INORGANIC CHEMISTRY
S. Koch and N. Radu, Program Chairs

SUNDAY MORNING

Venue
Placeholder

Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in honor of Nilay Hazari W. H. Berns, A. Valentine,
Organizers J. E. Bercaw, Presiding


9:25 . Bonding in pentametal complexes and their recent applications. J.C. Green

9:50 . Small molecule activation with molybdenum complexes supported by diphosphine-arene ligands. T. Agapie

10:15 . Intermission.

10:25 . Reversible C-H bond cleavage in the formation of cationic iridium alkoxycarbeneates from ethers. N.D. Schley

10:50 . Siderophore-Promoted release of titanium(IV) from metal oxide materials. A. Valentine

11:15 . Electronic structures of di platinum complexes. H.B. Gray

11:40 . Near-miss synthesis of a noble gas compound in 1933: Could it have been Harry Gray award-worthy?! J.A. Labinger

Venue
Placeholder

Celebrating 60 Years of the Division of Inorganic Chemistry

The early days of the Division of Inorganic Chemistry (DIC)

M. J. Clarke, Organizer D. C. Crans, Organizer, Presiding T. J. Marks, A. P. Sattelberger, Presiding

8:30 Introductory Remarks.

8:40 . Sixty years of inorganic chemistry. H.B. Gray

9:10 . Synthesis and properties of selected transition metal complexes over half a century - a retrospective. S.J. Lippard


10:10 . Intermission.

10:25 . Inorganic and supramolecular pincer chemistry. K. Bowman-James

10:55 . Whither goest inorganic chemistry: What goes around, comes around. R. Eisenberg

11:25 . How the Division of Inorganic Chemistry brought the ACS into the 21st Century; E-Sections and the DIC’s first ChemLuminary Award. M.J. Clarke

Venue
Placeholder

Undergraduate Research at the Frontiers of Inorganic Chemistry Coordination Chemistry A. K. Bentley, C. Nataro, R. S. Smith, Organizers B. B. Sears, Presiding

9:00 Introductory Remarks.

9:05 . Selective f-element extraction utilizing tripled CMPO ligands. E.J. Werner, S.M. Biros, M. Patterson, A.K. Mulville, E.K. Connor


10:05 . Structure and properties of coordination polymers containing conformationally flexible dipyridyldiamine ligands: An introductory undergraduate research program at Lyman Briggs College at Michigan State University. R.L. Laduca, T.A. Beard, J.Z. Travis

10:25 . Intermission.

10:40 . Ligand replacement on 1D and 2D coordination polymers. B.J. Johnson, M. Johnson, N. Beattie


Venue
Placeholder

ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.

M. J. Maroney, E. L. Que, Organizers T. A. Jackson, J. Kovacs, Presiding

8:30 Introductory Remarks.

8:35 . Diiron enzymes in antibiotic biosynthesis: Similar metal centers - different chemistry. A.J. Komor, C.J. Knot, A. Jasinskiwski, B.S. Rivard, L. Que, J.D. Lipscomb

9:00 . Mössbauer, EPR and DFT studies of Fe(V)=O, Fe(IV)Fe(IV) and Fe(III)Fe(IV) complexes of biological relevance. E. Münck


9:50 . DNA repair glycosylase MUTYH: From Fe-S clusters to MAP. S.S. David

10:15 . Intermission.

10:30 . Mechanistic enzymology of tryptophan oxidizing enzymes. A. Liu


11:20 . Metal scaffolds for biological sensing using 8F magnetic resonance imaging. E.L. Que

11:40 . Spectroscopic and kinetic studies of a bifunctional α-ketoglutarate dependent non-heme iron enzyme. Asqf. Y. Guo, J. Li, J. Lee, J. Dicks, R. Fan, W. Chang

12:00 . Developing x-ray spectroscopic toolkits for mechanistic studies of cobalt and nickel catalysts. F. Li

Venue
Placeholder

Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

E. J. McLaurin, Organizer

K. R. Kittilstved, Organizer, Presiding

8:30 Introductory Remarks.


9:05 . Germanium alloy nanocrystals and hollow spheres prepared via colloidal synthesis. S. Kauzlarich, K. Tabatabai, K.A. Newton, X. Qi

9:35 . Inorganic-Capped luminescent InP nanocrystals. E.J. McLaurin

10:05 . Intermission.


11:20 . Dislocation-Driven growth of 1D, 2D and 3D nanomaterials and the applications in lead halide perovskite nanostructures. S. Jin, Y. Fu

11:50 . Synthesis of magnetic semiconductor nanostructures. S.L. Stoll

Venue
Placeholder

Sustainability in Electrocatalytic Fuel & Chemical Production
Cosponsored by CATL L. A. Berben, J. L. Dempsey, Organizers V. Thoi, Presiding

8:30 Introductory Remarks.

8:35 . Why is Ni(cyclam)2+ a better CO2 reduction catalyst when supported on a mercury surface?. B. Rudshteyn, Y. Wu, J. Froehlich, A. Zhanaidarova, W. Ding, V.S. Batista, C.P.

Kubiak

9:00 . Engineered biomolecular electrocatalysts for hydrogen evolution from water. K. Bren, Y. Guo, B. Kandemir, V. Fourmond

9:25 . Paired electrochemical reactions: A lesson learned from microelectrode arrays and the onsite generation of chemical reagents. K.D. Moeller

9:50 . Promoting selective electrocatalytic carbon dioxide reduction through modification of a metal’s secondary and outer coordination spheres. C.C. McCrory


Appel

10:40 . Intermission.


**Inorganic Chemistry: Symposium in honor of Pingyun Feng**

**Venue**
Placeholder

F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng

**Presiders**
X. Bu, q. Zhang, D. Zhao, Organizers

**Organizers**
P. Yang, N. Zheng, Organizers, Presiding

**Presiding**
A. Gaudette, J.K. Pagano, Organizer

**Section**

**Venue**
Placeholder

The plenary session will take place on April 30th at 10:00 AM. The program includes talks on various topics, such as the synthesis, structure, and reactivity of molybdenum cluster compounds, the development of new materials for energy storage, and the exploration of novel methods for organic synthesis.

**Plenary Talks**

- **9:00** - Mechanistic insight into the cleavage and coupling of CO with molybdenum complexes: Toward upgrading oxygenated C1 precursors. **T. Agapie**
- **10:00** - Oxidation reaction evolution: Redefining intrinsic activity trends and illustrating design principles. **S.W. Boettcher**
- **11:00** - Structure-function studies of tetranuclear iron clusters with a variable interstitial μ₂ atom: Insights from molecular active sites. **C. Reed, T. Agapie**
- **12:00** - Bio-inspired nonheme iron catalyst: Electrophilic versus nucleophilic iron-based active oxidant – effect on alkane hydroxylation. **S. Kal, L. Que**
- **2:00** - Self-assembly processes: Connected spherical nano-sized supramolecules. **B. Krämer, M. Scheer**
- **3:00** - Challenges in the design of luminescent markers and cation sensors based on lanthanide complexes. **J. Monteiro, D. Tapia, A. De Bettencourt Dias**

**Section**

**Venue**
Placeholder

The plenary session will take place on May 1st at 10:00 AM. The program includes talks on various topics, such as the synthesis, structure, and reactivity of molybdenum cluster compounds, the development of new materials for energy storage, and the exploration of novel methods for organic synthesis.

**Plenary Talks**

- **9:00** - Mechanistic insight into the cleavage and coupling of CO with molybdenum complexes: Toward upgrading oxygenated C1 precursors. **T. Agapie**
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**Section**

**Venue**
Placeholder

The plenary session will take place on May 2nd at 10:00 AM. The program includes talks on various topics, such as the synthesis, structure, and reactivity of molybdenum cluster compounds, the development of new materials for energy storage, and the exploration of novel methods for organic synthesis.

**Plenary Talks**

- **9:00** - Mechanistic insight into the cleavage and coupling of CO with molybdenum complexes: Toward upgrading oxygenated C1 precursors. **T. Agapie**
- **10:00** - Oxidation reaction evolution: Redefining intrinsic activity trends and illustrating design principles. **S.W. Boettcher**
- **11:00** - Structure-function studies of tetranuclear iron clusters with a variable interstitial μ₂ atom: Insights from molecular active sites. **C. Reed, T. Agapie**
- **12:00** - Bio-inspired nonheme iron catalyst: Electrophilic versus nucleophilic iron-based active oxidant – effect on alkane hydroxylation. **S. Kal, L. Que**
- **2:00** - Self-assembly processes: Connected spherical nano-sized supramolecules. **B. Krämer, M. Scheer**
- **3:00** - Challenges in the design of luminescent markers and cation sensors based on lanthanide complexes. **J. Monteiro, D. Tapia, A. De Bettencourt Dias**

**Section**

**Venue**
Placeholder

The plenary session will take place on May 3rd at 10:00 AM. The program includes talks on various topics, such as the synthesis, structure, and reactivity of molybdenum cluster compounds, the development of new materials for energy storage, and the exploration of novel methods for organic synthesis.

**Plenary Talks**

- **9:00** - Mechanistic insight into the cleavage and coupling of CO with molybdenum complexes: Toward upgrading oxygenated C1 precursors. **T. Agapie**
- **10:00** - Oxidation reaction evolution: Redefining intrinsic activity trends and illustrating design principles. **S.W. Boettcher**
- **11:00** - Structure-function studies of tetranuclear iron clusters with a variable interstitial μ₂ atom: Insights from molecular active sites. **C. Reed, T. Agapie**
- **12:00** - Bio-inspired nonheme iron catalyst: Electrophilic versus nucleophilic iron-based active oxidant – effect on alkane hydroxylation. **S. Kal, L. Que**
- **2:00** - Self-assembly processes: Connected spherical nano-sized supramolecules. **B. Krämer, M. Scheer**
- **3:00** - Challenges in the design of luminescent markers and cation sensors based on lanthanide complexes. **J. Monteiro, D. Tapia, A. De Bettencourt Dias**
Organometallic Chemistry: New Ligand Platforms

N. S. Radu, Organizer

R. Blanski, D. Mendoza-Espinosa, Presiding

8:30 - Mechanistic studies of Rh(diphosphino)-catalyzed methanol reductive carboylation. S. Chotchatchawankul, C.R. Landis

Venue

Placeholder

LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis, & Spectroscopy

Sponsored by PROF, Cosponsored by ANU, Biot, CHED, CMA, COLL, COMP, CWD, ENVIR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES, and WCC

Synthesis of Catalysts by Non-Traditional Methods

Nanoparticle Catalysts

Sponsored by CATL, Cosponsored by Coll and INOR

Deposition & Etching of Nanostructures

Sponsored by Coll, Cosponsored by INOR

SUNDAY AFTERNOON

Venue

Placeholder

Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in honor of Nilay Hazari W. H. Bernskeeter, A. Valentine, Organizers A. Hazari, Presiding

1:30 - Operaando NMR studies of hydroformylation. C.R. Landis, A. Brezyn

1:55 - Lewis acid additives in organotransition metal chemistry. G. Dobereiner

2:20 - Gold(III) catalyst design for alkene and alkyne functionalization reactions. A. Nova

2:45 intermission.

2:55 - Lewis acid-transition metal promoted carbon dioxide functionalization. W.H. Bernskeetter, D. Jin

3:20 - Proton-Assisted Reduction of CO2 by Cobalt Aminopyridine Complexes. S.C. Marinescu, A. Chaptovskiy


Section B

Venue

Placeholder

Celebrating 60 Years of the Division of Inorganic Chemistry

The Next Decades: 1990’es & 2000’es

M. J. Clarke, D. C. Crans, Organizers B. E. Bursten, S. Ronco, M. Scott, Presiding

1:30 Introductory Remarks.

1:35 - From siderophores to supramolecules, fifty years of coordination chemistry. K.N. Raymond

2:05 - Electrochemically-promoted catalytic asymmetric hydrogenation using chiral organorhodium complexes. B.T. Donovan-Merket

2:35 - Solid state chemistry, Zintl phases, and the Division of Inorganic Chemistry. S. Kauzlarich

3:05 - Surface chemistry of II-VI nanoplatelets and nanoribbons. Y. Zhou, Y. Yao, C. Morrison, W.E. Buhro

3:35 intermission.

3:50 - Antimony(V) Lewis acids: Applications in anion sensing and small molecule activation. F.P. Gabba

4:20 - Metalloprotein design: Examination of mononuclear redox centers. V.L. Pecoraro, A. Tebo, K. Koeke


5:20 - Celebrating 60 Years - Inorganic chemistry at the National Science Foundation. C.A. Bessel

Section C

Venue

Placeholder

Undergraduate Research at the Frontiers of Inorganic Chemistry Organometallic Chemistry

A.K. Bentley, C. Nataro, S.R. Smith, Organizers A. Johnson, Presiding

1:30 - Synthesis and reactivity of compounds containing a C2\(\text{2}^{+}\)

1,1’bis(diphenylphosphino)ferrocene ligand. K. Cabrera, C. Nataro
1:50 : Synthesis and characterization of antimony(V) Lewis Acids. N. Capra, A.M. Christianson, F.P. Gabbai  

2:10 : Heterogeneous and homogeneous phosphonic alcoholysis by supported molybdenum-peroxo complexes. L.Y. Kuo, A. Bennett  


3:10 : Intermission.  


