Innhold (klikk på sidetallet, så kommer du dit direkte ...)

Postadresse:	Besøksadresse:	Telefon:	E-post:	Jarl Giske:
Postboks 7803	Bioblokken, 3. etg.	+47 55 58 44 00	post@bio.uib.no	Tlf 84403
N-5020 Bergen	Høyteknologisenteret	Telefaks:	Internett:	Mob 9920 5975
Norge	i Bergen.	+47 55 58 44 50	http://www.bio.uib.no	
	Thormøhlensgate 55			

Denne ukas viktigste

Viktige tidsfrister

Mer info om følgende utlysninger og mange flere (inkl. løpende, dvs. uten frister) finner du **her**
Husk å sende søknadsutkastet til post@bio.uib.no 1 uke i forveien (gjelder ikke mindre bevilgninger som legater og fonds)

25. feb	FP7 Cooperation / Environment	6. mars	FP7 Cooperation / nano
26. feb	FP7 Cooperation / Food, Agr. Fisheries & Biotech	25. mars	FP7 People / MC – Industry-Academia
26. feb	FP7 Cooperation / Energy	28. mars	COST Open Call 2008
28. feb	ERC / Adv. Investigator Grants (phy. sci & engineering)	28. mars	FP7 People / MC – International Staff Exchange
29. feb	FP7 Capacities / Research Infrastructure		
29. feb	ERASMUS Curriculum Development	8. apr	FP7 Cooperation / ICT
1. mars	NORDPLUS Curriculum Development	11. apr	FP7 Capacities / SMEs
2. mars	Bergen marine forskningsklynge forprosjekter	22.apr	ERC / Adv. Investigator Grants (life sci)

**check BIO-web and UiB's Department of Research Management for more information

Essentials in English

The Research Group budgets are now decided

The various leadership groups at BIO have now been through the information and have decided on how to divide up the total 'pot' of 2.4 million NOK. (please see tables below).

'Fagkritisk' day 2008

Fagkritisk Day was established at UiB in 1988. It forms an important part of the feedback process as it gives students a forum for responding to their academic experience. This year's 'Fagkritisk' Day will be Thursday 6 March. The University Director encourages all faculties to minimize academic activities on the day to facilitate participation. More information (in Norwegian)

Siste nytt fra BIO

Budsjettet til forskningsgruppene er klart

I går ble vi ferdige å regne ut tallene for budsjett-tildelingen til forskningsgruppene. Både instituttrådet og forskningsgruppelederne hadde allerede sluttet seg til administrasjonssjefens forslag om at totaltildelingen skulle bli 2,4 millioner, så regnestykket har vært å fordele dette. Det er samme beløp som i fjor.

Vi har gjort én forenkling i forhold til tidligere år. Før har vi gitt forskningsgruppene 3000 kr for hver ny masterstudent de har tatt opp og like mye for hver som ble ferdig. Dette ble ganske omstendelig, og nå gir vi 5000 kroner for hver masterstudent som ble ferdig i fjor. Det er altså en kompensering for allerede påløpte kostnader. Men ettersom BIO tillater forskningsgruppene å bruke mer penger enn de er tildelt (og dra med seg underskuddet inn i neste år), så kan gruppa likevel bruke penger på igangværende studenter.

Vi har også måttet endre satsene noe. Vi har flere universitetsstipendiater enn før og flere disputaser enn før. Dermed har vi måttet justere ned noen av satsene for å ende på 2,4 millioner totalt.

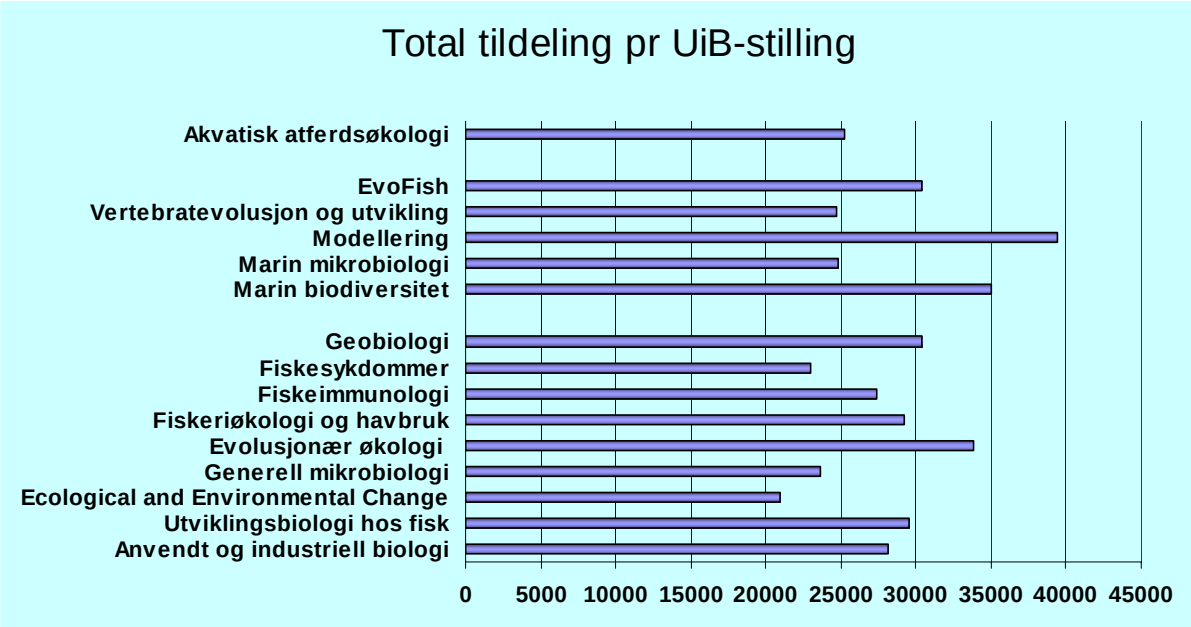
Vi publiserer som aldri før. I 2007 kom det inn mer enn 220 artikler, kapitler og bøker til FRIDA fra BIO. Det kunne ha vært noen få til, dersom alle registrerte det de har gjort. UiB har kanskje tapt 100.000 kroner på dette, men har sannelig også vunnet millioner på det vi har skrevet.

