Chemical Engineering

Jo-Shu Chang (張嘉修 教授)

Professor

B.S.	Chemical Engineering, Tunghai University	1983
M.S.	Chemical Engineering, University of Colorado, Boulder	1987
Ph.D.	Chemical and Biochemical Engineering, University of California, Irvine	1993

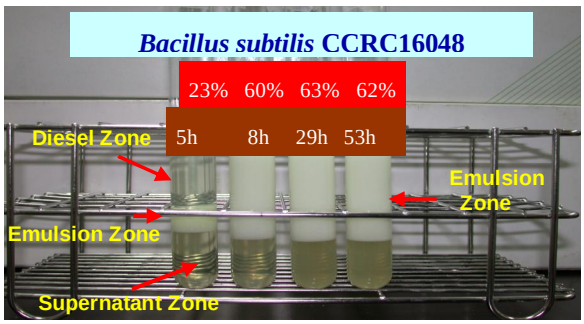
Phone	886-6-2757575-62651
Email	changjs@mail.ncku.edu.tw
Office	Room 93816, Chemical Engineering Building

Research Interests:

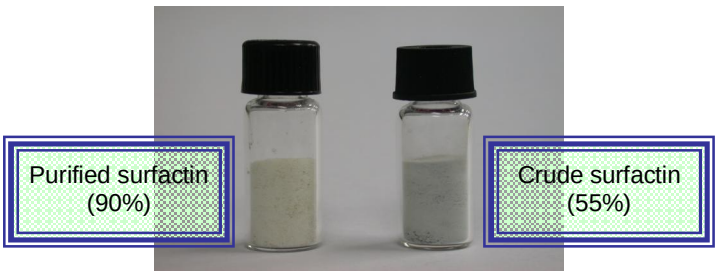
Research fields: Environmental Biotechnology, Biochemical Engineering, Applied Microbiology, Bioenergy and Biofuel Technology

Production and applications of biosurfactants

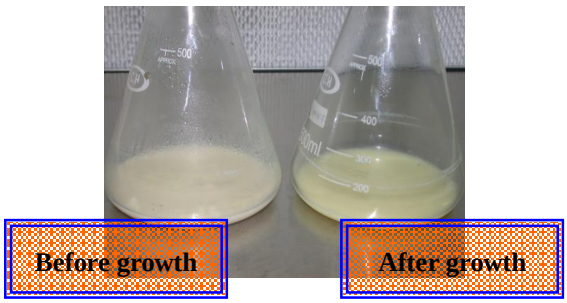
Isolation of biosurfactant-producing bacteria



Emulsion activity of biosurfactants



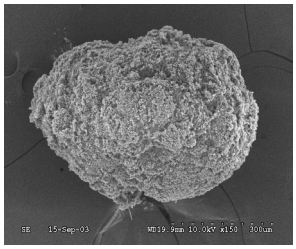
Surfactin products



Olive oil degradation by biosurfactant-producing bacteria

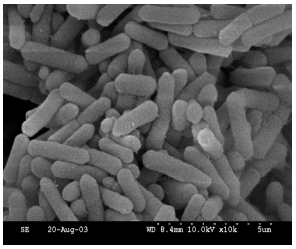
Converting wastes to clean energy (H_2)

Granular sludge

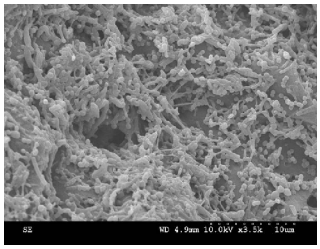


(× 150)

EVA immobilized cells

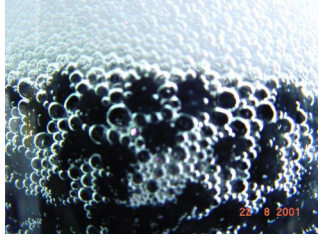


(× 10k)



(× 3.5k)

