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Denne ukas viktigste

Årsrapport for PhD-kandidater og veiledningskomite / Annual report for candidates/supervision committee in the PhD-programme

I henhold til retningslinjer for PhD studiet vedtatt av fakultetet skal **både kandidat og veiledningskomité** levere rapport til instituttet innen 15. januar 2008. Rapporten skal inneholde

- 1) status for utdanningsdelen,
- 2) status for avhandlingen,
- 3) eventuelle spesielle problemer
- 4) eventuelt pliktarbeid.

A report shall be submitted each year to the department by the candidate and the supervisory committee no later than 15 January. The report must include

- 1) status of the training component,
- 2) status of the dissertation,
- 3) any special problems, and
- 4) any compulsory work

Nærmere orientering om rapporteringen finner du i: FELLESMAL FOR MAT.NAT. INSTITUTTER – RUTINER FOR OPPTAK, OPPFØLGING OG AVSLUTNING AV FORSKERUTDANNINGEN
Norsk: <http://www.uib.no/mnfa/stab/Forskerutdanningsutvalg/fellesmal.pdf>

More information:

English: <http://www.uib.no/mnfa/stab/Forskerutdanningsutvalg/FELLESMAL-engelsk.pdf>

ÅRSRAPPORT/ANNUAL REPORT

Norsk: http://www.uib.no/mnfa/skjema/PhD_administrasjon/arsrapport.doc

English: http://www.uib.no/mnfa/skjema/PhD_administrasjon/arsrapport_engelsk.doc

Sendes til Forskerutdanningsutvalget ved BIO evt. scannet dok. på e-post til / Submission to PhD-committee by: tommy.strand@bio.uib.no **DEADLINE : JANUARY 15th. 2008**

Hilsen Eli

Viktige tidsfrister

Mer info om følgende utlysninger og mange flere (inkl. løpende, dvs. uten frister) finner du [her](#)

19. des	Norsk-polsk Forskningsfond	6. mars	FP7 Cooperation / nano
25. feb	FP7 Cooperation / Environment	25. mars	FP7 People / MC – Industry-Academia
26. feb	FP7 Cooperation / Food, Agr. Fisheries & Biotech	28. mars	FP7 People / MC – International Staff Exchange
26. feb	FP7 Cooperation / Energy	8. apr	FP7 Cooperation / ICT
28. feb	ERC / Adv. Investigator Grants (phys. sci)	11. apr	FP7 Capacities / SMEs
29. feb	FP7 Capacities / Research Infrastructure	22.apr	ERC / Adv. Investigator Grants (life sci)

**check [BIO-web](#) and [UiB's Department of Research Management](#) for more information

Essentials in English

Funds available to assist with the establishment a Latin-American portal in Norway

To officially support Norway's increased activities in Latin-America, the Norwegian Council of Research invites institutions with research collaborations in Latin-America to apply for support to establish a Norwegian-Latin-American Network with a secretariat, which will provide leadership for national initiatives in Latin America as well as being a contact portal for users and interested parties in Latin-America wishing to collaborate with Norwegian Institutional partners. The goal is to have the Network up and running as soon as possible, hopefully by 1 May 2008. Read more ([in Norwegian](#)).

Congratulations to Sigurd Stefansson BIO's most published researcher in 2007!!

Even though the year is not quite finished, and with BIO's average of 10 new articles a week, it might be a little premature to make the year's most prolific writer announcement ...!! However, **Stefansson** is looking good. Now, by mid-December he has 50% more articles and book chapters than any of the second place researchers (**Albert Imsland, Jens Nejtgaard** and **John Birks**).

Congratulations to the New BIO projects:

Environment 2015:

Ian Mayer (via NINA): Population-limiting mechanisms for Atlantic salmon during early estuarine and coastal migration

John-Arvid Grytnes: Driving forces in vegetation dynamics and their consequences for ecosystem services

Aquaculture

Sigurd Stefansson (via fishery Research): Optimal smolt production and post smolt performance in the High North - Seawater intermixing, low temperatures and intensive rearing

Open ocean and coastal areas

Mikko Heino: Socio-economic effects of fisheries-induced evolution

FRIMUF:

Vigdis Vandvik and **Richard Telford**: Influence of the Matrix on Species Richness in Ugandan Forest Fragments

UiB and Hordaland to help Norway's shellfish aquaculture industry

Shellfish aquaculture in Norway is struggling to stay afloat. Now UiB and Hordaland Commune have decided to contribute some investor capital. **Torolf Magnesen** from BIO believes that the investment will pay off. The industry has set millions of spawn out, which will grow to many hundreds of tons of marketable shellfish, he says. Read more ([in Norwegian](#))

Siste nytt fra BIO

Howaida AbdElRahman: ørkentre i fare



Treet *Acacia tortilis* er livsnerven i ørkenområda i Nord-Afrika. No er avskoginga i ferd med å truge den grøne ressursen, men forskning gjev håp.

Fredag 7. desember disputerte sudanesiske **Howaida Faisal AbdElRahman** for PhD graden ved BIO med avhandlinga "Ecotypes or Genotypes? The Status of the Currently Recognized Intraspecific Taxa of *Acacia tortilis* (Forssk.) Hayne Growing in the Red Sea Hills, Sudan and Egypt". Gjennom studier av treet sin morfologi og DNA-testing, har

ho avdekket løyndomar som vil gjere det lettare å sikra treet si framtid. [Les mer På Høyden](#) og på hennes hjemmeside på [Unifob Global](#).



Sigurd Stefansson blir mest-publiserende i 2007

Det er ennå litt igjen av året, og med oppunder 10 nye artikler pr uke så kan det være litt tidlig å spørre hvem som blir mest-publiserende i år. Men **Sigurd Stefansson** er et sterkt tips. Midt i desember har han 50 % flere artikler og kapitler utgitt i år enn nr 2. Han har imidlertid fire nye denne uka, og dersom John eller Jens eller Albert svarer neste uke, så kan det bli dødt løp..

