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## Denne ukas viktigste

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](mailto:post@bio.uib.no) 1 uke i forveien** (gjelder ikke mindre bevilgninger som legater og fonds)

Løpende	<a href="#">Stimulering til bilateralt forskningssamarbeid</a> innenfor grunnleggende forskning (BILATGRUNN)	15. okt	Utlysning av midlar til prosjekt innan IKT-støtta utdanning og livslang læring 2009
01. okt	<b>Nordic Marine Academy</b>	26. nov	NFR deadline ( <a href="#">more info</a> ) NB kl. 12:00
15. okt	NFR deadline ( <a href="#">more info</a> ) NB kl. 12:00		- forskningssamarbeid med Kina ( <a href="#">NORKLIMA</a> )

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

## Essentials in English

### *PhD students: UiB is (also) your address for publications*

Just a reminder that although there are 70 PhD students who are not actually employed at UiB, it is UiB that is granting the degree. For articles about research that is a part of the PhD, both BIO and your employer must be given as your affiliation (= address). This has critical implications for funding at the institution level.

### *... and mention supervisors and research groups in the PhD press release*

Your PhD work is part of a larger research picture and the PhD press release is a way to profile the group's activity.

## Siste nytt fra BIO

### *UiB skal på adresselista i publikasjonene til alle PhD-studenter*

En påminnelse til alle de 70 PhD-studentene ved BIO som ikke er ansatt ved UiB. Samme hvor du er ansatt, ved NIFES, HI, Nofima, Skog og Landskap, Unifob eller hvor som helst: du tar PhD-graden din ved BIO/UiB. I alle arbeidene som skal inngå i PhD-graden din skal du ha både din arbeidsgiver og BIO som adresse. Her slurves det mye, og det taper vi store summer på. (Din arbeidsgiver tjener ikke noe på at vi utelates.) Det er ikke bare BIO som sliter med dette og taper på slikt slurv. Ved Institutt for geovitenskap har de en rutine som sier at en avhandling ikke får passere instituttets administrasjon (på sin vei mot en disputas) før PhD-kandidaten har rettet opp adressefeltet i alle publikasjoner i avhandlingen (unntatt de som allerede er trykket, så klart).



### *- og veilederen og forskningsgruppa bør nevnes i pressemeldingen*

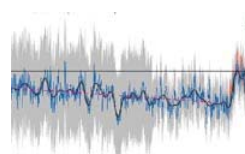
Dette er ikke en fortsettelse av debatten om medforfatterskap. Men jeg ser at i de fleste pressemeldinger i forbindelse med disputaser fremkommer det ikke at den ferske doktoren har deltatt i ei forskningsgruppe og fått veiledning underveis. Dette bør så klart være med! Ikke minst fordi det er en av de få gangene ei forskningsgruppe kan få reklamert for seg i Bergens Tidende. *Arbeidet ble utført i*

*Teoretisk forskningsgruppe ved Havforskningsinstituttet, under veiledning av professor Ole Olsen. Eller noe slikt. Minst.*

Hilsen Jarl Giske

### *Fortsatt krangel om temperatur*

En artikkel med **Richard Telford** er publisert i Forskning.no. Kurver som viser klodens temperaturutvikling de siste 1000 - 2000 år skaper nok en gang debatt. [Les mer](#).



### *Snapshot frå mikroskopet*

Artikkelen i På Høyden med Gro Bjerga og Kari Fladmark, Molekylærbiologisk institutt, og **Harald Kryvi**: fredag opna både forskningsdagane og utstillinga MolekylArt. Den viser celler og molekyl frå ei estetisk side. [Les mer](#).



### *Swashbuckling Scientists Discover Northern Vents*

Web news Terra Daily published an article based on an interview with **Elinor Bartle**.

Scientists often have a reputation for working in stuffy laboratories, cut off from the world around them. But this certainly isn't the case at the Centre for Geobiology, University of Bergen, Norway. The Centre has had two summer cruises thus far where researchers embark on a voyage to study conditions on the ocean floor. [Read more](#). Elinor Bartle is also the author of another article (available in print only) about the summer's finds which appears in the latest edition of "[MARG](#), notater fra randsonen, tema hav", edited by Bjørn Vassnes previously of Formidlingsavdelingen and a Meltzer prize winner.