	2008	2007
Total tildeling for antall artikler, kapitler og bøker	300000	300000
Total tildeling basert på impact factor til artikler, kapitler og bøker	150000	150000
Total tildeling for bevilgningsfinansierte	700000	800000
Ekstra-tildeling pr kvote/UiB-stip	12000	12000
Ekstra-tildeling pr UiB-postdoc	24000	30000
Total tildeling for studiepoeng	200000	200000
Tildeling per ferdig MSc	5000	6000
Tildeling per disputas	11000	15000
Tildeling per tungt verv ved BIO	10000	10000

Her er tallgrunnlaget (241 artikler skyldes at noen artikler har forfattere fra flere grupper):

Forskningsgruppe	Bøker, kap og art	# prof, 1. aman	UiB stip og kvote-PhD	UiB postdoc	Studie poeng	Ferdige MSc (2007)	Disputaser 2007
Akvatisk atferdsøkologi	14	6	4	0	2625	8	1.5
Anvendt og industriell biologi	9	2	1	0	130	4.5	0
Ecol and Environmental Change	28	8	4	0	1345	2.5	1.5
EvoFish	8	1	0	0	0	0	0
Evolusjonær økologi	8	3	1	0	1365	7	0
Fiskeimmunologi	3	1	1	0	110	4	0
Fiskeriøkologi og havbruk	25	8	3	1	1135	9	4.5
Fiskesykdommer	13	2	3	0	180	3	0
Generell mikrobiologi	9	2	1	0	295	0	1
Geobiologi	6	2	3	1	150	2	1
Marin biodiversitet	40	4	3	1	1168	3	2
Marin mikrobiologi	22	3	3	0	217	2	1
Modellering	24	4	2	2	340	6	2
Utviklingsbiologi hos fisk	32	4	3	0	1020	4	2
Vertebratevolusjon og utvikling	0	3	1	0	1450	2	1
BIO	241	53	33	5	11530	64.5	23

Tildeling til gruppa kommer på neste side. Tildeling per UiB-stilling som pengene er basert på, gir denne figuren:



I tillegg til disse pengene, har gruppene fått med seg overskuddet eller underskuddet på driften fra i fjor. Før noen begraver seg i sorg eller sjampanje kan vi nevne at disse tallene varierer betydelig fra år til år. Her finner du oversiktene fra 2005, 2006 og 2007. Så rett heller blikket framover! Om lag 2/3 av tildelingen skyldes avlagt innsats, og resten skyldes opptelling av mannskapet.

Fra feiringen av Mette Hordnes sin 50-årsdag. Hun ønsket seg en båt., men fikk en kake.

Forskningsgruppe	Tildeling for vit. prod. (pr enhet + pr JIF)	Tildeling for UiB-stillinger	Ekstra-tildeling til kvote/UiB-stip	Ekstra-tildeling til UiB-postdoc	Tildeling for studiepoeng	Tildeling for MSc	Tildeling for disp	Tildeling for tunge verv ved BIO	Total tildeling til gruppen
Akvatisk atferdsøkologi	25584	76923	48000	0	45533	40000	16500	0	252540
Anvendt og industriell biologi	14741	23077	12000	0	2255	22500	0	10000	84573
Ecol. and Environmental Change	58108	92308	48000	0	23330	12500	16500	0	250746
EvoFish	22706	7692	0	0	0	0	0	0	30398
Evolusjonær økologi	13875	30769	12000	0	23677	35000	0	20000	135321
Fiskeimmunologi	5436	15385	12000	0	1908	20000	0	0	54729
Fiskeriøkologi og havbruk	44597	92308	36000	24000	19688	45000	49500	10000	321093
Fiskesykdommer	22070	38462	36000	0	3122	15000	0	0	114654
Generell mikrobiologi	19819	23077	12000	0	5117	0	11000	0	71013
Geobiologi	12303	46154	36000	24000	2602	10000	11000	10000	152059
Marin biodiversitet	66321	61538	36000	24000	20260	15000	22000	0	245120
Marin mikrobiologi	42078	46154	36000	0	3764	10000	11000	0	148996
Modellering	44865	61538	24000	48000	5898	30000	22000	0	236301
Utviklingsbiologi hos fisk	57497	53846	36000	0	17693	20000	22000	0	207036
Vertebratevolusjon og utvikling	0	30769	12000	0	25152	10000	11000	10000	98921
BIO	450000	700000	396000	120000	200000	285000	192500	60000	2403500

Lawrence Kirkendall på Darwindagen: Mennesket påvirker artenes utvikling

Menneskearten tilpasser seg sitt miljø ved å omforme sine omgivelser, med global virkning. Lignende problematikk ble tatt opp under Darwindagen, som på tirsdag ble feiret for tredje gang med flere foredrag over temaet "Mennesket og evolusjon".

