THIS IS
WASP—HS
2021
Executive Summary

Current developments in AI have the potential to affect our lives and our world in ways that no other technology has done before. AI solutions may solve many of the complex problems the world is facing today. However, the awareness is also rising about the potential risks and negative consequences of AI for people and the planet if not used in a responsible way.

The Wallenberg AI, Autonomous Systems and Software Programme – Humanities and Society (WASP-HS) is a national Swedish research programme funded by the Wallenberg Foundations. The programme will run between 2019 and 2028 with a budget of 660 MSEK. It aims to address the social, economic, and cultural consequences and challenges of AI by strengthening and developing cutting-edge multidisciplinary research in the social sciences and humanities. The programme aims to combine international excellence and relevance with a focus on the benefits to society and industry.

The WASP-HS programme includes 32 independent research projects from different disciplines and universities, ranging from gender studies and sociology, via computer science and informatics, to economics and law.

The research program rests on five instruments aiming to build cutting-edge research capacity by: 1) establishing a graduate school to foster a generation of future researchers, 2) building and supporting an excellent research community, 3) recruiting junior and visiting faculty, 4) organising international partnerships and activities, 5) fostering collaboration with society and industry. During the first period of operation the WASP-HS program has done the following.

- Established a multidisciplinary graduate school with 35 participating PhD students
- Supported community building by organising conferences, seminars, and workshops for the 32 participating research projects
- Recruited 11 junior faculty members to universities across Sweden
- Established collaborations with industry and society through two calls for proposals
- Developed the organisational structure and recruited personnel to run the programme
- Established the programme as a key actor in Swedish research

The programme has been successful in these activities, but the Covid-19 pandemic has shaped the possibilities of the programme to a large degree. Most activities have been held online, and international study trips have unavoidably been postponed.

Future plans involve the continual development of the five instruments, as well as the strengthening and advancement of the instruments, which has been postponed due to Covid-19. In a possible easing of the pandemic, the programme plans to develop more international activities, to recruit leading international senior visiting faculty to Swedish universities, and to expand the collaborations with society and industry.
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1 Introduction

1.1 Background and History

The Wallenberg AI, Autonomous Systems and Software Programme – Humanities and Society (WASP-HS) is a research programme funded by the Wallenberg Foundations to address the societal and human impact of AI and Autonomous systems. The programme was formally approved by the board of the Marianne and Marcus Wallenberg Foundation (MMW) on 15 March 2019. The programme is expected to run from 2019 to 2028 with a planned total budget of 660 MSEK. Furthermore, a number of projects funded by the Wallenberg foundations are part of the programme.

WASP-HS will form an independent and parallel programme to, and maintain a close dialogue with, the Wallenberg AI, Autonomous Systems and Software Programme (WASP), in which the Wallenberg Foundations have made significant investments in technological research funded by the Knut and Alice Wallenberg Foundation (KAW).¹

The starting point for WASP-HS was a call for grants, related to the consequences of autonomous systems and AI, issued by MMW in spring 2019. The wide range of themes listed in the call signalled a broad approach that addressed most disciplines in the humanities and social sciences (see further under section 2).

Current developments in AI have the potential to affect our lives and our world in ways that no other technology has done before. From healthcare to manufacturing, from finance to entertainment, AI has the capacity to improve efficiency, decision accuracy, and profits, as well as solve many of the complex problems the world is facing today.

However, alongside this message of positive expectations, awareness is rising about the potential risks and negative consequences of AI for people and the planet. From a lack of transparency associated with the methods that underlie decision accuracy, to the propagation of bias and discrimination deriving from data, to the high-energy consumption of computation and data servers, the challenges of AI development and use reach many aspects of society and environment. Governments, businesses, and the public in general are increasingly asking questions about the development and use of AI. Thus, the use and development of AI should consider its human, ethical, legal, economical, organisational, and cultural context.

Research and insights are therefore needed from a broad range of disciplines in the humanities and social sciences. Most issues demand interdisciplinary approaches. Research in these areas spans the whole spectrum from basic to applied research.

¹ In this report we will, for the sake of brevity and clarity, use the acronym AI to denote the technological shift that includes different versions of AI software systems, machine learning and autonomous systems.

https://www.wallenberg.org/en
https://wasp-hs.org
https://wasp-sweden.org
1.2 Our Vision
The vision of WASP-HS is to realise excellent research and develop knowledge about the consequences and challenges of artificial intelligence and autonomous systems for humanity and society.

In particular, WASP-HS aims to strengthen fundamental research in the humanities and social sciences, and to develop cutting edge multidisciplinary expertise which can address the opportunities, challenges, consequences, and risks of AI and autonomous systems. The programme combines international relevance and excellence with a focus on the direct benefits to Swedish society and industry.