### **Exciting Friday seminar at EECRG**

Friday the EECRG bi-weekly meeting will host a number of international speakers. Prof. Sanu Devi Joshi and Dr. Basnet are at UiB in relation to the NOMA program with Tribhuivan University (Nepal). The meeting is open for people outside the research group. Basnet is zoologist with PhD from Haward, and Prof. Sanu D. Joshi is a specialist on tissue culture, and has been the head of department during the NUFU collaboration.

Titles: **Ole R. Vetaas**: 'Congruence between species richness and human population density: reconciliation or conflict?' Prof. Sanu D. Joshi: 'Plant biotechnology and tissue culture research at Central Department of Botany' Dr. K. Basnet: 'Biodiversity Conservation in Nepal'.

### **Representatives from BIO attend the European Aquaculture Society conference**

**Karin Pittman** and **Nigel Finn** were both invited speakers to a special session BASIC AND APPLIED ASPECTS OF AQUACULTURE NUTRITION, funded by the OECD, of the [European Aquaculture Society](#) in Krakow Poland. The conference was attended by about 700 delegates from science, industry and management including DG MARE and DG RTD. The written reviews will be published in a special volume of the scientific journal Aquaculture Research.



## **Siste nytt fra verden rundt oss**

### **Samling for stipendiater og post-doc'er**

Bergens Forskningsstiftelse (BFS) og Bergens Medisinske Forskningsstiftelse (BMFS) inviterer med dette samtlige stipendiater og post-doc'er tilknyttet UiB til samling den 8. oktober kl. 17.00 på vitensenteret "VilVite". Her vil dere:

- få treffe Trond Mohn som forteller hvorfor han gir store gaver til forskning og idrett
- få presentert BFS og BMFS: hva driver vi med?
- Få høre professor og tidligere rektor UiB Ole Didrik Lærum snakke om stipendiatenes traurige liv og levnet – og også litt om forskningspolitikk
- ikke minst: treffe stipendiater fra andre fag og fakulteter
- få god mat og drikke
- få oppleve "De Musikalske Dvergene" i fri utfoldelse!
- I det hele tatt: få en spennende og trivelig ettermiddag og kveld i godt selskap!

Vi vil gjerne også ha en oversikt over hvor mange som kommer. **Om du ønsker å delta – gi et ord til [Anne-Mette Hatlestad](#) innen fredag 26. september.** Hvis spørsmål kan Anne-Mette også treffes på tlf: 55582036.

### **Ny forskningsmelding neste år: - Vi må beholde høye ambisjoner**

Det er nødvendig å beholde høye ambisjoner for norsk forskning og å knytte disse til mer konkrete utfordringer for forskningen og samfunnet, sier administrerende direktør i Forskningsrådet, **Arvid Hallén**, til statsråd **Tora Aaslands** beslutning om en ny forskningsmelding.

Regjeringen vil legge fram en ny forskningsmelding i 2009, sa statsråd Tora Aasland ved den nasjonale åpningen av Forskningsdagene i Sandnes fredag 19. september.

Forskningsrådets leder Arvid Hallén hilser en ny forskningsmelding velkommen, og understreker behovet for fortsatt å ha høye mål for forskningen.

Begrunnelsen for en ny stortingsmelding er ifølge Kunnskapsdepartementet debatten rundt 3 prosent-målet som ble formulert i nåværende forskningsmelding (Vilje til forskning) i 2004. [Les mer ..](#)



### **A "science-only" search engine**

Scirus is a "science-only" search engine that allows you to filter searches of websites, publications, journal references etc. [Check it out!](#)



### **Deeper than Light with Jazz and lecture by artist, Ørnulf Opdahl**

Sunday 28 September there will be a special Public Day in Bergen Museum highlighting the relationship between Art and Science. From 13:00 there will be a Jazz concert with ScienceFair, a group whose work is based on MAR-ECO. Ingvar Byrkjedal will speak about life along the mid-Atlantic Ridge and artist Ørnulf Opdahl will speak about his month-long experience aboard the G.O.Sars in 2004 and the effect this had on his work. [Read more.](#)

### **Ledige stillinger for biologer**

Sjekk oversikten på [jobbnor!](#)

