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School of Physical & Mathematical Sciences
Division of Chemistry and Biological Chemistry
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EDUCATION

1996 – 1999 PhD, University of Cambridge (Supervisor: Prof Andrew B. Holmes)
1994 – 1995 B.Sc. (Hons), First Class, National University of Singapore
1991 – 1994 B.Sc., National University of Singapore

PROFESSIONAL EXPERIENCE

Sept 2016 – present Professor, School of Physical and Mathematical Sciences
Division of Chemistry and Chemical Biology, Nanyang Technological University

Apr 2012 – Aug 2016 Associate Professor, School of Physical and Mathematical Sciences, Division of Chemistry and Chemical Biology, Nanyang Technological University

2010 – Mar 2012 Associate Professor (Dean's Chair Professor)
Department of Chemistry, National University of Singapore

May 2003 – 2009 Assistant Professor
Department of Chemistry, National University of Singapore

2002 – 2003 Research Associate (Supervisor: Prof Robert R. Rando)
Department of Biological Chemistry and Molecular Pharmacology
Harvard Medical School

2000 – 2002 Postdoctoral Fellow (Supervisor: Prof Yoshito Kishi)
Department of Chemistry and Chemical Biology, Harvard University

ADMINISTRATIVE EXPERIENCE

Jan 2018 – Mar 2022 Chair, School of Physical and Mathematical Sciences,
(Division of Physics and Applied Physics, Division of Mathematical Sciences, Division of Chemistry and Biological Chemistry)

Sep 2016 – present Cluster Leader, Singapore Membrane Technology Centre (SMTC)
Nanyang Environment & Water Research Institute (NEWRI)

Oct 2013 – Dec 2019 Director, CN Yang Scholars Program (premier scholar program consisting of top students from College of Science and College of Engineering)

Jan 2019 – Dec 2019 NTU Drug Discovery Engine Steering Committee
Feb 2017 – Feb 2018 School Review Committee for Promotion and Tenure
2017 Chair Advisory Committee members for the 6th Lecturer Promotion
Exercise and Division Faculty Search Committee

Sep 2016 – Dec 17 NTU Research Council (EP1 Chemical Sciences & Chemical Engineering)
and NTU Teaching Council

Aug 2014 – Dec 2017 Resource & Advisory Committee, Member, Crescent Hall NTU
Mar 2013 – Dec 2017 Program Leader, NITHM (Nanyang Institute of Technology in Health and Medicine) Drug Discovery and Synthetic Biology/Chemical Biology Program

Jan 2013 – May 2014 Associate Chair, Outreach and Undergraduate Admissions
Oct 2012 – Dec 2012 Assistant Chair, Outreach and Undergraduate Admissions

2011 – 2012	Member, Faculty Tenure and Promotion Committee
2005 – 2010	Chair of Graduate Committee, Medicinal Chemistry Program, Office of Life Sciences
2004 – 2007	Member, Graduate Program in Bioengineering, Centre of Life Sciences
2005 – 2007	Member, Cardiovascular Program, Office of Life Sciences

VISITING POSITIONS

Mar 2016 – Dec 2018	Visiting Professor, College of Chemistry and Material Science Jinan University Guangzhou, China
2010 – 2015	Distinguish Adjunct Professor Key Laboratory of Natural Medicine and Immuno-Engineering of Henan Province Henan University, Kaifeng, China
Mar – Jun 2006	Visiting Scholar Department of Chemistry, National Taiwan University

RESEARCH INTERESTS

- Synthetic Organic Chemistry (Catalysis)
- Biological and Medicinal Chemistry

TEACHING EXPERIENCE

- National University of Singapore: CM1121 Basic Organic Chemistry; CM3221 Organic Synthesis and Spectroscopy; CM4223 Asymmetric Synthesis; CM3291 Advance Experiments in Organic and Inorganic Chemistry (Lab Module); CM5224 Emerging Concepts in Medicinal Chemistry (Coordinator); CM5291 Experiments in Medicinal Chemistry (Lab Module, Coordinator)
- Nanyang Technological University: CM3031 Organic Reaction Mechanism and Synthesis; CM9082 Drug Design and Discovery, CY1500 Introduction to Research Methodology, CM4032 Current Topics in Synthetic Organic Chemistry
- National Taiwan University: 223EU0210 有機合成一 Organic Chemistry 1

PUBLICATIONS

(1995 – 2003)

1. R.B.Wang, C.M.Lim, **C.H.Tan**, B.K.Lim, K.Y.Sim and T.P.Loh. Ytterbium trifluoromethanesulfonate [Yb(OTf)₃] promoted indium mediated allylation reactions of carbonyl-compounds in aqueous-media. *Tetrahedron-Asymmetry*, 1995, 6, 1825 – 1828.
2. N.Srikanth, **C.H.Tan**, S.C.Ng, T.P.Loh, L.L.Koh and K.Y.Sim. Synthesis of heterocyclic analogues of tamoxifen as potential antiestrogens. *Journal of Chemical Research-S*, 1997, 8, 274 – 275; *Journal of Chemical Research-M*, 1997, 1828 – 1849.
3. W.P.Hems, **C.H.Tan**, T.Stork, N.Feeder and A.B.Holmes. Intramolecular cyclisation of (Z)-N-4-alkenyl nitrones and the effects of alkenyl substituents. *Tetrahedron Letters*, 1999, 40, 1393 – 1396.
4. **C.H.Tan**, T.Stork, N.Feeder and A.B.Holmes. Stereoselective synthesis of the indolizidine core of the allopumiliotoxins. *Tetrahedron Letters*, 1999, 40, 1397 – 1400.
5. Y.Kobayashi, **C.H.Tan** and Y.Kishi. Toward creation of a universal NMR database for stereochemical assignment: the case of 1,3,5-trisubstituted acyclic systems. *Helvetica Chimica Acta*, 2000, 83, 2562 – 2571.
6. Y.Kobayashi, **C.H.Tan** and Y.Kishi. Stereochemical assignment of the C21-C38 portion of the Desertomycin/Oasomycin class of natural products via universal NMR databases: Prediction. *Angewandte Chemie International Edition English*, 2000, 39, 4279 – 4281.

7. **C.H.Tan**, Y.Kobayashi and Y.Kishi. Stereochemical assignment of the C21-C38 portion of the Desertomycin/Oasomycin class of natural products via universal NMR databases: Proof. *Angewandte Chemie International Edition English*, 2000, 39, 4282–4284.
 8. **C.H.Tan** and A.B.Holmes. Total synthesis of allopumiliotoxin 323B'. *Chemistry-A European Journal*, 2001, 7, 1845 – 1854.
 9. Y.Kobayashi, **C.H.Tan** and Y.Kishi. Toward creation of a universal NMR databases for stereochemical assignment: Complete structure of the Desertomycin/Oasomycin class of natural products, *Journal of the American Chemical Society*, 2001, 123, 2076 – 2078.
 10. Y.Kobayashi, N.Hayashi, **C.H.Tan** and Y.Kishi. Toward the creation of NMR databases in chiral solvents for assignments of relative and absolute stereochemistry: Proof of concept. *Organic Letters*, 2001, 3, 2245 – 2248.
 11. D.H.Ryu, **C.H.Tan** and R.R.Rando. Synthesis of (+), (-)-Neamine and their positional isomers as potential antibiotics. *Bioorganic and Medicinal Chemistry Letters*, 2003, 13, 901 – 903.
- (2005)
12. W. Ye, J. Xu, C.T. Tan and **C.H.Tan**. 1,5,7-Triazabicyclo[4.4.0]dec-5-ene (TBD) catalyzed Michael reactions. *Tetrahedron Letters*, 2005, 46, 6875 – 6878.
- (2006)
13. W. Ye, D. Leow, Serena L. M. Goh, C.-T. Tan, C.-H. Chian and **C.-H. Tan**. Chiral bicyclic guanidines: a concise and efficient aziridine-based synthesis. *Tetrahedron Letters*, 2006, 47, 1007 – 1010.
 14. J. Xu, Y. Guan, S. Yang, Y. Ng, G. Peh and **C.-H. Tan**, Chiral imidazoline promoted asymmetric Baylis-Hillman reaction. *Chemistry - An Asian Journal*, 2006, 1, 724 – 729.
 15. J. Shen, T. T. Nguyen, Y.-P. Goh, W. Ye, X. Fu, J. Xu and **C.-H. Tan**, Chiral bicyclic guanidine catalyzed enantioselective reactions of anthrones. *Journal of the American Chemical Society*, 2006, 128, 13692 – 13693.
- (2007)
16. Z. Jiang, Y. Zhang, W. Ye and **C.-H. Tan**, P-C Bond formation via direct and three-component conjugate addition catalyzed by 1,5,7-Triazabicyclo[4.4.0]dec-5-ene (TBD). *Tetrahedron Letters*, 2007, 48, 51 – 54.
 17. H. Liu and **C.-H. Tan**, Iodobenzene-catalysed iodolactonisation using sodium perborate monohydrate as oxidant. *Tetrahedron Letters*, 2007, 48, 8220 – 8222.
 18. X. Fu, Z. Jiang and **C.-H. Tan**, Bicyclic guanidine-catalyzed enantioselective Phospha-Michael reaction: Synthesis of chiral β -aminophosphine oxides and β -aminophosphines, *Chemical Communications*, 2007, 5058 – 5060.
 19. W. Ye, Z. Jiang, Y. Zhao, Serena L. M. Goh, D. Leow, Y.-T. Soh and **C.-H. Tan**. Chiral bicyclic guanidine as a versatile Brønsted base catalyst for the enantioselective Michael reactions of dithiomalonates and β -keto thioesters, *Advanced Synthesis and Catalysis*, 2007, 349, 2454 – 2458.
 20. S.M. Ong, L. He, N.T.T. Linh, Y.H. Tee, T. Arooz, G.P. Tang, **C.H. Tan** and Yu H. Transient inter-cellular polymeric linker. *Biomaterials*, 2007, 28, 3656 – 3667.
- (2008)
21. J. Shen and **C.-H. Tan**, Brønsted-Acid and Brønsted-Base catalyzed Diels–Alder reactions, *Organic and Biomolecular Chemistry*, 2008, 6, 3229 – 3236. (Invited)
 22. H. Liu, Y. Pan and **C.-H. Tan**, Sodium nitrite (NaNO₂) catalysed iodo-cyclisation of alkenes and alkynes using molecular oxygen. *Tetrahedron Letters*, 2008, 49, 4424 – 4426.

