

BIO-info 23/2011, 24. juni 2011 [BIO: sakslistor og møtereferater](#) [BIO-info arkiv](#)
submission deadline to bio.info@bio.uib.no is Wednesday 16:00

Fra toppen!

God sommer!

Den siste tiden har vært preget av budsjettarbeid, og instituttrådet vedtok denne uken et budsjettforslag for 2012 og langtidsbudsjett for 2012-2015 som prøver å balansere trange tider med visjoner og håp. Det er ingen tvil om at BIOs økonomi er meget anstrengt. Langtidsbudsjettet viser et akkumulert underskudd på rundt 10 millioner i 2014, da vi forventer å ha nådd driftsmessig balanse.

Dette er betydelig bedre utsikter enn det vi hadde da vi gikk inn i 2011. Selv om vi har måttet gjøre grep for å redusere tilskuddene til forskningsgruppene og undervisningsvirksomheten, er det mye god aktivitet å spore. Både i forskningen og i forberedelsene til oppstarten av det nye bachelorprogrammet til høsten er det entusiasme og innsatsvilje i rekkene.

Denne utgaven av BIO-info blir den siste før sommeren står for døren. Neste utgave kommer i begynnelsen av august, samtidig som et nytt semester dras i gang. Til høsten starter vi også opp med midtveisevaluering av alle PhD-prosjekter. Mer om dette inne i bladet.

God sommer! Hilsen Anders



Ukens bilde



Gulrot

Fotograf: **Annik Lygren**

Gulrot dyrket mellom svabergene i Masfjorden.

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 bio.info@bio.uib.no

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Siste nytt fra BIO

Midtveisevaluering - ph.d. kandidater

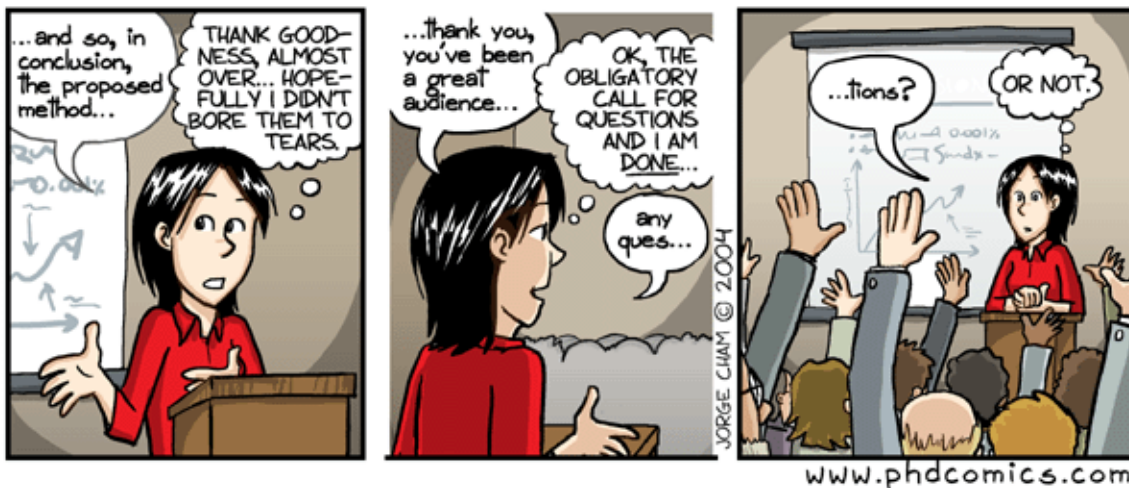
Innføring av midtveisevaluering for ph.d. kandidater

BIO vil i løpet av høsten 2011 starte opp ordningen med midtveisevaluering av ph.d. kandidater, og planlegger å gjennomføre hoveddelen av midtveisevalueringen i uke 43. Ordningen er en del av universitets vedtatte handlingsplan for ph.d. utdanningen, og omfatter alle ph.d. kandidater ved Universitetet i Bergen.

Ordningen ved BIO vil bli gjennomført ved at kandidaten skal presentere fremdrift i prosjektet sitt til et panel bestående av 3 ansatte ved BIO (en representant for instituttets forskerutdanningsutvalg samt to andre vitenskapelig ansatte ved BIO). Presentasjonen vil være offentlig.