<b>Frist</b>	<b>Stilling</b>
27.09	<a href="#">Postdoktor i cellebiologi ved Institutt for biomedisin</a>
29.09	<a href="#">ILAB: KHMS, forsøkskoordinator</a>
29.09	<a href="#">Senior marine ecologist</a> , Cawthron Institute, New Zealand
30.09	MBI: <a href="#">Postdoktor i bioinformatikk/molekylær modellering</a>
30.09	<a href="#">Assistant researchers</a> , CIMAR Portugal
30.09	HI: <a href="#">Post-doc position</a>
30.09	<a href="#">Sars Centre: Post Doctoral Researcher - Cnidarian neural development</a>
30.09	<a href="#">post-doctoral research fellow / numerical ecologist</a> , SAHFOS, Plymouth
30.09	Stockholm University: <a href="#">Professorship</a> in Aquatic Ecology
01.10	Københavns universitet: 8 postdoc-stillinger innen <a href="#">Macroecology and Evolution</a>
01.10	<a href="#">PhD</a> , the ANTFLOCKS initiative coordinated by the Muséum Nationale d'Histoire Naturelle (NMHN) in Paris
<b>Okt</b>	<b>BIO: åpen utlysning av universitetsstipendiat innen alle forskningsgrupper ved BIO</b>
04.10	<a href="#">Stipendiat innan mat, ernæring og helse knytt til Nordic Center of Excellence</a>
<b>08.10</b>	<b>BIO: Avdelingsingeniør, mikrobiologi</b>
<b>08.10</b>	<b>BIO: Vikariat som avdelingsingeniør</b>
<b>31.10</b>	<b>BIO: førsteamanuensis i mikrobiell økologi</b>
31.10	<a href="#">PhD</a> , plant ecology NTNU
1.11	<a href="#">Post-doc</a> . American-Scandinavian fellowships
<b>Nov</b>	<b>BIO: førsteamanuensis i botanisk økologi</b>
01.12	<a href="#">1 prof, 3 assist-prof</a> (Extreme environments) Florida State University
22.12	<a href="#">Assistant prof</a> . Biogeoscience, Vanderbilt University, USA
31.12	<a href="#">Scientific Researchers</a> - Charles Darwin Foundation – Galapagos Islands

### **De første Starting Grants-vinnerne hedres**

I regi av det franske EU-formannskapet vil det bli avholdt en konferanse dedikert til de første Starting Grants-vinnere. [Les mer](#)



### **The latest from integrated marine biogeochemistry and ecosystem research (IMBER)**

Read the latest [IMBER News](#) with funding and collaborative opportunities, early career scientist opportunities, jobs, publications, web resources, and notifications of Meetings / Conferences / Workshops. [Read more.](#) In particular, there are a number of interesting jobs in this issue.



## **Forskning: utlysninger, nye satsinger og prosjekter**

### **Ny guide for EU-finansiering av F&I**

Kommisjonen har laget en guide for de som har liten erfaring med å søke Brussel om støtte til forskning og innovasjon. Guiden kan lastes ned fra deres hjemmesider på [Cordis](#).



## Ukens bilde

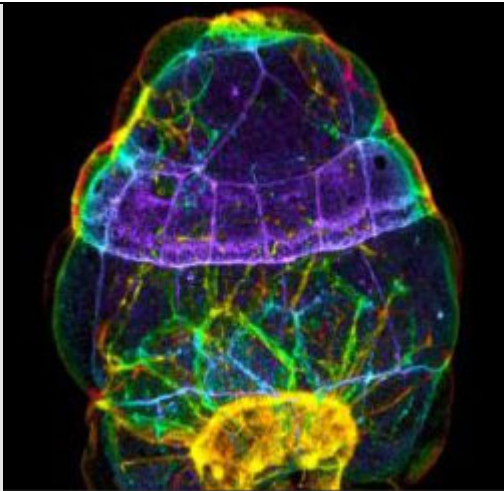


Figure legend / title: Ein 100  $\mu\text{m}$  høg ormliknande mollusklarve  
Photographer: **Christiane Todt**  
Description: part of the BIO contribution to MolekylART in  
'Forskningsdagene 2008'

*You are invited to submit photos (electronically!) for "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 [Elinor Bartle](#) (preferable format jpg, gif; size around 300px sq; saved for web - under 60kb).*

## Avsluttende mastergradseksamen

**Arnpór Gústavsson: Effects of photoperiod and salinity on growth, feed conversion efficiency and blood physiology of Atlantic halibut (*Hippoglossus hippoglossus* L.)**

**Arnpór Gústavsson** holder onsdag 3. oktober avsluttende presentasjon av sin masteroppgave i Havbruksbiologi

Tittel på oppgaven: Effects of photoperiod and salinity on growth, feed conversion efficiency and blood physiology of Atlantic halibut (*Hippoglossus hippoglossus* L.)

