



This is before you print 2

Denne ukas viktigste

<i>Viktige tidsfrister</i>	2
Essentials in English	2
<i>Masterly response in Science Letters</i>	2
<i>Frede Thingstad in prestigious highly cited researcher list</i>	2
Siste nytt fra BIO	2
<i>Frede Thingstad: ISI Highly Cited</i>	2
<i>*STIM - Masters Students in Biological Sciences at UiB - We swim together!*</i>	2
<i>The Scientist har intervjuet Nigel Finn om evolusjon av melkeprotein</i>	3
<i>Brun + svart = supersnegl</i>	3
<i>Buying time for research and critical reflection – UiB's FFP funding</i>	3
Siste nytt fra verden rundt oss	3
<i>April fool's – flying penguins</i>	3
<i>Summer school programmes</i>	3
<i>Ledige stillinger for biologer</i>	4
Ukens bilde	4
Forskning: utlysninger, nye satsinger og prosjekter	5
<i>HAVKYST: handlingsplan for 2009 foreligger</i>	5
<i>Marie Curie Individual Fellowships</i>	5
<i>Training for PhD students and young researchers in Europe?</i>	5
<i>Arena-programmet ønsker forslag til nye prosjekter</i>	5
<i>Prosjekter i FoU-programmet Miljøbasert vannføring</i>	5
<i>Regjeringen med strategi for bioenergi</i>	5
Info fra studieseksjonen	5
<i>Kurs for administratorer i Mi side ved UiB</i>	5
<i>Attention students: Big Brother is watching!!</i>	6
Gjesteforelesninger, seminarer og kollokvier	6
<i>The Marine Section of the Society for Conservation Biology</i>	6
<i>7th International Flatfish Symposium</i>	6
<i>Larval 2008 symposium</i>	6
<i>Konferanse Hydrologi i arktisk klima</i>	6
<i>Programkonferansen HAVBRUK 2008</i>	6
<i>WUN Earth Systems 16 April 2008 -Special Earth Systems eLearning showcase</i>	7
Nye artikler	7
<i>Mikko Heino, Loïc Baulier, David S. Boukal, Erin S. Dunlop, Sigrunn Eliassen, Katja Enberg, Christian Jørgensen, Øystein Varpe: evolusjon av vekst hos torsk</i>	7
<i>Jens B. Larsen, Aud Larsen, Runar Thyrhaug, Gunnar Bratbak & Ruth-Anne Sandaa: kan mer CO2 gir mindre virus i havet?</i>	7
<i>Arne Johannessen: torskefiskers evne til å utnytte en sjelden anledning til et godt måltid</i>	7
<i>Hans Høie: mikroanalyser av otolitter kan gi feil C og O-innhold</i>	8

Denne ukas viktigste

Viktige tidsfrister

Mer info om følgende utlysninger og mange flere (inkl. løpende, dvs. uten frister) finner du [her](#)
Husk å sende søknadsutkastet til post@bio.uib.no 1 uke i forveien (gjelder ikke mindre bevilgninger som legater og fonds)

16. apr	MarinERA Pilot Call	15. mai	Erasmus Mundus
18. apr	Norsk miljøforskning mot 2015	15. mai	Mobilitetsstipend fra SCAR (Scientific Committee on Antarctic Research)
22. apr	ERC / Adv. Investigator Grants (life sci)		
23. apr	Bergen Forskningsstiftelse: Recrutement Programme 2009-2012	2. juni	ESF: 2008 Call for EUROCORES theme proposals
29. apr	ESF: Exploratory Workshops - 2008 Call for Proposals	4. juni	NFR deadline NB kl. 12:00

** 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

Masterly response in Science Letters

In last week's Science, Christian Jørgensen and his co-authors of a Science Policy Forum article on fisheries-induced evolution (FIE) ("Managing evolving fish stocks," 23 November 2007, p. 1247) have written a masterly response to two letters about the article. [Read more.](#)



Frede Thingstad in prestigious highly cited researcher list

Every Friday, ISI summarises the most recent journal publications and collects citation data. We can be proud of two [highly cited](#) researchers at BIO: John Birks who is the world's sixth most highly cited geologist (!) and Frede Thingstad, who had been reported as two researchers TF and F Thingstad!! For technical reasons, the 6th most cited "geologist" is not among the 300+ geologists in the ISI Highly Cited List, but at least freed is, from now. Congratulations to both!!



