

Final Report on the Project 'Practicing Integrity'

A project funded by the Danish Ministry of Higher Education and Research to explore how the Danish Code of Conduct for Research Integrity was being translated into institutional practices and PhD education in Danish universities and university colleges.



Rachel Douglas-Jones' presentation of the project's results won a prize at the 6th World Conference on Research Integrity at Hong Kong, June 2019.

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Executive Summary

1. What is the problem that 'Research Integrity' is trying to fix?

International documents framed research problems in four different ways – international collaboration, the 'reproducibility crisis', loss of public trust, and whether steering incentives promote not only scandals but everyday 'questionable research practices'. Each framing asked Research Integrity to fix a different problem through different interventions.

2. How is the Research Integrity Code translated into institutional processes in universities and university colleges?

Some of the 8 universities and 7 UCs are using the Danish Code to build a research culture; in others, there seemed to be signs of ceremonial implementation, which does not impact academic environments. Most heads of department considered research integrity important, but something that was most problematic in other departments, not their own. They thought the self-regulation of scientists was more useful for building high integrity research cultures.

3. How is the code taught to PhD students?

There were marked differences in the problem narratives of PhD RI courses in science, medicine, social sciences and humanities. One focused on a 'broken system' operating against good practice while another depicted all researchers as 'small cheaters'. In a third, integrity meant following standard procedures of validity and reliability and in a fourth, research meant continually making ethical judgements. Students were aware of the importance of RI, but the meanings of 'integrity' and 'compliance' remained unclear.

4. How is research integrity training taken up by doctoral students in their working lives?

PhD students experienced tensions between trying to be good researchers, positioning themselves in a system with diverse forms of accountability, and avoiding non-compliance. International and national policies envisaged that early career researchers would act as change agents, but few felt able to challenge power relations in complex research hierarchies.

5. What is missing from the existing code and RI practices?

Responsibility for developing research integrity is widely distributed and fragmented. Gendered and hierarchical relations are central to participants' stories of research dis-integrity, but the issue of power is missing from the Code. Incentive structures are often inimical to research integrity. It is unclear how PhD students can become reflexive actors shaping their own research environment without making them feel responsible for dysfunctional systems that senior researchers find hard to change, and even endorse.

6. Future action

There is need to

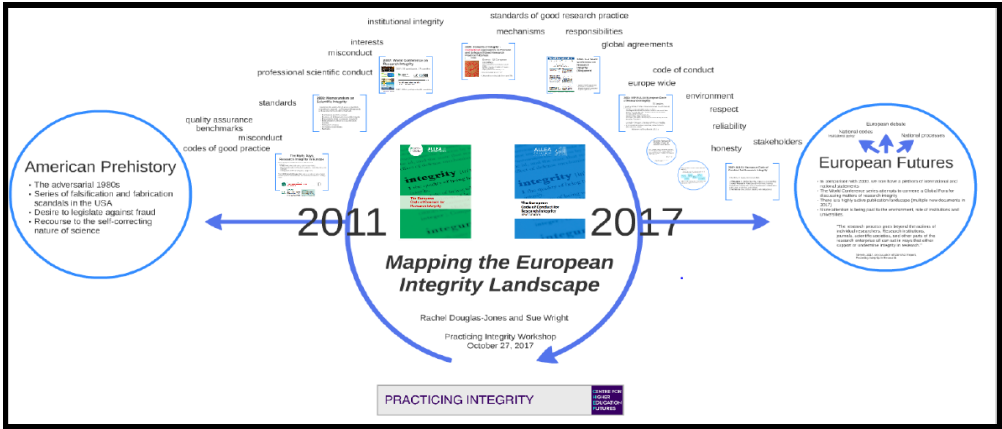
- sustain the focus on research integrity
- align steering incentives with RI at all levels
- clarify the meanings of integrity and compliance
- continue to develop institutional systems to support RI
- establish a forum for dialogue between all the actors in RI policy field, especially linking top-down policy making with bottom-up practice.

1. What is the problem that 'Research Integrity' is trying to fix?

Research Integrity became a European research priority in the late 2010s. To provide a context for the Danish Code on Research Integrity, Work Package 1 traced the political development of integrity as a problem and concept in 136 documents from international forums. Fieldwork was conducted in these international forums - 5th World Conference on Research Integrity (Amsterdam, May 2017), EU PRINTEGER project's closing conference (Bonn, February 2018) and 6th World Conference on Research Integrity (Hong Kong, June 2019). The project's overall findings were presented at Bonn (2018) and Hong Kong (2019).

