

## STAFF PLAN UPDATE 2011

*At the beginning of this plan, there is an overview of the current status of primary targets for improvement, followed by a summary of staff development measures to be implemented during 2011. This is followed by the general part of the plan and the appendixes listing the proposals of the 2010-2012 plan and with statistics over the staff structure of the department.*

### **1. Strategic targets for improvement during the 2010-12 planning period: situation in September 2010**

The implementation of the four primary targets for improvement listed in the 2010-12 strategy for the department has progressed as follows.

1. Acquisition of a new network-simulation and computing cluster to create new possibilities in research and teaching. (The investment was made during 2009, but implementation and utilisation did not occur until the strategy period.)

- Current status: The hardware has been acquired and is operational. Recruitment of research staff for the project is underway; the funding mainly comes from project funds.

2. Start-up of a global software development laboratory as a broad international collaboration for the improvement of research into software teaching and quality.

- Current status: The pilot laboratory (Software Factory) has been established at the department. Its operations are at a stage of powerful development and expansion (ICT-SHOK funding among others). The establishment of a network of corresponding laboratories is at an early stage, with the goal of opening labs in Cagliari, Madrid, and Sheffield, among other places. The FiDiPro application for support for the project is under assessment.

3. Globalisation, especially increasing instruction in English at the Master's level to facilitate the recruitment of international Master's students and support their studies, as well as more international postgraduate studies.

- Current status: Two of three Master's programmes at the department have been changed so that they are given in English, starting in academic year 2010-11. Around 40 students from abroad have been accepted to these Master's programmes, and some 20 of them have started the programmes. Some 25% of the department's postgraduates are foreigners.

4. Consolidating the Master's programme in bioinformatics, MBI. The MBI is a joint venture with Aalto University, and a significant cross-disciplinary programme for three of the Helsinki University campuses. The department directs some of its resources to this programme and strategic funding has been applied for from the faculty to consolidate its position.

- Current status: The new professor in charge of the programme has been appointed and the University Lectureship will be filled in autumn 2010. The international student application for this programme has established its form and the level of applicants is ever improving.

In addition, the department is paying attention to the improvement of BSc and MSc degrees and their relation to each other after the reformation of the degree structure. Before the nationwide transition to a two-step degree structure, the department's output of degrees was around 70 MSc degrees and 100 BSc degrees annually. Since the degree structure transition period ended in summer 2008, the numbers have developed so that the number of BSc degrees has remained at the same high level, while the number of MSc degrees has decreased significantly, even down to half of before. The straightforward interpretation is that the BSc degree is a good enough basis for a career. The underlying reasons for this are being studied and measures for increasing the relative percentage of MSc degree will be taken during the planning period 2010-2012.

## **2. Staff-related development in 2011**

The distribution of department staff into their various duties is near its objective. However, the department is planning to increase its number of professors in accordance with the previous scientific evaluation, as well as to participate in the new tenure-track method of professor recruitment. These vacancies will be funded with monies freed up from lectureships and professors going into retirement, as well as external funding. The department will progress fairly slowly in establishing new professorships, since it has already employed 5 new professors during the years 2009-2010.

In the staff structure at the department, there is an evident increase of research assistant posts (in 2009, the percentage of teaching and research person-years carried out by research assistants was 28%). This is not positive in the long run, since a high standard of research may not be maintained with only trainees. The department hopes to use a larger part of research resources on higher-end research positions than currently. The research assistant posts are still significant for recruiting new, upcoming talent into the research community at an early stage.

Measures for year 2011:

1. Establishing a professorship to be appointed through the tenure-track method and declaring it open for applications in 2011. The department will apply for funding for the initial stage of this post from the Dean/Rector. For permanent funding, the department will use funds freed up as employees retire.
2. Consolidating the start-up package for new professors:

- a. The goal is to fund one postdoctoral researcher or one doctoral student for the group of each new professor (Tarkoma, Jacucci, Mäkinen, Myllymäki), using department funding and external funding. All of them cannot be realised at the same time, but need to be done step by step.
  - b. Other support for new professors: the department will participate in funding any special equipment that may be necessary for starting up the work of the new professors.
3. The department will apply for external funding for the following research-based professors' duties:
  - a. The FiDiPro professorship funded by Tekes
  - b. The Academy professorship of the Finnish Academy
4. Employment of the lectureship being freed up (Myllymäki): The lectureship will be filled temporarily for spring 2011. After that, the status will be reconsidered and the post may be declared open for application. Another alternative is to wait and use the funds for a professorship later.
5. Personal title change: Amanuensis – University Instructor
6. Staff organisation in the IT unit of the department: one of the posts will be transferred to the service centre.
7. Improvement of quality:
  - a. The working order of the department will be updated. The working order will include the duties of the administrative and office staff. The work processes of the administration will be examined by the administration unit and, for pertinent parts, in cooperation with the service centre.
  - b. More systematic integration of new supervisors into the routines and supervision duties at the department.
  - c. The SoleTM allocation process will be changed so that the administration unit will prepare the registration template.

