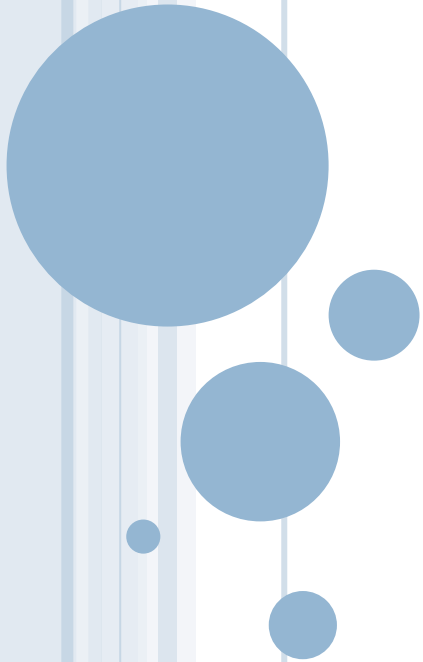


# GROUP OF MARINE MICROBIAL COMMUNITIES



# AUTOTROPHIC, HETEROTROPHIC PICO-, NANO- AND MICROPLANKTON



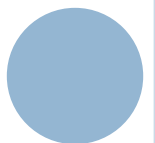
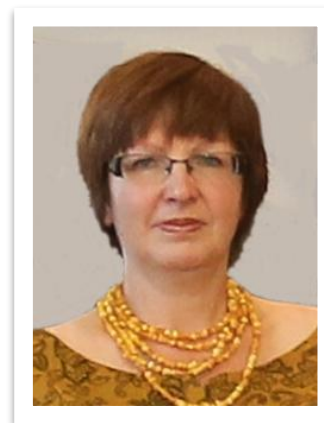
**P.P. Shirshov Institute of Oceanology RAS,  
Moscow, Russia**

