Danmarks Tekniske Universitet

DTU

NOTAT

Til   Akademisk Råd

Vedr. Temadrøftelse: "Code of Conduct (videnskabelig redelighed)"

Fra   AIS og Merian Haugwitz

15. november 2016
MEHAU

Oplæg til temadrøftelsen: "Code of Conduct (videnskabelig redelighed)" (sagsfremstilling)

DTU underskrev og tilsluttede sig officielt *Den danske kodeks for integritet i forskningen* i 2015 og forpligtede sig dermed til at implementere principperne i kodeksen på DTU. Kodeksen har fire hovedkapitler, der afspejler de fire elementer, som en national kodeks skal inkludere for at leve op til "best-practice" i en international kontekst.

1. Principperne for integritet i forskning
2. Ansvarlig forskningspraksis
3. Undervisning, oplæring og supervision i integritet i forskning
4. Videnskabelig uredelighed og brud på ansvarlig forskningspraksis

DTU har haft en række arbejdsgrupper til at konkretisere Code of Conduct i DTU regi. Resultatet heraf er DTU's Code of Conduct samt to nye politikker for forskningsdata og forskningspublicering. De to politikker er godkendt af Direktionen, har været forelagt Direktørkredsen den 24. august 2016 og HSU d. 15. november 2016 og fremlægges på mødet til udtalelse for Akademisk Råd.

Derudover har DTU sat som mål, at alle medarbejdere tilknyttet forskningen skal efteruddannes i god videnskabelig praksis over de kommende tre år. I den forbindelse er der udpeget lokale forskningsintegritetskoordinatorer, som skal være med til at sikre en lokal forankring af efteruddannelsen og at undervisningen tilpasses de enkelte fagområder.

DTU's prorektor Henrik C. Wegener vil fortælle mere detaljeret om implementeringen af Code of Conduct på DTU samt det fortsatte arbejde med god videnskabelig forskningspraksis.

Bilag
*   DTU Policy on the retention of primary materials and data – Udkast 1 den 9.6.2016
*   DTU Publication policy – Udkast 1 den 29.3.2016

1. Preamble

Technical University of Denmark (DTU) shall be known and respected globally as a leading technical university that produces excellent research meeting the highest quality standards. Meeting the highest standards for research excellence means that all research associated with DTU must strive for trustworthiness and high integrity; this includes honesty, transparency and accountability.

Responsible conduct of research includes proper management of research data. Proper management of research data ensures that research is credible and transparent. Furthermore it ensures that data is findable, accessible, interoperable and re-usable. Hence proper research data management enables science to be more efficient and open. DTU encourages that research data are made freely accessible, except when this is in conflict with legal or contractual obligations or current regulations on for example ethical, confidentiality or privacy matters or intellectual property rights.

The contribution of researchers and participants to the collection and creation of primary materials and data is of great importance to DTU. Research data is recognised as supporting research findings, contributing to further research and discussion, and enabling public trust in research.

Purpose

The intention of the policy is to support departments, researchers and research support staff by outlining how research data are managed at DTU from the planning, during and beyond the life of the research project:

- To be in accordance with best practice of the respective research field, codes, ethical protocols, including confidentiality, and privacy and other legal requirements including the *Danish Code of Conduct for Research Integrity*[1];
- To ensure, where appropriate, that primary materials and research data are available to support research findings and to contribute to other research projects;
- To enable, where appropriate, that research data are enabling Open Science[2], by making data findable, accessible and reusable;
- To align research data management practices with requirements from funders and publishers of scientific journals;
- To promote visibility and recognition of DTU's research.

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[1] Danish Code of Conduct for Research Integrity (2014): http://ufm.dk/publikationer/2014/the-danish-code-of-conduct-for-research-integrity
[2] Open science is the umbrella that includes transparent methods and public access to results, including publications, data and code.

Scope

This policy applies to staff, students, visiting researchers, and honorary and adjunct appointees undertaking or supporting research activities at all DTU locations and external research locations (in the following referred to as researchers).

