



# ISHC 2024

## XXIII International Symposium on Homogeneous Catalysis

Trieste, July 21-26 2024



UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE

*u<sup>b</sup>*

UNIVERSITÄT  
BERN

# PROGRAMME



LECTURE HALL | H3 BUILDING



**ISHC 2024**  
**XXIII International Symposium**  
**on Homogeneous Catalysis**

Trieste, July 21-26 2024

Dear Friends and Colleagues,

the ISHC series has been the prime place to discuss most recent advances in homogeneous catalysis. It has an outstanding reputation for excellence and highly engaged discussions, and it has long been a focal point for scientists at the forefront of homogeneous catalysis.

Traditionally, it has been highly successful in bringing together leaders from academia and industry, and the Trieste edition of ISHC is proud to keep up this tradition. ISHC 2024 will feature a spectacular line-up of keynote speakers from all over the world as well as slots for oral contributions. There will also be dedicated events to foster academia-industry interactions.

A special feature of the 2024 edition will be the dedicated session in tribute of Prof. R. H. Grubbs, a giant in homogeneous catalysis who was actively shaping the spirit of ISHC over many decades.

As chairs of the 23rd International Symposium on Homogeneous Catalysis, we are delighted to welcome you to the ISHC 2024 edition to Trieste!

*Barbara Milani & Martin Albrecht*  
Co-Chairs of ISHC 2024



# SUPPORTED BY

IO SONO  
FRIULI  
VENEZIA  
GIULIA



## SILVER SPONSORS



# BRONZE SPONSORS

**Heraeus**  
Precious Metals



**syngenta**



**Chemistry Europe**

# SPONSORS



**UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE**

Dipartimento di  
**Scienze Chimiche e Farmaceutiche**

**Società Chimica Italiana**  
Gruppo Interdivisionale  
*Catalisi*





INTERNATIONAL  
SYMPOSIUM ON  
HOMOGENEOUS  
CATALYSIS - XXIII

# KEYNOTE LECTURES

- |      |                           |  |
|------|---------------------------|--|
| KL01 | Karen <b>Goldberg</b>     | Developing Mechanistic Insight to Allow Effective Use of Molecular Oxygen as a Reagent in Transition Metal Homogeneous Catalysis |
| KL02 | Michael <b>Neidig</b>     | Down the Rabbit Hole: Illuminating the Organoiron Species Central to Organic Synthesis   |
| KL03 | Robert <b>Franke</b>      | An industrial perspective on carbonylation reactions   |
| KL04 | Xiaohua <b>Liu</b>        | The design, synthesis and application of chiral guanidines   |
| KL05 | Shigeki <b>Matsunaga</b>  | Development of Chiral Catalysts for Asymmetric C-H Functionalization   |
| KL06 | Ana C. <b>Albéniz</b>     | Palladium catalyzed C-H arylation of simple arenes via metalligand cooperation and synergistic metal catalysis                   |
| KL07 | Luca <b>Rocchigiani</b>   | Mechanistic Adventures in Organometallic Chemistry: All That Glitters is not Gold  |
| KL08 | Carolin <b>Limburg</b>    | Process development at BASF using Homogeneous Catalysis: Sodium Acrylate from Ethylene and CO <sub>2</sub>                       |
| KL09 | Alois <b>Fürstner</b>     | Ruthenium Carbenes by gem-Hydrogenation  |
| KL10 | Róbert <b>Tuba</b>        | A New Era in the Development and Application of Olefin Metathesis Catalysts  |
| KL11 | Robert M. <b>Waymouth</b> | A Paeon to Bob: Catalysis as an Enabling Science   |
| KL12 | Mari S. <b>Rosen</b>      | Towards a Sustainable Polyethylene Future Through Catalysis  |
| KL13 | Eva <b>Harth</b>          | Carbyl Iminopyridyl Complexes for Polyolefin Synthesis   |
| KL14 | Todd K. <b>Hyster</b>     | Emergent Mechanisms in Photoenzymatic Catalysis  |
| KL15 | Kylie A. <b>Vincent</b>   | What can we do with hydrogenases? From mechanism to biocatalytic hydrogenations  |
| KL16 | Kurt <b>Püntener</b>      | Catalysis at Roche: Selected Highlights in Asymmetric Hydrogenations   |
| KL17 | Timothy <b>Noël</b>       | From Batch to Flow: Advancing Synthetic Organic Chemistry through Technological Innovation                                       |