23. D. Leow, S. Lin, S. K. Chittimalla, X. Fu and **C.-H. Tan**, Enantioselective protonations catalyzed by chiral bicyclic guanidine, *Angewandte Chemie International Edition English*, 2008, 47, 5641 – 5645. (Highlighted by *Synfacts* 2008, 9, 0933-0933; contributors: Benjamin List, Frank Lay)
 24. J. Xu, X. Fu, R. Low, Y.-P. Goh, Z. Jiang and **C.-H. Tan**, Tandem conjugate Addition-Elimination reaction promoted by Chiral Pyrrolidinyl Sulphonamide (CPS), *Chemical Communications*, 2008, 5526 – 5528. (Highlighted by Douglass F. Taber, *Org. Chem. Highlights* 2009, August 10.)
 25. Z. Jiang, W. Ye, Y. Yang and **C.-H. Tan**, Rate acceleration of triethylamine-mediated guanidine-catalyzed enantioselective Michael reaction, *Advanced Synthesis and Catalysis*, 2008, 350, 2345 – 2351.
 26. J. Shen and **C.-H. Tan**, Anthrone-Derived NHPI analogues as catalysts in reactions using oxygen as an oxidant, *Organic and Biomolecular Chemistry*, 2008, 6, 4096 – 4098.
 27. Y. Wang, M. T. T. Ng, T. Zhou, X. Li, **C.-H. Tan** and T. Li, C3-Spacer-Containing circular oligonucleotides as inhibitors of Human Topoisomerase I. *Bioorganic and Medicinal Chemistry Letters*, 2008, 18, 3597 – 3602.
 28. L. Li, M. Whiteman, Y. Y. Guan, K. L. Neo, Y. Cheng, S. W. L, Y. Zhao, R. Baskar, **C.-H. Tan** and P. K. Moore, Characterisation of a novel, water soluble hydrogen sulfide releasing molecule (GY4137): new insights into the biology of hydrogen sulphide, *Circulation*, 2008, 117, 2351 – 2360.
 29. S. M. Ong, C. Zhang, Y. C. Toh, S. H. Kim, H. L. Foo, **C.-H. Tan**, D. van Noort, S. Park and H. Yu, A gel-free 3D microfluidic cell culture system, *Biomaterials*, 2008, 29, 3237 – 3244.
 30. R.-S. Liu, V. Drozd, N. Bagkar, C.-C. Shen, I. Baginskiy, C.-H. Chen and **C.-H. Tan**, Direct white light phosphor based on metallorganic coordination extended networks for UV-light-emitting diodes *Journal of the Electrochemical Society*, 2008, 155 (6), P71-P73.
 31. D. Zhao, S.-M. Ong, Z. Yue, Y.-C. Toh, M. Khan, H. Yu, J.P. Chen, Z. Jiang, J. Shi and **C.-H. Tan**, Dendrimer hydrazides as multivalent transient inter-cellular linkers, *Biomaterials*, 2008, 29, 3693 – 3702.
 32. **C.-H. Tan** and J. Shen, 2,3,5,6-Tetrahydro-2,6-bis(phenylmethyl)-1H-imidazo[1,2-a]imidazole, *Electronic Encyclopedia of Reagents for Organic Synthesis (e-EROS)*, 2008, DOI: 10.1002/047084289X.rm00967. Article Online Posting Date: September 15, 2008. (Invited)
- (2009)
33. D. Leow and **C.-H. Tan**, Chiral guanidines catalyzed enantioselective reactions, *Chemistry - An Asian Journal*, 2009, 4, 488 – 507. (Invited, Most accessed articles 6/2008–5/2009, Top 20 most cited article in Chem. Asian. J.)
 34. Z. Jiang, Y. Yang, Y. Pan, Y. Zhao, H. Liu and **C.-H. Tan**, Synthesis of α -stereogenic amides and ketones by enantioselective conjugate addition of 1,4-dicarbonyl but-2-enes, *Chemistry - An European Journal*, 2009, 15, 4925 – 4930.
 35. R. Lee, X. Lim, T. Chen, G. K. Tan, **C.-H. Tan** and K.-W. Huang, Selective formation of bicyclic guanidinium chloride complexes: Implication of the bifunctionality of guanidines. *Tetrahedron Letters*, 2009, 50, 1560 – 1562.
 36. Julian Y.-T. Soh, **C.-H. Tan**, Amino-indanol catalyzed enantioselective reactions of 3-hydroxy-2-pyridones, *Journal of the American Chemical Society*, 2009, 131, 6904 – 6905. (Highlighted by *Synfacts* 2009, 7, 0792-0792; contributors: Benjamin List, Saihu Liao)
 37. H. Liu, D. Leow, **C.-H. Tan**, Enantioselective synthesis of chiral allenates by guanidine-catalyzed isomerization of alkynoates, *Journal of the American Chemical Society*, 2009, 131,

7212 – 7213. (Highlighted by *Synfacts* 2009, 7, 0794-0794; contributors: Benjamin List, Steffen Müller)

38. Z. Jiang, Y. Pan, Y. Zhao, T. Ma, R. Lee, Y. Yang, K.-W. Huang, M. W. Wong and **C.-H. Tan**, Synthesis of chiral quaternary C-F bond through highly enantioselective and diastereoselective guanidine-catalyzed addition of fluorocarbon nucleophiles, *Angewandte Chemie International Edition*, 2009, 48, 3627 – 3631. (Designated by Editors as Hot paper)
39. Q. Sun, R. Collins, S. Huang, L. Holmberg-Schiavone, G. S. Anand, **C.-H. Tan**, S. van-den-Berg, L.-W. Deng, P. K. Moore, T. Karlberg and J. Sivaraman. Structures of human cystathionine - gamma-Lyase reveal new insights into the mechanism of H₂S production, *Journal of Biological Chemistry*, 2009, 284, 3076 – 3085.
40. L. Li, M. Salto-Tellez, **C.-H. Tan**, M. Whiteman, P. K. Moore. GYY4137, A novel hydrogen sulfide releasing molecule, protects against endotoxic shock in the rat, *Free Radical Biology & Medicine*, 2009, 47, 103 – 113.
41. T. Zhou, X. Li, M. T. T. Ng, Y. Wang, N. M. Quek, J. Luo, W. Yuan, **C.-H. Tan**, H. Zeng, T. Li. Synthesis and characterization of circular structures of i-Motif tagged with Fluoresceins *Bioconjugate Chemistry*, 2009, 20, 644 – 647.
42. X. Fu, W.-T. Loh, Y. Zhang, T. Chen, H. Liu, J. Wang, and **C.-H. Tan**, Chiral guanidinium salt catalyzed enantioselective Phospha-Mannich reactions, *Angewandte Chemie International Edition*, 2009, 2009, 40, 7387 – 7390. (Highlighted by *Synfacts* 2009, 11, 1281-1281; contributors: Benjamin List, Lars Ratjen)
43. S. Lin, D. Leow, K.-W. Huang, **C.-H. Tan**. Enantioselective protonation of itaconimides with thiols and insights into the rotational kinetics of the axially chiral C–N bond, *Chemistry An Asian Journal*, 2009, 4, 1741 – 1744.
- (2010)
44. R. Lee, Y. Yang, G. K. Tan, **C.-H. Tan**, K.-W. Huang. A novel heteroleptic paddlewheel diruthenium bicyclic guanidinate complex: Synthesis, structure, and scope, *Dalton Transactions*, 2010, 39, 723 – 725.
45. S. Huang, J. H. Chua, W. S. Yew, J. Sivaraman, P. K. Moore, **C.-H. Tan**, L.-W. Deng. Site-directed mutagenesis on human Cystathionine-gamma-lyase reveals insights into the modulation of H₂S production, *Journal of Molecular Biology*, 2010, 396, 708 – 718.
46. Y. Pan, Y. Zhao, T. Ma, Y. Yang, H. Liu, Z. Jiang, **C.-H. Tan**, Enantioselective synthesis of α -fluorinated β -amino acid derivatives via asymmetric Mannich reaction and selective decarboxylation/deacylation reactions, *Chemistry - An European Journal*, 2010, 16, 779 – 782.
47. M. Whiteman, L. Li, P. C. Rose, **C.-H. Tan**, D. Parkinson, Philip K. Moore, The effect of hydrogen sulfide donors on lipopolysaccharide-induced formation of inflammatory mediators in macrophages, *Antioxidant and Redox Signaling*, 2010, 12, 1147 – 1154.
48. H. Liu, W. Feng, Y. Zhao, D. Leow, Y. Pan, **C.-H. Tan**, Organic dye photocatalyzed α -oxyamination through irradiation with visible light, *Green Chemistry*, 2010, 12, 953 – 956.
49. D. Leow, **C.-H. Tan**, Catalytic reactions of chiral guanidines and guanidinium Salts, *Synlett*, 2010, 1589 – 1605. (Invited)
50. X. Mo, Q. Li, L. Wai Y. L., B. Zheng C. H. Kang, B. Nugraha, Z. Yue, R. R. Jia, H. X. Fu, D. Choudhury, T. Arooz, J. Yan, C. T. Lim, S. Shen, **C.-H. Tan**, Hanry Yu, Rapid construction of mechanically-confined multi-cellular structures using dendrimeric intercellular linker, *Biomaterials*, 2010, 31, 7455 – 7467.

