

BIO-info 09/2012, 09. mars 2012 [BIO: sakslistor og møtereferater](#) [BIO-info arkiv](#)  
submission deadline to [bio.info@bio.uib.no](mailto:bio.info@bio.uib.no) is Wednesday 16:00

## Fra toppen!

### Årets Meltzerpris for formidling til Kryvi!

8. mars er ikke bare kvinnedagen, men også fødselsdagen til [Lauritz Meltzer](#) (1861-1943), forretningsmannen som med sitt testamente påskyndet opprettelsen av Universitetet i Bergen i 1946 og etablerte grunnkapitalen for L. Meltzers Høyskolefond. Dermed er det også dagen for utdeling av prosjektmidler, reisestipend, og priser.

Årets Meltzerpris for fremragende forskningsformidling gikk til vår egen professor Harald Kryvi, for et langt liv som fremragende foreleser, samfunnsdebattant, og ikke minst som kunstner med vitenskapen som fundament. Vi gratulerer Harald med en svært velfortjent og hyggelig æresbevisning!

Vi gratulerer også Gyri Haugland i Fiskeimmunologi-gruppen med prosjekttildeling fra Meltzer-fondet, og dessuten alle som fikk reisestipend og andre tildelinger fra Meltzer- og andre UiB-fond i går.

Hilsen Anders



### Ukens bilde



### Meltzervinner Kryvi

Fotograf: Thor Brødreskift

Copyright: UiB

[Vis original](#)

Harald Kryvi holder takketale etter gårsdagens prisoverrekkelse.

Mer info under nyheter.

*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](mailto:bio.info@bio.uib.no)*

### Innhold:

Årets Meltzerpris for formidling til Kryvi!	1
Ukens bilde	1
Faste lenker:	3
<b>VIKTIG INFORMASJON</b>	<b>3</b>
BIO-seminar; seminar om søknadsskriving; seminar om bibliometri	3
<b>BIO-arrangement kommende uke</b>	<b>3</b>
<b>NYHETER OG GENERELL INFORMASJON</b>	<b>4</b>
Kryvi fikk Meltzerpris for fremragende formidling; Kolding og Heino i Science; Innføringskurs i nynorsk for framandspråklege tilsette	4
<b>Studie</b>	<b>5</b>
<b>Masterdagen ved BIO</b>	<b>5</b>
<b>NYE UTLYSNINGER</b>	<b>6</b>
Såkorntmidler NORHED; nytt NORRUSS-program	6
<b>KOMMENDE MØTER OG SEMINAR</b>	<b>7</b>
BIO-seminar om søknadsskriving; Bibliometriseminar; Seminar om studenters lærevansker	7
<b>NYE ARTIKLER</b>	<b>9</b>
Kolding; Heino; Lanzen; Rapp; Schleper; Finn; Fernö; Høysæter; Jacobsen	9

# BIO-info

## Nyheter fra Institutt for biologi

Faste lenker:

[BIO-info arkiv](#) [Sakslistene & referater](#) [BIOs interne websider](#) [BIO's eksterne websider](#)  
[Facebook BIO](#) [Facebook STIM](#) [Facebook UiB](#)

## VIKTIG INFORMASJON

BIO-seminar; seminar om søknadsskriving; seminar om bibliometri

### Bio-seminar

Torsdag 15. mars kl 14-15 i K1/K2

#### Henrik Glenner:



Rapport fra slagmarken: Eksperiment- og feltstudier på "the armed race" mellom strandkrabben og dens parasitter

I foredraget vil de første resultater fra et treårig studium over strandkrabbens populasjonsdynamikk i en typisk lokalitet, Limfjorden, bli behandlet. Fokus vil bli lagt på krabbens intime biologiske interaksjon med flere sannsynlige populasjonskontrollerte parasitter.

