



2018

BURGERS SYMPOSIUM

Conference Centre 'De Werelt' in Lunteren

05

&

06

JUNE

2018



TUESDAY 05 JUNE

GENERAL PROGRAMME

Tuesday 05 June 2018

09.30 – 10.30	Registration, coffee/tea
10.30 – 10.40	Plenary: opening
10.40 – 11.30	Plenary: Burgers Lecture by Prof John Dabiri (Stanford University, USA)
11.30 – 11.50	Plenary: '100 Years of Fluid Mechanics in The Netherlands' by Dr Fons Alkemade and Prof Jerry Westerweel
11.50 – 12.00	Plenary: 'NWO Science' by Dr Bram Borkent (NWO)
12.00 – 13.00	Lunch
13.00 – 14.45	Parallel sessions : 1 & 2
14.45 – 15.15	Tea / coffee break
15.15 – 15.45	Plenary: pitches by PhD students
15.45 – 17.30	Parallel sessions : 3 & 4
17.30 – 18.30	Posters + Gallery of Fluid Motion + Drinks
Evening programme :	18.30 – 20.00 Joint dinner
	20.30 – 21.30 Plenary: Evening Lecture by Prof Charles Meneveau (Johns Hopkins University, USA)
	21.30 Socialising & drinks



WEDNESDAY 06 JUNE GENERAL PROGRAMME

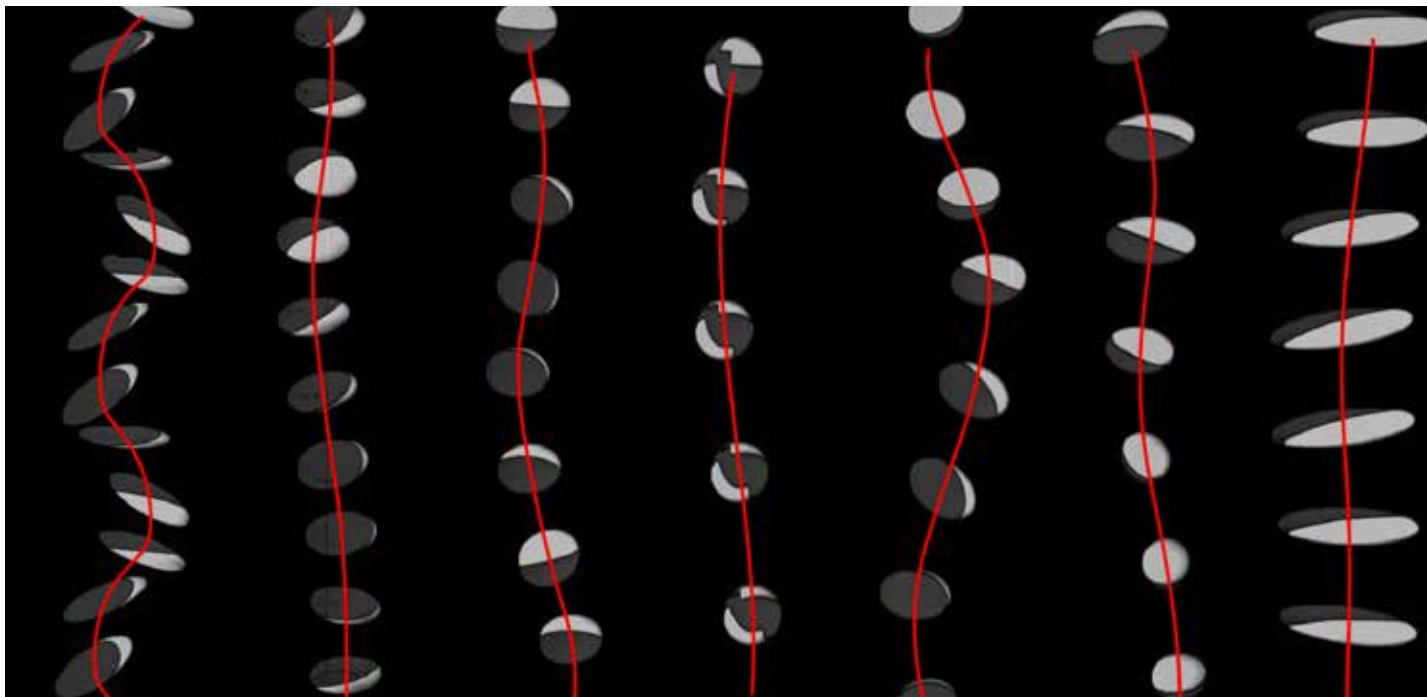
Wednesday 06 June 2018

09.00 - 10.30	Parallel sessions : 5 & 6
10.30 – 11.00	Coffee / tea break
11.00 – 12.30	Parallel sessions : 7 & 8
12.30 - 13.30	Lunch
13.30 – 15.00	Parallel session : 9
15.00 – 15.30	Plenary: Awards session
	Charles Hoogendoorn Award (KIVI)
	Laudatio by jury + presentation by recipient Dr Sander Haase
	Announcement winners of the
	- Young Scientist Awards (2x)
	- Gallery of Fluid Motion Award
15.30	Closure & drinks



PARTICIPATING GROUPS

TUD-ET	3ME – Process & Energy - Energy Technology Boersma
TUD-FM	3ME – Process & Energy - Fluid Mechanics Westerweel, Roekaerts, Henkes
TUD - MS	3ME – Process & Energy - Multiphase Systems Poelma
TUD-ME	3ME – Maritime Engineering van Rhee
TUD-TP	Chemical Technology – Transport Phenomena Kleijn, Kreutzer, Mudde, vdAkker
TUD-AE	Aerospace Engineering Hickel, Scarano
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-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-MSM	Engineering Technology – Multi-Scale Modelling Luding