The programme connects funded projects across Sweden and across disciplines. It further combines project funding with recruitment packages, a graduate school, and internationalisation activities. It thereby aims to contribute to the development of humanities and social science research on AI into a research field of the highest international quality. All of this benefits science, society, and industry, and helps Sweden take a leading role in this field of research.

1.3 Overview of the Programme
The research programme focuses on analysing potential ethical, cultural, economic, labour market, social, economic, and legal aspects of the ongoing technological transition. WASP-HS is a national programme with activities in Swedish universities. The programme is hosted by Umeå University and the graduate school is based at Lund University. The programme is built around a set of international partnerships.

1.3.1 Main Instruments
The instruments of the programme are designed to achieve leverage, renewal, and expansion, and aim at building research, knowledge, and skills of strategic relevance. These four original instruments are listed to the right.

A fifth instrument, focusing on the collaboration with Swedish society and industry, was added by the WASP-HS board in 2020, to strengthen the link to the societal context in which the programme operates.

1.3.2 Programme Setup
The programme is hosted by Umeå University, but its activities take place across most Swedish universities. Main activities during 2019–2021 have focused on establishing the management, administration, and communication structures of the programme; starting the graduate school programme; and developing of research activities to link and support the research projects.

The MAW and MMW foundations are responsible for the selection of those research projects associated with WASP-HS, which are financed directly by the foundations. The Wallenberg foundations have donated a total of 660 MSEK to the WASP-HS programme, and handle 110 MSEK of the programme budget directly through the funding of the research projects. The board of the WASP-HS programme thus allocated a budget of 550 MSEK for 2019–2028. Current donation letters provide financing of 310 MSEK for programme period 1 (2019–2023), and invite the WASP-HS board to apply for a maximum of 240 MSEK in 2023 for programme period 2 (2024–2028).

During 2020, the WASP-HS research programme expanded further, with an additional 12 projects receiving funding from MMW and MAW and becoming part of WASP-HS. The total direct investment of the MMW and MAW foundations on the 2020 projects is 69.8 MSEK.

In spring 2021, the focus was on strengthening research through seminars, workshops, and the establishment of collaborations between WASP-HS researchers and public and private organisations in Sweden, through reference meetings and opportunities for joint projects.

Importantly, at a moment when the programme was still under development, the world experienced lock-downs due to the Covid-19 pandemic. As response to the pandemic restrictions, we moved all activities online, and postponed some of them. Hence, the programme office had to adjust the initial timeline, show great initiative, and act creatively and with flexibility.
2 Research Projects

Currently, WASP-HS includes 41 projects, whereas 28 are directly funded by MMW and MAW (16 selected in 2019, and 12 selected in 2020) as well as four affiliated projects, funded by other Wallenberg foundations. Together, the projects form an interdisciplinary community across 10 Swedish universities and one research institute.

2.1 Research Projects 2019

16 projects were selected by the MMW foundation in 2019. The WASP-HS programme started after the proposals submitted to this call were evaluated. The researchers who answered the first call, then, were not aware of the programme. Selected projects were later included in with the programme.Included in all these projects was an application for one or more PhD positions, funded directly by WASP-HS. The projects of MMW are the following.

- The Rise of Social Drones: A Constructive Design Research Agenda (Chalmers University of Technology)
- Professional Trust and Autonomous Systems (University of Gothenburg)
- Gothenburg Research Initiative for Politically Emergent Systems (GRIPES) (University of Gothenburg)
- Predicting the Diffusion of AI Applications (Institute for Future Studies)
- Bias and Methods of AI Technology, Studying Political Behavior Ethics as Enacted through Movement - Shaping and Being Shaped by Autonomous Systems (Karlstad University)
- The Emergence of Complex Intelligent Systems and The Future of Management (Linköping University)
- The Ethics and Social Consequences of AI & Caring Robots: Learning Trust, Empathy and Accountability (Linköping University)
- The Imperfect Creator Creating the Perfect: Ethics for Autonomous Systems/AI (Lund University)
- Quantum Law: The Legal Significance of Quantum Computing (Lund University)
- AI Transparency and Consumer Trust (Lund University)
- Digital Companions as Social Actors: Employing Socially Intelligent Systems for Managing Stress and Improving Emotional Wellbeing (Umeå University)
- Artificial Intelligence, Democracy and Human Dignity (Uppsala University)
- The Labor-Market Impact of Firm-Level Adoption of AI and Autonomous Systems (Uppsala University)
- The New Scientific Revolution? AI and Big Data in Biomedicine (Chalmers University of Technology)

2.2 Research Projects 2020

In 2020, the MMW and MAW included a directed call for applications to WASP-HS. The 12 projects selected from this specific call were included in WASP-HS. In addition, all these projects included an application for one PhD position, funded directly by WASP-HS. The projects of MAW are the following.

