

The role and value of data stewards: *TU Delft case study*



Marta Teperek, Data Stewardship Coordinator
Esther Plomp, Data Steward, Faculty of Applied Sciences
9 May 2019 <https://doi.org/10.5281/zenodo.2684278>

Speakers



Marta Teperek

Data Stewardship Coordinator

M.Teperek@tudelft.nl

@martateperek



Esther Plomp

Data Steward at the Faculty of Applied Sciences

e.plomp@tudelft.nl

@PhDToothFAIRy

Outline of the presentation

- Introduction to TU Delft
- Rationale behind the Data Stewardship Project
- Key principles behind the project
- Key challenges & future outlook

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Where is TU Delft? (Delft University of Technology)



TU Delft - statistics (2017)

- Research intensive:
 - 11th top beneficiary of H2020 funding
 - A lot of industry collaborations
- 8 Faculties
- ~5,000 employees
 - including PhD students
- ~23,500 students

Outline of the presentation

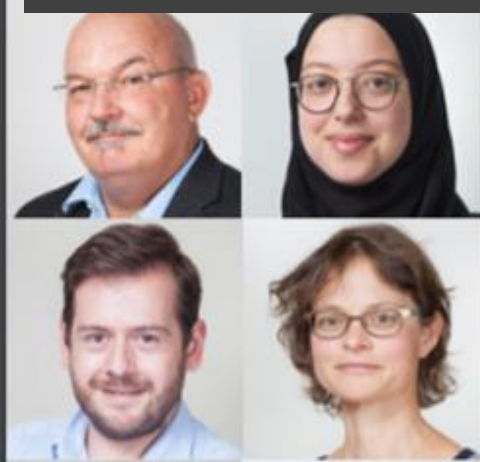
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Openness:
one of the four major principles



Impact for a
better society

TU Delft Strategic Framework 2018-2024



Why Openness?

- Transparency and openness go together with research reproducibility



2015: Open Science Roadshows at TU Delft



Open Science sounds good... But we don't want more work! We need dedicated support!

Let us see what we can do about it!



Annemiek van der Kuil



Anke Versteeg

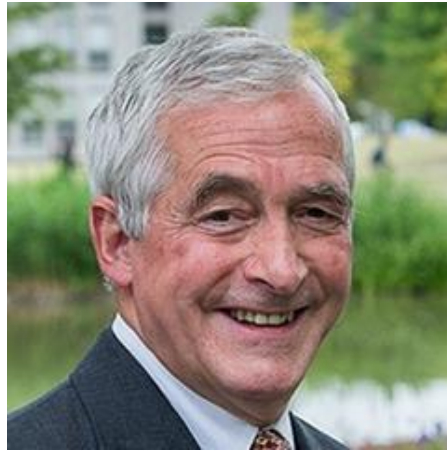


Alastair Dunning

Good data management is a necessary prerequisite to Open Science & reproducible research



Leadership's reaction...



Karel Luyben,
Rector Magnificus at TU Delft
(at that time)