4:25 : Synthesis, reactivity, and catalytic applications of isolable NHC-CuCF2H complexes. S. Kariofillis, J.R. Bour, M.S. Sanford  

Venue  

Placeholder  

ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.  

J.W. Slater, C.R. Schneider, A. Ostermann  

Section D  

Venue  

Placeholder  

ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.  

J.W. Slater, C.R. Schneider, A. Ostermann  

Section D  

Venue  

Placeholder  

Sustainability in Electrocatalytic Fuel & Chemical ProductionCosponsored by CATL  

L. A. Berben, J. L. Dempsey, Organizers E. S. Wiedner, Presiding  

1:30 : Use of polysomates as rodox-active reresourcs: Towards small molecule activation. E.M. Matson  

1:55 : Iron-thiolate catalysts for photoelectrochemical hydrogen production in organic solvents and water. F. Gloaguen  


3:10 : Intermission.  


4:40 : CO2 splitting into CO and O2: From mechanistic studies to efficient electrolyzer. E. cyrille  

Venue  

Placeholder  

F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng  

X. Bu, P. Yang, D. Zhao, N. Zheng, Organizers  

q. Zhang, Organizer, Presiding  

1:30 : Hybrid nanomaterials for treating resistant cancers. W. Lin  

1:50 : Dynamic metal–organic frameworks: Design and properties. X. Bu  

2:10 : Nanostructured and nanoporous materials for energy application. S.H. Tolbert  

2:30 : Towards robust hierarchical porous metal–organic frameworks. S. Yuan, H. Zhou  

2:50 : Porous ionic liquids: Challenges and opportunities. S. Dai  

3:10 : Intermission.  

3:40 : Organometallic chemistry of macrocycles. cages. G. Jin  

4:00 : Metal-Organic Frameworks (MOFs): Platforms for multifunctional materials. B. Chen  


4:40 : Development of metal-organic frameworks as a versatile platform for heterogeneous catalysis. S. Ma  

Venue  

Placeholder  

Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges  

Cosponsored by BIOL  

Financially supported by Northwestern U, U of California-Davis  

V. DeRose, Organizer  

J. A. Telser, Organizer, Presiding  

1:30 : High resolution x-ray spectroscopic studies of soluble methane monooxygenase. S. Dellee  


3:00 : Vibrational studies of the single turnover reaction cycle and substrate inhibition reaction in denitifying NO reductases. P. Moene-Lecoz  

2:30 : Intermission.  

3:30 : Effects of heme conformation on spin state, spin distribution, and electron transfer in cytochromes. K. Bren, J. Kleingardner, B. Kandemir  

4:00 : Using biosynthetic models of heteronuclear metalloenzymes for spectroscopic elucidation of their mechanisms in multi-electron processes. Y. Lu, A. Bhagi-Damodaran, C. Cui, Y. Yu, J. Reed  


4:40 : Biosynthesis of the [FeFe]-hydrogenase active site. D. Suess
ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in honor of William B. Tolman

L. M. Berreau, P. L. Holland, Organizers

5:30 - 7:30

Characterization of a copper(III)-phenoxo complex. N.L. Gagnon, D. Dhar, W.B. Tolman

Probing the effect of ligand electronics on the C-H reactivity of copper-oxo zones. C. Elwell, W.B. Tolman


New strategy for the hydroxylation of strong C-H bonds. H. Sajjad, W.B. Tolman


Resonance Raman spectroscopy of copper(III)-hydroxide core and structural implications based on a unified Badger’s rule. A.D. Spaeht, N.L. Gagnon, W.B. Tolman


Cu(I) complexes of TBDPhos: Synthesis, structures, and reactivity. B. Massman, S.R. Daly

ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.

M. J. Maroney, E. L. Que, Organizers

5:30 - 7:30

Green synthesis of Nd-La doped SrCuFe$_2$O$_4$ and Nd-La doped Sr$_2$MgFe$_2$O$_4$ nanoparticles and comparison their magnetic and microwave absorbing properties with Nd-La doped Sr$_2$CuMgFe$_2$O$_{10}$ nanoparticles. p. alimard


Tuning the C–H bond cleavage ability of an oxorh(IV) complex structural properties of an oxorh(IV) complex supported by a pentadentate ligand. W. Rasheed, M. Puri, a. draksharapu, L. Que

Inner side of high-valent metal-oxo reactivity. M. Swart, K. Ray

Exploring the H$_2$O interaction and catalytic activity of mononuclear Cu(II) coordination complexes containing N-rich ligand architecture. N. Singh, J. Niklas, O. Poluektov, K.M. Van Heuvelen, A. Mukherjee

Two isomers of oxorh(IV) complex supported by tetrathiahydrolam ligand: Interconversion and reactivity. J. Prakash, J. Klein, a. draksharapu, C.J. Cramer, L. Que

Reversible formation of Fe$^{III}$=O–C=C$^{II}$ intermediate from the reaction of Fe$^{III}$=O and Cu$^{II}$, a. draksharapu, J. Klein, W. Rasheed, C.J. Cramer, L. Que

Factors influencing the electronic nature of the active oxidant in a bio-inspired non-heme mononuclear iron catalyst. S. Kai, S. Iyler, L. Que

Modulation of a weakly coupled peroxydicopper(II) complex by interaction with alkali metal ions. L. D’Amore, M. Swart, A. Brinkmeier, F. Meyer


Roles of (L)Fe$^{III}$=O and (L)Fe$^{III}$=O complexes in bio-inspired non-heme iron catalysis. C. Liu, D. S. Cheung, J. Klein, C. Colla, A.F. Buchanan, C.K. Perkins, B. Fulton


M. Li, R.T. Frederick, S. Saha, J.T. Diulus, B. Fulton, D.A. Kesler

Solution speciation of amphoteric early transition metal clusters. D. Hutchison, M. Olsen, M.D. Nyman


Characterization of n-butylSnOOH for nanopatterning: Radiation behavior. N. Kenane, D.A. Kesler


. Design meets nature: New tetrahedrate superabsorbers. J. Heo, D.A. Keszler

Section A

Venue
Placeholder

Celebrating 60 Years of the Division of Inorganic Chemistry

D. C. Crans, Organizer 5:30 - 7:30
. Highlights in inorganic chemistry from the 250 years that preceded the creation of the Division of Inorganic Chemistry. S.A. Koch
. Cobalt and copper σ-complexes with a diphenosine-hydrosilane ligand. J. Kim, Y. Kim, Y. Lee
. Trends in NMR chemical shifts of d'-transition metal compounds. Z. Xue, T.M. Cook, A.C. Lamb
. Effect of confinement on the acidity of organic and bio ligands. J. Salas, A. Cherem, M.D. Johnson

Selenium speciation in the Fountain Creek water and effects on fish species diversity. J. Carsella, S.J. Bonetti, D.C. Crans, S.J. Herrmann, D.R. Nimmo
. Group transfer and methylation reactions of a terminally bound zirconium methylidene complex. T. Kurogi, P. Carroll, D.J. Mindiola
. Energy transfer from PdS nanocrystals to pentacene. X. Li, M. Tang
. Synthesis of gold nanoparticles using Schiff base derivative of N-acetylserin with ceftriaxone as reducing and capping agent. A.J. Abdulghanii
. Landscape of ligandable membrane cytochrome and its role in modulating immune response. E.V. Vinogradova, K.M. Backus, M. Blewett, B.F. Cravatt
. Correlating redox potential with 19F NMR chemical shifts for vanadium (V) catecholates. J.T. Kohn, P. Chatterjee, C.N. Beuning, A. Waterhouse, T. Lucia, T.E. Polenova, D.C. Crans
. Diverse Array of Nucleophilic Reactivity Featuring Molecular Titanium Nitride Complexes. L. Grant, P. Carroll, B. Manor, D.J. Mindiola

Section A

Coordination Chemistry: Synthesis & Characterization

S. A. Koch, Organizer 5:30 - 7:30
. Comparison of 2,2'-bipyridine and 1,10-phenanthroline ancillary ligands in ruthenium metal complexes containing the 4,4'-dihydroxy-2,2'-bipyridine ligand. A.E. Kuhn, D.J. Charboneau, M.J. Kasher, N.A. Piro, W.S. Kassel, T. Dudley, J.J. Paul
. Synthesis, structure and catalytic applications towards cis-β-ruthenium-salen complexes. C. Lee, C. Che
. Synthesis of novel mixed O, N, S donor ligands. E. Jugovic, C. Hamaker
. NMR characterization of Ln-Mn-Na 12-metallacrown-4 complexes. C. Atzerti, V. Marzariol, M. Quaretto, J. Travis, L. Di Bari, C.M. Zaleski, M. Tegoni
. Reactivity trends dictated by structure that influence terminal ligand substitution of alkylidyne capped trinuclear molybdenum (IV) clusters. B.C. Brooks, J.R. Houston
. Theoretical and experimental investigation of Zn0.5Sb3 doped with metal elements. K. Tsang, R. Vellaisamy, R. Li
. (III) pyridinediimine complexes with Lewis acids in the secondary coordination sphere. K.T. Burns, M. Delgado, J.M. Ziegler, J.D. Gilbertson
. Binding modes of Ni-Co; adducts and their CO-activation. C. Yoo, Y. Kim, Y. Lee
. Copper(I/II) reconfiguration of ligand conformations: Amplification and control of helicity by a single atom and solvent. X. Duan, T.M. Albelda, J.W. Canary
. Effects of carrier ligands on cisplatin analog binding to cysteine and methionine. A.C. Smith, K. Williams
. Synthesis and structural characterization of chelating dinitrosyl iron complexes. O. Bercera, L. Li
. Synthesis and characterization of multinuclear manganese carbonate coordination compounds by incorporating the anion of 3-(dimethylamino)-1,2-propanediol. M. Reagan, A. Saha Synthesis and characterization of novel sulfonamide ligands. A. Penn, C. Hamaker
. Syntheses, structures, and electrochemical studies of N,N'-bis(bis(diphenylphosphine)butane-2,3-dimine Cu(II) complexes as pendant alkoxide derivatives of Cu(ATS)). N.S. Vishnosky, M.S. Mashuta, R.M. Buchanan, C.A. Grapperhaus
. Interactions between metal ions and ferrocenyl-histidine peptide conjugates. A. Ferranco, H. Kraatz
. Synthetic control of coincidental formation of N-heterocyclic carbene-copper(I) complex within 2D and 3D metal-organic frameworks. H. Lee, K. Kim, E. Lee
. Metal-organic framework as the new heterogeneous catalysts for biomass conversion. V. Tangermunit, W. Jumpathong, T. Lerdwiriyapup, S. Wannakao, K. Kongpatpanich
. Synthesis and characterization of transition metal complexes with cyclic boraguainidinates. C.M. Donahue, S.R. Daly
. Low-symmetry subphthalocyanines as fluorescent probes and precursors for low symmetry phthalocyanines. K. McAuliffe, E.R. Trivedi
. Missing linker on Zr-based Metal Organic Frameworks (MOFs) as the support for catalytic oxidation reactions. W. Jumpathong, S. Wannakao, S. Kaenket, K. Kongpatpanich
. CO2 separation and storage in porphyrin-based Metal-Orgnic Frameworks (MOFs). P. Pyakeeraulkul, T. Pila, W. Jumpathong, S. Wannakao, B. Boekfa, K. Kongpatpanich
. Isomerization in gold(I) compounds with 1,2-bis(diphenylphosphine) ethylene and fluorinated thiolates. G.romo, G. Moreno-Alcantar, H. Torrens
. Molybdenum(IV)oxophthalocyanines for Szilard-Chalmers production of...
Nuckolls, N. Jourabchian, N. Khojandi

Some dinitrosyl iron diphosphine molecular cluster complexes with N

Bimetallic ruthenium saccharinate complexes of dirhodium.

Leonard chemistry with late transition metals.

Tapu bridging ligand.

the first transition series in dimeric complexes.

phenanthroline coordination with nonmolybdenum bimetallic complexes

Synthesis and characterization of molybdenum bimetallic complexes with non-symmetric formamidinate ligands. I. Cervantes, D. Villagran

Addition reactions of some dinitrosyl iron diphosphine complexes. R. Manandhar, B. Alajimi.

