



Jørn Hurum, an Oslo paleontologist, shows fossils of prehistoric animals and plants excavated in Spitsbergen to students Nov. 16 at The University Centre In Svalbard. Hurum co-taught a free two-week class focusing on the history of life in the area and challenges of preserving fossils in the Arctic.

## PETRIFIED PUPILS

*Unveiling 800 million years of Svalbard life in two weeks at UNIS*

By **KARLA HERNANDEZ**  
Staff writer

Jørn Hurum learned early there's another life-preserving reason for not casting stones.

"When I was small I used to go to the library and I read a book about a boy that threw rocks, and one of them said 'Don't throw me away because I am a Trilobite and I have a history to tell,'" he said. "Since then I found out that fossils are a proof of what it has been and can tell us something about Earth's history."

Sharing that history since life first appeared in Svalbard was the emphasis of a free

two-week class this month attended by about 40 people at The University Centre in Svalbard. Hurum, one of two paleontologists from the Natural History Museum at the University of Oslo teaching the class, has led summer excavations on Spitsbergen since 2004 that have unveiled highly publicized new species such as Predator X, the world's biggest sea reptile.

It was too cold and dark to visit Svalbard's fossil sites – Hurum said that may be part of another class next spring taught in Norwegian instead of English – but participants got a

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# Oodles of new species

*Undersea hot springs network west of Bjørnøya may be home to dozens of unique life forms*

A wealth of previously unknown plant and animal species are living in a network of undersea hot springs west of Bjørnøya, according to researchers at the University of Bergen in a science journal article published today.

The Mid-Atlantic Ridge about 300 kilometers west of the southern Svalbard island has hot, sulphur-rich water flowing from chimney-like channels, generated by sea water and magma meeting two kilometers below the seabed. The water is high in minerals and the temperature can vary from lukewarm to several hundred degrees Celsius, offering unique conditions for a variety of life to thrive.

"So far we have found roughly a dozen new species and many more are expected when the material is pre-processed," said Hans Tore Rapp, a geobiology researcher, in an interview with *På Høyden*, the university's newspaper.

The findings from studies beginning in 2008 appear in the open internet-based journal *Nature Communications*.

Researchers also found species that apparently relocated from other areas and adapted to

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## Coming to Svalbard for health care?

*Workers in Barentsburg and Greenland seeking permission to use Longyearbyen Hospital*

Longyearbyen Hospital may need better services, but some working in Barentsburg and Greenland see it as far preferable to what they have.

Requests for access and medication are being made from both areas, but officials at the hospital and Svalbard governor's office said there are limits to what they can and are willing to provide.

The hospital in Barentsburg is requesting morphine and other pain medications, saying

there is a shortage for treatment conducted in the Russian community, NRK reported today. But Søren Nissen, chief surgeon at Longyearbyen Hospital, said the Russians must obtain their own medications, counting on Norwegian assistance only in emergency cases.

"There are very strict requirements from the authorities to keep accounts for narcotic anesthetics," Nissen told NRK. A Norwegian law enacted in 1925 requires all companies engaged in mining activities on Svalbard to be responsible for their workers' health care.

The Barentsburg hospital has about 20 beds and two operating rooms. Svalbard Lt. Gov.

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## Who's to blame and how to express your wrath

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When we screw up you'll know about it – on the front page. One of the big complaints about newspapers is they tend to bury corrections and clarifications deep inside where few people who read the original article see them. If we need to fix something, an alert box on the front page will state what story is in error and where the full correction is printed.

## Submitting material

Letters, columns, photos and other material are welcome, but we can't offer pay for published items since nobody here is getting paid at the moment. Submissions in electronic form (text, Word documents, JPEGs, etc.) are highly preferred, although typing and/or scanning of items will be considered on a per-case basis. We reserve the right to edit submissions for length, clarity, accuracy, libel and other reasons, but we will also make every reasonable effort to contact the author about any changes prior to publication.



