

## **Proposal for Common Farma-Life-Science Strategy for Recruiting Assoc. & Full Professors**

### ***Background***

The hiring of 'permanent' scientific staff (Assoc. & Full Professors) represents the most expensive, long-term investment in finances and strategies made by academic faculties. Synergies between the Farma-Life-Science faculties will be very hard to optimize unless the faculties share and discuss the research strategies and hiring plans of their departments. We propose below how the Decanates can proactively analyze information provided by their Departments for potential synergies and redundancies such that new hires at the Faculties promote synergies and reduce redundancies.

### ***Data & Decanal analyses***

A- Departments annually provide the Faculty of Science with research assessments and proposed 5-year hiring plans for Assoc. & Full Professors as part of the information made available to their Scientific Advisory Boards (Appendix A; guidelines & example). Such relatively concise documents could be a general template for comparable Departmental assessments at Farma-Life which could be shared between the Decanates. While Faculties may have different formats/procedures for Departmental strategic documents, and for determining allotments of full or associate professors among their Departments, it is reasonable to ask Departments to propose 5-years hiring plans for Associate and Full Professorates. We therefore propose that:

- the Decanates share these plans at the beginning of each April,
- the Vice-Deans for research write a brief overview explaining potential synergies and/or redundancies among the plans and a recommendation for changes if required,
- These recommendations are discussed/modified and agreed upon by the Decanates in early May of each year.

B- The Faculty of Science updates a monthly status list of current employment cases for Assoc. & Full Professorates. This list includes information on positions requested for advertisement by the Departments (Appendix B). As a follow-up to A above, such lists can be shared between the Decanates, as similar lists presumably exist, or probably should exist, in any faculty. In addition, Departmental requests for advertisements of Associate and Full Professorates are made available to their Decanates. We therefore propose that:

- Monthly status lists of current employment cases are shared between the decanates,
- Departmental requests for new advertisements of Associate or Full Professorates are emailed between the Vice-Deans for Research with a request for comments within 10 working days,
- If a Decanate assesses that a proposed position represents a redundancy between the Faculties, the Decanates must agree on changes to the advertisement prior to publication.

**Department Research Assessment and Plans**  
(max. 4 pages of text excluding productivity data & hiring list)

**1- Research staff productivity data collected according to the information below**

**2- For individual researchers and/or research groups/sections**

- Identify strongest researchers/groups and plans for strengthening them
- Identify research areas under development which can become world-class in 5 years, including plans for attracting external funding to such areas
- Identify new strategic research areas that the Dept. should consider investing in.

**3- Recommendations**

-Produce a 5 year plan, including recommendations for the use of open/fundable staff positions. The plan, which should also include the past year, is best presented as a table:

Year	Type	Research area	Associated teachin	Status	Funding
2009	Professor	Quantum bibliometry	Chemometrics 301	Employed 1/4/09	GF
2009	Lecturer	LHC detector	Quantum Physics 101	Not filed	Internal
2010	Lecturer	Magnetar genesis	Astronomy 202	Advertised	GF
2010	Professor	LHC black hole	Higgian theology 303	Searching	CERN
2011	Professor	Open	Open		Internal

Recommendations should include those for strengthening the research productivity of individual staff and of current research groups. Recommendations should also cover external funding opportunities, including commercial collaborations, as well as internal allocations of funds and manpower (both scientific and technical-administrative).

**Information on Research staff productivity data 2009** - In 2007 and 2008 the Faculty of Science produced overviews of the research productivity of our academic staff. The Decanate and the NFLT have decided to repeat this exercise to obtain an overview of research productivity during 2009. Due to comments to the 2008 assessment in 2008, we have changed some of the data fields and help-texts in the form.

**Use of the data** - The data will be available to the Decanate and Departments as an aid to understand and plan for the challenges faced by the Faculty and Departments. These challenges relate to productivity, hiring plans, the supervision and training of MSc and PhD graduate students, and the extent of, and changes in, external funding. The Decanate has no intention of using the data to compare researchers across the Faculty. However, the Department Heads and Vice-Heads may use it to compare groups within their Departments.