# KEYNOTE LECTURES

KL18	Jason E. <b>Hein</b>	Real-Time Catalyst Speciation for Rapid Optimization and Understanding of Complex Catalysis
KL19	Anat <b>Milo</b>	Machine Learning Strategies for Secondary Sphere Modification in Organocatalysis
KL20	Jade <b>Markham</b>	Catalysing Innovation: Commercial Manufacture of Phosphorus Building Blocks and Tailored Phosphine Ligands
KL21	Ruth L. <b>Webster</b>	Iron(salen) Catalyzed Reduction Reactions
KL22	Marcella <b>Bonchio</b>	Hybrid Organic-Inorganic Interfaces for Supramolecular Photosynthesis: The Quantasome Vision





- |      |                             |   |
|------|-----------------------------|---|
| ST01 | Sarah Yunmi <b>Lee</b>      | Copper-catalyzed cross couplings of tertiary alkyl halides enabled by cyclopropanimine-based ligands  |
| ST02 | Marko <b>Hapke</b>          | Catalytic cyclootrimerization reactions using cobalt, iron and manganese precatalysts   |
| ST03 | Damien <b>Hérault</b>       | Compartmentalized parallel kinetic resolution for simultaneous enantiomers synthesis  |
| ST04 | Montserrat <b>Diéguez</b>   | Synergistic approaches to catalyst design. Pushing the boundaries of asymmetric hydrogenation   |
| ST05 | Walter <b>Baratta</b>       | Ruthenium catalysts for hydrogen transfer reactions   |
| ST06 | Bas de <b>Bruin</b>         | 8-Membered ring synthesis via carbene radicals  |
| ST07 | Martin <b>B. Smith</b>      | Ethylene oligomerisation chromium/PCNP catalysts  |
| ST08 | Johannes G. <b>de Vries</b> | Use of iridium-catalyzed transfer vinylation as an efficient synthetic route towards bio-based (bis)-vinyl ethers                           |
| ST09 | Michael <b>Unkrig-Bau</b>   | Advancements in palladium-catalyzed coupling reactions: Novel ligands and comparative catalyst screening                                    |
| ST10 | Takuya <b>Kodama</b>        | Syntheses and Reactivities of Metallylenes Bearing a Phenalenyl-Based Ligand toward Main Group Catalysis                                    |
| ST11 | Kyoko <b>Nozaki</b>         | Oxidative addition of C-H and E (group 13 and 14 elements)-H bonds to cyclopentadienone metal complexes                                     |
| ST12 | Cathleen <b>Crudden</b>     | Enantiospecific and enantioselective cross-coupling of sulfones   |
| ST13 | Kris <b>Altus</b>           | Room temperature ethene to propene Using sequential solid-state molecular catalysts: InCrystallo dimerization, isomerisation and metathesis |
| ST14 | Marta <b>Mon</b>            | Development of an economical and sustainable methodology for the selective obtention of internal alkenes                                    |
| ST15 | Johanna <b>Blacquiere</b>   | Inspired by electrocatalysis: Cooperative $P^R_2N^R_2$ ligands for alkylne functionalization catalysis                                      |
| ST16 | Nora <b>Jannsen</b>         | Accessing high molar mass polyesters: Design of Al(III)/M(I) catalysts for precise epoxide and anhydride ring opening copolymerisation      |

# SELECTED TALKS

- ST17 Megan **Fieser** Catalysis for the repurposing of poly(vinyl chloride)
- ST18 Claudio **Pellecchia** New Zn(II) and Fe(II) catalysts for the synthesis and the chemical recycling of biodegradable (co)-polyesters
- ST19 Rosa **Llusar** Mechanistic insights into the catalytic hydrogenation of organic substrates mediated by molybdenum sulfide clusters
- ST20 Caterina **Damiano** Hemin derivatives anchored onto Colour Catcher®: Catalytically active and bio-compatible materials for CO<sub>2</sub> valorisation and C–C bond formation
- ST21 Marta E. G. **Mosquera** Organocatalysts vs metal catalysts for the controlled synthesis of bioplastics
- ST22 Moshe **Kol** Poly(lactic acid) – circular economy with new catalysts
- ST23 Stephen **Ojwach** Towards a circular economy: Production and degradation of poly(lactides) using N<sup>^</sup>O-donor Mn(II) and Zn(II) catalysts
- ST24 Dieter **Vogt** Homogeneous multiphase catalysis in continuous operation
- ST25 T. Brent **Gunnoe** Cu(II) carboxylate arene C–H functionalization: Tuning for non-radical pathways and the activation of strong C–H bonds
- ST26 Jolene **Reid** Data-driven mechanistic modeling of asymmetric catalysis
- ST27 Marco **Foscato** Automated de novo design of homogeneous catalysts: Experimentally validated multi-factor design criteria
- ST28 Shigeru **Yamaguchi** Molecular field analysis for data-driven molecular catalyst design
- ST29 Fabio **Ragaini** Use of CO surrogates in the palladium-catalyzed reductive cyclization of nitroarenes to give N-heterocycles
- ST30 David **Morales-Morales** C–S couplings catalyzed by Ni(II) complexes of the type [(NHC)Ni(Cp)(Br)]
- ST31 Yuichiro **Himeda** Heterogenous CO<sub>2</sub> hydrogenation to methanol catalyzed by dinuclear iridium complexes in gas-solid phase
- ST32 Jakob **Albert** Revealing the nitrogen reaction pathway for the catalytic oxidative denitrification of fuels
- ST33 Rafal **Kusy** Palladium-catalyzed oxidative amination of olefins using oxygen as an oxidant