Bio-diversity in air – the next research frontier!

This is an image of how biologist's can sometimes make specialised tools out of every-day things. Here a vacuum cleaner smiles at us from a new roof-top laboratory. Microbiology specialists from BIO have been leaders in some of the world's great breakthroughs in bio-diversity. In 1985, **Gunnar Bratbak** and colleagues published an article in Nature about the tremendous number of viruses present in the sea. Then in the the early 1990's, **Vigdis Torsvik** and her colleagues developed genetic screening tools that revealed

the tremendous biodiversity present in soils. Other BIO microbiobial specialists have been at the forefront of extremeophile and archea research. Now BIO researcher Runar Thyrhaug is conducting pioneer research investigating microbial bio-diversity in the air!! Read more at BIO's web ..

Invitasjon til åpning av SFF senter for geobiologi

I forbindelse med den offisielle åpningen av Senter for Geobiologi 11 mars, vil ha et mer uformelt arrangement på Galleri Nygaten om kvelden. Her ønsker vi blant annet å invitere alle ansatte ved de to moder instituttene, Institutt for biologi og Institutt for geovitenskap.

Du kan melde deg på og finne flere detaljer om dette arrangementet ved å følge linken: http://www.bio.uib.no/geobiology. Velkommen!
Vennlig hilsen Anne Fjellbirkeland, Senter for geobiologi, tlf 55583038

Vitenskapelig utstyr, hva har vi og hvor står det?

Instituttrådet nedsatte en komite for å framskaffe oversikt over BIOs vitenskapelige utstyr. Dette for å kunne utnytte utstyret bedre og mer effektivt. Vi har et forbedringspotensiale når det gjelder kompetanse i bruk av utstyret, vedlikehold og utskifting av utstyr. Komiteen er i gang med sitt arbeid. Ut fra utstyrslistene starter i disse dager registreringen på den enkelte lab. Så ta vel imot en fra komiteen som kommer på besøk!

Mange nye stipendiatstillinger ledige ved BIO

Sjekk oversikten på jobbnor!

Frist	Stilling
16.02	NIFES: **forskar 1109/1183 - biolog/toksikolog/ernæring** (1-2 stillinger)
20.02	masters and PhDs funded (Irish postgraduate FUNDING scheme)
20.02	Nofima/Akvaforsk Sunndalsøra: postdoc i fiskefysiologi og -velferd
22.02	**BIO: Førstesekretær (ekspedisjonssekretær)**
22.02	Postdoc position in marine fish community ecology, University of Bristol
25.02	Associate senior lecturer in Systematic Botany and Biodiversity, University of Göteborg
26.02	**BIO: Postdoktor i mikrobiologi (3 år)**
28.02	**BIO: Postdoc: effektar av klimaendringar på regenerasjonsprosessar i alpine økosystem**
28.02	Marine Biologist, School of the Environment & Society, UK
29.02	University of Auckland, NZ: Postdoctoral Research Fellow in Ecological Statistics
29.02	Information Manager, Laboratoire d'Océanographie de Villefranche
29.02	Project Manager, Laboratoire d'Océanographie de Villefranche
11.03	**BIO: 2 stillingar som stipendiat i tropisk økologi og biogeografi**
11.03	**BIO: Stipendiat i økologi/miljø-biogeografi (3 år)**
11.03	**BIO: Stipendiat i populasjonsøkologi (3 år)**
11.03	**BIO: Stipendiat i samfunnsøkologi (3 år)**
01.03	University of Connecticut: 3 Post-Docs in Coastal Ecosystems and Human Health
04.03	Sars Centre: 1 Postdoctoral (Forsker) and 1 PhD position: *Oikopleura* cell cycle
30.03	Post-doc fellowships in Canada - guidelines - letter of recommendation - application
15.04	three-month fellowships for scientists, technicians, PhDs and Post Doctoral Fellows
14.09	Ass. Professor of Aquatic Animal Health, Dept of Med. & Epid., Sch. Of Vet. Med., UC Davis

Siste nytt fra verden rundt oss

Posting of material on University property

New guidelines have been established concerning the posting of material on University property.

- all posted material must be related either to academic (courses) or well-being
- no commercial advertising is allowed
- external organisations can only post material relating to specific activities co-ordinated by the Faculties or student leadership

Professorene pressen liker

De er menn, middeladrende og bor i Oslo.

