

SYMPOSIUM PROGRAM

Wednesday, February 5, 2020 (*Menger Ballroom A*)

- 8:30–8:50 Introductions and Opening Remarks
David R. Silva, Dean of the College of Sciences, UTSA
Bernard Arulanandam, Vice President for Research, UTSA
Pauline Chiu, University of Hong Kong
- SESSION 1** CHAIRPERSON: **Emma Gallo** (Milan University)
- 8:50–9:25 Plenary Address by **Pedro J. Perez** (Universidad de Huelva)
Copper, Silver, Carbenes and Nitrenes: A Winning Poker Hand for Hydrocarbon Functionalization
- 9:25–10:00 Plenary Address by **Antonio Echavarren** (Barcelona Institute of Science and Technology and Universitat Rovira i Virgili)
Metal Carbenes via Decarbenation
- 10:00–10:30 **Break** (*Menger Foyer*)
- SESSION 2** CHAIRPERSON: **Tom Driver** (University of Illinois at Chicago)
- 10:30–10:55 Invited Address by **Jared Lewis** (Indiana University)
Dirhodium Artificial Metalloenzymes: Selective Catalysis, Directed Evolution, Structure, and Dynamics
- 10:55–11:20 Invited Address by **Zachary Ball** (Rice University)
Asymmetric Catalytic Constructions of Heterocycles and Carbocycles by Cycloaddition
- 11:20–11:45 Invited Address by **Yong Zhang** (Stevens Institute of Technology)
Mechanisms of Biocatalytic Heme Carbene Transfer Reactions
- 11:45–12:10 Invited Address by **Kai Chen** (California Institute of Technology)
Directed Evolution to Expand Nature's Catalytic Repertoire
- 12:10–13:30 **Lunch** (*Menger Minuet Room*)
- SESSION 3** CHAIRPERSON: **Janine Cossy** (CNRS, PSL University, France)
- 13:30–14:05 Plenary Address by **F. Ekkehardt Hahn** (Westfälische Wilhelms Universität Münster)
Heterobimetallic Complexes from Asymmetric Bis-NHC Precursors
- 14:05–14:40 Plenary Address by **Xinfang Xu** (Sun Yat-sen University)

*Catalytic Alkyne Functionalization via Metal Carbene Intermediate:
Expeditious Access for the Construction of Cyclic Frameworks*

14:40–15:05 Invited Address by **Didier Bourissou** (Paul Sabatier University)

About Ligand Design in Gold Carbene Complexes

15:05–15:30 Invited Address by **Victoria H. Gessner** (Ruhr-University of Bochum)

*Nucleophilic Late Transition Metal Carbene Complexes: From
Reactive Species to Cooperative Bond Activation Reactions*

15:30–16:00 **Break** (Menger Foyer)

SESSION 4 CHAIRPERSON: **Graham Murphy** (University of Waterloo)

16:00–16:35 Address of **Che-ming Che** delivered by Ka-Pan Shing and Hai-Xu Wang
(University of Hong Kong)

*New Metal-Carbene and Iron Catalyzed Alkylnitrene C-H Insertion
Reactions.*

16:35–17:10 Plenary Address by **Eiji Ihara** (Ehime University)

Pd-initiated C1 Polymerization of Diazoacetates

17:10–17:45 Invited Address by **Wing-Yiu (Michael) Yu** (The Hong Kong Polytechnic
University)

*Advances in Catalytic C(sp³)-N Bond Coupling Reactions:
Ru(II)-Catalyzed Asymmetric C-H Amidation of 1,4,2-Dioxazol-5-
ones and Photoredox Decarboxylative Coupling of α -Diazoacetates with
NHPI Esters*

18:00–19:30 **Conference Banquet** (Menger Minuet Room)

19:30–21:30 **Poster Session** (Menger Ballroom B and C)

Thursday, February 6, 2020 (Menger Ballroom A)

SESSION 5 CHAIRPERSON: **A. Burtoloso** (University of São Paulo)

8:00–8:35 Plenary Address by **Huw Davies** (Emory University)

Catalyst-Controlled C-H Functionalization

8:35–9:10 Plenary Address by **André B. Charette** (Université de Montréal)

Journey into Cyclopropane Chemistry and Continuous Flow Synthesis

9:10–9:35 Invited Address by **D. G. Musaev** (Emory University)