Uneven numbers will present at poster session A (Tuesday 23rd July)

Even numbers will present at poster session B (Thursday 25th July)

- |     |                            |   |
|-----|----------------------------|---|
| P01 | Karim <b>Abdel Hady</b>    | Ethylene/acrylic ester copolymerization by Brookhart-type complexes bearing new aryl alpha-diimine ligands  |
| P02 | Sebastian <b>Ahrens</b>    | Highly Efficient Cobalt-catalyzed Isomerization of Allylamines  |
| P03 | Piotr <b>Andruszak</b>     | Cobalt complexes with Schiff base ligands as highly active precatalysts for hydroboration of alkenes and alkynes  |
| P04 | Saeed <b>Ataie</b>         | Hydroaminoalkylation as a Direct Path to Aminate Polyolefins  |
| P05 | Vaishnavi <b>Atreya</b>    | Chromium Catalyzed Sustainable C-C and C-N Bond Formation: C-Alkylation and Friedländer Quinoline Synthesis Using Alcohols  |
| P06 | Dima <b>Azaiza Dabbah</b>  | Heterometallic Transition Metal Oxides Containing Lewis Acids as Molecular catalysts for the Reduction of Carbon Dioxide to Carbon Monoxide with Bimodal Activity |
| P07 | Veronika <b>Badazhkova</b> | Reaction kinetics of the Shvo catalyzed dehydrogenation of 1-phenyl-1,3-propanediol derived lignin model compound   |
| P08 | Alicia <b>Beaufils</b>     | Selective Olefin Transfer Hydrogenation Of Unsaturated Carbonyls With Ethanol Using PYA Ruthenium(II) Complexes   |
| P09 | Fanni <b>Bede</b>          | Palladium-catalyzed amino- and alkoxyacylation of ortho-substituted aryl dihalides using heterobifunctional nucleophiles  |
| P10 | Roman <b>Belli</b>         | Accessing "Inaccessible" 5-Membered Heteroarynes via Coordination Chemistry   |
| P11 | Lorenzo <b>Biancalana</b>  | Easily available ruthenium(II) isocyanide complexes for the transfer hydrogenation of ethyl levulinate into $\gamma$ -valerolactone                               |

# POSTERS

- P12 Ines **Blaha** Isomerization of Alkenes by a Novel Mn-BH<sub>4</sub> Complex
- P13 Christian **Blanco** Catalytic Conjugation of Oligonucleotides in Water: New Frontiers via Olefin Metathesis
- P14 Eliza-Jayne **Boisvert** Nanoparticle Decomposition Products in Olefin Metathesis: (Non)Innocence Is Carbene-Dependent
- P15 Satayu **Borsap** Study of Alkoxysilane and Aminosilane in Ethylene- $\alpha$ -olefin Copolymerization Using Ziegler-Natta Catalyst
- P16 Ruqaya **Buhaibeh** Scandium-catalyzed deoxygenation of alcohols and ketones using hydrosilanes as reductants
- P17 M. Fátima **C. Guedes da Silva** Catalytic activity of polynuclear Cu-phenylsilsesquioxanes in oxidations of cyclohexanone and cyclohexane
- P18 Rui **Carrilho** Homogeneously Catalyzed Synthetic Approaches towards Functionalized Photosensitive CO<sub>2</sub>-based Polycarbonates
- P19 Valdemiro **Carvalho-Jr** Coupling of mechanistically distinct reactions by an heterobimetallic Ru<sup>II</sup>/Ni<sup>II</sup> catalyst for the synthesis of poly(NBE)-co-poly(NBE) via ROMP-addition polymerization
- P20 Adriana **Casagrande** Photocatalytic Reduction of CO<sub>2</sub>-to-CO with Iron (II) and Cobalt(II) bis(imidazole)phenylenedimine Complexes
- P21 Osvaldo **Casagrande** Visible-Light Carbon Dioxide Reduction using Iron (II) and Cobalt(II) bis-(pyrazol)phenantroline Complexes
- P22 Wei-Chieh **Chang** Hydrogenative Depolymerization of Polyurethanes Catalyzed by a Manganese Pincer Complex
- P23 Minserk **Cheong** A Density Functional Study on Electrochemical Reduction of Nitric Oxide to Ammonia by Fe(II) Complexes
- P24 Vishal **Chourasia** Hydrogenation of Ester and Alkynes Catalyzed by a Protic Cobalt(II) Complex Featuring Naphthyridine-Pyrazole Functionality
- P25 Samantha **Cormier** Metallacyclobutanes from Nickel-Alkylidenes: Gateway to Metathesis and Cyclopropanation

