



# 南京大学高济宇有机化学前沿讲座

Find the Art of Chemistry!

题目: **Main Group Chemistry and Catalysis through Tinkering the Ligand Framework**

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## Scientific Career:

- 1994 B.S., Chemistry, Winona State University, Minnesota.
- 2000 Ph.D., Chemistry, University of Kentucky.
- 2000-2001 Post-doctoral Researcher, Department of Chemistry, University California Santa Barbara, CA.
- 2001-2003 Post-doctoral Researcher, Department of Chemistry, University of Ottawa, Ottawa, Canada.
- 2003-2006 Lecturer, Department of Chemistry, University of Ottawa, Ottawa, Canada
- 2006-2010 Assistant Research Fellow, Institute of Chemistry, Academia Sinica, Taipei, Taiwan.
- 2011-2015 Associate Research Fellow, Institute of Chemistry, Academia Sinica  
Associate Professor, Department of Applied Chemistry, National Chiao-Tung University, Hsin-Chu, Taiwan.
- 2015-present Research Fellow (Professor), Institute of Chemistry, Academia Sinica  
Professor, Department of Applied Chemistry, National Chiao-Tung University

## Lecture abstract:

Ligand design has been playing a critical role in the optimization of catalytic process and reaction for transition and main group metal complexes. Our research group has been working in the past decade on the synthesis and coordination chemistry based on nitrogen heterocyclic carbene (NHC) and carbodicarbene. Of particular interest was the use of these metal complexes to explore C-H and C-O bond activation. Second part of presentation covers a topic on “carbodicarbene or carbene which is a divalent carbon (0) with two N-heterocyclic carbene (NHC) ligands. Carbodicarbenes (CDCs) or bent allenes have been proven to be stronger donor ligands for both main group elements and transition metals in catalytic applications.

## Selected publications:

- Chen, W.-C.; Shen, J.-S.; Jurca, T.; Peng, C.-J.; Lin, Y. H.; Wang, Y.-P.; Shih, W.-C.; Yap, G. P. A.; Ong, T.-G.\* *Angew. Chem. Int. Ed.*, 2015, 54, 15307-15212.
- Hsu, Y.-C.; Shen, J.-S.; Lin, B.-C.; Chen, W.-C.; Chan, Y.-T.; Ching, W.-M.; Yap, G. P. A.; Hsu, C.-P.; Ong, T.-G.\* *Angew. Chem. Int. Ed.*, 2015, 54, 2420-2424.

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