

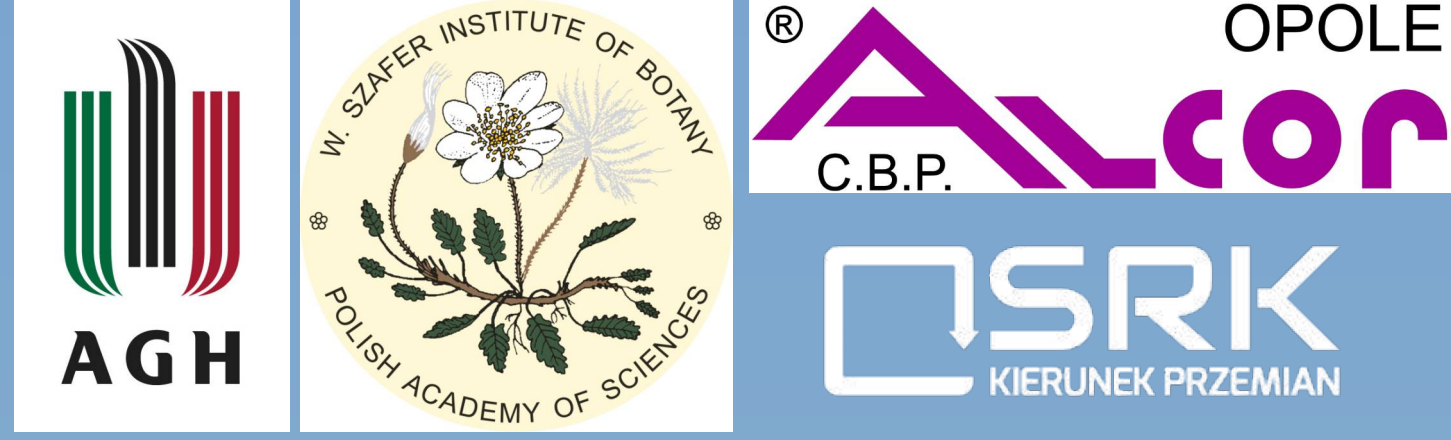
Restoring, protecting and monitoring algal communities in polluted waters

Grzegorz Boczkal¹, Paweł Pałka¹, Bartosz Sułkowski¹, Jarosław Kozak², Mateusz Szar²,
Leszek Pietrzak², Wojciech Spisak², Konrad Wołowski³, Bartosz Kulig³

¹ AGH University of Krakow, al. Mickiewicza 30, 30-059 Kraków

² Centrum Badawczo-Produkcyjne „ALCOR” Sp. z o.o., ul. Kępska 12, 45-130 Opole

³ W. Szafer Institute of Botany, Polish Academy of Sciences, ul. Lubicz 46, 31-512 Kraków



The problem: post-mining salt waters, reach in heavy metals as Zn, Fe and Mn (total dissolved solids above 2000mg/l)



What natural forms can survive in such an extreme environment?



1. Navicula phyllepta,
2. Gomphonema minutum,
3. Fragillaria gracilis,
4. Pinnularia frequentis,
5. Achnanidium minutissimum,
6. Epithema operculata,
7. Pinnularia appendiculata; and filamentous green algae:
8. Klebsormidium nitens,
9. Mougeotia sp.

Objective: to introduce native algae species in order to enrich and ensure the biodiversity of the population

1. The creation of optimal habitats for the growth of algae populations - **Rock-Based Algal Niches - RAN**



2. Selecting of substrates and species to supplement the local ecosystem



3. Environmental monitoring using autonomous monitoring buoys