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### 3. Baselines for the staff plan

The background for the staff plan includes the department's strategic choices, the staff policy of the University of Helsinki, the department's own staff policy, and the financial parameters of the department. The staff policy details what kind of staff structure will promote the goals of the department.

The structural basis for the department staff plan is built on the specialisation programmes of the teaching and research at the department, combined with the supporting administrative services. The planning and its financial conditions are examined annually during the planning period, as well as during the restructuring of duties. The examination of the plan is also necessary due to the reformations being carried out at the department, the more detailed specification of the university's staff policy, and the influence of the new university legislation and changing financing structures.

#### 3.1 Department mission

The missions of the department have been described in its Quality Manual (the chapter Strategic premises and operational goals):

- *Teaching*: the department offers a broad basic scientific education for the Bachelor's degree, expert instruction based on its key research areas for the Master's degree, and a scientist's education based on its key areas for the Doctoral degree. The instruction follows a high standard.
- *Research*: the department carries out international cutting-edge research in its focus areas along with quality research into new domains.
- *Societal interaction*: the department is active in its interaction with the rest of society, both through its research and its teaching.

From autumn 2008, the key areas of teaching and research at the department, as well as the sub-programmes for the Master's degree, are *algorithms and machine learning, networking and services, and software systems*. In addition, there is a *Master's programme in bioinformatics* at the department. The department is also a participant in the *Finnish-Russian Cross-Border University (CBU) Master's programme*, which is primarily organised as part of normal teaching at the department.

For carrying out its basic duties, the department has an expenses allocation awarded by the faculty, as well as separate project funding, a considerable part of which is directed to the graduate schools administered by the department (Hecse, ComBi). In addition, the department receives a great deal of external funding for research projects, and some smaller sums of separate funding. This staff plan only details the human-resource structure as far as the staff employed with the basic allocation is concerned. The heads of research units and projects are in charge of the HR plans for their own units.

#### 3.2 Outlines and goals for improving the staff structure

Annually, over 200 employees work at the department, completing some 160 person-years. Around half of the person-years are completed on external funding. In addition, a significant number of part-time teachers work at the department. The average age of the staff is under 35 years. Some 13% of the person-years are completed by foreigners, and slightly under 20% by females.

The principles for the staff policy of the department have been described in the Quality Manual, chapter C.2 Staff. At regular intervals, a staff plan is drawn up at the department to define the changes to be made at the department during the planning period when it comes to the structure of staff employed on allocated funds. The heads of research units and projects are in charge of the HR plans for their own units.

Goals, according to which freed-up resources are directed and the staff structure at the department is improved

- The research areas of new professors will be supported by directing postdoctoral researcher/doctoral student posts into their fields.
- New posts established at the department are primarily professorships (recommendation from the evaluation of research at UH in 2005).
- The core staff in administration and support has permanent employment.
- The aim is to employ even more high-end teaching and research staff from abroad than currently.
- When recruiting employees for teaching posts, more attention will be paid to merits in the field of teaching.
- The strengths of part-time teaching will be utilised better. If the amount of part-time teaching is decreased, university instructors will be recruited instead, whenever necessary.
- Any new focus areas in research will be examined during the planning period, and open vacancies will be directed towards them.

## **4. Current staff structure**

### **4.1 Allocation-salaried staff 1 August 2010**

Teaching and research staff

- 10 appointed professors (2 relieved of their duties)
- 3 professorship substitutes (1 vacant professorship will be appointed during autumn 2010)
- 1 personal pooled professorship (5-year term)
- 14.5 appointed lecturers/university lecturers (3 on leave to substitute for professorships)
- 4 university lecturer substitutes (1 vacant university lectureship will be appointed during autumn 2010)
- 2 appointed university instructors (1 on leave to substitute for university lectureship)
- 2 substitutes for university instructors
- 2 fixed-term 5-year university researchers
- 3 fixed-term 3-year postdoctoral researchers (2 exempted for other funding)
- 5 fixed-term doctoral students/assistants

Administration, support and other

- university lecturer (head of studies), office manager, research coordinator, IT manager

- 2 amanuenses, department secretary, planner, translator
- 4 IT specialists, 3 IT designers
- Staff salaried with the department's own project funding (in August 2010: 13 employees)

In addition, there are 2 academy fellows and one person undergoing non-military service employed by the department, as well as some 30 part-time teachers.