Du kan sjekke [HER](#) om BIO har fått med seg alt du har publisert hittil 2007. Uoppgående publikasjoner bes sendt til Jarl (full referanse + abstract, helst som Word fil).

Her er toppen av lista:

12 Sigurd Stefansson, Utviklingsbiologi hos fisk	5 Audrey Geffen, Fiskeri og havbruk
8 Albert Imsland, Utviklingsbiologi hos fisk	5 Aud Larsen, Marin mikrobiologi
8 Jens Nejstgaard, Marin mikrobiologi	5 Christian Jørgensen, EvoFish
8 John Birks, Ecological and Environmental Change	5 Frede Thingstad, Marin mikrobiologi
7 Øyvind Fiksen, Modellering	5 Nigel Finn, Utviklingsbiologi hos fisk
7 Arild Folkvord, Fiskeri og havbruk	5 Tom-Ole Nilsen, Utviklingsbiologi hos fisk
6 Nils-Kåre Birkeland	5 Christoffer Schander

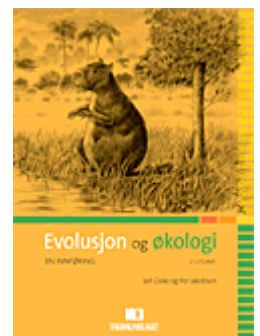
Men vi har jo også ei liste sortert etter impact factor for tidsskriftene, og der ser 10-på-topp slik ut:

JIF	F-gr	Referanse
30,0	EVF	Jørgensen C, K Enberg, ES Dunlop, R Arlinghaus, DS Boukal, K Brander, B Ernande, A Gardmark, F Johnston, S Matsumura, H Pardoe, K Raab, A Silva, A Vainikka, U Dieckmann, M Heino & AD Rijnsdorp 2007. Ecology: managing evolving fish stocks. Science 318: 1247-1248
30,0	EEC	Telford, RJ, V Vandvik & HJB Birks 2007. Response to comment on "Dispersal limitations matter for microbial morphospecies" Science 316: 1124
10,1	EMO	Leiros I, Nabong MP, Grøsvik K, Ringvoll J, Haugland GT, Uldal L, Reite K, Olsbu IK, Knævelsrud I, Moe E, Andersen OA, Birkeland NK, Ruoff P, Klungland A, Bjelland S. 2007. Structural basis for enzymatic excision of N1-methyladenine and N3-methylcytosine from DNA. EMBO J. 26:2206-2217
7,6	EEC	Willis KJ, A Kleczkowski, M New & RJ Whittaker 2007. Testing the impact of climate variability on European plant diversity: 320 000 years of water-energy dynamics and its long-term influence on plant taxonomic richness. Ecology Letters 10: 673-679
6,0	MBD	Caron JB, A Scheltema, C Schander & D Rudkin 2007. Reply to Butterfield on stem-group "worms": fossil lophotrochozoans in the Burgess Shale. BioEssays 29: 200-202
5,8	EMO	Leiros HKS, Pey AL, Innselset M, Moe E, Leiros I, Steen IH, Martinez A 2007. Structure of phenylalanine hydroxylase from <i>Colwellia psychrerythraea</i> 34H, a monomeric cold active enzyme with local flexibility around the active site and high overall stability. JOURNAL OF BIOLOGICAL CHEMISTRY 282: 21973-21986
4,9	EMO	Fedøy AE, Yang N, Martinez A, Leiros HKS, Steen IH 2007. Structural and functional properties of isocitrate dehydrogenase from the psychrophilic bacterium <i>Desulfotalea psychrophila</i> reveal a cold-active enzyme with an unusual high thermal stability. Journal of Molecular Biology 372: 130-149
4,8	GEO	Horner-Devine MC, JM Silver, MA Leibold, BJM Bohannan, RK Colwell, JA Fuhrman, JL Green, CR Kuske, JBH Martiny, G Muyzer, L Øvreås, AL Reysenbach & VH Smith 2007. A comparison of taxon co-occurrence patterns for macro- and microorganisms. Ecology 88: 1345-1353
4,8	F&H	Ciannelli L, GE Dingsør, B Bogstad, G Ottersen, K-S Chan, H Gjøsæter, JE Stiansen & NC Stenseth 2007. Spatial anatomy of species survival: effects of predation and climate-driven environmental variability. Ecology 88: 635-646
4,8	F&H	Dingsør GE, L Ciannelli, K-S Chan, G Ottersen & NC Stenseth 2007. Density dependence and density independence during the early life stages of four marine fish stocks. Ecology 88: 625-634.
4,8	EVØ	Lislevand T, J Figuerola & T Székely 2007. Avian body sizes in relation to fecundity, mating system, display behavior, and resource sharing. Ecology 88: 1605

Jarl Giske og Per Jakobsen svarer på evolusjonskritikken

Evolusjonsteorien har vore kontroversiell heilt frå starten, men har vore igjennom ei rivande vitskapleg utvikling dei siste åra. **Jarl Giske** og **Per Jakobsen** ved Institutt for biologi har teke konsekvensen av dette, og gjeve ut ei ny lærebok. Sidan førre utgåve, som kom i 1999, måtte om lag halve boka skrivast på nytt.

– Det var nødvendig å lage ei ny utgåve fordi faget er under ei så enorm utvikling. Vi har fått mykje ny forståing av korleis livet har oppstått, og korleis samhandling og kompleksitet mellom og innanfor organismar blir utvikla og halde ved like. Vi meiner ei bok som vår er



nyttig fordi ho gjev ei heilskapleg framstilling av dei ulike nivåa, seier Jakobsen. Les meir [På Høyden](#).

Biologer i kommunens tjeneste

Vi tenkte, hvorfor ikke bruke noen av de beste hjernene vi har i Bergen, sier Anne Cornell i Bergen kommune. Biologistudenter ved UiB (BIO 300) har testet vannkvaliteten i åtte vann. Resultatene blir overlevert kommunen. Feltarbeidet har vært lærerikt, nå har vi virkelig fått sett hva det vil si å arbeide som biolog, sier Marit Elisabeth Solberg. Hun studerer akvakultur ved UiB.

