Ref. No. IT 2020/42

UPPSALA
UNIVERSITET

Annual Report 2019

Department of Information Technology

Table of Contents

Introduction

The Department of Information Technology conducts education and research in the fields of computer science and information technology. We cover a wide range of issues, from the construction of computer systems, via programming, data storage and processing, to information retrieval and methods for applying computing in various contexts. The department's operations are grouped into five themes: Computer Systems, Computing Science, Scientific Computing, Systems & Control and Visual Information & Interaction. Each of these themes constitutes a major subject area in itself, within which we conduct basic research and projects related to applications in fields such as engineering, biology, medicine, economics and psychology. This broad scientific base is reflected in the large number of interdisciplinary collaborations the department enters into with other higher education institutions and with the private and public sectors.

In addition to conducting research and education, the department also hosts the Swedish National Infrastructure for Computing (SNIC), which coordinates national resources to makes high-performance computing resources, storage capacity, and advanced user support available to Swedish researchers from local centres at six Swedish universities. The department also hosts the Uppsala Multidisciplinary Centre for Advanced Computational Science (UPPMAX), the local Uppsala SNIC centre.

This Annual Report is part of the Department of Information Technology's systematic work with goals, strategies and monitoring of the work conducted at the department.

Account of first and second-cycle education activities 2019

First and second-cycle education

Follow-up of Action Plan 2017-2020

Aletta Nylén was head of education during 2019. The department's study programmes and courses have been managed by a group consisting of one director of first-cycle studies from each of the department's divisions, chaired by the head of education and meeting every week. The directors of studies in the group were: Stefan Pålsson (Division of Scientific Computing), Mats Daniels (Division of Computer Systems), Matteo Magnani (Division of Computing Science), Hans Rosth (Division of Systems and Control) och Anders Hast/Anders Arweström Jansson (Division of Visual Information and Interaction, change took place during 2019).

A scientific approach to teaching and learning and student-centred teaching and versatile active learning

During 2019, the department arranged seven pedagogical lunch seminars for teaching staff. The theme for the autumn was *course development*. The seminars covered subjects such as ethics, experiences of oral examinations, peer feedback, the rights and obligations of doctoral students, progression planning and the importance of the Teaching and Learning Programme to the Department of Information Technology's teachers. Invited speakers included several of the department's Excellent Teachers, as well as external speakers. It is planned to continue the seminar series during 2020, when it will be moved to Zoom.

Three TUFF projects were completed during 2019, with a further two approved to start in 2020, one of which includes an external collaboration with the National University of Singapore. The PUMA project Computer Assisted Image Analysis Education in the Era of Deep Learning and Artificial Intelligence: Challenges and Opportunities was also implemented.

Subject didactics research is conducted at the department and during 2019 work continued to institute our own research programme in this field. Subject didactics research encompasses the study of our own teaching environment, as well as other environments and structures through collaborations. As in 2018, during 2019 studies were ongoing regarding the development of students' relationships to the subject during study programmes, as well as learning, progression and examination in competency-based education within project courses. Knowledge, insights and ideas generated by research were disseminated to the department's teachers through formal channels such as seminars and performance reviews, as well as informal channels such as breakroom discussions and individual advice.

Introductory training for course assistants introduced in 2018 was once again offered in 2019. This training course covers both formal and pedagogical aspects, with particular emphasis on student-centred learning and the equal treatment of students.

Continuous development of study programmes and courses

Extensive work has been carried out to develop two new master's programmes, one in Image Analysis and Machine Learning and one in Data Analysis, and participation in the development of the new Master's Programme in Industrial Analytics.

Course evaluations were conducted for all courses and course reports prepared. This was not however particularly successful as many teachers are unclear as to who the course reports are being written for and how they are to be used.

During 2019, it was decided to implement an organisational change that may result in courses being taken away from divisions and managed as common department-wide undertakings. As part of this change, directors of studies have been given specific responsibilities, one of which is pedagogical development and another the quality of education. We will be defining these roles in greater detail during 2020 and 2021.

This organisational change work was managed by a working group tasked with designing a new organisation for first-cycle education that would lead to:

- increased opportunities for utilising the full breadth of the departments competence when designing new/improved courses;
- synergies in education management, thereby reducing support costs (overheads) for first-cycle education;
- synergies in the range of and implementation of courses, as similar courses are offered by several divisions; and
- a level playing field for staff at different divisions regarding cost centres for first-cycle studies.

The working group consisted of Lina von Sydow (convener), Aletta Nylén, Björn Victor, David Black-Schaffer, Michael Thuné, Robin Eriksson and first-cycle student representatives. Elizabeth Neu Morén also participated by providing administrative support to the working group. Two interim reports were presented for discussion by various groupings and at staff meetings, followed by a third interim report containing a proposal for decision. The proposal was adopted by the Department Board at a meeting on 10 October 2019.

Individual professional development for university teachers

Individual skills development is planned in consultation with the director of studies in conjunction with performance reviews. This applies to both the scope and variation of teaching experience, as well as formal training. Particular emphasis is placed on planning for doctoral students and staff in career-development positions. Among other things, this includes the qualification programme for assistant senior lecturers.

Basis for future focus areas in evaluating first and second-cycle study programmes and courses

Internationalisation and sustainability

The department enjoys a strong international character. We intend to continue with existing study programmes and courses involving international partners (Sino-Swedish Master's Programme in Computer Science and Software Engineering, courses in international software development in which students work with partners in countries such as Vietnam or the United States).

The department has defined research issues relating to sustainability and is applying for funding from the Swedish Research Council for research into how sustainability issues can be integrated into programmes and courses. We intend to continue working actively to

integrate ethical issues into both engineering degrees and other bachelor's and master's programmes.

Student influence

Student influence is strongly rooted at all levels of the department. One example of this is the considerable efforts made prior to the imminent move to the Ångström Laboratory to avoid any 'watertight bulkheads' between students and teachers and to ensure that students can move freely in 'teacher corridors' (as is the case today). We will continue to monitor this issue.

Students are represented on the Department Board, programme boards, etc. and a large proportion of course assistants are students from previous years. Course evaluations are conducted on an ongoing basis and the results made available to students, while each course begins with a summary of changes from the previous year. Many courses apply student-activating teaching methods in which responsibility for others' learning is a natural element.

Timetables

In terms of timetabling, different courses take different approaches and have varying amounts of timetabled teaching. Basic courses containing a great deal of programming have many timetabled labs, something that has been demonstrated to work well pedagogically, helping students to work actively with the subject throughout the course, as well as facilitating the resource management of assistants and teachers. Subsequent courses, project courses for example, have a considerably less rigid timetable, leaving students to manage their own time.