Kandidat og veiledningskomité skal i forkant av kandidatens presentasjon levere inn en skriftlig rapport over fremdriften av studiet.

Aktuelle kandidater og veiledere vil få tilsendt den nødvendige informasjon i god tid før de skal evalueres.



Utdanningsnytt

Sensurfrist

Endelig sensurfrist 30. juni

Endelig sensurfrist for vårens emner er 30. juni. Alle eksamensprotokoller må være Studieseksjonen i hende senest 29. juni.

Siste nytt fra verden rundt oss

Nye tiltak for å øke antall EU søknader; Forskningsrådets strategi for nordområdeforskning

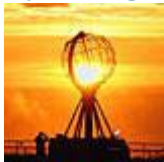
Ut å hente EU-søkere



Forskningsrådet setter i gang nye tiltak for å få flere norske forskere til å søke finansiering fra EUs rammeprogram.

[Les mer](#)

Ny strategi for nordområdeforskning



Forskningsrådets hovedstyre har vedtatt en ny strategi for nordområdeforskning.

[Les mer](#)

Ledige stillinger for biologer

Mer info finner du [her](#). Stillinger utlyst på BIO finner du nederst til høyre på instituttets [nettside](#).

Forskning: utlysninger, nye satsinger og prosjekter

Mer info om utlysninger 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)

[EU utlysninger juli](#)

Nye EU utlysninger i juli

Disse vil dukke opp på [denne siden](#), men som Forskningsrådet skriver på sine hjemmesider (se under) er det lurt å begynne forberedelsene nå dersom man tenker å søke:

– Ingen grunn til å vente



De formelle utlysningene i EUs sjuende rammeprogram kommer 20. juli. Men mange søkere er allerede i full gang med prosessen. Mye bør gjøres før utlysningene kommer.

[Les mer](#)

Avsluttende mastergradseksamen

Too, Ohnheiser, Fatnes, Liland, Silas og Leknes

Chin Chin Too: Diversity and systematics of Haminoeidae (Gastropoda: Cephalaspidea) in the Indo-West Pacific Ocean: the genera *Aliculastrum*, *Atys*, *Diniatys* and *Liloa*

Chin Chin Too holder tirsdag 28. juni avsluttende presentasjon av sin masteroppgave i marinbiologi - akvatisk økologi.

Tittel på oppgaven: Diversity and systematics of Haminoeidae (Gastropoda: Cephalaspidea) in the Indo-West Pacific Ocean: the genera *Aliculastrum*, *Atys*, *Diniatys* and *Liloa*

Veiledere: Manuel Malaquias og Christoffer Schander. Sensor: Jon-Arne Sneli. Bisitter: Andreas Steigen.

Tid og sted: **Tirsdag 28. juni, kl. 10:15**, Seminarrom K1, 1 etasje, Biobyggene

Lena Ohnheiser: The family Philinidae (Mollusca: Gastropoda) in Scandinavia. Systematic revision of species and the evolution of morphological traits

Lena Ohnheiser holder tirsdag 28. juni avsluttende presentasjon av sin masteroppgave i marinbiologi - marin biodiversitet.

Tittel på oppgaven: The family Philinidae (Mollusca: Gastropoda) in Scandinavia. Systematic revision of species and the evolution of morphological traits

Veiledere: Manuel Malaquias og Christoffer Schander. Sensor: Jon-Arne Sneli. Bisitter: Andreas Steigen.

Tid og sted: **Tirsdag 28. juni, kl. 13:15**, Seminarrom K1, 1 etasje, Biobyggene

Ole Andreas Fatnes: Herring (*Clupea harengus*) in Lindåspollene before and during spawning: spatial decisions and school dynamics

Ole Andreas Fatnes holder onsdag 29. juni avsluttende presentasjon av sin masteroppgave i fiskeribiologi og forvaltning.

Tittel på oppgaven: Herring (*Clupea harengus*) in Lindåspollene before and during spawning: spatial decisions and school dynamics

Veileder: Arne Johannessen. Sensor: Aril Slotte (HI). Bisitter: Anne Gro Veia Salvanes.