51. J. Wang, H. Liu, Y. Fan, Y. Yang, Z. Jiang, **C.-H. Tan** Bicyclic guanidine-catalyzed direct asymmetric allylic addition of N-aryl alkylidene-succinimides, *Chemistry - An European Journal*, 2010, 16, 12534 – 12537.
52. H. Liu, W. Feng, D. Leow, W.-T. Loh, **C.-H. Tan**, Brønsted-base catalyzed tandem isomerization-Michael reactions of alkynes: The synthesis of oxacycles and azacycles, 2010, *Advanced Synthesis and Catalysis*, 352, 3373 – 3379.
- (2011)
53. Y. Zhao, Y. Pan, H. Liu, Y. Yang, Z. Jiang, K.-W. Huang, **C.-H. Tan**, α -Fluorinated aromatic ketone as nucleophile in asymmetric organocatalytic C-C and C-N bonds formation reactions: A facile route to the construction of fluorinated quaternary stereogenic carbon centers, *Chemistry - An European Journal*, 2011, 17, 3571 – 3574.
54. T. Ma, X. Fu, C. W. Kee, L. Zong, Y. Pan, K.-W. Huang, **C.-H. Tan**, Pentanidium catalyzed enantioselective phase transfer conjugate addition reactions, *Journal of the American Chemical Society*, 2011, 133, 2828 – 2831. (Highlighted by *Synfacts* 2011, 5, 0556-0556; contributors: Benjamin List, Saihu Liao)
55. Y. Zhang, C. W. Kee, Richmond Lee, X. Fu, Julian Y.-T. Soh, Esther M. F. Loh, K.-W. Huang and Choon-Hong Tan, **C.-H. Tan**, Guanidine-catalyzed enantioselective desymmetrization of meso-aziridines, 2010, *Chemical Communications*, 47, 3897 – 3899.
56. B. Cho, **C.-H. Tan**, M.-W. Wah, Sequential catalytic role of bifunctional bicyclic guanidine in asymmetric Phospha-Michael reaction, *Organic and Biomolecular Chemistry*, 2011, 9, 4550 – 4557.
57. Y. Pan, **C.-H. Tan**, Catalytic decarboxylative reactions, a biomimetic approach inspired from polyketides biosynthesis, *Synthesis*, 2011, 13, 2044 – 2053. (Invited)
58. Z. W. Lee, J. Zhou, C.-S. Chen, Y. Zhao, **C.-H. Tan**, Ling Li, P. K. Moore, L.-W. Deng, The slow-releasing hydrogen sulfide donor, GYY4137, exhibits novel anti-cancer effects *in vitro* and *in vivo*, *PLoS ONE*, 2011, 6, e21077.
59. X. Fu, **C.-H. Tan**, Mechanistic considerations of guanidines-catalyzed reactions, 2010, *Chemical Communications*, 2011, 47, 8210 – 8222. (Invited)
60. W. Yang, X. Wei, Y. Pan, Richmond Lee, B. Zhu, H. Liu, L. Yan, K.-W. Huang, **C.-H. Tan**, Z. Jiang, Highly enantio- and diastereoselective synthesis of β -Methyl- γ -Monofluoro-Methyl substituted alcohols, *Chemistry - An European Journal*, 2011, 17, 8066 – 8070 (Designated as VIP – Very Important Paper).
61. Y. Pan, C. W. Kee, Z. Jiang, T. Ma, Y. Zhao, Y. Yang, H. Xue, **C.-H. Tan**, Expanding the utility of Brønsted base catalysis: Biomimetic enantioselective decarboxylative reactions, *Chemistry - An European Journal*, 2011, 17, 8363 – 8370.
62. B. Nugraha, X. Hong, X. Mo, L. Tan, W. Zhang, P.-M. Chan, C. H. Kang, Y. Wang, L. T. Beng, W. Sung, D. Choudhury, J. M. Rubens, M. McMillian, J. Silva, S. Dallas, **C.-H. Tan**, Z. Yue, Hanry Yu, Galactosylated cellulosic sponge for multi-well drug safety testing, *Biomaterials*, 2011, 32, 6982 – 6994.
63. B. Zhu, L. Yan, Y. Pan, R. Lee, H. Liu, Z. Han, K.-W. Huang, **C.-H. Tan**, Z. Jiang, Enantioselective Lewis Base-catalyzed highly enantioselective allylic hydroxylation of Morita-Baylis-Hillman carbonates with water, *Journal of Organic Chemistry*, 2011, 76, 6894 – 6900.
64. Y. L. Quek, **C.-H. Tan**, J. Bian, D. Huang, Air oxidation of HS- catalyzed by an mixed-valence diruthenium complex, an near-IR probe for HS- detection, *Inorganic Chemistry*, 2011, 50, 7379 – 7381.

65. Y. Pan, C. W. Kee, L. Chen and **C.-H. Tan**, Dehydrogenative coupling reactions catalysed by Rose Bengal using visible light irradiation, *Green Chemistry*, 2011, 13, 2682 – 2685.
 66. F. Zhao, W. Zhang, Y. Yang, Y. Pan, W. Chen, H. Liu, L. Yan, **C.-H. Tan**, Z. Jiang, Synthesis of sulfur-substituted α -stereogenic amides and ketones: Highly enantioselective Sulfa-Michael Addition (SMA) of 1,4-dicarbonyl but-2-enes, *Advanced Synthesis and Catalysis*, 2011, 353, 2624 – 2630.
 67. Y. Pan, S. Wang, C. W. Kee, E. Dubuisson, K. P. Loh, and **C.-H. Tan**, Graphene Oxide and Rose Bengal: Oxidative C-H functionalization of tertiary amines using visible light, *Green Chemistry*, 2011, 13, 3341 – 3344.
- (2012)
68. Y. Zhao, Y. Pan, S.-B. D. Sim, **C.-H. Tan**, Enantioselective organocatalytic fluorination organofluoro nucleophiles, *Organic and Biomolecular Chemistry*, 2012, 10, 479 – 485. (Invited)
 69. J. Wang, J. Chen, C. W. Kee, **C.-H. Tan**, Bicyclic guanidine-catalyzed enantiodivergent γ -selective asymmetric allylic amination, *Angewandte Chemie International Edition*, 2012, 51, 2382 – 2386.
 70. W. Yang, D. Tan, R. Lee, L. Li, Y. Pan, K.-W. Huang, **C.-H. Tan**, Z. Jiang, Catalytic diastereoselective tandem conjugate addition-elimination reaction of Morita-Baylis-Hillman C-adducts via C–C bond cleavage, *Chemistry - An Asian Journal*, 2012, 7, 771 – 777.
 71. Y. Zhao, X. Lim, Y. Pan, L. Zong, **C.-H. Tan**, K.-W. Huang, Asymmetric H/D exchange reactions of fluorinated aromatic ketones, *Chemical Communications*, 2012, 48, 5479 – 5481.
 72. L. Li, W. Chen, W. Yang, Y. Pan, H. Liu, **C.-H. Tan**, Z. Jiang, Bicyclic guanidine-catalyzed asymmetric Michael additions of 3-benzyl-substituted oxindoles to *N*-maleimides, *Chemical Communications*, 2012, 48, 5124 – 5126.
 73. K. S. Goh, **C.-H. Tan**, Metal-free Pinnick-type oxidative amidation of aldehydes, *RSC Advances*, 2012, 2, 5536 – 5538.
 74. B. Cho, **C.-H. Tan**, M.-W. Wah, Origin of asymmetric induction in bicyclic guanidine-catalyzed thio-Michael reaction: A bifunctional mode of Lewis acid-Brønsted acid activation, *Journal of Organic Chemistry*, 2012, 77, 6553 – 6562.
 75. W. Yang, L. Li, Y. Pan, H. Liu, Y. Yang, L. Yan, **C.-H. Tan**, Z. Jiang, Direct Asymmetric allylic alkenylation of *N*-itaconimides with Morita-Baylis-Hillman carbonates, *Journal of Organic Chemistry*, 2012, 77, 6600 – 6607.
 76. S. Wang, C. T. Nai, X.-F. Jiang, Y. Pan, **C.-H. Tan**, M. Nesladek, Q.-H. Xu, K. P. Loh, Graphene oxide-polythiophene hybrid with broadband absorption and photocatalytic properties, *The Journal of Physical Chemistry Letters*, 2012, 3, 2332 – 2336.
 77. W. Zhang, D. Tan, R. Lee, G. Tong, W. Chen, K.-W. Huang, **C.-H. Tan**, Z. Jiang, Highly enantio- and diastereoselective synthesis of γ,γ -butenolide-substituted α - and β -stereogenic amides via direct vinylogous Michael addition, *Angewandte Chemie International Edition*, 2012, 51, 10069 – 10073 (Highlighted by organic-chemistry.org, Tristen Lambert; <http://www.organic-chemistry.org/Highlights/2013/22July.shtm>)
 78. Y. Yang, F. Moinodeen, W. Chin, T. Ma, Z. Jiang, **C.-H. Tan**, Phase transfer pentanidium-catalyzed enantioselective α -hydroxylation of oxindole with molecular oxygen, *Organic Letters*, 2012, 14, 4762–4765. (Highlighted by organic-chemistry.org, Tristen Lambert; <http://www.organic-chemistry.org/Highlights/2013/20May.shtm>)
- (2013)
79. Y. C. Teo, Y. Pan, **C.-H. Tan**, Organic dye photocatalyzed *in-situ* generation of acylnitroso for Ene reactions, *ChemCatChem*, 2013, 5, 235 – 240.