Account of research activities 2019

This section provides an account of department-wide research development activities, the use of common research funds and external research grants, as well as a summary of how the research appropriation and external grants have been used to finance various categories of employee.

Department-wide research development

The Department of Information Technology's Professors and Programme Directors Group (PAP Group) meets approximately once a month during term time under the chairpersonship of the head of research. There were seven professors with study programme responsibility during 2019: Sverker Holmgren, Carolina Wählby, Per Gunningberg succeeded by David Black-Schaffer, Pierre Flener, Bengt Jonsson and Alexander Medvedev. The head of research was Gunilla Kreiss. Among other things, the PAP Group is tasked with drafting research-related issues at departmental level.

During 2018, extensive work was performed within the scope of our review of basic funding for the research programme (ÖB19) with the aim of defining the programme in writing and formulating a common view of important orientations for the department's research. The resulting jointly formulated vision included three focus areas: computer science didactics, artificial intelligence, and cybersecurity. Joint efforts to realise this vision continued during 2019. The faculty's decision during 2019 to increase faculty funding for two of these focus areas – computer science didactics and artificial intelligence – is most gratifying. This will allow us to introduce new research programmes in computer science didactics and artificial intelligence during 2020.

One routine task for the PAP Group is to propose a budget for part of the department's joint research funding, usually between SEK 4.5 and 4.8 million annually. The target is that at least half of this funding should be allocated to the divisions to facilitate strategic divisional activities. Joint activities granted funding can be divided into long-term specific funding, long-term general funding and funding for specific initiatives granted after an application during the previous year. During 2019, joint funds were allocated as follows:

Long-term specific funding

Professor of optimisation, five years ending December 2019 (faculty-level investment)
TSEK 500/year

Assistant senior lecturer in machine learning, four years ending June 2020
TSEK 400/year

Long-term general funding

Support for arena activities (seminars, etc.)	TSEK 200/year
Support for coordinating of the BiomedIT arena 2015(?)	TSEK 250/year
Data science arena (2019)	TSEK 100/year

During 2019, some funds were also allocated for writing broader applications in the field of didactics and to networking activities for AI in the humanities.

Grants and appropriations for research and third-cycle education

Terminology and clarification

The principal funding for conducting research comes from central government and from external donors. When research is conducted using funds provided by external donors, this is called grant research. The term *grant research* is widely used in higher education and the field of finance. The funding the University receives from the government is called *direct government appropriation for research and third-cycle higher education* (also known as faculty funding). For the purposes of this report, research funded in this manner will be referred to as *appropriation research*.

The higher education sector's income from research

Uppsala University's share of the higher education sector's total income from appropriations and grants is 9.8%, a figure exceeded only by Lund University.

Grant applications and funding

1

2

2.1

Department of Information Technology

During 2019, the Department of Information Technology submitted 64 applications for external grants. Of these, 27 (42%) applications were submitted to the Swedish Research Council (VR). The total funding applied for by the department was SEK 640 million. Of the 64 applications, 13 were granted, corresponding to a grant rate of 20%. Six of the applications submitted by the Department of Information Technology were to calls that have not yet been decided.

From 2019, the department's grant applications have been compiled in a single Excel file. The basis for this compilation is the department's form filled out by researchers and submitted to the head of department for signature prior to submission to the funder. This form is titled *Preparation for head of department´s signature (mandatory)*. It is difficult to present statistics for previous years.

The table below shows a summary of the Department of Information Technology's grant applications during 2019 (for calls with an application deadline sometime during 2019).

Table 1. Summary of grant applications submitted by the Department of Information Technology 2019[1]

	Amount			Applications		
Note: Six of the applications reported in the table were to calls that have not yet been decided. See Note 2 below. The figure in brackets shows the grant rate if only applications already decided by the funder are included in the calculation.	**Applied for Amount TSEK[2]**	**Granted Amount TSEK**	**Grant rate, amount**	**Total applications[2]**	**Granted applications**	**Grant rate, applications**
VR[3]	148,461	15,780	11%	24	5	21%
VR, Dept. of IT is a co-applicant	5,123	1,500	29%	3	1	33%
Total Other funders	124,630	8,454	7% (11%)	37	7	19% (23%)
of which decided by EU	10,208	SEK 0	0%	3	0	0%
of which not yet decided by EU[2]				1		
of which Formas	9,563	0	0%	3		0%
of which Forte	15,909	0	0%	2		0%
of which decided by KAW	3,700	0	0%	1		0%
of which not yet decided by KAW[2]	45,820			4		
of which decided by NordForsk	5,820	0	0%	1		0%
of which not yet decided by NordForsk[2]	4,518			1		
of which SSF	9,140	686	8%	3	1	33%
of which STINT	1,200	0	0%	2	0	0%
of which Vinnova	2,225	500	22%	3	1	33%
Total	**278,214**	**25,734**	**9% (11%)**	**64**	**13**	**20% (23%)**

1) In cases where the funding applied for in a currency other than SEK, the sum has been recalculated using the Riksbank exchange rate (annual average for 2019), see https://www.riksbank.se/sv/statistik/sok-rantor--valutakurser/valutakurser-till-deklarationen/.

2) The following six applications are to calls that have not yet been decided.

	TSEK	Comments
NordForsk	4,518	On to step 2
KAW	5,200	On to step 2
KAW	596	spring 2020
KAW	2,024	spring 2020
KAW	38,000	autumn 2020
EU: Marie Curie	?	spring 2020
Total	**50,338**	

Knut and Alice Wallenberg Foundation (KAW): As yet, only one of five applications has received a decision (rejection). The remaining applications remain under consideration.
The grant rate in brackets relate solely to applications already decided by the funder.

3) One application in which the Department of Information technology is a co-applicant has been granted by VR. A grant of SEK 2.4 million has been approved for this project. At the time of writing the Department of Information Technology remains unclear. In my calculations I have assumed that the department will receive SEK 1.5 million.

Comparison with other departments in the Disciplinary Domain of Science and Technology (TekNat).

2.2

Share of appropriation income

The Department of Information Technology's share of the total TekNat appropriation over a five-year period is 11%. The table below shows the department's share of the total TekNat appropriation for research during a five-year period.