This policy applies to research data that has been collected and/or used during DTU research activities, including materials, data, records and datasets, held in all formats and media.

2. General principles

Research data should be:

    a. Recognised as valuable
    b. Planned for (when commencing a new research project)
    c. Stored securely and appropriately
    d. Findable, accessible, interoperable and reusable
    e. Retained in accordance with disciplinary traditions, otherwise for a minimum of five years after publication or public release of the research
    f. Appropriately disposed
    g. Managed in line with ethical protocols, including confidentiality
    h. Compliant with legal requirements, such as privacy and data protection

3. Definitions

Research data is the material, data, records, files, and other evidence underpinning the research projects' findings, or other outcomes. This includes:

- *Primary material* is any material (e.g. specimens, laboratory notebooks, interviews, texts and literature, digital raw data, recordings and any other records including computer code necessary for the reconstruction and evaluation of reported results of research, and the events and processes leading to those results) that forms the basis of the research.

- *Data* are detailed records of the primary materials that comprise the basis for the analysis that generates the results.

Research data management is planning for and organising the collection, analysis, storage, re-use and disposal of research data. It ensures that researchers and institutions are able to meet their obligations towards funders, improve the efficiency of research, and make data available to verify their findings or for reuse, where appropriate.

4. Responsibilities

DTU acknowledges the importance of ensuring that all research data is managed so that it is secure, accessible, and, where appropriate, reusable, and so that any ethical, confidentiality and privacy requirements and concerns are respected. The responsibility is shared between

Principle investigators (PI) / Main researchers:

- *Supervise Research Data Management:* PIs must ensure that researchers under their management are instructed to conduct research in accordance with the policy and are made aware of their responsibilities as mentioned in this policy.

Researchers:

- *Research Data Management:* Researchers must ensure that research data are managed in line with best practice in their field; this includes planning the management of their primary materials and data.

- *Storing research data:* Researchers must ensure that primary materials and data are retained, stored and managed in a clear and accurate form that allows results to be assessed, the procedures to be retraced and, when relevant and applicable, the research to be reproduced.

- *What to store and for how long:* Researchers are, unless otherwise regulated[3], responsible for deciding the extent to and duration for which primary materials and data are to be retained. When deciding this, researchers should consider the value of the primary materials for assessing the results of the research and the physical and technical possibility of storage at the institution.

- *Disposal:* Researchers should plan for the appropriate disposal of primary materials and data.

- *Access and sharing:* Researchers are responsible for managing the access to their research data and encouraged to make their research data freely accessible, except when this is in conflict with contractual legal obligations or current regulations on for example ethical, confidentiality or privacy matters or intellectual property rights.

Technical University of Denmark:

- *Data storage***:** DTU must provide a storage system that allows researchers to manage their data responsibly. Such a storage system includes: storage space, access control, and back-up.

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[3] This refers to collections of primary materials and data that may be regulated by contractual agreements or by the law to be kept for a specified time, e.g. governmental research institutions

- *Research Data Catalogue:* DTU must provide a research data catalogue that enables data to be findable, accessible and citable.

- *Research Data Management Support*: DTU should 1) provide education and training opportunities; 2) provide advise on practice, legal issues and infrastructures; and 3) develop and maintain common systems and infrastructures for research data management.

DTU Publication policy

1. PREAMBLE

Publication of research results is key to the mission and functions of the university, the exploitation of its research in society, and the recognition of its individual researchers as well as of the institution as a whole.

The policy ensures that publication at DTU

- is in line with the *Danish Code of Conduct for Research Integrity*[1]
- is in line with the *Danish National Strategy for Open Access*[2]
- is in line with the *DTU Research Policy*[3]

Scope

The policy deals with scientific publications with DTU researchers as authors. These are typically in the form of articles in journals, papers in conference proceedings and chapters in books that have undergone peer-review during the publication process.

