

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



<b>Denne ukas viktigste</b>	<b>1</b>
<b>Essentials in English</b>	<b>2</b>
<i>Joint seminar day with the Department of Biomedicine 29 October</i> .....	2
<i>PhD seminar 22 October</i> .....	2
<b>Siste nytt fra BIO</b>	<b>2</b>
<i>Felles fagdag med Institutt for biomedisin 29. oktober</i> .....	2
<i>Søknadsfristen for administrasjonssjefstillingen utsatt ei uke</i> .....	2
<i>Cod today and none tomorrow</i> .....	3
<i>Creative online approaches</i> .....	3
<b>Siste nytt fra verden rundt oss</b>	<b>3</b>
<i>Geologiens Dag 2008</i> .....	3
<i>Students on Ice!</i> .....	3
<i>Forskningsdagene 2008</i> .....	3
<i>Climate Change: Topic of Aquaculture Pacific Exchange</i> .....	3
<i>Ledige stillinger for biologer</i> .....	4
<i>New Biology Search Engine (VADLO)</i> .....	4
<b>Forskning: utlysninger, nye satsinger og prosjekter</b>	<b>4</b>
<i>Posisjoneringsmidler for 2008 fra NFR/UiB</i> .....	4
<i>NMA deadline 01.10.2008</i> .....	4
<b>Nye medarbeidere</b>	<b>5</b>
<i>Stipendiat Per Gunnar Espedal</i> .....	5
<i>Stipendiat Eric Meineri</i> .....	5
<b>Ny doktorgrad</b>	<b>5</b>
<i>Prøveforelesning — Vivian Husa: Eutrofiering og upwelling, effektar på bentosalgesamfunn</i> .....	5
<i>Disputas — Karl Ivar Jonatan Nilsson: learning and anticipatory behaviour in cod and halibut</i> .....	5
<b>Nye mastergrader</b>	<b>6</b>
<i>Cecilie Sviland: Antistoffer reaktive med lakseleukocytter og TO-celler</i> .....	6
<i>Kathrin Bockmühl: Comparing species-temperature reationships of arctic-alpine plants among three altitudinal transects in Svalbard</i> .....	6
<b>Gjesteforelesninger, seminarer og kollokvier</b>	<b>6</b>
<i>NMA: kutlingsymposium i Finland i oktober</i> .....	6
<i>Student conference arranged by Experimental Science Faculty in Pablo de Olavide University</i> .....	6
<i>BBB Seminars, The BioMedical and BioSciences Lecture Series (HUCEL371)</i> .....	6
<i>MBI and Sars Centre Seminars</i> .....	6
<i>Bjerknes guest lecture: marine carbonate cycle and acidification</i> .....	7
<i>Biopolicy – Building a Green Society</i> .....	7
<i>UiB nano seminar</i> .....	7
<b>Nye artikler</b>	<b>7</b>
<i>Runar Thyrhaug: sammenheng mellom bakterier og planteplankton under ulike CO2-forhold</i> .....	7
<i>Sigrunn Eliassen: er farskap utenfor parforhold drevet av hann eller henne?</i> .....	7
<i>Kathy Willis: invasjonsekologi studert ved paleodata</i> .....	8
<b>Bok-kapittel</b>	<b>8</b>
<i>Katja Enberg, Erin Dunlop &amp; Christian Jørgensen: modellering av vekst hos fisk</i> .....	8

## Denne ukas viktigste

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

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			

**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)	26. sept	<a href="#">COST Open Call: Preliminary Proposals</a>
løpende	<a href="#">Posisjoneringsmidler</a> for 2008 fra NFR / UiB (PDF) og <a href="#">søknadsskjema</a>	01. okt	<b>Nordic Marine Academy</b>
15. sept	<b>Fulbright grants</b> for Norwegian scholars	15. okt	NFR deadline ( <a href="#">more info</a> ) NB kl. 12:00
15. sept	<a href="#">Helse Vests forskningsmidler for 2009</a>	15. okt	Utlysning av midlar til prosjekt innan IKT-støtta utdanning og livslang læring 2009

\*\* for more information check [BIO-web](#) for more deadlines, further details and on-going opportunities as well as [UiB's Department of Research Management](#)

## Essentials in English

### **Joint seminar day with the Department of Biomedicine 29 October**

Mark your calendars. Researchers from BIO and Biomed will have a joint seminar day to share information about research activity / interests and to look for opportunities to collaborate and share equipment. The Biomed department is around the same size as BIO, and this is a chance to get to know more about them – AND they about us!