M.W. Jones, V. Acquah, N. Jourabchian, N. Khojandi

Addition reactions of some dinitrosyl iron diphosphine complexes. R. Manandhar, B. Alajimi.
N. S. Radu, *Organizer*

5:30 - 7:30

Synthesis and characterization of organometallic compounds of coinage metals relevant to catalysis. S. Martínez de Salinas Uzquía, Á. Mudarra, M. Pérez-Temprano

Mechanistic studies on the oxidative addition of aryl halides to COBALT(I) complexes. M. Pérez-Temprano, J. San Jose, D. Gallego

Precision measurement of the C(sp^3)-H activation kinetic isotope effect in a ruthenium-centered olefin metathesis catalyst via differential ^1C labeling. C. Galvin, A. Johns, R.L. Pederson, J. Cannon, R.H. Grubbs, D.J. O’Leary

N-Heterocyclic Olefins (NHO) as ancillary ligands in catalysis and their application in transfer hydrogenation reactions. J. E. A, m. iglesias, N. GARCIA VILLALTA, L.A. Oro

Iridium(Iii) bis-N-heterocyclic carbene catalysts transferred hydrogenation reactions. N. GARCIA VILLALTA, L.A. Oro, M. IGLESIAS, J. E A

Synthesis and reactivity of the aminovinyl carbene toward alkynes in the Dötz reaction. R.M. Padilla, J. Tamariz, F. Delgado, A. Feliciano


Venue

Placeholder

Sustainability in Electrocatalytic Fuel & Chemical Production

Co-sponsored by CATL

L. A. Berben, J. L. Dempsey, *Organizers*

5:30 - 7:30

Silicon-based photoelectrochemical cell for enzymatic CO_2 conversion. J. Ko, E. Son, S. Kuk, C. Park

Towards formic acid oxidation by surface attached N(p)N=O complexes. F. Brunner, C.P. Kubiak

Venue

Placeholder

Switchable Catalysts

J. A. Byers, P. Diaconescu, *Organizers*

5:30 - 7:30

Redox switchable catalysts for the synthesis of block copolymers and crosslinked polymers.

K.R. Delle Chiaie, A.B. Biemesser, J.A. Byers

Application of bulk electrolysis methods to redox-switchable catalysis. S. Quan, J. Brosmer, P. Diaconescu

Switchable di-zi nc macrocycle catalysts: From highly active lactide polymerization to block copolymers. A.A. Thevenon, C. Romain, M. Bennington, h. davidson, A. White, S. Brooker, C.K. Williams

Redox switchable copolymerization of cyclic esters and epoxides by a zirconium complex. s. quan, R. Zhang, P. Diaconescu

Investigations into fast switching for the redox-switchable ring-opening polymerization of epoxides and lactides. J.A. Kehl, J. Curley, M. Qi, J.A. Byers

DFT studies of redox switchable copolymerization of cyclic esters and epoxides. J. Wei, P. Diaconescu

Ligand effect of a redox-controlled Al-based ROP catalyst. A. Lai, P. Diaconescu

Ytrrium and indium alkoxide complexes as redox switchable catalysts. S. Ro, A. Laughlin, P. Diaconescu

Polymerization through redox switchable catalysis. M. Riffel, J. Wei, P. Diaconescu

Redox switchable polymerization reactions. R. Dai, P. Diaconescu

Progress towards parameterizing flow reactor design for the efficient scale-up of photooxoreductase catalyst methods. T.M. Williams, A. Sun, C. Stephenson


Redox switchable polymerization reactions. R. Dai, P. Diaconescu

Venue

Placeholder

Undergraduate Research at the Frontiers of Inorganic Chemistry Bioinorganic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

5:30 - 7:30

Iron and Cadmium Binding in Metalloprotein II and Myohemerythrin from *Hediste diversicolor*. A. Krieger, B. Russell


Manganese corecorre substituted myoglobin. J.M. Mason, K.L. Stone

Investigating dechlorination using bio-inspired nickel compounds. E. Gund, R. Griffin, C. Ye, K.M. Van Heuvelen

Copper (I) substitution at zinc (II) binding domains: Characterization of speciation and functional studies. M.L. Stevens, M.D. Storlie, K.E. Splan

Preparation of synthetic conjugated myoglobin to promote new reactivity. K.L. Stone, J. Hua, H. Choudhry, J. Mason

Tandem C-H functionalizations by combining light-driven biocatalysis and photocatalysis. V.


Copper binding and reactivity of de novo designed Due Ferri single chain (DFsc) proteins. B. Van Dyke, A.J. Reig

Biophysical characterization and catalytic reactivity of rubrerythrin and symerythrin model proteins. J. Pellegrino, K.A. Bell, R. Polinski, S. Cimerol, A. Jacobs, E.I. Solomon, A.J. Reig

Using model proteins to understand the structure-function relationships in 4-histidine2carboxylate diiron proteins. C. Philip, S. Hawkins, A.J. Reig

Structure-function relationships in 4GDFsc variants containing a 4-Fe-3-Carboxylate active site. K. Oshea, J. Dorshheimer, K. Biernat, A. Jacobs, E.I. Solomon, Y. Wu, W.F. Degrado, A.J. Reig

Characterization of MnPc, a novel hydroquinone ring-cleaving dioxygenase. J. Duncan, E. Altman, T.E. Machonkin

Molybdenum pyranopterin dithiolene iron hydrogenase model compounds. B. Joll, L. Ortiz, C.F. Works

Mechanistic investigation of the reactivity of the iron-iron hydrogenase model compounds. B. Joll, L. Ortiz, C.F. Works

Studying the active site of nickel-acreditidine dioxygenase through nickel and zinc analogues: A structural and spectroscopic comparison study. A.J. Gremillion, S. Sanchez, S.A. Toledo, V. Lynch, C.L. Dorsey

Capturing an intermediate of the radical S-adenosyl-L-methionine enzyme lysine 2,3aminomutase. C. Denler, A.S. Byer, J.B. Broderick

Venue

Placeholder

Undergraduate Research at the Frontiers of Inorganic Chemistry Coordination Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

5:30 - 7:30

Green chemistry in the advanced inorganic laboratory: Mechenochemical synthesis and characterization of homoleptic bis-copper(I) complexes. D.J. Rabae, D.E. Janzen

Synthesis and kinetic studies of a trinuclear tungsten metal cluster. J. Nunez, R.C. Brookins, J.R. Houston

Modifying the bridging anion of LnX₂M 12-metallacrown-4 complexes. J.J. Reed, J.C. Lutter,

- Synthesis of a family of chiral aminoalcoholates as ligands for titanium and tantalum catalyzed asymmetric hydrosilylation. A.R. Johnson, C.S. Abelson
- Optimized synthesis of molybdenum scorpionate complexes using microwave irradiation. E. Finney, J. Finney

Unique crystalline composite displaying four primary zoning events in the solid state and based upon self-assembled coordination polymers. A. Cornell, S.R. Seidel

- Synthesis and characterization of SNS pincer ligand precursors and corresponding zinc(II) and copper(II) complexes. J.R. Miecznikowski, T. Ostromski, M. Siu, K.A. Bayne, N.A. Bernier
- Synthesis, characterization, and reactivity studies of iron dibromide complexes bearing para-substituted alpha-diimine ligands. D. Soemardi, S.M. Click, A. Beltran, K.A. Wheeler, H.M. Hoy
- Boron Schiff-Base complexes as detectors for toxic levels of selenium in water. J. Bennett, L. Jefferies
- Synthesis of a lanthanide complex using 
  \[ \text{Eu(NO}_3\text{)}_3 \cdot 6H_2O \text{ with triol} \]
  ligand 2-0Hnaphtthiuren (tris[N-(2-hydroxyphthalimide)-2-aminoethyl][amine]). J.M. Arment, P.M. Smith

- Activating carbon dioxide using a cobalt complex supported by a macrocyclic tetraaza ligand. A. Amado, F. Li, C. Dong

- Synthesis of a new catonic cobalt(III) coordination complex and its potential applications as an indole ring forming catalyst. R.M. Miller, H.P. Nash, A. Morris
- Excimer and exciplex formation involving [Ph[phen][CN]] and Ag+ in solution. E.J. Rourke, J.K. Nagle

Synthesis of europium(III) silicates using microwave-assisted hydrothermal methods. Z.J. Woessner, P.M. Smith

- Synthesis and reactivity of actinide guanidinate complexes. A. Shhau, N. Settineri, I. Arnold
- Ionothermal synthesis and characterization of two new iron thiophosphates:
  \[ \text{[EMIM]}[\text{FeP}_2\text{S}_5]\text{] and [PMIM][FeP}_2\text{S}_5\text{].} \]

S. Kampf, A.A. Mamiya, D.A. da Silva Filho

- Synthesis, characterization and of thermotropic copper(II) heteroleptic metalloenes with 2ethylhexanoate ligands. A. Beltran, T.W. Clayton
- Synthesis and characterization of low-coordinate lanthanide isocarbonyl transition metal complexes for single-molecule magnet applications. A. Burkhard, C. Dickie, M. Nippes
- Synthesis, characterization, and aqueous perchlorate reactivity of ruthenium (II) and (II) coordination complexes. K. Trotter, E.B. Huyle, N. Arulamsy
- Synthesis and characterization of hyper-coordinate silicon complexes. K.J. Goosherst, J.M. Fritsch
- Progress toward the synthesis of potential AIE-active silafluorene derivatives. H. Tracy, J.L. Mullin, C.M. Prudente, W. Lin
- Computational results of ADF modelling of AIE-active luminesphores. H. Tracy, J.L. Mullin, C.M. Prudente, T.W. Nelson

- Spectral characterization of potential AIE-active diphenylfluorene derivatives. J.L. Mullin, H. Tracy, C.M. Prudente, N. Mathewson
- Synthesis, characterization and study of liquid crystalline behavior of novel benzinimidazol-8-hydroxyquinoline complexes. T.H. Jasim, N. Al Rubayia

- Hydrolysis by monomeric MoO\textit{V} peroxo complexes. I.L. Miao, Y.K. Kuo
- Computational investigation of phosphaniothioate-neurotoxin hydrolysis by mononmeric MoO\textit{V}.

E. Bright, Y.K. Kuo

- Catalytic and electrochemical properties of pyridine substituted imidazolium salts and the corresponding NHC-M complexes. R.J. Swails, S. Kariofillus, R. Cerbone, A. Conner, M. Sebold

- IONIC VIPER workshops: Bringing current literature into the classroom. S. Poland, B.B. Sears, S.A. Toledo, A.R. Johnson

- Undergraduate Research at the Frontiers of Inorganic Chemistry

J.A. Cody


Dibenzo[a,j]xanthyl derivatives: Analytical studies and characterization. W. Cross Lopez

J.N. Herrin, S. Kruse, S.K. Hurst

- Organophosphate alcoholysis by polymer-supported molybdenum peroxo complexes. L. Miao, L.Y. Kuo

- Novel phosphorus-containing molybdenum carbon dioxide complexes. J.M. Arment, P.M. Smith
Solid State & Materials Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, Organizers

5:30 - 7:30
- Synthesis and characterization of metal-organic framework materials for aqueous heavy metal detection. N.S. Morey, T.E. Bustamante
- Singlet fission in a hybrid system with CdSe nanocrystals and functionalized chromophores. D.S. Hamilton, X. Li, M.L. Tang
- Design of Polyethylene Glycol (PEG)-grafted gold nanoparticles for biomedical applications. J. Grundler, T. Lafferty, E. Park
- Effects of seasonal variation of groundwater composition on gold nanoparticle surface chemistry. E.R. Carlson, A.K. Bentley
- Catalytic activity of ultrasmall copper nanoparticles. A. Kale, G. Ferko, S.K. St Angelo
- Single step synthesis of Sn/Sn-doped ZnO and ZnS nanostructures on mica and n-GaAlO3 substrates by a simple vapor phase transport method. H. Rivera-Marrero, T.M. Trad, M.J. Uddin

Synthesis and characterization of phthalocyanine-based heterometallic metal organic frameworks. B.G. Boe, D.R. Neu
- Electrochemical characterization of manganese dioxide supercapacitors. B.T. Hohman, R.S. Zickel, A.K. Bentley
- Fabrication of hierarchical nanostructures for surface-enhanced Raman scattering biosensors.

