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## Siste nytt

### *Aksnes: UiBs post docs har anatomiske mangler*

Det har vakt mer enn en smule bekymring blant BIOs mikrobiologer at dekanus Aksnes kategorisk har slått fast at post.doc. stipendiatene ved fakultetet er for korte til å få faste stillinger. En klar løsning vil kunne være å prioritere høye mannlige søkere, og det er vel denne løsningen mikrobiologene frykter. Les hele intervjuet med Aksnes i På Høyden her:

<http://www.uib.no/elin/php/phpnyhet2.php3?xmlfil=161104150112.xml>

Sett gjennom instituttlederens briller, er det helt klart at postdoktorstipendiater og prosjektansatte forskere er en meget viktig del av BIOs faglige suksess. Og trolig en nøkkel til å heve kvaliteten ytterligere. I et snart kommende BIO-INFO vil BIOs publikasjonsliste for 2004 snues rundt for å vise hvor stort bidrag gruppe B gir til instituttets produksjon. Herved varsles at det er ikke lite! Tvert imot er dette så viktig at BIO må sørge for at disse unge forskerne ikke låses til "uproduktive" oppgaver og andre gjøremål som ikke er direkte karrierefremmende. En helt annen ting, og dette er dekanus' og fakultetets poeng, er at når UiB ansetter noen i en fast vitenskapelig stilling, så er dette for 20-30 år. Da er det veldig kostbart å gjøre feil. Og mange av de oppgavene som det faste personalet har, er så vidt forskjellig fra postdoc-stipendiatens, at det ikke alltid er lett å vite hvordan det vil gå i en annen type jobb. En tenure-track-stilling (altså ikke "10-year track") vil normalt føre til fast ansettelse, men det gir arbeidsgiver en forlenget "prøvetid". Dersom noen synes at dette høres ut som en kritikk av noen, så er det i så fall en kritikk rettet mot gruppe A og ikke mot gruppe B!

### *Ny post doc: Sigmund Jensen*

Sigmund Jensen begynte som postdoc i forskergruppa Ekstremofile mikroorganismer i august 2004. Han har 2 år stipend fra VISTA, som er Statoils grunnforskningsprogram og som gjennomføres i samarbeid med Det Norske Videnskaps-Akademi. Sigmund jobber med et prosjekt med tittelen "Metanspisende bakterier i havbunnsmiljø", som i korthet går ut på å studere metanoksiderende bakterier i metan-"seeps" på havbunnen og deres mulige rolle for havbunnsfaunaen i disse områdene. Metanoksiderende bakterier har dessuten stor bioteknologisk interesse."



## Avsluttende hovedfagseksamen

### *Hilkka Ndjaula (fiskeribiologi og forvaltning)*

**Hilkka Ndjaula** from Namibia will give a public presentation of her MPhil thesis on 30 November.

Title of the thesis: "Fecundity, maturity and determination of reproductive potential of female rock lobster *Jasus lalandii* in Namibian waters: Implications for stock recovery"

Supervisors: Olav Sigurd Kjesbu (HI), Arne Johannessen

External examiner: Terje Jørgensen (HI)

When & where: Tuesday 30 November, at 1200 in the Seminar room 328C1, 3 floor, BIO (HIB)

### *Hector Eduardo Pena (fiskeribiologi og forvaltning)*

**Hector Eduardo Pena** from Chile will give a public presentation of his MPhil thesis on 30 November.

Title of the thesis: "In situ target strength measurements of Chilean jack mackerel (*Trachurus Symmetricus Murphyi*, Nichols) using a commercial vessel with split beam echo sounder"

Supervisor: Egil Ona

External examiner: Asgeir Aglen (HI)

When & where: Tuesday 30 November, at 1315 in the Seminar room 328C1, 3 floor, BIO (HIB)

## Seminar

### *FIBER-dag*

The **Fish Biology, Ecology & Reproduction** Group invites everyone to a seminar on: "**Longitudinal multi-modal signals and the interpretation of Fish Life History Events**" Monday, November 29<sup>th</sup> at the Seminar Room, 3<sup>rd</sup> Floor, High Technology Center



- [10.15] **Arild Folkvord**: "Assessing and understanding growth mechanisms through calcified structures: Experimental approaches"
- [11.15] **Petter Fossum**: "The use of daily increments in otoliths of larval herring to study growth and hatching date distributions during the period 1985-1999."
- [13.15] **J. Manuel Hidalgo**: "The influence of oceanography on recruitment variability of demersal fish around the Balearic Islands"
- [14.15] **Audrey Geffen**: "Acquisition, analysis and interpretation of chemical information extracted from calcified structures"

