BIO-info

Nyheter fra Institutt for biologi

BIO-info 25/2012, 24. aug 2012 BIO: sakslister og møtereferater BIO-info arkiv
submission deadline to bio.info@bio.uib.no is Wednesday 16:00

Fra toppen!

Æresdoktor i biologi

Professor Anne Magurran er utnevnt til æresdoktor ved Universitetet i Bergen. Æresdoktorpromosjonen skjer i Håkonshallen neste fredag (31. august). Vi er stolte over at en fremstående biolog som Anne Magurran får denne utmerkelsen. Magurran er professor i økologi og evolusjon ved University of St Andrews i Skottland. Hun har bidratt med viktig arbeid både innenfor atferdsøkologi, bevaringsøkologi og biodiversitetsforskning, bl.a. med viktige lærebøker på feltet. Torsdag 30. august arranger BIO et seminar til ære for Magurran på VilVite. Her håper vi mange av BIOs forskere og studenter finner veien!

Biodiversitet er også tema for det første nasjonale dialogmøtet om Naturpanelet i Trondheim 29. august. Naturpanelet (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES) er et internasjonalt forum etter mønster av Klimapanelet IPCC, og ble etablert i Panama City i april i år. På samme måte som Bergens-miljøet gjennom Bjerknes-senteret har bidratt med viktig kunnskap i Klimapanelet, håper vi at våre biodiversitetsforskere, både til lands og til vanns, kan bidra med sin forskning i Naturpanelet. En BIO-delegasjon er på plass i Trondheim på onsdag!

Hilsen Anders

Ukens bilde

Engasjerte studenter

Fotograf: **Pia Ve Dahlen**

Engasjerte studenter på BIO102-feltkurset på Lygra denne uken. Hele situasjonen var preget av høyt volum og stor jubel hver gang de fikk tak i noe..

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

Innhold:

BIO-info

Nyheter fra Institutt for biologi

Faste lenker:

BIO-info arkiv Sakslister & referater BIOs interne websider BIO's eksterne websider
Facebook BIO Facebook STIM Facebook UiB

VIKTIG INFORMASJON

Søknad om opprykk til professor;

Fristen for å søke opprykk til professor, 15. september

Fristen for å søke opprykk til professor, 15. september, nærmer seg. Fakultetet har egen nettside der søkerne kan finne nødvendig informasjon. Lenke

BIO-arrangement kommende uke

Dato	Handlinger, navn	Tid og sted
28.08	Avsluttende mastergradseksamen i mikrobiologi : Andreas Austnes	11:15, K3, B-blokk, Biologen
30.08	Magurran-seminar, Biological diversity in a changing world	10.15-13.30, VilVite

NYHETER OG GENERELL INFORMASJON

Events for international researchers at UiB; Mastereksamen Austnes

Two events for international researchers at the university:

1) Information meeting about the Norwegian Public Service Pension Fund (SPK) - about the membership benefits.

Tuesday 23.October from 3.p.m.
Read more and register:

2) Introduction seminar for new employees

Friday 21.September
Read more and register:

Mastereksamen Andreas E. Støbakkvik Austnes: Characterization of microbial communities in moderate to severe acid mine drainage sites associated to arctic coal mining in Svalbard

Andreas E. Støbakkvik Austnes holder tirsdag 28. august avsluttende presentasjon av sin masteroppgave i biologi – mikrobiologi.

Tittel på oppgaven: Characterization of microbial communities in moderate to severe acid mine drainage sites associated to arctic coal mining in Svalbard

Veiledere: Lise Øvreås, Antonio Garcia-Moyano og Vigdis Torsvik
Sensor: Roald Sørheim
Bisitter: Øyvind Fiksen

Tid og sted: Tysdag 28. August, kl. 11:15, Seminarrom K3, B-blokk, Biologen

Alle interesserte velkommen!