Veileder: Albert Imsland

Tid og Sted: 3. oktober 2008, 10.15, kursrom/seminarrom 439C1, 4 etasje, Bioblokken, HIB

Sensor: Anders Mangor-Jensen Bistitter: Per Jakobsen

Alle interesserte velkommen!

## Gjesteforelesninger, seminarer og kollokvier

### Miljø 2015 Oppstartskonferanse

Oppstartskonferanse for forskningsprogrammet, Miljø 2015, 18.-19. november



2008, Thon Hotel Arena Lillestrøm. Vi har herved gleden av å invitere til

ovennevnte konferanse. Se vedlagte foreløpige program. Miljøverndepartementets statssekretær Heidi Sørensen vil åpne konferansen når Forskningsrådet inviterer til offisiell oppstart av programmet Miljø 2015. Kunnskapsminister Tora Aasland holder åpningsforedraget på konferansens andre dag der forskerne står i sentrum. To internasjonalt anerkjente forskere med erfaring fra viktige internasjonale prosesser i skjæringsflaten mellom miljøforskning og politikkutforming, er invitert til å holde hovedforedragene på konferansen. [Les mer](#). Se [konferanseprogram](#).

### BBB Seminars, The BioMedical and BioSciences Lecture Series (HUCEL371)

Welcome to the BBB Seminars at the Gade Institute. Please check the [web page](#) for upcoming information. The seminars are held Thursdays in BBB, Auditorium 4. NB! Extra BBB-HIB/Realfagb./NIFES campus bus trip after the seminar, departure at 14.05 from the BBB main entrance.

### Emisoft's Sustainability Now-Conference

[Emisoft](#) takes pleasure in arranging the "2<sup>nd</sup> Conference on Sustainability Now!" 7 October 2008. This year's conference will also be held at Bryggen Museum in Bergen. The focus will be on different aspects of sustainability and in particular in relation to economics. The conference is aimed at decision makers in both the private and public sectors. Conference organisers are holding 10 places for UiB

students, who will participate free of charge including lunch. [More information](#). Contact [KNUT ÅRRESTAD](#) for more information.

### **MBI and Sars Centre Seminars**

Check out upcoming speakers and topics on the [schedule](#).

### **Norwegian Molecular Imaging Consortium (Nor-MIC) meeting**

The Norwegian Molecular Imaging Consortium (Nor-MIC) is one of eight technology platforms forming the pillars of the FUGE II program. Nor-MIC consists of the following partners: UiB, NTNU, UiS, UiO and UiT.

The consortium arranges annual symposiums to promote national collaborations in imaging and exchange of experiences within the available technologies. This year's meeting takes place in Trondheim 11.-12. of November, and will be a good occasion to get to know the possibilities in imaging in Norway and to get an overview of available techniques and expertise. There will also be 3 talks from international speakers with great experience in imaging. MIC will support 2 PhD or master students. Please contact [mic@uib.no](mailto:mic@uib.no) for more info.

Contact [kjartan.egeberg@ntnu.no](mailto:kjartan.egeberg@ntnu.no) to register. [Programme and more info](#)

## **Nye artikler, kapitler og bøker**

Har du en artikkel, kapittel eller bok som ikke har stått her?  
Du kan sende bibliografi og abstract (helst i Word-format) til Jarl så snart du har sidetall.

### **Lars Ebbesson: genetikk, arteriosklerose og omega-3 i Alaska**

Ebbesson Sven O.E., Mary J. Roman, Richard B. Devereux, David Kaufman, Richard R. Fabsitz, Jean W. MacCluer, Bennett Dyke, Sandra Laston, Charlotte R. Wenger, Anthony G. Comuzzie, Terry Romenesko, Lars O.E. Ebbesson, Elizabeth D. Nobmann and Barbara V. Howard 2008. Consumption of omega-3 fatty acids is not associated with a reduction in carotid atherosclerosis: The Genetics of Coronary Artery Disease in Alaska Natives study. *Atherosclerosis* 199: 346-353