### BIO-seminar om søknadsskriving med spesielt fokus på Fripro/ERC starting grants

**28. mars** 12.15 – 14. Stort auditorium, Datablokken, HIB. Les mer under kommende møter og seminar

**EvoFish gruppen arrangerer seminar om bibliometri 11 april** Les mer under kommende møter og seminar

### Information meeting in Bergen on The Human Frontier Science Program - HFSP

**Monday March 12th at the BBB conference room (5th floor) at 9:15 - 11:30**

More info below under "kommende møter og seminar"

## BIO-arrangement kommende uke

Dato	Handlinger, navn	Tid og sted
06.03	Avsluttende mastereksamen: Trine Strand Jensen	13:00, K3, B-blokk, 1et. Biologen
08.03	Avsluttende mastereksamen: Enrique Pérez Garcia	10:15, Stort Aud, HIB
08.03	Masterdag BIO	14:00-16:00, Biologen 1.et.
09.03	Avsluttende mastereksamen: Mari Jokerud	10:00, K3, B-blokk, 1et. Biologen
15.03	BIO-seminar Henrik Glenner,	kl 14-15 i K1/K2

### NYHETER OG GENERELL INFORMASJON

Kryvi fikk Meltzerpris for fremragende formidling; Kolding og Heino i Science; Innføringskurs i nynorsk for framandspråklege tilsette

#### Årets Meltzerpris for fremragende formidling gikk til Harald Kryvi!



Av Jens Helleland Ådnanes, UiB  
Foto: Thor Brødreskift Copyright: UiB

Harald Kryvi, professor ved Institutt for biologi, får Meltzerprisen for framifrå forskingsformidling. Kryvi vert skildra som ein engasjert formidlar av dei som har nominert han. Han har undervist ved UiB i 43 år.

- Det å formidla og undervisa er ein viktig del det indre liv ved eit universitet. Det er kjekt å få vita at eg får det til. Ein må finna sin eigen stil, det er viktig, seier prisvinnaren.

Kryvi nyttar berre tavle og kritt i førelesingane sine.

- Eg har også eit mål om at det skal vera litt vittig, studentane skal le minst ein gong i løpet av ei førelesing, seier han.

Kryvi har ei dr.philos.-grad i haianatomi. Han er professor i zoologisk anatomi ved Institutt for biologi, UiB, der han leier gruppa for vertebratevolusjon og utvikling. Han er også professor II i human anatomi ved Høgskolen i Bergen.

Kryvi har også utmerka seg som vitenskapleg formidlar gjennom kunst. Han har laga fleire hundre koparstikk med nøyaktig attgjeving av anatomi. Stikka er trykt opp i kring 7500 eksemplar.

- Dei biologiske strukturane er så vakre. Eg er oppteken av eg skal gjengi dei heilt nøyaktig, men også med litt humor. Eg håpar eg kan spre litt anatomisk kunnskap til folket på den måten, seier han.

[Sjå somme av trykka her.](#)

Det har ikkje vore vanskeleg for han å oppretthalda entusiasmen for faget gjennom meir enn 40 år.

- Anatomi er utruleg interessant, det syntest eg alt då eg var liten. Ikkje minst er det spanande å sjå studentane skjønna ting, å få vera med på deira intellektuelle prosess og vera til stades når lyset går opp for dei, seier Kryvi. [Les mer om Meltzerprisene på nettsiden til Universitetet i Bergen](#)

**Institutt for biologi gratulerer og feirer Harald med kake i dag!**

#### Artikkel av Kolding og Heino i Science

Jeppe Kolding og Mikko Heino var denne uken medforfattere på en artikkel i [Science](#). Sammen med forskere fra 15 land foreslår de en ny forvaltningsmodell som de mener fungerer bedre enn dagens fiskeregler. Les mer [på universitetets nettsider](#) og i [På Høyden](#)

Artikkelen har fått mye internasjonal medieoppmerksomhet:

[CSIRO - CES News](#) [Wildlife Extra](#) [Vikebladet - Papirutgaven, side 26](#) [dradio.de - Wissenschaft](#)  
[Ripensare la gestione della pesca](#) [Ultimoranotizie - Ambiente](#) [El dilema de la pesca equilibrada - UICN](#)



# BIO-info

## Nyheter fra Institutt for biologi

### Innføringskurs i nynorsk for framandspråkege tilsette;

Personal- og organisasjonsavdelinga i samarbeid med Institutt for lingvistiske, litterære og estetiske studium (LLE), arrangerer for andre gong eit innføringskurs i nynorsk for framandspråkege tilsette. Kurset er for dei som ikkje har norsk som morsmål, men som kan godt norsk (gjennomført trinn 3 eller tilsvarande) og som ønskjer å lære meir om nynorsk.