Table 2. Share the total TekNat appropriation for research[1] 2015-2019

Share of appropriation		
Department	**Appropriation TSEK**	**Share of total TekNat appropriation**
100 Disciplinary Domain Board for TekNat	81,058	2%
104 Dept,of Mathematics	195,757	5%
106 Dept. of Information Technology	**416,100**	**11%**
113 Dept. of Physics and Astronomy	569,616	15%
125 Section of Technology	578,562	15%
127 Ångström Laboratory	646	0%
130 Dept. of Chemistry – BMC	215,389	6%
139 Dept.of Chemistry – Ångström	346,356	9%
140 Dept. of Biology – Biology Education Centre	4,300	0%
146 Dept. of Ecology and Genetics	331,344	9%
148 Dept. of Organismal Biology	240,476	6%
152 Dept. of Cell and Molecular Biology	394,224	10%
161 Dept. of Earth Sciences	390,630	10%
172 International Science Programme	15,478	0%
175 Tandem Laboratory	10	0%
Total	**3,779,946**	**100%**

1) Data retrieved from GLIS 31.03.2020 (Tab: Finance). In addition to funding from the Disciplinary Domain Board for TekNat, the above table also includes funds for strategic research areas, the head of department's strategic investments and the redistribution of funds from other disciplinary domains.

Share of grant income

The Department of Information Technology's share of TekNat's total grant income over a five-year period was 13%. When grant revenue is divided by funder, the Department of Information Technology's share was: Swedish Research Council, 21%; Vinnova, 26%; and Swedish Foundation for Strategic Research, 19%.

The Swedish Research Council accounts for a large proportion of TekNat's total grant income, at 36% over the five-year period in question. The equivalent amount for the Knut and Alice Wallenberg Foundation was 11%. The Swedish Research Council accounted for 56% of the Department of Information Technology's grant income.

The department's share of TekNat's total grant income over the five-year period is shown below. Income is from all projects undertaken during the period. Seven funders have been selected for detailed accounting.

Table 3. The department's share of TekNat's total grant income[1] divided by funder, 2015-2019.

Department	VR[2]	Vinnova	SSF	KAW	Formas	Swedish Energy Agency	EU[3]	Total Including the seven separately reported
100 Disciplinary Domain Board for TekNat	0%	0%	0%	-5%	0%	0%	0%	0%
104 Dept,of Mathematics	3%	1%	0%	13%	0%	0%	0%	3%
106 Dept. of Information Technology	**21%**	**26%**	**19%**	**7%**	**5%**	**0%**	**11%**	**13%**
113 Dept. of Physics and Astronomy	23%	1%	12%	21%	0%	5%	13%	15%
125 Section of Technology	9%	47%	28%	16%	13%	41%	19%	16%
130 Dept. of Chemistry – BMC	4%	2%	8%	2%	1%	0%	2%	3%
139 Dept.of Chemistry – Ångström	7%	8%	20%	7%	14%	40%	15%	12%
146 Dept. of Ecology and Genetics	10%	0%	1%	9%	32%	0%	11%	8%
148 Dept. of Organismal Biology	4%	0%	0%	8%	10%	0%	6%	4%
152 Dept. of Cell and Molecular Biology	13%	3%	8%	22%	8%	0%	13%	11%
161 Dept. of Earth Sciences	5%	13%	0%	1%	17%	14%	10%	6%
172 International Science Programme	0%	0%	0%	0%	0%	0%	0%	8%
175 Tandem Laboratory	1%	0%	4%	0%	0%	0%	0%	1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Total grant income 2015-2019, TSEK	**1,789,882**	**109,387**	**272,358**	**544,426**	**168,805**	**357,352**	**569,662**	**4,928,007**

1) Data retrieved from GLIS 31.03.2020 (Tab: Finance). Please note that accrual accounts are excluded from the table.
2) Calculation of the department's share of grant income from VR: (Department of Information Technology's grant income from VR)/(All TekNat grant income from VR) = 21%.
3) The EU column shows the outcome for the following financiers in the financial system:

European Research Council (ERC) FP7	European Commission, Horizon 2020 (H2020)
European Research Council H2020	Marie Skłodowska-Curie actions (H2020)
European Commission Seventh Framework Programme (FP7)	European Institute of Innovation and Technology (EIT) (H2020)
European Commission Marie Curie Actions (FP7 People)	European Commission, other EU funding

Comparisons with other Swedish higher education institutions

3.2

Project funding granted by Knut and Alice Wallenberg Foundation during the period 2015-2019

The Knut and Alice Wallenberg Foundation granted funding totalling SEK 2,270 million to projects in the fields of science including technology/physics/mathematics. Uppsala University's share of granted funds over the five-year period was 18%, corresponding to SEK 398 million (13 applications). The Department of Information Technology has been granted SEK 25 million (1 application).

Grants from the Swedish Research Council during the period 2015-2019

Grants awarded by the Swedish Research Council are shown below in two areas: Natural and Engineering Sciences; and Computer and Information Science. Computer and Information Science is a subdivision of Natural and Engineering Sciences.

Area: Natural and Engineering Sciences

Uppsala University's share of the sector's funding over the five-year period was 17%, higher than any other higher education institution in the area of Natural and Engineering Sciences. Uppsala University's grant rate was 19%, compared to a total grant rate of 20%. Area: Computer and Information Science Uppsala University's share of the sector's funding over the five-year period was 16%, a figure exceeded only by Chalmers University of Technology and KTH Royal Institute of Technology. Uppsala University's grant rate was 19%, compared to a total grant rate of 16%.

Full-time equivalents 2019

Table 4 shows the *total full-time equivalents* (FTEs) at the Department of Information Technology in 2019, and cost centres for salary payments in each staff category. It is possible to obtain a picture of which positions at the department work in appropriation research and grant research by studying *salary payments* for 2019. The table shows the percentages of the total salaries of each position allocated to various cost centres. Based on these figures, it is apparent that during 2019 senior lecturers spent an average of 45% of their time on research (15% appropriation + 30% grant), while the equivalent figure for professors was 62% (38% appropriation + 24% grant). If one divides professors into external professorial appointments and those promoted from senior lecturer, the average is 71% (49 + 22%) and 56% (32 + 24%) respectively.