Sammen med fire andre masterstudenter har hun undersøkt vannkvaliteten rundt rensanlegget i Totlandselven. Det obligatoriske emnet Biologisk dataanalyse og forsøksoppsett ved Institutt for Biologi har for andre året samarbeidet med Bergen Kommunes Vann- og Avløpsavdeling. Les mer [På Høyden](#).



En gruppe biologistudenter så nærmere på Totlandselven. Bak f.v.: Elin Randi Lotsberg, Synnøve Kløve-Graue, Marit Elisabeth Solberg, Fannie Welcome Shabangu og Anna Hølter.

Sponges from BIO to Morphobank: an idea for others, also?

Paco Cárdenas: Linked to our latest taxonomy paper on sponges (see below), we have opened a new project on Morphobank (<http://morphobank.geongrid.org>). This is the 8th project published on Morphobank since its birth (in 2004). This is not only the first project concerning sponges on Morphobank but also the first project opened by european researchers. Other projects on Morphobank concern insects, spiders, sea cucumbers, and vertebrate paleontology.

What is Morphobank? (text from the Morphobank home page, 11-12-2007). MorphoBank's most important innovation is that it is a web application for conducting phylogenetics or cladistics research on morphology. It enables teams of scientists who use anatomy to study the Tree of Life (phylogeny) to work over the web - in real time - and to do research they could not easily do using desktop programs alone. MorphoBank displays - over the web - dynamic phylogenetic matrices of morphological characters with labeled images demonstrating homology statements, and implements the data editing functions of widely used desktop programs (e.g., Mesquite, Nexus Data Editor) over the web in a password protected environment. It is an environment for virtual collaboration by teams of researchers building phylogenetic matrices with affiliated image data. MorphoBank can also draw on images in existing 2D and 3D digital libraries.

If a scientist has images that are not deposited in other digital libraries, MorphoBank uses its database to store images (including films and CT scans) submitted by scientists, and allows contributors to label anatomical structures on the images. MorphoBank records information on the author of the submission, related publications, critical commentary and species names.

Current development of MorphoBank is supported by the National Science Foundation, Division of Environmental Sciences.

Cárdenas, P., J. Xavier, O. S. Tendal, C. Schander and H. T. Rapp. 2007. Redescription and resurrection of *Pachymatisma normani* (Demospongiae: Geodiidae), with remarks on the genus *Pachymatisma*. Journal of the Marine Biological Association of the United Kingdom 87:1511-1525

Thorolf Magnesen: skjellnæringen sliter med å skaffe kapital

Skjellnæringen trenger millioner i frisk kapital. Nå vil UiB og fylkeskommunen gi en hjelpende hand, sier **Thorolf Magnesen**. Les mer på [nrk.no](#) ..

Nye prosjekt til BIO

Miljø 2015:

Ian Mayer (via NINA): Population-limiting mechanisms for Atlantic salmon during early estuarine and coastal migration

John-Arvid Grytnes: Driving forces in vegetation dynamics and their consequences for ecosystem services

Havbruk:

Sigurd Stefansson (via Fiskeriforskning): Optimal smolt production and post smolt performance in the High North - Seawater intermixing, low temperatures and intensive rearing



Ivar Rønnestad (via SagaFjord Sea Farm AS) Distended gut syndrome (DGS) in larval Atlantic cod (*Gadus morhua*) – do the larvae suffer from diarrhea?

Havet og kysten:

Mikko Heino: Socio-economic effects of fisheries-induced evolution

FRIMUF:

Vigdis Vandvik og **Richard Telford:** Influence of the Matrix on Species Richness in Ugandan Forest Fragments

StatoilHydro:

Sigmund Jensen: Mikrobiell studie for Morvin/Kristin korallrev



Now that we know how, let's do it again!

Week 49 around 50 masters students presented the results of their semesters work in BIO300, led by **Louise Lindblom**. The course provided practical experience with field work and experimental design. This year's programme was entitled, "Water quality in connection with waster water treatments and recipient systems around Bergen." [Read more.](#)

MAR-ECO Guest researchers working on who is eating whom!

Christoffer Schander is hosting a group of MAR-ECO researchers this week who are using stable isotope analysis to further elucidate who is eating whom in the deep sea. The work is especially focusing on gelatinous zooplankton. The results of this study will be used to learn how energy is transferred from the ocean's surface to fish in the deep sea of the Mid-Atlantic Ridge. [Read more.](#)

Siste nytt fra verden rundt oss

Ledige stillinger, flere nye ved BIO!

Legg merke til at det er mange andre spennende stillinger biologer kan søke på ved UiB for tida! Sjekk oversikten på [jobbnor!](#)

Søknadsfrist Stilling

20.12.07	BIO/EvoFish: Stipendiat i biologi (2 stillinger)
28.12.07	Sars: Post Doctoral Researcher - Cnidarian neural development
31.12.07	BIO/fiskesykdommer: Stipendiat i biologi (FUGE)
31.12.07	BIO/fiskesykdommer: Stipendiat i biologi (FUGE)
31.12.07	BIO/marin mikrobiologi: Stipendiat i biologi
02.01.08	Fiskeriforskning: forsker, torskeavl
05.01.08	BIO/Fiskeri & havbruk: Avdelingsingeniør
12.01.08	BIO/EvoFish: Postdoktor i biologi
16.01.08	Akva Group: div stillinger (havbruk)

The Smithsonian Tropical Research Institute (STRI), headquartered in the Republic of Panamá, is seeking world-class scientists to establish research programs in any current field of marine or terrestrial research. [More information.](#)

Livets tre har mistet en gren

Norske og sveitsiske biologer ved universitetene i Oslo og Genève har gjort oppsiktsvekkende funn om slektskapet mellom organismene på jorden. Livets tre må tegnes om, lærebøker må endres, og funnene kan også få stor betydning for utvikling av medisiner. De eukaryote organismene, som blant annet menneskene inngår i, kan etter nyoppdagelsen nå inndeles i disse fire hovedgruppene:

- Planter (grønne og røde alger og planter)
- Unikonter (amøber, sopp og alle dyr, inklusive mennesket)
- Excavater (frittlevende organismer og parasitter)

- SAR (den nye hovedgruppen, som har fått sitt velklingende navn etter en forkortelse fra gruppene stramenophiler, alveolater og rhizarier, som hører til her).