### **PhD seminar 22 October**

The annual meeting for "last year PhD students" at BIO will be held on Wednesday Oct. 22. at SAS Hotel, Bryggen. The seminar gives all of you a great opportunity to meet your colleagues, also those working at HI, NIFES and other institutions. The program will focus on:

- "How to keep deadlines"
- Panel discussion on the position of the PhD-student who no longer is employed.
- Ethics in Research
- How to write a good research application

Even though participation is not mandatory, we strongly recommend you to participate.

**Final date for registration: Sept. 30th** by email to [Tommy.Strand@bio.uib.no](mailto:Tommy.Strand@bio.uib.no)

Your registration is binding, since BIO covers all costs at the hotel.

## Siste nytt fra BIO

### **Felles fagdag med Institutt for biomedisin 29. oktober**

Sett av 29. oktober allerede nå. Det blir en av høstens mest spennende dager, håper jeg. Da skal forskerne ved BIO og Institutt for biomedisin ha felles fagdag for å se hvordan vi kan utnytte felles interesser og hverandres kompetanser og utstyr. [Biomedisin](#) er omtrent så stort som BIO og ganske ukjent for de fleste av oss. Det samme gjelder nok andre veien. Jeg håper på mange overraskelser.

Hilsen Jarl Giske



### **Frykter at UiB blir høyskole**

Artikkelen i På Høyden med Hans Petter Sejrup og **Jarl Giske**: Risa-utvalgets innstilling møter sterk motbør i det matematisk-naturvitenskapelige fagmiljøet.

Fakultetet frykter at UiB vil ende opp som en høyskole dersom forslaget fra Risa-utvalget går gjennom. [Les mer](#).

### **Søknadsfristen for administrasjonssjefstillingen utsatt ei uke**

Fristen er nå utsatt til 25. september, ettersom annonsen først kommer i Bergens Tidende i morgen.

### **Emeritus Ulltang og fordelene ved å pensjonere seg**

Denne uka markerte vi at **Øyvind Ulltang** har gått over fra “Chair in Fisheries Biology” til professor emeritus. Ordningen har to fordeler for Øyvind: ingen faste plikter, samt å få dele kontor med en PhD-student.

De tilstedeværende fikk også en kort orientering fra **Emeritus Høisæter** om andre fordeler ved å pensjonere seg: den lavere skatten kompenserer for forskjellen mellom pensjon og lønn, mens muligheten til å forske er bedre enn som førsteamanuensis.

Hmmm ... BIO-INFO sier ikke mer ...



### **Cod today and none tomorrow**

BIO's research group [EvoFish](#) invited a guest speaker who spoke convincingly about the positive economic and sustainable potential of simultaneous optimised harvesting and marine reserve resource management policies. [Read more](#).

### **Creative online approaches**

Many teachers are taking advantage of the many web communication opportunities for interactions with students. [BIO230 has started a blog](#) where students exchange knowledge, thoughts, questions, and so on, as well as getting some practice on writing about the subject. Course instructor **Louise Lindblom** says that she can check the contributions and help them to get things right, when needed. Learn more about [blogspot](#).



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

### **Geologiens Dag 2008**

Har du noen gang lurt på hva et jordskjelv er? Hvor oljen kommer fra? Hvordan fossiler blir til? Norsk geologisk forening inviterer til Geologiens dag i Bergen lørdag 13. september. Der kan du møte geologer, bli med på lærerike aktiviteter og høre spennende foredrag! Her blir det mye gøy for store og små, og husk kamera! [Les mer](#).

Lørdag 13. september! Vågsallmenningen kl. 11 – 15 og VILVITE vitensenter kl. 14 – 18

\*video material from this summer's G.O.Sars cruises will be shown at VilVite

### **Students on Ice!**

As part of Polar Year Canadian expeditions to the Arctic and Antarctic have been planned (see [web site](#)). Norwegian researchers and students are invited to apply to participate. [Read more](#)



### **Forskningsdagene 2008**

Fredag 19. september kl 14.30 inviteres du til å oppleve smakebiter fra årets forskningsdager på Festplassen. Dagen før vi åpner Festplassen for hele byens befolkning vil vi gjerne vise ledere, deltakere og representanter for institusjoner tilknyttet Forskningsdagene et lite utvalg av alt det spennende årets forskningsdager har å by på. På Festplassen kan du besøke over 20 ulike forskningsstasjoner. [Les mer](#).