Studie

BIO102 rapport; Utlysing – Læringsmiljøprisen 2012

Reisebrev fra feltkurset i BIO102

Denne uken startet andre del av BIO102, Organismebiologi II, med feltkurs på Østerbø på toppen av Aurlandsdalen og på Lyngheisenteret på Lygra. I neste uke bytter studentene plass, og inkludert uken vi hadde på Arboretet i juni så får studentene til sammen tre uker med felt i dette kurset. Halvparten av studentene (ca. 40 stk) var på Lyngheisenteret denne uken. Kurset går på tvers av de forskjellige organismegruppene, så på Lyngheisenteret har vi sett på alt fra flora og biller i lyngheiene til fisk på 400 m dyp i Lurefjorden. I andre halvdel av kurset på Lyngheisenteret har studentene fått tildelt et lite prosjekt alt etter hvilken hovedinteresse de har. Her inngikk blant annet fangst av strandkrabber, som siden ble brukt i et adferdseksperiment. En gruppe studerte suksesjonen i vegetasjonen fra nybrent lynghei til lynghei som gror igjen med einer. Vi hadde også en biodiversitetsgruppe som beskrev diversiteten for utvalgte insektsgrupper. De fant sannsynligvis en maurart som ikke er funnet på Vestlandet før nå (sendes til ekspert for bekreftelse). En fjerde gruppe så på soneringen i fjæra, og en gruppe var ute på fjorden og undersøkte dybdesoneringen på fisk. De dro opp en del brosme fra dypet som kokken på Lyngheisenteret tilberedte på vanlig suverent vis til lunsj på siste dagen. Stemningen og været har stort sett vært topp hele uken (et par små feilskjær fra værets side…). Takk til personalet på Lyngheisenteret som har bidratt til et topp opphold for ledere og studenter. Vi gleder oss allerede til vi er tilbake i neste uke. Se bilder under.

Bilder fra feltkurset i BIO102. Fotograf: John-Arvid Grytnes

Utlysing - Læringsmiljøprisen 2012

Alle studenter og studentorganisasjoner ved Universitetet i Bergen inviteres til å foreslå kandidater til Læringsmiljøprisen for 2012.

Formålet med Universitetet i Bergens læringsmiljøpris er å gi anerkjennelse til miljøer eller enkeltpersoner ved universitetet som lykkes i å legge forholdene spesielt godt til rette for studentenes læring gjennom faglig, pedagogisk og sosial innsats eller gjennom tilrettelegging av det fysiske eller psykososiale læringsmiljøet.

Prisen kan tildeles en ansatt, et læringsmiljø (ett institutt eller en faggruppe innen ett eller flere institutt), en administrativ enhet eller en annen enhet eller organisasjon ved UiB med ansvar for en avgrenset studie- eller undervisningsvirksomhet.
Alle studenter og studentorganisasjoner inviteres til å foreslå kandidater til Læringsmiljøprisen Forslag sendes til: lmu@uib.no. Les mer.

Frist: 15. september 2012.

KOMMENDE MØTER OG SEMINAR

Mer info om kurs, møter, seminar og arrangement etc finner du her.

Seminar in honour of Anne Magurran; Horizon lecture Higgs boson; Guest lecture Wolfgang Bach;

Seminar in honour of Anne Magurran, Biological diversity in a changing world

University of Bergen is awarding Professor Anne Magurran an honorary doctorate. To mark this event, on August 30 we are arranging a seminar in her honour. In additions to a keynote talk by Professor Magurran, exciting local research is portrayed.

Anne Magurran is a professor at the University of St. Andrews, Scotland. She is a biologist and is internationally renowned for her expertise in fish behaviour and biodiversity. Homepage

Time and place: August 30th : 10^{15}-13^{30}
VilVite Science Center, big auditorium, Thormøhlensgate 51, Bergen

Program:
10:15-11:00: Anne Magurran: Biological diversity in a changing world
11:00-11:15: Coffee and fruit

11:15-13:30: Short talks on evolutionary biology and biodiversity by BIO scientists
Full program

Horizons lecture - Higgs boson discovery

Friday 7th September 2012 at 11.00, Egget, Studentsenteret
Higgs boson discovery

Sergio Bertolucci, CERN

Sergio Bertolucci is the Director of Research and Scientific Computing at CERN. The talk will describe the successful search for the Higgs particle and its implications.