Siste nytt fra BIO

Frede Thingstad: ISI Highly Cited

ISI Web of KnowledgeSM
ISHighlyCited.comSM

ISI utgir hver fredag oversikt over nye tidsskrift-publikasjoner, og firmaet har en stor database over vitenskapelige tidsskrift-publikasjoner – og hvilke publikasjoner i som siteres i disse publikasjonene. UiB har inntil nå ikke hatt en eneste "Highly Cited" forsker. Jeg har lurt på hvorfor, ettersom både [Frede Thingstad](#) og [John Birks](#) har blitt sitert svært mange ganger. John er faktisk rangert som [verdens sjette mest siterte geolog](#) av samme ISI, men finurlige regler gjør at de ikke vil legge sammen alle hans siteringer. Det finnes 338 Highly Cited innen "geosciences", men ikke John som samme selskap har funnet er helt i verdenseliten. Grovt sagt har John blitt sitert over en altfor lang periode til at ISI vil kalle ham Highly Cited. Dersom du forsto dette, så ta kontakt med BIO-INFO-redaksjonen.

Med Frede var forklaringen annerledes. ISI trodde at det var to dyktige Thingstad-er ved UiB, TF og F Thingstad. Da Frede innrømmet for dem at han også noen ganger publiserte under sitt fulle navn Tron Frede, fant ISI det best å slå siteringene sammen. Dermed fikk UiB (og BIO) sin første forsker i dette noble selskap. Her kan du finne alle forskere som ISI har klassifisert som [Highly Cited](#). **Vi gratulerer!**



STIM - Masters Students in Biological Sciences at UiB - We swim together!

New t-shirts and hoodies for sale! Friday 11/4 weekending! Call Marit at 48199241/
marit.solberg@student.uib.no for more information.

The Scientist har intervjuet Nigel Finn om evolusjon av melkeprotein

Tidsskriftet *The Scientist* fronter regelmessig betydningsfulle artikler i en Newsblog ved bl.a. å henvende seg til internasjonale eksperter for kommentar. Den 18. mars omtalte de en artikkel i [PloS Biology](#) om hvordan pattedyr med sin bruk av melk som ungenes ernæring kan ha blitt utviklet. Artikkelen påpeker at pattedyr føder unger som ernæres med melk (melkeproteinet kasein) i sin første levetid, mens alle andre vertebrater legger egg med en stor plomme (plommeprotein vitellogenin) som ernæring for det tidlige embryo. Ved å sammenlikne tapet av vitellogenin-genene og utviklingen av kasein-genene hos de ulike vertebratgrupper, har forfatterne funnet forbausende god parallellutvikling som tilsynelatende har tillatt utviklingen av pattedyr.

I denne forbindelse var **Nigel Finn** med sin ekspertise på omsetning av vitellogenin i fiskelarven valgt ut for kommentarer (<http://www.the-scientist.com/blog/display/54433/>) (med passord). *The Scientist* refererer til et telefon-intervju med Nigel og skriver: «*Nigel Finn of the University of Bergen in Norway agreed that the evidence was “quite convincing”, but he thinks the picture of mammalian evolution is still incomplete. The transition to mammalian reproduction was not just about nutrition, he argues, mammals had to overcome a water problem as well, and the study does not address the evolution of amniotic fluid, which nourishes the embryo and keeps it moist. “Yolk is a luxury, but water is essential” he said.*»

Det er hyggelige og betydelig prestisje for UiB at BIOs forskere markerer seg slik at de blir kontaktet som internasjonale eksperter !



Trodde ikke luseresistensen var så alvorlig

Jeg hadde ikke ventet at lusen skulle være så til de grader resistent mot emamectin på lusen vi fikk fra Trøndelag som det var. Den ene stammen må man nærmest karakterisere som totalt resistens, sier professor **Frank Nilsen**. [Les mer i kyst.no](#)



Brun + svart = supersnegl

Nå er det bevist. Sneglene parrer seg, og resultatet blir en «supersnegl», mer motstandsdyktig enn andre snegler. [Les mer om Christoffer Schander og Bjørn Arild Hatteland i BT.](#)

Buying time for research and critical reflection – UiB's FFP funding

Three post-docs were among the four researchers from BIO who were awarded funding from the University of Bergen's open researcher-initiated project funding ('frie forskerinitierte prosjekter' (FFP)) this year. [Read more.](#)



Siste nytt fra verden rundt oss

April fool's – flying penguins

A real prize winner from the BBC on [you-tube](#)
... and more serious internet videos on [Nature's website](#). (Only accessible from UiB).

