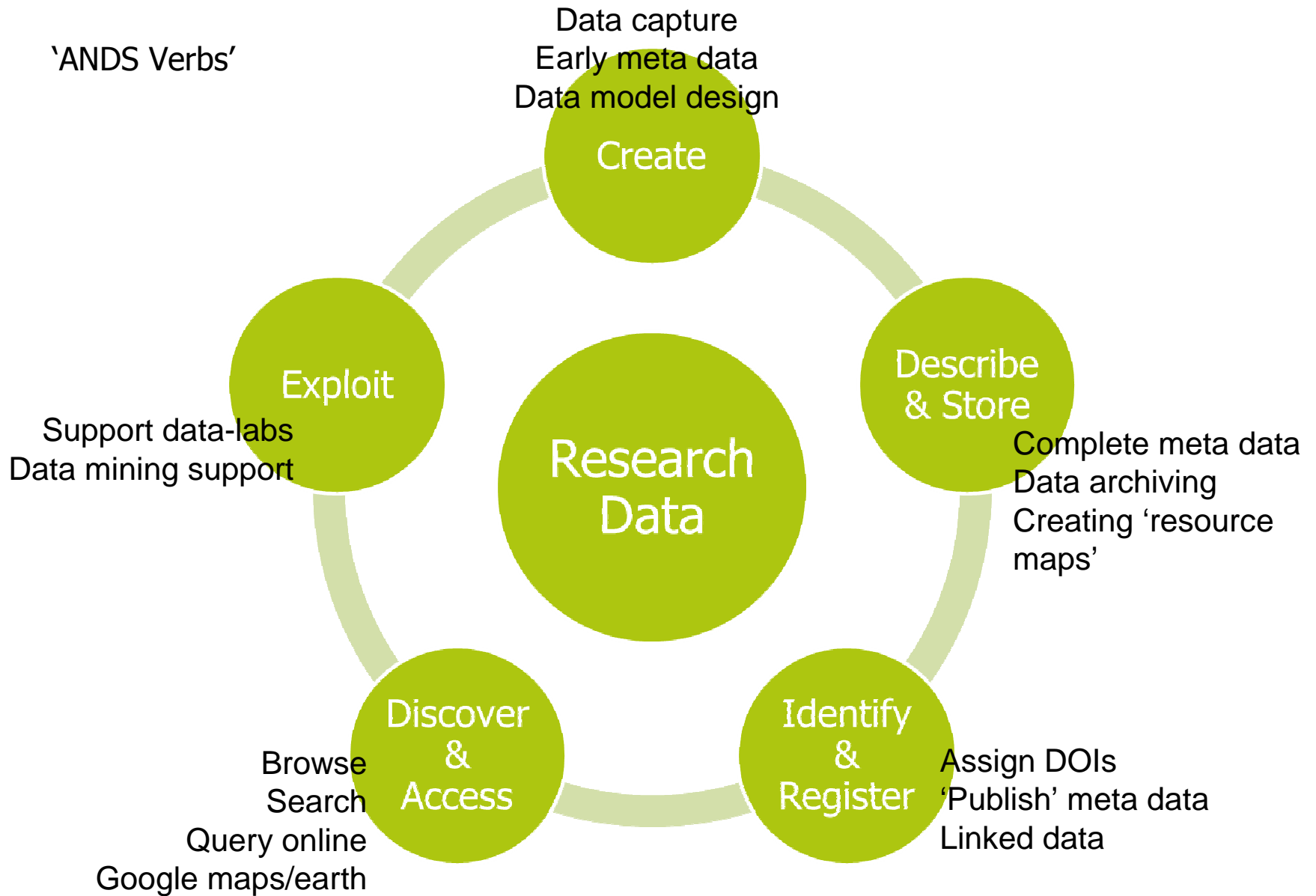




Scientific Data Services In the Netherlands

Jeroen Rombouts, TU Delft - Library Innovation
6-7-2011

'ANDS Verbs'



Scientific Data Services NL

Overview

TU Delft Library & Scientific Data

- Founding partner in DataCite
- Founding partner in 3TU.Datacentrum
- Dutch National Library for science & technology
- SURF Research data forum

Other providers

- Astronomy: OmegaCen/Target
- WDS: PANGAEA, ISRIC (Soils), ...
- Datalabs: OpenEarth, SHARE, DataVerseNetwrk, ..

Other 'disciplines'

- Arts, Humanities and Social Science: DANS



DataCite (<http://datacite.org>)

Global consortium aiming to:

- establish *easier access* to scientific research data on the internet
- increase acceptance of research data as *legitimate, citable* contributions to the scientific record
- support data archiving that will permit results to be *verified and re-purposed* for future study.