The policy deals with the following aspects of publication

- General principles (section 2)
- Attribution of authorship (section 3)
- Registration and archiving (section 4)
- Open Access (section 5)
- Management of copyright (section 6)

2. GENERAL PRINCIPLES   Identisk med CoC 3.1 i-vi

   i.   Research results should be published in an honest, transparent, and accurate manner

  ii.   Publishing the same results in more than one publication should only occur under particular, clearly explained and fully disclosed circumstances.

 iii.   Recycling or re-use of primary materials, data, interpretations or results should be clearly disclosed.

 iv.   If access to and analysis of all data are subject to limitations, this should be declared in a clear manner to the readers of the publication. Detailed information about any role of the study sponsor concerning research design, collection, analysis and interpretation of data,

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[1] Published by the Danish Ministry of Higher Education and Science on 5 November 2014
http://ufm.dk/publikationer/2014/the-danish-code-of-conduct-for-research-integrity
[2] Published by the Danish Ministry of Higher Education and Science on 23 July 2014
http://ufm.dk/en/research-and-innovation/cooperation-between-research-and-innovation/open-access/articles/denmarks-national-strategy-for-open-access
[3] Findes forskningspolitikken i en engelsk udgave?   Den danske er her:
http://www.dtu.dk/Om-DTU/strategi_aarsrapporter_mv/Politikker

and publication decisions should be provided in the manuscript.

v.   When using one's own work and the work of other researchers in a publication, appropriate and accurate references to such work should be provided.

vi. The right of researchers to unrestricted publication of their research should be respected.

3. ATTRIBUTION OF AUTHORSHIP

> 3 i-x er identisk med CoC 4.1 i-x.
> 3 xi er en DTU tilføjelse

i.   Attribution of authorship should in general be based on criteria a-d adopted from the Vancouver guidelines[4], and all individuals who meet these criteria should be recognised as authors:

   a. Substantial contributions to the conception or design of the work, or the acquisition, analysis, or interpretation of data for the work, and

   b. drafting the work or revising it critically for important intellectual content, and

   c. final approval of the version to be published, and

   d. agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ii. In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which co-authors are responsible for other specific parts of the work.

iii. The criteria for authorship should not be used to exclude persons who otherwise meet authorship criteria, and therefore persons who meet criterion 'a' should be given the opportunity to meet criteria b-d.

iv. Authors have a right to decline authorship, e.g. if they disagree with (part of) the methodology or conclusions in the publication. However, substantial contributions to the work should always be disclosed, e.g. as acknowledgements.

v.   Important work and intellectual contributions of others that have influenced the reported research but do not meet the criteria for authorship should be appropriately acknowledged.

vi. Participation solely in the acquisition of funding, in the collection of data, or in general supervision of the research group does not justify authorship.

vii. If authorship is by a group name, all members of the group should fully meet the criteria for claiming authorship.

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[4] Internatinoal Temmittee of Medical Journal Editors – Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, Updated December 2015
http://www.icmje.org/recommendations/

viii. Guest authorship (i.e. listing authors who do not qualify as such) or ghost authorship (i.e. omitting individuals who should have been listed as authors) must not take place.

ix. Decisions concerning publication and authorship should be agreed on jointly and should be communicated to all members of the research team. Any alterations to manuscripts after submission should be approved by all authors.

x. All authors are responsible for the content of the publication. However, the responsibility of each author should be assessed subject to their individual role in the research by considering their area of expertise, their experience and seniority, a possible supervisory role, and other relevant factors. Thus, in some cases an author may have a wider responsibility than others for ensuring the integrity of the publication or specific parts of the publication.

xi. DTU authors must ensure that they themselves as well as the university are attributed unambiguously:

    a. Author names should be written consistently in the same form and, whenever possible, accompanied by the global researcher ID, ORCID[5], which all DTU researchers are strongly encouraged to obtain.[6]

    b. Author affiliation should be written consistently in the short or long form given below, using the "Section for Cognitive Systems" as example:

- DTU Compute, Cognitive Systems, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark

- Department of Applied Mathematics and Computer Science, Section for Cognitive Systems, Technical University of Denmark, DTU, DK-2800 Kgs. Lyngby, Denmark

4. REGISTRATION AND ARCHIVING

i. All publications must be registered and archived in the university's research database, DTU Orbit.

ii. At the end of the peer-review process, DTU authors must submit the final and accepted manuscript to the library for registration and archiving[7].

iii. DTU Library takes care of the registration and archiving of the publication in DTU Orbit.

    a. As soon a published version becomes available, the DTU Library will update the registration and add the published version to the archive.

iv. DTU Library ensures that external access to the archived publications is enabled as soon as this is possible in accordance with the appropriate journal and publisher policies.

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[5] http://orcid.org/
[6] Indsæt link til DTU procedure for oprettelse og registrering af ORCID
[7] Indsæt link til DTU procedure for indsendelse/upload af manuskripter til biblioteket

5. OPEN ACCESS

DTU publications must be easily and freely available to the widest possible audience in order
- to enable scientific collaboration and scrutiny
- to facilitate the exploitation of research results
- to support the information and knowledge access of society at large.

Open Access is a key concept in enabling this availability, as the access rights acquired by the university do not extend beyond the campus. However, the current marketplace for scientific publishing services is characterized by lack of competition and a very high level of costs for the universities. Open Access has in several cases motivated publishers to launch new business models, where authors rather than readers are paying – and in some cases models, where authors as well as readers are paying. Consequently, DTU researchers must consider the following when deciding where and how to publish:
- the expected recognition by fellow researchers (citations etc.)
- the availability of the publication to the widest possible audience
- the costs, if such are incurred in addition to the university´s subscription costs

In practice, Open Access may be achieved in three ways:

i. **Via Open Access repositories (green Open Access)**
   This form of Open Access will be realized for all DTU publications simply by following the provisions of section 4 above. No additional costs will be incurred, and no additional researcher effort is required. Open Access via DTU Orbit becomes effective at the end of peer review or as soon thereafter in accordance with the policies of the particular journal or publisher.

ii. **Via Open Access journals (golden Open Access)**
   Many journals are launches as dedicated Open Access journals, where all content is freely accessible by anyone on the Internet. In some cases publication in such journals is free, in other cases the authors are charged a fee, an "article processing charge". Publishing in an Open Access journal is relevant when it is considered the best place to publish and the costs are not excessive.[8]

iii. **Via Open Access articles in subscription journals (hybrid Open Access)**
   Many subscription journals offer authors the option to pay an extra fee in order to release their article in Open Access while the rest of the journal remains subscription access only. This fee is often very substantial and comes on top of the subscription license already paid by the university. The increase of accessibility is very minor as the article is already made Open Access via DTU Orbit. Consequently, this should be avoided, except in the few cases where such fees are deducted from the university's subscription price.[9]

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[8] Indsæt link til DTU procedure for brug af gyldne Open Access tidsskrifter
[9] Indsæt link til DTU procedure for brug af tilbud om hybrid Open Access

6. MANAGEMENT OF COPYRIGHT

i.   The copyright to a literary work belongs to the author(s).

ii. DTU authors are advised to avoid the transfer all rights to the publisher, but rather to license the limited set of rights needed to enable publication in the particular journal.[10]

   a. As a minimum, DTU authors should retain the right to make the publication available via the university's institutional repository, DTU Orbit.

iii. DTU authors publishing in Open Access journals or otherwise able to define the license of their publication are advised to use a globally recognized and understood Creative Commons license, such as CC-BY.[11]

7. POLICY PROCESS

The DTU publication policy was approved by the Executive Board in April 2016, and should be considered for review every five years.

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[10] Link til vejledning i overførsel af begrænsede rettigheder
[11] Link til vejledning i anvendelse af CC-licenser