The 2,277-meter-high Beerenberg on Jan Mayen is Norway's only active volcano. Photo by Jan-Petter Huberth Hansen/Norwegian Ministry of the Environment.

## Briefly

### Norway to spend 180m kroner to map Arctic oil

Norway is spending an additional 180 million kroner for seismic mapping in Svalbard and other Arctic waters in an attempt to discover new oil and gas opportunities, officials announced Monday.

There is little study by the oil industry of the waters to date and, with North Sea production declining, Norway is seeking potential areas to boost a vital part of the country's economy, said Ministry of Petroleum and Energy Terje Riis-Johansen in a prepared statement.

"Through increased geological mapping we will create the basis for future wealth creation and employment in the north," he said.

Statoil started gas production at its Snøhvit field in the Barents Sea in 2007 and ENI is preparing for oil production at the Goliat field. Otherwise, Norway has found few new resources in the Arctic.

The areas scheduled to undergo seismic studies include waters outside Jan Mayen and parts of the Barents Sea. Long-disputed parts of the Barents Sea recently divided roughly

evenly by Norway and Russia in a treaty will not be studied until the agreement is ratified by both countries' legislative assemblies.

### Jan Mayen island gets nature preserve status

Jan Mayen island and the surrounding seas within 12 nautical miles of shore are now a protected nature reserve, Norway's Ministry of the Environment announced Friday.

"Jan Mayen has not only the only active volcano ... the whole island has magnificent volcanic landscapes and geology that is unique in the Norwegian context," said Minister of International Development Erik Solheim in a prepared statement.

The designation means all of Svalbard's islands have protected status, he said. An area surrounding a meteorological station and a runway is exempt from protection.

The island is a nesting outpost for up to 300,000 seabirds of various species annually and features structures from whaling operations dating back to the 1600s.

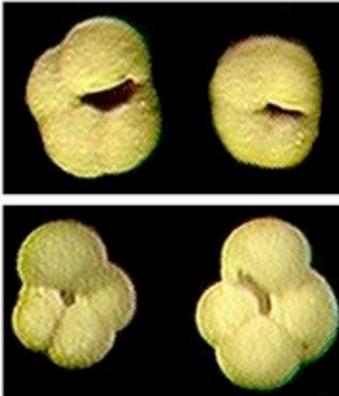
## Icesheet

### Random bits of the week's weirdness:

Svalbard is getting a starring role in "The Futurama Holiday Spectacular," according to *Firefox News*: "Vignette number one takes place on X-Mas, and begins with Fry lamenting that something is missing in the holiday festivities. After the Robot Santa breaks into the Planet Express Building to chastise them for not correctly celebrating his favorite holiday and mentions that he wants a fir tree, Fry realizes that that's what was wrong with the picture. The PE crew travels to the Svalbard Global Seed Vault and retrieve a handful of pine tree seeds, which ultimately results in the tree's resurrection ... in a big

way." ... It's possible to buy a turkey and most of the trimmings to celebrate the U.S. holiday of Thanksgiving in Svalbard, but getting the full experience of beginning Christmas shopping at 5 a.m. Friday is only possible if you want to give your beneficiary a tank of gas from Svalbard Auto, trinkets at the Radisson's front desk or postcards from Svalbard Church (tip: the Internet will be flooded with bargain buys through Monday)... A Wikiwar is being fought over the lead paragraph for "Svalbard" as Longyearbyen keeps getting redefined as the "administrative center" or "administrative centre," depending on the geek warriors' preference for Anglophone or Queen's English.

## What are the characteristics for these?



This question about microfossils of some of Earth's earliest life forms is among the first asked of students during a free two-week class open to the public earlier this month at The University Centre In Svalbard. Participants learned there are three characteristics: composition and structure, coiling mode, and aperture (those not enrolled at UNIS didn't have to take the exam on the subject).

## 'Open mind' key to fossil mysteries

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hands-on look at dozens of collected specimens in-between lectures and slideshows.

