

**Professor M. Chen -- Development of Nanohybrid Catalysts with a Minimum Use of Noble Metals -
Expected to be used for economical catalysts and materials for biosensor --**

A research group led by Professor Mingwei Chen at WPI Advanced Institute for Materials Research, Tohoku University had successfully developed nanoporous composite metals with a minimum use of noble metals. The new development is expected to be applied to economical and high-function catalysts and materials for biosensor.

The demand of noble metals such as platinum and gold used for catalysts has been increasing due to the growth of auto and information appliance industries. Rich and safe alternative materials have been expected to be developed because of rising costs of noble metals.

The research group has made nanoporous copper by dealloying copper alloys, and plated the surface with extremely thin gold films by electrochemical treatment called nonelectrolytic plating, which led to high catalyst performance with a minimum use of gold. The new method is applicable to other noble metals including platinum. It is a simple and economical method to be used widely including for catalysts and biosensor.

The achievement has been published online in *Advanced Functional Materials*, German scientific journal, on May 25, 2010. The paper's title is "A Three-Dimensional Gold-Decorated Nanoporous Copper Core-Shell Composite for Electrocatalysis and Nonenzymatic Biosensing." The research group has filed for a patent on the method.

[More Information](#)

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