- CIRILA: Culturally Informed Robots in Learning Activities (KTH Royal Institute of Technology)
- Quantifying Culture: A Study of AI and Cultural Heritage Collections (Uppsala University)
- The Global Governance of Artificial Intelligence (Stockholm University)
- A1 in motion: Studying the Social World of Autonomous Vehicles (Stockholm University)
- A study of AI as a New Strategic Imperative; Challenging Existing Strategies, Business Models and Organizational Processes (Stockholm School of Economics)
- Artificial Intelligence and Industrial Transformation: Who Will Survive the Technology Shift in Sweden? (KTH Royal Institute of Technology)
- AI and Automated Systems and the Right to Health – Revisiting Law Accounting for the Exploitation of Users Preferences and Values (Lund University)
- AI-Driven Contextual Communication: Implications for Citizens and Society (Umeå University)
- Cyborg Politics: A Study of Artificial Agents in Online Democratic Deliberation (Umeå University)
- AI and the Artistic Imaginary: Socio-Cultural Consequences and Challenges of Creative-AI Technology (KTH Royal Institute of Technology)
- AI and the Financial Markets: Accountability and Risk Management with Legal Tools (Uppsala University)
- Ethical and Legal Challenges in Relationship to AI-driven Practices in Higher Education (Stockholm University)
2.3 ICP and PhDinSoc 2021

In 2021 two research projects were accepted during the call for Innovative Collaboration Projects (ICP) and one during the call for PhD in Society. Both calls were announced to strengthen the programme’s connection to the industry. The funded projects are the following:

- FinTech, AI Recommendations, Financial Well-Being, Cognitive Biases, Behavioral Finance
  - Linköping University

- Autonomous Shuttles for ALL – AI, public transportations, and people with disabilities (ASALL)
  - Umeå University

- Algorithms in the Workplace – The Adequacy of the Existing Legal Framework for Occupational Health and Safety, Non-discrimination, Data Protection and Worker’s Voice Arrangements
  - Stockholm University

2.4 Assistant Professors 2021

A call for Assistant Professors was also announced during the year 2021. In total, eleven assistant professors received funding. The funded projects are the following:

- Realizing the Potential of Agent-Based Social Simulation
  - Malmö University

- Interaction with Social Autonomous Systems Predicting the Diffusion of AI-Applications
  - Lund University

- AI-based RegTech
  - Uppsala University

- Human-Centered AI for Health, Autonomy and Wellbeing
  - Umeå University

- Challenges and Social Consequences of Artificial Intelligence in Swedish Forests
  - Swedish University of Agricultural Sciences

- AI and Political Communication
  - Uppsala University

- AI and the Everyday Political Economy of Global Health AI Transparency and Consumer Trust
  - Malmö University

- AI, the Social Contract and Democracy
  - University of Gothenburg

- Interactive AI - Ethics and Aesthetics of Human-Machine Interaction in Art, Music, and Games
  - Chalmers

- AI and Law
  - Stockholm University

- Media and Environment: AI and Autonomous Systems in Data-Based Environmental Research
  - KTH Royal Institute of Technology

Affiliated Projects

Five multidisciplinary research projects funded by Wallenberg foundations outside the directed calls are affiliated with the WASP-HS programme.
2.2 Multidisciplinary Character of Research

The WASP-HS research projects cover a number of different disciplines. Presented below are figures for each group of related disciplines, showing the affiliation of the primary investigator and co-investigator (with the affiliated projects excluded). Figure 1, for 2019, includes 16 PIs, and 10 Co-PIs. Figure 2, for 2020, includes 12 PIs, and 10 Co-PIs.

Most projects include researchers from computer science, and related disciplines such as informatics and interaction design. In 2020, the number of researchers in these disciplines increased, and researchers in speech communication and digital humanities joined the programme. Nevertheless, the proportion of disciplines from the humanities is low both during 2019 and 2020. Further steps will be taken to address this issue in the future (cf. sections 9-10).

It should be noted that the figures above only reflect the disciplines of PIs and co-PIs, whilst in fact, most projects include additional researchers and PhD students with other disciplinary backgrounds.

2.3 Research Output

During 2020 and the start of 2021, WASP-HS research has resulted in over thirty peer-reviewed publications, as well as national and international research presentations (including keynotes), workshops, and invited talks at organisations and companies. For an overview of research output during 2020, see Appendix.
### 3 Graduate School

The PhD students associated with WASP-HS projects receive discipline-specific education in the departments and faculties in which they are working, and will receive their PhD in their home subject.