The event starts with a snack and refreshments in advance of the lecture that starts at 11.15.

Details and more information here The lecture is open to all. Welcome!

Guest lecture by Professor Wolfgang Bach

"How rocks support life in deep-sea hydrothermal vents"

Wolfgang Bach, University of Bremen, Marum Institute
Time: **September 11th at 11:15**
Place: Realfagsbygget, 4th floor, CGB lunchroom

LEDIGE STILLINGER

Mer info finner du her. Stillinger utlyst på BIO finner du nederst til høyre på instituttets nettside .

NYE ARTIKLER

***A full listing of BIO's ISI publications can be found on BIO's internal web pages. Click here

Hordvik; Fedøy; Steen; Roalkvam; Dahle; Jørgensen

Larsen HAS, Austbo, L, Morkore, T, Thorsen, J, **Hordvik, I**, Fischer, U Jirillo, E, Rimstad, E, Koppang, EO. (2012) Pigment-producing granulomatous myopathy in Atlantic salmon: A novel inflammatory response. Fish & Shellfish Immunology 33:277-285

Abstract: Melanin comprises a complex group of pigmented polymers whose primary function is ascribed to dermal solar protection, but may also have an interesting role in innate immunity. In ectothermic vertebrates, melanogenesis is reported in leukocyte populations, but it is not known if this occurs in connection with inflammatory reactions. Melanin accumulations in ectopic locations, in particular muscle, represent a serious quality problem in salmon production. Here, we investigated such changes for the expression of dopachrome tautomerase and tyrosinase as well as some important immune genes and pathogens. Furthermore, the nature of the pathological changes was addressed by morphological methods. Gene transcripts encoding key enzymes in melanogenesis, suggesting a de novo melanin synthesis in pigmented muscle, were found. MHC class II transcripts were up-regulated and there was no indication of bacterial or viral infection. The histological examination revealed granulomatous inflammation with distribution of MHC class II positive cells and T cells, analogous to the pattern found in mammals. Importantly, in contrast to mammals pigmented cells were contributing in the inflammation. We demonstrate that melanin production occurs in granulomatous inflammation in salmon, revealing a close and hitherto unreported link between the pigmentary and immune systems.

Yousaf, MN, Koppang, EO, Skjodt, K, Koellner, B, **Hordvik, I**, Zou, J, Secombes, C, Powell, Mark D (2012) Cardiac pathological changes of Atlantic salmon (Salmo salar L.) affected with heart and skeletal muscle inflammation (HSMI). Fish & Shellfish Immunology 33:305-315

Abstract: Heart and skeletal muscle inflammation (HSMI) is a disease of marine farmed Atlantic salmon where the pathological changes associated with the disease involve necrosis and an infiltration of inflammatory cells into different regions of the heart and skeletal muscle. The aim of this work was to characterize cardiac changes and inflammatory cell types associated with a clinical HSMI outbreak in Atlantic salmon using immunohistochemistry. Different immune cells and cardiac tissue responses associated with the disease were identified using different markers. The spectrum of inflammatory cells associated with the cardiac pathology consisted of mainly CD3(+) T lymphocytes,

moderate numbers of macrophages and eosinophilic granulocytes. Proliferative cell nuclear antigen (PCNA) immuno reaction identified significantly increased nuclear and cytoplasmic staining as well as identifying hypertrophic nuclei. Strong immunostaining was observed for major histocompatibility complex (MHC) class II in HSMI hearts. Although low in number, a few positive cells in diseased hearts were detected using the mature myeloid cell line granulocytes/monocytes antibody indicating more positive cells in diseased than non diseased hearts. The recombinant tumor necrosis factor-alpha (TNF alpha) antibody identified stained macrophage like cells and endothelial cells around lesions in addition to eosinophilic granular cells (EGCs). These findings suggested that the inflammatory response in diseased hearts comprised of mostly CD3(+) T lymphocytes and eosinophilic granular cells and hearts exhibited high cell turnover where DNA damage/repair might be the case (as identified by PCNA, caspase 3 and terminal deoxynucleotidyl transferase nick-end labeling (TUNEL) reactivity).