#### **4.2 Graduate schools**

The department has 15 doctoral students in the funded posts of the FICS and Hecse graduate schools (1 August 2010).

#### **4.3 Staff salaried from external funding**

There are totally some 75 person-years carried out on different levels of the work structure, from research staff to principal investigators.

In 2009, the teaching and research staff at the department (a total of 138 person-years) were distributed on the different levels of the work structure as follows, in person-years:

4th level	9.7%,
3rd level	15.5%,
2nd level	11.5%,
1st level	63.3%.

It is obvious that the distribution to level 1 has increased too much.

#### **4.4 Staff structure (teaching and research) according to sub-programme:**

##### *Algorithms and machine learning*

- 4 permanent professors
- 3 permanent university lecturers (2 exempted)
- 1 5-year university researcher
- 2 postdoctoral researchers (both on external funding 1 August 2010)

##### *Networks and services*

- 3 permanent professors
- 4 permanent university lecturers/lecturers
- 1 fixed-term university instructor
- 2 assistants
- 1 fixed-term doctoral student

##### *Software systems*

- 3 permanent professors
- 6.5 permanent university lecturers (one of them acting as head of studies)
- 2 permanent university instructors
- 1 5-year university researcher
- 1 3-year postdoctoral researcher
- 1 fixed-term doctoral student

### *Bioinformatics*

- 1 permanent professors
- 1 permanent university lecturer (to be appointed in autumn 2010)

### *Employees not tied to sub-programmes*

- 1 professorship pooled with the Department of Mathematics and Statistics 2008-13
- 1 permanent lecturer
- 1 fixed-term university lecturer
- 1 fixed-term university instructor

## **5. Target state for staff structure**

The present state is near the target for the staff structure. The distribution of research and teaching posts is being changed in favour of more professorships. The department staff is young, so not many posts are freed up through retirement.

As new professors are have been appointed in 2009-2010, a total of 2-4 postdoctoral researchers or doctoral students have been recruited into their areas of research. In addition, the research groups of the new professors will increase the number of research staff salaried with external funding.

The university reformation will add to the financial responsibilities of the departments through e.g. budgeting and follow-up, so the administrative resources of the department will be directed towards financial management. In the future, the department will continue looking after finances and human resources with less resources than most other departments of similar size. Since the university's staff policy decrees that the administrative staff must not be added to, the changes will be carried out by redirecting resources. The department will strive to make administrative staff permanent.

### **5. 1 Resource needs of improvement projects during planning period 2010-12**

Research and teaching in network simulation and parallel computing

- Hardware maintenance and further acquisitions (to be done with current resources)
- Support for research and teaching (a new post for coordinating and starting up the teaching and research)

The global software laboratory

- A part-time teacher/coordinator or in addition to an employee's other duties

Consolidation of the bioinformatics Master's programme

- A professor to be appointed permanently (appointment process underway; general responsibility, thesis supervision, teaching)
- University lecturer to be appointed permanently (post existent; thesis supervision, teaching, coordination of major-subject programme)
- Doctoral student (new vacancy) (teaching and supervision)

## **6. Focus areas and goals of improving skills and wellbeing of staff**

The main focus areas of improving the wellbeing of department staff is described in the Quality Manual, chapter C.2.

The department supports its staff to improve and maintain its skills actively. Employees are encouraged to participate in staff training by the university, as well as independent studying relating to their work duties through e.g. flexible working hours. Especially the pedagogical studies of the teaching staff is supported, and we are making it more systematic.

The main focus areas and goals of skills and wellbeing at the department during the planning period 2010-12 are:

- Integration
- Wellbeing in the workplace
- Review talks
- The internationalisation of the work community



# **APPENDIX 1: Measures taken to reach the targets**

**Note: Straight from the department's strategy for 2010-12**

## **V001: Supporting the research fields of new professors**

- V1: One postdoctoral researcher or doctoral student will be recruited for each of the research fields of the new professors. (During 2009-2010, 4-6 postdoctoral researchers/doctoral students)

## **V002: Redirecting vacant professorships to new key areas**

- V2: Two vacant professorships will be redirected after revision of their key research areas, and will then be declared vacant. When revising the key areas, we will consider the availability of merited applicants on the job market.

## **V003: Establishing the Master's programme in bioinformatics**

- V3a: The posts of the professor in charge of the MBI programme and the university lecturer acting as its coordinator will be filled permanently.
- V3b: Redirecting a doctoral-student post on university/faculty funding to the MBI programme.

## **V004: A 3-year vacancy for a postdoctoral researcher to utilise the new cluster**

- V4: A 3-year vacancy for a postdoctoral researcher to utilise the new cluster will be established. Duties will include research and teaching that utilises the cluster, along with their coordination and support.