"The present is the key to the past," said Hans Arne Nakrem, the instructor who taught the first week of the class, whose research focuses on Jurassic-era fauna from Svalbard. But unlocking the mysteries of life up to 800 millions years ago requires more than book knowledge.

"You have to have an open mind when you find and try to reconstruct animals so unlike anything you have seen before," he said during a slideshow of some of the area's earliest species.

One such species was a fish-like creature similar to an eel, but because they lacked bones getting a quality fossil is difficult, Nakrem said. Another sea animal about three centimeters long apparently was triangular with a wing-like tail and long tongue jutting out in front.

The abundance of fossils from cold-blooded reptiles exist in the Arctic realms of Svalbard because the land – then underwater – was once located near the equator. New species appeared as the land shifted north, and differing ocean currents on the east and west coasts affected the types of life and preservation qualities of

their fossilized remains.

"The rocks to the west are really faulted and folded and vertical," said Nakrem, noting such formation activity generates heat as well as disturbances that destroy fossils. "To the east they are fairly flatline, so you would expect more fossils to be destroyed (in the west) than to the east."

The history of bigger and more sensational creatures was covered during the second week of class by Hureau, whose recent excavations have been shown live on the internet and are featured in a *National Geographic* documentary scheduled for broadcast next year. He offered advice to people interested in preserving petrified relics instead of throwing them.

"If you find skeletons you should not start to brush or dig them out because they will just disintegrate," he said. "Because you need so much time and techniques in order to save them, you should just report to UNIS or Svalbard Museum, and not try to excavate them because that will always go wrong and then they are lost forever."

...

*Icepeople Editor Mark Sabbatini contributed to this article.*

**There's more! Visit [www.icepeople.net](http://www.icepeople.net) for the complete story.**

## HEADLINES STOLEN FROM SVALBARDPOSTEN

VERDENS NORDLIGSTE AVIS

### Huset getting upgraded cafe and stage, losing store

Renovations at Huset, including a refurbished cafe and removing the convenience store, are underway now that most arts performances are happening elsewhere. "Now that the culture center has opened it is important that Huset be attractive," said Bård Heio, one of Huset's three new co-owners. "We will raise the standard." The stage of the main theater will be moved back to its original position and an oak floor installed, and Huset's entrance and dressing room will also be renovated. The convenience store is being removed since movies are showing at the new center, with office and group meeting space offering views of Longyearbreen planned as replacements. The owners hope to complete the renovations this winter.

### Two Longyearbyen youth teams reach football finals

Two Longyearbyen football teams reached the finals of the Julestjerna in Tromsø this weekend, but fell short of victory in their highlight tournament of the year. Boys' teams ages 13-14 and 15-16 played final matches on the large main court, which proved too demanding. "Before we were probably lucky if we won a game, but now there are so many who play football we can win some good matches," said Trond Martin Gustavsen, coach of both teams. Six teams from Longyearbyen with 50 students ages 11-16 participated in the tournament.

### Ny-Ålesund film featured at festival in St. Petersburg

Ingeborg Stana, a Norwegian landscape painter and filmmaker, is showing her short film "Ny-Ålesund" this week at the Green Vision Film Festival in St. Petersburg. "I was impressed by the solidarity and openness among the people there, while I experienced a melancholic mood because of the climatic situation," she said. Stana visited the community last year and debuted the film at the short film festival in Grimstad this summer. Music for the film is by SunnO)))/Boris, an experimental band in the United States.

## Weather forecast for Longyearbyen

### Wednesday

Fair. E winds at 18 km/h.  
High -23C (-34C wind chill),  
low -23C (-34C wind chill).

Sunrise: 0:00 Sunset 0:00

### Thursday

Partly cloudy. ESE winds to  
14 km/h. High -24C (-34C  
wind chill), low -24C (-34C  
wind chill).