Why Integrity Now? Documents state four primary reasons for discussing research integrity.

1. Increases in international collaboration required greater explication of local norms of science and shared professional standards of research merit and practice.
2. Scientific methods also changed with open data sets and new opportunities for transparency. A 'reproducibility crisis' focused attention on integrity in scientific methods.
3. For public trust in science, scientists and their institutions, integrity was of paramount importance. This tied the conduct of science to public funding.
4. There was concern that incentives and pressures on academics might lead to not only severe breaches (such as fraud or falsification) but also more everyday questionable research practices 'QRPs'.



Who Should Act? These four framings placed different emphases on what research integrity is aiming to fix and the site of intervention. If the challenge is white-collar crime, then reporting systems and support for whistle-blowers are necessary. If regulation is considered ineffective, then intervention in 'research culture' is needed through training (online and offline). To ensure public trust, all parties engaged in a research project (funding bodies, leaders, departments, supervisors, and PhD students) must feel responsible for observing and promoting good practices and their underpinning principles.

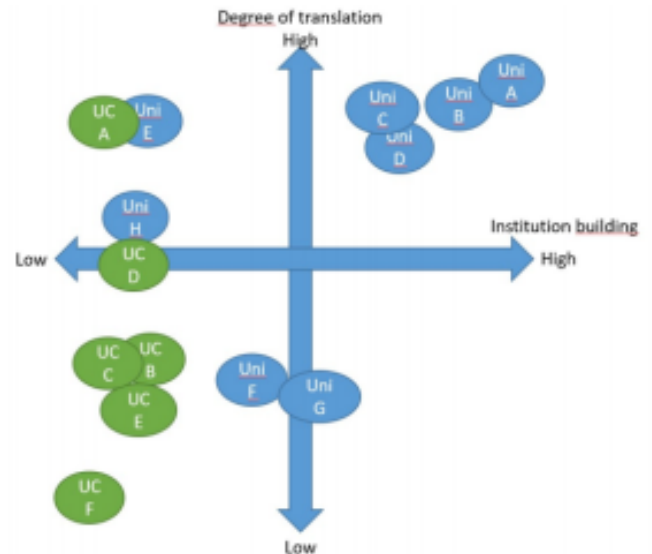
What Key Moments? Three key documents especially informed the Danish Code of Research Integrity. In 2007, the U.S. Office of Research Integrity and the European Science Foundation co-hosted the 1st World Conference on Research Integrity in Lisbon. In 2010, the 2nd World Conference drafted the Singapore Statement on Research Integrity. The European Code of Conduct for Research Integrity was published in 2011, revised in March 2017 and integrated into the EU's H2020 research strategy.

2. How is the code translated into university and UC processes?

Work package 2 investigated how the eight Danish universities and seven university colleges were working to integrate the national code of conduct into their institutions. There were two phases. An initial policy mapping study collected the official policies, regulations and guidelines on research integrity that were available to employees in the fifteen institutions. Key academic and administrative staff who had been involved in the formulation and dissemination of these documents were also interviewed. This resulted in a map of policy development to show how leaders were 'translating' national policy documents and local versions of the code of conduct into their institutional processes.

The policy mapping indicated that the institutional translation was very much a 'work in progress'. In particular, university colleges were still working towards integrating integrity into their emerging research cultures.

The figure gives a visual representation of the process. The vertical access shows the 'Degree of translation', that is, the extent to which an institution has adapted a document to a local context and the number of 'sub-policies' that the organization has developed. On the horizontal axis, 'Institution building' describes the extent to which each organisation has established an institutional infrastructure around research integrity, e.g. permanent practice committees, dedicated training courses, and named contact persons. As described in Degn (2017), key findings from the policy mapping are that 1) the organizational translation process is to some extent seen as a formality, rather than a process which impacts the academic environments, and 2) this decoupling between academic 'needs' and demands for formality could lead to 'ceremonial implementation'.