**Entering data** – The Dept. Mathematics has made an online solution for entering data. To enter data, go to <https://secure.math.ku.dk/tastselv/>. Login using your registered KU-email address as user name, and CPR-number (no dashes) as access code. If you have login problems, please contact IT-Manager Rasmus Borup Hansen at [rbh@math.ku.dk](mailto:rbh@math.ku.dk). Data can be entered over more than one session: remember to save your data each time before logout by clicking the “save”-button at the bottom of the page.

**Deadline** - The form will be open from **January 11** through **March 11, 2010**. Please make sure to enter your data before this deadline.

**Questions** - If you have questions about data and/or content, please contact Rasmus Rydahl at [rbr@science.ku.dk](mailto:rbr@science.ku.dk) or tel.: 353-24238.

## Department of Biology – Strategy 2009-2014 (July 1st, 2008)

### Background

The new *Department of Biology* (BIO) is the largest academic research and education Department in the biological sciences in Denmark, comprising >200 VIP (122 permanent and 88 externally funded), >130 PhD students and >150 TAP (133 permanent and 20 externally funded). The Department has 4 educational programs, i.e. Biology, Biochemistry, Bioinformatics, and Molecular Biomedicine (appointed an elite education), and hosts about 1/3 of all students at the *Faculty of Science*. BIO has a number of field stations and research vessels, and is the only University Department in Denmark that runs a public aquarium (*Øresundsakvariet*, Helsingør) for outreach and teaching activities in aquatic biology (~50.000 visitors per year), and teaching (~15.000 children, public school and high school pupils per year).

The *Department of Biology* has research programs in all major areas of biology and, its staff has comprehensive academic expertise on all types of living organisms: Their structure, function, physiology, ecology and evolution at levels ranging from molecular processes in the cellular universe, over organismal biodiversity and interactions, to evolutionary and ecological processes in the biosphere. This expertise is closely integrated with BIO's educational programs which focus on research-based teaching and outreach at the highest academic level throughout.

The *Department of Biology* attracts significant external funding, which currently covers 49% of activities. This includes several Centres of Excellence: 2 *Danish National Research Foundation* Centres, 2 recently granted *KU Excellence* Centres, 1 *Villum Kann Rasmussen* Centre, 4 FNU centres, 1 *Marie Curie* Excellence Grant and the coordination of 1 *Marie Curie* Research Training Network. The Department also hosts several advanced instrument centres such as a NMR facility and a high-throughput sequencing platform.

### Strongest researchers/groups

#### Ancient DNA (group leader: Eske Willerslev)

*Strengths:* Strong international multidisciplinary research profile. Extensive funding e.g. Stjerneforsker grant KU; 2nd round applicant DG (PI) *Comment:* EW will move to SNM but with 50% funding from BIO.

#### Aquatic Microbiology (group leader: Michael Kühn)

*Strengths:* Strong international and multidisciplinary research profile in a broad range of topics. Extensive funding e.g. FNU, FTP, DSF, Højteknologifonden; 2nd round co-applicant DG. *Further strengthening:* Two positions in hiring plan.

#### Biodiversity and Macroecology (group leader: Carsten Rahbek)

*Strengths:* Strong international research profile and extensive funding e.g. Stjerneforsker grant KU; FNU Centre; 2nd round applicant DG (PI). *Further Strengthening:* Two positions in hiring plan.

#### Bioinformatics Centre (group leader: Anders Krogh)

*Strengths:* World recognized leader in the bioinformatics field. 2nd round coapplicant DG, extensive funding. ERC young investigators grant to Albin Sandelin. *Further Strengthening:* Two new lectureships will be filled in 2008, on additional position in hiring plan.

#### Cell Biology (group leader: Cok Grimmelikhuijzen)

*Strengths:* Strong international research profile in insect genomics and extensive funding, e.g. FNU Centre; 2nd round applicant DG (PI). *Further Strengthening:* Position in hiring plan.

#### Cell Biology and physiology (group leader: Else Hoffmann)

*Strengths:* Strong research profile and extensive funding.

#### Cell Cycle and Genome Integrity (group leader: Olaf Nielsen)

*Strengths:* Strong international research profile on cell cycle, extensive international network. *Further Strengthening:* New lectureship will be advertised in 2008

#### Centre for Social Evolution (group leader: Koos Boomsma)

*Strengths:* Strong international research profile in social insects and evolutionary ecology. Extensive funding, PI for DG Centre; EU Marie Curie Excellence grant. *Further Strengthening:* Freia “indlejrning” plus new “indlejrings” lectureship to be advertised in 2008. Position in hiring plan.