Table 4. Cost centres for salaries 2019 by position[1]

Category of employment	Position	Total FTEs	GU	Research			Assignments	Total
				Research support	Appropriation	Grant		
Administrative staff		19.1	27%	47%	23%	3%	0%	100%
Technician		25.2	5%	19%	38%	38%	0%	100%
Other teaching and research staff	Teaching assistant	3.1	81%	16%		3%		100%
	Researcher	9.0	11%	1%	26%	52%	11%	100%
	Research assistant	1.2				100%		100%
	Total	13.2	23%	4%	20%	44%	9%	100%
Postgraduate students	Assistant with doctoral grant	4.6	15%		31%	49%	5%	100%
	Doctoral student	83.1	17%		34%	49%	1%	100%
	Marie Curie doctoral student	2.0				100%		100%
	Total	89.7	16%	0%	33%	50%	1%	100%
Career-development position	Associate senior lecturer	4.3	19%		47%	34%		100%
	Post-doctoral researcher	16.0	8%		21%	70%		100%
	Total	20.3	11%	0%	27%	62%	0%	100%
Professor	Professor. promoted	18.3	39%	5%	32%	24%	0%	100%
	Professor UU	10.1	22%	7%	49%	22%	1%	100%
	Adjunct professor	0.3		80%	20%	0%		100%
	Visiting professor	0.9	19%		64%	16%		100%
	Post-retirement professor	0.1				100%		100%

	Total	29.6	32%	6%	38%	24%	0%	100%
Lecturers	Adjunct lecturer	0.2	100%					100%
	Lecturer	6.6	90%	1%	5%	3%		100%
	Total	6.8	91%	1%	5%	3%	0%	100%
Senior Lecturer	Senior Lecturer	23.9	46%	8%	30%	16%	1%	100%
	Senior lecturer, promoted Lecturer	2.5	65%	3%	23%	9%		100%
	Total	26.4	47%	8%	30%	15%	0%	100%
Total		**230.3**	**26%**	**8%**	**31%**	**34%**	**1%**	**100%**

1) Data on total FTEs retrieved from GLIS 30.03.2020 (Tab: Staff, model: Staff structure per annum). Payroll data retrieved from the Primula client, report *Payroll Specification*. Transfers of salaries in the Raindance finance system is not included in the above table.

Review of third-cycle education 2019

FUS, FUA, and FUAP group

The Director of PhD Studies ("studierektor för forskarutbildningen", FUS) was Pierre Flener, budgeted at 10% in 2019. The Administrator for PhD Studies ("forskarutbildningsadministratör", FUA) was Elisabeth Lindqvist, budgeted at 40% in 2019.

The Professors Responsible for PhD Programmes ("forskarutbildningsansvariga professorer", FUAP) were the following:

Bengt Jonsson (Computer Science, CS) until 9 April 2019, and then jointly Parosh Abdulla and Pierre Flener; Mats Daniels (CS with a specialisation in Computer Science Education Research); Per Gunningberg (CS: Computer Communication) until 22 October 2019, and then Thiemo Voigt; Sverker Holmgren (CS: Database Technology); Anders Arweström Jansson (CS: Human-Computer Interaction); Wang Yi (CS: Embedded Systems); Michael Thuné (Scientific Computing, SC); Maya Neytcheva (SC: Numerical Analysis); Alexander Medvedev (Electrical Engineering, EE: Automatic Control); Thomas Schön (EE: Signal Processing); and Ingela Nyström (Computerised Image Processing).

The FUS and FUA roles are described in dnr IT 2013/49 (by a board decision of 2013-05-30) and are fully followed, such as launching the processes of revising individual study plans; being contact persons; standardising departmental routines; helping PhD students and advisors; maintaining webpages; etc.

Webpages

The consolidation and maintenance of PhD-related webpages, begun in 2018, continued to take a lot of effort in 2019, towards (1) eliminating redundant information, contradictory information, obsolete information, and dead links; (2) moving documents into the staff portal MP ("medarbetarportalen") and reorganising them more clearly (see https://mp.uu.se/c/perm/link?p=20962820 for the result); (3) translating local Swedish-only documents; (4) requesting translations of TekNat-level and UU-level documents that only exist in Swedish; (5) expanding the list of travel stipends that PhD students can apply for; etc.

Action Plan for PhD Education

According to the local Action Plan for PhD Education ("Åtgärdsplan för forskarutbildningen", see https://www.it.uu.se/internt/policies_rapporter_handlingsplaner/atgardsplan_forskarutbildningen.pdf) which is based on comments made at the IT Department Strategy Day in autumn 2014, the FUS convenes the FUAPs once per term for discussing topics of interest. A lot of new standardising of departmental routines was achieved in 2019: the minutes are at

https://mp.uu.se/c/perm/link?p=303130870 and summaries thereof are posted at the LäsIT blog and emailed to PhD students and supervisors.

For example:

- From March 2019 on, a newly crafted reminder is emailed every 4 months by the FUA to the list it-faculty@lists.uu.se (we closed down the non-maintained list it-handledare@lists.uu.se) in order to request 50% and 80% PhD completion declarations by the PhD supervisors.

- The content of the collaborator dialogue ("medarbetarsamtal", every 18 months) can be distributed for PhD students over the senior-group meeting (ideally in February/March) and the ISP revision (usually in August/September). This motion of the FUAP group, written with help from the FUA and the local HR group (Ulrika Andersson, Anna-Lena Forsberg, and Elizabeth Neu Morén), was approved on 25 April 2019 (dnr IT 2019/27).

- Each subject curriculum ("ämnesstudieplan", ÄSP) is being revised by its FUAP in order to make a PhD course on research ethics also compulsory for the 50% completion, with a strong incentive to take it as early as possible.

- Each subject curriculum ("ämnesstudieplan", ÄSP) is also being revised by its FUAP in order to make a halftime seminar compulsory for those who do not write a licentiate (PhL) thesis.

- It was decided that the FUA and the repro office now enforce the following defaults: 25 hardcopies of a PhL dissertation if a PhD is planned, unless an individual argument is made for a higher run; 50 hardcopies of a PhL dissertation if no PhD is planned; 80 (and likely to be soon lowered by TekNat) hardcopies of a PhD dissertation.

- A follow-up report by Michael Thuné to the audit by Universitetskanslersämbetet (UKÄ) in 2017 of the PhD subject Computer Science and some of its specialisations was sent to TekNat on 19 November 2019 at TekNat's request, and was written with feedback by the FUS. TekNat has requested some clarifications, so there is no final version yet.

- It was decided that each FUAP may choose to run a supervisor college or not. It is best practice to do so --- possibly division-wise rather than subject-wise, and possibly topic-wise with subsets of the supervisors --- as this amounts to mentoring of the less experienced supervisors by the FUAPs and more experienced supervisors. In some of our subjects, the FUAP is the main or second supervisor for all the PhD students, so a supervisor college would be redundant with the ISP revision process.