K. Curtin, N. Wu
- Understanding secondary structures of metal organic frameworks via tuning of ligand-ligand interactions. M. Johnson, M.J. Voegtle, K. Tran, J. Jones, C. Bauer
- Growth of microporous imidazolate frameworks in mild conditions via polymer-templating. C. Bauer, K. Kwong, B. Doyle, H. Kim
- Negative fingerprints development on reducing metal substrates. N. Zuparova, I. Mullen, L. Bliss, A. Lafi, H. Abdou, A. Mohamed
- Gold nanoparticle catalysts: Chemical properties and catalytic behavior. M.N. Pollock, C. Peterson, C. Pursell, B.D. Chandler
- Varying zinc sulfide nanocrystal shape, size, and surface chemistry to control copper doping via cation exchange. H.M. Sizemore, K.N. Heupel, J.L. Jenkins
- Ligand effects on the reactivity and synthesis of bimetallic molecular precursors for semiconductor materials. J.L. Tennant, L.J. Maxton, A.W. Holland
- Hydrogenation over metal oxide supported gold nanocatalysts. A. Huther, H. Krause, C. Purssel, B.D. Chandler
- Understanding growth behavior of alumina (Al2O3) and boehmite (AlO(OH)) nanoparticles. M. Casillas, F.A. Fasulo, N.S. Bell, T.J. Boyle, L.J. Treadwell, B.A. Hernandez-Sanchez

Deposition & Etching of Nanostructures
- Posters
Sponsored by COLL, Cosponsored by INOR

MONDAY MORNING

Section A
Venue: Placeholder
ACS Awards in Inorganic Chemistry: Plenary Session
S. A. Koch, N. S. Radu, Organizers
J. D. Protasiewicz, Organizer, Presiding
8:15 - Copper-Oxygen complexes relevant to enzyme intermediates. W.B. Tolman
8:50 - Rational development of pincer supported iron complexes for the reversible hydrogenation of carbon dioxide to formic acid and methanol. N. Hazari, W.H. Bernskoetter
9:20 - Amazing nonheme high-valent iron-oxo landscape. L. Que
9:55 - Intermission.
10:10 - Hydrogenase- and ACS-inspired bioorganometallic chemistry. M.Y. Darenbourg
10:40 - Crystalline semiconducting and porous materials: Synthesis, properties, and applications. P. Feng
11:10 - Mechanistic studies of 1-alkene trimerization and polymerization with organotransition metal catalysts. J.E. Bercaw

Section C
Venue: Placeholder
Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory
Synthesis
Sponsored by PHYS, Cosponsored by INOR

Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

Sponsored by CATL, Cosponsored by PMSE and INOR
MONDAY AFTERNOON

Section A
Venue: Placeholder
Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in honor of John E. Bercaw
A. Hazari, Organizer
N. Hazari, Organizer, Presiding
1:30 Introductory Remarks.
1:35 - Stoichiometric and catalytic reactions mediated by water-soluble host-guest supramolecular systems. R.G. Bergman
2:00 - Organometallic catalyst’s nightmare: Chemistry in air, water, and heterogeneous environments. L. Do, A. Ngo, S. Bose, L. Yang
2:50 - Biologically inspired clusters: Synthetic control of structure and effects on reactivity. T. Agapie
3:15 Intermission.
3:25 - Metal oxo cubanes as catalytic centers for oxygen evolution. T. Tilley, A. Nguyen
4:15 - One and two dimensional cobalt dithiolene frameworks for artificial photosynthesis. S.C. Marinescu, A.J. Clough, C.A. Downes
4:40 - From single atom based-catalysts to nanoparticles. E. Bunel
5:05 - Recent advances in olefin metathesis. R.H. Grubbs

Section B
Venue: Placeholder
Celebrating 60 Years of the Division of Inorganic Chemistry
Former Young Investigators
M. J. Clarke, D. C. Crans, Organizers
J. R. Long, J. D. Protasiewicz, N. Radu, Presiding
1:30 Introductory Remarks.
1:35 - Multi-electron redox chemistry: Redox load distributions in cluster cores. T. Betley
2:05 - Metals and immunity: Explorations of a biological hexahistidine site. E.M. Nolan
2:35 - Plasmon enhanced solar steam generation and desalination. J. Zhu
3:35 Intermission.
3:50 - Filled tetraedral semiconductors: Solution phase synthesis of low dimensional intermetallics. J. Vela-Becerra
4:20 - Graphite-Conjugated catalysis. Y. Suresndranath
5:20 - Responsive chemical tools for COS and H2S delivery. M.D. Pluth

Section C
Venue: Placeholder
Undergraduate Research at the Frontiers of Inorganic Chemistry
Solid State & Materials Chemistry
A. K. Bentley, C. Nataro, S. R. Smith, Organizers
S. Poland, Organizers of Section A
S. Poland, Organizers of Section B
1:30 - Synthesis and properties of transition metal carbide buckypaper. K.E. Madsen, B.M. Leonard
1:50  Super robust and water-soluble gold nanopolymers for biomedicine. L. Mullen, L. Bliss, N. Zuparova, B. Atallah, H. Abdou, A. Mohamed

2:10  Using carbohydrate ligand sterics to control copper availability during cation exchange to yield Cu-doped ZnS nanocrystals. K.N. Heupel, H.M. Szimore, J.L. Jenkins

2:30  Characterization of silver (1) and engineered Silver Nanoparticle (AgNP) binding to apo and metal reconstituted zinc finger peptides. Z. Amaris, G.A. Park, M. Eiken, K.E. Splan, K. Wheeler

2:50 Intermission.

3:05  Coordination compounds and hybrid materials containing the hydridtris(3,5-dimethyl-1,2,4-triazolyl)borate ligand. E.T. Roberts, K.L. Salvatore, B.C. Chan, B.A. Reisner


R.F. Hess, T.J. Boyle, K. Hattar, R. Dingreville, D. Perales


4:05  Understanding titanium and sulfur speciation in titanium trisulfide electrodes using x-ray spectroscopy. C. Wilson, V. Doan-Nguyen, J.D. Bocarsly, A. Lanzirotti, R. Seshadri


Section D

Venue
Placeholder

ACS Awards: Symposium in honor of Lawrence Que Jr. & William B. Tolman

P. L. Holland, M. J. Maroney, Organizers, Presiding

1:30  Introductory Remarks.

1:35  Bioinorganic aspects of nitrogen oxide chemistry with heme and/or copper complexes. K.D. Karlin

2:00  Synthetic chemistry as a window into biology. Architectural complexity at the molecular level. A. Borovik


2:50  Oxygen activation and C–H bond cleavage by metalloenzymes and metallophyrins. J.T. Groves

3:15 Intermission.

3:30  Bioinorganic spectroscopy: Activating metal sites for biological electron transfer. E.I. Solomon

3:55  Insights into the electronic structure of iron sulfur clusters using two-dimensional x-ray spectroscopy. S. DeBeer


4:45  Tracking mobile zinc in the brain - new probes, new biology. S.J. Lippard

Section E

Venue
Placeholder

Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

Financially supported by Chemistry of Materials
K. R. Kittilstved, Organizer
E. J. McLaurin, Organizer, Presiding
A. Greytak, Presiding

1:30  Chemically tunable 2D layered materials. K.J. Koski

2:00  Solution-Phase approaches to indium nitride nanomaterials: Chemical insights on a new mechanism. Y. Chen, Z. Liu, N.S. Kitan, R. Beaulac


3:00 Intermission.

3:15  Patterns and plasmonics: Nanopatterning of silicon surfaces via directed self-assembly. F. Liu, E. Laber, B. Olsen, J.M. Buriak

3:45  Responsive and reconfigurable materials from dimensionally confined colloidal nanocrystal assemblies. B. Helms, Z. Zhang, E. Goldfine, C. Huang, T. Russell

4:15  Nanomaterial surfaces in 0, 1, and 2 dimensions: Results from chromatography and functional imaging. A.B. Greytak

Section F

Venue
Placeholder

Sustainability in Electrocatalytic Fuel & Chemical Production

Cosponsored by CATL, L.A. Berben, J. L. Dempsey, Organizers C. A. Caputo, Presiding

1:30  Sustainable solar-to-fuels and solar-to-fertilizer production. D.G. Nocera


2:20  Unravelling PCET pathways of the hydride formation step in cobalt complexes relevant to solar fuel production. N. Elgrishi


3:05  Earth-abundant metal complexes with flexible ligand coordination for catalytic proton and carbon dioxide reduction. S. Saund, K. Ng, S. Goldschmid, V. Tho

3:30 Intermission.

3:45  Variable temperature spectral and electrochemical studies of carbon dioxide reduction by [Fe4N(CO)12]-: Mechanistic investigations. A. Taferri, L.A. Berben

4:05  Bioinorganic approaches to solar-to-chemical conversion: Merging molecular catalysis with materials and biology. C.J. Chang

4:30  Catalytic production of hydrobenzol and reduction of carbon dioxide by dirhodium(III) complexes. C. Turro, K.R. Dunbar


Venue
Placeholder

Section G

Venue
Placeholder

Organometallic Chemistry: Applications to Materials & Polymer Science N. S. Radu, Organizer A. Dudnik, Presiding


1:50  Asymmetric hybrid salen/phosphasalen initiators for the iso-selective ring-opening polymerisation of rac-lactide. C. Coleman, C.K. Williams, N.J. Long

2:10  Redox control of aluminum ring-opening polymerization: A combined experimental and DFT investigation. J. Wei, P. Diaconescu


2:50  Highly robust Pd(II)–diimine catalysts for olefin (co)polymerization. S. Dai, C. Chen

3:10  Redox-controlled olefin (Copolymerization catalyzed by ferrocene-bridged phosphinesulfonate palladium complexes. M. Chen. C. Chen

3:30  Supported lanthanide catalysts: Role of the grafting on the stereochemical outcome of different polymerization reactions. I. Del Rosal, L. Maron


4:10  Mechanistic studies of Pd(II)-catalyzed copolymerization of ethylene and vinylalkoxysilanes: Evidence for a ß-silyl elimination chain transfer mechanism. Z. CHEN, W. Liu, O. daugulis, M. Brookhart

4:30  Non-chiral lithium aluminate reagents for the determination of enantiomeric excess of chiral alcohols. R. Garcia, D. Wright
4:50 , Oligomerization of ethylene using a diphasphine palladium catalyst.
D. Bezier, O. Daugulis, M. Brookhart

5:10 , Aqueous polyethylene nanocrystal dispersions from catalytic polymerization. P. Kenyon, A. Godin, S. Mecking

Venue
Placeholder

2017 Priestley Medalist: Symposium in honor of Tobin J. Marks
Supported Organometallics & Heterogeneous Catalysis
Cosponsored by PMSE
Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University
A. Facchetti, T. Lohr, Organizers
M. Neurock, Presiding

1:30 Introductory Remarks.
2:05 , Hydrogen and formaldehyde generation from bio-derived alcohols using supported molybdenum-oxo catalysts. T. Lohr, A. Moutat, M. Delferro, P.C. Stair, T.J. Marks
2:35 , Integration of the three fields of catalysis: Heterogeneous, homogeneous, and enzyme.
G.A. Somorjai

3:05 , Catalysts synthesized by organometallic surface chemistry. P.C. Stair
3:35 Intermission.
3:45 , Surface structural-chemical characterization of single-site organometallic catalysts. M. Delferro
4:15 , Metallacyclobutane structure influence on the production of propylene via olefin metathesis over surface organometallic chemistry derived catalysts. C.P. Nicholas, M. Taoufik
4:45 , Metal-organic Frameworks for Sustained Catalysis. W. Lin

Venue
Placeholder

ACS Award in Organometallic Chemistry: Symposium in honor of Marcetta Y. Darenbourg
D. Mason, C. G. Riordan, Organizers
M. R. Mackiewicz, X. Zhao, Presiding

1:30 , Carbone-stabilization of elusive main group oxides. G.H. Robinson
2:20 , Exploiting the non-innocence of antimony ligands in organometallic catalysis. F.P. Gabbai
2:45 , Dinitrosyl Iron Complexes (DNICs): Synthesis and spectroscopic characterization toward unveiling the catalytic roles of DNICs. W. Liaw
3:10 , Platinum reagents modified for click chemistry: Towards high-throughput analysis of platinum drug targets. A.D. Moghadam, K. Plakos, J.D. White, r. cunningham, E. Reister, E. Sutton, M.M. Haley, V. DeRose
3:35 Intermission.
3:50 , C-H activation by a discrete superoxonickel complex. C.G. Riorand
4:15 , Pyridyl derived N-heterocyclic amines and applications in coordination chemistry, catalysis, and medicine. K.N. Green, S.M. Brewer, H.M. Johnston, M.E. Burnett
4:40 , Fun with devil’s copper and the odd oxidations of sulfur. P.J. Farmer
5:05 , Hydrogenase/epoxide–CO2 catalysis: Killing two birds with one cat. D.J. Darenbourg

Venue
Placeholder

Switchable Catalysts
P. Diaconescu, Organizer J. A. Byers, Organizer, Presiding B. P. Fors, Presiding
1:30 Introductory Remarks.
1:35 , Regulating polymer stereocmicrostructures and polymerization activity and chemoselectivity by ion pairs and Lewis pairs. E.Y. Chen
2:05 , Externally controlled chemistry: New methods for modulating polymerization and other transformations. C. Bielawski
2:35 , Potential applications of switchable catalysts for sustainable energy and water production. M.A. Reynolds
3:05 Intermission.
3:20 , Photocontrolled Cationic Polymerizations. B.P. Fors
3:50 , Switchable polymerization catalysts: Selective block copolymers from monomer mixtures.