Kurset er på ca 12 timar, og undervisinga vert som følgjer:

Onsdag 18.april klokka 12.15 - 16

Onsdag 25.april klokka 12.15 - 16

Onsdag 2.mai klokka 12.15 - 16.

Meir informasjon og påmelding: <http://www.uib.no/poa/kurs/2011/02/innforingskurs-i-nynorsk-for-framandspraaklege-tilsette>

Påmelding: <https://skjema.app.uib.no/nynorsk002>

Artikkel i "På Høyden" då kurset vart arrangert for fyrste gong:

[http://nyheter.uib.no/?modus=vis\\_nyhet&id=48647](http://nyheter.uib.no/?modus=vis_nyhet&id=48647)

### Biofagevalueringen - Fra evaluering til oppfølging



Nå starter oppfølgingsarbeidet etter den mest omfangsrrike fagevalueringen Forskningsrådet noensinne har gjennomført. Ledelsen ved de evaluerte institusjonene innenfor biologi, medisin, helse og psykologi møttes til dialog og diskusjon i slutten av februar. Anders Goksøyr holdt innlegg på vegne av biofagrådet [Les mer](#)

### The African Local Summit 2012

The Global Summit launches The First ever African Local Summit (ALS)

About 20 keynote speakers from all over Africa will convene in Kumasi, Ghana for the first ever African Local Summit on the 1-4th April 2012 to discuss Innovative Solutions for achieving **Millennium Development Goals (MDG's)** [More info](#)

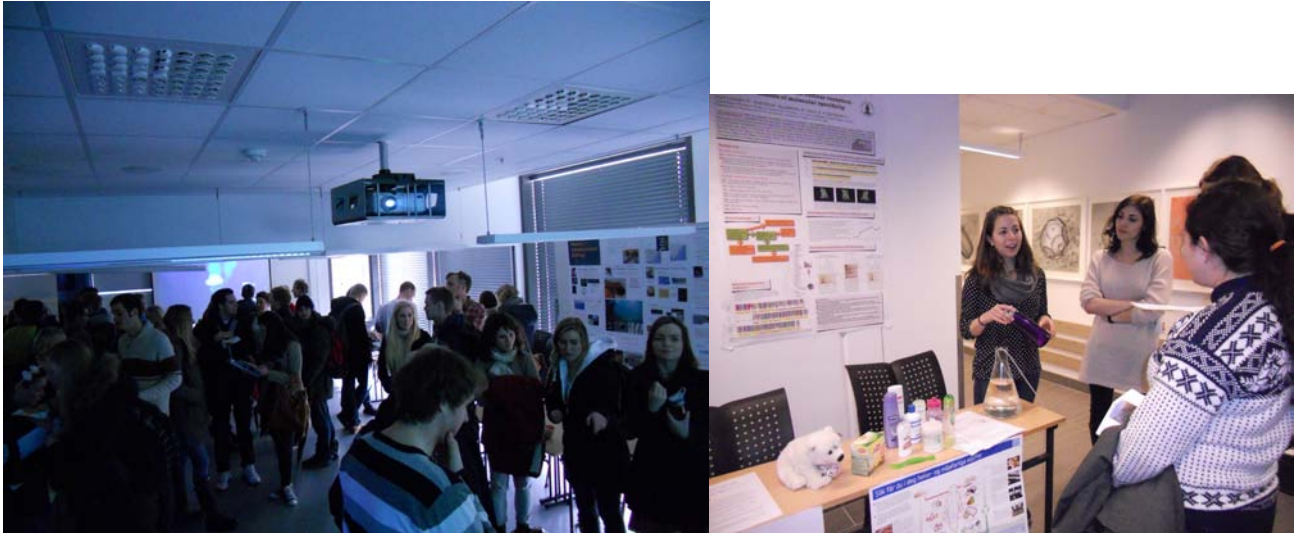
## Studie

### Masterdagen ved BIO



Masterdagen ved BIO 8. mars var ein stor suksess og godt besøkt av bachelorstudentane. Stor takk til forskningsgruppene som stilte med spennande stands og inspirerande forskarar og studentar. I tillegg til informasjon og inspirasjon fekk studentar og tilsette server kaffi, smågodt og vaflar. 180 vaflar vart produsert og fortært, takka vere strålande innsats frå vaffelsteikande studiekonsulentar. Søknadsfristen for opptak til master med start i haustsemesteret 2012 er 15. april.