Fattig kunnskapsnasjon. Torny Aarbakke, formidlingsdirektør ved Universitet i Bergen, mener listen viser en uheldig skjevhet både når det gjelder kjønn og geografisk spredning.
– Mennene på listen har mye å bidra med, men vi blir en fattig kunnskapsnasjon hvis det er dette formidlingsbildet vi skal ha, sier hun.
– *Hvem har ansvar for å rette opp bildet?*
– Forskere og presse har et felles ansvar. Journalister bør bli flinkere til å bruke distriktene. Det koster det samme å ringe et 22-nummer som et 55-nummer. Enkelte journalister er flinke til å grave, og journalister skal grave, men det første steget må ofte tas av en forsker. Vedkommende må presentere funn på en tilgjengelig og spennende måte, som gjør at journalisten blir interessert. Les mer i Morgenbladet.no

BIT Teatergarasjen

BIT has some special offers for groups of people employed in the same organisation/business at reduced prices (regular price 170,-, reduced price 130,-). Conditions for such offers are that tickets are ordered in advance by e mail and collected at the latest 30 min before performances start.
BIT is an international theatre. Unlike other theatres in Bergen, it presents not only Norwegian theatre and dance but it also welcomes a lot of international companies, so that half of the performances are in English. For more information please contact Eramus student Faustine Hennion // BIT Teatergarasjen

Global Biodiversity Information Facility

The mission of the Global Biodiversity Information Facility (GBIF) is to facilitate free and open access to biodiversity data worldwide via the Internet to underpin sustainable development. Priorities, with an emphasis on promoting participation and working through partners, include mobilizing biodiversity data, developing protocols and standards to ensure scientific integrity and interoperability, building an informatics architecture to allow the interlinking of diverse data types from disparate sources, promoting capacity building and catalysing development of analytical tools for improved decision-making. Latest newsletter.

Forskning: utlysninger, nye satsinger og prosjekter

Approaching FP7 deadlines

The deadlines for the first calls 2008 in FP7 are coming closer. Here you find an overview over what the Department of Research Management can help you with when preparing your proposal:
A-Forms in EPSS: If you are partner in an EU-proposal, your coordinator will ask you to fill out the A2-form. Take contact with Liv-Grethe Gudmundsen who will fill out the form for you. If you are a coordinator, register at the EPSS and send your password and login to Liv-Grethe Gudmundsen. She will fill out the A-form for UiB and contact your partners about their part of the A-Form.
Authorisation Form: This is a UiB internal form, which you have to fill out, let be signed by your department and send to the Department of Research Management. Click to access the form.
Budget: If the financial officer at your Department is not used to working with EU-budgets, Mary Helle from the Department of Research Management can help you with setting up the budget.
Other questions: For all other questions, assistance in writing parts of the proposal and comments on the proposal, please contact Simone Heinz .

COST Open Call 2008

COST inviterer forskere til å sende inn søknad til Open Call 2008. Neste inntak er allerede 28. mars 2008, så grip muligheten og start prosessen i dag. Les mer (in Norwegian) Read more

EU reflection papers

Reflection papers are now available for the Food workprogramme for 2009. Please contact Elinor or Simone if you would like more information.

10TH R. J. H. Hintelmann award for zoological systematics

The prize has the value of Euro 5,000 and its target group is young post-graduate scientists with outstanding achievements in zoological systematics, phylogenetics, faunistics or zoogeography. Learn more

*COIMBRA GROUP Scholarships Programme ****2008 CALL for applications****

The Coimbra Group Scholarships Programme for Young Professors and Researchers from Latin American Universities aims at encouraging research collaboration with academics and institutions in Latin America. Through this programme, the University of Bergen offers 2 scholarships to finance short-term visits (max 3 months each) for Latin American guest researchers to stay at UiB in the academic year 2008/2009. Deadline 15 March 2008. more information

Marie Curie summer course "Highlights in Microtechnology"

The course will be held in Neuchâtel (Switzerland), June 16-27, 2008. Candidate participants can apply for a Marie Curie allowance that will cover their participation fees, accomodation and also travel costs (up to EUR 250). More information.

Ukens bilde

Title: A bath anyone?

Date / photographer: Paco Cárdenas, Oct. 2007

Description: Anja Berle and Magnus Tornes (Master students, Marine Biodiversity Group) are fixing in ethanol a huge specimen of sponge (*Geodia barretti*) dredged in the Korsfjord in Oct. 2007.

This beautiful sponge lives about 300 m deep in the Korsfjord, south of Bergen, and was collected by the R/V Hans Brattström in October 2007. It was fixed in formaldehyde. Following this, for preservation purposes, the formaldehyde was replaced with ethanol. Active research (evolution, genetics, morphology, culture, physiology and microbiology) is being done on this sponge species at the University of Bergen.

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).*

Ny doktorgrad

Prøveforelesing over oppgitt emne: Simon Muncaster

Simon Muncaster holder prøveforlesning for PhD graden over oppgitt emne: Communication and social interactions in fishes
Bedømmelseskomite: Professor Harald Kryvi, Professor Audrey Geffen, Førsteamanuensis Anne Christine Palm Utne
Tid og sted: Fredag 22. februar, 13:15, Stort auditorium, rom 2144, Datablokken, HIB
Alle interesserte velkommen!

Avsluttende mastergradseksamen

Øyvind Jakobsen Brevik: Polygenetic an phenotypic characterization of Aliivibrio logei-like isolates from Atlantic cod (Gadus morhua)

Øyvind Jakobsen Brevik holder onsdag 20. februar presentasjon av sin mastergradsoppgave i

Fiskehelse
Tittel på oppgaven: Polygenetic an phenotypic characterization of Aliivibrio logei-like isolates from Atlantic cod (*Gadus morhua*)
Veileder: Are Nylund. Sensor: Stein Mortensen (HI). Bisitter: Arild Folkvord
Tid og sted: Tirsdag 20. februar 10:15, Seminarrom 328 C1, Institutt for biologi, Høyteknologisenteret
Alle interesserte velkommen!