Summer school programmes

	Date	Location	application deadline
Turbulence, Plankton and Marine Snow	1-5 September, 2008	Vilanova, Nr. Barcelona, Spain	June 1, 2008
Modern Methods for Ecosystem Modelling	30 June-10 July, 2008	Dunban, Scotland	April 30, 2008
More food from Water?	7. - 17. august	Bergen Summer Research School	15 April
Marine microbial ecology in the Arctic: theory, facts and modelling	21-30 July 2008	University Centre of Svalbard (UNIS)	1 May 2008
BIOCAT Biogeochemical Interactions between the Ocean and the Atmosphere	15-19 September, 2008	IFM-GEOMAR, Kiel, Germany	April 30, 2008

Ledige stillinger for biologer

Sjekk oversikten på [jobbnor!](#)

Frist	Stilling
open	Associate Scientist in Ocean Acidification Research, University of Miami position # 036590
ongoing	M.Sc and Ph.D. students Department of Marine Sciences University of Georgia
14.04	Charles University, Prague: PhD. Position
15.04	Head of the Marine Biology Station Piran LJUBLJANA
15.04	Marine Microbial Ecologist, Assistant Professor , University of Delaware
15.04	three-month fellowships for scientists, technicians, PhDs and Post Doctoral Fellows
17.04	Internship opportunity Global Biodiversity Information Facility (GBIF)
18.04	several full time, permanent positions , Centre for Environment, Fisheries and Aquaculture Science (CEFAS), in Lowestoft, Suffolk, UK
18.04	Two Postdoc Positions in ocean THC / carbon cycle modeling UNSW, Sydney Australia
18.04	BIO: Stipendiat i lakselus og resistensmekanismer
19.04	NIFES: Forsker 1109/ Postdoc stilling, molekylær toksikologi
19.04	NIFES: PhD innen akvakulturernæring
19.04	NIFES: PhD innen molekylærbiologi
19.04	NIFES: 1-2 avdelingsingeniører/overingeniører
19.04	NIFES: Forskar 1108/1109 i forskningsprogrammet Overvakning
19.04	UiB: 22 stipendiatstillinger ved Det medisinske-odontologiske fakultet
20.04	BIO: Professor in Marine Evolutionary Developmental Biology
20.04	Project Officer/Benthic Ecologist – Falkland Islands
30.04	BIO, UiO: PhD stipendiat Mikrobiell evolusjon
01.05	Postdoctoral Researcher and 3 PhD studentships , Queen's University Belfast
02.05	PhD studentship in environmental microbiology University of Warwick 2 May 2008.
03.05	MBI: Avdelingsingeniører ved Molekylærbiologisk institutt - to faste stillingar og eit vikariat
05.05	Bergen museum: Stipendiat i systematisk botanikk
05.05	Bergen museum: Stipendiat i paleobotanikk/pollenanalyse
05.05	Bergen museum: Postdoktor i zoologi innan fagfelte systematikk eller paleobiologi
05.05	Bergen museum: Førsteamanuensis i vertebratzoologi
09.05	Marine System Modeller , Permanent appointment, Plymouth, UK
01.06	(start date) Post-Doctoral Scholar , Bermuda Institute of Ocean Sciences
30.06	PostDoc "Short/medium term effects of Climate Change on Atlantic Salmon", INRA, France
14.09	Ass. Professor of Aquatic Animal Health , Dept of Med. & Epid., Sch. Of Vet. Med., UC Davis

Ukens bilde

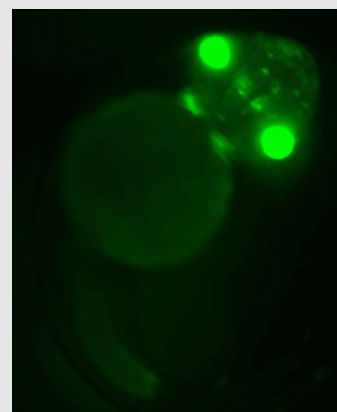
Title: Transgenic zebrafish larva

Photographer: Xiaofeng Zhao, Department of Molecular Biology.

Description: Transgenic zebrafish larva expressing green fluorescent protein in eye lenses. The transgenic line was generated with a gene/enhancer trap transposon vector. The picture shows a 2 day old larva.

