

STAFF	Professor Hiroto TAMURA	Associate Professor Akifumi HOSODA
	Basic Organic chemistry Environmental Microbiology	Microbiology Molecular Biology
TEACHING	Applied Cell Biology Environmental Toxicology (MC) Advanced Global Bioremediation (MC)	Environmental Bioscience II Advanced Global Bioremediation (MC)



Professor Hiroto TAMURA
Associate Professor Akifumi HOSODA

Research

Challenging for environmental remediation through Cutting-edge analytical approaches & Biotechnology

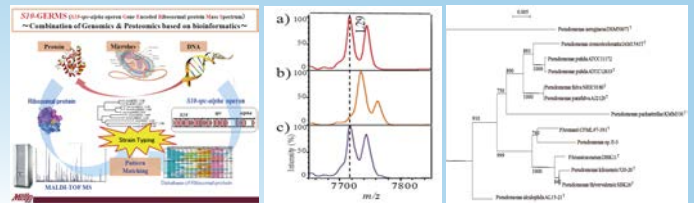
@ Mechanism of metabolic toxicity by microbial degradation

* Environmental dynamics of alkylphenol & Isolation of APEO_n degrading bacteria



Gas Chromatography (GC)
Matrix-Assisted Laser Desorption Ionization mass spectrometry (MALDI-MS)
Gas Chromatography mass spectrometry (GC-MS)
Electron micrograph of surfactant-degrading bacteria

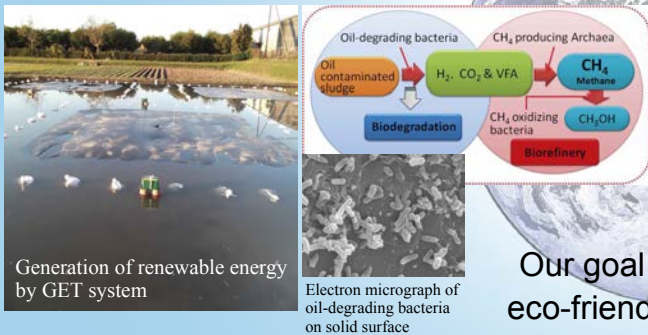
* Molecular phylogenetic analysis based on novel identification & discrimination method - S10-GERMS method -



Phylogenetic analysis based on S10-GERMS method

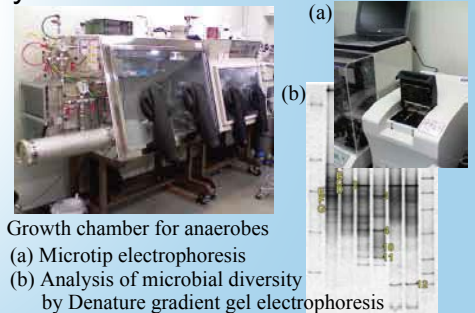
@ Biodegradation of environmental pollutants to Biorefinery

* Biorefinery of wastes & pollutants



Generation of renewable energy by GET system
Electron micrograph of oil-degrading bacteria on solid surface

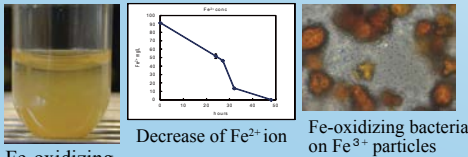
* Dechlorination of chlorinated volatile organic compounds by anaerobic bacteria



Growth chamber for anaerobes
(a) Microtip electrophoresis
(b) Analysis of microbial diversity by Denature gradient gel electrophoresis

Our goal is to be No.1 eco-friendly laboratory !!

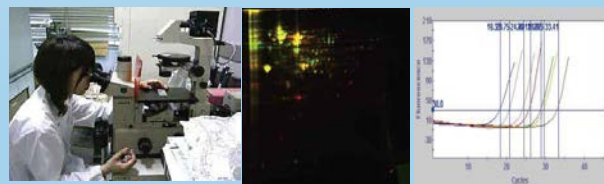
* Wastewater treatment



Fe-oxidizing bacteria
Decrease of Fe²⁺ ion
Fe-oxidizing bacteria on Fe³⁺ particles

@ Investigation of environmental compounds disrupting normal endocrine function

* Analysis of Androgen (Glucocorticoid) receptor agonist and/or antagonist activity of chemicals



Proteome analysis
Real-time PCR

Let's find scientific solutions to environmental issues in our Laboratory !

Recent publications:

- Etoji jw. J O w t p q. V J I t c p q. [J c c u j k c p f H. Tamura, (2022) Guv d a l u j o g p v c p q x n v g e j p q q i [r g t o l v k p i u g n h u w h l e k g p v t g p y c d n g g p g t i [h t q o t i e g u n t c y l p r c f f { h k g n f. U E n g e p e r R t a f w e l. 494. 3449430
- P l V m e j c u j k. U l P e i c k. C o H w l l v e. [O K f q. M l M e q. C l U c u q. [O O q t l c. P l M e p g e. [O V u w l k o q q c p f H. Tamura, (2042) F l u e t l o k p c l a p q h r u [e j t q q g t e p i D e e l m w u e g t g w u i t q w r d e u g f q p O C N F K V Q H O U e p c a { u l u q h t i d q u o c n r t q g i p u. H q q f O k e t q d i q n. ; 1. 325764.
- [O H w m w { c o c. V l Q l k o c M e q. U l P e i c k. M l U j k o c. U l W h p e w u. [O c o f e. J O V c o w t e. U l P q o w t e. M l Q i e v. U l U g m k { c. U l X y c o q q c p f M l V e p c m. (203;) Improved MALDI-MS method for highly sensitive and reproducible detection of the biomarker peaks for proteotyping of Salmonella serotype. J Mass Spectrom. 54, 966-975.
- [. U l U c u q. J O U c u q. C l J q q f c. J O V c o w t e. * 4233+ E n c u l h e c k a p q h j j g i g p w u D e e l m w u d e u g f q p O C N F K V Q H O U e p c n { u l u q h t i d q u o c n r t q g i p u e q f g f l p U 32 c p f u r e q r g t q p u L C i t l e H q q f E j g o l 7 : < 7444 / 74520
- [. U l U c u q. J O U c u q. C l J q q f c. J O V c o w t e. * 4233+ E n c u l h e c k a p q h j j g i g p w u D e e l m w u d e u g f q p O C N F K V Q H O U e p c n { u l u q h t i d q u o c n r t q g i p u e q f g f l p U 32 c p f u r e q r g t q p u L C i t l e H q q f E j g o l 7 : < 7444 / 74520