

# Mikroplast i Børstemark fra Nordsjøen og fra Barentshavet

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# Plan

- Hvem er jeg?
- Plast – hva og hvorfor?
- Masteroppgaven min
  - Børstemark
  - Mikroplast i børstemark?
  - Bioakkumulasjon?
  - Konklusjon?

## Meg:

- Geografi – NTNU/NORD
- Biologi - UiO
- Miljø og Naturressurser – NMBU
- Masteroppgave – NGI/NMBU



# Plast

- Hva bruker vi plast til?
  - **Hva bruker vi ikke plast til?**
- Store molekyler i kjeder
- Kan blandes
- Formelig
- Gammelt – kasein – gamle Egypt
  - «Katta veltet formaldehyd i melken sin»
  - «Kastet gummi i ovnen» - bakelitt



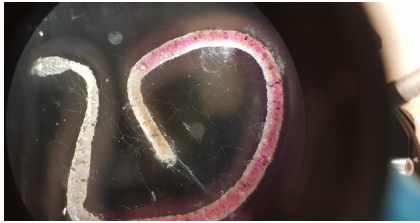
## Oweniidae (*Galethowenia Oculata*)



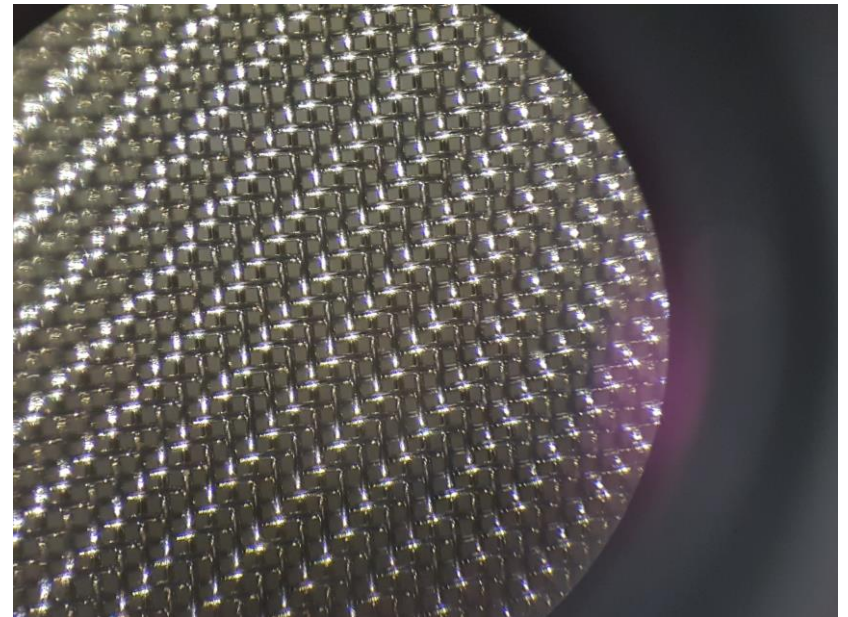


## Hvorfor studere disse artene?

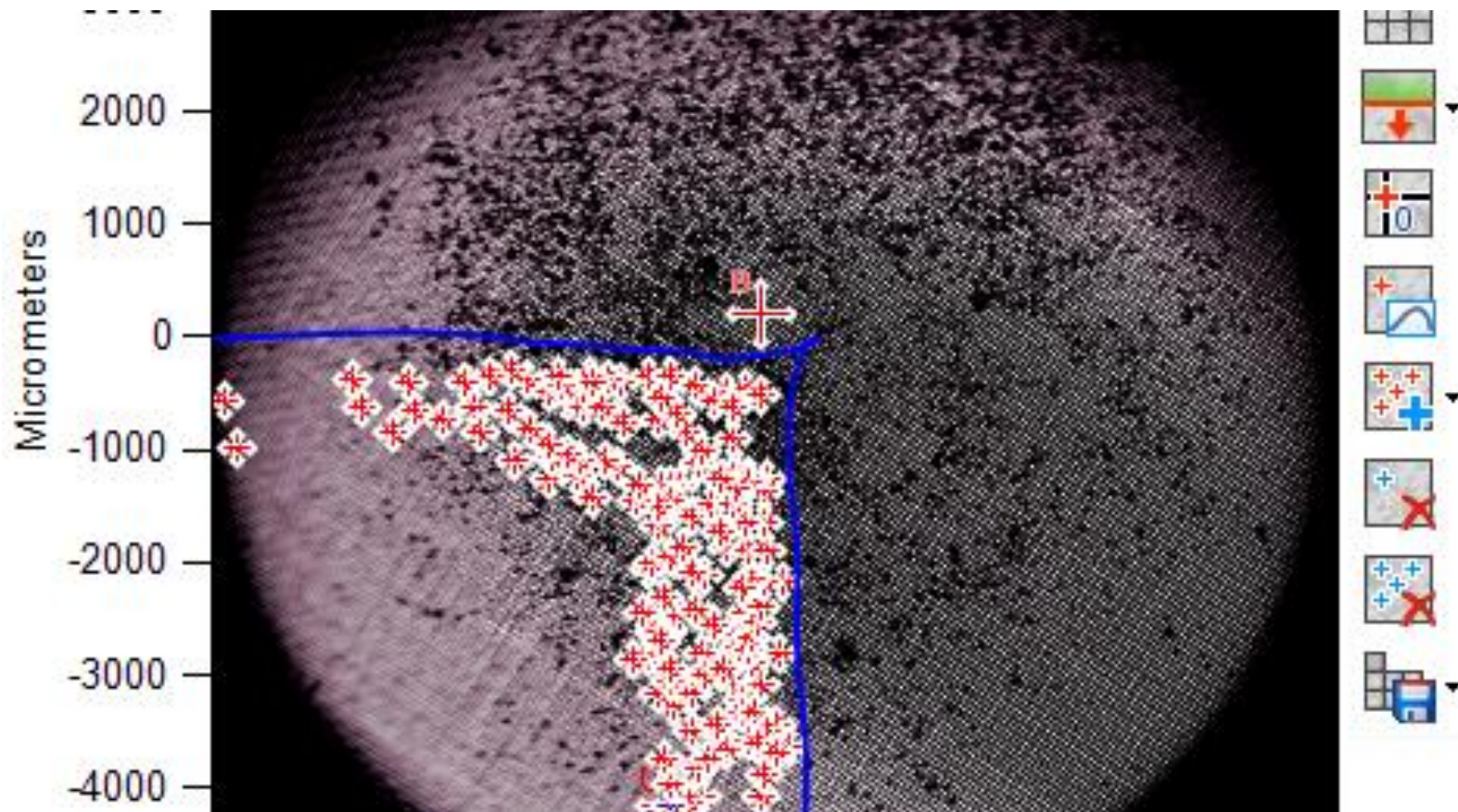
- Mulig overvåkningsart? – bygger tube – tar tid
- Er føde for fisk
- Lite utforsket tidligere
- Dekker store arealer
- Mye biomasse



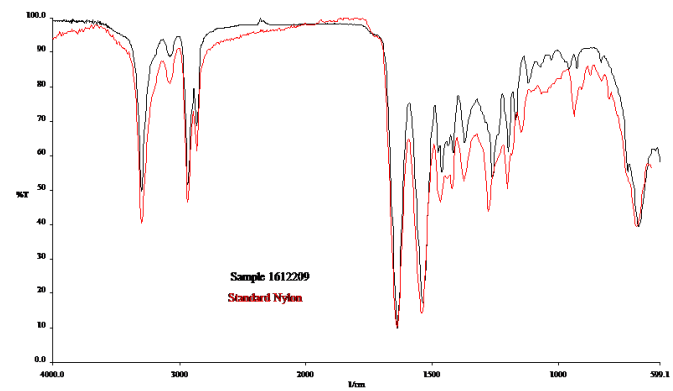
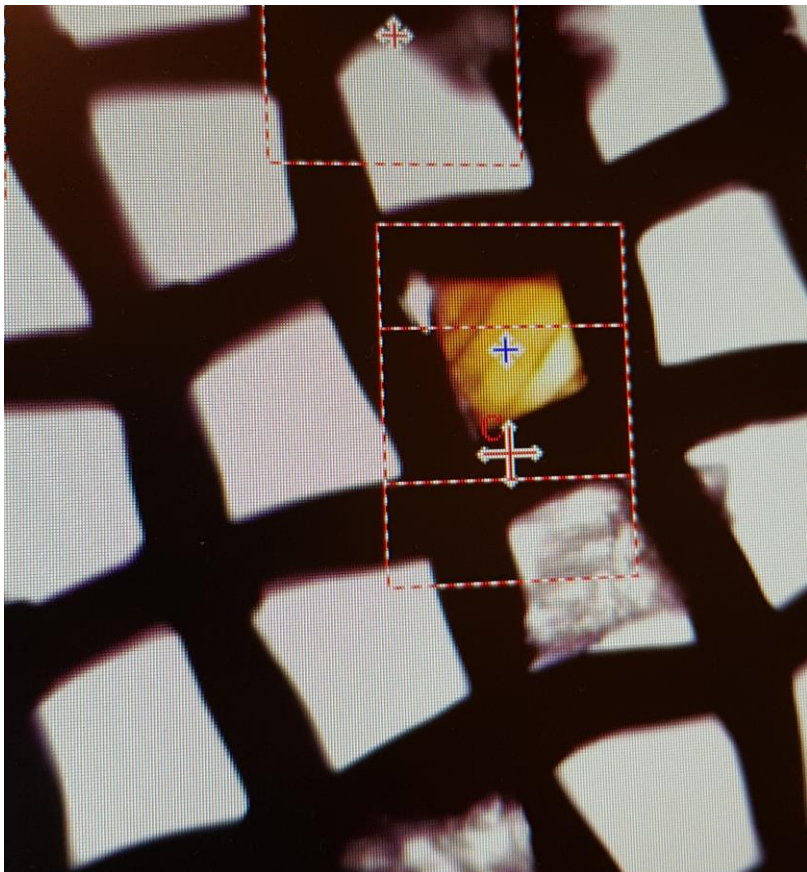
## Tetthetsseparasjon og filtrering