Fernando Alfredo Oyarzún Albarracín: Stress and quality parameters in Atlantic salmon (Salmo salar) affected by different slaughter and storage temperatures

Fernando Alfredo Oyarzún Albarracín holder fredag 22. februar presentasjon av sin mastergradsoppgave i Ernæring, kvalitet og foredling av sjømat
Tittel på oppgaven: Stress and quality parameters in Atlantic salmon (*Salmo salar*) affected by different slaughter and storage temperatures
Veileder: Ragnar Nortvedt, Erik Slinde, Bjørn Roth. Sensor: Anders Kiessling, UMB. Bisitter: Geir Totland
Tid og sted: Fredag 22. februar, 11:15, Møterom 215 G1, 2 etasje, mellombygget, HIB
Alle interesserte velkommen!

Info fra studieseksjonen

Information to master students - The use of sources in written work at the University of Bergen

This is a reminder that all students registered at Department of Biology (and the University of Bergen) should be familiar with the use of sources in written work at the University of Bergen. The submission of written work is an important part of the learning process at the University of Bergen. Such work is intended to serve several purposes: in addition to helping in the learning of subject matter, it is also intended to provide training in writing correctly and precisely and in formulating arguments in a clear and convincing manner.

It is a characteristic of many of the written assignments submitted in this context that they are to a great extent based on texts and various forms of presentations which others have authored and thus have copyright to. Such texts and presentations are called sources, and they can vary in character, for example textbooks, articles in journals, magazines and newspapers, monographs, reports in various publications, text on the internet, lectures, talks, debates, images, film, sound recordings or conversations and discussions with lecturers and students. Read more….

Fagkritisk dag 2008

Som kjent er Fagkritisk Dag et veletablert arrangement ved Universitetet i Bergen, og en viktig anledning for studenter til å engasjere seg i fagkritikk av ulikt slag. I 2008 er Fagkritisk Dag lagt til **torsdag 6. mars.** Universitetsdirektøren vil også i år oppfordre fakultetene til i minst mulig grad å legge undervisning til denne dagen. I den grad det blir berammet undervisning, bør denne legges til tider på dagen som gjør at så mange som mulig av studentene får muligheter til å drive organiserte fagkritiske aktiviteter uten vesentlige avbrudd i løpet av dagen. Det vises samtidig til omtale på nettet: http://studiekvalitet.uib.no/?mode=show_page&link_id=144699&toplink_id=144692

Kari Tove Elvbakken Hilde Hvidsten Bretvin

Gjesteforelesninger, seminarer og kollokvier

Miniseminar om etikk i forskning og utdanning

Arangerert av MN-fakultetet i samarbeid med Senter for vitenskapsteori.
Tid: Onsdag 27. februar 2008 kl. 13-16 (kaffe/te fra kl. 12:40)
Sted: Auditoriet i Jahnebakken 5 (Institutt for biologi/mikrobiologi)
Målgruppe for seminaret er instituttledere, administrative ledere, programstyreledere, forskerutdanningsutvalgsledere, studiestyret, studentorganisasjoner, studieadministrasjonen og alle

andre interesserte. Fakultetsledelsen ber med dette om at informasjon om seminaret distribueres til ansatte og studenter. Les mer

IMBER IMBIZO - First announcement

Biogeochemical and ecosystem interactions in a changing ocean
9 - 13 November 2008, Miami (USA) more information IMBER web site

The Crustacean Society 2008 Summer Meeting

Galveston, Texas – June 9-13, 2008. conference website and more information

Nye artikler

Har du en artikkel, kapittel eller bok som ikke har stått her? Du kan sende bibliografi og abstract (helst i Word-format, helst *ikke* pdf av hele artikkelen!) til Jarl så snart du har sidetall eller DOI (slik at publiseringsår er fastsatt).

Ivar Rønnestad: hjuldyret Barchyonus er problematisk mat for fiskelarver

Hamre K, Srivastava A, Rønnestad I, Mangor-Jensen A, Stoss J 2008. Several micronutrients in the rotifer *Brachionus* sp may not fulfil the nutritional requirements of marine fish larvae. AQUACULTURE NUTRITION 14: 51-60

Abstract: The current best practice intensive culture of larval Atlantic cod includes feeding rotifers from onset of exogenous feeding until 25-30 days after hatching. These larvae grow considerably slower and develop higher frequencies of deformities than larvae reared in semi-extensive systems, using copepods as feed. The present study compares the micronutrient concentrations in rotifers with those of copepods, with the aim of identifying nutrients that may be limiting for normal growth and development of cod larvae. An additional criterion used is the nutrient requirements given for fish in general, by NRC (1993), as nutrient requirements of cod remains to be determined. Rotifers were fed on four different diets, consisting of baker's yeast with cod liver oil (3.3 : 1 dry weight (DW)/v), baker's yeast with Algamac 2000 (TM) (3.5 : 1 DW), baker's yeast with live algae Chlorella (4.1 : 1 DW), and Culture Selco 3000 (TM)(CS). CS was a complete commercial diet for rotifers while the other diets are considered as based on raw ingredients. Compared with copepod nutrient levels, rotifers grown on yeast-based diets supplemented with either cod liver oil, Algamac 2000 or Chlorella were apparently sufficient for covering the requirements in cod larvae for all the B-vitamins, except thiamine. Rotifers cultured on the CS diet also had sufficient amounts of thiamine. Of the minerals, only calcium and magnesium were sufficient, using this criterion while iron was on the borderline. However, with reference to the requirements given for larger fish (NRC 1993), only thiamine, vitamin A, manganese, selenium and perhaps copper, appear too low in the rotifers cultured without extra micronutrient supplementation. The other nutrients were present at levels intermediate between copepod and fish requirement levels. This study suggests that it is necessary to develop enrichment techniques to produce rotifers with sufficient amounts of all micronutrients. Such techniques will also be important tools for determining which nutrients are present at levels below the actual requirements in cod larvae.

