

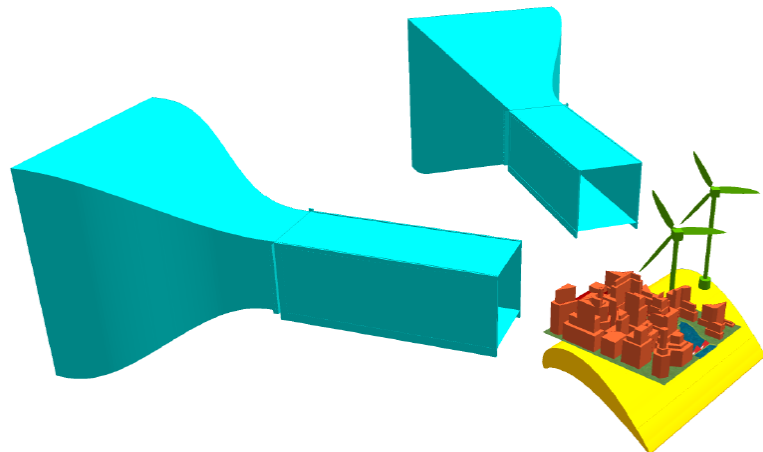
TWEET-IE

Twin Wind tunnels for Energy and the Environment - Innovations and Excellence

Success stories in collaborations with industry

Dr. Andrea Sciacchitano

a.sciacchitano@tudelft.nl



Collaboration with LaVision GmbH

Supplier of Imaging Systems



Their expertise and resources:

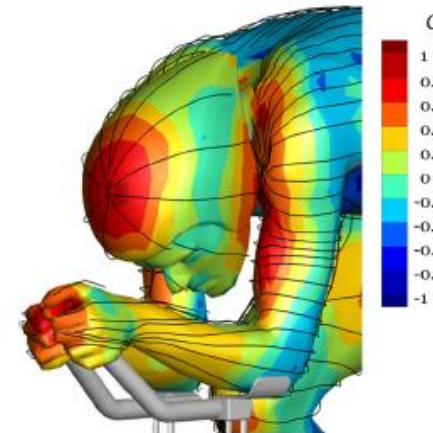
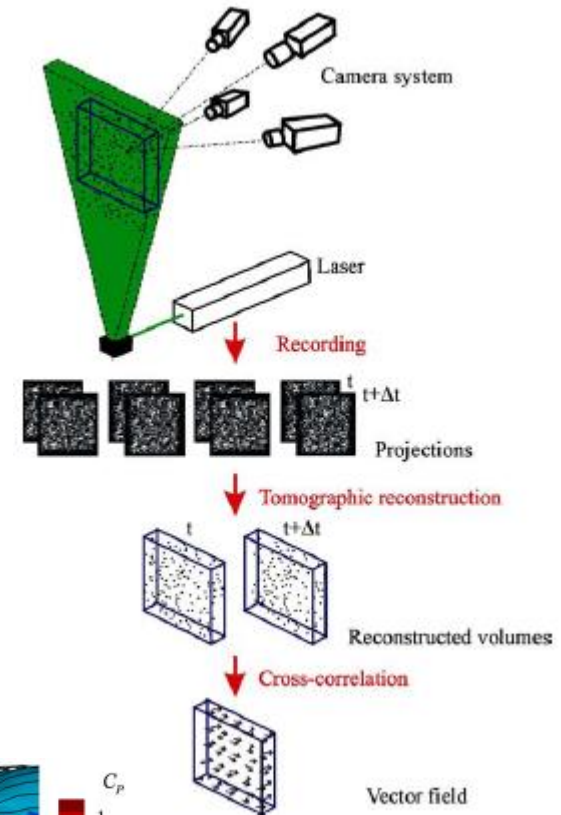
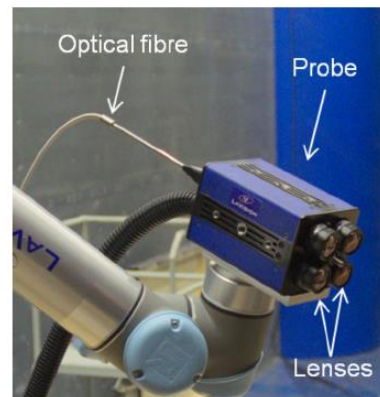
- PIV hardware and software
- Code developers