In addition to disciplinary training, the WASP-HS graduate school provides a multidisciplinary course programme and activities, adapted to the background and needs of each individual student, whilst at the same time, contributing to the development of collaborations and shared expertise across each student cohort.

A multidisciplinary perspective is key to the graduate school, and permeates all courses and activities. The WASP-HS graduate school can best be seen as building, and extending, disciplinary expertise, with the multidisciplinary methods and practices needed to address the challenge of the impact of AI and autonomous systems in humanity and society. These combined skills will allow them to be competitive in the international research community.

### Core Courses - which set the multidisciplinary basis of the programme (3 ECTS each)

1. Explaining Intelligence
2. Ethical, Legal and Social Impact of AI and AS
3. Introduction to AI and Autonomous Systems
4. Philosophy of Interdisciplinary Research
5. Soma Design
6. STS Methods for Autonomous Systems and AI
7. The Economics and Politics of AI
8. Human Identity and Culture

### Elective Courses - allowing specialisation in specific topics

- Causal Inference
- Causal Discovery in Large-Scale Data
- Methods for AI
- Risk Assessment
- AI and human decision making
- Human and AI interaction
- Impairment and Autonomous Systems
- AI in Medicine
- AI and Society

### Research Activities

- Winter conference
- Summer school
- Seminar series

### International Exposure

- Study trips
- Semester abroad

### Supervision Support Activities

“Explaining Intelligence was excellent in content and very well organised.”

Anonymous, PhD student, questionnaire

“The courses that I have taken so far complement my research well (explaining intelligence and autonomous systems and AI). The programme provides good opportunities for me to get inspired through seminars and discussions.”

Anonymous, PhD student, questionnaire
3.1 WASP-HS Graduate School Students

All research projects funded by MMW or MAW (currently 32 projects) can apply for WASP-HS funds to finance PhD positions. These PhD project proposals and recruitment processes are reviewed by the management team and approved by the board.

The WASP-HS Graduate School (GS) is also open to other students, through a yearly call, when the candidates are evaluated by the management team and accepted by the graduate school director. These affiliated students enjoy the same rights and obligations as the students covered by WASP-HS, but the cost for their participation in the school is covered by their home institutions.

WASP-HS graduate school students are organised into cohorts. The first cohort of 35 students started their graduate studies in the autumn of 2020. Of these, 22 students were funded by WASP-HS, and 13 were affiliated PhDs with funding from other sources.

The PhD students come from a various number of departments and disciplines. For a list of WASP-HS graduate school students, both affiliated and WASP-HS-funded. The 2020 cohort has already participated in the first four core courses, the 2021 winter conference, and the first seminar series.

The second cohort is expected to start in winter 2022 and will include PhD students associated with the 2020 projects, those that are part of assistant professor recruitment, and those accepted from the 2021 PhD in society call, as well as affiliated students selected from the 2021 call for affiliated students. A third cohort is planned for 2023.

3.2 School Management

The WASP-HS board decides on the vision and ambition of the school. The graduate school director handles the overall strategy and daily management of the school, in consultation with the WASP-HS director and management team.

Creating a truly multidisciplinary school is not without challenges. A particular challenge is how to balance the course content with the diverse student backgrounds. To respond to this challenge, as well as to ensure the highest international scholarship and expertise, is our utmost concern.

In 2021 WASP-HS is establishing a graduate school reference team, including WASP-HS researchers responsible for the core courses and student representatives. This reference team will provide the necessary multidisciplinary expertise and support the graduate school director in fulfilling the ambitions of the programme.

3.2.1 Student Participation

Student participation is central to the vision of the graduate school. We aim to develop the school with the students, rather than for the students. The student council plays a crucial part in this ambition. WASP-HS students were asked to collectively discuss and design the council to best meet their needs. A representative of the student council will be member of the graduate school reference team.

Student evaluation of graduate school courses is essential for quality assurance and improvement, as well as that of the overall curriculum. The evaluations of the first three courses in 2020 indicated that they were very appreciated by the students, but also showed that the students experienced a significant workload (in particular in courses 1 and 3 above).

Supporting our students includes ensuring the highest supervision quality. WASP-HS Graduate School is committed to supporting supervisors and facilitating their work in different ways, for example by including an annual meeting and opportunities to discuss cooperation on courses, serving as ‘third readers’ or opponents on final seminars.
Since 2019, WASP-HS has arranged different activities and calls in order to strengthen the community across the funded projects. In December 2019, WASP-HS held its first meeting in Stockholm. This meeting aimed at presenting all research projects and initiating possible collaborations across these projects. The meeting included a keynote on ‘Artificial Intelligence: Likely Developments and Possible Challenges’, by Professor Luciano Floridi, University of Oxford, England. WASP-HS also organises an annual research meeting, on an actual topic of relevance for all researchers. In September 2020, the topic was ‘Trust’, and the meeting included a keynote on ‘Multidisciplinary aspects of trust’, by Professor Cristiano Castelfranchi, Institute of Science and Technology, Italy. About 80 people attended the meeting.