# POSTERS

- P26 Chiara **Costabile** Steric and Electronic Properties of NHC ligands for Gold(I/III) catalyzed Oxyarylation of Ethylene: A Computational Study.
- P27 Mathew **Cross** Rapid dehydropolymerisation of amine-boranes with ruthenium aminophosphine precatalysts
- P28 Narmin **Dadashova** Comparative investigation of the influence of pH value of the system to the epoxidation of methylcyclopentene in the presence of RE-POM
- P29 Assunta **D'Amato** Alkyne Hydroamination Promoted by NHC Gold(I) Complexes: Activity and Mechanistic Insight
- P30 Linda **De Marchi** Exploring the reactivity of Ytterbium stabilized Pd(IV) alkyl species
- P31 Lionel **Delaude** Caffeine and Theophylline as Bio-based Ligand Precursors for Green Catalysis
- P32 Beatriz **Eleuterio Goi** New Fe(II) complexes bearing tetradentate unsymmetrical  $N_2O_2$  Schiff bases as redox photocatalysts for CRP2
- P33 Elizabeth **Ellison** Tuneable Homogeneous Ruthenium Catalysts for Ethanol Upgrading for Advanced Biofuels
- P34 Johannes Eike **Erchinger** syn-Selective Difunctionalization of Bicyclobutanes Enabled by Photoredox-Mediated C-S  $\sigma$ -Bond Scission
- P35 Roberto **Esposito** Valorization of Levulinic Acid through catalytic esterification with diols mediated by Zn(II)
- P36 Vajk **Farkas** Biodegradable polymer synthesis via olefin metathesis polymerization
- P37 Francesco **Ferretti** Efficient Synthesis of Six-Membered N-Heterocycles via Pd-Catalysis with Formic Acid Derivatives as CO Surrogates
- P38 Anna Maria **Fovanna** Spectroscopic characterization of iminopyridine iron complexes as precatalysts for the polymerization of  $\beta$ -myrcene
- P39 Cyril **Godard** Supported ligand-capped palladium nanocatalysts for the hydrogenation of  $CO_2$  into formate
- P40 Gaetano **Galdi** Mechanistic insights into the 1,2-oxyarylation of ethylene promoted by NHC-Gold(I/III) catalysts.

# POSTERS

- P41 Giuseppe **Gravina** Ring opening polymerization of bio-based monomers promoted by new Fe(II) pyridylamido catalysts
- P42 Fabia **Grisi** Olefin Metathesis Ruthenium Catalysts Bearing Unsymmetrical NHC Ligands
- P43 Santiago **Gullón-Moreno** Synthesis of Polycarbonates from Epoxides and CO<sub>2</sub> using a Titanium(III) Aminotrisphenolate Catalyst
- P44 Jack **Heaton** The Potential of Iridium Pincer Complexes for In Crystallo Catalytic Hydromethylation of Ethylene to Propane
- P45 Kilian **Heckenberger** Operando NMR spectroscopic investigation of a Kumada-type iron-catalysed cross-coupling reaction
- P46 Grzegorz **Hreczycho** Cobalt complexes as Earth-abundant catalysts in the synthesis of organometallic compounds
- P47 Yaroslav **Hryhoryev** Phenanthroline-bis(amine) based earth-abundant molecular catalytic systems for CO<sub>2</sub> photoreduction
- P48 Luke **Hudson** Tailoring C–H amination activity via modification of the triazole-derived carbene ligand
- P49 Paweł **Huninik** Regioselective Alkene Hydroboration Enabled by Quaternary Ammonium Salts
- P50 Lucia **Invernizzi** A Natural Bifunctional Catalyst for CO<sub>2</sub> Valorization
- P51 Sachin **Jalwal** Manganese PNP Catalysed (De)Hydrogenative C–C and C–N coupling reaction
- P52 Soumyashree **Jena** A Cooperative Cobalt-Based Approach for One-Carbon Extension in the Synthesis of (Z)Silyl Enol Ethers from Aldehydes: Unlocking Regio- and Stereoselectivity
- P53 Chloe **Johnson** In Crystallo synthesis of a gold(I)-acetylene complex
- P54 Cassiem **Joseph** Hydrogen Production from Formic Acid Mediated By Pyridine-Pyrazolyl Ru(II) Complexes: Catalytic Performance and Mechanistic Insights
- P55 Matthias **Käfer** Hydroboration of alkynes catalyzed by a novel Iron(II) PCP Pincer Complex