Les mer på forskning.no

FNS klimapanel: 30 % av jordens arter er truet av utryddelse

Opptil 30 prosent av Jordens arter står i fare for å bli utryddet på grunn av menneskeskapt klimaendringer, hevder FNs klimapanel. I løpet av de neste tiårene risikerer man at tre av ti arter forsvinner på grunn av klimaendringer, heter det i utkastet til sluttrapporten til FNs klimapanel (IPCC). Les mer i aftenposten.no.

Ukens bilde

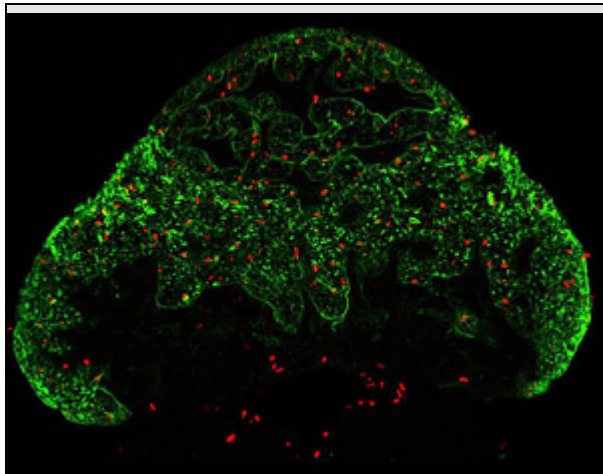


Figure legend: A **Christmas display** of newly formed cells (red) and nitric oxide synthase (green) in a salmon smolt pituitary.

Photographer: [Lars Ebbesson](#), Developmental Biology of Fishes

Description: The salmon brain and pituitary undergo major structural changes just prior to entering the ocean. This picture illustrates both the degree of proliferation occurring in the pituitary during smoltification and the importance of nitric oxide synthase in pituitary regulation.

Ukens bilde: You are invited to submit photos (electronically!) for a "Ukens bilde". Please include a very short description and credit information. Picture can be of researchers / students in action, technology, organisms, field sites ... Please send your pictures to Ukensbildekomiteen c/o Elinor Bartle (preferable format jpg, gif; size around 300px sq; saved for web - under 60kb).

Forskning: utlysninger, nye satsinger og prosjekter

Course in How to Write a Competitive Proposal for Framework 7

Do you think about writing a proposal for EUs 7th Frameworkprogramme?

Sean McCarthy (Hyperion Ltd, Ireland) will give a course in "How to Write a Competitive Proposal for Framework 7".

Date: **9 January 2008, 09.00-15.30**. Place: Stort Auditorium, Bergen High Technology Centre

Read a [description](#) of the course. Lunch, coffee and tea will be served.

Registration deadline: 4th January 2008 to mary.helle@fa.uib.no



Midler til etablering av Latin-Amerika-nettverk

Som et ledd i Regjeringens økte samarbeid med Latin-Amerika, skal det iverksettes tiltak for å styrke den permanente Latin-Amerika-kompetansen i Norge.

Med dette inviteres institusjoner med forskningskompetanse på Latin-Amerika til å søke om å få etablere og drifte et nasjonalt Latin-Amerika-nettverk og sekretariat. Nettverket skal være et nasjonalt knutepunkt for kompetansemiljøer og brukere i Norge. Det skal i tillegg fungere som portal for internasjonale miljøer som ønsker kontakt med norske miljøer innen Latin-Amerika-relaterte spørsmål.

Det er et mål at nettverket skal komme i gang raskt, med forventet oppstart innen 1. mai 2008.

[Les mer](#) i vedlagte fullstедige utlysningstekst.



Funding for Systematics Research

The BBSRC Collaborative Scheme for Systematics Research (Co-Syst) is designed to provide short-term funding for new collaborative research in systematics. The initiative is intended to support preliminary collaborative research that will form the basis of novel responsive mode proposals to either BBSRC or NERC. Applicants should be eligible to hold a UK Research Council grant. [Further details.](#)



Ny doktorgrad

Bjørn Erik Axelsen: akustisk identifisering og mengdemåling av hestemakrell

Cand.scient. Bjørn Erik Axelsen disputerer for PhD-graden med avhandlingen:

”Acoustic identification and abundance estimation of horse mackerel, jellyfish and mesozooplankton in the Benguela Ecosystem”

Bedømmelseskomite: Globec Director, PhD Manuel Barange, Plymouth Marine Laboratory, Plymouth,

Group Leader, PhD Paul G. Fernandes Fisheries Research Services, Marine Laboratory Aberdeen, Aberdeen, Scotland, Professor II, dr.scient. Stein Kaartvedt (leder av komiteen), Institutt for biologi, Universitetet i Oslo.

Leder av disputasen: Professor Arne Skorping, Universitetet i Bergen

Interesserte tilhørere velkommen til lokalet i god tid før disputasen!



Avsluttende mastergradseksamen

Thomas Tveit Furset: The demersal component of pre-spawning capelin

Thomas Tveit Furset holder onsdag 19. desember avsluttende presentasjon av sin mastergradsoppgave i fiskeribiologi- og forvaltning.

Tittel på oppgaven: The demersal component of pre-spawning capelin in the Barents Sea; more important than previously assumed?

Veileder: Arne Johannessen

Sensor: Åsmund Bjordal (HI)

Intern sensor: Jorun Egge

Tid og Sted: Onsdag 19. desember kl. 12:15, Seminarrom 328C1, bioblokken 3. etasje, HIB

Alle interesserte velkommen!

Johanna Myrseth: Managing fish populations under uncertain estimates

Johanna Myrseth holder fredag 21. desember avsluttende presentasjon av sin mastergradsoppgave i fiskeribiologi og forvaltning.