**Danish Archea Centre (group leader: Roger Garrett)**

*Strengths:* Strong international research profile in Archaea microbiology. Extensive funding, e.g. DG Centre, 2nd round co-applicant, Danish Archaea Centre, *Further Strengthening:* An.FRC postdoc grant has been awarded in 2008. New position in hiring plan.

**Ecology and Physiology of Aquatic Organisms (group leader: Kaj Sand-Jensen)**

*Strengths:* Strong international profile in a broad range of disciplines. Extensive funding e.g. EU, FNU, DSF, VKR centre of excellence. *Further Strengthening:* A collaborative professorship with DTU-Aqua on fish biology has been advertised and will be filled in 2008. A FRC postdoc grant has been awarded in 2008. New position in hiring plan.

**Experimental Mycology (group leader: Søren Rosendahl)**

*Strengths:* Strong research profile in the evolution of pathogenic and symbiotic fungi. *Further Strengthening:* An FRC postdoc grant was awarded in 2008.

**Immunology (group leader: Niels Ødum)**

*Strengths:* Strong research profile in lymphoma research and signal transduction. Extensive external funding from multiple sources. Important link to SUND. *Further Strengthening:* Lectureship will be advertised in 2008

**Molecular Microbial Ecology (group leader: Søren Sørensen)**

*Strengths:* Strong international research profile in molecular microbial ecology and climate change. Extensive funding, e.g. Stjerneforsker grant KU; 2nd round DG (PI), large infrastructure grant. *Further Strengthening:* Two new positions in hiring plan.

**Physiological Ecology (group leader: Anders Michelsen)**

*Strengths:* Strong international research profile within terrestrial physiological ecology and climate change. Strong international profile and extensive funding e.g. FNU, VKR Centre of Excellence *Further Strengthening:* An FRC postdoc grant was awarded in 2008. New lectureship will be advertised in 2008

**Plant Molecular Biology (group leader: John Mundy)**

*Strengths:* co-PI DG Centre, extensive external funding, also international grants. *Further Strengthening:* New lectureship will be advertised in 2008. New position in hiring plan.

**Protein Biology (Group leader: Jakob Winther)**

*Strengths:* Strong interdisciplinary profile, main PI on interdepartmental FTP grant in new research area (Protein Design). *Further Strengthening:* Two new positions in hiring plan.

**Soil Biology (group leader: Søren Christensen)**

*Strengths:* Strong international research profile within soil biology and climate change. Strong international profile and extensive funding e.g. EU FP7, FNU, VKR Centre of Excellence. *Further Strengthening:* A new lectureship is in the process of being filled.

**Structural Biology and NMR (group leader: Flemming Poulsen)**

*Strengths:* World recognized leader in NMR field, extensive funding. FRC grant. *Further Strengthening:* New position in hiring plan.

**Research areas under development**

(younger researchers, exhibiting high publication activity)

**Aquatic microbiology: Per Juel Hansen (1961)** *Strengths:* Strong expertise in functional biology of protists. Strong international research profile attracts extensive external funding.

**Aquatic microbiology: Matthias Middelboe (1964)** *Strengths:* Strong expertise in aquatic virology and virus-host interactions. High productivity and attracts extensive external funding

**Archaea functional genomics: She Qunxin (1963)** *Strengths:* Extensive externally funded research

**Cell Biology and Physiology: Stine Falsig Pedersen (1967)** *Strengths:* Innovative research area

**Chemical Communication: Patrizia d’Ettorre (1967)** *Strengths:* Personal EU-Marie Curie Excellence Grant; research contacts LIFE; edited a book for Oxford University Press (2008)

**Chromosome replication: Stuart MacNeill (1964)** *Strengths:* Strong in two different research areas.

**Cilia Group: Søren Tvorup Christensen (1966)** *Strengths:* Innovative research area, also for relations to SUND *Further Strengthening:* New lectureship will be advertised in 2008

**Comparative zoology: Andreas Wanninger (1970)** *Strengths:* Innovative research . Coordinator of a EU Marie Curie Early Stage Training Network

**Gene silencing in yeast: Genevieve Thon (1963)** *Strengths:* Innovative research with strong interdisciplinary links. Participates in KU excellence program.