80. Z. Han, W. Yang, **C.-H. Tan**, Z. Jiang, Organocatalytic asymmetric Mannich reactions of 5H-oxazol-4-ones: Highly enantio- and diastereoselective synthesis of chiral α -alkyl isoserine derivatives, *Advanced Synthesis and Catalysis*, 2013, 355, 1505 – 1511.
 81. Z. Liu, Y. Han, L. Li, H. Lu, X. Li, M. Shirhan, M. T. Peh, L. Xie, Y. Tang, S. Zhou, X. Wang, Q. Chen, W. Dai, C.-H. Tan, P. K. Moore, Y. Ji, The hydrogen sulfide donor, GYY4137, exhibits anti-atherosclerotic activity in high fat fed apolipoprotein E^{-/-} knockout mice, *British Journal of Pharmacology*, 2013, 169, 1795 – 1809.
 82. L. Chen, C. S. Chao, Y. Pan, S. Dong, Y. C. Teo, J. Wang, **C.-H. Tan**, Amphoteric methyleneamino synthon through organic dye catalyzed-decarboxylative aminoalkylation, *Organic and Biomolecular Chemistry*, 2013, 11, 5922 – 5925.
 83. L. Yan, Z. Han, B. Zhu, C. Yang, C.-H. Tan, and Z. Jiang, Asymmetric allylic alkylation of Morita-Baylis-Hillman carbonates with α -fluoro- β -keto esters, *Beilstein Journal of Organic Chemistry*, 2013, 9, 1853 – 1857.
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 86. C. Wang, Cindy M. T. Goh, S. Xiao, W. Ye, **C.-H. Tan**, Enantioselective protonation catalyzed by chiral Brønsted bases, *Journal of Synthetic Organic Chemistry Japan*, 2013, 71, 1145 – 1151.
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29. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light. 2nd International Conference on Green and Sustainable Chemistry, 16 Nov 2011, Singapore. (Keynote Speaker)
30. **C. H. Tan**, Guanidine-Catalyzed Asymmetric Tandem-Isomerisation Intramolecular-Diels-Alder Reaction: Total Synthesis of (+)- α -Yohimbine, 2nd NTU-Ecole Polytechnique Workshop, NTU, Singapore, 20 Feb 2012. (Invited Speaker)
31. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions. 2nd National Symposium in Organic Synthesis (NaSOS-II), Concorde Hotel Shah Alam, Selangor, Malaysia, 16 July 2012. (Invited Speaker)
32. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light. 12th ISOC and 9th ISCIC, Lanzhou, China, 20 Aug 2012. (Oral)

33. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light. NTU-Kyushu University Joint Symposium, 31 Jan 2013. (Invited Speaker)
34. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light. 6th Pacific Symposium on Radical Chemistry, University of British Columbia, Vancouver, Canada, 19 Jun 2013. (Oral)
35. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light. 3rd Phase ACP Startup Symposium, National TsingHua University, Taiwan, 20 Apr 2014. (Invited Speaker).
36. **C. H. Tan**, Chiral Pentanidiums as Phase Transfer Catalysts. IGER International Symposium on Chemical Science in Asia, Nagoya University, Japan, 27 May 2014. (Invited Speaker).
37. **C. H. Tan**, Halogen Bonding Induced Transfer Hydrogenation Reactions Using Hantzsch Ester, 1st International Symposium on Halogen Bonding, Port Cesareo, Italy, 21 Jun 2014. (Invited Speaker)
38. **C. H. Tan**, 新型"盘扭五氮胍盐(Pentanidium)"相转移催化剂及其在不对称催化反应中的应用, 11th National Synthetic Organic Chemistry Symposium, 18 Oct 2014. (Invited Speaker)
39. **C. H. Tan**, Halogen Bonding in Catalysis: Sulfenate Anion Chemistry and Hydrogen Transfer Reaction, Singapore International Chemical Conference-8, National University of Singapore 16 Dec 2014, Singapore. (Invited Speaker)
40. **C. H. Tan**, Chiral Pentanidiums as Phase Transfer Catalysts. Golden Jubilee Chemistry Conference, 8 Aug 2015. (Invited Speaker)
41. **C. H. Tan**, Chiral Pentanidiums as Phase Transfer Catalysts. IUPAC 2015 Busan, 45th World Chemistry Congress, 11 Aug 2015. (Invited Speaker)
42. **C. H. Tan**, Pentanidium and Bisguanidinium As Phase Transfer and Ion-Pairing Catalysts, ICCEOCA-10, Kaohsiung, Taiwan, 3 Oct 2015. (Invited Speaker)
43. **C. H. Tan**, Pentanidium and Bisguanidinium As Phase Transfer and Ion-Pairing Catalysts, Pacificchem 2015, The International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, USA, 18 Dec 2015. (Invited Speaker)
44. **C. H. Tan**, Chiral Cationic Ion Pair Catalysts, The 3rd International Symposium on Natural Product Synthesis and Innovative Process Methods for Drug Manufacture, Peking University, 15 Oct 2016. (Invited Speaker)
45. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, International Symposium on Catalysis and Fine Chemicals 2016, Taipei, 11 Nov 2016. (Invited Speaker)
46. **C. H. Tan**, Halogen Bonding Mediated Reactions using Imidazolinium and Bipyridinium, HALCHEMVIII The 8th International Meeting on Halogen Chemistry, Nagoya, Japan, 15 Sep 2017. (Invited Speaker)
47. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, 7th International Kyoto Symposium on Organic Nanostructures and Molecular Technology, Kyoto University, 9 Nov 2017. (Invited Speaker)
48. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, KU-NTU Joint International Symposium on Pharmaceutical Sciences, Kyushu University, 5 Mar 2018. (Special Invited Speaker)
49. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, IISc-NTU Workshop at IISc, Bangalore, India, 19 Sep 2018. (Invited Speaker)

50. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, 10th Asian-European Symposium on Metal-Mediated Efficient Organic Synthesis (AES-2018), National Tsinghua University, 30 Sep 2018. (Invited Speaker)
51. **C. H. Tan**, Chiral Cation-Catalyzed Reactions, The 18th Tateshina Conference on Organic Chemistry, Nagano, 10 Nov 2018. (Invited Speaker)
52. **C. H. Tan**, Chiral Cation-Catalyzed Reactions, 4th Mogan Mountain International Summit on Green Pharmaceuticals, Hangzhou, 30 Nov 2018. (Plenary Speaker)
53. **C. H. Tan**, Chiral Cation-Catalyzed Reactions, Catalysis and Fine Chemicals 2018, Bangkok, 11 Dec 2018. (Keynote Speaker)
54. **C. H. Tan**, Chiral Cation-Catalyzed Reactions, 1st International Symposium of Hybrid Catalysis, University of Tokyo, Japan, 31 May 2019. (Invited Speaker)
55. **C. H. Tan**, Chiral Cation-Catalyzed Reactions, 15th Sino-US Chemistry Professor Conference, Xinxiang, China, 17 Jun 2019. (Invited Speaker)
56. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, Symposium on Organic Synthetic Chemistry, HwaGen Pharma, Guangdong, China, 10 July 2019. (Invited Speaker)
57. **C. H. Tan**, Halogen Bonding in Catalysis through Pentanidium and Imidazolinium, 2nd Japan-Germany-Singapore Trilateral Symposium on Precision Synthesis and Catalysis, Nara, Japan, 2 Dec 2019. (Invited Speaker)
58. **C. H. Tan**, Chiral Cation Ion Pairing Catalysis, 4th International Symposium on Precisely Designed Catalysts with Customized Scaffolding, Nara, Japan, 3 Dec 2019. (Invited Speaker)
59. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, 12th Organocatalysis Symposium Japan, Kyoto University, 5 Dec 2019. (Invited Speaker)
60. **C. H. Tan**, Halogen Bonding in Catalysis, 4th International Symposium on Halogen Bonding (ISBX-4), Stellenbosch, South Africa, 24 March 2020 (Plenary Speaker, postponed); Halogen Bonding in Catalysis through Pentanidium and Imidazolinium, 5 Nov 2020 (online).
61. **C. H. Tan**, Chiral Cationic Ion-Pair Catalysis Using Hypervalent Silicates, The International Chemical Congress of Pacific Basin Societies 2021, Development of New Reactions and Technologies Adaptable to Process Chemistry (#366), Hawaii, 18 Dec 2020 (online).
62. **C. H. Tan**, Halogen Bonding in chiral cation catalysis, The International Chemical Congress of Pacific Basin Societies 2021, Iodine Chemistry at The Dawn of Its Third Century (#375), Hawaii, 19 Dec 2020 (online).
63. **C. H. Tan**, Phase Transfer Catalysis Using Pentanidium, The International Chemical Congress of Pacific Basin Societies 2021, New Aspects on Organocatalysts (#376), Hawaii, 20 Dec 2020 (online).
64. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, 11th Asian-European Symposium on metal-Mediated Organic Synthesis, Technion – Israel Institute of Technology, Haifa, Israel, 6-9 Sep 2020. (Invited Speaker, postponed)

INVITED LECTURES

1. **C. H. Tan**, Organocatalytic Reactions - Chiral Guanidine and Chiral Imidazoline, **S*Bio Pte Ltd**, 17 Jan 2007 Singapore.
2. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, **Wyeth Research**, Cambridge, MA, 10 Apr 2007.

3. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **Boston University**, Boston, MA, 11 Apr 2007.
4. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **Brandeis University**, Waltham, MA, 12 Apr 2007.
5. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **National Taiwan University**, Taipei, Taiwan, 11 May 2007.
6. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **National Tsing Hua University**, Hsingchu, Taiwan, 18 May 2007.
7. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **National Cheng Kung University**, Tainan, Taiwan, 13 June 2007.
8. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **National Sun Yat-Sen University**, Kaohsiung, Taiwan, 14 June 2007.
9. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **The University of Hong Kong**, Hong Kong, 11 Mar 2008.
10. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **Hong Kong University of Science and Technology**, Hong Kong, 12 Mar 2008.
11. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **Chinese University of Hong Kong**, Hong Kong, 13 Mar 2008.
12. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **ETH Zürich** (Eidgenössische Technische Hochschule Zürich) Swiss Federal Institute of Technology, 11 Apr 2008.
13. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **University of Minnesota**, Minneapolis, MN, 23 July 2008.
14. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, School of Pharmacy, **University of Wisconsin at Madison**, Madison, WI, 25 July 2008.
15. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **Tamkang University**, Tamsui, Taiwan, 4 Aug 2008.
16. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **University of Oxford**, UK, 3 Aug 2008.
17. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, **National Taiwan University**, Taipei, Taiwan, 19 Jan 2009.
18. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Institute of Chemistry, **Academia Sinica**, Taipei, Taiwan, 20 Jan 2009.
19. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Applied Chemistry, **National Chiao Tung University**, Hsingchu, Taiwan, 19 Jan 2009.
20. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Industrial Chemistry, Faculty of Engineering, **Tokyo University of Science**, Tokyo, Japan, 10 Mar 2009.
21. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Biotechnology and Life Science, Faculty of Technology, **Tokyo University of Agriculture and Technology**, Tokyo, Japan, 11 Mar 2009.

22. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Graduate School of Pharmaceutical Sciences, Department of Chemistry, **University of Tokyo**, Tokyo, Japan , 12 Mar 2009.
23. **C. H. Tan**, Chiral guanidine catalyzed enantioselective reactions, Department of Chemistry, Graduate School of Science, **Tohoku University**, Sendai, Japan , 13 Mar 2009.
24. **C. H. Tan**, Bronsted base catalyzed enantioselective reactions, Department of Chemistry, **Chinese University of Hong Kong**, Hong Kong, 06 Oct 2009.
25. **C. H. Tan**, Bronsted base catalyzed enantioselective reactions, Department of Chemistry, **Hong Kong Baptist University**, Hong Kong, 07 Oct 2009.
26. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Organic Chemistry, Faculty of Medical and Pharmaceutical Sciences, **Kumamoto University**, Japan, 30 Oct 2009.
27. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Organic Chemistry, Graduate School of Pharmaceutical Sciences , **Kyoto University**, Japan, 31 Oct 2009.
28. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Biotechnology, Graduate School of Engineering, **Nagoya University**, Japan, 2 Nov 2009.
29. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Gakushuin University**, Japan, 4 Nov 2009.
30. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Applied Chemistry, Graduate School of Science and Engineering, **Tokyo Institute of Technology**, Japan, 5 Nov 2009.
31. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, Faculty of Science, **Chulalongkorn University**, Thailand, 19 Feb 2010.
32. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **GlaxoSmithKline R&D China**, Singapore Research Centre, Biopolis, Singapore, 2 Mar 2010.
33. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, College of Chemistry and Molecular Engineering, **Peking University**, China, 21 May 2010.
34. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, KAUST Catalysis Centre, **King Abdullah University of Science and Technology**, Saudi Arabia, 14 June 2010.
35. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light, KAUST Catalysis Centre, **King Abdullah University of Science and Technology**, Saudi Arabia, 6 June 2011.
36. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Chulabhorn Research Institute**, Bangkok, 5 Oct 2011.
37. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Shanghai Institute of Organic Chemistry**, Shanghai, 31 Oct 2011.
38. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Shanghai Institute of Materia Medica**, Shanghai, 1 Nov 2011.
39. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **GlaxoSmithKline R&D China**, Shanghai, 1 Nov 2011.

40. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, School of Chemistry and Chemical Engineering, **Nanjing University**, Nanjing, 3 Nov 2011.
41. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **University of Science and Technology of China**, Hefei, 4 Nov 2011.
42. **C. H. Tan**, Organic Dye-Catalyzed Photoredox Chemistry Using Visible Light, Department of Biology and Chemistry, **City University of Hong Kong**, 26 Nov 2011.
43. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, West China School of Pharmacy, **Sichuan University**, Chengdu, 23 Aug 2012.
44. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, College of Chemistry, **Sichuan University**, Chengdu, 24 Aug 2012.
45. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, College of Pharmacy, **East China School of Science and Technology**, Shanghai, 6 Sep 2012.
46. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Sengkyunkwan University**, Korea, 22 Oct 2012.
47. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Hankuk University of Foreign Studies**, Korea, 23 Oct 2012.
48. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Kangwon National University**, Korea, 24 Oct 2012.
49. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Seoul National University**, Korea, 25 Oct 2012.
50. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, School of Chemistry and Environment, **South China Normal University**, China, 20 Dec 2012.
51. **C. H. Tan**, Development of Chiral Drugs through Organocatalysis, Center for Gene and Cell Engineering, Institute of Biomedical and Health Engineering, **Shenzhen Institutes of Advanced Technology**, Chinese Academy of Sciences (CAS), China, 21 Dec 2012.
52. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Givaudan Frangrance (Shanghai) Ltd**, Shanghai, China, 19 July 2013.
53. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Dalian Institute of Chemical Physics**, Dalian, China, 17 Sep 2013.
54. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, State Key Laboratory of Fine Chemicals, **Dalian University of Technology**, Dalian, China, 18 Sep 2013.
55. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, The State Laboratory of Elemento-organic Chemistry, **Nankai University**, Tianjin, China, 23 Sep 2013.
56. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, School of Pharmaceutical Science and Technology, **Tianjin University**, Tianjin, China, 24 Sep 2013.
57. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **National Taiwan Normal University**, Taipei, Taiwan, 20 Dec 2013.
58. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Dipartimento Di Chimica, **Sapienza Università Di Roma**, Rome, Italy, 19 Jun 2014.

59. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, **Livzon Pharmaceutical**, Zhuhai, Guangzhou, China, 14 Aug 2014.
60. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactive Reactions, **Raffles PharmaTech**, Huizhou, China, 15 Aug 2014.
61. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, School of Chemistry, UNSW Australia, **University of New South Wales**, Australia, 21 Aug 2014.
62. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, School of Chemistry, Faculty of Science, **The University of Sydney**, Australia, 22 Aug 2014.
63. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Ian Wark Laboratories, **CSIRO**, Clayton, Australia, 25 Aug 2014.
64. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, School of Chemistry, Bio21 Institute, **University of Melbourne**, Australia, 29 Aug 2014.
65. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, School of Chemistry, **University of Leeds**, United Kingdom, 17 Nov 2014.
66. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **University of York**, United Kingdom, 19 Nov 2014.
67. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **Imperial College London**, United Kingdom, 20 Nov 2014.
68. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Chemistry, Faculty of Natural & Environmental Sciences, **University of Southampton**, United Kingdom, 21 Nov 2014.
69. **C. H. Tan**, Chiral Brønsted Base Catalyzed Enantioselective Reactions, Department of Chemistry, **ETH Zürich** (Eidgenössische Technische Hochschule Zürich), Switzerland, 25 Nov 2014.
70. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, Department of Chemistry and Biochemistry, **National Chung Cheng University**, Taiwan, 3 Feb 2015.
71. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, Department of Chemistry, **National Tsing Hua University**, Taiwan, 4 Feb 2015.
72. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, Institute of Chemistry, **Academia Sinica**, Taiwan, 5 Feb 2015.
73. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, Department of Chemistry, **National Taiwan University**, Taiwan, 6 Feb 2015.
74. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, Department of Chemistry, **Jinan University**, China, 22 Apr 2015.
75. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, **Indian Institute of Science, Education and Research Bhopal (IISERB)**, Bhopal, India, Department of Chemistry, 18 May 2015.
76. **C. H. Tan**, Enantioselective Brønsted Base Reactions – Guanidine and Pentanidium Catalysts, **Indian Institute of Technology Delhi**, Department of Chemistry, Delhi, India, , 20 May 2015.