Tittel på oppgaven: Managing marine fish populations under uncertain estimates: What are the benefits of stock information?

Veiledere: Øyvind Fiksen, Mikko Heino og Katja Enberg

Sensor: Per Sandberg (Fiskeridirektoratet). Intern sensor: Anne Christine Utne Palm

Tid og Sted: fredag 21. desember kl. 10:15, Seminarrom 328C1, bioblokken 3. etasje, HIB

Alle interesserte velkommen!

Info fra studieseksjonen

Søknad om støtte til forskerutdanningsmidler 2008

Kandidater som er tatt opp til forskerutdanning ved BIO kan søke om midler til forskerutdanningstiltak. Det kan søkes om:

- 1) Opphold over lengre tid ved utenlandsk universitet eller forskningsinstitusjon
 - 2) Deltakelse på avanserte kurs, workshops, symposier, konferanser o.l.
 - 3) Støtte til deltakelse i kurs/emner/feltkurs som gir studiepoeng og inngår i den individuelle planen
- Nærmere informasjon og søknadsskjema finner du her: <http://www.uib.no/mnfa/fumidler> Eventuelle spørsmål rettes til: tommy.strand@bio.uib.no. Søknad sendes til Forskerutdanningsutvalget ved Institutt for biologi. Søknadsfrist: 15. januar 2008.

Felt og seminarstøtte for masterstudenter

Skal du delta på konferanse eller skal ut på feltarbeid? Du kan søke instituttet om støtte til dette etter gjeldende retningslinjer: http://www.uib.no/mnfa/felt_seminar/
Første frist ved BIO er **31. januar 2008**. Søknader leveres til Tommy Strand i studieseksjonen.

Stenging av undervisningsrom tirsdag 18. desember

Planlagt vedlikehold på ALLE prosjektører i undervisningsrom må beklageligvis gjennomføres før jul i år. For fremtiden regner man med å kunne stenge av rommene på tilsvarende måte i løpet av sommerferien. Alle undervisningsrom må derfor stenges en hel dag. Dette vil bli gjennomført i uke 51, og for mat.nat er datoen: **Tirsdag 18. desember**

Dette fører til at rom som allerede er bestilte disse dagene, vil bli kansellerte og bestillere vil motta en kanselleringsmelding. Man har da følgende muligheter for å få nytt rom:

1. Ved ønske om nytt rom til samme tid:

Bruk bookingsystemet og velg et nytt rom ved et annet fakultet/i et annet område

2. Ved ønske om å bruke det samme rommet:

Bruk bookingsystemet og velg rommet en annen dag

3. Det siste alternativet er å finne et egnet lokale som ikke er berørt av vedlikeholdsarbeidet.

Vi beklager ulempene denne endringen medfører for de berørte parter.

Kontaktperson ved spørsmål som gjelder dette vedlikeholdsarbeidet er Wenche Vårdal;
55584213/wenche.vardal@it.uib.no

Gjesteforelesninger, seminarer, konferanser

"Science and management of estuaries and coasts: A tale of two hemispheres"

The ECSA 44th Symposium will be held in Bahía Blanca, Argentina, September 29 - October 3, 2008. The symposium aims to promote fluid exchanges between specialists of different disciplines and from both hemispheres, working on estuarine and coastal issues. Deadline for abstract submission and early registration 20 May, 2008. [More information](#)



SEASINK 2008

Universidade Fernando Pessoa, Porto, 26-28th June

Addressing the important scientific challenge of exceeding the carrying capacity of marine ecosystems to human induced stresses. [More information](#).



Conference Announcement: "8th Larval Biology Symposium"

Location: Campus of the University of Lisbon, Lisbon, Portugal

Date: July 6th to 11th 2008

Local Organizer: Dr. Antonina dos Santos (chair), Dr. A. Miguel P. Santos and other colleagues at IPIMAR, as well Prof. Pedro Ré from University of Lisbon.

The registration, booking accommodation and abstract submission starts January 2nd 2008!

Contributions in any field of marine Larval Biology defined in its widest sense, particular emphasis on six themes. For more details, including accommodation, registration and abstract submission, please visit [web site](#).



Topical Issues of Rational Use of Natural Resources

We are happy to invite you to participate in the International Conference of Students and young researchers 'Topical Issues of Rational Use of Natural Resources' which will be held in the St. Petersburg State Mining University in 23-25 April 2008. This event will bring together undergraduates and graduates of International Institutes and Universities training specialists in the areas of mining, geology, oil and gas, metallurgy and mineral processing, power engineering, ecology as well as management and economics.

Working sections of the Conference:

Section 1. Geology

Section 2. Topical issues in prospecting and development of oil and gas deposits

Section 3. Topical issues in mining of ore and nonmetallic minerals

Section 4. Geodesy, geomechanics and underground construction

Section 5. Geotechnology, power engineering and automation

Section 6. Metallurgy

Section 7. Economics and management

Section 8. Ecology and environmental protection

Working languages of the Conference are Russian and English. The deadline for registration is March 01, 2008. Abstract to be published in Russian or English. The deadline for the abstract submission is March 01, 2008.

Interested? Contact Studies Section at bio (eli.hoie@bio.uib.no) for more information

Nye artikler

Jon Bent Kristoffersen: vekst og øresteinstørrelse hos laksesild

Kristoffersen JB 2007. Growth rate and relative otolith size in populations of adult Müller's pearlside *Maurollicus muelleri*. Journal of Fish Biology 71: 1317–1330

Abstract: Within populations of adult Müller's pearlside *Maurollicus muelleri* the otolith radius tended to increase with age at a given fish length, which indicated the presence of a growth-rate effect. Among populations the relative otolith size was negatively correlated to growth-rate estimates, which again indicated a growth-rate effect. There were only minor differences in temperature conditions among the locations, and birth-date differences did not appear to account for variation in otolith radius relative to fish length in older age groups. The presence of a growth-rate effect may be useful, as the relative otolith size may be used for evaluation of age and growth estimates, although there are several limitations to its usefulness.