DataCite services

DOIs, Meta data, linking & tracking, ...

DOI's (Digital Object Identifiers) are persistent identifiers, common for articles.

<http://dx.doi.org/doi:10.4121/uuid:c1ac7344-1...>



<http://data.3tu.nl/repository/uuid:c1ac7344-1...>

If you are a Datacenter contact your nearest DataCite partner (that's us ;-)) for enabling your data producers to assign DOIs to their data.

If you are a data producer, store your data in a datacenter (How to... on the last slide).



3TU.Datacentrum

- Information News, announcements Publications, links and tutorials

- Data sets download and 'management'
- 'Link' data to Google Maps/Earth, OPeNDAP, ...

3TU. **Data-archives, Data-labs, Data-services**

- **Data-archives**
 - Provider of storage, access and preservation.
Main goal: ‘freeze’ a dataset (version) for future use
Differing in reliability, metadata-reuse functionality, ...
- **Data-labs**
 - General collaboration platforms or specific to discipline/content.
Main goal: exchange of data and other research material
Differing in access policies, functionality, size, ...
- **Data-services**
 - Advice on standards, licensing, ..., training, support in data documentation, tool development, search and retrieval, ...
Main goal: stimulate improvements in datamanagement
Differing in discipline expertise, costs, capacity, ...

Data archiving options

- **Selection of ‘valuable’ data**

- **Data of ‘enhanced publications’** (underlying data and visualisations linked to publications).
Increase publication value (stronger basis, more citations, ...);
- **Data generated by ‘hard to repeat’ processes.**
E.g. high cost, (environmental) observations, complex or continuous experiments, irreversable transformations, ...;
- **Data collected with public funding (open access).**
Conditions by funding organisations or publishers like Nature Publishing Group, NWO, governmental organisations, universities, ...;

- **Archiving types**

- **Special collections**
Negotiate: deposit procedure, description (xml, picture, preview), data model, level of DOI assignment, ...
- **‘Simple’ sets**
Standard (self)upload form and descriptive information, single file per object (can be a ‘zipped’ collection), single DOI automatically,...

Enhanced publication

ScienceDirect - Chemical Engineering Science

Articles | All fields | Author | Page | Search ScienceDirect

PDF (444 K) | Export citation | Email article | Highlight keywords in PDF

Article | Figures/Tables (17) | References (28) | Thumbnails | Full-size images

Chemical Engineering Science
Volume 115, March 15, August 2016, Pages 4491–4522

doi:10.1016/j.ces.2016.04.013 | View full text on ScienceDirect

Evaluation of experimental techniques to validate numerical computations of the hydraulics inside a UV bench-scale reactor

Related Articles

7344-1419-4398-ba13-c757551

drinking water treat

- contributor
- creator
- date
- date created
- description
- format
- identifier
- identifier
- language
- publisher

Browse in datasets

Delft University of Technology
 Joint Water Supply Companies
 KWR Watercycle Research Institute
 Wetsus
 B.A. Wols
 2010-06-20
 2010-04-01
 Datasets used in the PhD the systems and UV systems netCDF
 doi:10.4121/uuid:c1ac7:44-14
 uuid:c1ac7344-1419-4398-ba13-c757551-en
 Delft University of Technology
 Delft University of Technology
 Measurements of flow velocity in UV reactors
 computational fluid dynamics
 ozone installations
 CFD in drinking water treatment
 Miscellaneous datasets and collections

TU Delft
 Institutional Repository

Publications | People (Beta)

CFD in drinking water treatment

Attachments
 WOLS_thesis_LB.pdf (23.2 MB)

Cite or link this publication as
 Authors: Wols, B.A.
 Promotor: Van Dijk, J.C. · Uijtendaal, W.
 Faculty: Civil Engineering and Geosciences
 Department: Sanitary Engineering
 Types: Dissertation
 Date: 2010-06-21
 Publisher: Delft University of Technology
 isReferencedBy: http://dx.doi.org/10.4121/uuid:c1ac7:44-14
 ISBN: 9789089570130
 Keywords: CFD · drinking water treatment · particle tracking
 Rights: (c) 2010 Wols, B.A.