## NYE UTLYSNINGER

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)

**Såkomsmidler NORHED; nytt NORRUSS-program**

### **SåkomsmidlerNORHED, utlysning utsatt**

Utlysningen av midler i NORHED har dessverre blitt utsatt. Den planlagte utlysningen av såkomsmidler 7. mars vil derfor komme i juni 2012. Mer informasjon vil lagt ut på SIUs nettsider så snart nye datoer for utlysning er bestemt av Norad. [Mer info](#)

### **Over hundre millioner i nytt NORRUSS-program**

Det var godt oppmøte da det nye NORRUSS-programmet ble lansert hos Forskningsrådet mandag. Norske forskere skal nå blant annet finne ut mer om utviklingen internt i vårt største naboland Russland. [Les mer](#)

### **EEA funding for research cooperation with Central Europe 2012-2015**

The Research Council organizes an information meeting for Norwegian research institutions on funding opportunities for research cooperation with Czech Republic, Hungary, Latvia, Estonia, and Poland.

New bilateral research programmes financed under the EEA and Norway grants will be launched throughout 2012 to fund joint research programmes. The aim of the meeting is to inform about the modalities of the different programmes, their thematic orientation and timing of the future calls.

[Read more](#)

### **EuroEnviro2012 for European students**

We, a group of Slovak students from Bratislava and Zvolen, are organizing the annual symposium for environmental students in Europe – the EuroEnviro2012 – which will be held from the May 19th to May 26th. We invite about 40 students from Europe and all over the world to come to Slovakia. The symposium will focus on the topic "Conservation Is Not Isolation".

The registration period will be from 28<sup>th</sup> February 18<sup>th</sup> to March 15<sup>th</sup> 2012. [More info](#)

### **International Summer School for Students "Climate Change in the Marine Realm".**

International Summer School for Students with the title "Climate Change in the Marine Realm". We kindly ask you to post the information on your bulletin boards. [More info](#)

# BIO-info

## Nyheter fra Institutt for biologi

### 1-week Green Economics Training Programme: Greening our World, Business and Careers. Reform of Economics



3<sup>rd</sup> – 10<sup>th</sup> May, 2012 at Oxford, Glastonbury and London, United Kingdom

We are offering 30 places for our second Youth In Action Participatory Programme taking place in May 2012 -for a one weeks course and field trip for anyone under 30 years of age. It promises to be electric and really exciting. This programme will be run by us at the Green Economics Institute.

### Midler til forskning og utvikling Nasjonalforeningen for folkehelsen

Gjennom Nasjonalforeningen for folkehelsen kan du søke midler.

Det er mulig å søke midler til prosjekter innen forskning, forebygging og rehabilitering.

Søknadene må være innenfor Nasjonalforeningen for folkehelsens arbeidsområder:

- Hjerte- og karsykdommer
- Demens

Vi fremmer også søknader innen tuberkulose.

Innenfor forskning kan det søkes midler til doktorgrad og postdoc. Midler til drift ut over kr. 60 000 i året som følger rundsummen, blir ikke innvilget. [Mer info](#)

## KOMMENDE MØTER OG SEMINAR

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

[BIO-seminar om søknadsskriving](#); [Bibliometriseminar](#); [Seminar om studenters lærevansker](#)

### Bio-seminar om søknadsskriving 28 mars

Instituttet inviterer alle som tenker å sende søknad til årets Frimedbio utlysning og /eller ERC starting grants til møte 28 mars, 12.15 – 14, stort auditorium HIB. Mikko og Anne Gro vil snakke om hva som skal til for å lykkes i Frimedbio og Anja Hegen og Frede gi gode råd i forhold til ERC søknader. Frede sitter i et av panelene for ERC Starting grants og vil snakke litt om hva som er viktig sett fra "innsiden" i panelet som skal vurdere søknadene.

### Seminar on bibliometrics

Bibliometrics are increasingly used in research assessments. This seminar will present the essentials of bibliometric analyses, and provide an opportunity to discuss their strengths and weaknesses.

