

The background of the entire page is a photograph of a red brick building. The top section shows a close-up of the brickwork and the upper part of an arched window with a flower-shaped leaded glass design. The bottom section shows a wider view of the building facade, featuring two such arched windows and two tall, narrow arched windows below them. A large, faint, circular gold seal of the University of Lund is visible in the bottom right corner, partially overlapping the brickwork.

Catalysing Interdisciplinary Research

PUFENDORF INSTITUTE FOR ADVANCED STUDIES AT LUND UNIVERSITY, 2018 – 2022



Content

Foreword	4
1. Introduction	7
2. Interdisciplinary research at the Pufendorf IAS – ahead of its time	7
3. Impact on Lund University	8
4. Publications and external research funding	9
5. Stimulating new research and attracting new researchers	10
6. Supporting interdisciplinary research at the Pufendorf IAS	13
7. Learning from the interdisciplinary research process	15
8. Cases illustrating the interdisciplinary research process at Pufendorf IAS	17

Photo cover: Johan Persson

Authors: Eva Persson, Stacey Sörensen, Åsa Thormählen and Tina Trollås

Graphic design: Frida Nilsson, Media-Tryck

Print: Media-Tryck, Lund University

Paper: cover GAM 250g, inlaga GAM 130g. © Lund University 2024



Photo: Dmitry Bukhantsov, Pixabay

Foreword

The Pufendorf Institute for Advanced Studies (IAS) is a unique part of Lund University, and the qualities that define the Institute are essential for sparking new research ideas, forging new research constellations and looking at difficult problems in a new way through interdisciplinarity. When the Institute was founded, a highly flexible approach to research was envisioned, with groups of researchers coalescing around a common interest, defining the research questions together and spending time at the Institute during a very early phase in the research process. The model emphasised the need for researchers to concentrate fully on their research, and to commit to working together over the academic year. After fifteen years, more than hundred Themes and Advanced Study Groups (ASGs), and a pandemic, much has been learned.

In line with the Pufendorf IAS' commitment to inquiry, it is essential that we can confirm that this model is still valid. The seeds of new research are planted at the Institute; afterwards, as the research develops further and matures, the fruit of these ideas emerges in the form of new research projects, successful grant applications and new PhD programs. As the Institute has evolved, so too has the university and the external world. Therefore, the current situation can only be partially addressed by analysing outcomes from

earlier periods. Does the university still need what the Pufendorf IAS offers? Can our approach be improved to better meet new challenges and needs?

Although one of the Institute's cornerstones is its non-deliverables policy, it is crucial to understand the long-term effects of a stay at the Pufendorf IAS. Do the networks formed at the Pufendorf IAS continue to thrive, leading to publications, new research platforms at Lund University, enhanced educational programs, and successful funding bids? With this evaluation we have reviewed activities and their long-term effects, and recommendations were offered by an external panel in their report (May 2024). The long-term effects of working in a Theme at the Institute are clear, and most definitely positive for Lund University. Work in a Theme is an investment in Lund University research and researchers, outcomes in terms of publications, new grants and activities such as conferences and workshops or joint research projects are impressive.

Since 2021 several changes were implemented at the Pufendorf IAS, one of the most important is a more obvious focus on the interdisciplinary process and on the group itself. This is in line with the task of the Institute developing the capability to manage or support the interdisciplinary process. With respect to Theme outreach and activities we

place a stronger emphasis on the development of the group with respect to their research work rather than showcasing their findings, and the visiting researcher program has a more flexible structure.

The panel recommended that the Pufendorf IAS utilise the extensive community of scholars who have experienced interdisciplinary work at the Institute during the last 15 years, our alumni, as ambassadors for the Institute within the university. They also suggest that a greater effort be placed on communicating research ideas that emerge from Themes in outreach activities aimed at the wider community, acknowledging also that the Pufendorf building (Classicum) is a visible component of our profile. Additional recommendations were to enhance the research incubation process at the Pufendorf IAS by preparing Theme groups and supporting coordinators, and to continue to build collaboration with the Nordic IAS.

The model developed at the Pufendorf IAS is well established at Lund University but stands out on the international level. At other Institutes for Advanced Studies, the focus is often on international scholars and long-term research fellowships. Despite these differences we foresee fruitful collaboration in the future through stronger international

networking around interdisciplinary research within the emerging Nordic network for advanced study institutes (NordIAS).

The international evaluation panel included Prof. Martin Cloonan, Director of the Turku Institute for Advanced Studies in Finland; Dr. Britta Padberg, Managing Director of The New Institute in Hamburg, Germany; and Prof. Richard Taylor, Professor of Physics, Psychology, and Art at the University of Oregon, USA.

We are grateful to the external panel for insightful discussions and thoughtful suggestions during their visit, and for putting our Institute in perspective. Their critical examination of the Institute – its model and success – is invaluable to us. Their reflections on the Institute and their recommendations are summarised in the Evaluation Report which is available on the Pufendorf IAS web site.



<https://www.pi.lu.se/en/about-pufendorf-ias/pufendorf-ias-board/evaluation>



The evaluation panel with the Director of the Pufendorf IAS. Photo: Åsa Thormählen

1. Introduction

The Pufendorf IAS was evaluated by the external panel in May 2024. The primary aim of the evaluation was to assess how effectively the Pufendorf IAS functions as a catalyst for new research and to evaluate its role as an independent Institute for interdisciplinary and cross-boundary research within Lund University. The evaluation focused on activities that stimulate new interdisciplinary research during the period 2018–2022 at the Institute. In this report the Institute wants to highlight what we have learned from the documentation we gathered for the external evaluation.

We would like to understand how research at Lund University is influenced by work at the Pufendorf IAS, and how researchers engaged in interdisciplinary research activities at the Institute are affected. Are there links between the university's recent investments in interdisciplinary research and Pufendorf Themes and ASGs? What are the effects on the researchers' subsequent work after finishing the Pufendorf activities? Are there new publications and external research funding that can be linked to the Pufendorf work? These questions require information and data on both the

impressions of researchers after working at the Institute and on long-term outcomes.

Background material for the panel was compiled by the Pufendorf IAS. This included final reports from Themes and ASGs, Theme-member exit questionnaires for the years 2018–2020, and a follow-up survey for Themes and ASGs active during 2018–2021. The Lund University Current Research Information System (LUCRIS) database provided lists of publications correlated to the Themes and ASGs, and researchers validated these publications and grant applications in a survey before they were released to the panel.

While many outcomes can be measured by publications and research grants, interdisciplinarity and the challenges of team-based research require other approaches. We carried out interviews to obtain narratives describing Theme's experience of the interdisciplinary research process. These cases illustrate the breadth and scope of the experience and the journey of a Theme from idea to fully developed research project. Three cases are included in this report.

2. Interdisciplinary research at the Pufendorf IAS – ahead of its time

"The researchers are strikingly often ahead of, or perfectly in tune with societal issues of key importance if they are entrusted with the freedom to develop their own research problems", says Ann-Katrin Bäcklund, previous director of the Pufendorf IAS.

Many topics now widely discussed in society were in focus at the Pufendorf IAS early on in exploratory studies at the forefront of research. Studies from the Institute that exemplify this include:

- The Debating CRISPR Theme analysed and contributed to the debate on new gene technology in medicine and plant breeding. The following year, 2020, the Nobel Prize in Chemistry was awarded for the development of the genetic scissors.
- Theme Domestication focused on sustainable farming based on perennial crops – an idea that is still ahead of its time, and highly relevant as food security is a political priority.

- The CRISIS Theme studied the concept of large-scale societal crises before the Covid-19 pandemic and the war of aggression against Ukraine.
- The Post-Antibiotic Futures Theme considered a future without effective antibiotics. One of their proposals was social distancing in crowds – something we all had to learn during the Covid-19 pandemic.