Hydrodynamic processes largely determine the performance of particulate disinfection systems. A lack of optimal designs of these systems. The for energy consumption or use of chemicals is the in drinking water engineering, computational predict the performance of treatment instal advanced numerical models to predict flow, hydrodynamics and (bio)-chemistry in ozone combined with experimental techniques. The modelling as a tool to evaluate the perform model is applied properly, accounting for the this tool leads to a better design of UV re hydrodynamics. This work resulted in new

Figure 5.20: Particle positions calculated by the k-ε model and LES model at different time steps for the reference cylinder (upper panels) and upstream baffle (lower panels). The normalized dose is indicated by the colour of the particle. A movie can be found at: http://dx.doi.org/10.4121/uuid:63ef98c8-5a01-442a-8c4f-80106576a171

100 Single cross-flow UV lamp systems

5.5 Conclusions

Measurements were conducted to investigate hydraulic changes that reduce the wake size downstream of UV lamps. Dye visualization and LDA velocity measurements showed that the size of the wake was sensitive to local turbulent properties of the flow. Placing a baffle upstream of the lamp resulted in a shorter wake length. Increasing

OPeNDAP Dataset Query

OPeNDAP Dataset Access Form

Tested on Netscape 4.01 and Internet Explorer 5.00.

Action: [Get ASCII](#) [Get Binary](#) [Show Help](#)

Data URL: http://opendap.tudelft.nl/thredds/dodsC/data2/CF_Drinking_water/CH6_UV_reactor_design

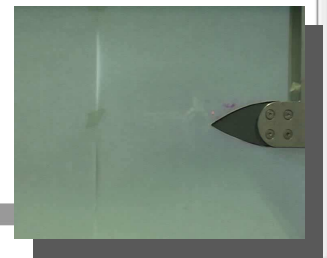
Global Attributes:
 title: "CFD data of a CFD UV reactor, Wing-shaped UV lamp (D wing-shaped lamp)"
 institution: "KWR Watercycle Research Institute, Delft University of Technology"
 reference: "Wols, B.A., Hofman, J.A.M.H., Beerenndonk, E.F., ..."

Variables:
 n_node: Array of 32 bit Integers [n_node = 0..17852]
 n_node:
 units: ""
 long_name: "indexing of the nodes, corresponds to the numbers in the tri and tri3 arrays"
 x: Array of 32 bit Reals [n_node = 0..17852][n_dim = 0..2]
 n_node: [] n_dim: []
 units: "m"
 long_name: "co-ordinates (x, y and z)"
 tri: Array of 32 bit Integers [n_elem = 0..12631][n_elem_dim = 0..2]
 n_elem: [] n_elem_dim: []
 units: ""
 long_name: "indices of the nodes at each element (boundary triangular elements)"

- [Evaluation of experimental techniques to validate numerical computations of the hydraulics inside a UV bench-scale reactor \(article, 2010\)](#)
- [Evaluation of different disinfection calculation methods using CFD \(article 2009\)](#)
- [A systematic approach for the design of UV reactors using computational fluid dynamics \(article, 2010\)](#)
- [Residence Time Distributions in Ozone Contactors \(article, 2008\)](#)
- [CFD in drinking water treatment \[dissertation, Wols, B.A., 2010\]](#)
- [CFD in drinking water treatment - movies 1](#)
- [CFD in drinking water treatment - movies 2](#)
- [CFD in drinking water treatment - movies 3](#)
- [CFD in drinking water treatment - movies 4](#)
- [CFD in drinking water treatment - movies 5](#)
- [CFD in drinking water treatment - movies 6](#)

DATA

Data via OPeNDAP (text/html+application/x-netcdf)
 netCDF [For more about the netCDF data format see the Unidata NetCDF site]
 Subsets:
 CH4 ozone system