Øystein Sæle: romlig aktivitet av avgiftingsgener i fiskelever

Olsvik PA, KK Lie, Ø Sæle & M Sanden 2007. Spatial transcription of CYP1A in fish liver. BMC Physiology 2007, 7:12, doi:10.1186/1472-6793-7-12.

Background The aim of this work was to study how evenly detoxifying genes are transcribed spatially in liver tissue of fish. Ten Atlantic salmon *Salmo salar* were intraperitoneally injected with 50 mg/kg of the strong CYP1A inducer beta-naphthoflavone and liver tissue harvested seven days later. The liver from 10 control and 10 exposed fish were split into eight sections, RNA extracted and three reference (beta-actin, elongation factor 1AB (EF1AB)) and two detoxifying genes (CYP1A and GST) quantified with real-time RT-PCR. The cellular localization of the EF1AB and CYP1A mRNA in the liver of control and beta-naphthoflavone treated fish was then determined by in situ hybridization (ISH) using EF1AB and CYP1A biotinylated oligonucleotide probes.

Results The study shows that genes encoding phase I and phase II conjugating enzymes are unevenly transcribed in different parts of the liver of Atlantic salmon seven days after a single-dose of beta-naphthoflavone exposure. Transcription of CYP1A and GST was higher in the middle section of the liver compared to the distal and proximal parts of the organ. The ISH data suggest that CYP1A transcription happens mainly in hepatocyte cells in the liver, and that hepatocytes in the vicinity of blood vessels respond stronger to beta-naphthoflavone than cells further away from the blood supply.

Conclusion Overall, the qRT-PCR and ISH results reported here suggest that gene expression analysis should be performed on as pure cell populations as possible. If bulk tissue samples are to be used, one should always check how evenly the target genes are expressed in tissue sections and organs in every study.

Maria Befring Hovda og Bjørn Tore Lunestad: metode for å måle mikroflora i torskefileter

Hovda MB, Sivertsvik M, Lunestad BT, Rosnes JT 2007. Microflora assessments using PCR-Denaturing gradient gel electrophoresis of ozone-treated and modified-atmosphere-packaged farmed cod fillets. JOURNAL OF FOOD PROTECTION 70: 2460-2465

Abstract: Denaturing gradient gel electrophoresis (DGGE) of a PCR-amplified 16S rDNA sequence was used to characterize changes in the microbial flora caused by ozone (O₃) treatment of farmed cod (*Gadus morhua*). Portions of cod were produced under controlled conditions, bathed in fresh water

supplemented with 2 ppm Of O-3 for 30 min, and packaged in modified atmosphere (MA: 60% CO₂ and 40% N₂) before 4 degrees C storage. Control samples were packaged in MA or air, without prior O₃ treatment. Samples were analyzed by PCR-DGGE to determine the predominant bacterial flora and to examine possible differences in the microbial community due to O₃ treatment. The DGGE analysis during the storage period showed that the O₃ treatment produced no significant difference in the microbial flora compared with the controls. Sequencing of 16S rDNA detected the specific spoilage bacteria *Photobacterium phosphoreum*, *Pseudomonas* spp., *Shewanella baltica*, and *Shewanella putrefaciens* as the predominant bacteria in all samples. PCR-DGGE results were supported by culture and sensory analyses used in predicting product shelf life. Aerobic plate count, H₂S-producing bacteria, and psychrotrophic bacterial counts demonstrated no significant extension of the shelf life of MA-packaged, O-3-treated cod fillets.

Albert Imsland, Roland Koedijk, Arild Folkvord, Sigurd Stefansson: varige veksteffekter av lys og temperatur hos torsk

Imsland AK, Foss A, Koedijk R, Folkvord A, Stefansson SO & Jonassen TM 2007. Persistent growth effects of temperature and photoperiod in Atlantic cod *Gadus morhua*. *Journal of Fish Biology* 71: 1371-1382

Abstract: Short-term environmental manipulations during the early juvenile stage have a large impact on harvesting size of Atlantic cod *Gadus morhua* nearly 3 years later. A group of juvenile Atlantic cod (initial mass 9 center dot 5 g) were reared for 3 months under simulated natural photoperiod or continuous light, and a range of temperatures (7, 10, 13 and 16 C, and a group called T-step, i.e. with temperature reduced successively from 16 to 13 and 10 C). After termination of the laboratory trial, the fish were moved to sea pens and reared at ambient conditions for 30 months before harvesting in June 2006. Observed growth gain from the 3 month laboratory trial was still persistent following the 30 months of sea-pen on-growing. The T-step group displayed 15, 13, 1 and 10% superior mass gain respectively than the groups initially at 7, 10, 13 and 16 C at harvest in June 2006. Similarly, rearing under continuous light during the initial 3 month period during the early juvenile stage resulted in 1-9% larger size at harvesting compared to fish reared at simulated natural photoperiod. Gonado-somatic and hepato-somatic indices were similar in all groups. Contribution to the understanding of the mechanism behind size variation in adult fish can have wide range applications for Atlantic cod fisheries and aquaculture.

Tsuneo Tanaka, Frede Thingstad, Gro Anita Fønnes Flaten & Evy Foss Skjoldal: mikrobiell samfunnsstruktur i østlige Middelhav

Tanaka T, Zohary T, Krom MD, Lawe CS, Pitta P, Psarra S, Rassoulzadegan F, Thingstad TF, Tselepidis A, Woodward EMS, Flaten GAF, Skjoldal EF, Zodiatis G 2007. Microbial community structure and function in the Levantine Basin of the eastern Mediterranean. *DEEP-SEA RESEARCH PART I-OCEANOGRAPHIC RESEARCH PAPERS* 54: 1721-1743