Hurra for **Harald Kryvi** som representere BIO 19-21 og 23-28 Sept. På Bergen Museum med MolekylArt.



### **Climate Change: Topic of Aquaculture Pacific Exchange**

CANADA - World class speakers are gathering at Campbell River in British Columbia on September the 25-26 to discuss the effects of climate change on the world's aquaculture industry. Read more from [FishSite](#)



## Ledige stillinger for biologer

Sjekk oversikten på [jobbnor!](#)

Frist	Stilling
12.09	<a href="#">Postdoktor ved institutt for biomedisin</a>
14.09	<a href="#">Ass. Professor of Aquatic Animal Health</a> , Dept of Med. & Epid., Sch. of Vet. Med., UC Davis
15.09	<a href="#">Researcher</a> , CIMAR Portugal
15.09	UNIS, Svalbard: <a href="#">Avdelingsleder for studie- og forskningsadministrasjonen</a>
15.09	UiO: <a href="#">Førsteamanuensis/professor i marinbiologi</a>
<b>15.09</b>	<b>BIO/EvoFish: stipendiat i evolusjonær biologi</b>
20.09	<a href="#">Sars Centre: 2 Postdoctoral (Forsker) Researcher positions</a>
20.09	NIFES: <a href="#">Doktorgradsstipend - molekylær/fysiologi</a>
20.09	<a href="#">Associate professor</a> in comparative physiology, Uppsala University
22.09	HI: <a href="#">Post doktor - biologisk modellering krill</a>
<b>25.09</b>	<b>BIO: administrasjonssjef</b>
25.09	Nofima: <a href="#">forskningssjef, Fiskehelse</a>
26.09	4 <a href="#">phd-stipendier</a> i det marine klima og økosystem omkring Færøerne
<b>26.09</b>	<b>IFREMER/HI/(BIO): Postdoc: Modelling blue mussel bioenergetics in aquaculture</b>
27.09	<a href="#">Postdoktor i cellebiologi ved Institutt for biomedisin</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	<a href="#">Post-doc position</a> , IMR
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>
<b>Okt</b>	<b>BIO: førsteamanuensis i botanisk økologi</b>
<b>Okt</b>	<b>BIO: førsteamanuensis i mikrobiell økologi</b>
04.10	<a href="#">Stipendiat innan mat, ernæring og helse knytt til Nordic Center of Excellence</a>
31.12	<a href="#">Scientific Researchers</a> - Charles Darwin Foundation – Galapagos Islands

## New Biology Search Engine (VADLO)

A tip from MARine Research Information NETwork on Biodiversity suggests that we check out this search engine for biology research. It includes a **\*\*Powerpoint Seminars Search\*\*** and Daily Research Cartoons; the latter relate generally to life as a post-doc! The [VALDO](#) site is brought to you by two biology scientists who wish to make it easier to locate biology research related information on the web.

## Forskning: utlysninger, nye satsinger og prosjekter

### Posisjoneringsmidler for 2008 fra NFR/UiB

Just a reminder that funding is available – no fixed deadline. [More information.](#) [Application form.](#)



### NMA deadline 01.10.2008

The next deadline for applications for PhD courses, mobility, seminars/workshops/conferences approaches. Please see [the web](#) for more info.



## Nye medarbeidere

### Stipendiat Per Gunnar Espedal

begynte i en 3-årig stipendiatstilling den 18. august. Han er med i Fiskesykdomsgruppen og har **Frank Nilsen** som veileder. Temaet for doktorgraden vil være resistensutvikling og resistensmekanismer hos lakselus (*Lepeophtheirus salmonis*; Crustacea: Copepoda), og arbeidet vil i hovedsak inngå i prosjektet "Resistance towards pyrethroids and emamectin in sea lice" som er et samarbeid mellom Norges Veterinærhøgskole, UiB, Havforskningsinstituttet og VESO.

Pyretroider og emamectin er de vanligste medikamentene i bruk for å bekjempe lakselus i oppdrettsnæringen, og tilfeller av resistens eller økt toleranse mot midlene er påvist. Siden det finnes få fullgode alternativer i kampen mot lakselus kan dette få alvorlige konsekvenser for økonomi og fiskevelferd i næringen, og vill laksefisk langs kysten kan bli utsatt for økt smittepress. Kunnskaper om resistens hos lakselus, og hos krepsdyr generelt, er mangelfull, men vil være svært nyttige i forvaltningen av avlusningsmidlene som allerede er i bruk og ved introduisering av nye midler.