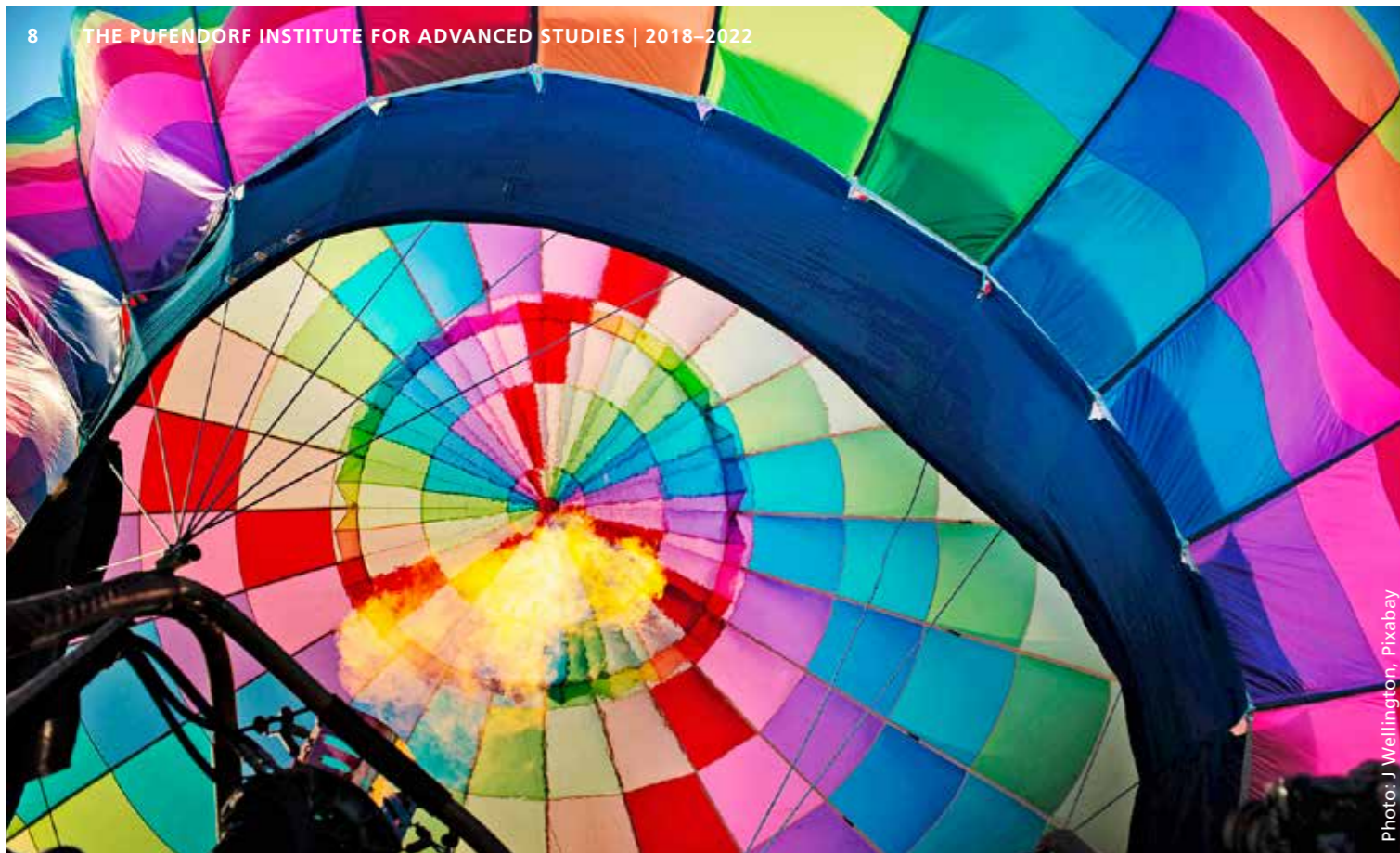


Photo: J Wellington, Pixabay

3. Impact on Lund University

Stimulating interdisciplinary collaboration within and across faculty boundaries is a central component of Lund University's strategic plan to advance research excellence. The establishment of the Pufendorf IAS in 2009 was one initiative to enable this goal.

The Pufendorf IAS is an incubator for new ideas and a springboard for innovative research initiatives. Its mission is to initiate and catalyse interdisciplinary research at Lund University. To achieve this the Institute invites researchers from all faculties at Lund University – from science and medicine to the humanities and arts – to collaboratively identify and address a scientific problem.

The majority of researchers involved in Themes and ASGs are employed at Lund University. Members of the Themes receive compensation from the Institute to collaborate at the Pufendorf IAS one day a week over an academic year. The Institute has hosted about 60 different Themes since the start in 2009, and more than 700 researchers have taken part in Themes.

Since the establishment of the Pufendorf IAS several other initiatives focused on stimulating and profiling research were launched within Lund University. Three of these initiatives also emphasise interdisciplinarity: (i) Thematic Collaborative Initiatives, (ii) Interdisciplinary Projects Focusing on Agenda 2030 and Sustainable Development and (iii) Profile Areas at Lund University.

While interdisciplinarity is a common denominator, these initiatives differ substantially from the Pufendorf IAS. The Pufendorf IAS focuses on novel, high-risk ideas not yet ready for external funding, with each Theme lasting 9 months. In contrast, the other initiatives run over longer time frames – three years or more – and while the Pufendorf IAS primarily concentrates on research ideas, the other programs expect actual research to be conducted, and results in terms of publications are expected. In its role as an incubator, the Pufendorf IAS can be seen as complementary to these three initiatives.

Have the funded projects and profile areas been influenced by work at the Pufendorf IAS? Our analysis indicates that most of the Thematic Collaboration Initiatives can be traced to previous Pufendorf Themes or ASGs, 3 out of 5 of the Agenda 2030 projects had close links to research groups at the Pufendorf IAS, and all of the Lund University profile areas reflect earlier work at the Pufendorf IAS.

While the Pufendorf IAS was explicitly included in RQ20 (Lund University's research quality evaluation 2020), the impact was clearly most visible in the faculties self-evaluations. Our assessment of the impact echoes the many references to how work at the Pufendorf IAS has influenced work at the faculties, stimulating new projects, research centres and publications.

4. Publications and external research funding

The Pufendorf IAS' model for supporting interdisciplinary research entails a "liberty of action" for researchers. As the prerequisite for collaborations is curiosity and freedom of thought, the Institute does not demand any specific outputs from the work, i.e. no publishable results. At the same time, there is a fundamental belief and expectation that the vision of the researchers drives their research forward, inevitably leading to results in terms of e.g. publications and external funding.

The 2019 results follow-up of the Pufendorf IAS found that researchers' time at the Pufendorf IAS indeed impacted subsequent research. A survey on the direct effects of working at the Pufendorf IAS in the following period substantiates these conclusions.^{1, 2, 3}