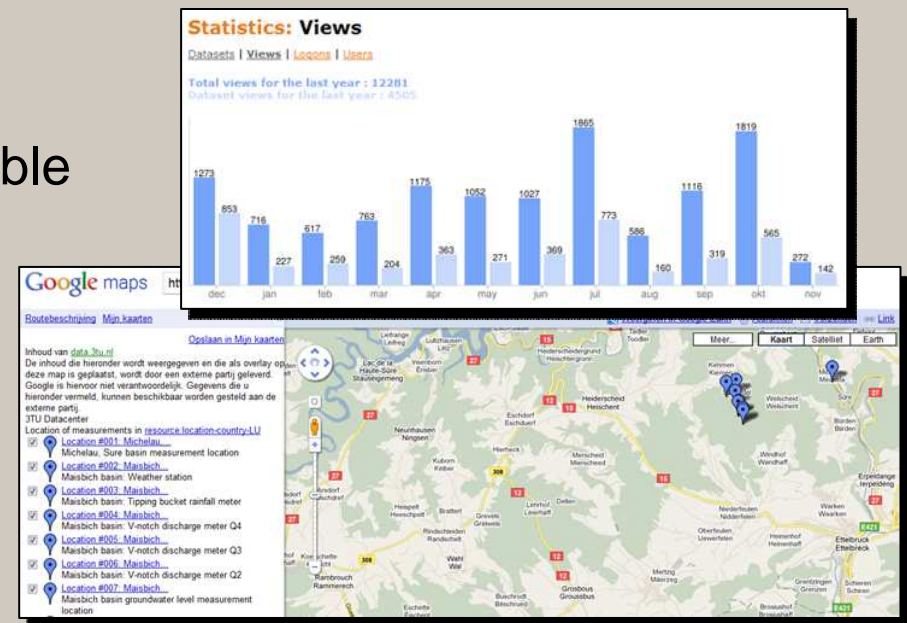


Plans, guides and checklists

- MIT <http://libraries.mit.edu/guides/subjects/data-management/>
 - Data Management plans and checklist
- DCC <http://www.dcc.ac.uk/>
 - How-to Guides (appraise & select, license)
<http://www.dcc.ac.uk/resources/how-guides>
- ANDS <http://www.ands.org.au/index.html>
 - Guides for different levels/users
<http://www.ands.org.au/guides/index.html>
- Purdue D2C2 <http://d2c2.lib.purdue.edu/>
 - Data Curation Profiles
<http://wiki.lib.purdue.edu/display/dcp/Data+Curation+Profiles>
- ... many more

Remember... there is support for:

- **Easy distribution of research data.**
Instead of DIY, including administration and statistics;
- **Increased visibility of research output.**
Metadata 'advertising', citable through DOIs, increased citation rate for 'enhanced publications', ...;
- **Improved quality of dataset.**
Quality assurance for multi-user setup, checks on documentation and content, ...;
- **Increased safety.**
Preservation and access to valuable research data on the long term;
- **Access specific knowledge.**
Advice on data management, IP-rights, file formats, standards, etc.



How to guide

Steps for 'publicizing' your research data:

- 1 Login at 3TU.Datacentrum <http://data.3tu.nl> 5'



('netID', OpenID, ...)

- 2 Fill out form with descriptive information 20'

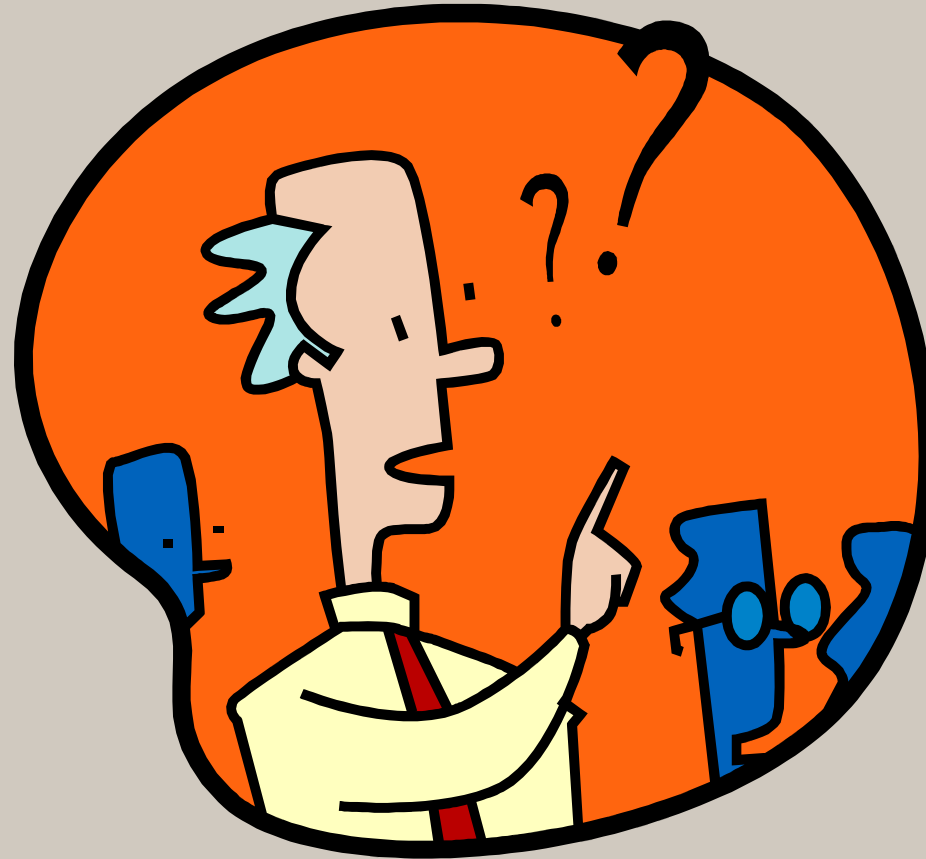
(creator, description, ...
like a publication)

- 3 Attach you data file!



5'

Questions & Discussion



library@tudelft.nl

phone +31.(0)15.27 85678

<http://www.library.tudelft.nl/contact/>