Meetings

Meetings attended or held by the FUS, FUA, and/or FUAPs:

- FUAP meeting at TekNat: 23 January 2019
- Pedagogics-lunch seminar "PhD Students: Rights & Duties" by FUS: 14 May 2019
- FUS-FUAP spring meeting at IT: 28 May 2019
- Reprise of "PhD Students: Rights & Duties" by FUS at IT staff meeting: 27 August 2019
- FUS meeting at TekNat: 11 November 2019
- FUS-FUAP autumn meeting at IT: 18 December 2019

Statistics 2019 (from GLIS)

- Active (minimum 10% activity): 124 PhD students, namely 33 women (26.6%) and 91 men (73.4%)
- PhD: 16 defences
- PhL: 4 seminars
- Recruited: 21 new PhD students, namely 3 women (14.3%) and 18 men (85.7%)

Review of collaborative activities 2019

The department's staff collaborate and interact with society and industry through a range of activities. Collaboration is conducted with great enthusiasm and commitment and largely on the initiative of individual employees in a grassroots manner. In 2019, the Department Board decided that from 2020 onwards a collaboration coordinator would be appointed to map and coordinate the department's collaborative activities.

Being seen and heard in the national media is one way to raise awareness and disseminate knowledge of the department's operations and activities. Among other things, 2019 saw Åsa Cajander and Michael Thuné appear on SVT news programmes on a number of occasions to discuss the department's internal equal opportunities work. Åsa Cajander's research into online medical journals received considerable attention during 2019, with reports appearing in professional journals such as Vårdfokus and Läkartidningen. Radio Sweden broadcast live from the science fair Discover, Develop, Explore Like an Engineer, IVA 100 Years at the National Museum of Science and Technology, with Carolina Wählby, who was also project manager.

The department's collaborative activities during 2019 are outlined below in three areas: collaborations with schools and the public, collaboration with the private and public sectors, and collaboration on education. In addition to the various types and examples of collaboration reported here, a large percentage of the department's students undertake doctoral projects at or on behalf of businesses or private-sector organisations. Many of our staff also disseminate information about their research via social media such as Facebook, YouTube, Twitter and blogs and via websites.

Schools and the public

We strive to make our researchers and their research as readily available as possible to the public and school children for questions and discussion. Selected examples are listed below.

- The Department of Information Technology celebrates its 20th anniversary! In 2019, it was 20 years since the Department of Information Technology was established at Uppsala University. To celebrate the anniversary, we held a series of public seminars on IT to inform about our research, education and collaborations. The first three seminars were held during autumn semester 2019, on the topics: *Effective Calculation: A Driving Force in IT Development*; *Counting on the Brain: How Can IT Improve Health*; and *The Internet of Things for a Smarter Society*. The series will continue during spring 2020, with seminars on: *AI in the Sciences*; *Cybersecurity*; and *The Programmed Society*.
- SciFest 2019: The Department of Information Technology's stands and activities included *COMnPLAY Science* (https://comnplayscience.eu/) and *Meet Uppsala's Most Sociable Robot*.
- Almedalen Week 2019: Ingela Nyström participated in the seminar *Doubtful Rebel or Traditional Referral: The Future of Technology and Health*, dealing with how new medical technologies can best benefit patients. She was also one of the researchers available to take questions and discuss issues at the *VA (Public and Service)* knowledge kiosk.

- *Pint of Science* presentation at O'Connor's Irish Pub. Elisabeth Wetzer spoke on the subject *Images, Data and How They Shape Science* at the annual Pint of Science global festival, at which scientists share their latest research in an accessible manner at hundreds of local pubs, bars, cafes and public spaces around the world. https://www.pintofscience.se/uppsala-2019
- Presentations were given from a wooden box outside Carolina Rediviva on *Training Machines to Detect Cancer* (Elisabeth Wetzer), and *Become a Digital Artist: Create your Own Picture Filters!* (Leslie Solorzano) as part of Soapbox Science, a new worldwide public platform to highlight excellent research by women. http://soapboxscience.org/2019/05/20/im-never-worried-that-i-will-get-bored-meet-elisabeth-wetzer/
- CryptoParty: a learning space for introducing people to the basic tools for self-protection in the digital space. Eight CryptoParties were arranged by Arve Gengelbach at the Ångström Library and Carolina Rediviva in Uppsala during 2019. http://user.it.uu.se/~arvge836/cryptoparty/
- Team Steam Stream: Lars Haulin from the Nixu Corporation and students from the Department of Information Technology regularly organise this open forum to discuss and resolve IT security issues. They also participate in global Capture the Flag (CTF) IT security competitions. https://teamsteamstream.github.io/
- Anders Hast gave the presentation How Can Mechanical Engineering Help to Decipher Ancient Manuscripts? at the ALM seminar on manuscript interpretation in the auditorium at Gävle County Museum.
- Åsa Cajander gave a public presentation on IT and digitisation at Tierp Public Library.
- The department organised and participated in the science fair *Discover, Develop, Explore Like an Engineer, IVA 100 Years* for Year 7 pupils at the National Museum of Science and Technology, organised to celebrate the centenary of the Royal Swedish Academy of Engineering Sciences (IVA). The project was managed by Carolina Wählby, while Ewert Bengtsson was a member of the organising committee. Ginevra Castellano and her research group organised an exercise in which children could interact with robots, see https://www.iva.se/publicerat/iva-och-tekniska-museet-ordnar-upptackardag-for-600-sjundeklassare/.
- Uppsala Science Slam, a popular science fair for final-year upper-secondary students from Uppland. Carolina Wählby spoke about her research in the university auditorium.
- Presentation and discussion about AI, IT and science given by Nicolas Pielawski at Kvarngärdet School/Uppsala International School for Years 8 and 9 pupils.
- Åsa Cajander discussed her research with Year 6 pupil's at Kila School.

SciFest 2019

David Black-Schaffer gives a presentation during the seminar series to celebrate 20 years of the department of Information Technology.

Elisabeth Wetzer and Leslie Solorzano at Soapbox Science.

The private and public sectors

The department's collaboration with the private and public sectors primarily consists of research projects conducted with business and social stakeholders and presentations of our research to the business community or reciprocal visits to us. Other types of interactions include: contract research, something that during 2019 was conducted on behalf of Collegial AB, the Swedish Defence Research Agency (FOI) and Sprint Biosciences among others; externally employed doctoral students in collaboration with, for example, RISE Research Institutes of Sweden, Elekta, Veoneer and IVL; commissions of trust with associations/clusters of business and institutional social stakeholders, including board membership of IoT Sverige (Ericsson, Sandvik, Uppsala Municipality, Region Skåne, SALAR, HiQ, Top Golf, Prevas) and reference group membership in RIOT (Ericsson, Vattenfall, Volvo, Assured, Vinnova, MSB) and aSSIsT (ASSA ABLOY, Intel Sweden, Upwis, Yanzi) and steering group membership in the Mälardalen wastewater research cluster. The department employs an adjunct teacher from Ericsson Research, while a handful of the department's staff are on part-time unpaid leave to work on assignments in industry at companies such as Vironova AB, Q-linea, TopTracer and Astrego AB. The department also interacts extensively with the local and regional business community to provide education in various forms, described in more detail under a separate heading.