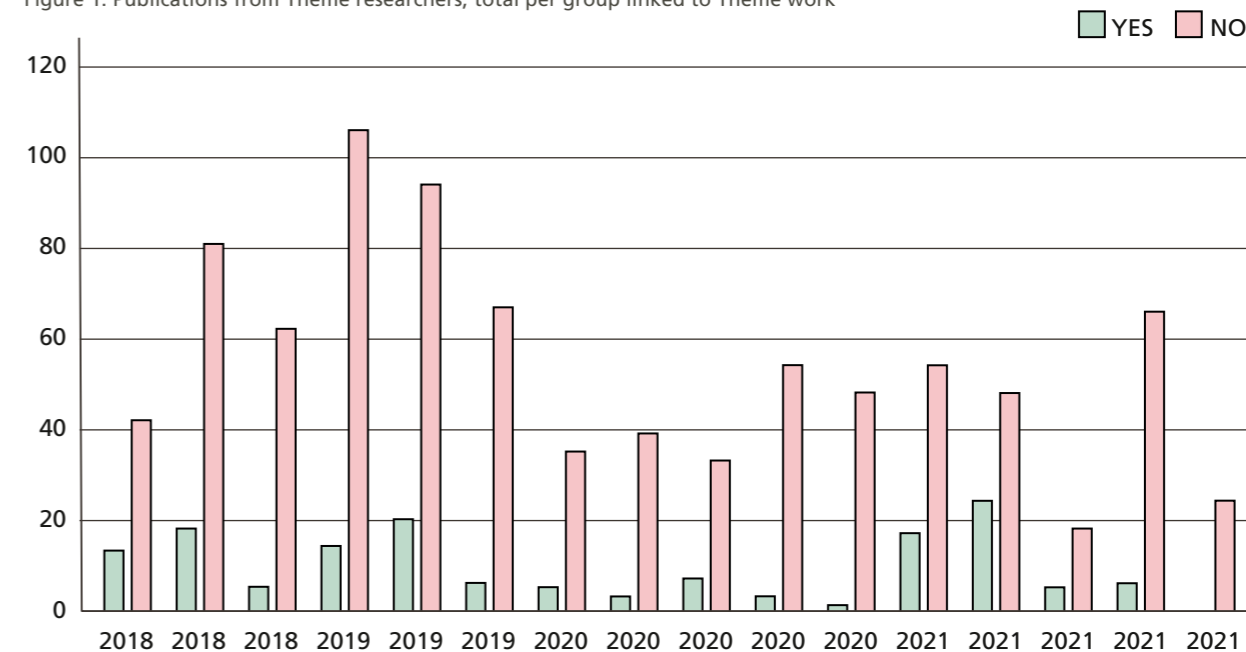
Theme and ASG participants received questionnaires with specific questions regarding whether publications in the LUCRIS database could be linked to the Pufendorf work. Of the 1516 publications that were validated in the questionnaire 14 % were linked to the Theme work. All Themes except one reported publications stemming from

the interdisciplinary work at Pufendorf IAS. For the ASGs the results are less clear, but five out of 15 groups report that the work resulted in a few publications.

A little more than half of the ASGs and most of the Themes wrote applications for external research funding which have generally been successful. The Themes report 58 applications for a total of SEK 565,9 million in funding, of which SEK 398,9 million was approved. The ASGs report 37 applications for a total of SEK 247,6 million. So far SEK 68,2 million has been granted and SEK 90 million is under review. This confirms that interdisciplinary exploration started at the Pufendorf IAS leads to successful funding by grants won in external competition, and that the work on these topics continues.

In conclusion, the results of the evaluation confirm the previous finding that both publications and external funding can be attributed to Themes and ASGs. While the effects of the Pufendorf IAS are not always easy to quantify, it is noteworthy that the 398.9 million SEK granted to former Themes amounts to approximately 17 times the original Theme investment at the Pufendorf IAS.

Figure 1. Publications from Theme researchers, total per group linked to Theme work



Note: The x-axis indicates start year for each Theme (reported anonymously).

1. The numbers and magnitude of the publications and external funding cannot be compared between the 2019 and 2024 evaluation due to differences in methodology.
2. Lund University (2019), Pufendorfinstitutet 10 år – en resultatuppföljning (The Pufendorf IAS 10 years – A Results Follow-up.)
3. The follow-up survey was performed in March 2024 and covered Themes and ASGs with start year 2018–2021/22.



5. Stimulating new research and attracting new researchers

The Themes and ASGs that were hosted at the Pufendorf IAS during 2018–2022 to stimulate new interdisciplinary research are summarised in this chapter. What topics were covered by the groups? Who are the researchers that engage in interdisciplinary research at the Institute? Where did the guest researchers invited to work with the groups come from?

5.1 ACTIVITIES TO PROMOTE INTERDISCIPLINARY RESEARCH Themes

The Pufendorf IAS opens its annual call for researchers at Lund University to apply for Themes in the fall. Each Theme group consists of up to 10 researchers to tackle a scientific problem that requires expertise from multiple disciplines. The research question should be innovative, in an early stage, and not yet ready for traditional research funding. The goal of a Theme is to lay the groundwork for future research. The assessment of applications emphasises risk-taking, innovation, versatility, the combined expertise of the group, and the relevance of these factors in achieving the proposed objectives. During the evaluation period the Institute funded 19 Themes. These are listed in Table 1.

Advanced Study Groups

Applications for ASGs are assessed twice a year and new groups start in February and September. An ASG is a looser form of cooperation with about 5–10 researchers who meet roughly once a month. The aim is to develop networks and

lay foundations for proposals for future research based on the group’s diverse expertise. During the evaluation period the Pufendorf IAS hosted 19 ASGs (Table 2).

Guests and Fellows

Themes and ASGs may invite experts for shorter visits as guest speakers, as participants in workshops or as critical colleagues in seminars. These shorter visits are generously funded by the Grace and Philip Sandblom Fund. Both Themes and ASGs recognise that input from colleagues outside of Lund University can be an invaluable component to stimulate collaboration, adding new perspectives to and contributing specific expertise. These guests may come from any university or organisation outside of Lund University (Figure 2).

In addition to inviting short-term guests, Themes may also invite international Fellows for longer stays to engage in more comprehensive work. This requires a greater commitment from the guests, but the impact on the Theme can be substantial. Fellows are expected to work on-site at the Institute, participate in the Theme’s activities, and contribute to building the Theme’s research network and expanding expertise in the group. Fellows receive full-time salary support for their work at the Institute, and they may also use their time in Lund as a sabbatical to focus on their own research. The Fellowship program is made possible by a generous grant from the LMK Foundation, who has provided support since 2009.

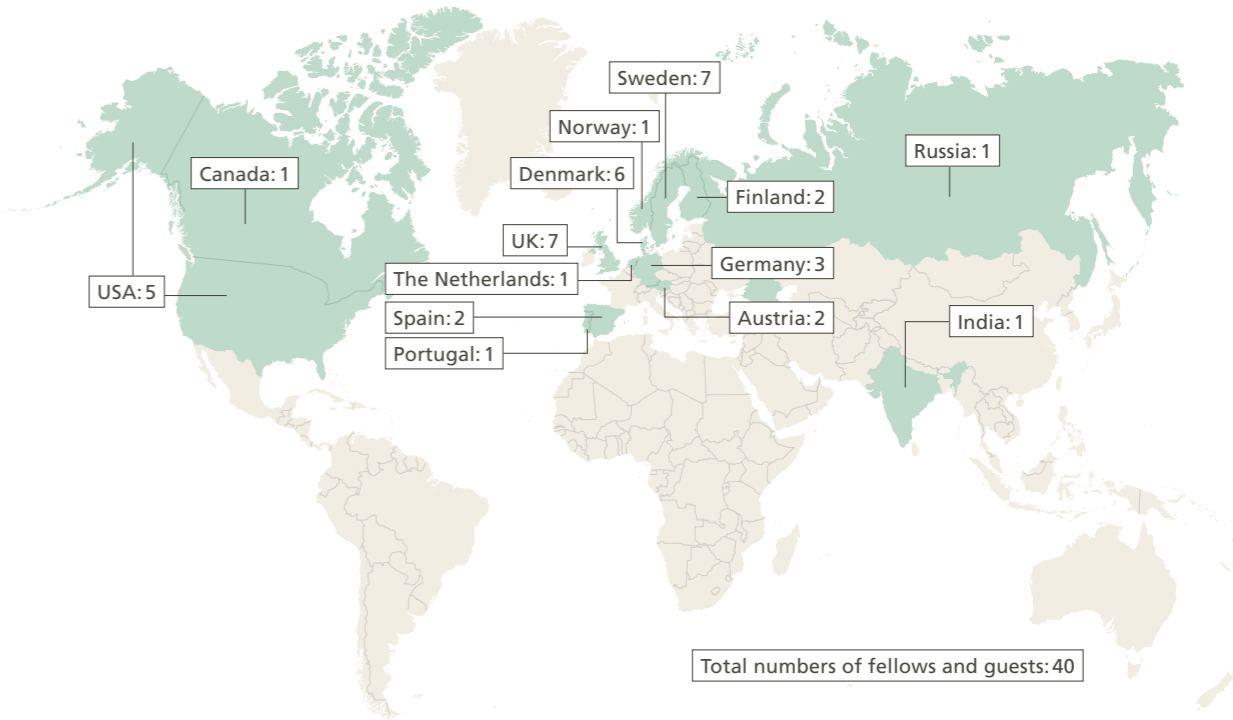
Table 1. Themes with start year 2018–2021

