, Zeegers

Greta Quaranta - Synchronization of *Chlamydomonas* with a periodic background flow : the importance of intracellular coupling

TUD-FM | Tam

Cees Voesenek - Computation of 3D body kinematics, inverse dynamics and bending moments in free swimming larval zebrafish

WUR-EZ | vLeeuwen, Muijres

Hossein Eslami Amirabadi - Cancer intravasation on a chip

TUE-MS | den Toonder

Edo Frederix - Aerosol dynamics in the upper airways

UT-MMS | Geurts

Josje van Houwelingen - Vortices revealed: Swimming faster

TUE-WDY | Clercx, Kunnen, vdWater, vHeijst

Florian Muijres - Wing damage control in flying fruit flies

WUR-EZ | vLeeuwen

Alessandro Corbetta - A Langevin model for low density pedestrian dynamics

TUE-WDY | Toschi

09.00-10.30

FRIDAY 17 JUNE

5 CFD METHODS

M RIEPEN (ASML)

Ferdi van de Wetering - Plasmas & Flow: The importance of computational fluid dynamics

TUE-PP | Beckers

Gianluca di Staso - Speed-up of Monte Carlo gas flow simulations with Lattice Boltzmann Method

TUE-WDY | Clercx, Toschi

Michael Abdel Malik - Moment closure approximations of the Boltzmann equation based on ϕ -divergences

TUE-ET | vBrummelen

René Beltman - Energy-preserving cut cell methods

TUE-CASA | Koren, Anthonissen

Mahnaz Shokroulari - Simulation of elasto-capillary interactions of soft materials using diffuse interface models

TUE-ET | vBrummelen

Nikhil Kumar - Finite-volume flux scheme for the incompressible Navier-Stokes equations

TUE-CASA | ten Thije Boonkkamp

Lisa Wobbles - Modeling of geomechanical processes with MPM

TUD-AM | Vuik

11.00-12.30

FRIDAY 17 JUNE

7 MULTI-PHASE FLOW

G HOMMERSOM (DOW CHEMICAL)

Anupam Pandey - Inverted cheerios effect: Liquid drops attract or repel by elasto-capillarity

UT-PoF | Snoeijer, Karpitschka

Shauvik De - Instabilities in viscoelastic fluid flow in porous media

UT-MMM | Padding, Peters

Sander Wildeman - Exploding freezing droplets

UT-PoF | Sun, Lohse

Christian Diddens - Modeling the evaporation of sessile multi-component droplets

TUE-MRF | Kuerten

Michiel van Limbeek - Impact of droplets on superheated surfaces

UT-PoF | Sun, Lohse

Dennis van der Voort - The effect of microbubble cavitation on spray dispersion

TUE-WDY | vHeijst, Clercx, vdWater

Aditya Narayanan - Rheo-impedance of rheopectic carbon black suspensions; a two-timescale aggregation mechanism

UT-PCF | Duits, Mugele

13.30-15.00

FRIDAY 17 JUNE

9 TURBULENCE

T PEETERS (TATA STEEL)

Leandro de Santana - A Rapid Distortion Theory modified turbulence spectra for semi-analytical airfoil noise prediction

UT-EFD | Venner

Pedro Costa - Universal scaling laws for turbulent channel transport of neutrally-buoyant spheres

TUD-FM | -

Ashish Patel - Variable property effects in a turbulent channel flow

TUD-PE | Pecnik

Gijs Kooij - Simulation of Rayleigh-Bénard turbulence using high-order methods

UT-MMS | Geurts

Juriaan Peters - Near-wall turbulence attenuation due to fluctuating thermo-physical properties

TUD-PE | Boersma

Sander Haase - Heat and mass transfer near slippery surfaces: a forced convection problem

UT-SFI | Lammertink

Stefan Zammert - Stability and coherent structures of the asymptotic suction boundary layer over a heated plate

TUD-FM | Eckhardt

09.00-10.30

FRIDAY 17 JUNE

6 FLOW WITH PARTICLES

F VISSER (FLOWSERVE)

Ber Wedershoven - Controlled solution-deposition by modulating gas phase convection

TUE-MTP | Zeegers, Darhuber

Adeline Pons - Dramatic influence of the suspending fluid on the dynamic behavior of cornstarch suspensions

UT-PoF | DvdMeer

Leonardo Duarte - Laser particle counter validation for sand transport measurements using a high speed camera

UT-WEM | Wijnberg

Henk Seubers - Simulating interaction of multiple rigid bodies in free-surface flow

RUG-CMNM | Veldman

Geert Campmans - Modelling the influence of storm-related processes on sand wave dynamics: a linear stability approach

UT-WEM | Roos

Olga Kleptsova - High resolution tidal modelling of Baffin Bay and the Canadian Arctic Archipelago

TUD-EFM | Pietrzak

Angels Fernandez Mora - RANS simulations of wave breaking and sediment transport

UT-WEM | Ribberink

11.00-12.30

FRIDAY 17 JUNE

8 REACTING FLOW

M ROEST (VORTECH)

Amar Pathak - Salt hydrates for seasonal heat storage applications

TUE-ET | Gaastra-Nedea

Miao Tian - Lignin derived compounds as octane boosters

TUE-MRF | Boot

Virginia Fratallocchi - Dynamics and chemical kinetics of turbulent ethanol spray flames

UT-TE | Kok

Noud Maes - Visualizing engine-like spray combustion processes

TUE-MRF | Dam

Xu Huang - Flow and combustion in a lab-scale furnace

TUD-PE | Tummers

Aromal Vasavan - Modelling biogas combustion in a jet-in-hot-coflow burner using the FGM approach

TUE-MRF | vOijen

Jerke Eisma - Pollutant dispersion in boundary layers exposed to rural-to-urban transitions

TUD-FM | Elsinga

13.30-15.00

FRIDAY 17 JUNE

10 MICRO FLUID-DYNAMICAL SYSTEMS

E PELSSERS (PHILIPS)

Guillaume Lajoinie - Laser-induced vaporization of superheated microcapsules

UT-PoF | Versluis

Zhantao Wang - The highest jump-on electrowetting induced droplet detachment from superhydrophobic surface

UT-PcF | vdEnde, Mugele

Riëlle de Ruiter - Drop solidification during spreading

UT-PoF | Snoeijer, Gelderblom, Lohse

Dennis Hessling - Evaporating inkjet droplets

TUE-MTP | Harting

Pascal Sleutel - Micro-droplet impact on a liquid pool

UT-PoF | Versluis

Arjen Pit - High speed microfluidic sorting, guiding, trapping, and release of water droplets using electrostatic forces

UT-PCF | Duits, Mugele

Ye Wang - Magnetic artificial cilia fabricated in an out-of-cleanroom roll-pulling process generate substantial microfluidic pumping

UT-MS | den Toonder