

DEPARTMENT OF BIOENVIRONMENTAL
RESEARCH III

Professor (Adjunct): Minoru Kanehisa (Kyoto University)

Though intermediary metabolism common to most organisms has been deeply investigated so far, variety of species specific pathways in secondary metabolism, which may work only in specific environmental conditions, are still unclear. The aim of this laboratory is to develop a database system for environmental biology, which integrates knowledge about organic compounds, chemical reactions between these compounds *in vivo*, enzymes (genes) involved in these reactions, and species whose genomes contain these genes. Through this database combining with data from transcriptome or proteome analyses in various environmental conditions, we intend to elucidate the principle of interactions between organisms and environmental chemical compounds to predict or design novel interactions.

Publication list:

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- Ogata, H., Fujibuchi, W., Goto, S., and Kanehisa, M. (2000). A heuristic graph comparison algorithm and its application to detect functionally related enzyme clusters. *Nucleic Acids Res.* **28**, 4021-4028.
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