Abstract: During May 2001 and May 2002, the structure and function of the microbial community within and outside the Cyprus quasi-stationary warm-core eddy in the Levantine Basin of the eastern Mediterranean was studied down to the depth of the bathypelagic layer. We present here the detailed description of the microbial food web in one of the most oligotrophic and P-starved marine systems on earth. The isothermal layer was at the depth between 20 and 260/300m at the core of the eddy, and between 20 and 100/110m outside. Nitrate and phosphate were found at higher concentration between 100 and 500/800 m outside the eddy compared within the core of the eddy, but the vertical diffusive flux of nitrate and phosphate across the pycnocline was higher within the core of the eddy. There were only minor differences in microbial abundance in the euphotic, layers of the two sites. It is suggested that the differences in the areal supply of nutrients to the isothermal layer, between the two sites, resulted in essentially a similar volumetric supply of nutrients to the euphotic layer. This suggests that the results of this study can be applied to describe the microbial food web within the euphotic layer over the larger area of the Levantine Basin, which exhibits ultra-oligotrophic and P-starved conditions. Primary production and abundances of the microbial community were somewhat higher in May 2001 than in May 2002, possibly because of higher nutrient fluxes in the euphotic layer, which are probably the result of deeper winter mixing in 2001, although a later onset of winter mixing or increased dust supply could not be discounted. In the euphotic layer, heterotrophs (bacteria, heterotrophic nanoflagellates (HNF), and ciliates) dominated (60-70%) the microbial carbon biomass. Heterotrophic

ciliates were found to be much more abundant in the upper 50 m of the water column, while no consistent pattern was found for bacteria and HNF throughout the euphotic layer. Autotrophs showed a maximum distribution at the deep chlorophyll maximum found between 100 and 130m. In the euphotic layer, the relationships between biomass and production for phytoplankton and bacteria suggested a higher top-down control on the phytoplankton in the upper similar to 50 m and a consistently tight top-down control on the bacterial biomass throughout the euphotic layer. The phosphate addition experiment in the Cyprus Eddy suggests that the close predator-prey relationships within the microbial heterotrophic community were required for the rapid transfer of a limiting element to higher trophic levels without biomass oscillations in the P-fertilized surface mixed layers (0-20m). The results from the unmodified system in this study suggested that the rapid P transfer mechanisms would function only in the upper similar to 50m, while the element transfer would be based on a predator-prey relationship with more conceivable biomass oscillations in the deeper waters (similar to 100-160m) of the euphotic layer. In the Mediterranean Sea, nutrient concentrations, POC export, and integrated chlorophyll and primary production all tend to decrease toward the east. Our results together with a literature survey showed that abundances of the microbial components in the euphotic layer were not consistently lower in the study area than in the northwestern Mediterranean and that abundances of bacteria and HNF found in the mesopelagic and bathypelagic layers of the study area were within the reported ranges and quite similar to those found in the northwestern Mediterranean.

This suggests that the oligotrophic status and the low export production are not reflected in the abundance of the microbial components down to the bathypelagic layer of the eastern Mediterranean.

Kristin Kvalø Heggøy & Christoffer Schander: usikker fylogenetisk status til leddmark-slekt

Heggøy KK, C Schander & B Åkesson 2007. The phylogeny of the annelid genus *Ophryotrocha* (Dorvilleidae). *Marine Biology Research* 3: 412-420

Abstract *Ophryotrocha* is easy to keep in the laboratory and has therefore been used in several studies of evolution and speciation. The phylogenetic relationships within the group are, however, still not clear and morphological and molecular data are contradictory. Here we attempt to shed light on the phylogeny by adding an additional gene (cytochrome c oxidase subunit I) to the previous analyses of the group. However, the results are still incongruent with the results from the morphological data. We also include a species of the genus *Iphitime*, and conclude that this species falls within the *Ophryotrocha* clade. The implications are discussed.

Sigurd Stefansson, Tom O. Nilsen & Lars Ebbesson: molekylær forklaring på hvorfor kontinuerlig lys hemmer smoltifisering

Stefansson SO, TO Nilsen, LOE Ebbesson, A Wargelius, SS Madsen, BT Björnsson & SD McCormick 2007. Molecular mechanisms of continuous light inhibition of Atlantic salmon parr-smolt transformation. *Aquaculture* 273: 235-245

Abstract Atlantic salmon (*Salmo salar*) rely on changes in photoperiod for the synchronization of the developmental events constituting the parr-smolt transformation. In the absence of photoperiod cues, parr-smolt transformation is incomplete, and such 'pseudo-smolts' normally fail to adapt to seawater. The present study addresses the endocrine and molecular mechanisms controlling the development of hypo-osmoregulatory ability and how artificial photoperiod can disrupt these changes. Juvenile Atlantic salmon reared under constant light (LL) from first feeding, were separated into two groups, and exposed to either LL or simulated natural photoperiod (LDN) from October, eight months prior to the expected completion of smoltification. Juveniles reared on LL grew well, but failed to show the smolt-related reduction in condition factor in spring. Gill mRNA levels of Na⁺, K⁺-ATPase (NKA) isoform α 1a decreased in LDN fish through completion of parr-smolt transformation, while levels remained unchanged in the LL group. In contrast, α 1b expression increased 6-fold in the LDN group between February and May, again with no change in the LL group. Further, Na⁺, K⁺, 2Cl⁻ co-transporter (NKCC) showed a transient increase in expression in smolts on LDN between February and May, while no changes in mRNA levels were seen in juveniles under LL. Consequently, gill NKA activity and NKA α and NKCC protein abundance were significantly lower in juveniles on LL than in smolts on LDN. LL fish in spring had lower circulating levels of thyroid hormones (THs), growth

hormone (GH) and cortisol. Gill GH-receptor mRNA levels, determined by quantitative PCR, were less than 50% of controls. In contrast, circulating levels of IGF-1 and gill IGF-1 receptor expression, were comparable to controls. Our findings show that continuous light prevents the completion of parr-smolt transformation at a very basic level, disrupting the natural up-regulation of key elements of the endocrine system involved in the regulation of the parr-smolt transformation, and consequently inhibiting the smoltification-related increase in expression, abundance and activity of gill ion transport proteins.