UT-WEM	Engineering Technology - Water Engineering Management Hulscher
TUE-UPWE	Urban Physics and Wind Engineering Blocken
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 – Multiscale Modelling of Multiphase Flows Kuipers
TUE-MRF	Mechanical Engineering – Multiphase and Reacting Flows Deen, de Goey, Kuerten
TUE-MTP	Applied Physics – Mesoscopic Transport Phenomena Darhuber, Harting
TUE-WDY	Applied Physics – Vortex Dynamics & Turbulence Clercx, van Heijst, Toschi
RUG-CMNM	Computational Mechanics & Numerical Mathematics Verstappen, Veldman
WUR-EZ	Wageningen University – Experimental Zoology van Leeuwen
WUR-PCC	Wageningen University – Physical Chemistry and Soft Matter van der Gucht



13.00-14.45

TUESDAY 05 JUNE

LECTURE ROOM : EUROPA

1 BUBBLES, PARTICLES & DROPLETS 1

JO JANSSEN (UNILEVER)

Rodrigo Ezeta - Vapor bubble nucleation in turbulent boiling Taylor-Couette flow

UT-PoF | Lohse, Huisman, Sun

Saad Jahangir - X-ray computed tomography of cavitating flow in a converging-diverging nozzle

TUD-MS | Poelma

Ramon Voncken - Concentration polarization in fluidized beds with vertically immersed membranes

TUE-CPI | van Sint Annaland, Roghair

Alessandro Battistella - Meso-scale simulations of bubble nucleation

TUE-CPI | van Sint Annaland, Roghair

Ronald Remmerswaal - A ghost fluid method for the modeling of contact discontinuities in two-phase flow

RUG-CMNM | Verstappen, Veldman

Kim Alards - Directional change of tracer trajectories in rotating Rayleigh-Benard convection

TUE-WDY | Clercx

Gianmarco Venditti - Capillary filling of suspensions : impact of particle-particle interactions

TUE-MTP | Darhuber, Harting

Borge ten Hagen - Microswimmers in an evaporating droplet

UT-PoF | Lohse

15.45-17.30

TUESDAY 05 JUNE

LECTURE ROOM : EUROPA

3 TURBULENCE

TIM PEETERS (TATA STEEL)