# POSTERS

- P56 Anna **Kajetanowicz** Olefin metathesis: a sustainable methodology for synthesis of valuable compounds with industrial potential
- P57 Tatsuhiko **Kawai** Synthesis of highly fluorinated N-Heterocyclic Carbene and Evaluation of Catalytic Activity of Transition Metal Complexes
- P58 Hendrik **Kempf** Synthesis of Guanamine-Based Ruthenium Pincer Complexes and Their Application in Catalytic (De) hydrogenation Reactions
- P59 Youngsoo **Kim** Photocatalytic Conversion of Lignin Biomass with Noble Metal Nanocatalysts
- P60 Leonie **Koch** Molecular Catalysts Design with a Massively Parallel Physics-Based Computational Workflow
- P61 Jan-Dominik H. **Krueger** In-situ spectroscopic investigations on selective biomass oxidation catalyzed by  $H_5PV_2Mo_{10}O_{40}$
- P62 Aiko **Kurimoto** Proton-coupled redox chemistry of colloidal gold nanoparticles
- P63 Hugo **Lapa** Production of terephthalic acid through sustainable catalytic oxidation of p-xylene with new copper(II) C-scorpionates
- P64 Belén **Lerma-Berlanga** Interrupted telomerization reaction with aryl boronic derivatives: reaction scope and mechanistic insights
- P65 Cheuk Long **Li** Application of indole-based monophosphine in ppm level Pd-catalyzed C–N bond formation
- P66 Xin **Liu** Depolymerization of polyester plastics with iodotrimethylsilane
- P67 Alceo **Macchioni** Ir(III) catalysts with carbohydrate ligand for hydrogen and lactic acid production from glycerol
- P68 Frederick **Malan** Reactivity And Catalytic Evaluation of Ruthenium-ONO Complexes Featuring C-, N-, And P-Based Ligands
- P69 Marcelino **Maneiro** Electrochemical conversion of 5-hydroxymethylfurfural to 2,5-furandicarboxaldehyde using Mn(III)-Schiff base catalysts
- P70 Kazushi **Mashima** Ring-opening Arylation of 7-Oxabenzonorbornadienes Catalyzed by Low-valent Chromium(I) Species

# Sunday 21 July

# Monday 22 July

# Tuesday 23 July

9.00

8.45 **Franke (KL 3)** **Fürstner (KL 9)**

10.00

9.30, 9.50 Lee (ST1) Nozaki (ST11)  
Hapke (ST2) Crudden (ST12)

10.10 coffee coffee

11.00

10.45 **Liu (KL 4)** **Tuba (KL 10)**

12.00

11.30, 11.50, 12.10 Herault (ST3) Altus (ST13)  
Dieguez (ST4) Mon (ST14)  
Baratta (ST5) Blacquiere (ST15)

13.00

12.30 **Matsunaga (KL 5)** **Waymouth (KL 11)**

14.00

13.15 lunch lunch

15.00

14.00 registration

14.45 **Albeniz (KL 6)** poster A

16.00

15.30, 15.50 de Bruin (ST6) round table A  
Smith (ST7)

17.00

16.10 coffee coffee

17.15

17.15 opening

16.45 **Rocchigiani (KL 7)** **Rosen (KL 12)**

18.00

17.45 **Goldberg (KL 1)**

17.30, 17.50, 18.10 de Vries (ST8) Janssen (ST16)  
Unkrig-Bau (ST9) Fieser (ST17)  
Kodama (ST10) Pellecchia (ST18)