In 2021, a meeting was organised on the topic of the proposed European regulation of AI. This meeting was chaired by Anna-Sara Lind, Professor of Public Law and member of WASP-HS management team, and Sandra Friberg, Associate Professor of Private Law at the Faculty of Law, Uppsala University. Since spring 2021, WASP-HS invites speakers to seminar series, intended to present and discuss ongoing research on a broad range of exciting topics of relevance for WASP-HS. The seminars are arranged by WASP-HS researchers and are held online once a month and organised in series of three seminars per semester with a common theme.

WASP-HS researchers and invited national and international leading scholars present research results, ongoing research, or visions for future directions, followed by an open discussion. The theme for the first seminar series, in 2021, was multidisciplinary methods.

4.1 Call for Research Collaboration

In order to facilitate research collaboration between projects in the programme, WASP-HS initiated an open call for Research Collaboration in 2020. The call is ongoing throughout the duration of the programme, and submissions are accepted throughout the year. The call for collaboration between projects funded by WASP-HS supports research concerning issues that require a multidisciplinary approach. The issue must be relevant for two or more projects. The resulting collaboration is an instrument to support forming an interdisciplinary community across the funded projects. Presently, two research collaborations are funded by the programme.

“I find the WASP-HS network to be very valuable, both for the PIs but also for the PhD students. I hear often about how the PhD students are meeting and discussing topics in their channels and meeting places, which I think is a very good sign of that the growing network is of value.”

Anonymous WASP-HS Researcher, questionnaire
5 Recruitment of Junior and Visiting Faculty Across Disciplines

Developing expertise, and building knowledge and skills, in the humanities and social sciences across Sweden, are core components of WASP-HS. From the inception of the programme in 2019, we have worked towards these ambitions in cooperation with Swedish universities through an ambitious recruitment programme, to attract junior faculty and top international scholars to join Swedish universities.

5.1 WASP-HS Assistant Professor Positions

WASP-HS invited all Swedish universities to propose cross-disciplinary research areas to be addressed by new assistant professors. These assistant professor positions will be funded by WASP-HS for a period of five years and also include two PhD positions, one funded by WASP-HS and the other by the hosting university. The universities commit to providing permanent employment after the initial five years, and to facilitating a supportive environment for the recruited assistant professors.

Every university in Sweden was invited to submit up to three topic proposals to get funding for assistant professor positions. Out of 40 submissions by 17 universities, eleven proposals from seven universities were selected to be funded. The hosting universities have initiated the recruitment process for the positions, which are open for international competition. Recruitment is made during 2021. In February 2020, WASP-HS held an information meeting to present this funding opportunity to all universities. Since then, the programme office has worked closely with each selected proposal to ensure maximum support to the universities in their efforts to establish these new research groups.

WASP-HS will actively support these assistant professors through an Academic Development Programme, to be initiated in 2022, after all the positions have been filled. This programme will assist WASP-HS assistant professors to achieve the highest standards of academic excellence; to provide support to pursue research (such as grant applications); to acquire new skills and knowledge that can be applied to their teaching; or to develop ongoing partnerships with industry and society.

5.2 Visiting Faculty

Expertise in the humanities and social sciences will also be developed in the coming years with opportunities for knowledge transfer to Sweden, through a programme of invited professor positions, beginning in 2022.
6 International Partnership and Activities

A main component of the WASP-HS programme is internationalisation. It is built around a set of international partnerships and the setting up of internationalisation initiatives. The aim is twofold; see the following.

Establish the programme as a main player at the forefront of multi-disciplinary research on the opportunities and challenges of artificial intelligence and autonomous systems for humanities and society.

Develop a network of related programmes, institutes, and other initiatives, for the benefit of WASP-HS projects, postdocs, and the graduate school, in order to facilitate bilateral visits and exchanges.

WASP-HS is working to establish a network of leading groups and institutions across the world working on closely related topics. Three partnerships have been established, with researchers and institutes at Massachusetts Institute of Technology (MIT), Stanford University, and Nanyang Technical University (NTU). Moreover, international collaborations have been established with, among others, the Internet Institute at the University of Oxford.

In addition to the above partnerships and long-term collaborations, the WASP-HS research programme also works with a number of informal collaborations on specific topics or activities.