You are invited to submit photos (electronically!) for "Ukens bilde". Please include a very short description and credit information. Picture can be of researchers / students in action, technology, organisms, field sites ...

Please send your pictures to [Elinor Bartle](#) (preferable format jpg, gif; size around 300px sq; saved for web - under 60kb).



Forskning: utlysninger, nye satsinger og prosjekter

HAVKYST: handlingsplan for 2009 foreligger

Programmet [Havet og kysten](#) har offentliggjort sin handlingsplan for 2009. Alle som har tenkt å søke dette programmet i år må sette seg grundig inn i handlingsplanen. HAVKYST er i år ikke åpent for søknader innen alle temaer som søker til programmet, og handlingsplanen forteller hva vi kan søke innen. Den som ikke leser handlingsplanen kan ikke bli forbauset over å få avslag i desember. [Last ned herifra.](#)

Marie Curie Individual Fellowships

The calls have now been published with deadline 19.8. The fellowships support Norwegian researchers to work up to two years in another European country (Intra-European Fellowship) or in a country outside Europe (International Outgoing Fellowship). They can be also used to recruit researchers to Norway, either from another European country (Intra-European Fellowship) or from a country outside Europe (International Incoming Fellowship). [More information.](#) Or contact **Simone Heinz**, Dept. Res. Management (simone.heinz@fa.uib.no)



Training for PhD students and young researchers in Europe?

Marie Curie International Training Networks support the training of PhD students in networks where partners collaborate both on a research project and on the training of PhD students. The training offered through these networks should improve young researchers research and complementary skills, help them join established research teams, and enhance their career prospects in both public and private sectors. Funding covers mainly the recruitment of PhD students, but also the recruitment of early stage postdocs, networking activities and the organisation of conferences and workshops. [More information](#) Deadline 2 September. For more information, please contact simone.heinz@fa.uib.no

Arena-programmet ønsker forslag til nye prosjekter

Arena-programmet tilbyr faglig og finansiell støtte til langsiktig utvikling av regionale næringsmiljøer og ønsker nå forslag til nye prosjekter. Programmet er et tilbud til aktører som har etablert eller er i ferd med å etablere et bredt og langsiktig samarbeid om utvikling av det næringsmiljøet de er en del av. Programmets

budsjettrammer for 2008 gir grunnlag for å iverksette 3 nye prosjekter. Frist for innsending av prosjektforslag er 10. juni 2008. [Les mer](#)

Prosjekter i FoU-programmet Miljøbasert vannføring

Invitasjon til å søke om prosjektmidler for 2008 innenfor FoU-programmet Miljøbasert vannføring, finner du på www.nve.no. Søknadsfristen er 25. april 2008.

Regjeringen med strategi for bioenergi

Norge skal øke utbyggingen av bioenergi med 14 TWh innen 2020, en dobling av dagens bruk. Et av virkemidlene er økt forskning på bioenergi. Forskningsrådet vurderer å opprette et kompetansesenter for denne typen forskning. [Les mer](#)



Info fra studieseksjonen

Kurs for administratorer i Mi side ved UiB

Før sommeren arrangeres det tre kurs for administratorer i Mi side ved UiB.

Vi tilbyr blant annet to kurs i innleveringer i Mi side i april; **onsdag 16.4. og torsdag 24.4, kl 09:15-11:15, samt ett grunnkurs i Mi side torsdag 22.mai kl 09:15-12:00.**

Alle kursdeltakerne vil få tilgang til PC på disse tre kursene og har dermed anledning til å teste ut funksjonaliteten underveis i kursene. Kursdeltakerne vil også få hjelp til å løse konkrete oppgaver som de jobber med - spesielt i forhold til å organisere innleveringer i Mi side.

Se kursoversikten for ytterligere informasjon og påmelding her:

<https://wikihost.uib.no/uawiki/index.php/Kursoversikt> (12 plasser per kurs - så påmelding kreves.)

NB! Påmelding til alle kurs skjer på e-post til: kurs@ua.uib.no.

Med vennlig hilsen, Kathrine Slettevold, Utdanningsavdelingen

ephorus

Attention students: Big Brother is watching!!

