

W6 MEQ Workshop and a Laboratory Demonstration Review of selected harmful algae in the PICES Region: V. Cyst forming HAB species and HAB-S Meeting

Co-Convenors: *Changkyu Lee (Korea) and Charles Trick (Canada)*

Analogous to the seeds of terrestrial plants, phytoplankton cysts are the hardy resting forms that allow phytoplankton (usually flagellates) to survive during extreme environmental conditions. These cysts fall out of the water column into sediments often after large blooms, thereby forming seed beds. Characterization of the distribution of seed beds in coastal waters can assist with forecasting the intensity of HAB events. However, proper identification is often difficult as many cysts can look alike. This workshop will focus on new methods for identification of cysts as well as findings on their ecology and physiology. Presentations are encouraged on known distributions of cysts in coastal waters (cyst mapping), and studies on their ecophysiology.

Saturday, October 24 (9:00-12:30) , Workshop 6 Presentations

- 9:00 *Introduction by Convenors*
- 9:10 **Kazumi Matsuoka (Invited)**
Modern dinoflagellate cyst study (W6-5776)
- 9:40 **Ruixiang Li, Jun Pan, Yan Li and Ping Sun**
Distribution of dinoflagellate cysts in surface sediments in the Yellow Sea in autumn (W6-5694)
- 10:00 **Tatiana V. Morozova and Tatiana Yu. Orlova**
Resting stages of HAB species in recent marine sediments from Peter the Great Bay, Sea of Japan (East Sea) (W6-5531)
- 10:20 **Hyeon Ho Shin, Yang Ho Yoon and Kazumi Matsuoka**
Dinoflagellate cyst assemblages as an indicator of changed nutrient levels in Korean and Japanese coastal areas (W6-5737)
- 10:40 *Coffee / tea break*
- 11:00 **Donald M. Anderson, B.A. Keafer, K. Norton, D.J. McGillicuddy, R. He, C.H. Pilskaln, D. Couture and J. Martin**
Toxic blooms of *Alexandrium fundyense* in the Gulf of Maine: The role of cysts in population dynamics and long-term patterns of shellfish toxicity (W6-5892)
- 11:20 **Ichiro Imai, Shigeru Itakura and Mineo Yamaguchi**
Cyst dynamics and occurrences of red tides of *Heterosigma akashiwo* and *Chattonella* spp. in temperate coastal waters (W6-5781)
- 11:40 **Ken-ichiro Ishii, Mitsunori Iwataki, Kazumi Matsuoka and Ichiro Imai**
Species identification of resting spores of *Chaetoceros* (Bacillariophyceae) (W6-5786)
- 12:00 Summary and outcome
- 12:30 *Workshop ends*

Sunday, October 25 (9:00-18:00), HAB-S Meeting Presentations

- 9:00 **Vera Trainer and Hak-Gyoon Kim**
Welcome, goals of HAB Section meeting
- Country Reports (2008-09) and HAE-DAT (year 2004) reports**
- 9:10 **Korea (Yangsoon Kang)**
- 9:20 **Japan (Shigeru Itakura)**
- 9:30 **China (Jinhui Wang)**
- 9:45 **Canada (Charles Trick)**
- 10:00 **U.S.A. (Vera L. Trainer)**
- 10:15 **Tatiana Yu. Orlova**
Current situation and perspective for HABs monitoring on the Russian Pacific coast (HAB-5532)
- 10:30 ***Coffee / tea break***
- 11:00 **Mingyuan Zhu and Zongling Wang**
The study on the occurrence of green tide in Yellow Sea in 2009 (HAB-5708)
- 11:15 **Donald Anderson**
Report on ICES HAB working group and potential areas of collaboration
- 11:45 Discussion of future workshops, special sessions, special PICES report on HAB species
- 12:30 ***Lunch***
- 14:00 **Takafumi Yoshida**
Integrated harmful algal bloom website demonstration
- 14:20 **Monica Lion**
The joint Harmful Algal Bloom Programme and International Oceanographic Data and Information Exchange Harmful Algae Information System: An update
- 14:40 **Vera L. Trainer**
PICES Seafood Safety Project
- 15:00 **William P. Cochlan**
Report on GEOHAB Open Science Meeting on HABs and Eutrophication
- 15:20 Discussion of afternoon presentations
- 15:30 ***Coffee / tea break***
- 16:00 **John K. Keesing, Dongyan Liu, Qianguo Xing, Ping Shi and Peter Fearn**
Recurrent large scale macroalgal blooms in the Yellow Sea (HAB-6015)
- 16:20 Final discussion and assistance in entering year 2004 data into HAE-DAT
- 18:00 ***Meeting ends***