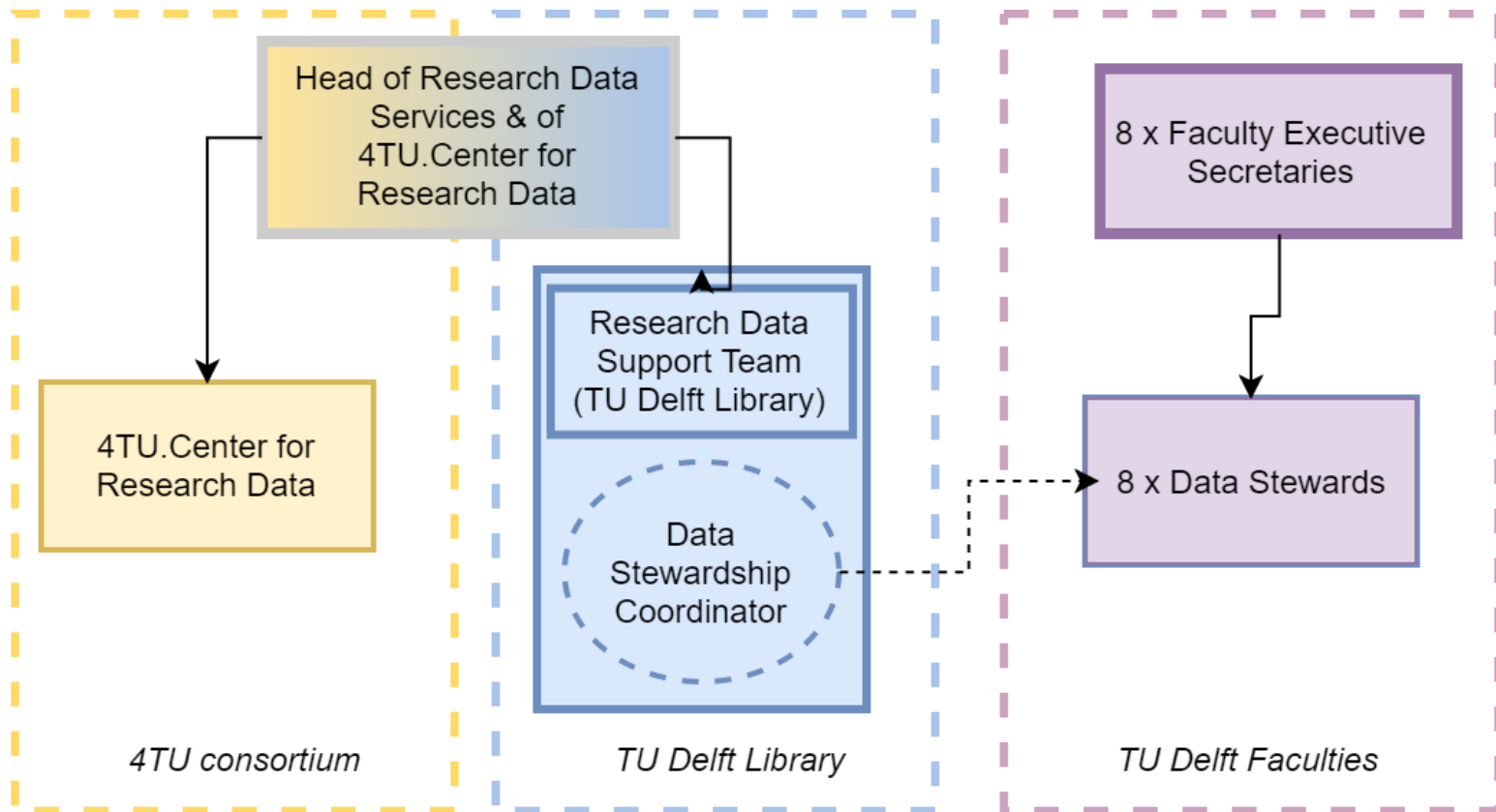
If researchers need support,
let's support them!
Let's hire Data Stewards!

Strategic support for Data Stewardship

Central funding to kick-start Data Stewardship at TU Delft

- 3 years: start of 2018 - end of 2020

Data Stewards within data support structure at TU Delft



Disciplinary support also reflected in policy development

TU Delft Research Data Framework Policy

- Roles and responsibilities at the university level
- Several compulsory statements
- Template for faculties
- *Published*

8 separate Faculty Data Policies

- Roles and responsibilities at the faculty level
- Reflecting disciplinary differences
- *In development*