**Metabolic Gene Expression Regulation: Henriette Pilegaard (1962)** *Strengths:* Important link to Dept of Exercise and Sports sciences

**Molecular Microbial Ecology: Lars H. Hansen (1965)** *Strengths:* Scientific manager of Copenhagen High-throughput sequencing centre.

**Mycology: Rasmus Kjøller (1970)** *Strengths:* Strong intra-departmental links.

**Plant Cell Walls and Carbohydrates: Bill Willats (1965)** *Strengths:* Strong applied research me, Main PI on grant from Højteknologifonden, 2nd round co-applicant DG

**Protein Biology: Lars Ellgaard (1966)** *Strengths:* Innovative research area. Personal Novo Nordisk Foundation “Seniorforskerstipendium” (2006-2010), Benzon Foundation investigator fellowship.

**Protein Biology: Rasmus Hartmann-Petersen (1974)** *Strengths:* Strong publication record despite young age, extensive external funding.

**Structural Biology and NMR: Birthe Kragelund (1965)** *Strengths:* Innovative research area with experimental facilities of national importance.

#### **New strategic research areas that the Department should consider investing in**

- Biodiscovery (with FARM, SUND)
- Climate Change - especially Arctic Research (with NBI, SNM and IGG)
- Evolutionary Medicine (with SUND)
- De novo design of proteins (with Chemistry)
- Mammalian developmental Biology
- Host/pathogen interactions (with SUND)
- Mathematical Biology and Bioinformatics (with Math)
- New bioimaging techniques in light microscopy (national facility)
- Systems Biology
- Conservation biology

#### **Concluding remarks**

Based on our recent mapping of inter- and intra-faculty relations, we conclude that there are untapped potentials of BIO to build out research and education relations especially to NBI and IMF, and to SUND and FARMA. Documentation can be provided upon need. This short descriptive plan is regarded as part of a more extensive ongoing process at the recently merged *Department of Biology* that aims after completing the first thoroughly discussed and integrative strategy for research, education and outreach by the end of 2008. The present plan submitted to FRC will thus be modified and updated as this process carries on.

**Department of Biology – Plan for positions to be filled 2008 – 2014, 1/7 08. 2008.**

The plan has been compiled on the basis of known/prospective retirements, obligations in relation to assistant professorships, *Rømer/Skou-*, *Freja*-stipends, GF centers and alike. Furthermore a number of strategic positions have been included to strengthen specific areas, especially, but not exclusively, where external funding options are evident. The plan is not to be interpreted or used as a definitive list or strict hiring plan! The submitted list presents an overview of current obligations, upcoming retirements and future needs. Based on this plan, the BIO management, research and teaching committees will each year assess and decide on the actual no. of positions to be announced, based on input and dialogue with the relevant research groups and sections. For 2009, this process will e.g. be started in the fall 2008.

Furthermore, the submitted plan is a useful document for assessing how new applicants for *Rømer/Freja*-stipends, or large funding options that request integration of staff, fit the overall Departmental strategy.

Year	Category, Status	Description, justification	Research area	Associated teaching
2008	Associate prof.	Strengthen research area, adjunkt follow up	Plant molecular Biology*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Genome stability*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Cilia molecular biology*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Signal transduction in the immune system*	
2008	Associate prof.	Strengthen research area, Skou obligation	Molecular microbiology*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Structural bioinformatics*	
2008	Associate prof.	Maintain world class researcher	Bioinformatics*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Terrestrial Plant Ecophysiology*	
2008	Associate prof.	“Indlejrning,” DGF	Evolutionary ecology*	
2008	Associate prof.	Strengthen research area, adjunkt follow up	Animal Behaviour*	
2009	Associate prof.	Strengthen research area, Skou obligation	DNA repair (Skou Stip M.L.)	Molecular Biomedicine
2009	Associate prof.	Strengthen research area	Protein quality control	Biochemistry
2009	Associate prof	Teaching and strengthening of research area	Plant Community Ecology	Biology
2009	Associate prof	Teaching and establishment of research area	New RNA biology	Molecular Biomedicine

