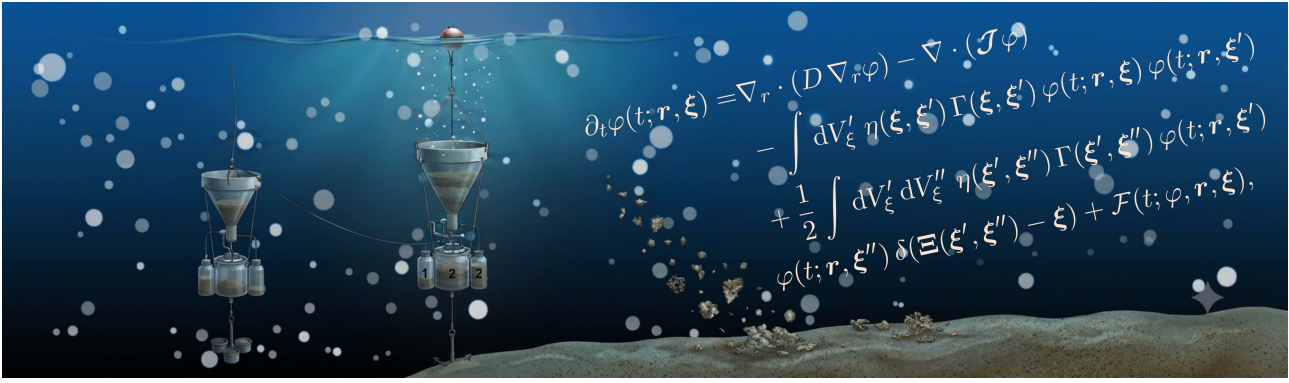




High-resolution marine snow dynamics – connecting field observations and mathematical models

2 – 4 December 2026, University of Warsaw, Poland

We warmly invite you to the symposium **High-resolution marine snow dynamics – connecting field observations and mathematical models**, held from December 2 to 4, 2026, at the **Faculty of Physics, University of Warsaw, Poland**.

Field observations of marine snow are advancing rapidly, with modern techniques delivering data on marine snow dynamics at an unprecedented spatial, temporal, and size resolution. Still, gaining causal insights into the mechanisms driving observed dynamics during specific events (e.g., blooms) remains challenging because multiple mechanisms are at play, such as remineralization, fragmentation, aggregation, and production. Mathematical models can accelerate hypothesis testing and potentially even predict the dynamics of individual blooms, but advanced coagulation-fragmentation models, despite being historically of key importance in oceanography, are rarely used to understand individual observations at high resolution. This short and highly focused symposium aims to bring oceanographers and physicists together to:

- deepen our understanding of the processes governing marine snow dynamics,
- improve the quantification of key parameters, such as particulate organic carbon (POC) flux, that are difficult to measure directly,
- develop advanced mathematical models that incorporate remineralization, fragmentation, aggregation, and production in time-dependent models of evolving marine snow size spectra, and
- potentially guide future observational strategies to improve sampling efficiency.

The symposium will feature talks and panel discussions focused on the effects and relative importance of key processes, including remineralization, fragmentation, aggregation, and production. Our goal is to build a unified framework for the life cycle of a marine *snowflake* as a foundational step toward modeling aggregate concentration dynamics. We hope to publish the results of these discussions as a potential joint review paper.

Dates & Information:

- **Website:** <https://softmatter.fuw.edu.pl/marinesnow.html>

We are looking forward to welcoming you to Warsaw this December!

Maciej Lisicki (chair), Jonasz Słomka, Emilia Trudnowska, Jan Turczynowicz