Tid og sted 8:30-12:30 11.4.2012, Stort auditorium, Datablokken, HIB

Du finner program og mer info på [EvoFishes hjemmesider](#) [English](#)

### Information meeting in Bergen on The Human Frontier Science Program - HFSP

The **Human Frontier Science Program - HFSP** - is an international organisation that funds cutting edge basic research with emphasis on innovative and interdisciplinary approaches to basic research in an international setting. Emphasis is on "*the elucidation of complex mechanisms of living organisms ranging from biological functions at the molecular and cellular level to biological systems including higher cognitive functions and ecosystems*". [HFSP](#) offers young investigator grants and program grants

Norway has been member of HFSP since 2008 and **we now invite you all to an information meeting on HFSP on**

**Monday March 12th at the BBB conference room (5th floor) at 9:15 - 11:30**

**and in particular all those who consider applying to the HFSP!**

**This is a unique opportunity to get first-hand information.**

### **Programme 9:15 - 11:30**

- HFSP director general, **Ernst L. Winnacker**, will inform about HFSP and take questions aided by the Norwegian delegates to HFSP: prof. Nils Chr. Stenseth (UiO) and Rein Aasland (UiB), and by Ian Gjertz (NFR).

- The programme also includes **three brief presentations from local groups** to highlight frontier research at UiB (**Bramham, Gerdes, Thingstad**).

- Ample time for questions and discussion. [More info](#)

### **I mars markerer fakultetet at det er 150 år siden Vilhelm Bjerknes ble født, med to horisontforelesninger.**

Horisonter er MN-fakultetets nye forelesningsserie for ansatte, studenter og alle andre interesserte, som adressere store vitenskapelige spørsmål og utfordringer.

The new Horizons lectures series by The faculty of mathematics and natural sciences aims at reaching staff, students and other interested parties, with a focus on major scientific questions and challenges.

The Horizons Lectures celebrates the 150 years anniversary of the birth of Vilhelm Bjerknes, with lectures by Sir Brian Hoskins (19. March) (in english) and Odd Helge Otterå (22. March) (in norwegian). [More info](#)

### **Invitasjon til seminar hos Statped Vest om studenters lærevansker**

Vi sender ut invitasjon til fagpersoner og studieveiledere tilknyttet SiBs læresteder i håp om et felles løft på temaet.

#### **PROGRAM:**

Kognitiv styrings- og reguleringsproblematikk, eksemplifisert med ADHD, Tourette syndrom og Asperger syndrom.

- Kort innledning om kognitiv styrings- og reguleringsproblematikk.
- Hvordan organisere og gjennomføre høyere studier? Tiltak med fokus på coaching.

Størstedelen av dagen har vi tenkt å snakke om tiltak for studenter i høyere utdanning som har disse vanskene.

Sted: Kurslokalene til Statped Vest, Sandbrekkevegen 27 (på venstre side av vegen)

### **Tid: Fredag 16. mars, kl 09.00-14.00**

Kurset er gratis for deltakerne, men vi gjør oppmerksom på at deltakerne må selv kjøpe mat i kantinen. Mat er ikke inkludert i tilbudet. Påmelding til [berit.gaaserud@sib.no](mailto:berit.gaaserud@sib.no) **innen 5.mars, 2012**. Ved spørsmål, kontakt avdelingsleder Line Fleischer [line.fleischer@sib.no](mailto:line.fleischer@sib.no) eller [karianne.lunde@statped.no](mailto:karianne.lunde@statped.no)



### Recent achievements and future directions in Aquatic Mesocosm Research- International Symposium

AMRS 2012 wishes to remind everyone that its symposium entitled "Recent achievements and future directions in Aquatic Mesocosm Research- International Symposium" will take place on October 16-19, 2012 in Heraklion - Crete - Greece.

The aim of the symposium is to exchange ideas and experiences from experimental work using mesocosms as the basic tool and present the state of the art in mesocosm-based research. [More info](#)  
**Abstract Submission is now open!**

### Norges Tekniske Vitenskapsakademi, NTVA, inviterer til møte i Bergen

Tirsdag 20. mars 2012 kl. 19:00

Sted: Nansensenteret på Marineholmen

*Tema:*

Energiforskning – tenke globalt, handle lokalt, eller?