Many of the research projects conducted at the department have partners and participants from the private and public sectors. A small sample is very briefly listed here (project name, researcher, external partner) to offer an indication of the breadth of projects and the type of external partner: *Machine Learning for Verification*, Philipp Ruemmer, Microsoft; *Battery*

Research for 5G, Per Gunningsberg, Ericsson Research; *EU Crunch* and *EU SimpliCITY*, Edith Ngai, Uppsala Municipality et al.; the SSF project *Hierarchical Analysis of Spatial and Temporal Data*, Carolina Wählby, Andreas Hellander, Salman Toor et al., Astra Zeneca, Vironova; the SSF project *ASSEMBLE*, Thomas Schön & David Black-Shaffer et al., Veoneer, ABB; UU Innovation verification of the project *Vehicle Routing for Winter Road Maintenance*, Pierre Flener, B&M Systemutveckling AB; *The Effects of Digitalisation on the Work Environment of Nurses*, Åsa Cajander et al., Region Uppsala; UU Innovation and Vinnova project *Innovative Mobile App for Quantification and Estimation of Tremor* (QuEsT), Alexander Medvedev, Dotards and Uppsala University Hospital (UAS).

One example of a presentation given to private and public-sector stakeholders during 2019 is Thomas Schön's lecture *Artificial Intelligence: Under the Hood*, for researchers, trade union and industry representatives and policy makers at Framtidsdagen http://storaframtidsdagen.nu/. Other examples that demonstrate the breadth of the department's subject area and industry network include presentations on: *Digital Work Environments* for webmasters at Swedish public authorities; *Transcriptions, Data Collection and Machine Learning* at the Swedish National Archives; *Battery Research for 5G* and *Real-time Edge Support for Constrained Devices* at Ericsson Research; and AI and Medical Imaging Analysis for doctors at UAS. Invitations to give presentations were also accepted from SEB, ABB Corporate Research, Bosch Center for Artifical Intelligence and Elekta at UAS.

Through seminar series and workshops arranged by the department's divisions, lectures and presentations have also been given on companies and government agencies such as Ericsson Research, the Swedish Patent and Registration Office, Prowler.io, SE Banken, Vattenfall and Ramboll AB.

Thomas Schön gives the presentation *Artificial Intelligence: Under the Hood* at Framtidsdagen.

Education

Education collaboration is conducted both in the form of contract education and training for the private and public sectors and through participation by the business community in our courses and study programmes. During 2019, the department arranged the contract study programme Programming for Teachers commissioned by the Swedish National Agency for Education, held a three-day course on automatic control for water treatment staff, consultants and suppliers commissioned by Svenskt Vatten AB, and a one-day course on the image analysis software CellProfiler commissioned by Sprint Biosciences.

Many of the courses offered by the department have strong links to and participation by private and public-sector stakeholders; for example, our IoT course included guest lecturers from Wittra and Blixt, Computer Networks 2 from Ericsson and RISE, Functional Programming 1 from Zaark, and Statistical Machine Learning from Spotify and Peltarion. Advanced Visual Interfaces included guest lectures and projects from Testa Center (GE Healthcare). The course IT in Society is entirely built around a collaboration with Region Uppsala, while the course Complex IT Systems featured guest lectures and student exercises involving Uppsala, GE Healthcare, Enfo Group, Tidler AB and TietoEVRY. The project course in computational science is based on project proposals and supervision from businesses. In 2019, Skogforsk, Antaros Medical and Schlumberger Information Solutions contributed projects.

Review of systematic work environment management 2019

Head of department Lina von Sydow is responsible for the work environment at the Department of Information Technology. Ongoing matters are dealt with by HR administrators Ulrika Andersson (also the fire safety officer) and Anna-Lena Forsberg. The health and safety representatives are Liselott Dominicus van Den Bussche (until 31.12. 2022) and Marina Nordholm (until 31.12. 2021). The Department Board establishes the Action Plan for the Work Environment and monitors to ensure that it is being implemented. This action plan is revised **annually** taking into account new risks in the work environment and cases completed over the previous 12 months.

A good work environment is one of the most important prerequisites for the operational success of the department. As problems associated with the physical work environment at the department are relatively minor, our main focus is on the psychosocial work environment. The department's Action Plan for the Work Environment describes the activities we conduct in order to promptly identify and effectively deal with work environment problems. To the extent deemed necessary, the appropriate resources shall be allocated in the department's budget. Work to continuously monitor and improve the work environment shall be given a high priority by everyone working at the department.

Ongoing and regular activities (responsible: head of department)

Performance reviews

All managers at the department with staff responsibility are required to hold annual performance reviews, the results of which must be followed up at departmental and divisional level. In this way, we can identify signs of overwork, stress, ill health and other issues at an early stage, both at an individual and group level. Another purpose of performance reviews is to follow up on employees who have undergone some form of leadership or supervision training. The maximum permitted interval between performance reviews is 18 months. The next period will be between April and June 2020.

Performance reviews for doctoral students are divided into two parts; firstly, in conjunction with agreeing a new individual study plan and, secondly, in conjunction with the senior group's follow-up meeting for doctoral student's.
Time should be set aside for performance reviews in staffing plans at divisional level.

The head of division, other managers with staff responsibility and supervisors shall be allocated four hours for each individual they manage/supervise. This time includes planning, implementing and following up structured performance reviews, as well as unplanned discussions of a similar character that may arise over the course of the year. It is incumbent on those with staff responsibility to pass on any issues raised during these reviews and discussions that may affect budgets, either to the division director or head of department.

Mentor programme
Everyone employed at the department for a minimum period of one year shall be assigned a mentor by the mentoring coordinator.

Language lessons
All new employees who do not speak Swedish should be encouraged to attend lessons in Swedish.