# FTIR analyse

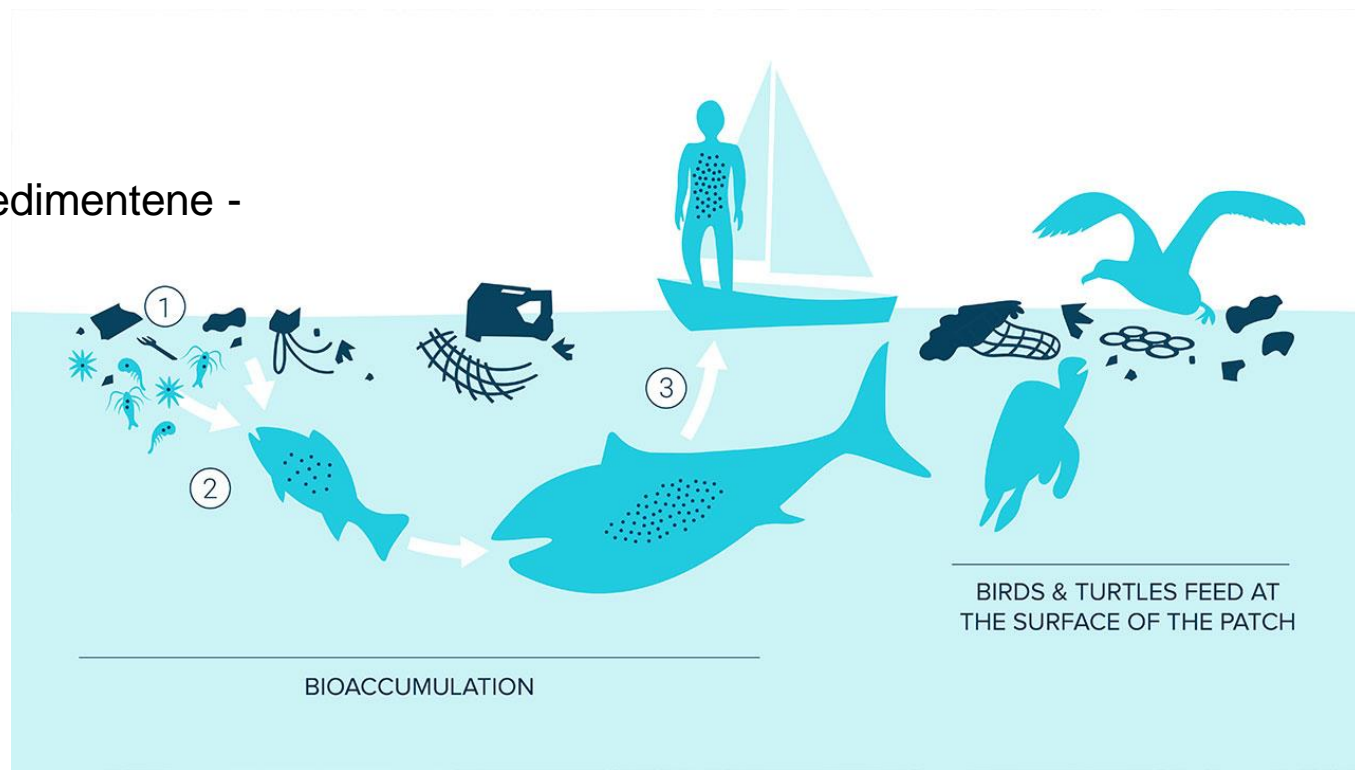






## Resultater

- Metodeutvikling
- Plast i marken
  - I alle mark
- Tusenvis pr kg mark
- Mere i marken enn sedimentene - BSAF
- *Farlig?*



## Har det noe å si?

- For lavtrofiske arter – trolig i liten grad
- Oppover i næringskjeden – usikkert?
- Nanoplast?
- Hot-spots?
- Lekkasje av kjemikalier?