C.K. Williams

4:20 , Redox switchable catalysis applied to ring opening polymerization. P. Diaconescu
4:50 , Mechanistic trends from computational chemistry for the design of redox switchable catalysts. T. Cantat

Venue
Placeholder

Organometallic Chemistry: Synthesis & Characterization-Early Transition Metals
N. S. Radu, Organizer
T. K. Hollis, Presiding
1:30 , Extreme π-loading as a design element for accessing imido reactivity: CCC-NHC Ta bis(imido) pincer complex synthesis and reactivity in oxidative amination. T.R. Helgert, J.A. Denny, G.M. Lang, G. Liang, C.E. Webster, T.K. Hollis
1:50 , Diphenylacetylene reduction mediated by rare-earth naphthalene complexes supported by a ferrocene diamide ligand. J.L. Broome, W. Huang, P. Diaconescu
2:10 , Ring-opening reactions of quinoline and isoquinoline with a low-valent titanium alkyl complex. T. Kurogi, M. Baik, D.J. Mindiola
2:30 , Probing the stability & reactivity of early first-row transition metal centers in lowcoordinate environments supported by silylarylamido ligands. I.C. Cai, T. Tilley
2:50 , Oxidative group transfer reactions on macrocyclic N-heterocyclic tetracarbene chromium complexes. G. Elpitiya, D.M. Jenkins
3:10 , Synthesis of benzoylphosphine via insertion of sodium phosphoethynolate (Na[OCP]) into a zirconium benzyne complex. J. Kieser, R.J. Gilliard, H. Grützmacher, J.D. Protasiewicz
3:30 , Hydroborolation reactivity of niobium bis(NHC)borate complexes. J.A. Ziegler, R.G. Bergman, J. Arnold
3:50 , Planar TiP2 core assembled by reductive decarbonylation of –O=C=P. L. Grant, B. Pinter, B. Manor, H. Grützmacher, D.J. Mindiola
4:30 , Probing Group 4 mixed ligand (Cp, halide, alkoxide) complexes for multiple bonding character and catalytic activity. N.C. Boyde, T.P. Hamusa

Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark
Sponsored by NUCL, Cosponsored by INOR

Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory
Experimental Characterization
Sponsored by PHYS, Cosponsored by INOR

LGBT Graduate & Postdoctoral Student Chemistry Research Symposium
Advances in Medicinal & Biological Chemistry: From Therapeutics to Education
Sponsored by PROF, Cosponsored by ANYL1, BIOL1, CHED, CMA, COLL, COMP, CWD, ENVIR, INOR4, MEDI, MPPG, ORGN, PHYS, PMSE2, POLY, PRES4 and WCC

ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer
Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY

Support & Activator Effects on Metal Mediated Polymerization
Sponsored by PMSE, Cosponsored by CATL and INOR

Light-Driven Chemistry: Photocatalysis & Photocatalysis
Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes
Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

Undergraduate Research Posters
Inorganic Chemistry
Sponsored by CHED, Cosponsored by INOR and SOCED

MONDAY EVENING

Venue
Placeholder

Sci-Mix
S. A. Koch, Organizer
8:00 - 10:00

Highlights in inorganic chemistry from the 250 years that preceded the creation of the Division of Inorganic Chemistry. S.A. Koch

13

Electron donor-acceptor properties of substituted pyridine ligands on fac-
tricarbonylrhenium(I) systems. J.R. Farrell, G. Kerins, K.L. Niederhofer,
L.A. Crandall, C.J. Ziegler.

Towards the synthesis of a new anionic
N-heterocyclic carbene and its corresponding metal complexes. A.J.

Unusual reactivity of PCP-supported rhenium carboxylates. A.J.
Kosanovich, W. Shih, O. Ozerov.

Organophosphate alcoholysis by polymer-supported molybdenum

Optimizing hydrothermal reaction conditions for lanthane coordination
polymer formation: A study of the 1,4-benzenedicarboxylate system. J.
Einkauf, D.T. de Lill.

Probing slow magnetic relaxation in a series of mononuclear uranium (v)

Borylated N-Heteroecyclic Carbenes(Ni(II)) - Synthesis and migration
studies. W. Liu, C. Chiu.

Electronically versatile benzenedithiolates on electronic and coordination

Alternative organotin clusters for thin films: Low environmental impacts
under simulated environmental conditions. B.L. Maddux, F. Wu, S.

Magnetic exchange between ions of the first transition series in dimeric
compounds using naphthazarin as bridging ligand. E.N. Jimenez-
Alvarado, G. Valle-Bourrouet.

Selenium speciation in the Fountain Creek water and effects on fish species

Characterization of butyl tin photoresists with electron stimulated
desorption and temperature programmed desorption. R.T.
Frederick, J.T. Diulius, S. Saha, J.M. Amador, M. Li, D.A.
Keszler, E.L. Garfunkel, G.S. Herman.

High performance CsPbX3 perovskite quantum dot light emitting devices
achieved via solidstate ligand exchange. Y. Suh, T. Kim, H. Park, C.
Lee, J. Park.

Synthesis of gold nanoparticles using Schiff base derivative of N-acetylamin
with celfixbione as reducing and capping agent. A.J. Abdulghani.

Enhanced dehydroxylation and interface passivation of solution-
processed dielectric metal oxide thin films using forming gas annealing.
J.C. Ramos, F. Liao, B.A. Hammann, D. PARK.

Y. Huang, S.E. Hayes, E.L. Garfunkel, D.A. Keszler.

Novel mesoionic/remote N-

heterocyclic carbene ligands and their ruthenium(II) aqua complexes. T.C.
Cao, D.B. Grotjahn.

Synthesis and structural characterization of chelating dinitroly
iron complexes. O. Becerra, L. Li.

Redox switchable copolymerization of cyclic esters and epoxides by a
zirconium complex. x. quan, R. Zhang, P. Diaconescu.


Rhodium complexes with N-

heterocyclic carbene and triazine ligands as catalysts for alkyne
hydrothiolation. J.P. Camarena-Diaz, D.B. Grotjahn, A.L. Rheingold, J.
Perez-Torrente, R. Castarlenas, L.A. Oto., J. Passarelli, M. Parra Hake, V.
Miranda-Soto.

Synthesis, characterization and reactivity of group ten phosphinoferrocene - carbonyl

Towards formic acid oxidation by

surface attached Ni(P2O5)2 complexes. F. Brunner, C.P. Kubiak.

Metal-organic frameworks as templates for transition metal clusters.

Crystal structure features and luminescent properties of the copper-
doped Ca-Eu apatite. M. Pogosova, F. Azarni.

Metastable layered metal

chalcogenides: From superconductivity to ferromagnetism. B. Willong, X.

New annulated N-heterocyclic

carbenes and their transition metal complexes. G. Bettler, A. Changas, O.J.
Buckner, C. Boudreaux, B. Norvell, D. Tapu.

Synthesis and reaction of actinide
guanidinate complexes. A. Shiian, N. Settineri, J. Arnold Switchable di-
organic macrocycle catalysts: From highly active lactide polymerization to block
copolymers. A.A. Thevenon, C. Romain, M. Benninger, h. davidson, A.
White, S. Brooker, C.K. Williams.

Synthesis and characterization of heterobimetallic complexes supported
by substituted trispyridylphosphines. J.

Characterization of a dicopper dihydroxide water oxidation
electrocatalyst. S.J. Koepke, P.E.
VanNatta, A. Shrestha, M.T. Kiebier-
Emmons.

Three versatile Pt(II) oxime complexes that display anion sensing, warmotermochromism,

Synthesis and characterization of three cationic, isoreticular layered
materials based on neodymium and α,ω-alkanedisulfonlates. A. Kehre, S.
Oliver.

New route for the formation of SnSe
thermoelectric materials with low thermal conductivity. S. Kundu, S. Yi, C.
Yu.

Synthesis, crystal structure, and
thermoelectric properties of new phosphides BaCu3P2 and
BaCu3As2P2. A. Mazzetti, I. Wang, K. Kovalin.

Understanding growth behavior of alumina (Al2O3) and boehmite
(AIO(OH)) nanoparticles. M. Casillas, F.A. Fasulo, N.S. Bell, T.J. Boyle, L.J.
Treadwell, B.A. Hernandez-Sanchez.

Coordination chemistry of the rhodiumian with Pt(II) and lanthanides:
From understanding complexion to analytical applications. J.A. Silverman, E.V.
Govor.

Kavalieratos.

Design of lanthane half-sandwich complexes exhibiting single-molecule
magnetism. R. Khoo, J.R. Long.

Catalytic upgrading of fatty acids from renewable single cell oils.
K. Zimmerer, L. Williams, D.
Pingen, S. Mecking.

Environmentally friendly and versatile method for the synthesis of
transition metal alloys and their hybrid nanoparticles. A. Penn, J.
Sharpenstein, H.P. Rathnayake.

Binding modes of NiCO3 adducts and their CO2 activation. C. Yoo, Y.
Kim, Y. Lee.

Energy transfer from PbS
nanocrystals to pentacene. X. Li, M. Tang.

Synthesis, characterization, and application of dendrimer coated silica
nanoparticles as fluorescent chemosensors. H. Deuermeyer, A.
Luhrs, L.D. Margerum none. Analysis of S-Au-P bonding in phosphate
gold(I) polfluoroulateis: Backboncnding and weak interactions. G.
Moreno-Alcantar, J.M. Guevara-
Vela, H. Torrens.

Photodynamic therapy of cancer using sterically strained ruthenium
complexes. R.S. Khnayzer, N.

B2(OR)3. Reagents as tunable one-electron
oxidants. P. Chong, M.
Messina, J.C. Axtell, Y. Wang, B. Upton, B.M. Hunter, S. Khan, J.R.

Synthesis of a novel multiligate nonchelating N-heterocyclic carbene.
D. Tapu, A. Carter, R. Justice, R.
Hooper, O. Kuykendall, M. Baker, G.
Bettler, A. Changas, A. Mason.

Synthesis and characterization of magnetic nanocomposites for energy
storage applications. B.
Shen, S. Sun.

Combined effects of peripheral fluorine and central metal on

Oxidation of an iridium hydride pincer complex by O2: A DFT study. J.

Mechanistic insight into nitrite to nitric oxide conversion at copper(I) and
copper(II) sites. Z. Sakhl, S. Kundu, J. Donnelly, T.H. Warren.

Ethylene insertion polymerization in the presence of organic radicals -
Exploiting mechanistic insights to influence microstructures. S.
Stadler, F. Otcher, L. Förster-Schnettmann, V. MONTEIL, S. Mecking.

Redox switchable catalysts for the synthesis of block copolymers and

Rhenium-oxo and gold corroles: Synthesis, spectroscopy, and application to photodynamic therapy.
R.F. Einrem, A. Alemayehu, O.A.
Gederaas, A. Ghosh.

Metal-free peralkylation of the closo-


Design of biotemplated titanium
dioxide nanoparticles for potential application as anodes in dye-
sensitized solar cells. A. Reyes-Oliveras, G. De Jesus-Morales, V.
López-Méjias.

Difluoroborboron b-diketonate polylakcides as luminescent oxygen
sensing materials for wound imaging. C.A. DeRosa, S.A. Aman, A.S.
Mathew, C.M. Görick, Z. Fan, J.N.
Demas, S.M. Peirce, C. Fraser.

Comparative reactivity studies of iridium(I) and rhodium(I) complexes.
stabilized by chelating diphosphine ligands. K. Olsen, S.H. Schreiner

Landscape of ligandable membrane cysteine and its role in
modulating immune response.

E.V. Vinogradova, K.M. Backus, M. Blewett, B.F. Cravatt

- HDX-MS reveals metal-specific structural changes important to DNA binding by the cobalt and nickel
response transcriptional regulator, RenR. H. Huang, M.J. Maroney

- Effects of acid strength and position of an intramolecular acidic functional group on the catalytic reduction of CO

Recent advances in Ti-catalyzed nitrene transfer reactions. I. Tonks, E.
Beaumier, H. Chiu, Z.W. Davis-
Gilbert, X. See, A.C. Wotal

- Selective indium and zinc catalysts for controlled polymerization of cyclic esters. P.
Mehrkhodavandi, T. Elbrahimi, L.
Chile, A. Kremer, S. Hatzikiriakos

- Selective catalytic trimerization of alkenes. J.A. Labinger

10:10 Intermision.


10:50 - Group 4 metal complexes for the formation of block copolymers. P. Diacomescu

11:15 - Mechanism of formic acid dehydrogenation by a diiridiumtrihydride catalyst. J. Celaje, Z.
Z. U. E. Kedzie, T.J. Williams

11:40 - Metal-oxos in chemistry and biology. H.B. Gray

12:05 Concluding Remarks. Section B

Venue

Placeholder

Celebrating 60 Years of the Division of Inorganic Chemistry

Inorganic Chemistry Award Winners

M. J. Clarke, Organizer

D. C. Crans, Organizer, Presiding

K. Bowman-James, K. N. Raymond, Presiding

8:00 Introductory Remarks.

8:05 - Synthesis of multilayer transition metal chalcogenide nanoparticles for applications in photovoltaics. M.
Braun, L. Koral, A.L. Prieto

8:35 - Probing anisotropy in molecular magnetism. K.R. Dunbar

9:05 - Learning from computational studies of NMR chemical shifts: The case of a main group atom in transition metal

Chemical surprises at the frontier of the periodic table. J.L.
Kiplinger

10:05 intermission.