Call it academic integrity, plagiarism or simply "cheating" – there is a difference between one's own work and the work of others. Since 2004, UiB has been using [Ephorus](#), a programme from a company in the Netherlands that does text comparisons between electronic documents. Aimed at discouraging the temptation to plagiarise, the software compares submitted material (individual material or a collection of class assignments) and within a very short delay provides a report on the similarity level of each of the given documents with virtually any electronic document anywhere. Academic institutions generally allow a similarity level of seven percent or less.

The simplest solution is - don't!

For more information please contact the [Study advisors](#). More information about academic responsibility and [ephorus at UiB](#) Read a recent article in [På Høyden](#).

Gjesteforelesninger, seminarer og kollokvier

The Marine Section of the Society for Conservation Biology

The Society will be hosting its first stand-alone meeting, the International Marine Conservation Congress (IMCC), from 20-24 May 2009 at George Mason University near Washington D.C. [Learn more](#).

7th International Flatfish Symposium

The symposium will be held in Sesimbra, Portugal from November 2nd to 7th, 2008.

Abstract submission and early registration are open. Further information regarding submission of abstracts for oral and poster presentations, theme sessions, workshops, registration and other important dates can be found on the [symposium website](#) The organization secretariat can be contacted by e-mail at ff2008@fc.ul.pt. [Learn more](#).

Larval 2008 symposium

This is a last reminder that April 30 is the deadline for registration and submitting an abstract to the Larval 2008 symposium. The meeting will take place from 6 to 11 July 2008 in Lisbon, Portugal.

[Symposium website](#). Click for [more information](#).

Konferanse Hydrologi i arktisk klima

16.-18. juni arrangerer Hydrologirådet konferansen "Hydrology in the Arctic climate". Konferansen er støttet av NORKLIMA og IPY (det internasjonale polaråret).

[Les mer](#)

Programkonferansen HAVBRUK 2008

Fokus på forskning for fortsatt havbrukssuksess - Styrket forskningsinnsats er nødvendig for å møte utfordringene i havbruksnæringen, sier Forskningsrådets divisjonsdirektør Anne Kjersti Fahlvik foran den store konferansen om havbruksforskning i Tromsø.

[Les mer](#)



WUN Earth Systems 16 April 2008 -Special Earth Systems eLearning showcase

The next WUN Earth Systems virtual seminar is to take place on Wednesday 16th April at 5pm BST (9am US Pacific, 11am US Central, 12noon US Eastern, 6pm Europe). We are all now into daylight saving times so these times should be accurate!

Title: Special Earth Systems eLearning showcase

Speakers:

Toby Tyrrell (University of Southampton) - on web-enabled models of low complexity that can run in real time

Andy Ridgwell (University of Bristol) - on the GENIE model (Earth system model of intermediate complexity)

Mark Chandler (University of Wisconsin - Madison) - on EdGCM software

Further details, including the live stream link, will soon be accessible via the series website

<http://www.wun.ac.uk/horizons/earthsystems/> (username: earthsystems, password: molecular).

Tid og sted: Institutt for geovitenskap, Fjellhallen (rom 2113), K1 18:00

Nye artikler

Mikko Heino, Loïc Baulier, David S. Boukal, Erin S. Dunlop, Sigrunn Eliassen, Katja Enberg, Christian Jørgensen, Øystein Varpe: evolusjon av vekst hos torsk

Heino Mikko, Loïc Baulier, David S. Boukal, Erin S. Dunlop, Sigrunn Eliassen, Katja Enberg, Christian Jørgensen, Øystein Varpe 2008. Evolution of growth in Gulf of St Lawrence cod? Proc. R. Soc. B 275: 1111–1112, doi:10.1098/rspb.2007.1429

Abstract In their recent paper, Swain, Sinclair and Hanson (2007) introduced a new approach to investigate evolutionary changes in growth rate. Application of the new method to data from the southern Gulf of St Lawrence cod supported the interpretation that the observed changes in length-at-age were evolutionary. In this comment, we highlight three caveats in their analyses. While consideration of these caveats weakens the conclusions regarding the southern Gulf of St Lawrence cod, we hope that our comments contribute towards consolidation of this exciting approach.

Jens B. Larsen, Aud Larsen, Runar Thyrrhaug, Gunnar Bratbak & Ruth-Anne Sandaa: kan mer CO₂ gir mindre virus i havet?