77. **C. H. Tan**, 新型"盘扭五氮胍盐(Pentanidium)"相转移催化剂及其在不对称催化反应中的应用, **Guangzhou Institute of Biomedicine and Health**, Chinese Academy of Science, 20 Oct 2015.
78. **C. H. Tan**, 新型"盘扭五氮胍盐(Pentanidium)"相转移催化剂及其在不对称催化反应中的应用, **South China University of Technology**, School of Chemistry and Chemical Engineering, 21 Oct 2015.
79. **C. H. Tan**, 新型"盘扭五氮胍盐(Pentanidium)"相转移催化剂及其在不对称催化反应中的应用, **South University Of Science And Technology Of China**, Department of Chemistry, 22 Oct 2015.
80. **C. H. Tan**, 新型"盘扭五氮胍盐(Pentanidium)"相转移催化剂及其在不对称催化反应中的应用, **Peking University Shenzhen Graduate School**, School of Chemical Biology and Biotechnology, 23 Oct 2015.
81. **C. H. Tan**, Pentanidium and Bisguanidinium As Phase Transfer and Ion-Pairing Catalysts, Department of Chemistry, **Hong Kong University of Science and Technology**, Hong Kong, 26 Oct 2015.
82. **C. H. Tan**, Pentanidium and Bisguanidinium As Phase Transfer and Ion Pair Catalysts, Department of Chemistry, **Monash University**, Australia, 7 Jun 2016.
83. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Institute of Advanced Synthesis, **Nanjing Tech University**, China, 12 Oct 2016.
84. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, School of Pharmacy, **Fudan University**, China, 20 Dec 2016.
85. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, **East China Normal University**, Shanghai, China, 21 Dec 2016.
86. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, **College of Chemistry Chemical Engineering and Biotechnology, Donghua University**, Shanghai, China, 22 Dec 2016.
87. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, **National Taiwan Normal University**, 23 Dec 2016.
88. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Graduate School of Pharmaceutical Sciences, **Kyushu University**, 14 Feb 2017.
89. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, **Qingdao Institute of Bioenergy and Bioprocess Technology**, Chinese Academy of Sciences, 16 Feb 2017.
90. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Marine Biomedical Research Institute of Qingdao, **Ocean University of China**, 16 Feb 2017.
91. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, College of Chemistry and Pharmaceutical Sciences, **Qingdao Agriculture University**, China, 17 Feb 2017.
92. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, Graduate School of Science, **Kyushu University**, Japan, 20 Feb 2017.
93. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, School of Chemistry and Chemical Engineering, **Sun Yat-Sen University**, China, 30 Mar 2017.
94. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, **University of British Columbia**, Canada, 11 May 2017.

95. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, State Key Laboratory of Applied Organic Chemistry, **Lanzhou University**, China, 30 Oct 2017.
96. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Research School of Chemistry, **Australian National University**, Australia, 16 May 2018.
97. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, l'UFR de chimie, **Sorbonne Université and Institut Parisien de Chimie Moléculaire**, France, 14 Jun 2018.
98. **C. H. Tan**, Chiral Cationic Ion Pair Catalysis, Department of Chemistry, **Chinese University of Hong Kong**, Hong Kong, 10 Aug 2018.
99. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, School of Chemistry and Environmental Engineering, **Shenzhen University**, 25 Nov 2018.
100. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry, **Hong Kong Baptist University**, 26 Nov 2018.
101. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry, **City University of Hong Kong**, 27 Nov 2018.
102. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry, **Zhejiang University**, 1 Dec 2018.
103. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Nanopharmaceutical Sciences, Department of Frontier Materials, **Nagoya Institute of Technology**, 13 Feb 2019 (Shibata, JSPS Lectureship Tour).
104. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Faculty of Pharmaceutical Sciences, **Gifu Pharmaceutical University**, 14 Feb 2019 (Sajiki, JSPS Lectureship Tour).
105. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Molecular Catalyst Research Center, **Chubu University**, 18 Feb 2019 (Yamamoto, JSPS Lectureship Tour).
106. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Graduate School of Engineering, **Nagoya University**, 19 Feb 2019 (Oii, JSPS Lectureship Tour).
107. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Biotechnology and Life Science, **Tokyo University of Agriculture and Technology**, 21 Feb 2019 (Nagasawa, JSPS Lectureship Tour).
108. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Graduate School of Science, **Tohoku University**, 22 Feb 2019 (Terada, JSPS Lectureship Tour).
109. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry, **Gakushuin University**, 25 Feb 2019 (Akiyama, JSPS Lectureship Tour).
110. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry and Chemical Engineering, **Shandong University**, 13 Jun 2019.
111. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, School of Chemistry and Chemical Engineering, **Shanghai Jiao Tong University**, 28 Jun 2019.
112. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, College of Science, **Westlake University**, 4 July 2019.

113. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, College of Chemistry and Material Science, **Jinan University**, 8 July 2019.
114. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, Department of Chemistry, **Tokyo Institute of Technology**, 3 Oct 2019.
115. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, School of Chemistry and Material Science, **Jiangsu Normal University**, 11 Oct 2019.
116. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, School of Chemistry and Environmental Engineering, **Shenzhen University**, 24 Oct 2019.
117. **C. H. Tan**, Guanidine and Guanidinium in Catalysis, Department of Synthetic Organic Chemistry, The Institute of Scientific and Industrial Research, **Osaka University**, 6 Dec 2019.
118. **C. H. Tan**, Chiral Cationic-Catalyzed Reactions, Department of Chemistry & Polymer Science, **Stellenbosch University**, South Africa, 18 Sep 2020 (virtual).
119. **C. H. Tan**, Guanidine and Guanidinium in Enantioselective Reactions, School of Chemistry, **University of Leeds**, UK, 12 Nov 2020 (virtual).

GRANT SUPPORT

1. Development of a Novel Hetero Diels-Alder Reaction for the Synthesis of Fused Cyclic Polyether Class of Bioactive Compounds (ARF)
R-143-000-196-101 01.05.2003 to 31.03.2006 \$124315.70
2. Catalysis of Cycloaddition Reactions Using Ureas, Thioureas and Amidines Ions (ARF)
R-143-000-222-112 01.02.2004 to 31.01.2007 \$123000
3. Novel Engineered Cells through Cell Surface Engineering (OLS seed fund)
R-143-000-253-712 25.01.2005 to 25.07.2007 \$20000
4. The Development of Novel Cell Surface Chemistry (ARF)
R-143-000-274-112 01.08.2005 to 31.07.2008 \$113977
5. Inhibitor design through the structural study of human cystathionine- γ -lyase/ inhibitor complex (cross-fac – ORE)
R-143-000-311-123 01.11.2006 to 31.10.2007 \$35000
6. The Bifunctional Organocatalytic Approach to the Butenolide Synthon (ARF)
R-143-000-337-112 01.07.2007 to 30.06.2010 \$86000
7. Development of Novel Catalysts and Catalytic Technologies (ARF – seed for RCE)
R-143-000-342-112 01.10.2007 to 30.09.2009 \$156000
8. The Development of Selective Inhibitors based on the Structural and Mechanistic Studies of Cystathionine- γ -lyase (BMRC)
R-143-000-350-305 01.01.2008 to 31.12.2010 \$493000
9. Bio-inspired Chemistry Based on Guanidines and Guanidiniums (ARF)
R-143-000-461-112 11.02.2011 to 10.02.2012 \$50000
10. Flavins as Biomimetic Organocatalysts for Green Chemistry (GSK-EDB)
R-143-000-460-592 01.08.2010 to 31.07.2014 \$384000
(M4061004.110.500000)
11. Practical Approaches for the Preparation of Chiral Bioactive Compounds (NTU funds)
M4080946 01.05.2012 to 31.03.2016 \$800000