10:20 - X-ray spectroscopic studies of biological dinitrogen reduction in molybdenum and vanadium
nitrogenases. S. DeBeer

10:50 - Pyridinol Based Ligands for Transition Metal Catalyzed Reduction of CO and Related Substrates:
Elucidating the Role of Lewis Acids. E.T. Papish, S. Sick, D.B. Burks, C.

TUESDAY MORNING

Venue

Placeholder

Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in honor of John E.
Bercaw

N. Hazari, Organizer

N. Hazari, Organizer, Presiding 8:30

Thermodynamic efficiency, chemoselectivity and turnover frequency in chemical and
electrochemical catalysis: Synergistic

principles for catalyst development and optimization. S.S.

Stahl

11:20 . Techniunetium, the first radioelement in the periodic table. A.P. Sattelberger, E. Johnstone, M.A. Yates, F. poineau, K. Czerwinski

11:50 . Design of azurin that spans the entire 2V range of physiological redox potentials and its application in reengineering a copper protein that performs fast and reversible S-nitrosoylation. Y. Lu, P. Hosseinzadeh, S. Tian, J. Liu

Section C

Venue

Placeholder

Undergraduate Research at the Frontiers of Inorganic Chemistry

Bioinorganic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, Organizers

S. A. Toledo, Presiding

09:00 . Structural, spectroscopic and reactivity studies of the first structural model of the resting state of Nickel Acireductone Dioxygenase (Ni-ARD). D. Ivan, S.A. Toledo, V. Lynch


9:40 . Modelling the O-O bond formation step in the oxygen-evolving complex. E. Hanada, J. Kovacs

10:00 . Trinuclear ruthenium complexes with diimine ligands: Experimental and computational investigations of biological activity. F.A. Beckford


10:55 . Copper transport into the avian oocyte: A second cargo for the vitamin transporter riboflavin binding protein. S.R. Smith, M. Benore

11:15 . Photosensitizer-Embedded polycarboxyl nitrocellulose as an antimicrobial non-woven textile. S. Stanley, R. Ghiladi


11:55 . Rare and unusual square planar copper (I) complexes. P.A. Cheung, R. Berger, J.D. Gilbertson

12:15 Concluding Remarks. Section D

Venue

Placeholder

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in honor of William B. Tolman

L. M. Berreau, Organizer

P. L. Holland, Organizer, Presiding

8:30 Introductory Remarks.

8:35 . Mechanistic studies of Cu(II)/O2-promoted oxidative aliphatic carbon-carbon bond cleavage reactions. L.M. Berreau

9:00 . Reactivity of mononuclear nonheme cobalt(II)-superoxo complexes. W. Lee, C. Wang, K. Yeh


9:50 . Why are O2 and N2 so different?. K.H. Theopold, F. Dai, E.S. Akturk, Y. Hung, D.C. Cummins, G.P. Yap

10:15 Intermission.


10:55 . Modeling nitric oxide signaling chemistry at copper and zinc sites. T.H. Warren


11:45 . Bioinspired small molecule activation for energy-related catalysis. F. Meyer

Section E

Venue

Placeholder

Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

Financially supported by Chemistry of Materials

K. R. Kitlinsved, E. J. McLaurin, Organizers

B. Guion, K. J. Koski, Presiding

8:30 . Chemistry of nanocarbon water molecules in 1-D metal organic nanotubes. T. Forbes

9:00 . Fabrication, characterization and application of carbon nanoparticles for the detection of heavy metal ions in aqueous media. A. Wanekaya, A.M. Simpson, K. Ghosh


10:00 . Intermission.

10:15 . Novel properties and applications of plasmonic metal nanostructures: A case study and recent progress on Hollow Gold Nanospheres (HGNs). J.Z. Zhang

10:45 . Synthesis of Core@Shell nanocatalysts with intermetallic interiors. S.E. Skrabalak

11:15 . Controlling nanoscopic and atomic segregation of Pt within Pt-Ni rhombic dodecahedra and nanoframes for fuel cell catalysis. P. Yang, N. Becknell, Z. Niu

11:45 . Using nanowire arrays as a sensitive tool for understanding copper-antimony anode materials. E.D. Jackson, A.L. Prieto

12:15 Concluding Remarks.

Venue

Placeholder

Emergent Phenomena in the Solid State

B. C. Melot, Organizer

E. E. Rodriguez, Organizer, Presiding

8:30 Introductory Remarks.

8:35 . Understanding the impact of crystal chemistry on the physical properties of garnets. B.C. Melot

9:10 . Mixed-Valence and chemical-pressure effects on magnetic properties of ThCr2Si2-type pnictides. X. Tan, A. Yaroslavtsev, K. Kovnir, M. Shatruk

9:50 . Density functional investigation on the magnetic anisotropy in rare-earth-free metal borides with the Ti2CoB2-type structure. Y. Zhang, B. Fokwa


10:30 . Intermission.

10:50 . Structural and electronic instabilities in electron-doped SrIrO3: Emergent phenomena at the edge of the spin-orbit Mott state. S. Wilson

11:30 . Electron doping a kagome spin liquid. Z. Kelly, M.J. Gallagher, T. McQueen

11:50 . Magnetic properties of osmium mixed-metal double perovskites. C. Thompson, X. Fu

Section F

Venue

Placeholder

ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

Materials Chemistry of Solutions & Solids for a Sustainable Future

Cosponsored by BMGT, MMPG and PROF.

J. L. Bryant, J. C. Giordano, Organizers

S. E. Hayes, B. L. Maddux, Organizers, Presiding

8:30 Introductory Remarks.

8:40 . Nonlinear optical borates based oxides for solid state laser frequency conversion in the UV range. G. AKA, J. REN, P. LOISEAU

9:00 . Atomic solid state energy scale. J.F. Wager, D.A. Keszler

9:20 . Chalcogenide semiconductors as p-type transparent conductors, absorbers and alloys. J. Tate

9:40 . Characterization of CSMC resists and other nano-material structures: Results and methods. E.L. Garfunkel

10:00 . Intermission.

10:30 . Solution-Deposition of disordered RuO2 nanoskins: An example from the fourth quadrant of electronic materials. D.R. Rolison

10:50 . New functional materials as a design problem. A. Zunger

11:10 . Creating a one-stop platform for computed XAS and NMR materials data and comparison algorithms on the Materials Project. K. Persson


11:50 . Metal-oxo clusters from across the periodic table. M.D. Nyman


Section H

Venue

Placeholder

Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges

Cosponsored by BIOL

Financially supported by Northwestern U. U. of California-Davis
9:00, Bifunctional peroxidases (KatGs): A challenging family of enzymes for understanding putative evolutionary strategies in fine-tuning the oxidation reactions catalyzed by heme-Trp* intermediates and related e-transfer mediated by Trp*Trp*. P.C. Loewen, A. Ivancich

9:30, Mechanistic studies on the radical SAM enzyme CDG synthase. V. Bandarian

10:00, Decoding a secret handshake: Tracking protein-to-protein Cul(I) transfer by rapid x-ray absorption and intrinsic fluorescence techniques. K.N. Chacon

10:20, Intermission.

10:30, How metal ions in the brain tip the toxic balance of the killer prion protein. G.L. Millhauser

11:05, On the use of Co(II) to elucidate Zn(II) enzyme mechanism. D.L. Tierney

11:10, Aromatic amino acid hydroxylases: Exploring the details of a catalytic cycle with EPR spectroscopy. J.L. McCracken

11:30, Taking snapshots of the water oxidation reaction in photosystem II with X-ray crystallography and X-ray spectroscopy. J. Yano, V.K. Yachandra

12:00, Ammonia binding to the OEC of Photosystem II, what does this tell us about water binding and O-O bond formation?. R. Britt

Venue

Section I

Venue

Placeholder

2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

Conjugated Polymeric Materials

Cosponsored by PMSE

Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University A. Facchetti, T. Lohr, Organizers B. M. Savoie, Presiding

9:00, Introductory Remarks.

9:05, Designing responsive piezomaterials from the bottom up: Learning from nonlinear optical materials. G. Hutchinson, W.S. Horne, C.W. Marvin, H.M. Grimm

9:35, Polymers and polymer composites for flexible opto-electronic devices. A. Facchetti

10:05, Conjugated polymers and doping strategies for conductive layers and thermoelectric compositions. H.E. Katz

10:35, Intermission.

10:45, Interfacial engineering of two-dimensional nanoelectronic heterostructures. M. Hersam

11:15, Electronic processes, morphologies and structural-functional correlations in low bandgap oligomers and polymers for OPV. L.X. Chen

11:45, Organic polymers for photovoltaics: Small structural differences yield large performance changes. J.R. Reynolds

Venue

Placeholder

Chemistry is Central to Applied Materials

C. J. Chang, Organizer

C. R. Bertozzi, M. A. Paley, Organizers, Presiding

8:30, Dynamic MOF SBUs as active sites for small molecule reactivity and catalysis. M. Dinca, E. Metzger, R. Comito, C. Brozek, H. Park, C. Hendon

9:05, Physical chemistry of nanocrystals with the graphene liquid cell. P. Alivisatos

9:40, Mucin-inspired thermoresponsive synthetic hydrogels induce stasis in human pluripotent stem cell colonies. S.P. Armes

10:15, Intermission.

10:30, Interactions at the nano-bio interface. C.J. Murphy


11:40, Grain boundary effects in electrocatalysis. M. Kanan

Venue

Placeholder

Chemistry of Materials: Nanomaterials

C. G. Lagmair, Organizer

R. Beaulac, W. Feng, Presiding

8:00, Quantifying cation exchange of Cd²⁺ in ZnTe: A challenge for accessing type II heterostructures. M. Einrigh, H. Sarsito, B. Cossairt

8:20, Room-temperature synthesis of metal chalcogenide nanocrystals from N-heterocyclic carbene synthons. H. Lu, R.L. Brutchey

8:40, Design of colloidal semiconducot nanocrystals for enhanced absorption and band edge tuning exceeding 2.0 eV. D. Kroupa, M.V. Vórös, N.P. Brawand, B. McNichols, E. Miller, J. Gu, A.J. Nozik, A. Sellinger, G.A. Galli, M.C. Beard


9:20, Design, fabrication and modification of advanced fluorescent polymer based on ordered quantum-dots from nanoscale to large production. S. Chen


10:00, Single-enzyme direct biominalization of metal chalcogenides nanocrystals with tunable optical properties. L. Spangler, Z. Yang, R. Dunlevy, A. Sadeghnejad, R. Chu, L. Lu, C.J. Kiely, B. Berger, S. McIntosh

10:20, Intermission.


10:55, 2D redox-active superatom frameworks. A. Champaur, C.P. Nuckolls

11:15, Modulation of electrical and optical properties of tungsten disulfide. S. Chee, M. Son, G. Son, H. Jang, M. Han

11:35, Chiral semiconductor helices at the mesoscale. W. Feng, J. Kim, X. Wang, H.A. Calcaterra, Z. Qu, L. Meshi, N. Kotov

11:55, Photoredox processes involving colloidal quantum dots: Surface states, structural inhomogeneities, and ultrafast hole extraction. C. Mi, M. Sanieypay, P. Dutta, Y. Tang, J.A. McGuire, R. Beaulac

12:15, Synthesis of heterostructured nanocrystals with pre-programmable compositions and spatial arrangements. X. Li, R.E. Schaak

Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark Sponsored by NUCL, Cosponsored by INOR

Metalloprotein-Initiated Signaling Transduction Response to Redox Stress

Sponsored by BIOL, Cospnsored by INOR

Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory Applications & Devices

Sponsored by PHYS, Cospnsored by INOR

Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

Sponsored by NUCL, Cospnsored by INOR

Support & Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cospnsored by CATL and INOR

Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

Molecular & Bio-Inspired Photocatalysts

Sponsored by CATL, Cospnsored by COLL, ENFL, I&EC and INOR

Deposition & Etching of Nanostructures

Sponsored by COLL, Cospnsored by INOR

TUESDAY AFTERNOON

Section A
Insulator-to-semiconductor transition in a porous vanadyl Prussian Blue analog upon air exposure. M. Manumpill, C. Leal Cervantes, M.R. Hudson, C.M. Brown, H.J. Karunadasa

Phase change materials and precursors: Synthesis and characterization of telluriumfullvalene radical cation heavy metal (Pb, Bi) iodide hybrid materials. H. Evans, J. Labram, A. Lehner, S. Smock, M.L. Chabinyc, R. Seshadri, F. Wad

New chemistry of pincer-supported rhodium. A.J. Kosanovich, W. Shih, O. Ozorov

C-H activation and functionalization with PNP rhodium precursors: Stoichiometric reactivity and catalysis. J. Gair


8:30. Iron pincer complexes with isonitrile ancillary ligands for formic acid and methanol dehydrogenation. N. Smith, N. Hazari