Sigurd Stefansson & Tom O. Nilsen: surt vann, aluminium og overlevelse hos laks

Kroglund F, B Finstad, SO Stefansson, TO Nilsen, T Kristensen, BO Rosseland, HC Teien & B Salbu 2007. Exposure to moderate acid water and aluminum reduces Atlantic salmon post-smolt survival. *Aquaculture* 273: 360–373

Abstract Acidification is acknowledged as the cause for extinction or catch reductions in numerous Atlantic salmon (*Salmo salar* L.) populations in Norway. In freshwater, labile (cationic/inorganic) forms of Al (LAl) accumulate in fish gills, where high concentrations result in mortality due to respiratory and ionoregulatory dysfunction. At lower concentrations, Al may still have population effects by inhibiting gill Na⁺,K⁺-ATPase activity, thereby reducing hypoosmoregulatory capacity and marine survival. Over the years 1999 to 2003 we exposed groups of 1150 to 1200 one-year old hatchery reared, Carlin tagged Atlantic salmon smolts of the Imsa strain (South-Western Norway) to moderately acidified water (pH 5.8; 5–15 µg LAl L⁻¹) from 3 (short term exposure) to 60 (long term exposure) days. Fish exposed to Lake Imsa water (pH6.5 and 5 µg LAl L⁻¹) acted as controls. Control fish had gill-Al concentrations in the range of 5 to 10 µg Al g⁻¹ gill dry weight (dw), while Al-exposed fish had gill-Al concentrations exceeding 20 µg Al g⁻¹ gill dw prior to seawater release. The physiological responses measured as plasma Cl⁻ and glucose were related to the LAl concentration in water and to the accumulation of Al onto the gills. Gill Na⁺,K⁺-ATPase activity was depressed in all groups having >25 µg Al g⁻¹ gill dw. Following exposure, the smolts were released into River Imsa to monitor downstream migration and ocean return rates. Acid exposed smolts migrated out of the river together with controls. Adult return rates were reduced by 20 to 50% in all Al-exposed groups relative to the control groups, although marine growth was unaffected. The results suggest that even moderately and/or episodically acidified rivers containing 5–15 µg LAl L⁻¹ can cause substantial reductions in returns of Atlantic salmon.

Sigurd Stefansson & Tom O. Nilsen: dødelighet hos laks – lakselus eller vannkvalitet

Finstad B, F Kroglund, R Strand, SO Stefansson, PA Bjørn, BO Rosseland, TO Nilsen, B Salbu 2007. Salmon lice or suboptimal water quality — Reasons for reduced postsmolt survival? *Aquaculture* 273: 374–383

Abstract Salmon populations on the western coast of Norway may experience both moderately acidified rivers and salmon lice (*Lepeophtheirus salmonis* Krøyer) attacks. The present study addresses the question of interactive effects of acidification and salmon lice infestation on postsmolt survival. Three groups each of approximately 1500 one-year old Atlantic salmon smolts of the Imsa strain, South-Western Norway, were exposed to one of three suboptimal water qualities (high acid, moderate acid and episodic acid) and experienced acidic water (pH 5.6–5.9 and 7–45 µg Al/l) with different exposure duration (3 to 10 days). A fourth group exposed to pH6.6 and 9 µg Al/l acted as control (reference group). After freshwater exposure, smolts (n=150) from each group were moved into tanks containing brackish water (16‰) and after 8 h they were given full strength seawater (33‰) and given 1 day of recovery before being infected with salmon lice copepodids. Four non-infected groups (n=100) from the same exposures acted as controls. Over a 42 day period, postsmolts were regularly inspected and sampled for mortality, lice density and physiological status in seawater. The lice per smolt density were highest in the episodic acid group, followed by the high acid, moderate acid and the reference groups. Mortality was low in the four non-infected control groups, and significantly elevated in the lice infected groups (high acid > moderate acid > episodic acid > reference). Plasma chloride levels were within the normal range in the non-infected groups, while fish in the infected high acid and moderate acid groups had elevated plasma chloride levels. High gill aluminium was seen in the three exposure groups in freshwater. Year to year variations in acidification pressure

and salmon lice densities can singularly and in combination explain some of the year to year variations in postsmolt survival and hence the variations in Atlantic salmon year-class strength in Norwegian rivers. © 2007 Elsevier B.V. All rights reserved. Keywords: Atlantic salmon; *Salmo salar*; Acid rain; Aluminium; Salmon lice; *Lepeophtheirus salmonis*; Susceptibility; Physiology 1. Introduction High levels of H⁺ and aluminium (Al) are lethal to Atlantic salmon (*Salmo salar* L.) smolts (Rosseland and Staurnes, 1994; Gensemer and Playle, 1999). Water toxicity is related to increased concentrations of H⁺ (reduced pH) and inorganic monomeric aluminum (Al_i) in freshwater. At lethal concentrations, H⁺ acts primarily on the permeability of the cell membrane disrupting ionoregulation, whereas aluminum exerts its toxic properties by accumulation on and in the gill tissue.

Arne Johannessen: overgangen fra plommesekk til fødeinntak hos japansk ansjos

Wan, R.J., X. Li, Z. Zhuang and A. Johannessen, 2007. The point of no return and pectoral angle of Japanese anchovy (*Engraulis japonicus*) larvae during growth and starvation. *Acta Oceanologica Sinica* 26: 144-152

Abstract At a temperature of 23.0 – 24.8 °C, the mixed feeding of Japanese anchovy larvae was initiated 24 h before the yolk-sac was exhausted. The point of no return was reached on the 6th day after hatching. On the 4th day after hatching, the pectoral angle appeared in both fed and unfed anchovy larvae although it was more evident and sharper in the starved and the PNR-staged larvae than in the fed ones. According to observations of larvae collected in the sea, the pectoral angles were evident not only in the larvae of 3.62 ~ 7.44 mm in standard length, but also in the larvae of 2.70 mm in standard length with remnants of yolk. The pectoral angles became diffuse when the larvae reached 7.84 mm and vanished at 9.86 mm. The pectoral angle cannot be used as a criterion to distinguish healthy from starving larvae.