Sunrise: 0:00 Sunset 0:00

### Friday

Fair. E winds at 11 km/h.  
High -22C (-30C wind chill),  
low -24C (-32C wind chill).

Sunrise: 0:00 Sunset 0:00

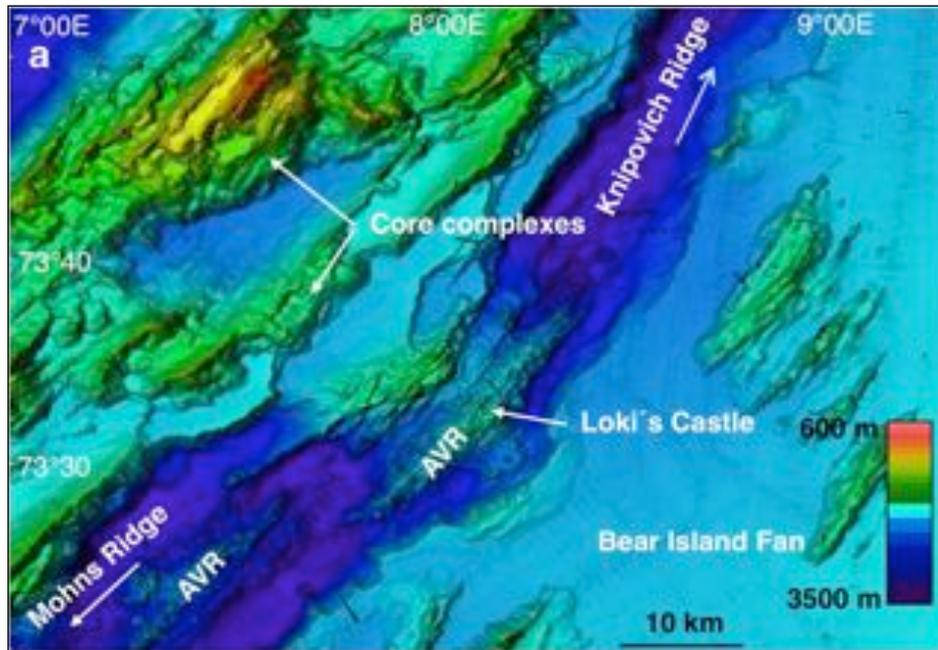
### Saturday

Fair. SE winds at 7 km/h.  
High -18C (-23C wind chill),  
low -29C (-36C wind chill).

Sunrise: 0:00 Sunset 0:00

**Extended forecast:** Sunday, snow, -9C (-16C), -17C (-22C), light 0:00h; Monday, snow ending, -8C (-16C), -12C (-16C), light 0:00h; Tuesday, cloudy, -12C (-16C), -17C (-22C), light 0:00h; Wednesday, cloudy, -18C (-23C), -20C (-25C), light 0:00h.

Data provided by yr.no



A map, above, shows an area west of Bjørnøya where hot springs from undersea volcanic activity are creating a unique environment where a multitude of new plant and animal species have been discovered. At right, a juvenile *Melitid* amphipod about one-and-a-half centimeters long is among the life forms found by University of Bergen researchers between 2008 and 2010. Images courtesy of the Centre for Geobiology at the University of Bergen.



## Riches of life, metal under the sea

### SPECIES, from page 1

the special environment at Lokesslotted. Similar hot springs exist farther south in the Mid-Atlantic Ridge, as well as in undersea volcanic areas in the Pacific and Indian oceans, and the species near Bjørnøya apparently took the longer routes.

"Based on the comparisons it seems that some of the species we found have wandered from the Pacific Ocean via the Arctic Ocean, but none from farther south on the Mid-Atlantic Ridge," Rapp said.

In addition to new wildlife, researchers found numerous metal deposits around Lokesslotted. Such deposits may have a potential commercial value in the future.

"This is one of the largest metal deposits we know of in the deep sea," said Rolf-Birger Pedersen, a geobiology professor at the university.

