


**ASLO**  
Advancing the science of freshwater ecosystems

# WATER ROCKS!

ASLO 2007 Aquatic Sciences Meeting  
February 4-9, 2007 · Santa Fe, New Mexico  
Sponsored by the American Society of Limnology and Oceanography

**Abstract Information** > Abstract Review > Abstract Submission

Select... 

## Abstract Information

Szlosek, J, E, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany, jszlosek@ic.sunysb.edu  
 Engel, A, , Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany, aengel@awi-bremerhaven.de  
 Lee, C, , Stony Brook University, Stony Brook, USA, cindylee@notes.cc.sunysb.edu  
 Armstrong, R, A, Stony Brook University, Stony Brook, Germany, rarmstrong@notes.cc.sunysb.edu

### COAGULATION EFFICIENCY OF PHYTOPLANKTON CELLS DURING DIFFERENT GROWTH STAGES AND ITS RELATIONSHIP TO EXOPOLYMER PARTICLE PROPERTIES

We compared phytoplankton cell coagulation efficiency, i.e., the probability that two particles adhere to one another after colliding, for two cultured phytoplankton species, *Thalassiosira weissflogii* and *Emiliana huxleyi*, at exponential, stationary, and senescent growth stages. The species were cultured under nutrient and light conditions similar to those observed in the field during phytoplankton blooms. The initial stages of aggregate formation were observed by sampling from horizontal Couette devices (Drapeau et al., 1994) with a known laminar shear representative of the upper water column. We investigated the role of exopolymer particles in the coagulation of the phytoplankton cells during different growth stages by analyzing the particle size spectra determined by Coulter Counter and by image analysis of the gel particle size spectra made visible with Alcian Blue and Coomassie Brilliant Blue dyes, together with chemical data on polysaccharide composition of dissolved and colloidal pools. This study indicates the importance of composition and concentration of exopolymer substances for the initiation of phytoplankton aggregation and sedimentation of two major phytoplankton groups important for organic carbon export, diatoms and coccolithophores.

Abstract is:

Presentation Preference: Oral

First Session Choice: SS24 The Aquatic Gel Phase, Its Role in Biogeochemical Cycles

Second Session Choice: SS23 Conundrums and Controversies: What Contributes to the Vertical Flux of Carbon, Nitrogen, and Phosphorus in Aquatic Ecosystems?

Third Session Choice:

Other Session Choice:

Session Chair No

Extended A/V: No

[Update/Edit Abstract Information](#)

[Logoff](#)

[ASLO Home Page](#) | [ASLO Membership](#) | [Help](#) | [Contact](#)

[Top of Page](#)