Hanna-Kirsti S. Leiros, **Anita-Elin Fedøy**, Ingar Leiros, **Ida Helene Steen**. 2012. The complex structures of isocitrate dehydrogenase from Clostridium thermocellum and Desulfotalea psychrophila suggest a new active site locking mechanism. FEBS Open Bio 2 (2012) 159–172

Abstract: Isocitrate dehydrogenase (IDH) catalyzes the oxidative NAD(P)+-dependent decarboxylation of isocitrate into a-ketoglutarate and CO2 and is present in organisms spanning the biological range of temperature. We have solved two crystal structures of the thermophilic Clostridium thermocellum IDH (CtIDH), a native open apo CtIDH to 2.35 Å and a quaternary complex of CtIDH with NADP+,isocitrate and Mg2+ to 2.5 Å. To compare to these a quaternary complex structure of the psychrophilic Desulfotalea psychrophila IDH (DpIDH) was also resolved to 1.93 Å. CtIDH and DpIDH showed similar global thermal stabilities with melting temperatures of 67.9 and 66.9 _C, respectively. CtIDH represents a typical thermophilic enzyme, with a large number of ionic interactions and hydrogen bonds per residue combined with stabilization of the N and C termini. CtIDH had a higher activity temperature optimum, and showed greater affinity for the substrates with an active site that was less thermolabile compared to DpIDH. The uncompensated negative surface charge and the enlarged methionine cluster in the hinge region both of which are important for cold activity in DpIDH, were absent in CtIDH. These structural comparisons revealed that prokaryotic IDHs in subfamily II have a unique locking mechanism involving Arg310, Asp2510 and Arg255 (CtIDH). These interactions lock the large domain to the small domain and direct NADP+ into the correct orientation, which together are important for NADP+ selectivity.

Irene Roalkvam, Håkon Dahle; Jørgensen Dahle, Yifeng Chen2, **Steffen Leth Jørgensen**, Haflidi Haflidason and **Ida Helene Steen**. (2012) Fine-scale community structure analysis of ANME in Nyegga sediments with high and low methane flux. Frontiers in Microbiology, June 2012 | Volume 3 | Article 216 |

To obtain knowledge on how regional variations in methane seepage rates influence the stratification, abundance, and diversity of anaerobic methanotrophs (ANME), we analyzed the vertical microbial stratification in a gravity core from a methane micro-seeping area at Nyegga by using 454-pyrosequencing of 16S rRNA gene tagged amplicons and quantitative PCR. These data were compared with previously obtained data from the more active G11 pockmark, characterized by higher methane flux. A down core stratification and high relative abundance of ANME were observed in both cores, with transition from an ANME-2a/b dominated community in low-sulfide and low methane horizons to ANME-1 dominance in horizons near the sulfate-methane transition zone. The stratification was over a wider spatial region and at greater depth in the core with lower methane flux, and the total 16S rRNA copy numbers were two orders of magnitude lower than in the sediments at G11 pockmark. A fine-scale view into the ANME communities at each location was achieved through operational taxonomical units (OTU) clustering of ANME-affiliated sequences.The majority of ANME-1 sequences from both sampling sites clustered within one OTU, while ANME-2a/b sequences were represented in unique OTUs. We suggest that free-living ANME-1 is the most abundant taxon in Nyegga cold seeps, and also the main consumer of methane. The observation of specific ANME-2a/b OTUs at each location could reflect that organisms within this clade are adapted to different geochemical settings, perhaps due to differences in methane affinity. Given that the ANME-2a/b population could be sustained in less active seepage areas, this subgroup could be potential seed populations in newly developed methane-enriched environments.