*Foredrag av:*

Arvid Nøttvedt, adm.dir., CMR

Nærmere informasjon om foredraget på vår hjemmeside [her](#)

### Our first YOUTH IN ACTION dynamic, Participatory Programme 2011,

(with networking from FYRO Macedonia to the Arab Spring in Egypt and much more besides), was so successful, it is now being show cased by the British Council and the European Union!

**Please find more information about the training programme here: [Youth in Action](#)**

### Lecture and Seminar Series by Dr. David J. Newman

Chief of Natural Product Branch, National Cancer Institute NIH, Bethesda USA

#### Lectures:

Date: Monday, March 12th, 2012

Time: 10:15 – 12:00

Place: Room 3069 at Department of Chemistry, Realfagbygget

Date: Tuesday, March 13th, 2012

Time: 12:15 – 14:00

Place: Room 3069 at Department of Chemistry, Realfagbygget

Topics (see the following two pages):

1. **Why Natural Products as a source of drugs?**
2. **Why Utilize the Marine Environment as a Novel Source of Structures?**
3. **Microbes as Sources of Novel Agents**
4. **Requirements for Biodiscovery, with Emphasis on Norway and the Northern Seas**

[More info](#)

## NYE ARTIKLER

\*\*\*A full listing of BIO's ISI publications can be found on BIO's internal web pages. [Click here](#)

[Kolding](#); [Heino](#); [Lanzen](#); [Rapp](#); [Schleper](#); [Finn](#); [Fernö](#); [Høysæter](#); [Jacobsen](#)

S. M. Garcia, **J. Kolding**, J. Rice, M.-J. Rochet, S. Zhou, T. Arimoto, J. E. Beyer, L. Borges, A. Bundy, D. Dunn, E. A. Fulton, M. Hall, **M. Heino**, R. Law, M. Makino, A. D. Rijnsdorp, F. Simard, A.D M. Smith Reconsidering the Consequences of Selective Fisheries. Science 2 March 2012: Vol. 335 no. 6072 pp. 1045-1047 DOI: 10.1126/science.1214594

Concern about the impact of fishing on ecosystems and fisheries production is increasing (1, 2). Strategies to reduce these impacts while addressing the growing need for food security (3) include increasing selectivity (1, 2): capturing species, sexes, and sizes in proportions that differ from their occurrence in the ecosystem. Increasing evidence suggests that more selective fishing neither maximizes production nor minimizes impacts (4–7). Balanced harvesting would more effectively mitigate adverse ecological effects of fishing while supporting sustainable fisheries. This strategy, which challenges present management paradigms, distributes a moderate mortality from fishing across the widest possible range of species, stocks, and sizes in an ecosystem, in proportion to their natural productivity (8), so that the relative size and species composition is maintained.

Law, R, Plank, M. and **Kolding, J.** 2012. On balanced exploitation of marine ecosystems: results from dynamic size spectra. *ICES Journal of Marine Science*; doi:10.1093/icesjms/fss031  
<http://icesjms.oxfordjournals.org/content/early/2012/03/01/icesjms.fss031.full>

Fisheries are often managed to protect small young fish and to harvest big old fish. This can be wasteful, leading to large parts of catches being discarded. A recent suggestion is that it could be better to distribute fishing more widely across species and body sizes, balancing it more closely to the natural productivity of different organisms. Here, we test effects of such fishing against more traditional methods using a model of a single fish species with a dynamic size spectrum together with a fixed spectrum of plankton. This has the feature that productivity is determined by the bookkeeping of biomass in the model, and decreases as fish grow larger. The results show that harvesting smaller fish (which have higher productivity) allows a greater sustainable biomass yield than harvesting larger fish (which have lower productivity); the greater spawning-stock biomass that comes from protecting large fish contributes to this. Balanced exploitation brings fishing mortality more in line with this natural variation in productivity. In addition, the resilience of the ecosystem to perturbations can be improved, and disruption to the size distribution of organisms in the ecosystem reduced. We argue that there are potentially real benefits to be gained by moving towards more balanced exploitation of marine ecosystems, unconventional though this is.