André S. Bogevik & Rune Waagbø: fettstoff i midtre del av laksens tarm

BOGEVIK AS, D.R. TOCHER, R. WAAGBØ, R.E. OLSEN (2008). Triacylglycerol-, wax ester- and sterol ester-hydrolases in midgut of Atlantic salmon (*Salmo salar*) . Aquaculture Nutrition 14: 93–98. doi:10.1111/j.1365-2095.2007.00510.x

Abstract: Bile salt-dependent lipase (BSDL) is assumed to be the predominant lipid hydrolase in fish digestive tracts where it hydrolyses dietary triacylglycerols (TAG), sterol esters (SE) and wax esters (WE). BSDL is known to hydrolyse TAG at much faster rates than SE and WE in both fish and mammals. An assay for BSDL has previously been developed for rainbow trout (*Oncorhynchus mykiss*). However, this setup may not be valid in other fish species. Accordingly, the present study aimed at optimizing previous assays in rainbow trout for use on intestinal luminal contents of Atlantic salmon (*Salmo salar* L.). Crude intestinal extracts from midgut were desalted before the assay and concentrated bile salts supplemented. In general, the rank order for the degree of hydrolysis in Atlantic salmon was TAG > WE > SE. The optimal assay conditions were determined as being 100 µg protein, 125 µm lipid substrate and 20 mM bile salt (taurocholate) during the 4 h of incubation. Atlantic salmon and rainbow trout of 1500 g showed similar lipolytic activity, while salmon smolts of 300 g

showed a significantly lower activity. Furthermore, the inhibition of intestinal lipase activities, especially triacylglycerol hydrolase and sterol ester hydrolase, observed in trout intestinal extracts at bile salt concentrations around 10 mm, was not observed in salmon. This could indicate that the activities in these two salmonids may display different enzyme biochemistry.

Hans Jørgen Fyhn: kan hoppekrepser være god mat for marin fisk i oppdrett?

van der Meeren T, RE Olsen, K Hamre, HJ Fyhn. Biochemical composition of copepods for evaluation of feed quality in production of juvenile marine fish. Aquaculture (2008) 274: 375–397.
Abstract: To increase current knowledge on the nutritional value of natural prey organisms, the biochemical components of mainly three copepods (*Acartia grani, Centropages hamatus*, and *Eurytemora affinis*) from a marine pond system were analysed once a week from spring until late fall, over two years. The analysed components were total lipid, lipid class composition, total lipid fatty acid composition, free amino acids, totalprotein, protein-bound amino acids, pigment (astaxanthin and ß-carotene), and vitamins (A, thiamine, riboflavin, C, D3, and E). Copepod dryweight (DW), dry matter (% of wet weight), and ash content (% of DW) were also determined. The data are unique due to the homogenous content of copepods in the samples and the long time span of sampling. The copepods were characterised by moderate levels of lipids (6.9–22.5% of DW), with polar lipids accounting for 37.9 to 70.2% of the total lipid. The most abundant fatty acids in total lipid (as % of total lipid) were 16:0 (palmitic acid, 10.8–17.1%), 20:5n-3 (EPA, 8.3–24.6%), and 22:6n-3 (DHA, 13.9–42.3%). The amount of 20:4n-6 (ARA) was generally low (0–2.6%), giving an EPA/ARA range between 7.5 and 49.5. The DHA/EPA ratio was between 1.0 and 4.9. Free amino acids (FAA) constituted between 4.3 and 8.9% of copepod DW, and varied with salinity. Glycine, taurine, and arginine dominated FAA, and the fraction of indispensable amino acids varied between 15.5 and 26.8%. Protein, as back-calculated from the protein-bound amino acids (PAA), amounted to 32.7–53.6% of copepod DW, and contained a stable fraction of indispensable amino acids (37.3–43.2% of PAA). Glutamine/glutamic acid, asparagine/aspartic acid, leucine, alanine, and glycine were the most abundant PAA. Astaxanthin was abundant in the copepods (413–1422 µg/g DW), while ß carotene was not found. High but variable concentrations of vitamin C (38–1232 µg/g DW) and vitamin E (23–209 µg/g DW) were found, while vitamin A and D3 occurred in trace amounts or were not detected. Detectable levels were found for both thiamine (3.5–46.0 µg/g DW) and riboflavin (23.2–35.7 µg/g DW). The data may generate an important base for improvement of live feed enrichment emulsions or formulated feeds used during larval and early juvenile stages in marine fish culture.