19.00

18.30 **Neidig (KL 2)**

18.30 **Limburg (KL 8)** **Harth (KL 13)**

20.00

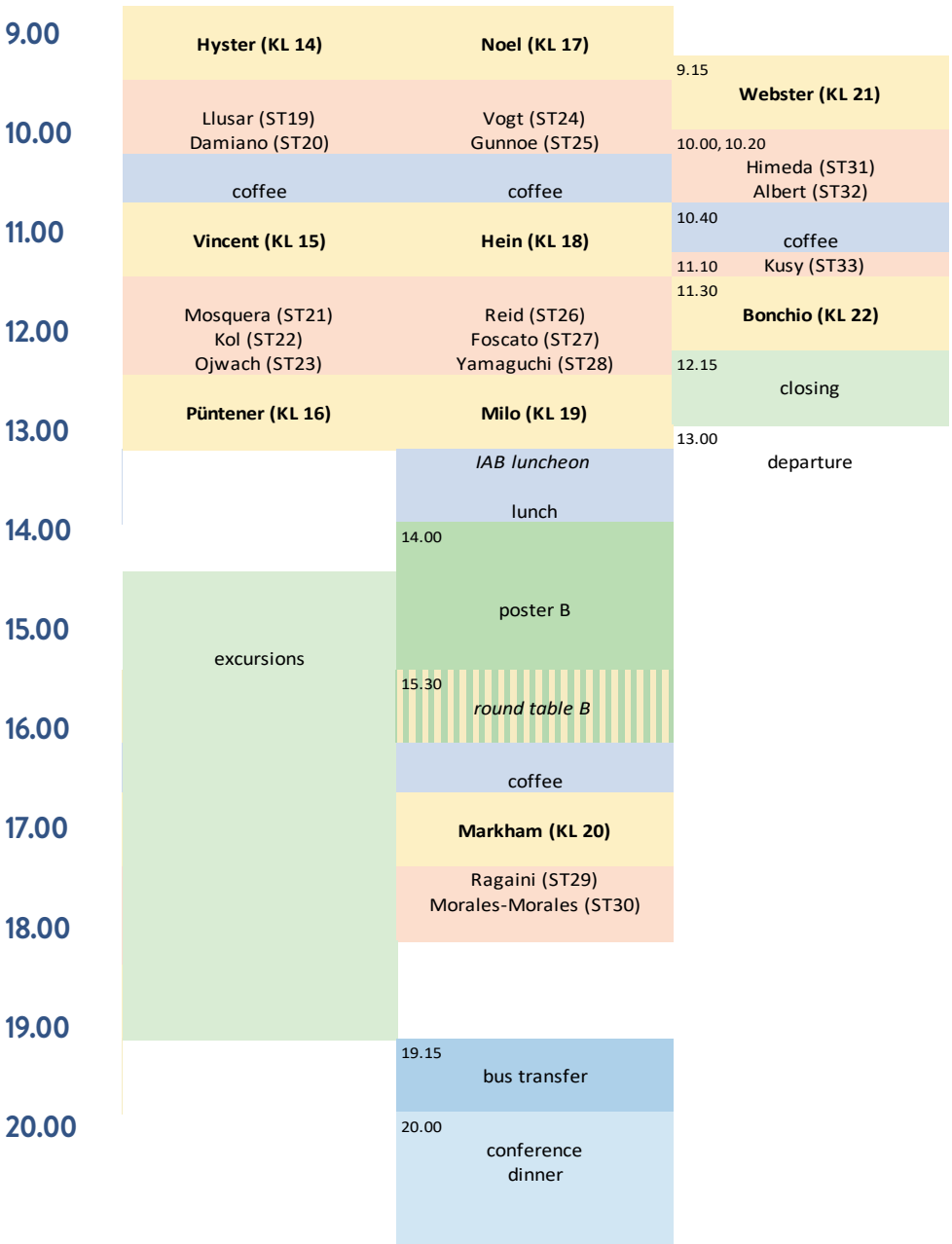
20.00 welcome mixer

19.15 young-industry mixer

# Wednesday 24 July

# Thursday 25 July

# Friday 26 July



# POSTERS

- P71 Vitaliy **Masliy** One-pot halogen-selective dicarbonylation of 1-bromo-4-iodobenzene using pharmaceutically relevant nucleophiles
- P72 Rita **Mazzoni** Molecular catalyzed alcohol homologation: new perspective for the greener and the faster Guerbet reaction
- P73 Massimo **Melchiorre** Lactic acid dioxolanes as biobased solvent candidates: from catalytic synthesis to application as reaction media
- P74 Giammarco **Meloni** Hybrid bis(N-heterocyclic carbene)-bis(phenolate) ligands: coordination chemistry to abundant TM and catalysis
- P75 Sakshi **Mohan** The dehydrocoupling between hydrosilanes and terminal alkynes with barium catalyst
- P76 Takahiro **Morikawa** Synthesis of Novel MICs with Triaryl Structure and Evaluation of their Catalytic Activity
- P77 Márton **Nagyházi** The effect of copper(I) salts on the ruthenium-catalyzed tandem isomerization metathesis (ISOMET) of long-chain olefins
- P78 Fatemeh **Niknam** Mononuclear and dinuclear [OSSO]-type metal complexes for coupling of CO<sub>2</sub> with epoxides
- P79 Edelberto Oscar **Niola** Artificial heme-enzymes for biomass conversion
- P80 Matthias **Nobis** Polyethylene Ketones with controlled spacer units: Synthesis, Characterization and Photodegradation
- P81 Diego **Olivieri** Room-Temperature Alkoxy carbonylation of Styrenes Promoted by Aryl  $\alpha$ -Diimine/Palladium(II) Complexes
- P82 Noemi **Pagliaricci** Rh(III) and Ir(III)- Arene Complexes containing Pyrazolone-Based Hydrazones Ligands as suitable catalysts for tandem Oxidation-Knoevenagel condensation reactions
- P83 Sara **Pagliaricci** Exploring the catalytic potential of novel organometallic Ru(II)-arene complexes with pyrazolone-based hydrazone ligands
- P84 Saikat **Pal** Ligand Switchable Coordination and PRU Driven Catalytic C-C Bond Formation with Alcohol on a Mn(CO)<sub>3</sub> Complex



