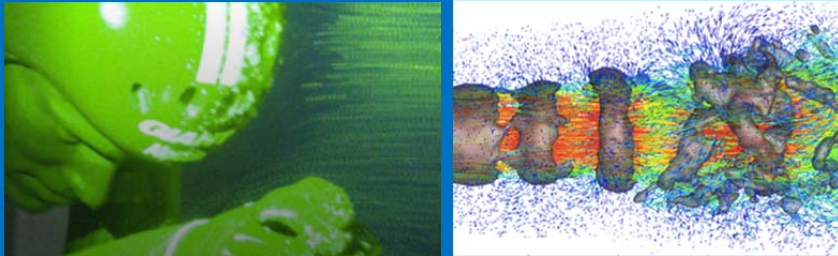# 2nd Workshop on Data Assimilation & CFD Processing for PIV and Lagrangian Particle Tracking

13 – 14 Dec 2017, Delft, The Netherlands

Scope

Following the success of the first workshop in 2016, a second workshop is organized in the same spirit: Many procedures are nowadays available that increase or enhance the information measured with Particle Image Velocimetry (PIV) or Lagrangian Particle Tracking (LPT) resp. Particle Tracking Velocimetry (PTV) using techniques imported from the CFD and applied mathematics community. The advent of time-resolved and volumetric measurements have multiplied the possibilities with much excitement of PIV and LPT development researchers as well as from the applied fluid mechanics community. The methods range from regularization strategies using the (simplified) Navier-Stokes-equation or the use of the momentum equation to obtain pressure from velocity measurements, to variational data-assimilation frameworks using adjoint CFD.

Keynote lectures

Prof. Dr. Peter Schmid
Data assimilation and dynamic observers for data-based flow field recovery

Imperial College London

Dr. Dominique Heitz
Coupling experimental and computational fluid dynamics: synopsis of approaches, issues and perspectives

irstea

Topics

Talks are planned on the following areas:

- Data assimilation techniques for flow measurements / PIV / LPT
- Machine learning for spatial refinement
- Dense velocity/acceleration from volumetric measurements
- Lagrangian particle tracking in densely seeded flows (e.g. STB)
- Pressure from PIV / LPT
- Variational techniques using adjoint Navier-Stokes for PIV / LPT
- Kalman filtering techniques for flow measurements

Tour along the TU Delft wind tunnels, where data assimilation experiments with Helium-filled soap bubbles (HFSB) are performed

Networking Dinner

Attendance without abstract/presentation

Especially for industry partners and PhD students looking for courses, **it is possible to register & attend the workshop without abstract!**

Also without abstract, please register at http://cfdforpiv.org

registration now open: http://cfdforpiv.org

Schedule

Day 1 (Location Science Center)	
08:45	Registration
09:00	Introduction
09:10	**Keynote #1**
10:00	**Coffee #1**
10:20	T1
10:45	T2
11:10	T3
11:35	T4
12:00	**Lunch**
13:30	T5
13:55	T6
14:20	T7
14:45	**Coffee #2**
15:05	T8
15:30	T9
15:55	T10
16:20	**Transport to laboratories**
16:35	Lab/Experiment Tours
17:45	Transport back
18:00	**Closing day 1**
19:00	**Transport to Hotel NY**
19:30	Dinner
23:30	**Transport back to Delft**

Day 2 (Location Auditorium)	
09:00	Introduction day 2
09:10	**Keynote #2**
10:00	**Coffee #3**
10:20	T11
10:45	T12
11:10	T13
11:35	T14
12:00	**Lunch**
13:00	T15
13:25	T16
13:50	T17
14:15	**Coffee #4**
14:30	Layman Data Assimilation introduction [*]
15:00	PhD Defense JS [*]
16:00	Closing remarks
16:30	**Reception**

[*] The workshop program includes this year the public defense of the PhD thesis and propositions by Jan Schneiders. The PhD committee consists of:

Prof.dr. F. Scarano (promotor),
Prof.dr.ir. C. Poelma (TU Delft),
Prof.dr.rer.nat.habil. C.J. Kähler (UniBW),
Dr. B.S. Thurow (Austin University),

Dr.rer.nat. A. Schröder (DLR),
Dr. B. Leclaire (ONERA),
B. Wieneke, MSc (LaVision).

registration now open: http://cfdforpiv.org

Registration

Registration is at http://cfdforpiv.org. The registration fee of 250 euros covers the full workshop, including a workshop dinner with drinks, lunch and refreshments during the days.

It is possible to register & attend the workshop without abstract!

Organization

Dr. Andreas Schröder
DLR, AS-EXV, Göttingen, Germany
e-mail: Andreas.Schroeder@dlr.de

Jan Schneiders, MSc
TU Delft, Aerospace Engineering, The Netherlands
e-mail: J.F.G.Schneiders@tudelft.nl

How to reach the workshop location?

TU Delft Science Center
Mijnbouwstraat 120, 2628 RX Delft

Fly to *Amsterdam Airport* (connecting train to Delft, 37 minutes)
Fly to *Rotterdam Airport* (connecting bus to Delft, 40 minutes)
Fly to *Eindhoven Airport* (connecting public transport to Delft, 2 hours)

Train to *Rotterdam* or *Station Delft*

We look forward to welcoming you in Delft!

Photos from the 1st workshop (Lisbon, 2016)

The workshop is sponsored by

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