4:10. Computational investigation of ester and amide hydrogenation by aliphatic Fe and Ru PNP complexes. K.D. Karlin


Coordination chemistry of Fe(II) and Fe(III) MRI contrast agents. J.R. Morrow, P.B. Tsitovitch, E. Snyder


How is metal covalency reflected in ligand field parameters?. F. Neese, E. Saturina, M. Atanasov

3:00. Iron pincer complexes with isonitrile ancillary ligands for formic acid and methanol dehydrogenation. N. Smith, N. Hazari

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How is metal covalency reflected in ligand field parameters?. F. Neese, E. Saturina, M. Atanasov
mechanism involving [4Fe4S] cluster proteins. E. Tse, J.K. Barton
2:30 , Divalent copper complexes as Influenza A inhibitors. J.D. Lynch,
N.A. Gordon, K.L. McGuire, S.K. Wallentine, G.A. Mohl, R.G. Harrison,
D.D. Busath
3:10 , Regulating photochemistry and nucleic acid targeting of Ru(II) complexes. P.C. Glazer
3:30 , Intermission.
3:40 , Build-In fluorescent M24L8 octahedral metal organic molecular cages for nucleoprotein P1-responsive drug delivery. Y. Fang
4:00 , Ruthenium complexes as new pH-dependent switchable metallo-drugs. F. Martínez-Peña, A.M. Pizarro
5:00 , Mixed poly(pyridyl)N-heterocyclic carbene complexes as potential cytotoxic pro-drugs. J.P. Selegue, R.T. Ryan, J. Mahmoud, P.C. Glazer
5:20 , Targeting ErbB tyrosine kinases with platinum-functionalized small molecule inhibitors.
M. Yang, H. Wu, T.K. West, C.M. Furdui, G.L. Kucera, U. Bierbach
Section F
Venue
Inorganic Chemistry: Section G
Placeholder
Section H
Venue
Placeholder
Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges
Cosponsored by BIOL
Financially supported by Northwestern U, U of California-Davis
V. DeRose, J. A. Telser, Organizers
J. Stubbe, Presiding
1:30 , Multifrequency pulse EPR studies of the water oxidizing complex in photosynthesis. W. Lubitz, N. Cox, D. Pantazis, F. Neese
2:00 , Progress in high-field EPR and ENDOR spectroscopy to study the radical transfer in class I ribonucleotide reductases. M. Bennati
2:30 , Nuclear resonance vibrational spectroscopy as a tool for the characterization of low frequency modes in iron proteins. V. Schümann
3:00 , Nuclear magnetic spectroscopic elucidation of MhU D mechanism. M.D. Liptak
3:20 , Intermission.
3:30 , Spectroscopic approaches to understanding sulfur insertion into aliphatic carbon centers in the biosynthesis of lipoyc acid. S.J. Booker
4:00 , Novel outcomes and mechanisms emerging from dioxygen activation by non-heme-di-iron enzymes. J.M. Bollinger, C. Krebs
4:30 , Unprecedented [FeS] cluster in the core of the hepatitis B infection. M. Pandelia, C. Ueda
4:50 , Elucidating the mechanism and magnetic properties of di-iron-oxo proteins via computational quantum chemistry. J.H. Rodríguez
5:10 , Nuclear Resonance Vibrational Spectroscopy (NRVS) of FeFe hydrogenase: New evidence of enzyme intermediates. S.P. Cramer
Section I
Venue
Placeholder
2017 Priestley Medalist: Symposium in honor of Tobin J. Marks
Materials for Energy Conversion
Cosponsored by PMSE
Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University A. Fachetti, T. Lohr, Organizers J. R. Reynolds, Presiding
1:30 Introductory Remarks.
1:35 , Nitrogen fixation at room temperature, pressure in water using light. M.G. Kanatzidis
2:05 , Creation of structurally defined two-dimensional assemblies. V.P. Conticello
2:35 , Photosensitization of a CO2 reduction catalyst with red and near-infrared light using ryleneimide radical anions and dianions. N. LaPorte, J. Martinez, C.M. Mauck, B.T. Phelan, R. Young, M.R. Wasielewski
3:05 , Intermission.
3:15 , Novel Polymer Chemistries for Solid Battery Electrolytes. B.M. Savio
3:45 , Solution-processed metal oxide materials for large-area flexible electronics and hydrogen energy devices. M. Yoon
4:15 , Novel synthetic approaches for efficient semiconducting materials. A. Dudnik
Section J
Venue
Chemistry of Materials: Materials for Energy & Catalytic Applications
C. G. Lagmair, Organizer
B. Baruah, Y. Zhou, Presiding
1:30 , Porous benzoazoles as oxygenation catalysts: Case of amine self-coupling. S. Subramanian, H.A. Patel, Y. Song, C.T. Yavuz
1:50 , High power factor and enhanced thermoelectric performance of SnTe: Synergistic effect of resonance level and valence band concurrence. K. Biswas
2:10 , Diffusion of cations in 2D/3D perovskite films made by melt infiltration. E. Keenan, J. Hu, J. Zhi, D.B. Mitzi, W. You
2:50 , Stabilization of the metastable perovskite phase of Formamidinium Lead Triiodide (FAPbI3) via surface functionalization. Y. Fu, J. Zhai, M. Shearer, S. Jin
3:10 , Interfaces and their influence on oxide ion diffusion in ceria. A.K. Lucid, G.W. Watson
3:30 , Intermission.
3:45 , Engineering carbon sheets supported iron nanoparticles for direct synthesis of light olefins. Y. Zhou, C. Wang, S. Natesakawat, J. Leske, D. Kaufman, C. Matranga
4:05 , Cotton fabric immobilized ZnO@AuNP for heterogeneous
catalysis. B. Baruah, D. Agymen, S. Baruah
4:45 . Charge density mismatch synthesis and application to UZM-35, a material containing both 10MR and 12MR pores. C.P. Nicholas
5:05 . Advancing marine hydrokinetic energy technology through materials chemistry. B.A. Hernandez-Sanchez, M.R. Hibbs, P.B. Savage
5:25 . Hierarchical structured MnO nanoparticle-embedded SiO2 nanofibrous membranes with flexibility and enhanced catalytic performance. L. DOU, X. Wang, R. Zhang, B. Ding

Venue Placeholder

Organometallic Chemistry: Catalysis

N. S. Radu, Organizer

N. J. Deyonker, A. R. O’Conner, Presiding
1:50 . Palladium-catalyzed hydrophosphorylation of alkynes: Scope, limitation and mechanism. L. Han
2:10 . Can alklylation of the N–H functionality within M/NH bifunctional Noyori-type catalysts lead to improved activity? P.A. Dub, J.C. Gordon
3:50 . Modeling the selectivity of the Pd-based hydroxycarbonylation of pentenoic acids to adipic acid. B. Pudasaini, A. Genest, N. Roesh
4:30 . Solvent influence into the C_{n2−}\alpha−X (X=Cl or Br) bond activation of xpyridine species by neophylpalladacycles: An experimental study. O. Serrano
4:50 . Mechanistic study of the bis(triisopentylphosphine)palladium catalyzed Buchwald-Hartwig amiation reaction. H. Hu, K.H. Shaughnessy

Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

Sponsored by NUCL, Cosponsored by INOR

Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory Theory & Modeling
Sponsored by PHYS, Cosponsored by INOR

Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten
Sponsored by NUCL, Cosponsored by INOR

Deposition & Etching of Nanostuctures
Sponsored by COLL, Cosponsored by CATL and INOR

Support & Activator Effects on Metal Mediated Polymerization
Sponsored by PMSE, Cosponsored by CATL and INOR

Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis
Novel Photocatalytic & Photoelectrode Materials
Sponsored by CATL, Cosponsored by COLLEnfl, I&EC and INOR

TUESDAY EVENING

Venue Placeholder

Bioorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, Organizer
5:30 - 7:30 . Elucidation of the cell death pathways induced by aqueous-stable titanium(IV) compounds as potential anticancer agents. Y. Delgado, A.D. Tinoco
. Rhenium-oxo and gold corroles: Synthesis, spectroscopy, and application to photodynamic therapy. R.F. Einrem, A. Alemayehu, O.A. Gedeeraas, A. Ghosh
. Anticancer properties of organohemine picolinato, nicotinato and tryptophanato complexes. M. Stevenson, S. Pramanik, S.K. Mandal
. Cytotoxic properties of organohemine flunemanato and ibuprofenato complexes on breast cancer cells. S. Parrnell, S. Pramanik, S.K. Mandal

Venue Placeholder

Bioinorganic Chemistry: Proteins & Enzymes & Model Systems
D.R. Gisewhite, B.R. Williams, S.J. Steiner, T.C. Harrop


Electronically versatile benzenedithiolates on electronic and coordination structures of metal complexes: Mimicking the electronic interplay in [Fe(II)hydrogenase active site. Y. Liu, K. Chu, M.H. Chiang

Synthesis of novel mononuclear molybdenum(VI) model complexes of neutral tripodal N4 ligands and study oxygen atom transfer activity. J. Paudel, F. Li

Nitrite reduction by a PDI complex with a proton-responsive secondary coordination sphere. M. Delgado, Y.M. Kwon, J.D. Gilbertson


Increasing the coordination kinetics of the Acetylene Hydratase (AH) model with geochemistry is Central to Applied L. Cordeiro, G.P. Yap, C.G. Riordan

Venue

Chemistry is Central to Applied Materials

C. R. Bertozzi, C. J. Chang, M. A. Paley, Organizers

5:30 - 7:30

Square planar copper (I) complexes with geometric constraints pertinent to copper proteins. P. Cheung, R. Berger, J.D. Gilbertson

Synthetic models of Ni-thiolate coordination units in biology. R.A. Steiner, T.C. Harrop


Electronically versatile benzenedithiolates on electronic and coordination structures of metal complexes: Mimicking the electronic interplay in [Fe(II)hydrogenase active site. Y. Liu, K. Chu, M.H. Chiang

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Crystallizing one-dimensional metal-organic sulfide as cathode material of lithium-ion battery.

Z. Ji, C. Trickett, H. Jeong, A. Schoedel, O.M. Yahgi

Synthesis and catalytic reactions with macrocyclic organometallic complexes of metal oxides and metal on carbon structures.
N. Black, E.G. Gillan

Metal–organic frameworks as templates for transition metal clusters.
A. Turkiewicz, M.I. Gonzalez, L.E. Darago, J.R. Long

Cyto-compatible polysaccharide incorporated biomimetic tubules.
K. Punia, M. Bucaro, A. Punia, A. Bykov, K.S. Raja

Efficient ammonia adsorption property of Prussian blue analogues.

Three versatile Pt(II) oxime complexes that display anion sensing, thermochromism, and solvatochromism.
S.O. Elsiddig, F.R. Fronczek, A.W. Maverick

Molybdenum sulfide molecular clusters for 2D-materials.
C. Bejger, J.L. Shott, M. Howington, J. Johnson

Crystal engineering of metal-organic frameworks from phosphorescent building blocks.
J. Iyi, M.A. Omary

Nickel telluride as a bifunctional electrocatalyst for efficient water splitting in alkaline medium.
Y. Sugiyama, Y. Hakuta, S. Ohkoshi, T. Takahashi, K.S. Raja


Electrochemical characterization of selenocystine reactivity at modified gold surfaces.
K. Frommer, K. Lynch, E. Wiita, M.C. Buzzeo

Electrochemical reductive grafting studies of diazonium gold(III) salts on glassy carbon electrodes.
B. Workie, A. Mohamed

Molecular rectification: Chemical synthesis and characterization of donor-sigma-acceptor molecules.
G. Ren, E.J. Parish, H. Honda, H. Shyu, T. Wei

Characterization of a dicopper dibydroxide water oxidation electrocatalyst.
S.J. Koepke, P.E. VanNatta, A. Shresta, M.T. Kieber-Emmons

Efficient ammonia adsorption, hydrogen evolution, and ORR activity.
B. C. Melot, E. E. Rodriguez, S. Sun, B. Kim, C. Kim, S.O. Kang

New type of deep blue phosphorescent Ir complexes with sulfonil group in phenyl unit of phenyl pyridine ligand: Photodynamic studies of sulfonil group effect and their application to solid-state display.
J. Kim, Y. Cho, S. Yi, C. Kim, H. Son, S.O. Kang

Crystallographic investigation of thallium(II) complexes.

Structural, magnetic, and optical properties of Ln2Fe4xCoxSb5 (Ln = La, Nd, Tb, Dy, Er, Gd, Eu, Y).