Larsen Jens B, Aud Larsen, Runar Thyrrhaug, Gunnar Bratbak & Ruth-Anne Sandaa 2008. Response of marine viral populations to a nutrient induced phytoplankton bloom at different pCO₂ levels. Biogeosciences, 5, 523-533

Abstract During the PeECE III mesocosm experiment in 2005 we investigated how the viroplankton community responded to increased levels of nutrients (N and P) and CO₂. We applied a combination of flow cytometry, Pulsed Field Gel Electrophoresis and degenerate PCR primers to categorize and quantify individual viral populations, and to investigate their temporal dynamics. Species specific and degenerate primers enabled us to identify two specific large dsDNA viruses, EhV and CeV, infecting the haptophytes *Emiliania huxleyi* and *Crysochromulina ericina*, respectively. Some of the viral populations detected and enumerated by flow cytometry did not respond to altered CO₂-levels, but the abundance of EhV and an unidentified dsDNA virus decreased with increasing CO₂ levels. Our results thus indicate that CO₂ conditions, or the related change in pH, may affect the marine pelagic food web at the viral level. Our results also demonstrate that in order to unravel ecological problems as how CO₂ and nutrient levels affect the relationship between marine algal viruses and their hosts, we need to continue the effort to develop molecular markers used to identify both hosts and viruses.

Arne Johannessen: torskefiskers evne til å utnytte en sjelden anledning til et godt måltid

Bogetveit FR, A Slotte & A Johannessen 2008. The ability of gadoids to take advantage of a short-term high availability of forage fish: the example of spawning aggregations in Barents Sea capelin. J. Fish Biol. 72, 1427–1449

Abstract During 11 March to 4 April 2002, the distribution of Barents Sea capelin *Mallotus villosus* along the coast of Finnmark, northern Norway, was covered four times by combining acoustic survey with trawling, synoptically and simultaneously sampling capelin and its main fish predators; cod *Gadus morhua*, haddock *Melanogrammus aeglefinus* and saithe *Pollachius virens*. The surveys

demonstrated how these gadoid predators were able to exploit such a short-term abundance of forage fish. The predator aggregation as well as the stomach fullness and proportion of capelin in their diet followed the capelin spawning migration, increasing in areas and periods with increasing capelin abundance. Capelin clearly constituted most of the biomass in stomachs of cod (97%), haddock (87%) and saithe (96%). The stomach fullness was highest in cod and lowest in haddock, although in areas with low capelin abundance, saithe had more capelin in their stomachs. The total length (LT) of capelin in predator stomachs increased with predator LT, but the proportion of capelin in the diet was not influenced by predator LT. The capelin in predator stomachs was significantly smaller than capelin in the trawl hauls, also when compared within the same sex, indicating feeding selectivity towards weaker individuals. Female capelin, being significantly smaller than the males, predominated in the diet of haddock, whereas in cod and saithe the sex ratio was more equal. Male capelin predominated in the predator diet during the pre-spawning period, whereas the females predominated as the spawning commenced. During the overall study period, most of the female capelin in predator stomachs was in a prespawning or a spawning stage, whereas the majority of the males appeared to be spent. Regardless of sex, the percentage of spent, relative to pre-spawning or spawning capelin in the diet of the predators, followed the capelin spawning dynamics, increasing with time as the spawning progressed.

Hans Høie: mikroanalyser av otolitter kan gi feil C og O-innhold

Foster LC, C. Andersson, H. Høie, N. Allison, A. A. Finch and T. Johansen 2008. Effects of micromilling on $\delta^{18}\text{O}$ in biogenic aragonite. *Geochemistry, Geophysics, Geosystems* (G^3) 9: doi:10.1029/2007GC001911

Abstract: Extraction of small aliquots (mg-mg) from aragonite samples such as corals, sclerosponges, bivalves, and otoliths is required for bulk oxygen isotope analyses. However, aragonite is a metastable polymorph of calcium carbonate that undergoes transformation to calcite, which is the more thermodynamically stable polymorph of CaCO_3 . This polymorph transformation occurs via heating and/or stress, and such conditions may occur during drilling. During this polymorph transition, exchange with atmospheric or organic C and O is possible. Therefore extracting aliquots during drilling without modification or contamination via isotope exchange is imperative for accurate isotopic analysis. Using a micromill, aliquots were taken from aragonite cod otoliths that had been grown in the laboratory under stable temperature conditions. X-ray diffraction analysis showed that although 6% of the sample converts to calcite during drilling, there is no significant effect on $\delta^{18}\text{O}$.