Svein Rune Erga: fører mindre ozon i stratosfæren til mer primærproduksjon i polhavet?

Hamre, Børge, Jakob J. Stamnes, Øyvind Frette, Svein Rune Erga & Knut Stamnes 2008. Could stratospheric ozone depletion lead to enhanced aquatic primary production in the polar regions? Limnol. Oceanogr. 53: 332–338
Abstract We study the effects of ozone depletion on primary production in ice-covered and open polar waters using a spectral radiative transfer model combined with a parameterization of the inhibition of marine photosynthesis by ultraviolet radiation. We find that ozone depletion might not have a negative influence on the aquatic algal community at high latitudes but instead could enhance primary production. For an ozone depletion of 50 %, we estimate the yearly averaged enhancement to be about 1%.

Anne Bjune & John Birks: vegetasjon og klima nær Mo i Rana gjennom Holosen

Bjune, A. E. & Birks, H. J. B. 2008. Holocene vegetation dynamics and inferred climate changes at Svanåvatnet, Mo i Rana, northern Norway. Boreas 37, 146–156. 10.1111/j.1502-3885.2007.00006.x.
Abstract: Pollen and plant macrofossil analyses from Svanåvatnet in northern Norway provide records of past vegetation and climate in this region from c. 8700 cal. yr BP until the present. Pollen accumulation rates and the presence of plant macrofossils indicate that *Betula pubescens* (birch) was present from c. 8600 cal. yr BP and *Pinus sylvestris* (pine) from c. 8200 cal. yr BP. Quantitative climate is reconstructed using modern pollen-climate transfer functions based on weighted-averaging partial least squares regression. A rapid increase in mean July temperature (Tjul) and mean annual precipitation (Pann) is inferred for the early Holocene. At times when tree abundance is at its highest

and most diverse, inferred Tjul indicates maximum temperatures during the mid-Holocene of about 2ºC warmer than at present. During the same time period, inferred Pann is 200–300mm above present-day conditions until c. 3000 cal. yr BP. Mean January temperatures (Tjan) are reconstructed to be about 2ºC warmer than today from 8000 to 3500 cal. yr BP. After 3500 cal. yr BP until today, a gradual decrease is seen in all the reconstructed climate parameters, together with a reduction in tree abundance and the development of a mosaic of open vegetation with grasses, dwarf shrubs and wet areas, and of woodland containing *B. pubescens*, *P. sylvestris* and *Picea abies* (spruce).

John og Hilary Birks: biologisk respons på rask klimaendring i Yngre Dryas

Birks H.J.B. & Hilary H. Birks 2008. Biological responses to rapid climate change at the Younger Dryas—Holocene transition at Kråkenes, western Norway. The Holocene 18, 19-30 DOI: 10.1177/0959683607085572

A fine-resolution pollen-stratigraphical study, supported by macrofossil analysis, has been made at Kråkenes Lake, western Norway through the Younger Dryas—Holocene transition and the early Holocene. The median sample-age difference is 14 cal. yr for the period 9175—11625 cal. yr BP. The chronology is based on 57 AMS radiocarbon dates. The pollen stratigraphy is interpreted as a primary succession following deglaciation at the end of the Younger Dryas. Palynological richness, compositional turnover and rates of assemblage change are estimated from the pollen-stratigraphical data. Comparisons between palynological turnover at Kråkenes and floristic turnover on recently deglaciated modern glacier forelands suggest a comparable primary succession and turnover at Kråkenes. However, the arrival and expansion of *Betula pubescens* (tree birch) was delayed by about 450 years. Possible reasons for this lag are discussed. Comparisons between turnover estimates for pollen and for diatoms through the Younger Dryas—Holocene transition highlight differences in the response dynamics of terrestrial and aquatic ecosystems at Kråkenes Lake. This fine-resolution study links the long temporal perspective provided by palaeoecology with the fine temporal scales of modern ecological observations. The primary succession following rapid climate warming at Kråkenes provides a context for other past and present responses to climate warming and it can provide a long-term perspective on responses to projected future climate warming.

John Birks: en hyllest til Frank Oldfield

Battarbee, Richard W., H. John B. Birks, Keith E. Barber, Roy Thompson, John A. Dearing & John A. Matthews 2008. Frank Oldfield and his contributions to environmental change research. The Holocene, Vol. 18, 3-17 DOI: 10.1177/0959683607085780

Abstract: Frank Oldfield's immense contribution to palaeoenvironmental science is summarized in relation to: pollen analysis, vegetation history and peat stratigraphy; palaeolimnology and ^{210}Pb dating; environmental magnetism, catchment—lake relationships and soil erosional history; multiproxy approaches; PAGES; and editing *The Holocene*. The tribute includes an introduction to the 14 other papers in this Special Issue, which were inspired in diverse ways by this remarkable scientist.