Tid og sted: **Onsdag 29. juni, kl. TBA**. Seminarrom K3, 1 etasje, Biobyggene

Nina Sylvia Liland: The effect of plant proteins and vegetable oils on the sterol metabolism of Atlantic salmon (*Salmo salar*)

Nina Sylvia Liland holder torsdag 30. juni avsluttende presentasjon av sin masteroppgave i ernæring hos akvatiske organismer i oppdrett.

Tittel på oppgaven: The effect of plant proteins and vegetable oils on the sterol metabolism of Atlantic salmon (*Salmo salar*)

Veiledere: Bente Torstensen (NIFES) og Rune Waagbø (NIFES/BIO). Sensor: Anders Mangor Jensen (HI). Bisitter: Ivar Hordvik

Tid og sted: **Torsdag 30. juni, kl. 11:00**, NIFES, NB4, 4. etasje. Nordnesboder 2, Nordnes

Mathew Silas: Review of the Tanzanian prawn fishery

Mathew Silas holder fredag 1. juli avsluttende presentasjon av sin masteroppgave i fiskeribiologi og forvaltning.

Tittel på oppgaven: Review of the Tanzanian prawn fishery

Veileder: Jeppe Kolding. Sensor: Jorge Santos. Bisitter: Svein Rune Erga.

Tid og sted: **Fredag 1. juli, kl. TBA**. Seminarrom K3, 1 etasje, Biobyggene

Eirik Leknes: Optimum feed formulation for turbot, *Scophthalmus maximus* (Rafinesque, 1810) in the grow-out phase

Eirik Leknes holder fredag 8. juli avsluttende presentasjon av sin masteroppgave i havbruksbiologi.

Tittel på oppgaven: Optimum feed formulation for turbot, *Scophthalmus maximus* (Rafinesque, 1810) in the grow-out phase

Veileder: Albert Imsland og Helgi Thorarensen/Jon Arnason. Sensor: Torbjørn Einar Åsgård (NOFIMA). Bisitter: TBA.

Tid og sted: **Fredag 8. juli, kl. 10:15**, Seminarrom K1, 1 etasje, Biobyggene

Kurs, møter, seminar og arrangement

Mer info om kurs, møter, seminar og arrangement etc finner du [her](#).

Nordområdekonferansen

Forskningsrådets Nordområdekonferanse

Den nye nordområdestrategien er hovedtema for årets Nordområdekonferanse som arrangeres i Bodø midt i november. Åpningssesjonen er satt av til å diskutere nordområdeforskning som virkemiddel i forskningspolitikken. Universitetet i Nordland, Bodø [Les mer](#)

Nye artikler

***A full listing of BIO's ISI publications can be found on BIO's internal web pages. Click here for an [alphabetic listing for 2010](#). Click here for a [listing sorted by date](#) in ISI (most recent at the top).

Skjæraasen; Salvanes; Bergh; Haave; Lundebye; Klepaker; Telford; Birks

Herbert NA, **Skjæraasen JE**, Nilsen T, **Salvanes AGV**, Steffensen JF (2011) The hypoxia avoidance behaviour of juvenile Atlantic cod (*Gadus morhua* L.) depends on the provision and pressure level of an O₂ refuge. *Marine Biology*. Volume 158, Number 4, 737-746, DOI: 10.1007/s00227-010-1601-7

Abstract: The frequency of low O₂ (hypoxia) has increased in coastal marine areas but how fish avoid deleterious water masses is not yet clear. To assess whether the presence and oxygen pressure (PO₂) level of an O₂ refuge affects the hypoxia avoidance behaviour of fish, individual Atlantic cod (*Gadus morhua* L.) were exposed to a range of O₂ choices in a 2-way choice chamber at 11.4°C over two different experiments. Cod in the first experiment were allowed access to a fixed O₂ refuge (fully air-saturated seawater) whilst oxygen pressure (PO₂) on the other side was reduced in steps to a critically low level, i.e. 4.3 kPa—a point where cod can no longer regulate O₂ consumption. Under these conditions, cod did not avoid any level of hypoxia and fish swimming speed also remained unchanged. In contrast, strong avoidance reactions were exhibited in a second experiment when fish were again exposed to 4.3 kPa but the safety, i.e. PO₂, of the refuge was reduced. Fish not only spent less time at 4.3 kPa as a result of fewer sampling visits but they also swam at considerably slower speeds. The presence of an avoidance response was thus strongly related to refuge PO₂ and it is unlikely that cod, and possibly other fish species, would enter low O₂ to feed in the wild if a sufficiently safe O₂ refuge was not available. It is therefore hypothesized that the feeding range of fish may be heavily compressed if hypoxia expands and intensifies in future years.