12. Shedding light on the action mechanisms of organosulfur in promoting heart health: development of evidence-based dietary supplement from alliums (A*STAR-BMRC-SERC Nutrition and Food Science Grant, SERC 112 177 0036)
M4061048 18.08.2012 to 17.08.2015 \$957060 (as Co-PI, \$226500)
13. Graphene oxide and its hydrides as carbocatalysts and recyclable catalysts (AcRF Tier 1)
RG 6/12 M4011018 01.03.2013 to 28.02.2015 \$99000
14. Development of Practical Enantioselective Catalysis (NTU funds)
M4081324 01.05.2014 to 30.04.2017 \$180000
15. Development of Pentanidiums as a Phase Transfer Catalysts for Practical Asymmetric Synthesis (AcRF Tier 1)
M4011372 01.03.2015 to 28.02.2017 \$150000
16. Advancement of ¹¹C Radiolabeling and Microfluidic Technologies for PET Imaging (NMRC)
M4061613 01.03.2015 to 28.02.2018 \$1440000
17. Development of Bisguanidinium for Ion-Pairing Catalysis with Organometallic Anions (AcRF Tier 1)
M4011663 01.11.2016 to 31.10.2018 \$100000
18. Synthetic Channel-Based Biomimetic Membranes for Desalination
M4095046.C30 01.05.2016 to 30.04.2019 \$3855700 (as Co-PI, \$632000)
19. Halogen Bonding in Catalysis – Reaction Development and Computational Studies (AcRF Tier 2)
MOE2016-T2-1-087 02.01.2017 to 01.01.2020 S\$633,728.01 (as Co-PI \$446896.80)
20. Development of a Robotic System for Enantioselective Michael Reactions
RG 4/18 01-10-2018 to 30-09-2020 S\$84,915.00
21. 工业规模手性双胍相转移催化制备阿莫达非尼 Industrial Scale-Up of Chiral Bisguanidinium Phase-Transfer Catalyst for the Preparation of Armodafinil
1st Jan 2019 to 31st Dec 2020 RMB\$1,866,000
22. Development of Chiral Bisguanidinium Dicationic Salts for Ion-Pairing Catalysis with Silicate and Zinate Anions
2019-T1-001-107 01-11-2019 to 30-10-2021 S\$80,000.00
23. Synthesis of Congested Chiral Carbon Centers Using Halogenophilic Substitution
MOE2019-T2-1-091 02-01-2020 to 01-01-2023 S\$661,275.00
24. Differentiating the Fine Reactivity Difference of Functional Saccharides
NRF-CRP22-2019-0002 1st Nov 2020 to 31 Oct 2025 \$6,443,436
(as team-PI 692,730)
25. Development of New Strategies for the Synthesis of Organophosphorus Drugs Containing P-Stereogenic Centers
RG2/20 2 Nov 2020 to 1 Nov 2022 \$140,000
26. Big-Data and Quantum Chemical Calculations Aided Design and Manufacturing of Organic Fluorophores for Wash-Free Bioimaging
A2083c0051 1 Oct 2020 to 20 Sep 2023 \$593,566 (as co-PI 260,200)
27. Quantitative Design Rules for Developing PET-Based Fluorescent Labels and AIEgens
MOET2EP10120-0022 1 Mar 2021 to 29 Feb 24 \$505,296 (as co-PI 126,600)
28. Confinement catalysis for selective fatty acids (FAs) C(sp³)-H functionalization

RG61/21	1 Mar 2022 to 28 Feb 2024	\$180,000
29. Synthesis of natural and unnatural ether lipid libraries Wilmar	1 Jan 2022 to 31 Dec 2022	\$100,000
30. Aliphatic C-H functionalization of Lipids/ Long Chain Carboxylic Acids Wilmar	1 Jan 2022 to 31 Dec 2022	\$100,000

AFFILIATION

- Singapore National Institute of Chemistry (President, Mar 2017 – Jun 2021)
- Federation of Asian Chemical Societies (Executive Committee Member, Council Member for South East Asia and PNG, Aug 2017 – Dec 2019)
- Commonwealth Chemistry (Member, Board of Directors, Apr 2020 – present)
- Singapore Academy of Science (Fellow, 2020 – present)

AWARDS AND HONORS

- JSPS Fellowship for Research in Japan (2018)
- New Phase Asian Core Programme Lectureship Award from China (2014)
- Asia Core Program Lectureship Award from Taiwan (2013)
- SPMS Teaching Excellence Award AY2012/2013 (2013)
- NUS Faculty of Science, Dean's Chair Professorship (2011)
- GSK-SNIC Organic Chemistry Award (2011)
- The 5th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-5) Lectureship Award from Korea (2010)
- The 5th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-5) Lectureship Award from China (2010)
- Young Chemist Award (2009)
- Young Scientist Award (2009)
- CRISP award (2009)
- JSPS New Scientific Exchange Program (2009)
- Asia Core Program Lectureship Award from Hong Kong (2008)
- Asia Core Program Lectureship Award from Japan (2008)
- UK-Singapore Partners In Science Collaboration Development Awards (2008)

AWARDS and ACHIEVEMENTS OF STUDENTS UNDER SUPERVISION

- Jackson Leow Dasheng – Kiang Ai Kim Scholarship, Astar Postdoctoral Fellowship
- Lin Shishi – Lijen Industrial Medal for best honours project, CRISP award for best UOPS student in Faculty, Schering-Plough Gold Medal for best UOPS in Chemistry
- Ng Yu Rui – Schering-Plough Gold Medal for best UOPS in Chemistry
- Loh Weitian – Singapore National Institute of Chemistry for Best MSc thesis 2010
- Ye Weiping – CEO and Founder of Raffles PharmaTech
- Fu Xiao – Runner up 2010, Reaxys PhD Prize (international award)
- Liu Hongjun – Best Research Publication Award 2010, Best Graduate Researcher Award 2010, World Future Foundation PhD Prize in Environmental and Sustainability Research 2011 (international award); CEO and Founder of Agplus Technologies
- Kee Choon Wee – President Graduate Fellowship
- Ma Ting – Finalist 2011, Reaxys PhD Prize (international award)
- Goh Kien Soon – Sim Geok Soo Medal 2012, Best MSc thesis
- Chen Wenchao – SNIC poster award (ISCOC-ISCIC 2016) and 2nd Chemistry National Meeting (ChnmSG2) poster award
- Cao Weidi – SNIC poster award (ISCOC-ISCIC 2016); Professor, Sichuan University
- Cui Xiyang – Journal of Organic Chemistry Poster Award (1st Singapore Japan Germany Trilateral Symposium on Precision Synthesis & Catalysis 2017)
- Jiang Zhiyong – Professor, Henan Normal University (Winner of The National Science Fund for Distinguished Young Scholars)
- Han Manyi – Professor, Huaibei Normal University
- Wang Chao – Professor, Nanjing Technological University

- Yang Yuanyong – Professor, Guizhou Medical University
- Ye Xingyi – First Prize (poster), 4th Mogan Mountain Submit On Green Pharmaceuticals; Professor, Zhejiang University of Technology
- Zong Lili – Professor, Xiamen University
- Ren Jingyin – Professor, Northwest University (China); SNIC Poster Prize for Excellence in Synthetic Chemistry at the 1st China-Singapore Collaborative Synthetic Chemistry Conference
- Ge Yicen – Professor, Chengdu University of Technology
- Zhang Xin – Finalist 2019, Reaxys PhD Prize (international award); Nanyang Research Conference on Synthetic Chemistry and Catalysis – Asian Journal of Organic Chemistry Poster Award; 2019 Chinese Government Award for Outstanding Self-financed Student Abroad

LIST OF ADVISEES (PhD and MSc) (National University of Singapore)

1. Ye Weiping (Phd, 2006) Chiral Guanidine Catalyzed Michael Reactions
2. He Lijuan (MSc, 2006, co-supervision) Engineering Aggregates with Chemical Linkers for Tissue Engineering Applications
3. Nguyen Thi Thuy Linh (MSc, 2006) Functionalization of cellular membrane by cholesterol-dendrimer conjugates
4. Shen Juan (Phd, 2008) Chiral Guanidine Catalyzed Diels-Alder Reactions of Anthrones
5. Xu Junye (Phd, 2008) Tandem Conjugate Addition-Elimination Reactions Promoted by Chiral Pyrrolines
6. Guan Yanyi (MSc, 2008) Pharmaceutically Relevant In Vivo H₂S Donors
7. Loh Wei Tian (MSc, 2009) Organocatalytic Conjugate Addition Reactions
8. Leow Dasheng Jackson (Phd, 2009) Chiral Guanidine Catalyzed Enantioselective Protonation Reactions
9. Soh Ying Teck (Phd, 2009) Organocatalytic Reactions of 3-Hydroxy-2-pyrone and N-Arylsulfonyl-3-hydroxy-2-pyridone
10. Fu Xiao (Phd, 2010) Chiral Guanidine and Guanidium Salt Catalyzed Enantioselective Phosphorus-Carbon Bonds Formation Reactions
11. Zhang Yan (Phd, 2010) Guanidine Catalyzed Enantioselective Desymmetrization of meso-Aziridine
12. Liu Hongjun (Phd, 2010) Bronsted Base Catalyzed Enantioselective Isomerisation and Tandem Isomerisation Reactions
13. Huang Shufen (MSc, 2010, co-supervision) Functional and inhibitory studies on cystathionine-Gamma-Lyase (CSE)
14. Mo Xuejun (Phd, 2011, co-supervision) Rapid Construction of Mechanically-Confined Multi-Cellular Structures Using Dendrimeric Inter-Cellular Linker
15. Wang Jianmin (Phd, 2011) Bicyclic guanidine catalyzed enantioselective allylic addition reactions
16. Zhao Yujun (Phd, 2011) Alpha-Fluorinated aromatic ketone as nucleophile in asymmetric organocatalytic C-N and C-C bonds formation reactions.
17. Ng Tao Tao Magdeline (Phd, 2011, co-supervision) Studies of new properties and applications of G-quadruplex DNA