<https://doi.org/10.5281/zenodo.2573160>

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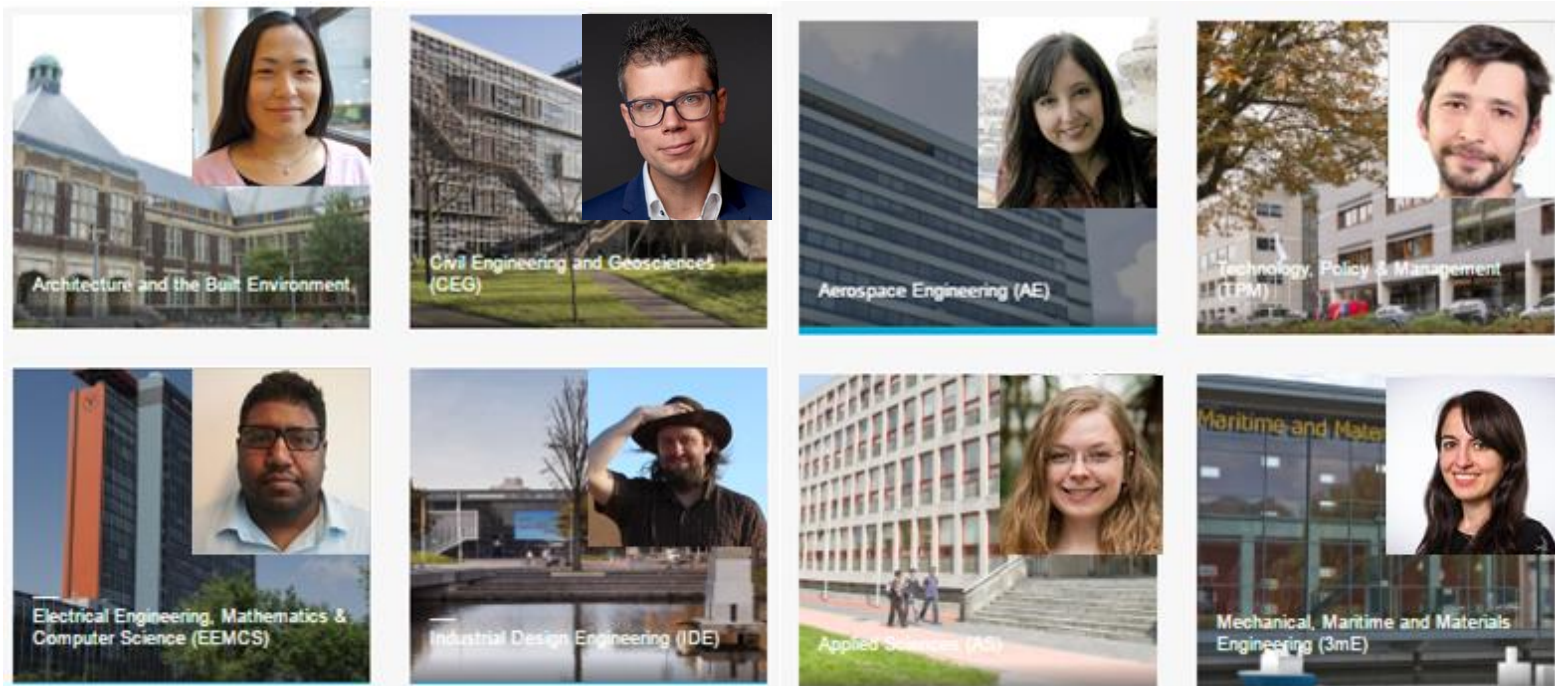
Key principles behind the project

- Research/Researcher is central
- Data Stewards are consultants, not police!
 - Objective: improve culture (not compliance)