## Nye artikler

### *Aspehaug & al: ISAV-virus genomikk*

Aspehaug V, Falk K, Krossøy B, Thevarajan J, Sanders L, Moore L, Endresen C, Biering E. 2004. Infectious salmon anemia virus (ISAV) genomic segment 3 encodes the viral nucleoprotein (NP), an RNA-binding protein with two monopartite nuclear localization signals (NLS). *Virus Res.* 106:51-60

**Abstract:** Infectious salmon anemia virus (ISAV) is the type species of the genus *Isavirus* belonging to the *Orthomyxoviridae*, and causes serious disease in Atlantic salmon (*Salmo salar*). This study presents the expression and functional analysis of the ISAV genome segment 3, and provides further evidence that it encodes the viral nucleoprotein (NP). The encoded protein was expressed in a baculovirus system, and Western blot analysis showed that it corresponds to the 66-71kDa structural protein previously found in purified ISAV preparations. RNA-binding activity was established by the interaction of viral and recombinant NP with single-stranded RNA transcribed in vitro.

Immunofluorescence studies of infected cells showed the ISAV NP to be an early protein. It locates to the nucleus of infected cells before it is transported to the cytoplasm prior to virus assembly. A similar localization pattern was observed in cells transfected with the NP gene, confirming that the encoded protein has an intrinsic ability to be imported into the nucleus. Two monopartite nuclear localization signals (NLS) at amino acids (230)RPKR(233) and (473)KPKK(476) were identified by computer

analysis, and validated by site-directed mutagenesis. In contrast to other orthomyxovirus-NPs, that have several NLSs that function independent of each other, both NLSs had to be present for the ISAV NP protein to be transported into the nucleus, indicating that these motifs cooperate to target the protein to the nucleus.

### *Lysnes & al: mikrobiell diversitet i havbrunnskorpen*

Lysnes, K, IH Thorseth, BO Steinsbu, L Øvreås, T Torsvik, & RB Pedersen 2004. Microbial community diversity in seafloor basalt from the Arctic spreading ridges. *FEMS Microbiology Ecology* 50 213–230

**Abstract** Microbial communities inhabiting recent (61 million years old; Ma) seafloor basalts from the Arctic spreading ridges were analyzed using traditional enrichment culturing methods in combination with culture-independent molecular phylogenetic techniques. Fragments of 16S rDNA were amplified from the basalt samples by polymerase chain reaction, and fingerprints of the bacterial and archaeal communities were generated using denaturing gradient gel electrophoresis. This analysis indicates a substantial degree of complexity in the samples studied, showing 20–40 dominating bands per profile for the bacterial assemblages. For the archaeal assemblages, a much lower number of bands (6–12) were detected. The phylogenetic affiliations of the predominant electrophoretic bands were inferred by performing a comparative 16S rRNA gene sequence analysis. Sequences obtained from basalts affiliated with eight main phylogenetic groups of Bacteria, but were limited to only one group of the Archaea. The most frequently retrieved bacterial sequences affiliated with the  $\alpha$ -proteobacteria,  $\gamma$ -proteobacteria, Chloroflexi, Firmicutes, and Actinobacteria. The archaeal sequences were restricted to the marine Group 1: Crenarchaeota. Our results indicate that the basalt harbors a distinctive microbial community, as the majority of the sequences differed from those retrieved from the surrounding seawater as well as from sequences previously reported from seawater and deep-sea sediments. Most of the sequences did not match precisely any sequences in the database, indicating that the indigenous Arctic ridge basalt microbial community is yet uncharacterized. Results from enrichment cultures showed that autolithotrophic methanogens and iron reducing bacteria were present in the seafloor basalts. We suggest that microbial catalyzed cycling of iron may be important in low-temperature alteration of ocean crust basalt. The phylogenetic and physiological diversity of the seafloor basalt microorganisms differed from those previously reported from deep-sea hydrothermal systems.

### *Hammarlund & al: paleolimnologi og skoggrenser*

Hammarlund, D, G Velle, B Wolfe, TWD Edwards, L Barnekow, J Bergman, S Holmgren, S Lamme, I Snowball, B Wohlfarth & G Possnert 2004. Palaeolimnological and sedimentary responses to Holocene forest retreat in the Scandes Mountains, west-central Sweden. *Holocene* 14, 862–876.