Our expertise and resources:

- Wind tunnel facilities
- Expertise on experimental aerodynamics

Collaboration framework:

- LaVision constantly supports the research of one PhD student (4 so far)
- Support to national and European projects via cash or in-kind contributions
- Development and assessment of PIV algorithms, then implemented in DaVis
 - Tomo-PIV
 - Uncertainty quantification
 - Robotic PIV
 - Data assimilation approaches



Collaboration with NLR

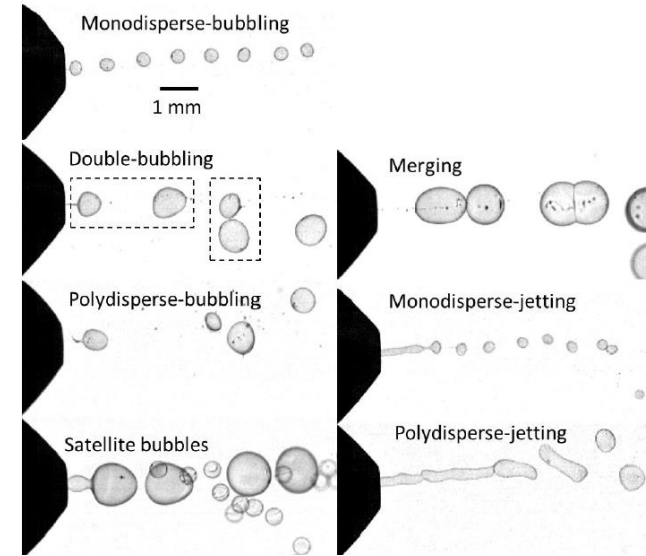
Dutch Aerospace Centre

Their expertise and resources:

- Industrial aerodynamics and facilities

Collaboration framework:

- Shared interest on the development of large-scale PIV
- NLR supports the research of one PhD student (2 so far)
- Concrete outputs, such as the development of an HFSB seeding rake



Collaboration with NOC*NSF

Dutch Olympic Committee

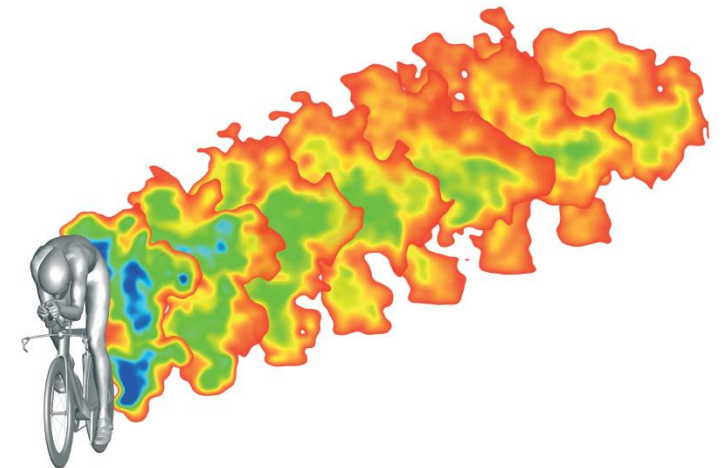
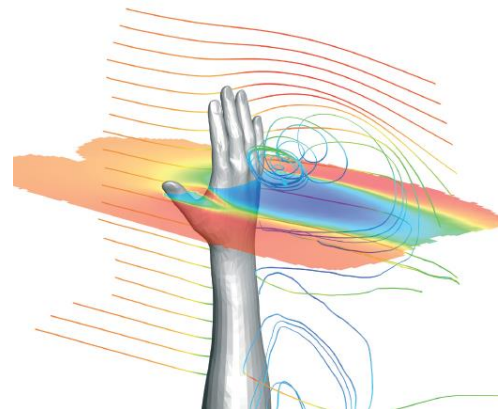
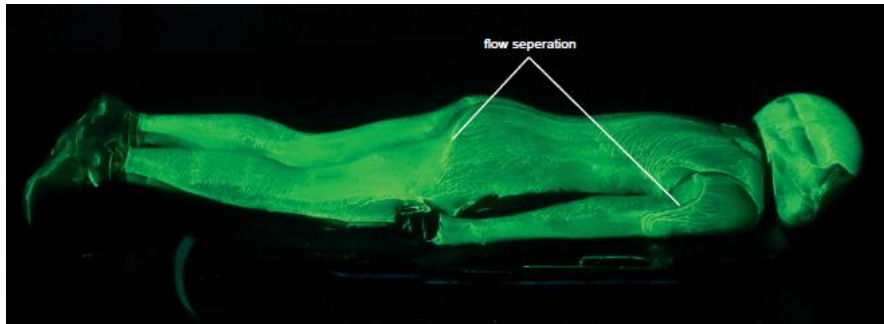
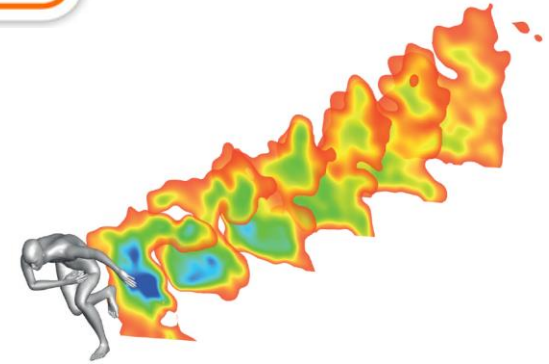