# POSTERS

- P85 Sourav **Pal** Wacker-type Aerobic Oxidation of Olefins Catalysed by an Iron(II) Complex: Intermediacy of an Oxo-Bridged Diiron(III) Species in the Catalytic Cycle
- P86 Benedetta **Palucci** Iron hydrometallation initiation for radical polymerization of polar olefins
- P87 Oscar **Pàmies** Chiral tetrahydrofuran-fused spirocyclic scaffolds via Pd-catalyzed [3+2] cycloaddition reaction. From batch to flow
- P88 Prabhakar **Pandey** A Single Terminal [Ni<sup>II</sup>-OH] Catalyst for Direct Julia-Type Olefination and  $\alpha$ -Alkylation Involving Sulfones and Alcohols
- P89 Moumita **Patra** A Water-Soluble Protic Mn(I)-NHC Complex for Reversible CO<sub>2</sub> Hydrogenation and Formic Acid Dehydrogenation in Aqueous Medium
- P90 Fritz **Paulus** Visible-Light Photocatalyzed peri-[3+2] Cycloaddition of Azaarenes
- P91 Fairoosa **Poovan** Catalytic valorization of vegetable oils, polymers, and waste plastics to amines
- P92 Vladimir **Potapov** Catalytic Selective Approaches to New Families of Heterocyclic and Functionalized Organoselenium Compounds Based on Selenium Dihalides
- P93 Chang **Qiao** Synthesis of endo-Cyclic Carbonates from exo- Cyclic Carbonates
- P94 Akilan **Rajamani** Theoretical investigation of Aromatic Cope rearrangement catalyzed by Gold
- P95 Richard **Ramos** Unsymmetrical NHC Ligands: Reconciling Catalyst Accessibility and Productivity in Olefin Metathesis?
- P96 Francesco **Ravera** Beyond hydroarylation: alternative pathways in the gold-catalyzed reaction of phenols with alkynes
- P97 Esaie **Reusser** Rational ligand design affords ultra-fast and selective ketone  $\alpha$ -arylation Pd catalyst
- P98 Bernd **Rienhoff** Combination of Switchable Solvents and Catalysts for High Reactivity and Efficient Product / Catalyst Separation

# POSTERS

- P99 Giacomo **Rigoni** Accelerating transfer hydrogenation of sterically hindered ketones with a novel mono-substituted aminocarbene (MAC) ruthenium complex
- P100 Jakub **Robaszkiewicz** Solvent coordination enables Negishi benzylation in a ligandless cobalt-based catalytic system
- P101 Thomas **Roth** For a World That's Bright, Don't Ignite, Use the Biodiesel Right - Sustainable Platform Chemical for Homogeneous Catalysis
- P102 Giovanni **Rubello** NHC-Au(I) complexes with long alkyl chain for catalysis in confined space
- P103 Fátima **Sanz Azcona** From models to Lignin depolymerization. Photocatalysis using V-aminotriphenolate complexes
- P104 Heiko **Schratzberger** Hydrofunctionalization reactions catalyzed by a pyrazole-derived Fe(II) PCP alkyl dicarbonyl complex
- P105 Edward **Shellard** Al(III)/K(I) Heterodinuclear Catalysts to make Oligoester Polyols and Surfactants by Ring Opening Copolymerization of Epoxides and Anhydrides
- P106 Hiroto **Shigematsu** Urea Synthesis under Atmospheric Carbon Dioxide Pressure by Phosphorus Organic Catalyst
- P107 Amravati Singh **Shivaji** Cyclododecene isomeric separation by (supported) rhodium (I)-catalysed selective dehydrogenative borylation reaction
- P108 Yannick **Stöckl** Sustainable hydrogenation of bio-based molecules towards value-added chemicals of interest to industry
- P109 Hui-Ling **Sung** Pyrazine Plays as the Catalyst to Influence the Conformation of Barium Coordination Polymer
- P110 Andrew **Swarts** Efficient formic acid dehydrogenation with novel pyridyl-formamidine ligated Ru(II) complexes
- P111 Adrian **Sytniczuk** Application of metathesis in the synthesis of valuable products from renewable raw materials
- P112 Bartłomiej **Szarlan** Nickel(II) salen complexes as precatalysts for alkene hydrosilylation
- P113 Florian **Thurnher** New iron alkyl and hydride PNP pincer catalysts