Research is central: importance of disciplinary support

Subject-specific Data Steward at every Faculty



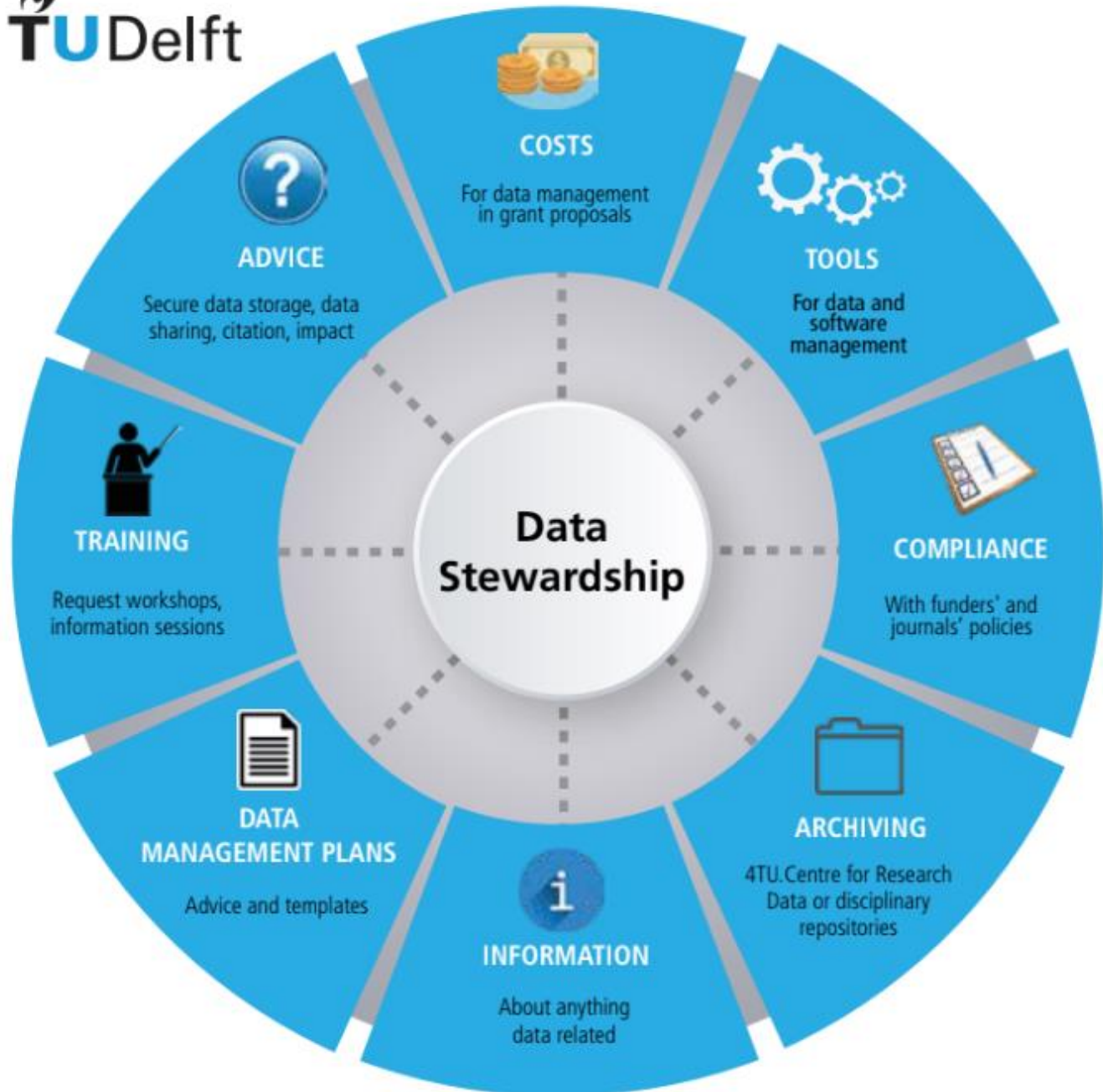
Training in data management provided:

<https://openworking.wordpress.com/2017/09/18/training-for-data-stewards/>

What do the Data Stewards do?



- First contact points for any data questions
- Referral to specialists as needed



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The importance of team building



- Team, not a group of individuals
- Peer support network, practice exchange
- Personal and professional development

Recruitment and retention

- How do you find people, who are not only disciplinary specialist, but also **excellent communicators and politicians?**
 - Job description: <http://bit.ly/2x0706z>
- How do you retain these people?