Their expertise and resources:

- Sports athletes, coaches, equipment and facilities

Collaboration framework:

- NOC*NSF funds an Embedded Scientist on Sports Aerodynamics (and one on Hydrodynamics), who is based in our faculty
- Aim at higher aero- and hydrodynamic efficiency (better suits, equipment, postures...)



Collaborations on Wind Energy

Design for aeroelasticity
and 3D aerodynamics



TNO innovation
for life



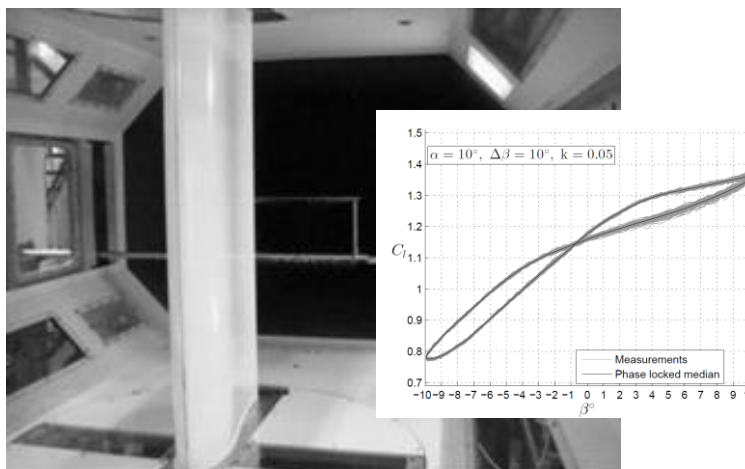
 **TU Delft**

Winglet Aerodynamics



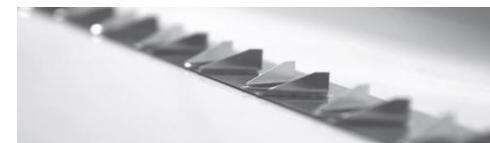
TNO innovation
for life

Unsteady aerodynamics
and aeroelasticity



TNO innovation
for life

Vortex Generators
and Dynamic Stall



Vestas **TNO** innovation
for life



Collaboration framework:

- Co-supervision of MSc projects
- PhD project funded
- Participation to European consortia
- Experimental work conducted in our facilities used to develop and validate simplified models e.g. for dynamic stall, vortex generators, wake...

Thank you for your attention

Questions?