Per Gunnar var hovedfagsstudent ved tidligere Institutt for fiskeri- og marinbiologi, hvor han påviste IgM-produserende celler hos kveite ved *in situ* hybridisering. Han synes det er veldig trivelig å se igjen så mange kjente fjes fra den tiden! De siste 2,5 årene har Per Gunnar jobbet som avdelingsingeniør ved smittelaboratoriet til Havforskningsinstituttet (Nordnes). Her kommer han også til å utføre en del av forsøkene med lakselus i tiden framover.



**Stipendiat Eric Meineri** started his Ph.D. studies in June 2008 at the Ecological and Environmental Change Research Group (EECRG). His supervisors are **Vigdis Vandvik** and Olav Skarpaas (NINA, Oslo). During his PhD, he will work on Population Ecology within the SEEDCLIM project. His main objective will be to investigate how Climate Change affects the seed regeneration in plant populations.

Eric graduated at University Blaise Pascal, Clermont Ferrand, France, where he studied biogeography with a special focus on alpine and polar environments. His master thesis was about germination and spatial distribution of *Vaccinium* species in a subarctic area. He therefore spent a few periods in Abisko, Swedish Lapland.

Outside working, Eric likes hiking, skiing and just be out in the nature.



## Ny doktorgrad

### Prøveforelesning — Vivian Husa: Eutrofiering og upwelling, effektar på bentosalgesamfunn

Vivian Husa holder prøveforelesning over oppgitt emne: "Eutrofiering og upwelling, effektar på bentosalgesamfunn"

Bedømmelseskomite: Førsteam. Svein Rune Erga, Førsteam. Jorun Karin Egge, Førsteam. Rune Rosland

Tid og Sted: Mandag 15. september, kl. 10:15, Seminarrom 328C1, Institutt for biologi, HIB  
Alle interesserte er velkommen!

### Disputas — Karl Ivar Jonatan Nilsson: learning and anticipatory behaviour in cod and halibut

Cand.scient. Karl Ivar Jonatan Nilsson disputerer for PhD-graden med avhandlingen:

"Learning and anticipatory behaviour in cod and halibut"

Veiledere: Anders Fernø, UiB, Tore Kristiansen, HI

Bedømmelseskomite: Professor, D. Phil. Felicity Huntingford, University of Glasgow, UK, Assistant Professor, PhD Roald Maes, Radboud University Nijmegen, Nederland, Professor, dr.scient. Ragnar

Nordtvedt (leder), BIO

Leder av disputasen: Professor Jarl Giske, Universitetet i Bergen

Tid og Sted: Fredag 19. september kl. 10:15, Vil Vite, Bergen Vitensenter, Auditoriet, Thormøhlensgate 51

Adgang for interesserte tilhørere. Velkommen til lokalet i god tid før disputasen!

## Nye mastergrader

### **Cecilie Sviland: Antistoffer reaktive med lakseleukocytter og TO-celler**

Cecilie Sviland holder onsdag 17. september avsluttende presentasjon av sin masteroppgave i Fiskehelse

Tittel på oppgaven: Antistoffer reaktive med lakseleukocytter og TO-celler

Veiledere: Heidrun Wergeland, Eirin Fausa Pettersen

Sensor: Anne Storset, NVH Bistitter: Ole Bent Samuelsen

Tid og Sted: Onsdag 17. september kl. 10:15, Seminarrom 328C1, Institutt for biologi, HIB

Alle interesserte velkommen!

### **Kathrin Bockmühl: Comparing species-temperature relationships of arctic-alpine plants among three altitudinal transects in Svalbard**

Kathrin Bockmühl holder fredag 19. september avsluttende presentasjon av sin mastergradsoppgave i Biologi – biodiversitet, evolusjon og økologi.

Tittel på oppgaven: Comparing species-temperature relationships of arctic-alpine plants among three altitudinal transects in Svalbard

Veiledere: Jon Arvid Grytnes, Vigdis Vandvik

Sensor: Bente Jessen Graae, Climate impacts research center, Finland Bisitter: Lawrence Kirkendall

Alle interesserte velkommen!