2018	2019	2020	2021
Air in African cities	CRISIS	The Human Aspect of Invasive Alien Plants	The Air We Breathe 2.0
Domestication	Gender and Conflict	In Search of Search and its Engines	Domestication 2.0
The Protein Shifts	Resourcification	Political Polarization on the Internet	Energy Justice 2.0
The Urban Creativity	Debating CRISPR	The Radiation Safety Expert	Hydrosolidarity 2.0
	Post-Antibiotic Futures	The Future of Human Rights	The Gigification of Work

Table 2. Advanced Study Groups with start year 2018–2021

2018
Civil Society and Sustainability Studies Gender & Conflict Resourcification Moves towards an anticolonial academy: Exploring post and decolonial epistemic options Rapid brain change and long-term outcome
2019
In the Interest of the Nation Deconstructing Measures of Immigrant Integration in Sweden – towards a typology of models Exploring how narrative is and can be used to make sense and meaning of death, dying and grief in late modern society Real-time Data ASG Species and Alien Species
2020
Children at risk Social Reproduction: Making, Sustaining and Transforming Everyday Life Enhancing health from a life-span perspective – the E-Hance project Interspecific Communication
2021
Artificial persons Literature and health Empathy and Compassion Reimagining Police and Public Safety Trauma

Figure 2. Country of origin for fellows and guests at the Pufendorf IAS 2018–2022.



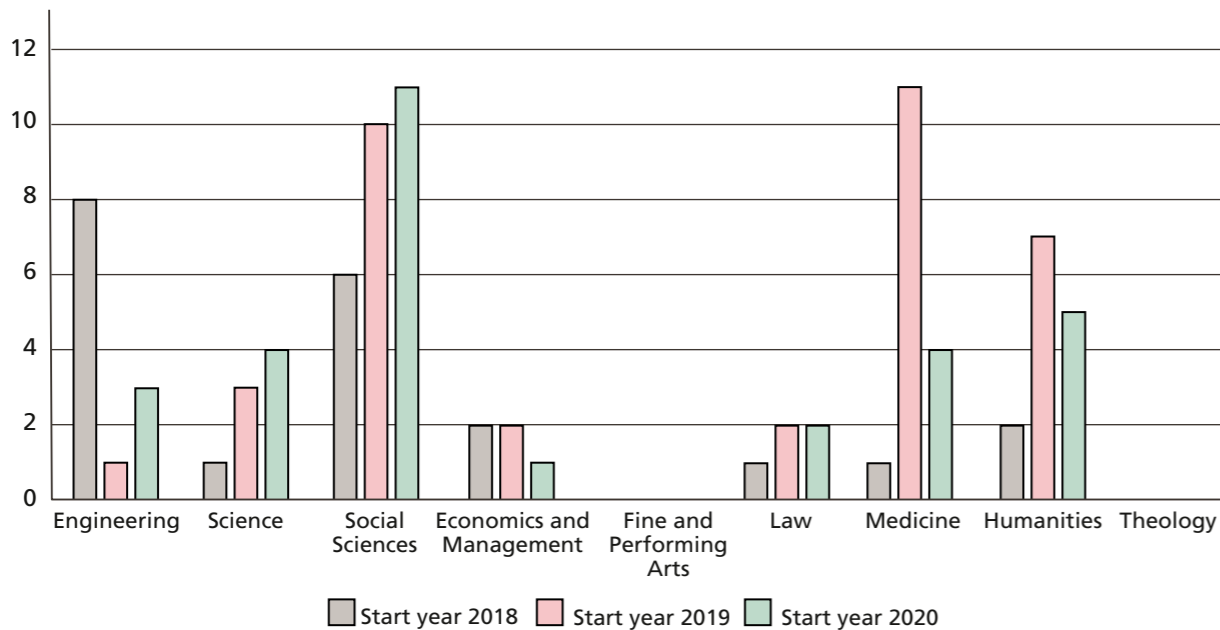
International Fellows during the 2018–2022 period came from Asia, Europe and North America, while many of the short-term guests were from Sweden. The International Fellows programme was severely impacted by the pandemic, but the programme nonetheless attracted experts to the Pufendorf IAS to enrich the work in Themes while working in a remote mode. Roughly 30 guests visited Pufendorf Themes and ASGs during this period.

5.2 WHO ARE THE RESEARCHERS?

The Pufendorf IAS’ calls for interdisciplinary research collaboration are open to all researchers employed at Lund University. The original aim was to attract participants from across the university and several faculties should be represented in each group. Except for the Faculty of Fine and Performing Arts and the Faculty of Theology, researchers from all faculties were involved during the evaluation period (Figure 3). Participation was particularly high from the faculties of Social Sciences, Medicine, Humanities and Engineering (LTH). Additional participants came from other local centres such as the Botanical Garden, The Lund University Centre for Sustainability Studies and the Raoul Wallenberg Institute of Human Rights and Humanitarian Law.

Data from the exit surveys confirm that researchers from all career stages are involved in Themes, from the postdoctoral level to established academics with substantial research experience. Furthermore, many report experience from interdisciplinary research, and most are familiar with both fellow group members and other subject areas before the start of the Theme. It is fair to say that researchers who engage in Theme work at the Pufendorf IAS are well prepared for interdisciplinary work.

Figure 3. Faculty representation in Themes, 2018–2020



Source: Compilation based on exit survey for Theme members with start years 2018–2020.



Photo: Artin Bakhan/Unsplash

6. Supporting interdisciplinary research at the Pufendorf IAS

In this chapter we consider the Pufendorf IAS model in light of comments and reflections from the researchers themselves recorded in exit surveys and reports.

6.1 SUPPORTING FACTORS

Weekly in-person meetings is a requirement, necessitating a strong commitment from each Theme member. Having a common space for researchers to come together, exchange ideas, and collaborate is essential to the interdisciplinary research process. Surveys have shown that many researchers view the physical space, Classicum– the Pufendorf IAS’s house – with its open atmosphere and inspiring environment, as a particularly favourable aspect of working at the Pufendorf IAS. They also value the opportunity to work away from their home departments in a setting free from distraction.

“The environment of the Pufendorf IAS is ideal to focus and concentrate. Its peaceful location and facilities are conducive to great discussion and creative thinking.”

The importance of the physical meeting, and of the Institute itself as an element that supports the process became evident during the Covid-19 pandemic, when researchers

were mainly limited to online meetings. The pandemic also limited the guest researchers’ possibilities to visit Lund, which led to valuable perspectives being missed.

“Being remote was a strong limiting factor and it was difficult at the end of the time to maintain motivation and commitment even if everyone did their best.”

“The thematic work went very well, but during the pandemic we missed out on everything that makes the work extra enjoyable.”
(Exit survey quotes translated from Swedish)

While Zoom meetings served their purpose, not being able to meet in person was a significant drawback. The pandemic hindered the interdisciplinary process, resulting in fewer discussions and limited opportunities for brainstorming and spontaneous interactions. It also restricted guests and international Fellows from visiting Lund, leading to the loss of valuable perspectives. Workshops, events and study visits were cancelled during the pandemic and concluding symposia were organised online. However, Themes continued their planned activities and during the

pandemic they were offered an extension of their funding. The extension permitted them to achieve their stated goals despite the challenges of the pandemic. The pandemic experience confirmed the importance of place. It also highlighted the importance of time.