A.K.S. Dhanasiri, V. Kiron, J.M.O. Fernandes, **Ø. Bergh** and M.D. Powell (2011)

Novel application of nitrifying bacterial consortia to ease ammonia toxicity in ornamental fish transport units: trials with zebrafish. *Journal of Applied Microbiology* doi:10.1111/j.1365-2672.2011.05050.x

Abstract

Aims: To evaluate whether two commercial nitrifying bacterial consortia can function as biocontrol agents in ornamental fish transporting systems.

Methods and Results: The consortia were applied in a simulated set-up using zebrafish as the model organism in three trials. The efficacy of the bacterial consortia in controlling the ammonia level was validated by measuring water quality parameters such as total ammonia, nitrate and pH of the transport water. The bacterial community structure in the transport unit was studied using denaturing gradient gel electrophoresis. The consortia tested improved the nitrifying activity that in turn facilitated the reduction of ammonia that had accumulated during the transport. Bacterial profiles revealed the presence of both ammonia-oxidizing and nitrite-oxidizing bacteria in the transport bags.

Conclusions: The application of the consortia during the transportation of zebrafish could profoundly improve the water quality by curbing ammonia accumulation.

Significance and impact of the study: The potential of applying nitrifying bacteria as a bioremediation practice during the transport of ornamental fish has been demonstrated and this innovative approach contributes to the amelioration of current fish welfare in ornamental fish trade.

Haave M, Ingvaldsen KF, Carroll T, Glover C, Heegaard E, Brattelid T, Hogstrand C, **Lundebye AK** (2011) Cerebral gene expression and neurobehavioural development after perinatal exposure to an environmentally relevant polybrominated diphenylether (BDE47) 2011. *Cell Biology and Toxicology* (DOI) 10.1007/s10565-011-9192-8

Abstract: Nutrients in seafood are known to be beneficial for brain development. Effects of maternal exposure to 2,2',4,4' tetrabromo diphenylether (BDE47) was investigated, alongside the potential ameliorating impact of seafood nutrients, through assessment of neurobehaviour and gene expression in brain and liver. Developing mice were exposed during gestation and lactation via dams dosed through casein- or salmon-based feed, spiked with BDE47. Two concentrations were used: a low level (6 µg/kg feed) representing an environmentally realistic concentration and a high level (1,900 µg/kg feed) representing a BDE47 intake much higher than expected from frequent consumption of contaminated seafood. Experimental groups were similar with respect to reproductive success, growth and physical development. Minor, transient changes in neurobehavioural metrics were observed in groups given the highest dose of BDE47. No significant differences in behaviour or development were seen on postnatal day 18 among maternally exposed offspring. Cerebral gene expression investigated by microarray analyses and validated by RT-qPCR showed low fold changes for all genes, despite dose-dependent accumulation of BDE47 in brain tissue. The gene for glutamate ammonia ligase was upregulated compared to control in the casein-based high BDE47 diet, suggesting potential impacts on downstream synaptic transmission. The study supported a previously observed regulation of Igfbp2 in brain with BDE47 exposure. Genes for hepatic metabolic enzymes were not influenced by BDE47. Potential neurotoxic effects and neurobehavioural aberrations after perinatal exposure to high levels of BDE47 were not readily observed in mice pups with the present experimental exposure regimes and methods of analysis.