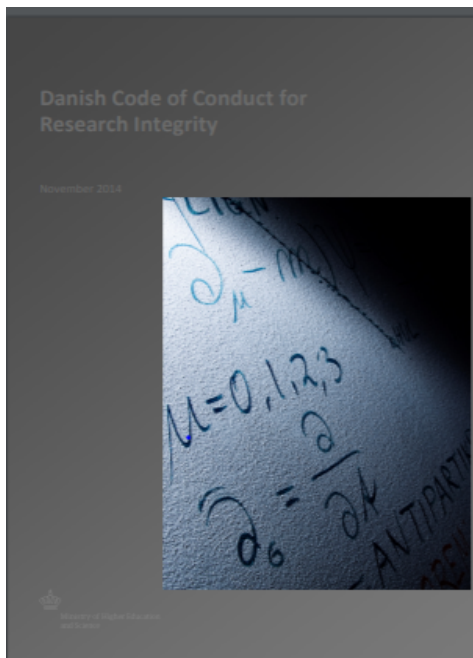
The second phase consisted of interviews with heads of department to explore how their institution's policies, initiatives and guidelines were received, and made sense of, at department level. This part of the study focused on the universities since the policy mapping had demonstrated that they had the highest degree of translation, but also the biggest variation on both parameters. A key finding was that even with the intense policy interest and the scandals in the Danish system, most department heads considered research integrity a 'non-problem'. Research integrity was considered important, but as something, which was most relevant and problematic for other departments, not their own.

Codes and other policies were seen by department heads as important to have from an organizational perspective and as a sign of institutional awareness, but interviews suggested that codes were less useful in the practical work of building and maintaining high integrity research cultures. The interviewed leaders expressed a strong belief in the self-regulating nature of science, so that individual researchers and their research cultures were still seen by department heads as responsible for the maintenance of high integrity in local contexts.

3: How is the code taught to PhD students?

Work package 3 explored how codes of integrity were understood and translated into doctoral courses in the fields of science, medicine, social sciences and humanities. Doctoral education was chosen as the site of study, since interviewees considered early career researchers as figures of transition: they were seen as change agents who were also inherently at risk of engaging in questionable practices.

To keep the context constant, the four courses were chosen from the faculties of one university. However, the courses varied significantly between the four faculties in terms of design, pedagogy and whether they were compulsory, their length, and whether ECTS were allocated. This variety reflected continuing negotiations between local course developers and teachers, faculty leadership and PhD school leaders. At all four faculties, the teachers were confronted with increased national and institutional concern about research integrity. They faced a highly complex task and carried massive responsibility in a context of variable institutional support (Sarauw et al. 2019).



Each course was studied using participant observation. One member of the research team participated in, and engaged with, the students and teachers throughout the course, focusing on the micro-level interpretation of integrity principles and conducting both formal interviews and informal talks with teachers and students. The field notes and interview transcripts from all four sites were analysed using the concept of 'problem narrative'. This enabled the research team to explore the ways research integrity was established as a problem in course documents and teaching.

The analysis revealed marked differences between the problem narratives that underpinned the four courses. One course gave the idea that research integrity is hard to achieve because the university system is broken by funding, promotion and other incentives that operate against good practice. A second projected the idea that researchers are inherently 'small cheaters' who individually have to navigate an inimical culture. A third argued

that 'good science' is achievable by following standard procedures of validity and reliability, whereas the fourth presented research as a continual process of making ethical judgements.

Even if the problem narratives in the four faculties were remarkably different, the solutions provided by the integrity courses seemed surprisingly similar. While participants were informed about the institutional support that was available, all the courses (explicitly and implicitly) highlighted the responsibility of individuals and research groups for acting with integrity in their own local practice. All the courses used casework and group discussions to focus on everyday dilemmas in the belief that through 'reflexivity' participants would be empowered to act responsibly, even when surrounded by 'small cheaters' and dealing with structural pressures from an increasingly competitive research environment. There were great variations in the ways PhD students might find support beyond the end of the course to work out how to exercise reflexivity and act with individual responsibility in very complex research hierarchies.