The salaries of all Theme members are paid at a level commensurate with their 20 % commitment to working at the Institute. The weekly “Pufendorf-day” is a day free of other obligations. However, researchers find it challenging to carve out a full day on a weekly basis when other activities and duties such as teaching or field work compete with time at the Pufendorf IAS. Still, one dedicated day per week makes a difference, leading to better focus and prioritisation on research.

6.2 THE PUFENDORF MODEL – A LIBERTY OF ACTION

While a common place and dedicated time can be considered essential preconditions for the interdisciplinary research work at Pufendorf IAS, the Institute also offers the groups “a liberty of action”. This freedom can be summarised in three underlying principles that constitute the Pufendorf model:

- **The bottom-up principle** means that researchers create their own groups, choose the research topics and set their own goals. Applications are approved based on ingenuity and interdisciplinary significance.
- **The no-expected deliverables principle** means that groups working at the Institute commit to work together towards set goals but without the requirement to produce specific research output. This encourages the exploration of new ideas.
- **The open space and framework principle** means that the groups have the freedom to plan and structure their work in the best possible way to enable them to form and develop their ideas. Inspiration should come from all members and new ideas and concepts develop throughout the process.

The researchers really value the freedom provided by the Institute to plan and perform their research in a way that is conducive to the creative process, and the ability to define their own goals is beneficial to this process. Some quotes from the Theme exit surveys exemplify this:

“The lack of imposition of deliverables and the very broad freedom to do whatever research activities we found necessary and useful. It allowed us to be creative. Having the possibility to simply debate a topic from many different perspectives is a rare luxury. Personally it has given knowledge and inspiration I would not receive otherwise.”



Photo: Brun-O. Pixabay

“To be able to think, speak and work freely!”

“The fact that the Pufendorf’s Institute does not put a lot of emphasis on outputs or deliverables enables a true interdisciplinary exploration of a complex question, even though our Theme and most Themes still produce tangible outputs. It is that absence of pressure that is helpful.”



Photo: Artin Bakhan/unsplash

7. Learning from the interdisciplinary research process

What can we learn from the interdisciplinary research process at the Pufendorf IAS? We asked the researchers about their experiences of the Pufendorf IAS’ model. Three widely different ways of working are narrated in three cases chosen to illustrate the interdisciplinary research process within the Themes.

7.1 RESEARCHERS’ EXPERIENCES OF THE INTERDISCIPLINARY RESEARCH PROCESS

Researchers at the Pufendorf IAS often describe the interdisciplinary process as the most challenging part of Theme work. When asked to specify factors which are deemed beneficial to the process the importance of physical meetings at the Institute and dedicated time for discussion correspond directly to the stated principles of the Pufendorf IAS. Two other factors stand out in the survey responses; these are language and terminology and the balance within the group.

Language and terminology can be seen both as the problem and the key: *“(a) factor that initially hindered was the different languages of our respective subjects – at the beginning you have to learn to speak a common language, use the same concepts, etc. But after a while you learn how and then it goes very well!”* (translated from Swedish).

The importance of balance in a group is something that is frequently commented in the survey. Groups achieve balance more readily when both junior and senior members are included, when disciplines considered scientifically distant from each other have similar relevance in relation to the research questions. Other comments indicate that the interdisciplinary process is facilitated if there is a high degree of trust within the group.

“There was no one and no perspective that tried to dominate the group and work. Everyone showed respect and interest in the other members and their contributions” (translated from Swedish).

“The composition of the group was good, and the coordinators played an important role by being inclusive and cross-disciplinary. There were both more and less clear differences in how each discipline relates to the overall Theme, but these have benefited the interdisciplinary work to a greater degree than limited it. A contributing factor has also been that the group consisted of relatively young researchers in combination with more experienced and established guest researchers who had worked interdisciplinary”.

8. Cases illustrating the interdisciplinary research process at Pufendorf IAS

- **CASE 1.** Theme Domestication
- **CASE 2.** Theme DATA: Enabling us to better store, observe and understand what we measure
- **CASE 3.** Debating CRISPR – Comparative analysis of the discourses on medical and agricultural applications of new genome editing technologies

CASE 1. THEME DOMESTICATION

Time period:

Domestication 1.0: 1 Sep. 2018–30 April 2019

Domestication 2.0: 1 Sep. 2021–31 Dec. 2021

Coordinator:

Lennart Olsson, Centre for Sustainability Studies, coordinator

Participants:

Domestication 1.0:

Cristina Chaminade, Lennart Olsson, Elina Andersson, Wim Carton, Henrik Thorén, Yann Clough, Håkan Wallander, Elinor Isgren, Magne Friberg, Tomas Germundsson, and Olle Frödin.

Domestication 2.0:

Lennart Olsson, Axel Hilling, Lea Fünfschilling, Elina Andersson, Anna Westerbergh, Håkan Wallander, Linda Maria Dimitrova Mårtensson, Tomas Germundsson, Elinor Isgren, and Henrik Thorén.

International fellows:

Domestication 1.0:

Tim Crews, Research Director, The Land Institute, Agroecology, perennial cropping systems, Salina, Kansas

Domestication 2.0:

Philip Howard, Associate Professor, Dept. of Community Sustainability, Michigan State University

Purpose and goal

The Theme group set out to investigate how to initiate the long-term process of taking perennial grain crops from a scientific vision to fully operational food systems, including upscaling of cultivation and new product development. The purpose was to initiate a transdisciplinary platform for generating and developing knowledge to advance perennial agriculture in the Swedish context and beyond.

The idea for the Domestication Theme was developed in a larger interdisciplinary context over several years. The Theme coordinator was Professor of Geography Lennart

Olsson. He came from a background as Principal Investigator and coordinator of the Linnaeus Centre LUCID (Lund University Centre of Excellence for Integration of Social and Natural Dimensions of Sustainability) 2008–2018. This was an interdisciplinary investment, one of the major 14 national grants out of a total of 40 that Lund University landed between 2008–2010. He also founded LUCSUS (Lund University Centre for Sustainability Studies), another interdisciplinary venture for which he was the director until August 2016.

The surveys and evaluation have confirmed that the Pufendorf IAS' idea of providing time and place for discussion and reflection is an essential facilitating element within a Theme. We also learned that balance and finding a common language within the group are important components of a successful collaboration. Balance allows creation of trust in the group which is in turn crucial for the interdisciplinary process. In 2022 the Institute started working with a new process to facilitate work within Themes. The process raises awareness of some of the challenges of working in interdisciplinary research teams, shares experience and ideas from the Institute's earlier Themes and encourages the Themes to devise their own approaches to achieving the balance and integration of ideas that characterises a successful interdisciplinary Theme.

7.2 CASES OF THE INTERDISCIPLINARY RESEARCH PROCESS AT PUFENDORF IAS

There is no recipe for Themes to follow to work successfully on an interdisciplinary research project. Each Theme approaches the problem in its own fashion, which depends on several factors such as experience, composition of the group and goals. We interviewed several Theme coordinators to showcase the diversity of the interdisciplinary research process at the Pufendorf IAS. Three Cases are included, these are based on interviews with coordinators for Theme Domestication (2018–2019) and Domestication 2.0 (2021), Theme DATA (2017–2018), and Theme Debating CRISPR (2019–2020).

The cases were chosen to illustrate the breadth of research at the Institute. The diversity of approaches to interdisciplinary research also became apparent in these cases. They provide a perspective on how groups were formed, challenges they faced and resolved in addition to how the work in the Theme led to new directions in research, lasting interdisciplinary collaborations, and competitive research grants.

Stimulating and enhancing the interdisciplinary discussion was a goal for many groups, but the approach to achieving this depended on the way the group worked on their project, and how they immersed themselves in the common discussion. It is apparent that a strong commitment to understanding the perspective of colleagues and a determination to communicate their own disciplinary perspective is very important. The interdisciplinary process is a challenge in each of these cases and the added complexity of working in a large group increases the challenge. All of the groups confirm that time at the Institute provided a special opportunity for deeper focus, where the premises and administrative support were important, and the commitment of the group to meet physically was of immeasurable value.