Rahim Rezaelha - Optimization of vertical axis wind turbines

TUE-UPWE | Blocken, Montazeri

Matteo Madonia - Heat transfer in rapidly rotating turbulent convection

TUE-WDY | Kunnen

Tiago Pestana - Linear growth of columnar eddies in rotating turbulence

TUD-AE | Hickel

Giovanni Lacobello - Complex network analysis of turbulent flows

TUE-MRF | Deen, Kuerten, Scarsoglio, Ridolfi

Joep van der Zanden - Spatial and temporal TKE distributions under bichromatic breaking waves

UT-WEM | Hulscher, Ribberink

Dominik Krug - Attached eddy hypothesis in wall-bounded shear flow

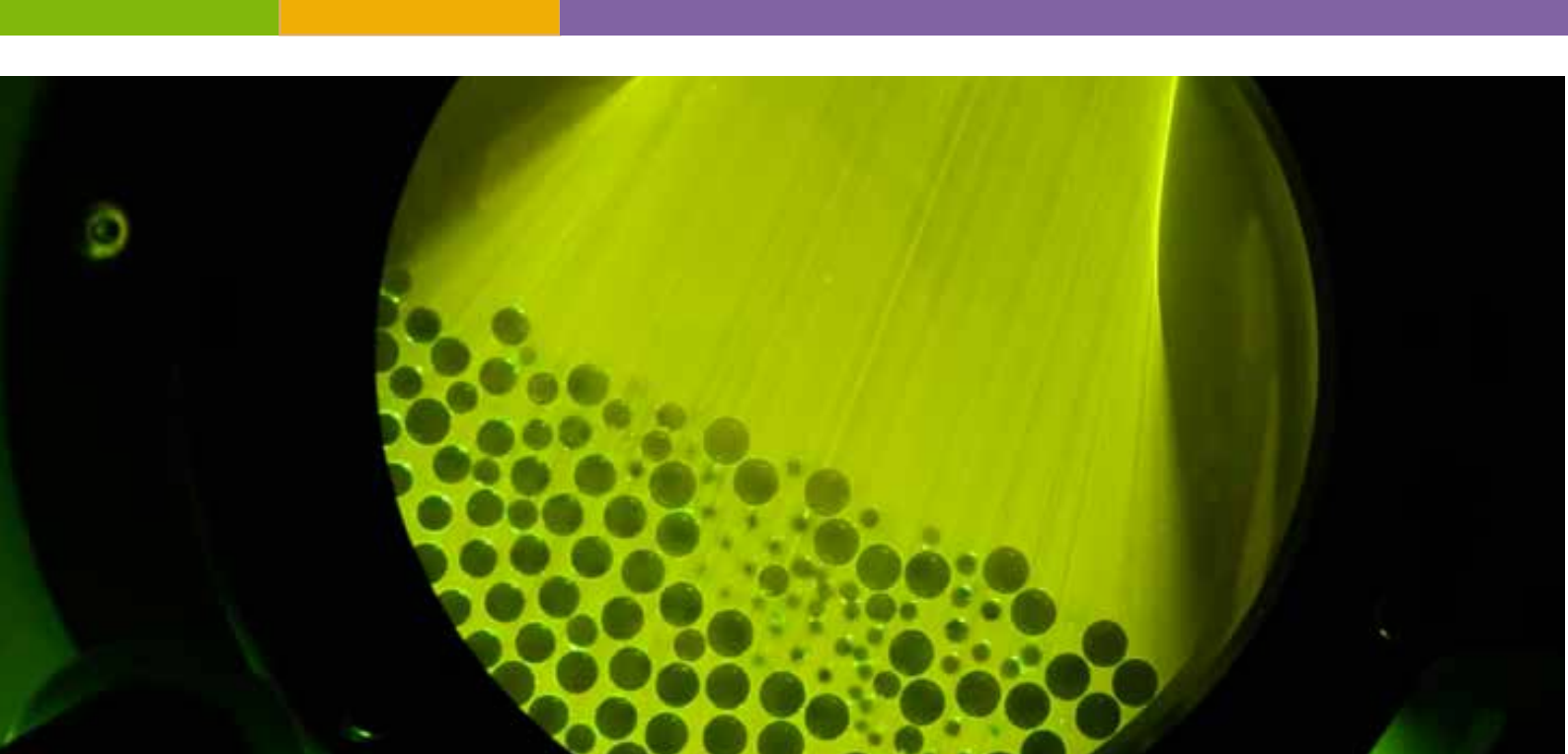
UT-PoF | Lohse, Krug

Dennis Bakhuis - Particles in turbulent Taylor-Couette flow

UT-PoF | Lohse, Huisman, Sun

Mohamed El Abbassi - CFD simulation of non-premixed combustion in rotary kilns

TUD-AM | Vuik, Lahaye



13.00-14.45

TUESDAY 05 JUNE

LECTURE ROOM : AMERIKA

2 FLUID-STRUCTURE INTERACTION

BERT VREMAN (AKZO-NOBEL)

Frits de Prenter - Preconditioned iterative solvers for immersed finite element methods

TUE-ET | van Brummelen, Verhoosel

Aura Visan - Catalytically driven surface flow

UT-SFI | Lammertink

Jakob Maljaars - A conservative particle-mesh projection with applications to advection dominated flows

TUD-EFM | Uijttewaal, Labeur

Simone van Lin - Interfacial water: how adsorbing ions affect the water structure at mineral-electrolyte interfaces

UT-PCF | Mugele, Siretanu

Vishak Chandra - Hydrodynamic dispersion in open-cell foams

UT-MMM | Kuipers, Peters

Pepijn van Denderen - Morphodynamic modelling of side channel development

UT-WEM | Hulscher, Schielen

Stefan Engelhard - High frame rate contrast-enhanced ultrasound particle image velocimetry in the abdominal aorta

UT-PoF | Versluis

Aswin Muralidharan - Mechanical response of cellular membranes in pulsed electric fields

TUD-TP | van Ommen, Kreutzer, Boukany