Radax R, Rattei T, **Lanzen A**, Bayer C, **Rapp HT**, Urich T, **Schleper C.** 2012. Metatranscriptomics of the marine sponge *Geodia barretti*: Tackling phylogeny and function of its microbial community. *Environmental Microbiology* doi:10.1111/j.1462-2920.2012.02714.x

*Geodia barretti* is a marine cold-water sponge harbouring high numbers of microorganisms. Significant rates of nitrification have been observed in this sponge, indicating a substantial contribution to nitrogen turnover in marine environments with high sponge cover. In order to get closer insights into the phylogeny and function of the active microbial community and the interaction with its host *G. barretti*, a metatranscriptomic approach was employed, using the simultaneous analysis of rRNA and mRNA. Of the 262 298 RNA-tags obtained by pyrosequencing, 92% were assigned to ribosomal RNA (ribo-tags). A total of 109 325 SSU rRNA ribo-tags revealed a detailed picture of the community, dominated by group SAR202 of Chloroflexi, candidate phylum Poribacteria and Acidobacteria, which was different in its composition from that obtained in clone libraries prepared from the same samples. Optimized assembly strategies allowed the reconstruction of full-length rRNA sequences from the short ribo-tags for more detailed phylogenetic studies of the dominant taxa. Cells of several phyla were visualized by FISH analyses for confirmation. Of the remaining 21 325 RNA-tags, 10 023 were assigned to mRNA-tags, based on similarities to genes in the databases. A wide range of putative functional gene transcripts from over 10 different phyla were identified among the bacterial mRNA-tags. The most abundant mRNAs were those encoding key metabolic enzymes of nitrification from ammonia-oxidizing archaea as well as candidate genes involved in related processes. Our analysis demonstrates the potential and limits of using a combined rRNA and mRNA approach to explore the microbial community profile, phylogenetic assignments and metabolic activities of a complex, but little explored microbial community.

Scott L. Applebaum, **Roderick Nigel Finn**, Cynthia K. Faulk, G. Joan Holt, B. Scott Nunez  
Developmental expression, differential hormonal regulation and evolution of thyroid and glucocorticoid receptor variants in a marine acanthomorph teleost (*Sciaenops ocellatus*) *General and Comparative Endocrinology* 176 (2012) 39–51

Interactions between the thyroid hormone (TH) and corticosteroid (CS) hormone axes are suggested to regulate developmental processes in vertebrates with a larval phase. To investigate this hypothesis, we isolated three nuclear receptors from a larval acanthomorph teleost, the red drum (*Sciaenops ocellatus*), and established their orthologies as *thraa*, *thrb-L* and *gra-L* using phylogenomic and functional analyses. Functional characterization of the TH receptors in COS-1 cells revealed that *Thraa* and *Thrb-L* exhibit dose-dependent transactivation of a luciferase reporter in response to T3, while *SoThraa* is constitutively active at a low level in the absence of ligand. To test whether interactions between the TH and CS systems occur during development, we initially quantified the *in vivo* receptor transcript expression levels, and then examined their response to treatment with triiodothyronine (T3) or cortisol. We find that *sothraa* and *sothrb-L* are autoregulated in response to exogenous T3 only during early larval development. T3 did not affect *sogra-L* expression levels, nor did cortisol alter levels of *sothraa* or *sothrb-L* at any stage. While differential expression of the receptors in response to non-canonical ligand hormone was not observed under the conditions in this study, the correlation between *sothraa* and *sogra-L* transcript abundance during development suggests a coordinated function of the TH and CS systems. By comparing the findings in the present study to earlier investigations, we suggest that the up-regulation of *thraa* may be a specific feature of metamorphosis in acanthomorph teleosts.

Ole Folkedal, Thomas Torgersen, Rolf Erik Olsen, **Anders Fernö**, Jonatan Nilsson, Frode Oppedal, Lars H. Stien and Tore S. Kristiansen 2012. Duration of effects of acute environmental changes on food anticipatory behaviour, feed intake, oxygen consumption, and cortisol release in Atlantic salmon parr. *Physiology & Behavior* 105, 283–291.