**Abstract:** A suite of analyses was performed on sediments accumulated during the last 10 700 years in Lake Spåime, a small, hydrologically open water body in the modern alpine tundra zone of the Scandes Mountains, west-central Sweden. The study aimed to evaluate (1) the nature of climate changes that forced the late-Holocene lowering of altitudinal tree limit in the region, the timing of which is known from prior studies based on radiocarbon dating of subfossil wood, and (2) the impact of these vegetational changes on an aquatic ecosystem. Arboreal pollen and plant macrofossil data confirm the persistence of trees in the lake catchment at least from c. 9700 cal. BP until c. 3700 cal. BP. Although growing-season temperature is commonly believed to be the dominant factor driving boreal forest tree-limit variations in the region, a chironomid-based reconstruction of mean July air temperature suggests that local deforestation during the late Holocene was not accompanied by a significant cooling. The tree-limit retreat was more likely caused by increasing effective moisture and declining length of the growing season. The ecohydrological response of Lake Spåime to this combination of climate and vegetational changes included a decline in primary productivity, as indicated by an abrupt decrease in sediment organic matter content, while associated increases in organic  $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$  and C/N point to diminished fluxes and altered balance of catchment-derived nutrients following deforestation. The decline in aquatic productivity is also marked by a distinct change in the mineral magnetic properties, from a high magnetic concentration assemblage dominated by fine-grained magnetite of biogenic origin to one dominated by background levels of coarse-grained detrital magnetite.

## Ledige stillinger

### *Post-doc: Theoretical study of complex effects of exotic herbivores on phytoplankton*

The effect of herbivores on plant composition is a complex problem that is receiving increased theoretical and empirical attention. Recent theory predicts how species composition will change as a function of resource gradients and tradeoffs in species traits that affect resistance to and tolerance of predators. This theory is applicable to an emerging applied problem that contradicts a well-established limnological paradigm; invasive zebra mussels are promoting harmful phytoplankton blooms in many lakes, including the Great Lakes, despite reductions in nutrient loading. The problem, however, is complex, and not adequately addressed by existing theory. Empirical studies indicate that harmful phytoplankton are promoted by zebra mussels under some conditions, but suppressed under others. We will examine this question with a series of models, from simple analytical to complex simulations. We believe this is an especially exiting problem given the interesting basic theory, a large and growing empirical data base, and the immediate societal relevance.

Responsibilities. Our general goal is to examine the basic mechanisms by which zebra mussels affect phytoplankton assemblages and in particular harmful phytoplankton blooms. While we prefer a candidate that seeks to do theoretical work on the question described above, candidates that also wish to include an empirical component (to collaborate directly with a host of people working on empirical aspects of the problem), or wish to pursue a related problem, are encouraged to contact us.

Duration: 1 year, renewable for a second year assuming satisfactory performance.

Salary: \$36,000, plus travel and other benefits.

Deadline: Applicants will be immediately reviewed, but should not arrive later than Dec. 31.

Location: Ann Arbor Michigan.

This position is not restricted to US citizens.

Interested candidates should contact Scott Peacor ([Peacor@msu.edu](mailto:Peacor@msu.edu)). Please include a CV.

Scott Peacor, [peacor@msu.edu](mailto:peacor@msu.edu), Tel: (734) 741-2447, Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI 48824, and Great Lakes Environmental Research Laboratory (NOAA), 2205 Commonwealth Blvd., Ann Arbor, MI 48105

### *UiO Biologisk institutt: Postdoktor*

STILLING SOM POSTDOKTOR i biologi ledig ved Biologisk institutt. Nærmere opplysninger: førsteamanuensis Tom Andersen, tlf. 22 85 45 19 e-mail: [tom.andersen@bio.uio.no](mailto:tom.andersen@bio.uio.no). Tilsetting for en periode på to år.

Thresholds of Environmental Sustainability (THRESHOLDS) er et integrert project (IP) under EUs 6. rammeprogram. Prosjektet har 22 partnere fra 13 land og koordineres av Carlos Duarte, Consejo Superior de Investigaciones Científicas (CSIC), Spania. Universitetet i Oslo er hovedsakelig engasjert i to hovedaktiviteter: teorier og metoder for å kunne påvise og tallfeste terskelverdier for miljøforstyrrelse, og utvikling av indikatorer og nøkkeltall som kan brukes i forhold til terskelverdier for endring i biologisk mangfold og økosystemfunksjon. Siden mye av dette dreier seg om utvikling av metoder som skal komme resten av prosjektet til nytte er det viktig at arbeidet kommer i gang ved prosjektstart (per 01.01.05), slik at ikke andre deler av prosjektet blir forsinket.

Den som tilsettes må ha doktorgrad i akvatisk biologi og grundig kjennskap til teoretisk systemøkologi, nettverksteori og lineære inversmetoder. Erfaring med å arbeide i internasjonale prosjektorganisasjoner og store integrerte prosjekter er en fordel.