Work environment survey and health profile
A work environment and health survey shall be conducted at an individual level every fifth year. Should events dictate, a separate work environment survey and follow-up should be conducted. The most recent work environment survey/health checks were conducted in April/May 2019, when work environment mapping was conducted. In conjunction with this, all staff were offered a medical checkup with our occupational health services provider. In addition to this, all staff at Uppsala University are offered a medical checkup on reaching 50, 55 and 60 years of age.

Leadership training for work supervisors
Leadership training shall be offered, and encouraged, to all staff with supervisory responsibilities; for example, head of department, division directors, director of studies, head of research, research leaders, etc. The aim is that at least 90% of those with supervisory responsibilities shall have undergone training.
This shall be followed up on 30 September each year.

Supervisor training
Doctoral supervisors and degree project coordinators should undergo supervisor training. Supervisor training is obligatory for everyone acting as principal supervisor to a doctoral student. The aim is that at least 90% of all doctoral supervisors shall have undergone training. This shall be followed up on 30 September each year.

First-aid training
Employees should be offered the chance to attend a first-aid training course every other year. Both basic and refresher courses should be offered. The next training courses will be held in autumn 2020.

Wellness
In the interests of prevention, wellness measures should be offered to all staff; for example, subsidised exercise activities, one working hour of keep-fit per week, massage, fruit baskets in the staff room, etc. The department should also endeavour to ensure that wellness activities are conducted at the department.

Preventative physical work environment measures
The department contributes through workplace design, procurement of work aids, etc. Work adaption should be implemented as soon as possible for both staff and students.

Regular health and safety inspections are carried out, the results of which are compiled, evaluated and followed up.

Social & cultural activities
The department arranges and supports various social and cultural activities.

Stress and conflict management
The department contributes by offering training on dealing with work-related situations, in particular those related to stress and conflict. This can take place in groups or individually.

Equal opportunities
Equal opportunities must be included as an important element of the work environment. the department's Equal Opportunities Group is tasked with monitoring this issue and providing information on their work. Equal opportunities work affects both students and staff.

Evacuation drills
Drills are expected to be held on campus once a year. This is administered by campus management, which has decided that the drill should be held at ITC on odd years and the Ångström Laboratory on even years. The evacuation plan and alarm information is available on the website at:
https://www.polacksbacken.uu.se/Security/Evacuation/?languageId=1

Fire protection inspections
The Security and Safety Division carries out a quarterly fire protection inspection.

Work Environment Group
The Work Environment Group meets three times a year. Members: health and safety representatives, head of department, HR administrators, administration manager and student representatives.

The Work Environment Group coordinates and informs regarding the department's systematic work environment management. The Work Environment Group also acts as the drafting body for the annual review of the Action Plan for the Work Environment.

Crisis and Crisis Support Group
Members: health and safety representatives, head of department, deputy head of department, HR administrators, study counsellors, student representatives.
The Crisis and Crisis Support Group shall ensure that crisis-support procedures are in place at the department and provide clear information about these procedures.

Information initiatives
Information regarding the above, as well as clarification of the department's organisational structure and division of responsibilities, should be passed on through:
• LäsIT
• the website

• divisional planning days, meetings, etc.
• work environment signs in Building 4, Floor 2.
• information meetings whenever major changes are made to procedures.
• monthly and annual staff meetings.

Work environment measures October 2018 to December 2019

- A review of the current situation regarding supervisor training has been conducted. As of 31 December 2019, approximately 90% of active doctoral supervisors had undergone supervisor training. (It is likely that the figure is actually higher but we are awaiting confirmation from a handful of new assistant supervisors regarding whether they have completed supervisor training.)
- A review has been conducted of the current situation regarding leadership training for members of the department's Management Group, the head of research, director of third-cycle studies and members of the Director of Studies Group. As of 31 December 2019, 100% of the abovementioned have undergone some form of leadership training.
- Over the course of the year, the Work Environment Group has continued working on systematic work environment management, including a residential course during the spring and a seminar on conflict management in September.
- Various support activities have been conducted, both internally and with the assistance of the Human Resources Division, to strengthen the organisational and psychosocial work environment for technicians in computer operations.
- Health and safety inspections have been conducted during spring 2019, on this occasion by gathering information and conducting random inspections.
- The department's work environment was surveyed during spring 2019. In conjunction with this, all staff were offered a medical checkup with our occupational health services provider. Divisional action meetings were also held during the spring in order to identify focus areas.

Review of work to ensure equal opportunities 2019

This document includes a description of last year's equal opportunities and gender equality work as well as a qualitative description of the current situation at the department.

Description of equal opportunities work

The Equal Opportunities group and the Head of Department worked according to the equal opportunities plan.

Enhance capacity of the equal opportunities group to work as change agents

We had invited guests to the equal opportunities' fikas on several occasions. For example, we had presentations from Margot Gerritsen, the Director of Women in Data Science, the Project coordinator for Ångström laboratory phase 4 on plans for accessibility in the new building, and a Head of Division reporting on their Division's gender equality project.

We organised a retreat for the equal opportunities group in October, where the group assessed the work done throughout the year and produced a draft of the equal opportunities plan for 2020.

We organised the delivery by an external speaker of a lecture on diversity and discrimination, which was delivered in September 2019 in a number of introductory courses for BSc and MSc programs at our Department.

We rewrote the call for project proposals to broaden the scope to equal opportunities and not simply gender equality and funded several project applications throughout the year. We nominated a candidate for Uppsala University's Equal Opportunities Award. We updated the description of the equal opportunities group on our web page. We designed graphical elements that can be used for ePosters for info screens. We did not produce ePosters yet.

We invited the Heads of Divisions to present the results of their Division's gender equality projects to the group. One Head of Division has presented results so far, while activities in other projects are still ongoing.

Organising an equal opportunities day

In May we organised an equal opportunities day, called the International Celebration, with a focus on diversity. We had an external invited speaker delivering a lecture on intercultural skills for a diverse world. We conducted a workshop where participants working in groups reflected on themes related to diversity.

Description of gender equality work

The Head of Department has carried out the activities for which they were responsible, according to the plan, such as the salary revision, the monitoring of gender issues in the management team, ensuring that there are representatives of both sexes in most decision-making and preparatory bodies.

The Head of Research has worked actively to increase the share of senior women in research through contact with young researchers in the position of Assistant Professor. The head of research also actively participated in the equal opportunities group as representative of her division, and actively working with gender mainstreaming at the department.

The Equal Opportunities Group worked well according to the continuous work described in the Gender Equality plan for 2019. The items in the action plan for 2019 were addressed, with a few exceptions and with several additions of things we did do.

