

PROGRAM

June 7 (Thursday)

Morning Session (venue: A204)

8:30-8:45 Opening Remarks

Chairperson **Michael P. Doyle** (University of Texas at San Antonio)

8:45-9:20 **Chi-Ming Che** (The University of Hong Kong) 1

9:20-9:45 **B. de Bruin** (University of Amsterdam) 3
Catalytic Synthesis of o-Quinodimethanes via Carbene Radicals

9:45-10:10 **Rai-Shung Liu** (National Tsing-Hua University) 5
Gold-Catalyzed N,O-Functionalizations of Alkynes via Gold Carbenes

10:10-10:35 *Taking Photo & Coffee Break*

Chairperson **B. de Bruin** (University of Amsterdam)

10:35-11:10 **Guy Bertrand** (University of California-San Diego) 7
Novel Stable Carbenes and Their Applications

11:10-11:35 **Weiping Tang** (University of Wisconsin-Madison) 9
Novel Cycloadditions Involving Rhodium(I) Carbene Intermediates

11:35-12:00 **Do Hyun Ryu** (Sungkyunkwan University) 11
Catalytic Asymmetric Molecular Rearrangement Reactions with Diazo Compounds

12:00-13:00 *Lunch*

Afternoon Session (venue: A204)

Chairperson **Wenhao Hu** (Sun Yat-sen University)

14:00-14:35 **Janine Cossy** (CNRS) 15
Generation of Carbenes from Cyclopropenes-Synthesis of Heterocycles

| | | |
|--------------------|---|----|
| 14:35-15:00 | Kálmán J. Szabo (Stockholm University) | 17 |
| | <i>Catalytic Fluorination and Allylboration of Diazoketones</i> | |
| 15:00-15:25 | Jinbo Hu (Shanghai Institute of Organic Chemistry) | 19 |
| | <i>Synthetic Fluorine Chemistry involving Carbene Species</i> | |
| 15:25-15:50 | Shou-Fei Zhu (Nankai University) | 21 |
| | <i>Catalytic B–H Bond Insertion Reactions</i> | |
| 15:50-16:05 | Coffee Break | |
| Chairperson | Kálmán J. Szabo (Stockholm University) | |
| 16:05-16:30 | Emma Gallo (Università degli Studi di Milano) | 23 |
| | <i>Metal Porphyrin Complexes: Smart Catalysts to Promote Alkene Cyclopropanations</i> | |
| 16:30-16:55 | Mitsuru Kitamura (Kyushu Institute of Technology) | 25 |
| | <i>Synthesis of 1,2-Naphthalene Derivatives by Metal-catalyzed Reaction of 1,2-Diazonaphthoquinones</i> | |
| 16:55-17:20 | Xingwei Li (Dalian Institute of Chemical Physics) | 27 |
| | <i>Selectivity Control in Coupling of Arenes with Carbenes and Other Unsaturated Reagents</i> | |
| 12:00-12:25 | Hongbin Zhai (Shenzhen Graduate School of Peking University) | 29 |
| 11:25-11:50 | Pauline Chiu (The University of Hong Kong) | 31 |
| | <i>Construction of Bicyclo[m.n.1]alkanones Using a Carbene Rearrangement Strategy</i> | |
| 18:10-18:35 | Wenhao Hu (Sun Yat-sen University) | |
| | <i>Novel Multicomponent Reactions via Trapping of Reactive Intermediates</i> | |
| 18:45- | Dinner | |

June 8 (Friday)

Morning Session (venue: A204)

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| Chairperson: | Rai-Shung Liu (National Tsing-Hua University) | |
| 8:30-9:05 | Qilin Zhou (Nankai University) | 33 |
| | <i>Dirhodium Complexes and Chiral Spiro Phosphoric Acids Co-catalyzed Carbene Insertion Reactions</i> | |

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|--------------------|---|----|
| 9:05-9:30 | Peter X. Zhang (Boston College) | 35 |
| | <i>New Catalytic Processes for Stereoselective Radical Reactions via Metalloradical Activation of Diazo Compounds</i> | |
| 9:30-9:55 | Zhixiang Yu (Peking University) | 37 |
| | <i>Mechanisms of 1,n-Proton Transfers for Carbanions</i> | |
| 9:55-10:20 | Liang Deng (Shanghai Institute of Organic Chemistry) | 39 |
| | <i>Low-Coordinate Low-Valent 3d Metal Complexes with NHC Ligation</i> | |
| 10:20-10:35 | Coffee Break | |
| Chairperson | Hélène Lebel (Université de Montréal) | |
| 10:35-11:00 | Matthias Brewer (University of Vermont) | 41 |
| | <i>Vinyl Cations as Carbene Surrogates for C-H Insertion</i> | |
| 11:00-11:25 | Laura Anderson (University of Illinois at Chicago) | 43 |
| | <i>New Reactivity Modes of Nitrones and Hydroxylamines</i> | |
| 11:25-11:50 | Hanmin Huang (University of Science and Technology of China) | 45 |
| | <i>Catalytic Transformation of Carbenoids with Aminals</i> | |