A predictive Model for the [Rh₂(esp)₂]-catalyzed Intermolecular C(sp³)-H bond insertion of β-carbonyl Ester Carbenes: Interplay Between Theory and Experiment

9:35–10:00 Invited Address by **Simon B. Blakey** (Emory University)

Beyond Cp-Mechanism Guided Design of a New Rhodium Complex for Enantioselective C-H Functionalization*

10:00–10:30 **Break** (Menger Foyer)

SESSION 6 CHAIRPERSON: **Hélène Lebel** (Université de Montréal)

10:30–10:55 Invited Address by **Antonio C. B. Burtoloso** (University of São Paulo)

Enantioselective N-H and S-H Insertion Reactions from Sulfoxonium Ylides

10:55–11:20 Invited Address by **Doug E. Frantz** (University of Texas at San Antonio)

Adventures in Exploiting Diazoacetates in Metal-Catalyzed and Thermal Rearrangements to Biologically Relevant Heterocycles

11:20–11:55 Plenary Address by **Janine Cossy** (Laboratoire de Chimie Organique, ESPCI, Paris, France)

"Nitrenes and Carbenes. Useful Entities to Access Functionalized Heterocycles"

11:55–13:30 **Lunch** (Menger Minuet Room)

SESSION 7 CHAIRPERSON: **T. Ollevier** (Université Laval)

13:30–14:05 Plenary Address by **Liming Zhang** (University of California, Santa Barbara)

Oxidative Gold(I) Catalysis Employing Heteroatom-Terminated Alkyne Substrates

14:05–14:40 Plenary Address by **X. Peter Zhang** (Boston College)

Metalloradical Catalysis: Stepwise Radical Pathways for Catalytic Carbene and Nitrene Transfers

14:40–15:05 Invited Address by **Dorota Gryko** (Institute of Organic Chemistry Polish Academy of Sciences)

Reactivity of Diazo Compounds under Visible-Light Irradiation

15:05–15:40 Invited Address by **Dominik Munz** (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Late Transition Metal Terminal Imido Complexes for Catalysis

15:40–16:10 **Break** (*Menger Foyer*)

SESSION 8 CHAIRPERSON: **Pauline Chiu** (The University of Hong Kong)

16:10–16:45 Plenary Address by **Bas de Bruin** (Universiteit van Amsterdam)

Synthesis of 8-membered ring compounds via carbene radicals

16:45–17:10 Invited Address by **Ian Tonks** (University of Minnesota – Twin Cities)

Ti-Catalyzed Nitrene Transfer Reactions: Harnessing the Ti^{II}/Ti^{IV} Redox Couple for New Transformations

17:10–17:35 Invited Address by **David Powers** (Texas A&M University)

Characterization of Reactive Metal Nitrenoids by Crystalline Matrix Isolation

17:35–18:00 Invited Address by **J. M. Schomaker** (University of Wisconsin-Madison)

Taming Nitrene Reactivity with Silver

Friday, February 7, 2020 (*Menger Ballroom A*)

SESSION 9 CHAIRPERSON: **Bas de Bruin** (Universiteit van Amsterdam)

8:00–8:35 Plenary Address by **Guy Bertrand** (University of California, San Diego)

Carbenes as Powerful Transition Metal Surrogates

8:35–9:10 Plenary Address by **Martin Albrecht** (University of Bern)

Strongly Donating 1,2,3-Triazole-Derived Carbenes for Metal-Mediated Redox Catalysis

9:10–9:35 Invited Address by **Marcos Suero** (Institute of Chemical Research of Catalonia ICIQ)

New Carbon Reactivity Rules

9:35–10:00 Invited Address by **Jeremy A. May** (University of Houston)

Synthesis via Carbene Cascades

10:00–10:30 **Break** (*Menger Foyer*)

SESSION 10 CHAIRPERSON: **Rene Koenigs** (RWTH Aachen University)

10:30–10:55 Invited Address by **Weiping Tang** (University of Wisconsin-Madison)

Selective Modification of Carbohydrates by Metal Carbenes

10:55–11:20 Invited Address by **Junji Ichikawa** (University of Tsukuba)

*Transition Metal and Free Difluorocarbenes: Syntheses of Fluorinated
Cyclopentanone Derivatives*

11:20–11:45 Invited Address by **Indrajeet Sharma** (University of Oklahoma)

Harnessing Carbene Chemistry to Drive Drug Discovery

11:45–11:55 Close of Conference

11:55 **Lunch** (*Menger Minuet Room*)