Thinking big

The idea was inspired by, and ultimately closely connected to the goals and the research at the Land Institute, Kansas, USA.¹ The man behind the inspired vision to change the global food system by shifting from annual to perennial grains was Wes Jackson, an environmental philosopher and founder of the Land Institute. Lennart Olsson reflects on his views:

“If your research question can be answered within a lifetime then you are not thinking big enough” (...) This means that we need bold visions because many of the problems in the world cannot be solved within our lifetime. Most of our research is oriented towards the short term, you write a research application for a four-year grant, you answer that question and then you start with a new one. And so forth. The big question was: can we recreate the neolithic revolution? Is it possible on the basis of modern agriculture to migrate from annual to perennial plants? If so, what stands in the way of a revolution?”

The Theme group developed their projects in close connection with Tim Crews, chief scientist of The Land Institute. He later joined the Theme as fellow/guest researcher at the Pufendorf IAS in spring 2019.

The problem of implementation

A point of departure was taken in the argument that agriculture needs to change; in the short-term agriculture must reduce its environmental and climate impacts, in the longer-term agriculture must adapt to evolving climatic conditions. Previous and contemporary research on perennial crops mainly focused on rethinking the processes of production; Olsson recognised the problem as one of implementation and initiated research in that area.

“We saw immediately his (Wes Jackson) mind blowing vision, but we were also struck by how naive he was because he thought that ‘once we, at the [Land] Institute, succeeded in developing these fantastic new crops all over the world, when you start to show that this is actually possible implementation of new species in agriculture will be obvious’. We knew that this is the point when the resistance emerges, because you will challenge very powerful economic interests. This generated a heated debate (...) but led to my working with them on the social, political and economic dimensions which arise in conjunction with such a profound transformation in ecology and culture.”

In a call 2021, the Pufendorf IAS invited former Themes to revisit old ideas and questions for further exploration. Domestication 2.0 was one of four “follow-up” Themes accepted. This time the group concentrated on economic and political interests. With a focus on corporate power in relation to political ambitions and mounting pressure from social movements, Domestication 2.0 explored barriers and opportunities for a shift to an agriculture based on new perennial crops. The group now included researchers from the nearby Swedish Agricultural University and the Lund University School of Economics and Management (Business Law).

Working together

Lennart Olsson describes the working process of both Themes as at times challenging, not least in the first Theme where he found an imbalance in aspirations, enthusiasm, and expectations. When speaking about the no deliverables policy (a common thread through the interdisciplinary initiatives he has been part of) he speaks of two sides of the coin; on the one hand frustration when progress is slow; on the other underscoring the importance of freedom for creativity. Quoting sociologist and mentor Rogers Hollingsworth, he says:

“When people have fun they like each other, they work together and they communicate, and there will be results. Your task is to make sure everybody is happy and communicating and creating the space. In an environment with researchers from many disciplines there is a trick for achieving creativity in the group: choose the conditions for the greatest disciplinary diversity while maximizing communication. This sounds very simple, but it is quite difficult in practice.”

Working together in a Theme can be easier said than done. Lennart Olsson exemplifies this when reflecting on his own experience and the part he played as coordinator:

“We were too far away from each other in the beginning, and some never really wanted to engage. I think that we had a lot of trial and error, we had time for since we had a full year. Halfway through we started to panic a little bit. We are not making much progress, and I was a little bit disappointed.”

“In retrospect I probably did a poor job of engaging them. We could clearly see how some of the core ideas in science were challenged, and we were able to put different opinions onto the fundamental scientific knowledge production point of view. I was accused of being far too enthusiastic, of simply buying into an idea without reflection. There was a

very big difference between my own engagement, developing over many years, and others who were completely new to the idea, so that was probably part of the problem. Some people had no expectations whatsoever. They thought: ‘20% of my salary to sit and have nice conversations once a week’. I think that was expectation of some, but I was pretty tough and made them all take part actively. In the 2.0 some people were replaced, and I think that is important too. The no deliverables policy was seen as ‘okay, I can sit around and have conversations over coffee’ but it is really quite a lot about how you could work together. In 2.0 we invited researchers from outside of Lund University, from SLU² Uppsala and Alnarp, which helped a lot because they were already scientifically convinced.

“I was able to complement the expertise in the group with Business Law in 2.0. The second round was shorter, but because we had picked participants much more strategically, it worked well. I didn’t learn so much about the science of our question in the first round but I learned something about how to manage a group...”

Raising a milestone

At the end of each Theme, the groups are asked to present and discuss their work in a format of their (and the Institute’s) choice. It does not have to be large scale, but it must be forward looking referencing future visions for research. The Pufendorf IAS often dissuade groups from organising larger symposia or conferences (these require a lot of time and effort reducing the valuable time together in the Theme).

In the case of Theme Domestication, however, a conference gathering research groups from all over the world was an integrated, strategic part of the vision for the Theme. It took place at the Pufendorf IAS in May of 2019, gathered all 50 existing international research groups interested in recreating the neolithic revolution at that time. 92 representatives participated. Lennart Olsson refers to the conference as a founding moment:

“The conference pivoted the whole conversation. The importance of this meeting can be measured in many ways, and I still see pictures from the Pufendorf conference on various home pages across the globe!”

With the conference in 2019, the research community had materialised and given shape to the field. It became a milestone and is a common point of reference in the history of science on modern agriculture and perennial plants.

2. Swedish University of Agricultural Sciences

Summarizing – the road to major funding

Lennart Olsson and his teams had a hard time finding funding for their projects. Being “about agriculture” was an impediment, as was the interdisciplinarity nature of their collaboration.

“In 2018 no research foundation had started to fund any research on this. I had applied a couple of times but whenever something is about agriculture, then it will fall into the box of all agricultural sciences and agronomists look at it (I see agronomy more as a problem than a solution). Because it is such a radical rethinking that happens, so it was considered completely outside of the scope of most people trained in agriculture.”

With the Land Institute alliance, foundations laid within the LUCID project and with the group of researchers from LUCSUS – some of whom had been trained as Postgrads within the LUCID environment (a substantial amount of the funding for the Linnaeus centre had gone into a research school) – a Theme at the Pufendorf IAS became the important next step.

“There’s a famous saying: The world has problems, universities have disciplines. I had been sort of completely soaked in interdisciplinarity for 10 years, so it was natural for me to apply for a Pufendorf Theme. I was very, very happy when the Institute was founded. I even made a little donation in the beginning when the Vice Chancellor Göran Bexell celebrated the end of his term as VC.”

Today, following the conference in 2019, Lund University has become an important hub for European activities and the number of groups working on these issues has nearly doubled. The close connection to the Land Institute continues. Lennart Olsson is now on its board. The group from Domestication 2.0 collaborate on three different projects. One of them is a major long-term grant with few deliverables. It is called the PERENNIAL Project, an ERC Advanced Grant awarded to Lennart Olsson in 2023.

1. <https://landinstitute.org>



Photo: Christer Järeslätt

CASE 2. THEME DATA: ENABLING US TO BETTER STORE, OBSERVE AND UNDERSTAND WHAT WE MEASURE

Time period:

23 August 2017–20 June 2018

Coordinator (one of three):

Melvyn B. Davies, Astronomy/Mathematics

International fellows:

Matthew Bietz, University of California Irvine, Michael Witt, Purdue University, Anne Beaulieu, University of Groningen and Christine Borgman, UCLA.

New approaches to data

Data is central to understanding the world around us and making good use of data is a vital part of tackling societal challenges. The Theme set out to develop new approaches concerning how data is stored and accessed, how we visualise data, how we discover patterns in data, and how we use it to predict future outcomes.