## **V005: Strengthening the resources for financial administration at the department**

- V5: The amanuensis post in charge of HR and finances will be made permanent. The vacant information officer's post will be discontinued when the locum period ends on 1 January 2010. We will consider establishing a new information officer's post in collaboration with another department, e.g. HIIT.

## **V006: International recruitment**

- V6: When recruiting new employees, we will mainly use international calls for application (recommendation from UH research evaluation in 2005)

## **V007: Utilising the benefits of part-time teaching**

- V7: The amount of teaching given by docents will be increased, as will the teaching duties of outside experts, so that the supply of courses complements the department's own teaching with up-to-date contents.

## **V008: Improved integration**

- V8a: Making the integration responsibilities and guidelines clearer at the department.

- V8b: Updating the department's integration plan.
- V8c: Improving the staff guide to correspond better with the needs of both old and new employees.

#### **V009: Improving the review talks**

- V9a: The review talks will be improved by using new review-talk forms, among other things.
- V9b: The training needs and interests (e.g. pedagogical training) of each employee will be discussed and plans made on the basis of them.
- V9c: Guidelines for the utilisation of feedback on e.g. teaching as review material will be drawn up.
- V9d: We will study the possibility of using the TUHAT/JULKI data in the UPJ talks.
- V9e: The immediate superiors are encouraged to give direct feedback to employees.
- V9f: UH action: Combine the making of the 1600-hour annual working-hour plan with the preparation of teaching plans and review talks.

#### **V010: Well-being at work**

- V10a: We will support the well-being of our employees within the framework of financial resources by offering various benefits (sports fees, massage)
- V10b: As far as possible, implementing projects developed by the taskforce for well-being at work to support the mental and physical health of employees.
- V10c: Maintaining a positive atmosphere: developing our sense of community and being heard by organising events that are planned and implemented by the employees as a joint effort..
- V10d: Teaching and other activities are developed communally.

#### **V011: The internationalisation of the work community**

- V11a: Making a separate and more extensive version of the staff guide for international employees.
- V11b: Encouraging the staff to participate in international conferences and exchanges of researchers and teachers with our own internationalisation programme.
- V11c: Support visits from foreign researchers and teachers to the department.
- V11d: While renewing the department's website, updating all its pages in two languages.

## APPENDIX 2: Quantitative targets

Employee group	Realisation			Staff status	Target		
	2007	2008	2009	1 Aug 2010	2010	2011	2012
<b>Teaching and research staff</b>							
4th step (professors and principal investigators)	13	14	14	15	14	15	15
3rd step (research coordinators, university lecturers, senior researchers, university researchers, lecturers, academy fellows)	16	16	16	25	16	16	18
2nd step (postdoctoral researchers, university instructors)	6	10	16	16	11	12	12
1st step (project researchers, doctoral students,, assistants, research assistants)	73	78	85	78	85	87	89
<b>Other staff</b>							
Teaching and research support staff							
Other (including IT, maintenance, library staff)	9	8	8	9	8	8	8
Other staff (administration)	9	8	8	8	8	8	8

## APPENDIX 3: Statistics over staff structure

Person-years according to staff grouping	2005	2006	2007	2008	2009	
Professors	10.8	10.8	11.6	11.0	13.0	7.5%
University lecturers, lecturers	23.3	21.1	20.7	18.9	16.6	9.6%
Assistants	9.4	9.5	7.1	4.3	1.3	0.8%
Part-time teachers	21.9	15.4	12.8	13.2	17.9	10.3%
Researchers	45.9	49.0	39.6	23.8	21.7	12.5%
Doctoral students	19.8	18.4	22.0	40.4	45.6	26.4%
Administrative staff	8.2	8.6	8.9	7.5	8.2	4.8%
Research support staff	19.5	29.1	38.5	32.1	38.4	22.2%
IT staff	7.9	8.4	8.0	7.7	8.8	5.1%
Other	2.4	0.3	0.2	0.0	1.3	0.8%
<b>TOTAL</b>	<b>169.1</b>	<b>170.8</b>	<b>169.6</b>	<b>158.9</b>	<b>173.0</b>	100.0%

Placement of teaching and research staff on the different levels of the 4-step structure of duties:

person-years	2008	2009	2008	2009
4 <sup>th</sup> step	12.2	13.4	9.3%	9.7%
3rd step	22.0	21.5	16.7%	15.5%
2nd step	13.7	16.0	10.5%	11.5%
1st step	83.5	87.4	63.5%	63.2%
<b>total</b>	<b>131.4</b>	<b>138.2</b>	<b>100.0%</b>	<b>100.0%</b>