PIV measurements in gully pots

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**Project duration**
3-6 months

**MSc/ BSc student**
BSc or MSc

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**Research field**
Urban drainage

**Subject title**
Flow pattern identification in gully pots

**Project proposal**

**Introduction**
Water has to be transported from streets to the sewer system to prevent flooding during wet weather conditions. Gully pots are the required link between streets and sewer systems.

Unfortunately, this runoff water contains solids. These solids have accumulated on streets and became mobile. They are transported to the sewer system and could accumulate in main sewers and reduce the hydraulic capacity, which can lead to flooding and spills. These events are very undesirable, because the water is highly polluted and can therefore cause environmental damage. It would be better to retain the solids in the gully pots.

However, several researchers found out that the efficiency of those gully pots can be quite limited. In this research the flow pattern in a gully pot will be measured. This flow pattern will give more insight in the physical mechanisms that influence the deposition of solids in gully pots.

**Experimental description**
Particle Image Velocimetry (PIV) will be used to measure the flow pattern. With this advanced measurement technique velocities in 3 directions can be obtained. This information can be used to get a better understanding of the physical mechanism influencing the efficiency of gully pots and it can be used to verify computer simulations.

The test will be performed in the lab of Deltares.

**Requirements**
We are looking for a student who is enthusiastic about lab work and interested in flow phenomena. Innovative and practical thinking is required in doing experimental work. You need to be able to work precisely and carefully to obtain useful results.

**Offer**
We offer you interesting lab work with advanced measurement techniques. Guidance will be given by both a PhD candidate and lab assistants.

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If you would like to enroll yourself for an internship, send an e-mail to our secretaries: secr-gez-citg@tudelft.nl