The Theme had three coordinators: Melvyn B. Davies (Astronomy), Monica Lassi (Information division, University Library) and Kalle Åström (Mathematics), and a total of 17 core members from six faculties participated in the Theme. A group of this size is unusual for a Theme at the Pufendorf IAS. The central facets Curation and storage, Visualisation, Discovery, and Prediction intersected the disciplines represented in the group and a clear case was made for each member whose expertise was necessary to structure and develop the work.

Taking it to the next level, from ASG Integrate to Theme DATA

The topics had been prepared and developed in the ASG “Integrate” 2015–2016. The ASG had also brought together researchers from physical sciences, medical imaging and large facilities such as MAX IV and CERN, environmental modelling, and the humanities. The purpose of the ASG was to share expertise, advance research at the boundaries of research areas, and to identify the training needs of the next generation of researchers in computational techniques. The Theme took the questions one step further. With the aim of developing new approaches to data, the question the DATA Theme asked was “How do we store, observe and understand what we measure?”

The four subgroups the Theme worked on were called Threads.

- Thread One: Archiving Vanishing Languages (curation and storage)
- Thread Two: Visualising the Universe (visualisation)
- Thread Three: Discovery from the Written Word (discovery)
- Thread Four: A Catalogue of Stellar Spectra (prediction)

Thread One brought together expertise from particle physics and linguistics to address challenges in data management, in particular the handling and the long-term storage of data.

The purpose of **Thread Two** was to study new ways of visualising and interacting with complex multidimensional data, enabling researchers to make new discoveries; two relevant test cases were data from supercomputer simulations of galaxy formation as well as the positions and velocities of over a billion Milky Way stars coming from the Gaia satellite.

Thread Three focused on using natural language processing (NLP) and machine learning (ML) to automatically analyse the content of collections of written texts, with a particular application to scientific publications that use population-based cohorts. The researchers were especially interested in how these cohorts had been used: what kind of research had been done with them, how had they been documented, what were potential new avenues of research? The group already had a data set and a specific problem to work on.

The core scientific work of **Thread Four** was the critical appraisal of techniques for the analysis of stellar spectra, in particular, the comparison of traditional approaches based on predicting spectra from the underlying physics to data-driven techniques based on machine learning.

Thread five: meta level

The four threads were complimented with a fifth thread, a meta-level with the purpose of bringing the other four threads together in the exploration of collaboration: “Understanding How We Work Together”. It was a self-reflexive and learning layer on top of the other four threads. Its purpose was to streamline data management, exchange knowledge on best practices in data management and facilitate cross-disciplinary collaboration.

Collaboration in *Thread Five* was carried out in direct connection with the seminars in Threads One – Four.

Working together

Reflecting on the working process in light of the ‘no deliverables’ policy of the Pufendorf IAS, Melvyn B. Davies points out that the Theme already had a clear sense of what questions they wanted to ask, and how to organise the work within the Theme with a focus on the Group as such.

“In some sense, we had self-imposed deliverables as a starting point for the work but the freedom given to us by the Pufendorf was excellent, and very importantly it meant we could spend time talking to each other and thinking (...) A sustainable pace implies not trying to rush, which is easier said than done. On the other hand, we are reminded that interdisciplinary research needs time. It is necessary to find the time to go back to basics, to gain that trust so group members always can ask the questions they want, admitting that we don’t know and don’t understand, and to be frank and honest”.

Each thread aimed for interdisciplinary work by pairing 2–3 thread leaders with different scientific backgrounds. The group found that this routine provided ample time to interact at a pace that was sustainable for the entire academic year. Melvyn B. Davies explains how the different Threads organised their work and then came together in the fifth thread:

“Our weekly meetings were structured for communication and discussion within the threads and in plenum. Each day started with a short meeting within the thread, followed by a joint coffee break, which then moved to a joint session lead by one of the threads. After our lunch break the rest of the afternoon was spent on Thread Five”.

Guest presentations were also an important and integral part of the process in all threads. The Theme had four international Fellows whose involvement and contributions were of particular importance: Matthew Bietz (University of California Irvine), Michael Witt (Purdue University), Anne Beaulieu (University of Groningen) and Christine Borgman (UCLA).

Intertwining the threads

The work in thread Five was carried out in the form of reading groups, based on texts that explored concepts such as “raw” data, discussion seminars and presentations of key ideas such as the FAIR principles (Findable, Accessible, Interoperable and Reusable) for data use, workshops visualising and sharing different disciplinary data life cycles and group discussions about practical data management issues such as storage or transnational movement of data.

Researchers were made to think about how they describe and talk about their own and other researchers’ data, what one needs to understand about each other’s research to collaborate, the power dynamics involved in access to data and how to ensure that data is FAIR. How do researchers collaborate, and how can we facilitate their practices and needs?

Focus for the discussions might be on topics such as infrastructure development and use, policy aspects of science, data and infrastructure, workflows of users and data, or incentives and disincentives of sharing and reuse of data.

The methods to inspire exchange were sometimes creative. Melvyn B. Davies recalls:

“An interesting method of knowledge sharing within the Fifth Thread were what they called “shuffled talks”. The Theme members prepared short presentations on their own research (of relevance for the Theme), which somebody else would present to the group”.

Throughout the work Thread Five discussions were given greater relevance and urgency through links to two other university-wide initiatives. The thread was coordinated by Monica Lassi (Information division, University Library) and Katherine Harrison (Department of Gender Studies). Monica Lassi’s involvement in the development of a university research data management policy gave the Theme an opportunity to contribute to an emerging policy framework. Katherine Harrison’s work with the Lund University thematic collaboration initiative titled “Big Science and Society” brought together DATA Theme members with a wide group of experts both from Lund University and from external organisations such as the European Spallation Source and the Research Data unit.

DATA today and in the future

The DATA Theme helped shape the future says Melvyn B. Davies, referring to an impressive number of networks, research schools, platforms and projects centred on the ideas discussed in this Theme.

Members of the DATA Theme continue to work together in different constellations. Melvyn B. Davies, Kalle Åström and Marianne Gullberg are now working closely together in the Lund University Profile Area, Natural and Artificial

Cognition (NAC). NAC spans six faculties and is concerned with human, animal, and artificial cognition for individuals, pairs and large groups of people, animals or machines. Another collaboration directly built on collaboration enabled by DATA Theme at Pufendorf IAS is work on natural language processing for analysing medical records, funded by several grants (including Vinnova and the Swedish Research Council).

Other current initiatives that have benefitted from the DATA Theme are:

- Further development of virtual reality work within an eSENCE grant.¹
- Involvement of virtual reality researchers in INFRAVIS.²
- Growth of Research School COMPUTE to be funded by the Faculty of Engineering and the Faculty of Medicine (from 2019) as well as Faculty of Science. COMPUTE now has over 300 PhD student members.
- Setting up LU e-Science Hub, which provides a meeting place, workshops etc.
- LU e-Science Coordination Group, which coordinates e-science at Lund University.

1. eSENCE is a Swedish Strategic Research Area receiving earmarked government block funding.

2. Swedish national infrastructure to enable scientific discovery through visualisation.



Photo: Christer Järeslätt

CASE 3. THEME DEBATING CRISPR – COMPARATIVE ANALYSIS OF THE DISCOURSES ON MEDICAL AND AGRICULTURAL APPLICATIONS OF NEW GENOME EDITING TECHNOLOGIES

Time period:

1 October 2019 – 30 June 2020

Coordinators:

Karin Broberg, Occupational and Environmental Medicine and Anna Tunlid, History of Ideas and Sciences

Participants:

Karin Broberg, Anna Tunlid, Marcus Järås, Niklas Vareman, Ana Nordberg, Johan Jakobsson, Mats Hansson, Kristofer Hansson, Karin E. Wahlberg, Ulf Kristoffersson and Ingrid Dunér

No international fellows.