**Objective** This study was designed to evaluate the relation between omega-3 fatty acid (FA) consumption and atherosclerosis. **Background** The hypothesis that omega-3 FAs protect against atherosclerosis has not been tested with objective measures of atherosclerosis. **Methods** A population-based sample of 1131 Alaskan Eskimos of age  $\geq 18$  underwent ultrasound assessment of carotid atherosclerosis. Those of age  $>35$  ( $N = 686$ ) were included in the analysis. Diet was assessed by a food frequency questionnaire. Intimal–medial thickness (IMT) of the far wall of the distal common carotid arteries and plaque score (number of segments containing plaque) were assessed. **Results** Mean consumption of total omega-3 FAs was 4.76 g/day in those without and 5.07 g/day in those with plaque. In models adjusting for relevant risk factors, presence and extent of plaque were unrelated to intake of C20–22 omega-3 FAs or total omega-3 FAs. In contrast, the odds of plaque rose significantly with quartiles of palmitic ( $p = 0.02$ ) and stearic acid intake ( $p = 0.04$ ). The extent of plaque (or plaque score) was also associated with a higher percentage intake of palmitic acid ( $p = 0.01$ ). IMT was negatively associated with grams of C20–22 omega-3 FAs ( $p = 0.05$ ), total omega-3 ( $p = 0.05$ ), palmitate ( $p = 0.03$ ), and stearate ( $p = 0.03$ ) consumed. **Conclusions** Dietary intake of omega-3 FAs in a moderate-to-high range does not appear to be associated with reduced plaque, but is negatively associated with IMT. The presence and extent of carotid atherosclerosis among Eskimos is higher with increasing consumption of saturated FAs.

### **Karin Pittman & Øystein Sæle: metamorfose hos flatfisk**

Power, Deborah M., Einarsdóttir, Ingibjörg E., Pittman, Karin, Sweeney, Glen E., Hildahl, Jon, Campinho, Marco A., Silva, Nadia, Sæle, Øystein, Galay-Burgos, Malyka, Smáradóttir, Heiddís and Björnsson, Björn Thrandur 2008. The Molecular and Endocrine Basis of Flatfish Metamorphosis. *Reviews in Fisheries Science* 16: 93 — 109

**Abstract:** A significant component of aquaculture is the production of good quality larvae, and, in the case of flatfish, this is tied up with the change from a symmetric larva to an asymmetric juvenile. Despite the pioneering work carried out on the metamorphosis of the Japanese flounder (*Paralichthys olivaceus*) and summer flounder (*Paralichthys dentatus*), the underlying molecular basis of flatfish metamorphosis is still relatively poorly characterized. It is a thyroid hormone (TH) driven process, and

the role of other hormones in the regulation of the process along with the interplay of abiotic factors are still relatively poorly characterized as is the extent of tissue and organ remodeling, which underlie the profound structural and functional modifications that accompany the larval/juvenile transition. The isolation of genes for hormones, receptors, binding proteins, and other accessory factors has provided powerful tools with which to pursue this question. The application of molecular methodologies such as candidate gene approaches and microarray analysis coupled to functional genomics has started to contribute to understanding the complexity of tissue and organ modifications that accompany flatfish metamorphosis. A better understanding of the biology of normal metamorphosis is essential to identify factors contributing to abnormal metamorphosis.

### **Anders Fernø: læring – sporing av stimulus og mål hos torsk**

Nilsson, J., Kristiansen, T.S., Fosseidengen, J.E., Fernø, A. and van den Bos, R. 2008. Sign- and goal tracking in Atlantic cod. *Animal Cognition* 11: 651-659.

**Abstract** When animals associate a stimulus with food, they may either direct their response towards the stimulus (sign-tracking) or towards the food (goal-tracking). The direction of the conditioned response of cod was investigated to elucidate how cod read cue signals. Groups of cod were conditioned to associate a blinking light (conditioned stimulus, CS) with a food reward (unconditioned stimulus, US), with the CS and the US located at opposite sides of the tank. Two groups were trained in a delay conditioning procedure (CS = 60 s, interstimulus interval = 30 s) and two groups were trained in a trace conditioning procedure (CS = 12 s, trace interval = 20 s). The response pattern was similar for the delay- and trace-conditioned groups. The initial main response at the onset of the CS was approaching the blinking lights, i.e. sign-tracking. In the early trials, the fish did not gather in the feeding area before the arrival of food. In the later trials, the fish first approached the blinking lights, but then moved across the tank and gathered below the feeder before the food arrived, i.e. sign-tracking followed by goal-tracking within each trial. These two responses are interpreted as reflecting two learning systems, i.e. one rapid, reflexive response directed at the signal (sign-tracking) and one slower, more flexible response based on expectations about time and place for arrival of the food (goal-tracking). The ecological significance of these two learning systems in cod is discussed.