The findings can be read at [www.nature.com/ncomms/journal/v1/n8/full/ncomms1124.html#references](http://www.nature.com/ncomms/journal/v1/n8/full/ncomms1124.html#references).

**There's more! Visit [www.icepeople.net](http://www.icepeople.net) for the complete story.**

## Hospital: Help to outsiders has limits

### HEALTH, from page 1

Lars Fause told NRK he knows the Russians are missing strong painkillers, but does not know why.

"The building is in poor condition," he said. "But otherwise the impression is that they have the equipment and personnel in place. But we have not previously heard that there has been a problem."

Also seeking assistance is an Australian mining company scheduled to begin working in northeast Greenland next summer, according to an article Friday in *Svalbardposten*.

The request to Svalbard's governor was made by the Danish company MT Højgaard AS, which is involved in the mining operation. In an e-mail, the request states a mining camp with space for 250 men will open next summer and mining operations at Citronen Fjord are scheduled to start in 2014.

"We are planning to use Longyearbyen Hospital in case someone is injured or becomes ill," wrote Martin Hemmingsen, a MT

Højgaard official, in the e-mail.

But Erik Nygaard, police superintendent for the governor, said offering that level of assistance is not realistic.

"In an emergency situation we will of course provide you assistance if conditions allow it, but you can not base their emergency rescue services on Svalbard," Nygaard wrote, emphasizing "not" in his reply.

Nygaard states any request for assistance must be channeled through the Greenland rescue in Southern Strømfjord and the Rescue Coordination Centre of North Norway in Bodø, according to *Svalbardposten*. The Danish company should contact Norway's Rescue and Emergency Planning Department in the Ministry of Justice if they want a more permanent standby agreement, he wrote.

The governor received a similar request this summer from Frank van der Stijl, a geologist working in the same area as the mine.

**There's more! Visit [www.icepeople.net](http://www.icepeople.net) for the complete story.**

## What's up

### Nov. 26

7:30 p.m.: Concert by Kor:Z, a choir of about 45 members who will perform Joni Mitchell compositions. Debut performance on the main stage Longyearbyen's new culture center. Admission 100 kroner.

### Nov. 27

6 p.m.: "Spitsbergen Up and Down" prologue hosted by Trollsteinen's Venner. Information available by contacting [spitsbergenupanddown@gmail.com](mailto:spitsbergenupanddown@gmail.com).

### Nov. 28

11 a.m.: First Sunday of Advent liturgy with Kor:Z choir. Svalbard Church.

3 p.m.: Traditional Advent celebration with torchlight procession beginning at Huset. Procession will pass "Santa's Mine" in Nybyen before proceeding to central square. Tree lighting at about 4:10 p.m. and storytime in library at 4:45 p.m.

### Nov. 30

7 p.m.: Evening gathering and open fireplace. Svalbard Church.

### Dec. 2

7 p.m.: Official opening of Longyearbyen Culture Center with concerts and presentations. Admission 200 kroner adults, 150 kroner students/seniors.

### Dec. 3

5 p.m.: Movie: "Mega Brain" (preview showing in 3D; official Norwegian opening Dec. 26). U.S. animation/comedy. 90 kroner. Longyearbyen Culture Center.

8 p.m.: Concert by Vamp, a 19-year-old folk, Celtic and rock band from Haugesund. Longyearbyen Culture Center.

10:30: Reunion concert by Howlin' Huskies, a Svalbard rock and blues band. Longyearbyen Culture Center.

### Dec. 4

2 p.m.: Christmas swim. Svalbardhallen.

## What's online

[Icepeople.net](http://www.icepeople.net) provides daily updates of news about Svalbard and the world's polar regions, plus extras for articles from the print edition. Among the latest news:

- No 'enhanced security' an Arctic worry
- Changing snow hurts reindeer herders
- Polar bears likely to lose out to grizzlies
- Running the Polar Circle Marathon