We compared behavioural and physiological responses and recovery time after different acute environmental challenges in groups of salmon parr. The fish were prior to the study conditioned to a flashing light signaling arrival of food 30 s later to study if the strength of Pavlovian conditioned food anticipatory behaviour can be used to assess how salmon parr cope with various challenges. The effect on anticipatory behaviour was compared to the effect on feed intake and physiological responses of oxygen hyper-consumption and cortisol excretion. The challenges were temperature fluctuation (6.5 C° over 4 h), hyperoxia (up to 380% O<sub>2</sub> saturation over 4 h), and intense chasing for 10 min. Cortisol excretion was only elevated after hyperoxia and chasing, and returned to baseline levels after around 3 h or less. Oxygen hyper-consumption persisted for even shorter periods. Feed intake was reduced the first feeding after all challenges and recovered within 3 h after temperature and hyperoxia, but was reduced for days after chasing. Food anticipatory behaviour was reduced for a longer period than feed intake after hyperoxia and was low at least 6 h after chasing. Our findings suggest that a recovery of challenged Atlantic salmon parr to baseline levels of cortisol excretion and oxygen consumption does not mean full recovery of all psychological and physiological effects of environmental challenges, and emphasise the need for measuring several factors including behavioural parameters when assessing fish welfare.

Folkedal O, Stien, LH, Torgersen T, Oppedal, E, Olsen, RE., Fosseedengen, JE, **Braithwaite, VA**, Kristiansen TS. (2012) Food anticipatory behaviour as an indicator of stress response and recovery in Atlantic salmon post-smolt after exposure to acute temperature fluctuation. *Physiology & Behavior* 105:350-356

In this study we evaluated Pavlovian conditioned food anticipatory behaviour as a potential indicator for stress in groups of Atlantic salmon, and compared this with the physiological stress responses of cortisol excretion into water and hyper-consumption of oxygen. We hypothesised that environmental stress would result in reduced feeding motivation. To assess this, we measured the strength of anticipatory behaviour during a period of flashing light that signalled arrival of food. Further, we expected that fish given a reduced food ration would be less sensitive to environmental stress than fish fed full ration. The fish responded to an acute temperature fluctuation with hyper-consumption of oxygen that decreased in line with the temperature, and elevated cortisol excretion up to 1 h after the stressor. These physiological responses did not differ significantly between the food ration groups. The anticipatory behaviour was significantly reduced after the stressor and returned to control levels after 1 to 2 h in the reduced ration group, but not until after 3 to 4 h in the full ration group. Our results show that acute stress can be measured in terms of changes to feeding motivation, and that it is a

more sensitive indicator of stress that influences the fish over a longer time period than measures of change in cortisol excretion.

**Hoisaeter T** (2012) *Cimaria vargasi* n. gen, n. sp (Gastropoda: Pyramidellidae: Odostomiinae) from the Pacific Coast of Costa Rica, Central America. *Zootaxa*:63-67

**P.J. Jakobsen**, J.P. Scharsack, K. Hammerschmid, P. Deines, M. Kalbe, M. Milinski In vitro transition of *Schistocephalus solidus* (Cestoda) from coracidium to procercooid and from procercooid to plerocercoid *Experimental Parasitology* 130 (2012) 267–273

With the present study, a culture system for successive life-cycle stages of the tapeworm *Schistocephalus solidus* was developed and this report documents for the first time, cultivation of the procercooid stage of *S. solidus* from eggs. Additionally we have transformed procercooids dissected from experimentally infected copepods and cultured procercooids into the early plerocercoid stage in vitro. Observations in the culture suggest that the coracidia can interact with their external environment and need no host specific stimuli, except for the components in the culture medium, for activation and hatching from the embryophore. Increasing the culture medium pH from 7.3 to 8.0 improved escape rates and frequencies of hook contractions, suggesting that the oncosphere may recognize and respond to environmental conditions along the host intestine. Procercooids in the culture did not stop growing indicating that conditions within the copepod may be important to limit growth and to induce transformation to plerocercoids. When procercooids are dissected from copepods and transferred to the culture, the outer tegument layers and cercomer starts to loosen. Comparison of the lectin staining of the loosened outer tegument layers and cercomer in procercooids dissected from copepods confirms that transitions of both, the oncosphere to procercooid and procercooid to plerocercoids, has taken place in the in vitro cultures.