However, due to the ongoing pandemic, the internationalisation activities were delayed and are expected to restart during 2022.
7 Collaboration with Swedish Society and Industry

The fifth instrument of the programme aims to strengthen the link to the societal context in which the programme operates. WASP-HS regularly organises meetings and workshops to facilitate interaction and the establishment of cross-disciplinary and cross-university collaborations. Further, the meetings and workshops facilitate close dialogue with both industry and the public sector.

During 2019–2020 the WASP-HS research programme ran a number of outreach activities. Due to the pandemic, most events were held online. These activities were as follows:

- An event addressing Swedish universities and research institutes, as well as public and private sectors, was held in Stockholm in February 2020. The meeting included an introduction to the WASP-HS programme and an open invitation to discuss plans and possibilities for collaboration between the programme and public and private partners in Sweden. The event gathered about 120 participants from universities, industry, and the public sector.

- In November 2020, WASP-HS held its first annual conference AI for Humanity and Society. This conference was scheduled to be held in March 2020 as a live conference in Stockholm. Due to the pandemic, the event had to be postponed. Despite the issues of the pandemic, the conference included a program representation, an introduction presentation by Peter Wallenberg Jr., of Wallenberg Foundations, and an invited talk by Anders Ygeman, Swedish Minister for Energy and Digital Development, as well as two panels discussing the two topics Society and AI, and Humanity and AI. More than 200 people from academia, industry, and public organisations participated in the conference.4

WASP-HS also arranges a number of activities in order to address the general public. One such activity is the Community Reference Meetings (CRM), with the aim to include, address and involve private and public sectors, as well as citizens, in the programme. WASP-HS uses this format for arranging meetings, workshops and presentations, to address issues of relevance and interest to society-at-large. In 2021, two meetings have been held, one on the healthcare sector and one called Life in the Digital World.

Given the societal, human and business impact of AI, it is central to the ambition of WASP-HS to contribute to the responsible development and use of AI for the benefit of Sweden, combining a human-centred approach with innovation and business opportunities. Rather than a constraint on innovation, responsible AI approaches are a stepping-stone for new research and innovation models. WASP-HS is working actively towards this ambition by providing collaborative research opportunities with public and private organisations in Sweden.

"[A] major challenge is how to empower the individual in an AI-induced society. AI systems may enhance participation in society for people with disabilities, who are now to a large part excluded. These systems, however, may also hinder participation."

Citation from CRM Healthcare brief, p.5

7.1 Call for PhD in Society

During 2020 WASP-HS initiated a call for PhD in Society. Similar to industrial doctoral students, PhD in Society is a position in which the student is co-funded, by an organisation, a company, or a non-profit institution. The purpose of the call is to initiate and strengthen research collaborations with Swedish society and industry. PhD proposals submitted to the call were required to target specific problems concerning an area of application of AI addressing wide societal implications. The call opened in December 2020 and the proposals are reviewed during 2021.

7.2 Call for Innovative Collaboration Projects

An additional call in 2020 was a call for Innovative Collaboration Projects. The call opened in December 2020, and proposals were reviewed during 2021. The call, Innovative Collaboration Projects, is meant to initiate and strengthen research collaborations with Swedish society and industry. The submitted proposals had to involve at least two research groups from Swedish universities. Furthermore, the research groups had to involve at least one Swedish, public, or private, organisation with which to collaborate. The issues related to the projects, and organisations, had to concern the application of AI and wide societal effects, for which further expertise is needed. The projects are expected to deliver excellent multidisciplinary research with high societal relevance for Sweden.

"Initiatives such as WASP-HS are important because voices from the humanities and social sciences often come with questions about aspects of the ethics of data-sharing otherwise missed: relations to surveillance, privacy, and so on. Domain experts, for example, medical practitioners might not always feel comfortable speaking to such ethical issues, and cross-disciplinary conversations and collaborations can be helpful in aiding such discussions."

Citation from CRM Healthcare brief, p.3

“Some participants voiced the need to specify the AI systems we talk about when talking about AI ethics since every AI system presents its own ethical challenges. Given the manifold definitions of AI, I found that it is valuable to clarify what we mean by AI-driven practices when discussing them in relation to ethics.”

Clàudia Figueras, CRM Life in the Digital World5

Citation from CRM Healthcare brief, p.3

The programme is governed by a board of directors. A programme director is operationally responsible for the management of the programme under the board. The board, including the chair, and the programme director, were appointed by MMW. The programme director is adjunct to the board and manages the programme with support from a management team and a programme office. The management team consists of the director of the Graduate School and an additional number of leading researchers in the field. The management team is appointed by the programme director after consultation with the chair of the board. The programme director appoints and leads the programme office. This office provides administrative support to the programme director. A programme coordinator is part of the programme office. The programme coordinator assists the programme director in the operative management and coordination of the programme. The governance structure is presented in Figure 3.