Costs

- Data Stewards come with a PhD degree
 - Postdoc salary
- $8 \times 65\text{k Euro (1.0 FTE)} = 515\text{k Euro/year}$
 - Just for the salary of data stewards

Data Steward vs Data Manager

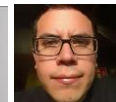
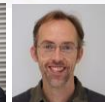
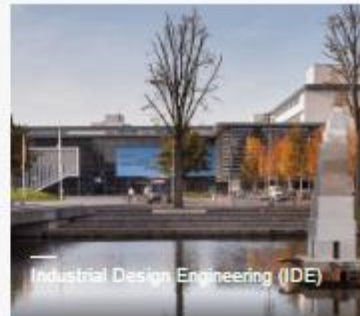
- Data Steward: Faculty level (just one!)
 - Policy, workflows
 - Training
 - Advocacy
 - Capacity Building
- Data Manager: group level
- Both needed!

Are we achieving cultural change?

Is your research data automatically backed up?

	3mE	AE	AS	CEG	EEMCS	TPM
Yes	38%	35%	43%	41%	47%	45%
Not sure	10%	13%	19%	13%	13%	27%
No	52%	52%	38%	45%	40%	28%

Data Champions at TU Delft



Our Data Champions



[Susan Branchett](#)

Expert Research Data Innovation / Data Architect
University Corporate Office, R & D / Innovation

Areas of expertise:
IT services and software development

+ Contact information

+ Motivation



[Ruud van der Ent](#)

Assistant Professor
Faculty of Civil Engineering and Geosciences,
Department: Water management

Areas of expertise:
Land-atmosphere interactions, Global hydrological
modelling, Extreme rainfall.

+ Contact information

+ Motivation



[Enzo Falco](#)

PostDoc, Researcher
Faculty of Architecture and the Built Environment - OTB

Areas of expertise:
Urban Planning, Public Administration, Participatory
Planning.

+ Contact information

+ Motivation



[Victor Koppejan](#)

PhD Student
Faculty of Applied Sciences

Areas of expertise:
Biochemical engineering; Simulation tools for the design
and optimization of equipment in purification processes;
Software version control tools (git, easybuild etc);



[Saulo Giovanni Pereira Castro](#)

Assistant Professor
Faculty of Aerospace Engineering, Department:
Aerospace Structures and Computational Mechanics

Areas of expertise:
Git, Github, Travis CI, Coverage, Python, Cython, C++,
FORTRAN.

+ Contact information

+ Motivation



[Irene Dedoussi](#)

Assistant Professor
Faculty of Aerospace Engineering
Department: Control and Operations

Areas of expertise:
My research aims to improve our understanding of the
net impacts of combustion emissions from
aviation and other energy and transportation sectors
more broadly, and contribute to their sustainable growth. I
am particularly interested in numerical and data-driven
approaches.

+ Contact information

+ Motivation



[Calvin Rans](#)

Assistant Professor
Faculty of Aerospace Engineering
Department: Aerospace Structures & Materials

Areas of expertise:
My academic expertise is on the fatigue and damage
tolerance behaviour of aircraft materials and structures.
Regarding data management: Open Science Framework
and use of repositories such as Github.

+ Contact information

+ Motivation

Data Champions

- TU Delft staff with **good RDM practices**
- **Local advocates/mentors**
 - Department/section
 - Raise awareness
 - Attend meetings
- **Front runners** in software/data management and cultural change

We are just starting...

What's next?...

- [Data Stewardship goals for 2019](#)
- [Software Carpentry](#) workshops
- Electronic Lab Notebook trial
- Coding Lunch and Data Crunch
- Faculty Research Data Policies
- Expand Data Champion Network
- Survey
- Sustainable funding

Three take away messages:

- The importance of senior management support
- What is a good value for money when it comes to achieving cultural change?
- Team building and people are key

Time for questions



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Project updates: <https://openworking.wordpress.com/data-stewardship/>