A better gender situation for technical and administrative (TA) personnel

We started to discuss work to be done to understand harassment techniques. The study circle for T and A personnel has been postponed to 2020. We did not discuss communication and collaboration at the strategy day for teaching.

Gender equality aware education that creates a better learning environment for all

Course evaluations have been discussed with the group, which has led to the decision of setting up a diversity and discrimination lecture to be delivered in introductory courses of BSc and MSc programs at the Department. We have discussed how to get new student representatives to join our group and have a plan in place. We did not organize a seminar with experts on equal opportunities at the strategy day for teaching. We did not organize a PhD panel at UTNARM. The UTN survey has been discussed. We did not organize a teaching assistant training.

Better PhD student education for all

The implementation of the Festa toolkit has been discussed and small tests towards implementation will be considered next year. We did not send out a questionnaire on UTN survey to get a better view of PhD students' current situation. We did not organize the pilot study with meetings between PhD students and head of studies at DoCS. We talked about the equal opportunities group in the Teknat PhD meetings. Teknat representatives have offered support in spreading news.

Supporting women in postdoc, associate senior lecturer and senior lecturer positions

We have been following projects related to gender equality at the different divisions. A Head of Division has presented results of the project at an equal opportunities fika. We did not do the study circle on harassment techniques. We contacted newly promoted assistant professors

and asked them what kind of support they received and what support they would like, and provided information on existing career support at the faculty level.

Equal opportunities budget allocated in 2019

The Equal Opportunities Officer performs duties at 10% of full-time employment. This time was funded by the equal opportunities budget at the Department.

Funding awarded to equal opportunities projects in 2019: 245 241 SEK.

Funding allocated for divisions' gender and work environment projects: 430 000 for Vi2 and TDB).

Quantitative description of current situation

Number of Employees on the 30/10 2019*

Total	Women	% women of 270	Men	% men of 270
270	75	28%	195	72%

* Above 20% employment.

Number of Full Time Employees on the 30/10 2019

Total	Women	% women of 250	Men	% men of 250
250	69	28%	181	72%

Parental Leave 2019

Number of employees with parental leave and temporary parental leave with sick child sometime between Jan. 1 - Oct 30, 2019

Total.	Women	% women of 51	Men	% men of 51
51	16	31%	35	69%

Percentage of employees with parental leave and temporary parental leave with sick child out of total number of employees Jan. 1 - Oct 30, 2019

Total %.	Women	% women of 270	Men	% men of 270
51 of 270 employees =19%	16	6%	35	13%

Sick Leave 2019

Number of employees on sick leave sometime between Jan. 1 - Oct 30, 2019

Total	Women	% women of 75	Men	% men of 75
75	32	43%	43	57%

Percentage of employees on sick leave out of all employees Jan. 1 - Oct 30, 2019

Total	Women	% women of 270	Men	% men of 270
75 of 270 employees =28 %	32	12%	43	16%

PhD Students 1/7 2019

Total Active PhD Students 1/7 2019	Women	% women of 117	Men	% men of 117
117	30	26%	87	74%

PhD financing

	Women %	**Men %**
Total: 117 active PhD Students	**26%**	**74%**
PhD Employment (full time): 102	27,5%	72,5%
Industry PhD Student: 6	33%	67%
Externally Employed and Associated: 1	-	100%
No Employment: 3	-	100%
Stipends: 1	-	100%
Educational Support: 0	-	

Research Degrees between Jan. 1 - Oct 30, 2019

PhD	Women	% women of 13	Men	% men of 13
13 pers	1	5%	17	95%
Licentiate	Women	% women of 3	Men	% men of 3
3 pers	1	33%	2	72%

Number of PhD Students on sick leave sometime between Jan. 1 - Oct 30, 2019

Total	Women	% women of 19	Men	% men of 19
19 pers	8	42%	11	67%

Percentage of PhD Students on sick leave out of all PhD Students between Jan. 1 - Oct 30, 2019

Total	Women	% women of 117	Men	% men of 117
19 out of 117 = 16%	8	7%	11	9%

Review of communications activities 2019

In March 2019, the Board of the Department of Information Technology decided on **goals and strategies for the department's external communications**. Among other things, it was decided to use the 20th anniversary of the department to reach a broader public with our research.

During autumn 2019, three lectures were arranged under the umbrella of **IT20**: *Effective Calculation: A Driving Force in IT Development*; *Counting on the Brain: How Can IT Improve Health*; and *The Internet of Things for a Smarter Society*. In order to market these events, contact was made with local upper-secondary schools and alumni and an advertisement was place in local newspaper *Upsala Nya Tidning*. The department also created a Facebook page to promote IT20 to interested members of the public (https://www.facebook.com/ITinstitutionen/).

T-shirts were printed with the slogan "We are IT" to be worn by lecturers and a Catchbox microphone printed with "IT" was produced for the question and answer session. The lectures were videoed for publication online and on Facebook.

Three groups from the department participated at **SciFest** in March 2019: Lars Oestreicher, COMnPLAY and the Social Robotics Lab. Two rollups and a T-shirt printed with "Department of Information Technology" were produced for use at events.

The communications officer provided **support** and acted as a **sounding board** for ideas, holding regular meetings with the head of department, administrative manager and management from the Division of Visual Information and Interaction (Vi2). Attempts were also made to encourage other divisions to make the most of this opportunity.

During the spring, a **communication plan** was prepared for the Data Science Arena.

In order to **raise the external profile** of the department's staff, during spring 2019 a competition was organised to encourage everyone to improve their profile page. Everyone meeting the basic criteria won a Department of Information Technology tote bag. Three people with particularly good profiles also won an Uppsala University mug.

To **raise the profile** of the department's research, during the year profile interviews were conducted with:

- Thomas Schön: http://www.it.uu.se/research/profiles/schon_2019
- Ingela Nyström: http://www.it.uu.se/research/profiles/nystrom_2019
- Matteo Magnani: http://www.it.uu.se/research/profiles/magnani_2019
- Elisabeth Larsson: http://www.it.uu.se/research/profiles/larsson_2019

At the beginning of 2019, internal news publication was transferred from wiki pages to the Staff Portal in order **improve internal communication** and to provide everyone at the department with the opportunity to contribute to the internal news feed. While staff have utilised this opportunity to publish their own news on the department's group space in the

Staff Portal, the majority of publication has been administered by the communications officer.

During 2019, **ongoing communication activities** were also conducted in the form of updates to the department's website at www.it.uu.se and the posting of events and news on digital screens. Our digital internal newsletter, *LäsIT*, is published weekly.

In September 2019, our **Communication Plan 2020** was adopted based on stated goals and strategies.