Session F:

Technical Subject: Development of Biological Eco-controlling Technology
(Growth control technology of Blue green algae in nonpoint water aria)

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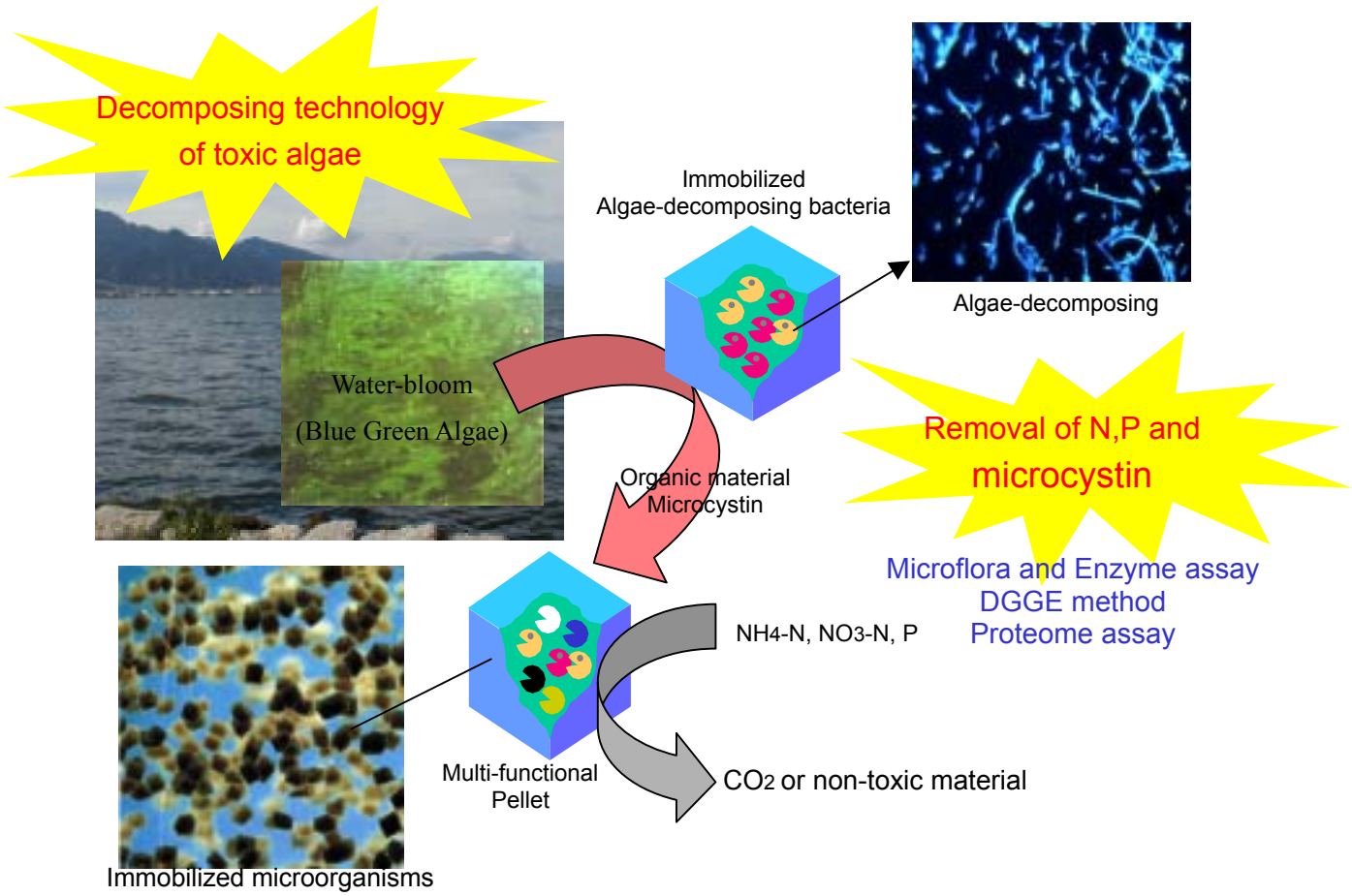

Goal & Contribution to well-being for all humanity:

We have investigated wastewater treatment using immobilized nitrifying bacteria since 1982. Thirty wastewater-plants using immobilized nitrifying bacteria have been built in Japan and abroad. Now, we try nonpoint water treatment using immobilized microorganisms.

Target of this study is development of new nonpoint-purification technology and dominant-bacteria controlling technology using immobilized microorganisms. The technology will be used for great lake clean up and safe drinking water supply.

Method / Approach:

With the many technologies of immobilization methods and mixed culture methods, we will try next point.

1) Developing new immobilization methods for immobilized algae-decomposing bacteria and mycrocystin-decomposing bacteria.
2) Developing a new water treatment system for nonpoint area.
3) Monitoring of microorganisms using molecular analyzing system (DGGE methods etc.)
DGGE: Denaturing gradient gel electrophoresis

Introduction / Position in the session:

Blooms of freshwater cyanobacteria, particularly in *Microcystis* and *Anabaena*, have caused problems of increasing toxicity in recent years. Our study has been focused on new water purification technology using immobilized algae-decomposing bacteria and microcystin-decomposing bacteria. In this session, we would like to show our plan and hope to discuss its feasibility. Any criticism for our plan will be most welcome.