18. Yang Yuanyong (Phd, 2012) Pentanidium-catalyzed hydroxylation of oxindoles with molecular oxygen
19. Feng Wei (Phd, 2012) Brønsted-base Catalyzed Tandem Isomerization Intramolecular-Diels-Alder (IMDA) Reactions - The first enantioselective total synthesis of α -yohimbine
20. Pan Yuanhang (Phd, 2012) Guanidine Catalyzed Enantioselective Mannich Reaction: Towards the Synthesis of β -Amino Acids
21. Farhana binte Moinodeen (MSc, 2012) Pentanidium-catalyzed α -hydroxylation
22. Kee Choon Wee (Phd, 2014) Halogen Chemistry: Bromination and Fluorination via C-H Functionalization and Theoretical Investigation of Halogen Bonding in Catalysis
23. Zong Lili (Phd, 2014) Enantioselective Synthesis of Chiral Sulfoxides Using Pentanidium Catalysis
24. Dong Sheng (MSc, 2014) The Syntheses of Bis-guanidium Salts and Their Applications in Asymmetric Mukaiyama Type S_N2 Alkylation Reactions
25. Chen Li (Phd, 2016) Bisguanidinium Catalyzed Enantioselective Phase-Transfer Desymmetrizations

(Nanyang Technological University)

1. Song Zhijian (MSc, 2014) Hydrogen Sulfide Releasing Compounds: Synthesis, Characterization and Anti-cancer effect study
2. Xue Hansong (MSc, 2015) Mechanistic Insights Into Bicyclic Guanidine-Catalyzed Reactions From Microscopic and Macroscopic Perspectives
3. Chen Wenchao (MSc, 2016) Bis-guanidinium Salts Catalyzed Enantioselective Phase-Transfer Alkylations of Cyclic Ketones and Silyl Enol Ethers
4. Ye Xinyi (MSc, 2016) Bisguanidiums Catalyzed Enantioselective Oxidation of Sulfides to Sulfoxides
5. Teng Bo (Phd, 2016) Enantioselective Alkylation Reactions Using Silylamide as Brønsted Probase
6. He Wei (Phd, 2017) The Study of Halogen Bonding Induced Reactions
7. Jiang Huan (Phd, 2017) Enantioselective Arylation and Vinylation of Allylic Bromides Catalyzed by Guanidinium and Copper(I) Salt
8. Wang Yang (Phd, 2017) Iron Nitrosyl Complexes and Its Applications in Organic Catalysis
9. Chin Kek Foo (Phd, 2017) Enantioselective Epoxidation of Protected Allylic and Homoallylic Amines via Chiral Cationic Ion-Pairing Catalysis
10. Cui Xiyang (Phd, 2018) Asymmetric Allylic Alkynylation Catalyzed by Guanidine Copper(I) Complex
11. Ge Yichen (Phd, 2018) Copper(I)/Guanidine Catalyzed Asymmetric Allylic Borylation Reactions
12. Yao Zhen (Phd, 2018) Phase-transfer catalyzed $SRN1$ reactions for the construction of vicinal quaternary carbon-carbon bonds

13. Xu Ban (Phd, 2019) Asymmetric Nucleophilic Substitutions to Construct All-carbon Quaternary Stereocenters under PTC Conditions
14. Ye Xingyi (Phd, 2019) Peroxytungstate Anions in Asymmetric Ion Pair Catalyzed Oxidations
15. Zhang Xin (Phd, 2019) Enantioconvergent Halogenophilic Nucleophilic Substitution (SN2X) Reaction by Chiral Phase-Transfer Catalysis
16. Chen Wenchao (Phd, 2020) Enantioselective Addition-alkylation Reactions via Bisguanidinium Silicate Ion Pair Catalysis

LIST OF ADVISEES (Current)

Yang Ziqi, Ang Cai Xia Esther, Alexandre Joseph Stephane Millanvois (joint Phd with Sorbonne University, Paris), Chew Jia Shen, Eugene Kuek Jun Rong, Sun Yunqi, Liu Zeyuan, He Jiahao

LIST OF STAFF (Current)

Ban Xu, Christopher Kevin Wijaya

POSTDOCTORAL FELLOW TRAINED

Jiang Zhiyong, Chittimalla Santosh Kumar, Chen Jie, Alex Chao Ching-Sheng, Wang Chao, Yuan Mingjun, Han Manyi, Gao Lizhu, Wong Hui Ling Valerie, Cao Weidi, Li Qing, Ren Jingyun, Chua Zhijie, Leow Dasheng Jackson, Genevieve Lau (President Postdoctoral Fellowship, NTU), Zhang Xin, Ban Xu, Xi Longyi, Xu Chaoran

CONSULTANCY

- Ciba Specialty Chemical Industries, consultancy and co-supervision of Ciba Specialty Chemicals Jurong Fellow (completed)
- Technical Advisory Board Member – Singapore Emulsion Fuel Pte Ltd (completed)

ENTREPRENEURSHIP

- Co-founder, Chairman and Chief Scientific Advisor, AgPlus Pte Ltd, Singapore
- Chief Scientific Officer, Raffles PharmaTech, Huizhou, China

CITATION (Google Scholar)

- Total number of citations >9500
- H-Index 56
- Field-Weighted Citation Impact (2009-2018, Scival) 2.02

SERVICE AS REVIEWER

Serve as reviewer or editor of these journals.

Accounts of Chemical Research, ACS Applied Materials & Interfaces, ACS Catalysis, ACS Combinational Chemistry, ACS Sustainable Chemistry & Engineering, Asian Journal of Organic Chemistry, Angewandte Chemie, Advanced Synthesis and Catalysis, Australian Journal of Chemistry, Beilstein Journal of Organic Chemistry, Biomaterials, Bioorganic Chemistry, Bioorganic and Medicinal Chemistry, Bioorganic Chemistry Letters, Chemistry Select, Chemical Communications, Chemical Reviews, Chemical Sciences, Chemical Society Reviews, Chemistry An Asian Journal, ChemCatChem, ChemSusChem, Chemistry A European Journal, Chirality, Chinese Journal of Chemistry, European Journal of Organic Chemistry, Helvetica Chimica Acta, iScience, Journal of Molecular Catalysis A Chemical, Journal of the American Chemical Society, Journal of Organic Chemistry, Minireviews in Organic Chemistry, Molecules, Nature Catalysis, Nature Communications, Nature Protocols, New Journal of Chemistry, Organic and Biomolecular Chemistry, Organic Chemistry Frontiers, Organic Process Research & Development, Organic Letters, Research on Chemical Intermediates, RSC Advances, Science, Science Advances, Synthetic Communications, Synlett, Synthesis, Tetrahedron, Tetrahedron Letters, Tetrahedron Asymmetry, Topics in Current Chemistry.

Received certificate of commendation from Angewandte Chemie for providing quality referee reports in 2012 and 2017.

SERVICE AS REVIEWER (Grants and Proposals)

- Tenure report, City University of Hong Kong (2013)
- Czech Science Foundation, reviewer for proposal
- Innovation and Technology Commission, The Government of the Hong Kong Special Administrative Region, reviewer for proposal (2017)
- Reviewer, Academia Sinica Research Award for Junior Research Investigators (2017)
- Scientific Advisory Board (SAB) of Singapore National Research Foundation (NRF) Evaluation Committee of the 2nd Synthetic Biology R&D Programme (SBP) Grant Call (2018)
- Hong Kong Baptist University Research Committee, Evaluation of Start Up Grant Tier 2 (2019)
- Professor Promotion, Hong Kong Baptist University (2019)
- Thesis examination – IIT Delhi, IIT Madras (2020)
- Tenure report, Hong Kong Baptist University (2020)
- Tenure report, Shanghai Jiao Tong University (2020)
- Research Grant Council, Hong Kong, reviewer for proposal (2020, 2021, 2022)
- Thesis examination – KAUST, Saudi Arabia (2021)
- Professor Promotion, Hong Kong University of Science and Technology (2021)

SERVICE AS EDITOR

- Guest Editor, Australian Journal of Chemistry, Research Front, ‘The chemistry of guanidine, guanidinium and guanidinate compounds’.
- Guest Editor, Molecules, Special Issue, ‘Brønsted Base Catalysis in Organic Synthesis’.
- Guest Editor, Synlett, Synlett Cluster, “Asymmetric Brønsted Base Catalysis”.
- Editorial Board Member, Green Synthesis and Catalysis, Fudan University Press and Elsevier BV (2019 – current).
- Invited editorial article by Angewandte Chemie on ‘Golden Jubilee of Singapore National Institute of Chemistry [1970 – 2020]: Celebrating its partnership with Wiley-VCH’.
- International Advisory Board of the Asian Journal of Organic Chemistry (2021 – 2025)
- International Advisory Board of the Chemistry An Asian Journal (2022 – 2025)

SERVICE AS MEMBER of ADVISORY COMMITTEE

- International advisory committee, The 15th International Symposium for Chinese Organic Chemists and The 12th International Symposium for Chinese Inorganic Chemists (ISCOC-15 & ISCIC-12)
- Symposium Organizers of New Aspects on Organocatalysts, Pacificchem 2020
- Consultant to the Health Science Authority (Singapore) for the preparation and identification of side products during the production of ketamine. This is an attempt to locate the source of the illicit drug in Singapore.
- Member of panel for 5-Yearly Course Review for Diploma in Perfumery and Cosmetic Science (DPCS), Singapore Polytechnic (2015)
- Member of panel to evaluate the courses at Singapore Polytechnic, School of Chemical and Life Sciences. To recommend and validate their curriculum and interview students and make suggestions for improvement
- Member, A-level Chemistry Syllabus Development Committee (SDC), Ministry of Education (MOE), 2020-2022
- Member, Quantum Engineering Programme Steering Committee
- C&FC2023, Member of International Advisory Board