Outreach – goal and method

The Debating CRISPR Theme aimed to lay a solid, interdisciplinary foundation for a debate on the implications of the CRISPR technique and possible applications of the ‘genetic scissors’ technique.

The idea for the Theme came about as a response to a sense of urgency regarding the emerging CRISPR technique in 2018. The coordinators Karin Broberg and Anna Tunlid describe it as a feeling that a “revolution” was on the horizon but that this revolution seemed to roll in unnoticed in Sweden. Whereas the debate on the CRISPR technique was animated in the US, in Denmark and in Norway, in Sweden the development of this powerful new gene editing technique was met with silence.

“We wanted to break that silence”, Karin Broberg says, and Anna Tunlid continues: “We knew tough decisions would have to be made eventually within this field, but in order to make those decisions and form regulations, you need to have a solid foundation”.

It was clear to the Theme group that an interdisciplinary approach was necessary for their purpose, as was engagement with the general public. Outreach early in the process is unusual at the Pufendorf IAS. As Themes are at an early stage in their process, engagement with the public usually occur after the fact, once research results are – if not accomplished – at least on the horizon. However, how groups work together is related to their purpose. In the case of the CRISPR Theme, outreach was both the goal and the method.

Effects of the Covid-19 pandemic

The Theme worked together for an academic year and got an additional extension of two months. This was granted all Themes 2019–2020 as the Covid-19 pandemic changed the circumstances for all groups during the spring semester (the Institute made a risk assessment, early on and granted extra time for Themes as a result). Although the restrictions due to the pandemic were not as strict in Sweden as in most other parts of the world, the effect on academic collaborations was severe.

“It destroyed the teamwork – and at that time we were completely unprepared for the challenges of digital meetings.” (Karin Broberg) “At the same time with respect to Covid-19 in Sweden it was very interesting to see how much we rely on the appointed experts in Sweden”, Anna Tunlid points out. “This was of course very relevant for our Theme”.

During the pandemic, planned fellowships (i.e. longer stays of international experts) had to be cancelled, international guests could not travel and Themes could not hold their weekly meetings at the Institute. Undeniably this had disadvantageous effects for the Institute as meetings on site are fundamental to the dynamic. Indeed, participation on site is a requirement based on one of the founding principles of the Institute. In spring 2020 however, all groups had to change the way they worked together.

Smaller groups were allowed to meet at the Institute, but participation online was encouraged. It was still possible for the CRISPR Debate Theme to hold a concluding symposium at the end of the Theme period, albeit hybrid. The Theme

was however able to invite guests during their first semester (autumn 2019);

“The guest researchers were a great stimulant for the group, adding new dimensions to the discussion and broadening our perspective. – Several new ideas were brought into the discussion. We invited top CRISPR researchers, representatives from patient organisations and plant breeding organisations and the Swedish popular science organisation “Vetenskap & Allmänhet”. The Bishop of Lund [Johan Thyrberg] attended a meeting, and this was reciprocated when the Lund bishopric invited the coordinators to take part in a public debate on CRISPR.”

Reaching out and the interdisciplinary process

The group of ten consisted of researchers from the Humanities, Law and Medicine and the coordinators describe a shared sense of the value of interdisciplinarity and willingness to embrace new ideas and directions.

“You inevitably gain understanding of other perspectives, which is valuable not only then and there but especially afterwards. This makes you open to new interdisciplinary or multidisciplinary projects, says Anna Tunlid, emphasizing the long-term value of being part of a Theme. She continues: “The open atmosphere in a room where people genuinely want to understand – that energy comes to good use in your daily work”.

The Theme wanted to involve the general public [in Sweden] in their work and they decided to write a debate article in one of Sweden's largest morning newspapers, Svenska Dagbladet.

Main areas of inquiry on CRISPR had already been identified, but the co-authoring of an argumentative text forced the members to choose and sharpen key questions of interest for the public and for policy makers. The process turned out to be an interesting team-building exercise raising questions on how to engage with the academic task of outreach from an interdisciplinary perspective: How do you “educate” the public about the technique – and its possible implications – from these many different perspectives? How do you agree upon which questions you want to raise at this particular point in time and without having deeper knowledge about your team members disciplines and expertise?

These questions had to be given clear answers in order to produce a short and convincing article. The process of writing this joint text proved to be a way to deepen mutual understanding of each member's disciplines and expertise. It helped the group to find a common language.

Once the group had established themselves as experts on issues related to CRISPR, other opportunities and challenges for public engagement appeared. The Theme was tasked with planning the programme for the Medical Faculty's annual Research Day, a tremendous opportunity and a daunting task.

They were also invited to write the introduction of the catalogue for an art exhibition in Borås with Australian artist Patricia Piccinini¹; Embrace the Future. In Piccinini's art – sculptures of hybrid and bizarre creatures, mechanised animals and mutated human beings – the artist invited the public to fantasise about possible future biological and existential interfaces between human-kind and other species, intersecting science fiction, surrealism, environmentalism and feminism. In addressing the artist's work, the Theme managed to engage with the public and with art in breaking the boundaries between knowledges, disciplines and science;

Piccinini's hybrid creatures do not belong in a remote future. A revolutionary new genetic technique called CRISPR brings new hope for cancer treatment and for the treatment of hereditary diseases. CRISPR is a system of ‘gene-editing scissors’ which can simply and accurately cut and paste an organism's DNA material. The technique also opens up new possibilities for combining genes from humans, animals and plants. The hybrid creatures that might arise through CRISPR are called chimaeras – a name taken from Greek mythology. Today the mythological figure from the past has become a reality. While present bio-ethics is debating the consequences of CRISPR for humanity, Piccinini turns our attention and ethics towards the chimaeras.

What is our responsibility towards that which we might create?

The Theme was asked to hold the inauguration speech at the opening of the exhibition.

Timing and results

The Theme held a final symposium In September 2020. Only a few weeks later, Emmanuelle Charpentier and Jennifer Doudna received the Nobel Prize in Chemistry for the genetic scissors CRISPR/Cas9. After a year of sharpening their interdisciplinary arguments on CRISPR issues, creating and preparing the ground for public debate, the Theme groups found themselves in high demand as experts. In retrospect, it is clear that the Theme was exceptionally well-timed. In addition to a focus on CRISPR debate, it successfully put scientific knowledge as such in the limelight and in a general way highlighted how values and norms influence experts, policy makers and the public.

1. Exhibition at the Borås Museum of Art, see: <https://boraskonstmuseum.se/utställningar/undermeny-utställningar/tidigare-utställningar/patricia-piccinini.html>

Reflections on the possibilities of the Pufendorf IAS model

The coordinators concur on the attraction of the Pufendorf call [for applications to a Theme]:

“We couldn't go for this kind of research activity with the people we wanted to include anywhere else.” In everyday academic life where teaching, grant writing, research activities and managing the lab require most of your waking time there is no time left to discuss or get to know another research area in depth. “This wasn't something we could handle at a single workshop, we needed a longer time period, which the Pufendorf Institute could provide”.

The fact that the Pufendorf didn't demand deliverables was positive: *“Take that away and you will kill creativity!”* Karin Broberg says (with emphasis). She reflects on the Pufendorf IAS as an academic refuge:

“Especially senior researchers within the medical faculty, who put so much time in ethical applications, GDPR-regulations, administration of everything... many are leaving science today. Pufendorf brought people back to the fun part of science!”

Anna Tunlid agrees:

“At the Humanities, the situation is somewhat different – senior lecturers get relatively little research time and this is often consumed by activities connected to teaching or admin.” She continues: “Lund University should do more when it comes to interdisciplinary and multidisciplinary research – in addition to identifying new research questions this would counteract the feeling that the university is a research hotel and break down the disciplinary and faculty silos.”



LUND
UNIVERSITY

Web:
<https://www.pi.lu.se/en/>

LUND UNIVERSITY
Box 117
221 00 Lund
Tel +46 (0)46 222 00 00
www.lunduniversity.lu.se