## Gjesteforelesninger, seminarer og kollokvier

### **NMA: kutlingsymposium i Finland i oktober**

Et nettverk av Nordiske labber som jobber med gobider arrangerer i høst et internasjonalt symposium med tema "Gobies as models in evolutionary ecology" (Åbo, Finland, 13-17 oktober). Møtet er støttet av Nordic Marine Academy, og vi lyser ut et antall fullfinansierte plasser på møtet for interesserte studenter og postdocs (søknadsfrist 15. september). [Les mer.](#)



### **Student conference arranged by Experimental Science Faculty in Pablo de Olavide University**

For the first time, the two students' associations from the Experimental Science Faculty in Pablo de Olavide University organize the 1st International Conference in Experimental Sciences, named as "Experimental Science in Pablo de Olavide University". All students are welcome to present their works and to socialize with the international colleagues!

**WHEN:** November 12<sup>th</sup>-16<sup>th</sup>, **WHERE:** Pablo de Olavide University, Seville, Spain. [More info](#)

### **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.

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

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

**MCB Nuclear receptor PhD course** - Sep. 15-19 - open lectures! Lectures are given in lecture room A/B, 3rd floor, VilVite-senteret. Please enter between talks only, and take seats in the back of the room. [Programme info.](#)

### **Bjerknes guest lecture: marine carbonate cycle and acidification**

Speaker: Dr. Marion Gehlen, Laboratoire des Sciences du Climat et de L'Environnement (LSCE)

Time and Place: Friday 22 September, 11:15-12:00, GFI Eastwing auditorium, Allégaten 70

Title: Exploring the response of the marine carbonate cycle to ocean acidification. [More info](#).

### **Biopolitics – Building a Green Society**

Biopolitics International Organization – B.I.O. is offering again a series of e-learning courses with an aim to enrich all human activity with environmental dimensions. The program entails 19 different courses on subjects such as architecture, agriculture, health, energy, technology, legislation, tourism, environmental administration, history, ethics, diplomacy, etc. ([course descriptions](#)). For more information you may visit [our website](#) or [read more here](#). Courses are scheduled to start September 22<sup>nd</sup>, 2008 ([registration](#)) and are available free of charge.

### **UiB nano seminar**

Everybody at the UiB with an interest in Nano-Science and/or Nano-Technology to participate in a seminar at Hotel Vatnahalsen Monday 13th to Tuesday 14th October. The aim of the seminar is to get an overview of the nano-science activities at the UiB and help us get to know each other to stimulate interdisciplinary cooperation. We would like to ask a representative from each group to give a short presentation of the work in the group. Please reply before October first to [Karen-Margrete Hovland](#). [More info](#).

## **Nye artikler**

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.

### **Runar Thyraug: sammenheng mellom bakterier og planteplankton under ulike CO<sub>2</sub>-forhold**

Allgaier M, Riebesell U, Vogt M, Thyraug R, and Grossart HP 2008. Coupling of heterotrophic bacteria to phytoplankton bloom development at different  $p\text{CO}_2$  levels: a mesocosm study, *Biogeosciences* 5: 1007-1022

**Abstract.** The predicted rise in anthropogenic CO<sub>2</sub> emissions will increase CO<sub>2</sub> concentrations and decrease seawater pH in the upper ocean. Recent studies have revealed effects of  $p\text{CO}_2$  induced changes in seawater chemistry on a variety of marine life forms, in particular calcifying organisms. To test whether the predicted increase in  $p\text{CO}_2$  will directly or indirectly (via changes in phytoplankton dynamics) affect abundance, activities, and community composition of heterotrophic bacteria during phytoplankton bloom development, we have aerated mesocosms with CO<sub>2</sub> to obtain triplicates with three different partial pressures of CO<sub>2</sub> ( $p\text{CO}_2$ ): 350  $\mu\text{atm}$  ( $1\times\text{CO}_2$ ), 700  $\mu\text{atm}$  ( $2\times\text{CO}_2$ ) and 1050  $\mu\text{atm}$  ( $3\times\text{CO}_2$ ). The development of a phytoplankton bloom was initiated by the addition of nitrate and phosphate. In accordance to an elevated carbon to nitrogen drawdown at increasing  $p\text{CO}_2$ , bacterial production (BPP) of free-living and attached bacteria as well as cell-specific BPP (csBPP) of attached bacteria were related to the C:N ratio of suspended matter. These relationships significantly differed among treatments. However, bacterial abundance and activities were not statistically different among treatments. Solely community structure of free-living bacteria changed with  $p\text{CO}_2$  whereas that of attached bacteria seemed to be independent of  $p\text{CO}_2$  but tightly coupled to phytoplankton bloom development. Our findings imply that changes in  $p\text{CO}_2$ , although reflected by changes in community structure of free-living bacteria, do not directly affect bacterial activity. Furthermore, bacterial activity and dynamics of heterotrophic bacteria, especially of attached bacteria, were tightly correlated to phytoplankton development and, hence, may also potentially depend on changes in  $p\text{CO}_2$ .