12:00-13:00 **Lunch**

Afternoon Session (two parallel sessions)

Lecture I (venue: A205)

| | | |
|--------------------|---|----|
| Chairperson | Peter X. Zhang (Boston College) | |
| 14:00-14:15 | Bing-Feng Shi (Zhejiang University) | 47 |
| | <i>Cobalt(III)-Catalyzed Alkylation of Primary C(sp³)-H Bonds with Diazo Compounds</i> | |
| 14:15-14:30 | Zhenhua Gu (University of Science and Technology of China) | 49 |
| | <i>Enantioselective Synthesis of Atropisomeric Vinyl Arene Compounds via a Palladium/Carbene Strategy</i> | |
| 14:30-14:45 | Lei Zhou (Sun Yat-sen University) | 51 |
| | <i>Blue Light-promoted Cross-Coupling of Diazo Compounds</i> | |
| 14:45-15:00 | Xinfang Xu (Soochow University) | 53 |
| | <i>Catalytic Carbene/Alkyne Metathesis Cascade Reaction for the Synthesis of Heterocycles</i> | |

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|---------------------------------|--|----|
| 15:00-15:15 | Shifa Zhu (South China University of Technology) <i>Donor- and Donor/Donor-Carbene Transfer Reactions Using Alkyne as Precursors</i> | 55 |
| 15:15-15:30 | Coffee Break | |
| Chairperson | Pauline Chiu (The University of Hong Kong) | |
| 15:30-15:45 | Xiaoguang Lei (Peking University) <i>Carbene Chemistry in Natural Product Synthesis and Chemical Biology</i> | 57 |
| 15:45-16:00 | Bo Liu (Sichuan University) <i>Metal-Catalyzed Intramolecular Cyclopropanation of Alkenes with Unstabilized Allylic Tosylhydrazones and Its Application in Natural Product Synthesis</i> | 59 |
| 16:00-16:15 | Hong Zhang (Xiamen University) <i>Reactions of Metal-Carbene Bonds within Six-Membered Metallaaromatic Rings</i> | 61 |
| 16:15-16:30 | Shang-Dong Yang (Lanzhou University) <i>Carbene Participated Phosphorous Ligand Synthesis</i> | 63 |
| 16:30-16:45 | Lu Liu (East China Normal University) <i>Aromatic C(sp²)-H Functionalization involving Carbene Process</i> | 65 |
| 16:45-17:00 | Fanyang Mo (Peking University) <i>Direct Carboxylation of the Diazo Group ipso-C(sp²)-H bond with Carbon Dioxide</i> | |
| Lecture II (venue: A203) | | |
| Chairperson | Liming Zhang (University of California at Santa Barbara) | |
| 14:00-14:15 | Xihe Bi (Northeast Normal University) <i>Silver-catalyzed Reactions through Organosilver Species</i> | 67 |
| 14:15-14:30 | Longwu Ye (Xiamen University) <i>Generation of α-Imino Metal Carbenes through Catalytic Intermolecular Reaction of Heterosubstituted Alkynes with Azides or Isoxazoles</i> | 69 |
| 14:30-14:45 | Xiaobing Wan (Soochow University) <i>Transition-metal-catalyzed Amide Ylide Formation-Interception Cascades Reaction of Diazo Compounds</i> | 71 |
| 14:45-15:00 | Jian Zhou (East China Normal University) | 73 |

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|--------------------|--|----|
| | <i>Diversity-Oriented Synthesis Based on Diazoindoles</i> | |
| 15:00-15:15 | Jun-An Ma (Tianjin University) <i>Synthesis of Trifluoromethyl-containing Molecules by Utilizing Trifluorodiazaoethane via Carbene Process</i> | 75 |
| 15:15-15:30 | Coffee Break | |
| Chairperson | Graham K. Murphy (University of Waterloo) | |
| 15:30-15:45 | Xin-Yuan Liu (Southern University of Science and Technology) <i>Dual-Catalytic Asymmetric Radical Functionalization of Alkenes</i> | 77 |
| 15:45-16:00 | Cheng-Pan Zhang (Wuhan University of Technology) <i>New Fluoroalkylation Methods with α-Diazo Carbonyl Compounds</i> | 79 |
| 16:00-16:15 | Suwei Dong (Peking University) <i>Enantioselective α-Diazoacetate Addition/Rearrangement Cascade of <i>o</i>-Quinone Methides</i> | 81 |
| 16:15-16:30 | Tao Wang (Shaanxi Normal University) <i>Gold(I)-Catalyzed Formal [4+1] Cycloaddition of α-Diazoesters and Propargyl Alcohols</i> | 83 |
| 16:30-16:45 | Qiuling Song (Huaqiao University) <i>Sulfur-involved new transformations in carbene chemistry</i> | 85 |
| 16:45-17:00 | Wangze Song (Dalian University of Technology) <i>Rhodium-Catalyzed Highly Regio- and Stereoselective Intermolecular Hydrosilylation of Internal Ynamides under Mild Conditions</i> | |
| 17:00-17:15 | Zhenhua Zhang (China Agricultural University) <i>Rh(III)-Catalyzed sp^2/sp^3 C-H Activation of Boronic Acid with Aryl Azide via Five-membered Rhodacycle Species</i> | 87 |
| 18:30- | Dinner | |