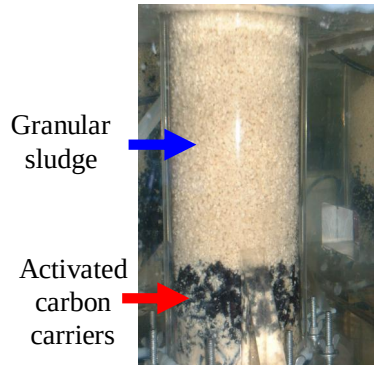
Biohydrogen production



d_p=3-5 mm

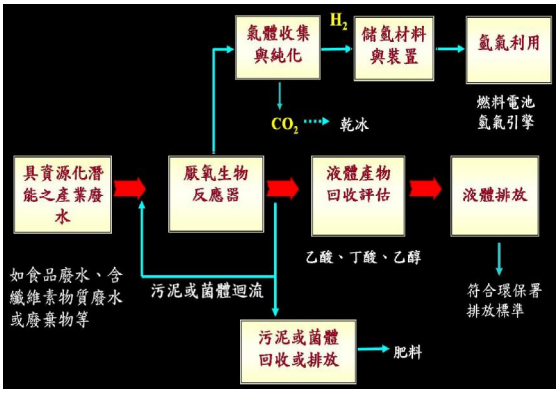
Bioreactor design for bioH_2 production

Strategies for bioenergy production

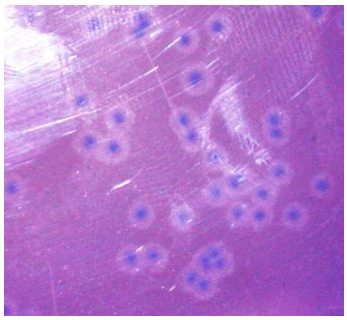


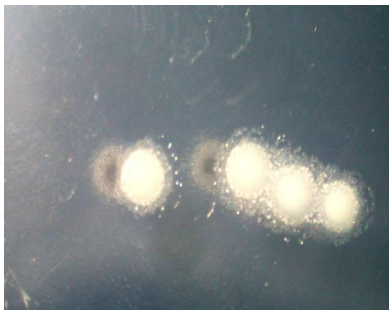
Granular sludge bed

Photosynthetic bacteria

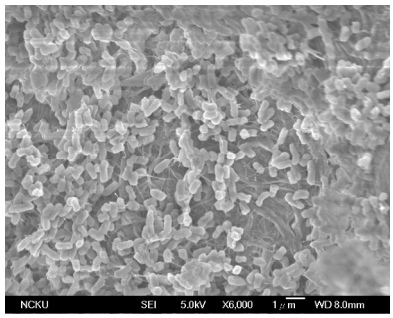


Application of lipase-producing bacteria for food waste treatment





Sreening and identification of lipase-producing isolates



Acidic lipase-producing strain *Burkholderia sp.* (SEM)

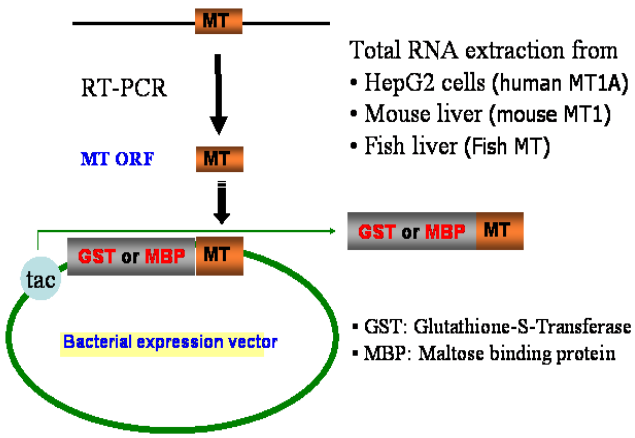
Innovative bioremediation technology with plants and symbiotic rhizobia

Mimosa sp.

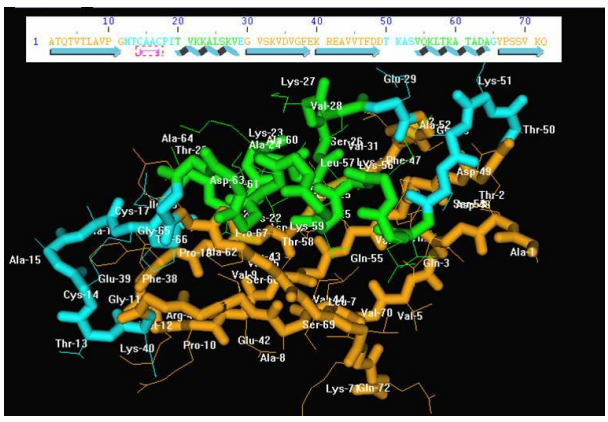
Ralstonia taiwanensis

Phenol-degradation tests

Molecular biological applications in heavy-metal biotreatment and biosensors



Overproduction of recombinant metallothionein (MT) proteins in *E. coli*



Metal-binding protein MerP as a metal biosensor