2009	Associate prof	Teaching and strengthening of research area	Evolutionary Ecology of Plants	Biology
2010	Associate prof.	Maintain research area and teaching	Aquatic Biogeochemistry	Biology
2010	Professor	Establish new research area/renew teaching	Mammalian Developmental Biology	Molecular Biomedicine
2010	Associate Prof,	Establish new research area/renew teaching	Mammalian Developmental Biology	Molecular Biomedicine
2010	Professor	Renew research	Physiology	Molecular Biomedicine
2010.	Associate prof	Renew research/Assistant prof. follow up	Physiology	Molecular Biomedicine
2010	Associate prof.	Complement and strengthen research and teaching	Aquatic molecular microbiology	Biology
2010	Associate prof.	Strengthen research area	Analysis of dynamic protein structures	Biochemistry
2010	Associate prof.	Strengthen research area, Skou obligation	Molecular biology (Skou stip. B.R.)	Molecular Biomedicine, Biochemistry
2010	Associate prof.	Strengthen research area	Plant molecular biology	Biochemistry
2010	Associate prof	Teaching and strengthening of research area	Landscape and macroecology	Biology
2010	Associate prof.	Ensure research area	Aechaea molecular biology	Biochemistry
2011	Associate prof.	Establish new research area	Sociomicrobiology	Biology
2011	Associate prof.	Open new research area	Protein science	Biochemistry
2011	Associate. prof.	Renew and strengthen research and teaching	Protist biology and taxonomy	Biology
2011	Associate prof.	Strengthen and renew research and teaching	Marine animal physiology	Biology
2011	Associate prof.	New research area and teaching	Aquatic ecosystem biology	Biology
2011	Associate prof.	Renew and strengthen research and teaching	Marine invertebrate zoology	Biology
2011	Associate prof.	Strengthen research area	RNA biology	Molecular Biomedicine, Biochemistry
2011	Associate prof.	Renew research area	Biochemistry/Quantitative molecular biology	Biochemistry

2011	Associate prof	Teaching and strengthening of research area	Animal Behaviour	Biology
2012	Associate prof.	Strengthen research area	Insect molecular neuroanatomy	Biology
2012	Associate prof	Teaching and strengthening of research area	Animal Population Ecology	Biology
2012	Associate prof.	Strengthen research area	G-protein coupled receptor signalling	Molecular Biomedicine
2013	Associate prof.	Teaching and renewal of research area	Microbial complexity	Biology
2013	Associate prof.	Teaching and renewal of research area	Comparative zoology	Biology
2014	Associate prof.	Teaching and renewal of research area	Ecological modelling	Biology
2014	Associate prof.	Consolidate Bioinf. centre	Bioinformatics	Bioinformatics

\* Announcement already decided

Behandlet uge	Institut	Stilling	Sagsnr. / område	Imødekommet
afventer ansøgning	BIO	prof.	211-0252 epithelial fysiologi	
afventer ansøgning	BIO	prof.MSO	211-0253 membranprotein-biologi	
afventer ansøgning	IGG	prof.	211-0243 bygeografi	
51,52,1,2,...	SNM	adjunkt/lektor	211-0245 mineralogi	afventer
51&...	DIKU	prof.MSO	211-0248 maskinlæring	afventer
3	KIKU m.fl.	adjunkt/lektor	211-0236 syntetisk biologi	ja
2	SNM	A-TAP	GeoGenetics-center-konservator	ja
2	BYG	5 TAP	rengøring	ja
2	Fak.sek.	fuldmægtig	211-0110 forskning og innovation	ja, til andre opg.
51,52,1&2	SNM	lektor	211-0263 mikroskop-invertebrat-systemer	ja
52	IFI	adjunkt	211-0257 Krogh-Lindhard	ja
52	IMF	prof.	211-0258 topologi af manifolds	ja
52	IMF	prof.	211-0259 operator-algebra & dynamiske systemer	ja
52	NBI	A-TAP	DCSC-systemadministrator	ja
51	DIKU	prof.	211-0265 programsprog & systemer	ja
51	DIKU	prof.	211-0266 software-udvikling	ja
51	DIKU	kaldelse (af BV)	211-0254 computersystemer	ja
51	DIKU	lektor	211-0247 human-center computing	ja
51	NBI	prof.MSO	211-0264 akademi-leder	ja
51	NBI	lektor	211-0268 oceanografi	ja
51	NBI	prof.	211-0269 drivhusgas	ja
50	SNM	lektor	211-0249 ornitologi	ja
50	SNM	lektor	211-0262 palæogenomik	ja