8.1 Board of Directors
Kerstin Sahlin, Professor of Public Management at Uppsala University, former deputy vice chancellor of Uppsala University and former secretary general for humanities and social sciences at the Swedish Research council, vice president of the Royal Swedish Academy of Sciences, is Chair of the WASP-HS Board of Directors. The board was appointed by the Wallenberg Foundations after consultation with Umeå University.

The board consists of members with great expertise in research and practice in social sciences, humanities, and technology, and who have experience with large multidisciplinary research programmes.

8.2 Programme Director
The Programme Director of WASP-HS is Virginia Dignum, Professor, Wallenberg Chair and head of Responsible Artificial Intelligence Group, Department of Computing Science, Umeå University.

8.3 Management Team
The WASP-HS Management Team consists of Senior Researchers from Swedish universities. The members have expertise in different disciplines and are internationally renowned researchers on multidisciplinary aspects of AI. The members were selected by the Programme Director and Chair of the board of directors.
5.4 International Scientific Advisory Board

An International Scientific Advisory Board (ISAB) was appointed, after consultation with the Wallenberg Foundations, by the WASP-HS board during 2021. The ISAB consists of top international scholars in areas closely related to the programme. The ISAB has an advisory and evaluative role, with yearly meetings, and will provide a yearly follow-up report to the programme board and to the Wallenberg Foundations.

8.5 Scientific Evaluation Committee

The evaluation and selection of submissions to WASP-HS calls are based on the fundamental principle of peer-review and will be carried out by an independent Scientific Evaluation Committee (SEC). Due to the ongoing pandemic, and thus postponed calls, the establishment of the SEC was adjourned to 2021. The committee will consist of national and international leading researchers, with composition based on the principles of balancing discipline, gender and country. A temporary evaluation committee was formed in 2020 for the evaluation of the assistant professor proposals. The committee consisted of the WASP-HS management team and was extended with four senior researchers from different disciplines and countries, all with knowledge of the Swedish university system. The In 2021 the permanent SEC group was established, with Cathrine Hesse as chair, and David Dreyer Lassen and Markku Suksi as members. During 2021, Maja van der Velden, professor in Informatics, University of Oslo participated as an expert evaluator for the call for Innovative Collaboration Projects.

8.6 Graduate School

The Graduate School (GS) is operated by a graduate school director and the WASP-HS management team.

8.7 Programme Office

The WASP-HS research programme is hosted by Umeå University and the administration of the programme is delegated to the Department of Computer Sciences. Most personnel at the Programme Office work part time with WASP-HS and part time with other assignments.
9 Overarching Considerations

9.1 Diversity

Diversity and inclusion are crucial to the responsible development and use of AI, and therefore not just characteristic of the programme composition, but core to WASP-HS research and education. WASP-HS strives for a balanced composition of groups, committees, and invited speakers for events throughout the programme. In all teams, calls, recruitments and activities, in terms of disciplinary background, gender, and origin (national and international, public and private) diversity is prioritised.

WASP-HS researchers explore the scientific contribution of feminist theories to AI, study the legal requirements for inclusion and fairness, explore the field of AI ethics and human rights, and contribute to the design and evaluation of transparency, fairness, and explanation methods and tools. Hence, the researchers contribute to a novel scientific approach to AI in which diversity, fairness, and responsibility are not an added property but stand at the core of any system.

WASP-HS will continue to monitor closely the gender composition and diversity among participants in the programme and if needed take appropriate measures.

9.2 Communication

News and information about WASP-HS are communicated through a number of different channels. The different channels can be divided into the three following groups.

WASP-HS Channels
Channels directly related to WASP-HS, for example, the website, social media platforms, news, newsletters, and presentation material.

University Channels
Various channels of universities and research institutes, for example, press releases and news feeds.

General Media Channels
General media (including press releases, direct contact). The primary channel for communicating news and information is the website, https://wasp-hs.org/.

Initiated in 2020, internal newsletters are distributed on a monthly basis. Over a hundred participating researchers and PhD students currently subscribe to these newsletters. Other than the internal newsletters, external newsletters are distributed as well, to which around 350 people subscribe. On the social media platform LinkedIn, WASP-HS has more than 1700 followers, and the number of followers on Twitter is above 900.

WASP-HS researchers and PhD students publish research blogposts on the WASP-HS website. Several of the researchers have YouTube channels, are active in social media, and give interviews to Swedish and international media. For a list of articles about the programme.