15.45-17.30

TUESDAY 05 JUNE

LECTURE ROOM : AMERIKA

4 AERODYNAMICS & WAVES

VINCENT FOKKEMA (VSL)

Paul Mannion - Aerodynamics of paralympic handcycling

TUE-UPWE | Blocken, Toparlar

Thijs van Druenen - Optimization of individual time trial aerodynamics

TUE-UPWE | Blocken

Luis Laguarda - Bi-directional transitions between regular and Mach reflections in asymmetric shock interactions

TUD-AE | Hickel

Wouter van Veen - Offset in rotation axis increases rotational lift production in insect wings: a numerical study

WUR-EZ | van Leeuwen, Muijres

Gal Akrish - Inhomogeneous wave statistics over shear currents

TUD-EFM | Reniers, Zijlema

Marijn Sanders - Surface pressure measurements on trailing edge serrations for aeroacoustic noise characterization

UT-EFD | Venner, de Santana

Julian Biesheuvel - Localization algorithm for continuously distributed aeroacoustic sources

UT-EFD | Venner, de Santana

Yous van Halder - Efficient non-intrusive surrogate modeling for fluid mechanics applications

TUE-CASA | Koren, Sanderse

09.00-10.30

WEDNESDAY 06 JUNE

LECTURE ROOM : EUROPA

5 BUBBLES, PARTICLES & DROPLETS 2

GERRIT HOMMERSOM (DOW BENELUX)

Sten Reijers - Numerical simulations of oblique droplet impact onto a deep liquid pool

UT-PoF | Lohse, Gelderblom

Jelle Will - Rising of oddly shaped particles in still water and in turbulent flow

UT-PoF | Lohse, Huisman, Sun

Duraivelan Palanisamy - Calculating Einstein viscosities for non-spherical colloids

UT-MSM | Luding, den Otter

Marcel Workamp - Macroscopic friction and flow instabilities in granular emulsions

WUR-PCC | van der Gucht, Dijkman

Anais Gauthier - Non-wetting dynamics of Leidenfrost drops on a bath : self-propulsion and capillary interactions

UT-PoF | D van der Meer, Lohse

Xiao Xue - Effects of thermally induced capillary waves on nano-ligaments fragmentation