### **Sigurd Stefansson: langtidseffekter av for mye CO<sub>2</sub> og O<sub>2</sub> på smolt**

Hosfeld, Camilla Diesen, Annhild Engevik, Ted Mollan, Torleif Markussen Lunde, Rune Waagbø, Anne Berit Olsen, Olav Breck, Sigurd Stefansson, Sveinung Fivelstad 2008. Long-term separate and combined effects of environmental hypercapnia and hyperoxia in Atlantic salmon (*Salmo salar* L.) smolts. *Aquaculture* 280: 146-153

**Abstract:** Atlantic salmon (*Salmo salar* L.) parr (mean start weight 50 g) were reared in freshwater (FW) and exposed to three levels of oxygen saturation measured in effluent water; control group (93% O<sub>2</sub>, LO<sub>2</sub>), medium (111% O<sub>2</sub>, MO<sub>2</sub>) and high (123% O<sub>2</sub>, HO<sub>2</sub>). Further three groups were exposed to similar water oxygen levels in combination with elevated carbon dioxide levels (17–18 mg L<sup>-1</sup> CO<sub>2</sub>), named LO<sub>2</sub>-CO<sub>2</sub>, MO<sub>2</sub>-CO<sub>2</sub> and HO<sub>2</sub>-CO<sub>2</sub>, respectively. The experiment was run in duplicate tanks for 42 days, and the fish were subsequently transferred to the same seawater (SW) regime for 45 days for an assessment of post-smolt growth. As a consequence of the CO<sub>2</sub> addition, tank pH levels in the FW period were reduced from 6.7 to 5.9 for the hypercapnia groups compared to for the normcapnia groups. Water temperature in FW ranged between 6.4 and 9.0 °C. Citrate was added to the water to complex labile aluminium.

In the CO<sub>2</sub> groups observed ventilation frequencies were significantly increased compared to the control ( $p < 0.05$ ). This difference declined towards the end of the FW period, suggesting acclimation to elevated CO<sub>2</sub>. The degree of oxygenation appeared to contribute to the acclimation as the lowest mean ventilation frequency on day 36 was found in the HO<sub>2</sub>-CO<sub>2</sub> group and the highest in the LO<sub>2</sub>-CO<sub>2</sub> group. Lower plasma chloride and sodium levels were observed in the CO<sub>2</sub> groups relative to the respective oxygenation groups during the FW period, while plasma chloride and sodium levels were normalised to equal levels for all groups after 44 days in SW. No significant differences were found among treatments for blood concentrations of red blood cells, haemoglobin, potassium and glucose during the experiment.

By termination of the FW period, the HO<sub>2</sub> group had significantly higher body weight than all other groups ( $p < 0.05$ ), with specific growth rate significantly higher than the CO<sub>2</sub> groups ( $p < 0.05$ ). Further, the condition factor was significantly lower in all the CO<sub>2</sub> groups at the end of the FW period

compared to the control and normcapnia groups ( $p < 0.05$ ). Although variable among replicates, occurrence of nephrocalcinosis was 10 times higher in the hypercapnia groups than in the control and normcapnia groups. Mortality was negligible ( $< 2.0\%$ ) during the trial, and most of the mortality occurred following SW transfer.

### ***Mikko Heino: evolusjon og bærekraft i høstede bestander***

Heino, M. & Dieckmann, U. 2008. Evolution and sustainability of harvested populations. In: Conservation Biology: Evolution in Action (eds. Carroll, S. P. & Fox, C. W.), pp. 308–323. Oxford University Press.

Sustainably harvested populations are characterized by a balance of births and deaths. If harvesting is too intensive, deaths exceed births and the harvested population declines. When this continues for too long, extinction becomes inevitable. For harvesting to be sustainable, harvesting mortality must thus be offset either by decreased natural mortality or by increased fecundity. Mechanisms underlying such compensation in nature are often not well known. Yet it is clear that the growth rate of most natural populations is reduced by density-dependent processes. Typically, when population densities become large, survival of newborn and juvenile individuals declines. Other common manifestations of density dependence are slower somatic growth and reduced fecundity in dense populations. When harvesting reduces population densities, pressures originating from density-dependent natural processes are thus relaxed. Accordingly, the key to ecologically sustainable harvesting is not to exceed the capacity of relaxed density dependence to compensate for the deaths caused by harvesting.