4. How is the research integrity training taken up by doctoral students in their working lives?

Work package 4 explored how doctoral students from the courses thought about research integrity in the light of other policies, incentive structures and assessment systems shaping their research practice. Two to four doctoral students who participated in the courses in WP3 agreed to be 'followed' over several months with individual interviews and occasionally continuous e-mail conversations. Interview questions were informed by key findings from WPs 1-3 and covered the doctoral students' experiences of the diverse problem narratives about integrity, their reflections on their research integrity course, their encounters with performance incentives and assessment criteria for career advancement, scientific values, disciplinary cultures, (unequal) power relations, and the everyday working conditions in their research environment.

Regardless of discipline, the doctoral students in our interviews generally experienced tensions between trying to be good researchers, positioning themselves in a system with diverse forms of accountability, and trying to avoid non-compliance. The main points from the interviews were:

1. After the course, doctoral students did not perceive of themselves as capable of acting as 'agents of change' in their research environments. The doctoral students often located themselves at the bottom of well-established hierarchical structures, whether between the individual doctoral student and his/her supervisor, or structurally within research teams or departments. The vision of changing the culture by means of research training for early career researchers, which is found in international, national and institutional policies and strategies, is currently challenged by established structures and power relations.
2. Disciplinary ideas about good research influenced doctoral students' practice and their interpretation of policy and codes. Medical faculty students considered integrity and disciplinary expertise as separate issues, and thought non-compliance with integrity codes and guidelines would not influence their research results as long as they kept away from falsification, fabrication and plagiarism. In contrast, some humanities students saw integrity and ethics as not just a methodological issue but as integral to their whole research practice and identity.
3. A shared take-home message among the doctoral students was that they were individually responsible for keeping themselves in compliance with the guidelines. The interviewees from all four courses were encouraged to be reflexive about their own research practice in order to avoid non-compliance, but they were also left alone with the task of deciding between the ever-expanding meanings of integrity. Some saw this as stressful while others defined their own version of 'wrong' and 'right' conduct of research.
4. In combination with extensive doubts about what to consider 'wrong' or 'right' research conduct in the context of their own research environments, many interviewees felt left to themselves in questions about how to navigate the system. They found themselves in a tense situation between trying to be good researchers and positioning themselves in a system with diverse forms of accountability, measures of publication output and rankings, and evaluations of their CVs for career advancement that often ran counter to principles of research integrity. Authorship was a crucial site of tension between codes of conduct and 'right' ways to advance a career. Their frustration with university incentive structures suggested that while the courses and mentoring created awareness and to some extent led early career researchers to engage actively with research integrity norms and codes, on the whole, it did not prepare them for an active reflexive citizenship that would promote those norms and codes within their institutions.

5. What is missing from the existing code and RI practices?

RI and compliance lack clear definition. In its short history, 'Research Integrity' has accumulated a range of meanings, each differently defining the problem and the appropriate site and mode of intervention. 'Research Integrity' has unclear relations with a plethora of other terms: RRI (Responsible Research and Innovation), RCR (Responsible Conduct of Research), ethics, QRP (Questionable Research Practices), trust, compliance, and accountability. These words shift in their meanings and their relations to each other in different policy spaces and over time. For example, research integrity sometimes means following standardised scientific methods without regard to ethics. These morphing meanings make it difficult for PhD students to know what 'research integrity' means and whether they are in compliance.

Connections across the RI policy area. Responsibility for developing research integrity is distributed and fragmented: from the global network and bi-annual World Conference on Research Integrity to the EU and ALLEA, national ministries and interest groups, the management of universities and university colleges, leaders of research groups, labs and projects, teachers of integrity courses, supervisors and, not least, the next generation of PhD students. Across these different sites, the definition and development of research integrity varies and dialogue between them is weak, leading to dislocated practices. There is especially a need to make links between the top-down and bottom-up discourses and practices.

Power. Gendered and hierarchical relations were central to participants' stories of research dis-integrity, but this issue of power is missing from the Code. Participants grouped together all problematic aspects of research - from sexual misconduct and misuses of power (senior professors stealing and publishing others' research, bullying and dismissal) to sloppy management, scientific malpractices covered by the Code, and QRPs. The Code and Research Integrity staff can be a resource in such circumstances, but there are serious doubts that research communities can deal with abuses of power given current management structures.

Incentive structures inimical to research integrity. Government and university managements and some senior researchers endorse performance-based funding, management and reward structures that include competitive external funding, publish or perish, rankings and journal impacts. These incentive structures contradict researchers' endeavours to establish cultures of research integrity that are beneficial to science and society.