TUE-WDY | Toschi

Yigit Akargun - Diesel engine spray flame structure using LES

TUE-MRF | Deen, Somers

11.00-12.30

WEDNESDAY 06 JUNE

LECTURE ROOM : EUROPA

7 BUBBLES, PARTICLES & DROPLETS 3

MICHEL RIEPEN (ASML)

Yuk Man Lau - Measurement of interfacial tension

TUD-FM | Westerweel, van de Water

Giordano Lipari - GPU acceleration of SPH simulation

TUD-AM | Vuik

Paolo Cifani - DNS of turbulent bubbly flows for a large number of deformable bubbles

RUG-CMNM | Verstappen

Guillaume Lajoinie - High-frequency surface acoustic waves trigger acoustic droplet vaporization through resonance

UT-PoF | Versluis

Pinaki Kumar - Inter-avalanche time distribution in glassy systems

TUE-WDY | Toschi

Robin Koldewij - Impact of droplets on a supercooled plate

UT-PoF | Lohse

Maxim Masterov - Numerical simulations of bubble column using hybrid turbulence models

TUE-MMM | Kuipers, Baltussen

13.30-15.00

WEDNESDAY 06 JUNE

LECTURE ROOM : EUROPA

9 WETTING

HANS MEERMAN (TEIJIN ARAMID)

Abheeti Goyal - Substrate wetting effects on phase separation in thin films

TUE-WDY | Toschi

Hanieh Bazyar - Pore wetting in slippery liquid-infused membranes (SLIMs)

UT-SFI | Lammertink

Christian Diddens - Evaporation of multicomponent droplets

UT-PoF | Lohse, van Brummelen (TUE)

Tim Segers - Air entrainment into a jetting piezoacoustic inkjet nozzle

UT-PoF | Lohse, van Brummelen (TUE)

Ahmed Jarray - Simulation and prediction of ink suspension wettability on cellulose-based substrate

UT-MSM | Luding, den Otter

Mazyar Jalaal - Capillary dimples near a moving contact line

UT-PoF | Snoeijer, Lohse

Liz Mensink - Wetting of polymer brushes

UT-PoF | Snoeijer, de Beer

09.00-10.30

WEDNESDAY 06 JUNE

LECTURE ROOM : AMERIKA

6 ENVIRONMENTAL FLOWS

FRANK VISSER (FLOWSERVE)

Alessio Ricci - Wind environmental conditions in the largest sea vault in the world

TUE-UPWE | Blocken

Hamid Montazeri - Adaptation to climate change in urban areas with evaporating cooling

TUE-UPWE | Blocken

Koen Berends - Efficient probabilistic computation for a high-dimensional problem : river engineering

UT-WEM | Hulscher, Warmink

Geert Campmans - Modeling tidal sand wave recovery after dredging

UT-WEM | Hulscher, Roos

Frans van Grunsven - Turbidity formation at deep sea mining operations

TUD-ME | van Rhee, Keetels

Bas Nieuwboer - Transport of large particles in a rotating dredge cutter head

TUD-ME | van Rhee, Keetels

Dave Weij - Unstable breaching of underwater slopes

TUD-ME | van Rhee, Keetels

11.00-12.30

WEDNESDAY 06 JUNE

LECTURE ROOM : AMERIKA

8 TRANSPORT & COMBUSTION

MARK ROEST (VORTECH)

Mengmeng Ren - Counterflow non-premixed flames for hydrothermal combustion of methanol

TUD-FM | Roekaerts

Faizan Vance - Effect of Lewis number on premixed laminar lean-limit flames stabilized on a bluff body

TUE-MRF | Deen, van Oijen

Sebastian Contreras Osorio - Experimental study on transport phenomena in 3D laminar flows

TUE-WDY | Clercx

Andres Aguirre Guzman - Rapidly rotating convection at low Prandtl number

TUE-WDY | Kunnen

Stephen Varghese - Subsurface transport in rotated source-sink flows

TUE-WDY | Clercx, Speetjens

Claas Willem Visser - Marangoni spreading of miscible liquids in the drop-drop geometry

UT-EFD | Venner, Lohse

Qierui Zhang - A Washburn-based model for oil-bleeding in grease lubrication

UT-PCF | Mugele, van den Ende