When it comes to communication, WASP-HS has an ongoing discussion with WASP about a shared pressroom, which could be of advantage when publicising our news and results.
10 Way Forward

Our approach to research at WASP-HS is fundamentally multi-disciplinary and forward-looking. Current international developments show an increased awareness of the need to govern the use and development of AI. This awareness is shown by the European Union’s proposal for AI regulation, the introduction of standards (ISO and IEEE), and the introduction of AI governance roles at C-level in corporations. UNESCO is launching, in 2021, the first AI ethical recommendations endorsed universally, and UNICEF has proposed guidance for AI and children. The OECD and a growing number of countries created the Global Partnership on AI, a multi-stakeholder initiative to foster international cooperation (gpai.ai; Sweden has applied for membership in spring 2021). Against this backdrop, the vision and ambition of WASP-HS cannot be more timely. Fundamental research in the humanities and social sciences, as well as analysing, guiding and reflecting on the impact of AI and autonomous systems on humanity and society, is increasingly crucial for the ultimate success of these technologies.

10.1 Upcoming Activities

Our current research projects are diverse and reflect many disciplines and perspectives, covering theoretical contributions from a wide range of disciplines. Continuous evaluation and analysis of opportunities is additionally crucial to keeping pace with developments, and staying ahead of the need for fundamental research results that can support these developments.

In the coming years, WASP-HS will maintain its ambition to support multi-disciplinary, fundamental research in the humanities and social sciences, while contributing to community building at the same time. Multis, inter, and trans-disciplinary research is complex and requires continuous fostering of dialogue and cooperation. Our researchers are eager to contribute their expertise to the programme.

As a national programme, we will continue working together with Swedish universities, fostering discussion and collaborations, whilst ensuring that we align with the needs and ambitions of the different universities. Together, we aim at exploring this wide area, while creating the conditions for the participation of a wide number of researchers and disciplines, which may not be traditionally involved in the topic. Concretely, in the coming years we will strive towards the following:

- Continuous support of the advancement of fundamental research in humanities and social sciences for the understanding of AI.
- Developing evaluation methods to analyse our contribution in ways that meet the diverse practices and knowledge bases of our interdisciplinary field.
- While aiming to increase the scientific coverage of the field, we will engage in building a new generation of researchers that are at home in the complex interplay of evolving technological possibilities and changing societal needs, in a human-centred manner, contributing to a sustainable and thriving environment. This will necessitate continuously evaluating our instruments and their impact, and the introduction of new instruments. We will put special emphasis on the collaboration with Swedish society and industry, and the interaction with our international partners.

10.2 Direction for Further Activities

- Collaboration with other Wallenberg research programmes, including WASP, Wallenberg Centre for Quantum Technology (WACQT), Wallenberg Data-driven Life Sciences Initiative (DDL), and including participation in WARA Media and Language, will enable synergies across programmes.
- Continuous monitoring to ensure that leading expertise in the humanities and social sciences, that may not yet have been reached by the programme, is incorporated in order to further develop the research within the programme.
- Start an Academic Excellence Development Program for the WASP-HS assistant professors, including mentorship, visits to international partners, support for the development of teaching related to their research areas, and research development support.
- Invite visiting professors.
- Continuous support for international and cross-project collaborations, and fostering of ongoing partnerships with industry.
- Initiate a virtual research visits program with international partners, in order to strengthen international collaboration and multidisciplinary research.
- Update the programme’s strategic vision based on results from the first two years of the programme and on comments and feedback received from the International Scientific Advisory Board.

The expenditure of the programme is expected to peak in 2024-2025, and decrease in the following years. Throughout the growing phase, the financial focus is to set up budget lines that correspond to the instruments and components indicated in the donation letters and ensure that they fit within the frame of the overall budget, while allowing for course adjustments based on early outcomes. At present, most of the budget for the ten years is allocated to the five instruments in the programme. An amount around 35 MSEK is still open for later decision by the board, allocated to strengthen existing instruments, new instruments or new combinations of instruments.
Appendix

Publications

Books, Peer-Reviewed Journal and Conference Papers
Publications and presentations with * are with PhD student as co-author


Appendix


*Gamboa, M., Baytaş, M.A. and Ljungblad, S. () Wisp: a Design Case for Temporality in Research through Design in Human-Robot Companionship.


Presentations and Keynotes


Grill, K. (2019). Do autonomous systems make us more or less autonomous?. AI and Humanities Day. November, Umeå.


Lundgren, B. (2020). Ethical Requirements for Digital Tracking and Tracing Systems for Pandemics and the Challenge of Slippery Slopes. Presentation at the higher seminars in Philosophy, KTH—Royal Institute of Technology.