Responsibility and agency. Universities and UCs are responsible for student and supervisor training and incentive structures that will embed RI in research cultures. PhD students also have agency and whereas their role in research hierarchies often induces complaint subordination, they need to learn how to analyse and act on their research environment and institution to create spaces where they can become good researchers and their research can flourish. Yet, one misstep can be detrimental to their careers and lives, so it is also important not to make early stage researchers feel responsible for dysfunctional organisations and systems that incentivise poor research, but which senior researchers find hard to change, and even endorse.

6. Future action

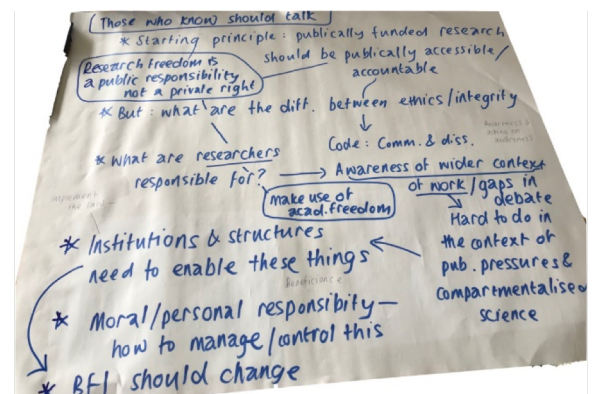
Alignment of steering incentives with RI at all levels. The diverse government departments that deal with different aspects of the research system (and the EU) need coordination, so that the incentives used to steer universities and research match RI ideals. Universities need to assess the work of departments and research groups in terms of research integrity and an ethics of care. For individuals trying to build a career, evaluation measures are needed that incentivise both productivity and good research behaviour.

Clarification of the meanings of integrity and compliance. The wide span of actors involved in this policy field have developed diverse narratives about the problem of RI and the kinds of interventions needed. In particular, there is a gap between policy makers (EU, ministry, university leaders) and practitioners (support staff, teachers, supervisors, PhD students). They need to understand their different perspectives on RI and work out how to connect top-down systems with bottom-up research culture.

Sustaining the focus on research integrity. Denmark has made important steps towards creating a culture of research integrity but there is concern that attention may fade away, until hit by the next scandal. There is still considerable work to be done nationally and in universities and UCs to translate the Danish Code into institutional procedures and locally appropriate systems for sharing knowledge and providing support. From the teachers' perspectives, there are many challenges about the way research integrity is perceived and handled within the university.

Teaching RI. Courses created awareness among early stage researchers but also promulgated dramatically different disciplinary ideas about good research, different characterisations of human nature, and different ways of thinking about the responsibility and power(lessness) of individual actors to change inimical research systems and incentive structures. The various ways courses may naturalise bad conduct, or induce uncertainty and stress about what constitutes 'compliance', or make PhD students responsible for cultural change beyond their capacity to act need further discussion among teachers.

Dialogue forum on RI. This project's final conference brought into dialogue people from the full range of locations in the research integrity field for the first time – from European forums to classrooms. They agreed it was inspirational to gain from each other deep insights into the European and Danish contexts, state regulations, institutional infrastructures for developing research cultures and methods of teaching RI and supporting early stage researchers. They asked to continue such dialogue in a forum. The Ministry has agreed to the establishment of a RI network under the auspices of the Centre for Higher Education Futures, and an application has been made to DUN (Dansk Universitetspædagogisk Netværk) for it to be institutionalised as part of a new Higher Education Policy and Practice (HEPP) special interest group. This forum will take forward some (but not all) the future actions set out above.