Stian Nylund, Marius Karlsen & Are Nylund: genomsekvensen til ASPV-viruset

Nylund Stian, Marius Karlsen & Are Nylund 2008. The complete genome sequence of the Atlantic salmon paramyxovirus (ASPV) Virology doi:10.1016/j.virol.2007.11.017

Abstract The complete RNA genome of the Atlantic salmon paramyxovirus (ASPV), isolated from Atlantic salmon suffering from proliferative gill inflammation (PGI), has been determined. The genome is 16,965 nucleotides in length and consists of six nonoverlapping genes in the order 3′– N – P/C/V – M – F – HN – L –5′, coding for the nucleocapsid, phospho-, matrix, fusion, hemagglutinin–neuraminidase and large polymerase proteins, respectively. The gene junctions contain highly conserved transcription start and stop signal sequences and trinucleotide intergenic regions similar to those of other *Paramyxoviridae*. The ASPV P-gene expression strategy is like that of the respiro- and morbilliviruses, which express the phosphoprotein from the primary transcript, and edit a portion of the mRNA to encode the accessory proteins V and W. It also encodes the C-protein by ribosomal choice of translation initiation. Pairwise comparisons of amino acid identities, and phylogenetic analysis of deduced ASPV protein sequences with homologous sequences from other *Paramyxoviridae*, show that ASPV has an affinity for the genus *Respirovirus*, but may represent a new genus within the subfamily *Paramyxovirinae*.

Marius Karlsen, Are Nylund, Kuninori Watanabe, Jon V. Helvik, Stian Nylund & Heidrun Plarre: en intracellulær bakterie i laksefisk

Karlsen Marius, Are Nylund, Kuninori Watanabe, Jon V. Helvik, Stian Nylund & Heidrun Plarre 2008. Characterization of '*Candidatus* Clavochlamydia salmonicola': an intracellular bacterium infecting salmonid fish. Environmental Microbiology 10: 208–218, doi:10.1111/j.1462-2920.2007.01445.x

Abstract: The phylum *Chlamydiae* contains obligate intracellular bacteria, several of which cause disease in their hosts. Morphological studies have suggested that this group of bacteria may be pathogens of fish, causing cysts in epithelial tissue – epitheliocystis. Recently, the first genetic evidence of a chlamydial aetiology of this disease in seawater reared Atlantic salmon from Norway and Ireland was presented, and the agent was given the name '*Candidatus* Piscichlamydia salmonis'. In this article we present molecular evidence for the existence of a novel *Chlamydiae* that also may cause epitheliocystis in Norwegian salmonids. This novel *Chlamydiae* has been found in salmonid fish from freshwater, and based on its partial 16S rRNA gene, it may constitute a third genus in the family *Chlamydiaceae*, or a closely related sister family. By using whole-mount RNA–RNA hybridization we demonstrate how infected cells are distributed in a patchy manner on a gill arch. The morphology of the novel *Chlamydiae* includes the characteristic head-and-tail cells that have been described earlier from salmonid fish suffering from epitheliocystis. We propose the name '*Candidatus* Clavochlamydia salmonicola' for this agent of epitheliocystis in freshwater salmonids.

Karl Ottem, Are Nylund, Bjørn Krossøy: første karakterisering av francisella-bakterier i marin fisk

Ottem KF, Nylund A, Karlsbakk E, Friis-Møller A, Krossøy B. (2007). Characterization of *Francisella* sp., GM2212, the first *Francisella* isolate from marine fish, Atlantic cod (*Gadus morhua*). Arch Microbiol. 2007 May;187(5):343-50.

Karl Ottem, Are Nylund, Bjørn Krossøy: ny art av francisella-bakterier i torsk

Ottem KF, Nylund A, Karlsbakk E, Friis-Møller A, Krossøy B, Knappskog D. (2007). New species in the genus Francisella (Gammaproteobacteria; Francisellaceae); *Francisella piscicida* sp. nov. isolated from cod (*Gadus morhua*). Arch Microbiol. 188(5):547-50

Trond Isaksen & Are Nylund: ny parasittisk flagellat hos kveite

Isaksen TE, Karslbakk E, Nylund A (2007). *Ichthyobodo hippoglossi* n. sp. (Kinetoplastea: Prokinetoplastida: Ichthyobodonidae fam. nov.), an ectoparasitic flagellate infecting farmed Atlantic halibut *Hippoglossus hippoglossus.* Dis Aquat org 73: 207 – 217.

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Trond Isaksen & Are Nylund: Ichtyobodo-infeksjoner

Karlsbakk E, Isaksen TE, Nylund A (2007) *Ichthyobodo* spp. infections. In: Raynard R, Wahli T, Vatsos I, Mortensen S, eds. DIPNET - *Review of disease interactions and pathogen exchange between farmed and wild finfish and shellfish in Europe*, p. 115-118. European Commission/Veterinaermedisinsk Oppdragssenter (ISBN 82-91743-74-6) 459 pp.

Are Nylund: yet another..

Karlsbakk E, Nylund A (2007) *Parvicapsula pseudobranchicola*. In: Raynard R, Wahli T, Vatsos I, Mortensen S, eds. DIPNET - *Review of disease interactions and pathogen exchange between farmed and wild finfish and shellfish in Europe*, p. 119-120. European Commission/Veterinaermedisinsk Oppdragssenter (ISBN 82-91743-74-6) 459 pp.

Ivar Rønnestad: ernæring hos fiskelarver

Hamre, K., I. Rønnestad, J. Rainuzzo, Y. Barr. T. Harboe. 2007. Nutritional aspects - marine fish larvae. In: Aquaculture Research: From cage to consumption. Research Council of Norway. Thomassen, M., Gudding, R., Norberg, B., Jørgensen, L. (eds) ISBN 978-82-12-02408-3. p.217-234.