# POSTERS

- P114 Sergey **Tin** 2,5-Dioxohexanal as a new bio-based building block for the synthesis of aromatics
- P115 Federica **Tufano** Sustainable Polyesters and Polycarbonates through Ring-Opening Polymerization by NHC-based Biometals Complexes
- P116 Chloe **van Beek** In control: A kinetics and mechanistic study of an Ir(POCOP) catalyst for the controlled synthesis of polyaminoboranes.
- P117 Maria S. **Viana** Triazolylidene Nickel Complexes with a Pendant Amino Group for Catalytic Cycloaddition of CO<sub>2</sub> to Epoxides
- P118 Hannes **Wegener** Primary amines from alkenes and carbonyl compounds: Highly selective hydrogenation of oximes using a homogeneous Ru-catalyst
- P119 Katharine **Welch** The Development of New Ferrocene-Containing Ligands for Redox-Switchable Homogeneous Catalysis.
- P120 Christopher **Whiteoak** Exploring the Potential of Complexes of the Heavier Group 13 Elements in Catalysis: Cyclic Carbonate Synthesis as an Example
- P121 Rebecca **Willans** Developing Advanced Hyphenated Analytical Techniques to Quantify Iridium Speciation for Sustainable Catalysis
- P122 Jiajun **Wu** Rhodium Catalyzed Stereo-Selective Hydrogenation of Internal Alkynes
- P123 Lukas **Wursthorn** New Neutral Nickel(II) Catalysts for the Copolymerization of Ethylene and CO to Photodegradable Keto-Polyethylenes
- P124 Yifei **Zhou** Synthesis and Reactivity of Ru(BINAP)(PPh<sub>3</sub>)
- P125 Daniel **Zobernig** NHC-based Manganese(I) Alkyl Complexes for Hydrogenation and Hydrofunctionalization Reactions
- P126 Daniele **Zuccaccia** Synthesis and application in catalysis of Ru complexes via mechanochemistry route





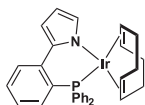




# Homogeneous Catalysts and Reagents - Our Latest Catalog Products -

Catalyst for the selective hydrogenolysis of urea derivatives

**New**



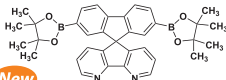
**(1,5-Cyclooctadiene)[2-(2-diphenylphosphinophenyl)pyrrolido]iridium(I)**

200mg [C4021]

Reference *Nat. Commun.* **2023**, 14, 3279. <https://doi.org/10.1038/s41467-023-38997-2>

Ligand for undirected meta-selective C–H borylation

**New**



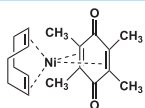
**SpiroBpy-Bpin**

100mg / 500mg [B6552]

Reference *Science* **2022**, 375, 658. <https://doi.org/10.1126/science.abm7599>

Air-stable nickel(0) (pre)catalyst

**New**



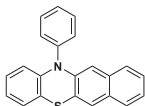
**Ni(COD)(DQ)**

1g / 5g [N1198]

Reference *Angew. Chem. Int. Ed.* **2020**, 59, 7409. <https://doi.org/10.1002/anie.202000124>

Visible light photoredox organocatalyst for C(sp<sup>3</sup>)-heteroatom bond formation

**New**



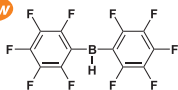
**12-Phenyl-12H-benzo[b]phenothiazine**

200mg / 1g [P3081]

Reference *J. Am. Chem. Soc.* **2020**, 142, 1211. <https://doi.org/10.1021/jacs.9b12335>

Borane reagent with high Lewis acidity (Piers' borane)

**New**



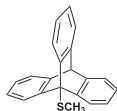
**Bis(perfluorophenyl)borane**

100mg / 500mg [B6561]

Reference *Chem. Commun.* **2020**, 56, 841. <https://doi.org/10.1039/C9CC08338C>

Organocatalyst for aromatic halogenation using *N*-halosuccinimides

**New**



**9-Methylthiotriptycene (= Trip-SMe)**

100mg / 1g [D6031]

Reference *J. Am. Chem. Soc.* **2020**, 142, 1621. <https://doi.org/10.1021/jacs.9b12672>

>> Find more reagents on catalysis



or <https://bit.ly/4d02fRe>



INTERNATIONAL  
SYMPOSIUM ON  
HOMOGENEOUS  
CATALYSIS - XXIII



Società  
Chimica  
Italiana  
Divisione di Chimica Inorganica



UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE

*u<sup>b</sup>*

UNIVERSITÄT  
BERN