7. List of publications and conference presentations

Publications

- Degn, Lise 2017 *Translating 'research integrity' into policy and practice – HEIs leaders as political and academic mediators* Working Papers on University Reform no. 26. Copenhagen: Danish School of Education. October.
http://edu.au.dk/fileadmin/ingen_mappe_valgt/Working_Paper_26_Translating_research_integrity.pdf
- Douglas-Jones, Rachel and Susan Wright 2017 *Mapping the Integrity Landscape: Organisations, Policies, Concepts*. Working Papers on University Reform no. 27. Copenhagen: Danish School of Education. October.
http://edu.au.dk/fileadmin/ingen_mappe_valgt/Working_Paper_27_Mapping_the_Integrity_Landscape.pdf
- Douglas-Jones, Rachel and Susan Wright 2017 'Integrity and Power' Report of Workshop held at DPU, 27 October.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Integrity_and_Power_-_Practicing_Integrity_Workshop_2017.pdf
- Wright, Susan with Lise Degn, Rachel Douglas-Jones, Laura Louise Sarauw and Jakob Williams Ørberg 2018 'Practicing Research Integrity Conference Report' held at DPU, Copenhagen, 1-2 November.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Practicing_Integrity_Conference_Report.pdf
- Sarauw, Laura Louise, Lise Degn and Jakob Williams Ørberg 2019 'Researcher development through doctoral training in research integrity'. *International Journal for Academic Development*, 24(2), 178-191.
<https://doi.org/10.1080/1360144X.2019.1595626>.
- Degn, Lise 'Integrating integrity – translating policies on research integrity' Draft journal article (to be submitted Dec. 2019)
- Sarauw, Laura Louise 'The reversed causalities of doctoral integrity training' draft journal article
- Sarauw, Laura Louise and Simone Meiding Poulsen (forthcoming) *(De)constructing the 'integrative scientist'. A case study of research integrity training for PhD fellows in medical sciences*. Working Papers on University Reform.

Conference Papers and Presentations

- Degn, Lise 2017 'Translating Integrity into Policy and Practice' Paper given at CHER conference at Jyväskylä, 29 August.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Presentation_CHER_2017.pdf
- Degn, Lise 2019 'Integrating Integrity -Translating Policies on Research Integrity' Paper given at EAIR's 41st Annual Forum 'Responsibility of Higher Education Systems: What? Why? How?' at Leiden, 26 August.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/EAIR_2019_-_INTEGRATING_INTEGRITY_-_TRANSLATING_POLICIES_ON_RESEARCH_INTEGRITY.pdf
- Douglas-Jones, Rachel and Susan Wright 2017 'Mapping the European Integrity Landscape' Presentation to the Practicing Integrity Workshop, 27 October.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Mapping_the_European_Integrity_Landscape.pdf
- Sarauw, Laura Louise and Lise Degn 2017 'Un-practicing Penkowa: Ph.d.-uddannelse og den danske kodeks for forskningsintegritet' Paper given at Institut for Naturfagenes Didaktik, Copenhagen University, December.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Unpracticing_Penkowa_-_INDBlik_12122018_-_Lise_og_Laura_Louise_-_redac.pdf
- Sarauw, Laura Louise with Susan Wright, Lise Degn, Rachel Douglas-Jones and Jakob Williams Ørberg 2018 'Bringing up Early Career Researchers: Research Integrity Teaching and the Formation of Scientific Norms' Paper to the 'Locating research integrity' workshop, University of Copenhagen, 30 August.
http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Locating_research_integrity_workshop_-_UCPH_-_August_30_2018_-_Laura_Louise_Sarauw_-_slides_for_circulation.pdf
- Sarauw, Laura Louise with Lise Degn and Jakob Williams Ørberg 2018 'The Brave New Researcher of Doctoral Integrity Training' Presentation to ECER conference at Bolzano, 5 September. http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/FINAL_-_ECER_-_September_5_2018_-_Laura_Louise_Sarauw_-_redact.pdf

Presentations given by speakers at the 'Practicing Research Integrity Conference' held at DPU, Copenhagen, 1-2 November 2018. <http://edu.au.dk/en/research/chef/projects/practicing-integrity/publications/>

Wright, Susan, Lise Degn, Rachel Douglas-Jones, Laura Louise Sarauw and Jakob Williams Ørberg 2018 'Practicing Research Integrity' Presentation to DAFSHE, 12 December. http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/Practicing_Integrity_-_mini-symposium_Dec_2018.pdf

Douglas-Jones, Rachel with Lise Degn, Laura Louise Sarauw, Susan Wright (PI), and Jakob Williams Ørberg 2019 'Practicing the Danish Code of Conduct for Research Integrity' paper to the World Conference on Research Integrity, Hong Kong, 2-5 June. http://edu.au.dk/fileadmin/edu/Forskning/CHEF/Projects/Practicing_Integrity/WCRI_Rachel_2-5_June_2019.pdf