- Andrey Sazhin
- Nadezda Romanova

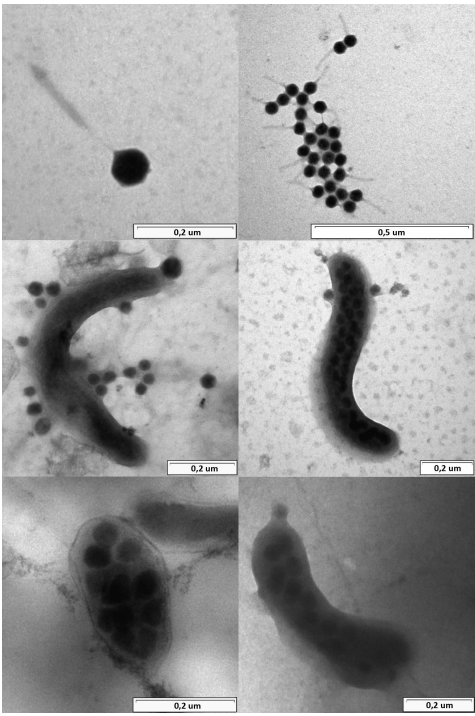


**Papanin Institute for Biology of Inland Waters RAS,  
Borok, Russia**

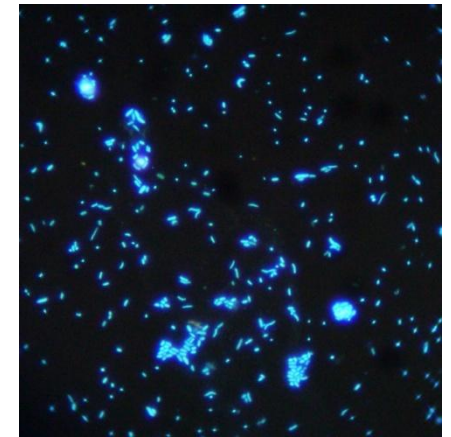
- Alexander Kopylov
- Elena Zabortkina



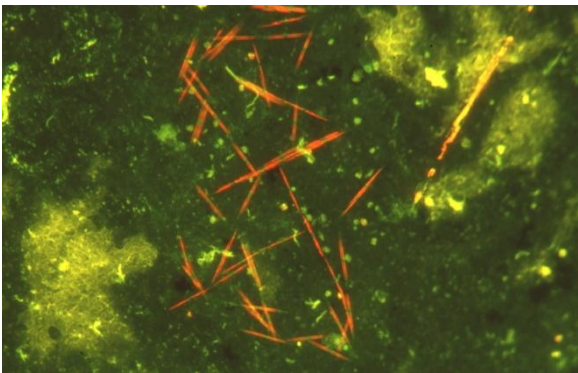
# OBJECTS



- **Virioplankton** (abundance of viral particles, viruses attached to bacterial cells, capsid size, frequency of infected bacterial cells, burst size, viral-mediated bacterial mortality)

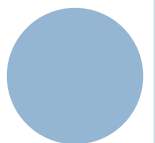
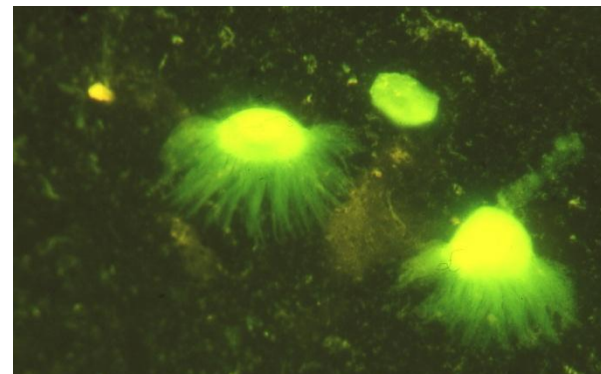


- **Bacterioplankton** (abundance, biomass, bacterial production and contribution of attached cells to the total abundance)



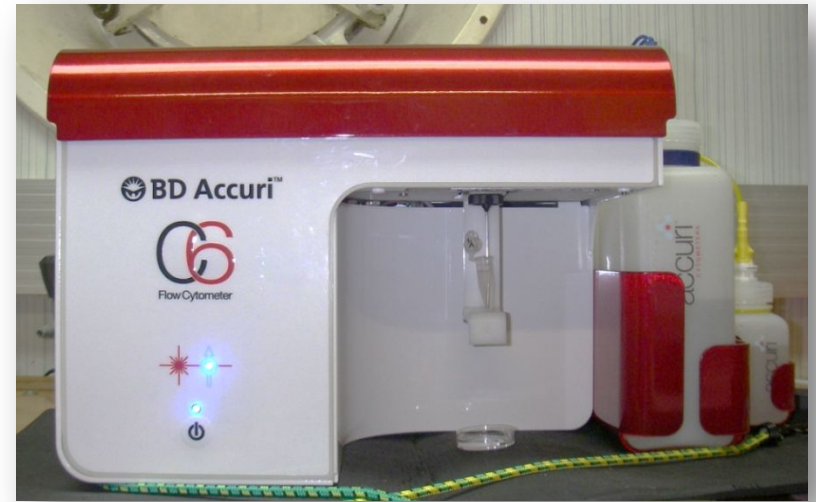
- Autotrophic and heterotrophic flagellates and community structure of **phytoplankton**

- Ciliates and other **Protists**, biomass and species composition

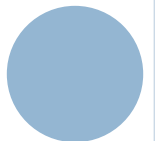


## METHODS

- Virus-like particles are counted by epifluorescence microscopy after staining with SYBR Green I. Attached viral particles, frequency of visibly infected cells, burst size and capsid size are estimated using transmission electron microscopy.



- The number and size of the bacterial cells (stained with DAPI or SYBR Green I) are estimated using epifluorescence microscopy and flow cytometry.
- Phytoplankton and heterotrophic protists (stained with primulin) are detected by epifluorescence microscopy.



# RESEARCH AREA



Recently the region of our principal interest was confined to sub-Arctic and Arctic shelf seas (the White Sea, Kara and Laptev Seas). Although all the members of the working group have experience in different regions of the world ocean and inland waters.