June 9 (Saturday)

Morning Session (venue: A204)

Chairperson: **Rene M. Koenigs** (RWTH Aachen University)

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|-----------|--|----|
| 8:30-9:05 | Xiaoming Feng (Sichuan University) <i>Chiral <i>N,N'</i>-Dioxide-Metal Complexes Catalyzed Reactions of α-Diazo Carbonyl Compounds</i> | 89 |
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|--------------------|---|-----|
| 9:05-9:30 | Carlos Valdés (Universidad de Oviedo) | 91 |
| | <i>Cyclization Processes with Formation of Two C-C Bonds on the Same Carbon through N-Tosylhydrazones</i> | |
| 9:30-9:55 | Tom G. Driver (University of Illinois at Chicago) | 93 |
| | <i>Catalyst Control of the Reactivity and Site-selectivity of Electron-rich Carbenes</i> | |
| 9:55-10:20 | Yoko Nakagawa (Toyohashi University of Technology) | 95 |
| | <i>Catalytic Asymmetric Carbene Transfer Reactions into Inactive C-H and Si-H Bonds using Ru(II)-Pheox Complex</i> | |
| 10:20-10:35 | Coffee Break | |
| Chairperson | Matthias Brewer (University of Vermont) | |
| 10:35-11:00 | Hélène Lebel (Université de Montréal) | 97 |
| | <i>DFT Study of the Formation and the Reactivity of Rhodium(II) Nitrene Species generated from N-Mesyloxycarbamate Reagents</i> | |
| 11:00-11:25 | Cheol-Min Park (Ulsan National Institute of Science & Technology) | 99 |
| | <i>α-Diazo Oxime Ethers in Heterocycle Synthesis</i> | |
| 11:25-11:50 | Baiquan Wang (Nankai University) | 101 |
| | <i>New Developments in Cross-Coupling involving Carbene Process</i> | |
| 11:50-12:15 | Thierry Ollevier (Université Laval) | |
| | <i>New Developments in Metal-Carbene Insertion Reactions into the Si-H Bond</i> | |
| 12:20-13:20 | Lunch | |

Afternoon Session

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| Chairperson | Chi-Ming Che (The University of Hong Kong) | |
| 14:00-14:35 | Michael P. Doyle (University of Texas at San Antonio) | 103 |
| | <i>Asymmetric Catalytic Constructions of Heterocycles and Carbocycles by Cycloaddition</i> | |
| 14:35-15:00 | Rene M. Koenigs (RWTH Aachen University) | 105 |
| | <i>Iron-heme Catalyzed Reactions of Diazoalkanes</i> | |
| 15:00-15:25 | Min Shi (Shanghai Institute of Organic Chemistry) | 107 |

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| | <i>Synthesis of Heterocycles and Related Substances based on Rhodium-aza-vinyl Carbenoid from N-Sulfonyl-1,2,3-triazoles</i> | |
| 15:25-15:50 | Xiaohua Liu (Sichuan University) | 109 |
| | <i>Enantioselective C-H Insertion of Alkynes with α-Diazoesters Catalyzed by Chiral Guanidinium Salt/Cu(I) Complexes</i> | |
| 15:50-16:05 | Coffee Break | |
| Chairperson | Tom G. Driver (University of Illinois at Chicago) | |
| 16:05-16:30 | Liming Zhang (University of California at Santa Barbara) | 111 |
| | <i>Intramolecular C-H Insertions by Oxidatively Generated Gold Carbenes</i> | |
| 16:30-16:55 | Antonio C. B. Burtoloso (University of São Paulo) | 113 |
| | <i>α,β-Unsaturated Diazoketones as Useful Platforms in Synthesis</i> | |
| 16:55-17:20 | Graham K. Murphy (University of Waterloo) | 115 |
| | <i>Metallocarbene Chemistry Derived from Monocarbonyl Iodonium Ylides</i> | |
| 17:20-17:45 | Yefeng Tang (Tsinghua University) | 117 |
| | <i>Denitrogenative Cycloadditions or Coupling Reactions of 1,2,3-Triazoles and Benzotriazoles</i> | |
| 17:45-18:10 | Fuk-yee (Michael) Kwong (The Chinese University of Hong Kong) | 119 |
| | <i>Palladium-Catalyzed Site-Selective Three-Component Reaction of Aryl Halides, Alkynes and Norbornene for Accessing Polycyclic Arenes</i> | |
| 18:10-18:30 | Closing remark | |
| 19:00- | Dinner | |