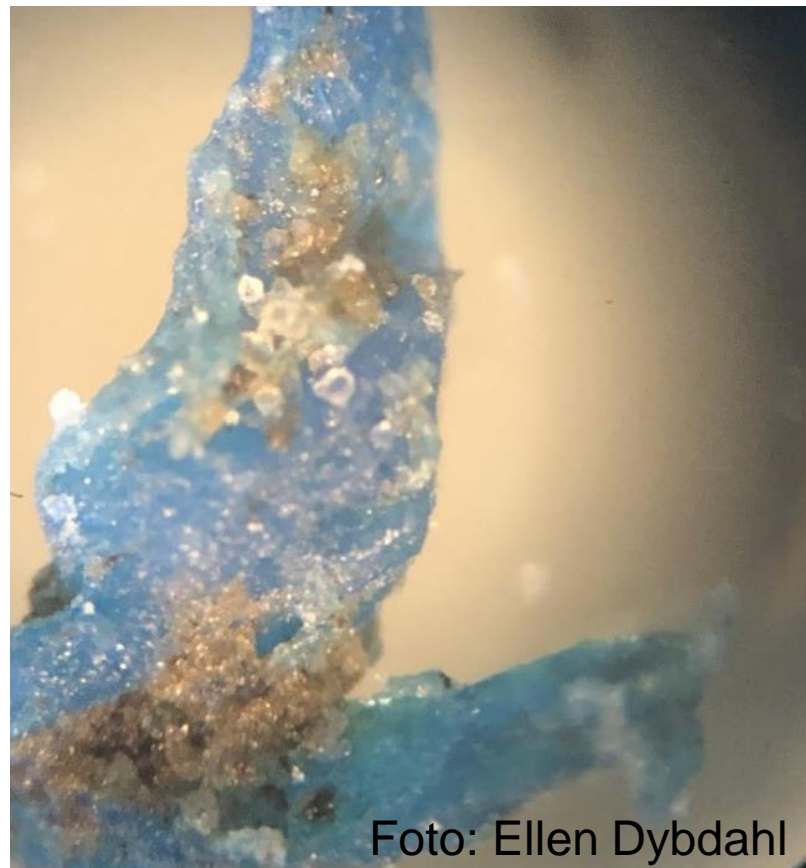


Foto: Ellen Dybdahl

## Miljøringens masterstipend

- Legge frem arbeidet mitt på SETAC North America i Toronto 2019.
- Svært lærerikt
- Fikk kontakter som nå er del av flere søknader om videre midler for å forske videre på mikroplast
  - Bestiller i disse dager analyse fra et miljø ved UC Davis i USA
    - Jordprøver fra kysten av Trøndelag



• **Tusen takk!**

Vil du lese mere om dette?

NGI

FT-IR UNDERSØKELSE  
Microplastic  
from

DNV·GL

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## Microplastic accumulation by tube-dwelling, suspension feeding polychaetes from the sediment surface: A case study from the Norwegian Continental Shelf

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ABSTRACT

Sediment samples (0–1 cm) and tube-dwelling polychaetes from the Norwegian Continental Shelf and the Barents Sea were collected, including areas close to oil and gas installations and remote locations. Microplastics ( $\geq 45 \mu\text{m}$ ) were found in quantifiable levels in 27 of 35 sediment samples, from 0.039 to 3.4 particles/ $g_{dw}$  ( $dw = \text{dry weight}$ ). Concentrations were significantly higher in tube-dwelling polychaetes than sediments from the same locations (mean  $1100 \pm 100$  particles/ $g_{dw}$  vs.  $0.1 \pm 0.01$  particles/ $g_{dw}$ ). To quantify this factor increase in polychaetes, a Biota-Sediment Particle Ratio (BSR) was calculated (BSR =  $g_{dw}/g_{dw}$ ). The BSR was significantly higher in polychaetes than sediments from the same locations (mean  $1100 \pm 100$  vs.  $0.1 \pm 0.01$ ). The feeding behavior and food intake of the polychaetes were investigated. The feeding rate was significantly higher in tube-dwelling polychaetes than sediments from the same locations (mean  $1100 \pm 100$  vs.  $0.1 \pm 0.01$ ). The feeding behavior and food intake of the polychaetes were investigated. The feeding rate was significantly higher in tube-dwelling polychaetes than sediments from the same locations (mean  $1100 \pm 100$  vs.  $0.1 \pm 0.01$ ).

Takk for meg!

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