### **Sigrunn Eliassen: er farskap utenfor parforhold drevet av hann eller henne?**

Eliassen, Sigrunn and Hanna Kokko 2008. Current analyses do not resolve whether extra-pair paternity is male or female driven. *Behavioral Ecology and Sociobiology* 62: 1795-1804

**Abstract** Recent studies question the importance of indirect genetic effects in explaining female benefits of extra-pair matings in socially monogamous species. Compiling data on 14 wild bird species, Arnqvist and Kirkpatrick (*Am Nat* 165:S26–S37, 2005) estimated the average direct cost in terms of reduced parental care to be an order of magnitude larger than the potential effect of genetic

benefits. This study has sparked a debate regarding potential confounding factors but no consensus appears to have been reached. Here we focus on the implicit assumption that all individuals face the same selective pressures and argue that this assumption is probably too strong in most cases. Using a theoretical model we show that when the amount of resources that a male provides depends on territory quality, his physical condition or prospects for alternative breeding opportunities, a female may respond to such differences by altering her mating behaviour. Such confounding factors may lead to direct fitness effects that result in negative correlations between paternal care and paternity even if females that produce extra-pair young experience a net benefit. Negative correlations can also result when males forcefully seek copulations and females resist them. We discuss the studies included in the analysis in this light, and conclude that current analyses on the net selective pressures remain uninformative. In addition to considering average effects across individuals and species we suggest giving attention to individual differences and the influence of ecological factors such as territory quality and predation pressures on female mating behaviour.

### **Kathy Willis: invasjonøkologi studert ved paleodata**

Gillson Lindsey, Anneli Ekblom, Katherine J. Willis and Cynthia Froyd 2008. Holocene palaeo-invasions: the link between pattern, process and scale in invasion ecology? *Landscape Ecology* 23:757–769

**Abstract** Invasion ecology has made rapid progress in recent years through synergies with landscape ecology, niche theory, evolutionary ecology and the ecology of climate change. The palaeo-record of Holocene invasions provides a rich but presently underexploited resource in exploring the pattern and process of invasions through time. In this paper, examples from the palaeo-literature are used to illustrate the spread of species through time and space, also revealing how interactions between invader and invaded communities change over the course of an invasion. The main issues addressed are adaptation and plant migration, ecological and evolutionary interactions through time, disturbance history and the landscape ecology of invasive spread. We consider invasions as a continuous variable, which may be influenced by different environmental or ecological variables at different stages of the invasion process, and we use palaeoecological examples to describe how ecological interactions change over the course of an invasion. Finally, the use of palaeoecological information to inform the management of invasions for biodiversity conservation is discussed.

## **Bok-kapittel**

### **Katja Enberg, Erin Dunlop & Christian Jørgensen: modellering av vekst hos fisk**

K Enberg, ES Dunlop & C Jørgensen 2008. Fish Growth. In SE Jørgensen & BD Fath (eds), *Ecological Models*. Vol. 2 of *Encyclopedia of Ecology*, 5 vols. pp. 1564-1572. Oxford: Elsevier. The more than 3 m long ocean sunfish *Mola mola* develops from an egg that is about a millimeter in diameter. The anadromous brown trout *Salmo trutta* often hatches in a small stream in the midst of a forest, migrates after one or more years into the sea for foraging, and eventually returns as an adult to the natal stream for spawning. As fish grow through their life, they often occupy different habitats, are threatened by different predators, and rely on different food resources. Understanding how these complexities shape lifetime patterns of animal growth is a large and active field of research. In this article, we examine one component of this research by reviewing the most common mathematical models that have been used to describe and interpret the growth of fish. These models have been developed for several purposes, including identifying and comprehending the causes of individual variability, to predict consequences for fisheries yield, and to improve production in fish farming.