Le Rouzic A, Ostbye K, **Klepaker TO**, Hansen TF, Bernatchez L, Schluter D, Vollestad LA (2011) Strong and consistent natural selection associated with armour reduction in sticklebacks. *Molecular Ecology* 20:2483-2493

Abstract: Measuring the strength of natural selection is tremendously important in evolutionary biology, but remains a challenging task. In this work, we analyse the characteristics of selection for a morphological change (lateral-plate reduction) in the threespine stickleback *Gasterosteus aculeatus*. Adaptation to freshwater, leading with the reduction or loss of the bony lateral armour, has occurred in parallel on numerous occasions in this species. Completely-plated and low-plated sticklebacks were introduced into a pond, and the phenotypic changes were tracked for 20 years. Fish from the last generation were genotyped for the Ectodysplasin-A (Eda) locus, the major gene involved in armour development. We found a strong fitness advantage for the freshwater-type fish (on average, 20% fitness advantage for the freshwater morph, and 92% for the freshwater genotype). The trend is best explained by assuming that this fitness advantage is maximum at the beginning of the invasion and decreases with time. Such fitness differences provide a quantifiable example of rapid selection-driven phenotypic evolution associated with environmental change in a natural population.

Self AE, Brooks SJ, **Birks HJB**, Nazarova L, Porinchu D, Odland A, Yang H, Jones VJ.. (2011) The distribution and abundance of chironomids in high-latitude Eurasian lakes with respect to temperature and continentality: development and application of new chironomid-based climate-inference models in northern Russia. *Quaternary Science Reviews* 30:1122-1141

Abstract: The large landmass of northern Russia has the potential to influence global climate through amplification of climate change. Reconstructing climate in this region over millennial timescales is crucial for understanding the processes that affect the global climate system. Chironomids, preserved in lake sediments, have the potential to produce high resolution, low error, quantitative summer air temperature reconstructions. Canonical correspondence analysis of modern surface sediments from high-latitude lakes, located in northern European Russia and central Siberia, suggests that mean July

air temperature is the most significant variable explaining chironomid distribution and abundance. This strong relationship enabled the development of a chironomid-based mean July air temperature-inference model based on 81 lakes and 89 taxa which has a $r(\text{jack})(2) = 0.92$ and $\text{RMSEP} = 0.89$ degrees C. Comparison of taxon responses to July temperature between this Russian and existing Norwegian data-sets shows that the temperature optima of individual taxa were between 1 and 3 degrees C higher in the Russian data regardless of modelling technique. Reconstructions based on fossil assemblages from a Russian tundra lake core (VORK5) using a Norwegian chironomid-based inference model provide mean July air temperature estimates that are 1.0-2.7 degrees C colder than from the 81-lake Russian model and are also lower than the instrumental record from a nearby meteorological station. The Norwegian model also did not reconstruct decadal-scale fluctuations in temperature seen in the instrumental record. These observations suggest that chironomid-based inference models should only be applied to sediment cores which have similar climate regimes to the geographic area of the training set. In addition a 149 lake, 120 taxa chironomid-based continentality inference model was also developed from the modern Norwegian and Russian training sets. A 2-component WA-PLS model was the minimal adequate model with $r(\text{jack})(2) = 0.73$ and $\text{RMSEP} = 9.9$ using the Gorczynski continentality index. Comparison of reconstructed continentality indices from the tundra lake, VORK5, show close agreement with local instrumental records over the past 70 years and suggest that the model is reliable. Recent warming in the Arctic has been spatially and seasonally heterogeneous; in many areas warming is more pronounced in the spring and autumn leading to a lengthening of the summer, while summer temperatures have remained relatively stable. A continentality inference model has the potential to detect these seasonal changes in climate.

Telford RJ, Birks HJB (2011) A novel method for assessing the statistical significance of quantitative reconstructions inferred from biotic assemblages. *Quaternary Science Reviews* 30:1272-1278

Abstract: We present a method to test the statistical significance of a quantitative palaeoenvironmental reconstruction inferred from biotic assemblages with a transfer function. A reconstruction is considered statistically significant if it explains more of the variance in the fossil data than most reconstructions derived from transfer functions trained on random environmental data. Given reconstructions of several environmental variables from the same fossil proxy, the method can determine which is the best reconstruction, and if there is sufficient information in the proxy data to support multiple independent reconstructions. Reconstructions that fail this test have limited credibility and should be interpreted with considerable caution.