Red, white, and blue: Controlling the luminescence of doped rare-earth oxycarbonate nanocrystals by ligand selection and compositional modulation.
G.V. Villalpando, G.R. Waetzig, G.A. Horrocks, S. Banerjee

Properties and design of multifunctional phyllosilicates.
E. Howard, B.C. Melot

Venue
Placeholder
Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, Organizer

5:30 - 7:30

Impedance studies of silylcarbonate electrolyte blends.
M. Treichl, C.A. Ortiz, L.J. Lyons

Nitrous oxide removal with titanium oxide.
H. Goutkuk

Synthesis and characterization of magnetic nanocomposites for energy storage applications.
B. Shen, S. Sun

Development of a chemosensor device to aid in combating the trade of fish caught by cyanide fishing.
C. Flynn, C.A. Sweet, A.R. McCabe, C. Murphy

Design of biotemplated titanium dioxide nanoparticles for potential application as anodes in dye-sensitized solar cells.
A. Reyes-Oliveras, G. De Jesus-Morales, V. López-Mejías

Photophysical studies on homoleptic phenylmethyladazolino Ir(III) complexes: Electronic effect of terphenyl groups at the phenylmethyladazolino ligand.
S. Kim, Y. Cho, C. Kim, H. Son, S.O. Kang

New types of deep blue phosphorescent Ir complexes with sulfonil group in phenyl unit of phenyl pyridine ligand: Photodynamic studies of sulfonil group effect and their application to solid-state display.
J. Kim, Y. Cho, S. Yi, C. Kim, H. Son, S.O. Kang

Iridium photosensitizers for artificial photosynthesis: Design monomeric and bimetallic Icomplexes and Ir-dendrimers.
Y. Cho, C. Kim, H. Son, C. Pac, S.O. Kang

Wide controllably syngas (H2 + CO) production by a dye-sensitized TiO2 hybrid system with ReI and CoIII dual molecular catalysts under visible-light irradiation.
J. Lee, D. Won, W. Jung, H. Son, C. Pac, S.O. Kang

Role of porphyrin antenna for photocatalytic CO2 reduction in a hybrid catalyst system: Protection from...
- Photophysical studies on homoleptic phenylimidazolide iridium(III) complexes: Electronic effect of planar bulky phenylimidazolide ligand. M. Son, S. Kim, Y. Cho, J. Kim, s. yi, C. Kim, H. Son, S.O. Kang
- Measuring lithium and fluorine diffusion in electrolytes for use in lithium-ion batteries with PFG-STE NMR. S.A. Beecher. L.J. Lyons
- Coupling of chromophoric dyes with applied bias or microwave heating to increase DSSC photocurrent conversion efficiency. C.A. Sweet, C. Flynn, C.J. Timpson, C. Murphy
- Effect of aliphatic ligand length on triplet energy transfer from PbSe nanoparticles to rubrene.

N. Megerdich. M. Mahboub, M. Tang
- Structure, dynamics, and electrochemistry of psychrophilic cytochromes. S.J. Barth, J. Chou

S.K. Lone, K.S. Montero, G.J. Salerno, M.C. Buzzo, J.S. Magyar
- Bioinspired preparation of melanin-like nanoparticles used for highly nitrogen-doped porous carbon spheres: Enhanced CO2 capacities and efficient oxygen reduction catalysts. h. kim, M. Kim, m. kyang, Y. Sung, w. yoo

S. A. Koch, Organizer
5:30 - 7:30
- Olefins from biodiesel: Decarbonylation using a ruthenium catalyst. B. Benson, A. John, W.B. Tolman
- Reduced copper metal-organic frameworks: A heterogeneous catalyst for click chemistry. K. Xie, Q. Fu, P. Webley, G.G. Qiao
- Study on synthesis and catalytic cracking performance of Y zeolite with sheet-like morphology.

S. Cui, G. Wang, B. Liu
- Copper nanocrystals embedded in metal-organic frameworks for highly selective CO2 hydrogenation to methanol. B. Runglawevaroranit, J. Baek, G.A. Somorjai, O.M. Yaghi
- Mesoporous cobalt oxide with controlled porosity: Efficient catalyst for peroxide free alkene epoxidation under aerobic conditions. C. Weerakody, S.L. Suib
- Copolymerization of cyclohexene oxide and succinic anhydride using Schiff base Zn complex. A. Virachotikul, P. Wongmahasirikan, K. Phomphrai
- Synthesis of cyclic poly(-caprolactone) using tin(II) complex containing soft sidearm initiator. T. Ungpittagul, K. Phomphrai
- Investigation of ring-opening mechanism using x-ray crystallography. K. Udomsaporn, K. Phomphrai
- Cobalt, nickel, and iron Schiff Base complexes for hydrogen production in aqueous solution. A. Graves, O. Taghavi, W.T. Eckenhoff
- Synthesis of aluminum complexes supported by salicylaldimine ligands for the polymerization of cyclic esters. P. Pisitpikoon, P. Wongmahasirikan, K. Phomphrai
- Electrocatalytic generation of hydrogen gas by cobalt porphyrin-based Metal-Organic Framework (MOF) and amorphous polymer. Y. Wu
- Studies of a low-valent Molybdenum(VI)-dioxo complex as a deoxydehydrogen catalyst. R. Tran, S.M. Kilyanek
- Novel bi-functional catalyst based on CoOx core – MnOx shell for rechargeable Li-air battery. Y. Lee, D. Kim, S. HA, S. KIM, Y. Lee
- Impact of rare-earth dopants on the catalytic activity of CeO2 nanoparticles for both CO oxidation and preferential CO oxidation reactions. J. Yoo, K. Kim, J. Han, W. Jung
- Aquous solution palladium catalyzed Suzuki cross coupling reactions: Reaction optimization of base and the effects of base concentration. T. Olson, J.G. Parsons
- Effects of acid strength and position of an intramolecular acidic functional group on the catalytic reduction of CO2 to CO. S. Lense, I.A. Guzei, K. Thao, J. Andersen, M. Schultz
- Inverse Frustrated Lewis Pair (FLP) approach for catalytic metal-free hydrogenation of imines. S. Mummadi, D. Kenefake, R. Diaz, C. Krennper
- Role of water in the selective oxidation of benzyl alcohol over gold nanoparticle supported catalysts. A. Tombo, M.Y. Santos, B. Chandler, C. Pursell
- Synthesis and electrochemical evaluation of Ru(II) tridentate carbene complexes. J.T. Hyde, D.P. Harrison
- Novel thione based ligands: Synthesis and complexation. P. Jean, B. Hunt
- Characterizing the kinetic capabilities of supported gold nanoparticle catalysts using benzyl alcohol oxidation. M.Y. Santos, B.D. Chandler, C. Pursell, A. Tombo

Venue
Placeholder
Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions
K. R. Kittilstved, E. J. McLaurin, Organizers
5:30 - 7:30
- Soft-template strategies for anisotropic Au nanomaterials and hollow multi-Au@SiO2 nanosystems. H. Yoo
- High performance CsPbX3 perovskite quantum dot light emitting devices achieved via solidstate ligand exchange. Y. Suh, T. Kim, P. House, M. Lee, J. Park
- GeP, thin layers: Novel 2D materials revealed by first-principles calculations. Y. Jing
- Imaging interactions between dipole emitters and single nanowires. E. Johlin, J. Solari, S.A. Mann, J. Wang, T. Shimizu, E. Garnett
- Size control and Sb doping of solution grown two-dimensional Bi2Se3 nanomaterials. A.J. Bernard, Y. Hou, D. Yu, S. Kauzlarich
- Characterization of solution-based exfoliated two-dimensional nanosheets. K. Pachuta, A. Sehirlioglu, E. Pentzer
- Vapor-Phase epitaxial growth of aligned nanowire networks of cesium lead halide perovskites (CsPbX3, X = Cl, Br, I). J. Chen, Y. Fu, L. Samad, L. Deng, Y. Zhao, S. Shen, L. Guo, S. Jin
- Pt Nanoparticle anchored molecular self-assembly of DNA: A stable and efficient electrocatalyst for hydrogen generation. S. Anantharaj, S. Kauzlarich
- Titanium metal nanowires via electrodospun polymer nanocomposite. H.E. Lacy, A.S. Ichimura, K. Teh
- Polytopic phase transitions in metal intercalated 2D Bi3Sb3 nanoribbons. M. Wang, K.J. Koski
- Exploring biphasic routes to functionalized CdSe nanoparicles for use in solar nanocomposites.

K. Bolduc, M.E. Hagerman, J.D. Kehlbeck
- New route for the formation of SnSe thermoelectric materials with low thermal conductivity. S. Kundu, S. Yi, C. Yu
- Mechanism of galvanic replacement reactions for hollow germanium nanoparicles. X. Qi, S. Kauzlarich
- Assembly of CdSe quantum dots and gold nanorods into discrete arrangements with unique optical properties. B. Szychowski, M. Daniel
- Towards broadband-emitting 2D perovskites LEDs. P. Carmona Monroy, D. Solis, E. Perez Gutierrez
- Elucidating the effect of fluoride-containing ionic liquids on indium phosphate nanocrystals.

Venue
Placeholder
Inorganic Spectroscopy
V. C. Poppescu, Organizer
5:30 - 7:30
- Influence of charge transfer in the photoluminescence of lead-free Ba0.9Ca0.1TiO3-ZnO, electroceramites. G. Herrera Pérez, J.G. Murillo, G. Zaragoza-Galán, G. Tapia-Padilla, A. Reyes-Rojas, L.E. Fuentes-Cobas
- Characterizing the inner filter effect in quantum dot-polymer composites for use as a displacement sensor. M.A. Koc, P. Alivisatos
- Mössbauer spectroscopy: Predictive property models from experimental design and statistical learning. J. Proppe, M. Reiher
- None. Measuring of the energy transfer efficiency between plasmon nanoparicles and quantum dots using Sample-Transmitted Excitation Photoluminescence (STEP). P. Moroz, M. Zankov
- Acid reactions of model systems of molybdeniforms. K. Schwabentacker
- Photophysical effects of varying imine based ligands with cuprous halides to form vividlycolored/brightly-phosphorescent coordination polymers. I.E. Scoggins,
M. Wilk, Z. Henry, V. Nesterov, M. Omary

TDDFT studies of earth abundant photocatalysts. C. Nite, A.K. Rappke

Theoretical study of tris(1,3-propanedionato)chromium(III) for insight into Cr(III)-based photocatalysts. J. Nite, A.K. Rappke

Thermal polarization vibrational microspectroscopy of weedellite and whewellite single crystals.

G. Kumi, N. ALIUHANI, A. Obaid

Mössbauer spectroscopy of iron-selenide and iron-thione complexes capable of preventing oxidative DNA damage. V.C. Popescu, M. Cohara, J.L. Brumgham, B. Stedelman


none


XESCA: X-ray emission spectroscopy for chemical analysis. S. Lee

Venue

Placeholder Lanthanide & Actinide Chemistry

A. De Bettencourt Dias, Organizer 5:30 - 7:30


Gas phase chemistry of the Ln(III)-TMGA/TMTGA complexes. X. Chen, Q. Li, Y. Gong

Design and synthesis of tri-substituted benzene compounds used as extractants in nuclear waste remediation. B.G. Wackerle, S.M. Biros

Development of bidentate ligands containing soft donor atoms for actinide chelation. C.C. Miller, S.M. Biros, J.E. Bender

HyP/Sb for separation of heavy metals. E.G. Leach, S.M. Biros, J.E. Bender

Synthesis and characterization of (2-methoxyphenyl)di-phenylphosphine derivatives for nuclear waste remediation. E. Christoffersen, S.M. Biros, J.E. Bender

Phosphine ligands for the extraction of f-block elements: Use in nuclear waste remediation. A.R. Spyker, S.M. Biros, J.E. Bender

Novel synthesis, structure, and enhanced photoluminescence of lanthanide dicyanamates containing auripicolic interactions. T. Hamby, R. Sykora, J. Hendrich, E. Kost

Optimizing hydrothermal reaction conditions for lanthanide coordination polymer formation: A study of the 1,4-benzenedicarboxylate system. J. Einkauf, D.T. de Lil

Recovery and recycling of Pu-238 in spent nuclear fuel to increase the sustainability of nuclear reactors using extraction and luminescence techniques. M. Hudson, G. Deblonde, R.J. Abergel, S.M. Biros

Design of lanthanide half-sandwich complexes exhibiting single-molecule magnetism. R. Kuo, J.R. Long

Venue

Placeholder Main Group Chemistry

T. W. Hudnall, Organizer 5:30 - 7:30

Aluminum carboxylates as precursors for the synthesis of aluminum-oxocages. T.L. Precht, A.J. Peel, D. Wright, A. Wheatley

Reactivity of an acyclic silylsilylene toward ethylene: Migratory insertion into the Si-Si bond. D. Wendel, S. Inoue, B. Rieger

Borylated N-Heterocyclic Carbene(NHCs) - Synthesis and migration studies. W. Liu, C. Chiu

Synthesis and characterization of energetic nitroformate salts. A. Baxter, I. Martin, K.O. Christe, R.M. Haiges

Triazylene radicals stabilized by N-heterocyclic carbene. J. Baek, E. Lee

Silylene stabilized boron cations: Synthesis and reactivity studies. H. Tsai, C. Chiu

Acid-catalyzed hydrolysis of iodosododecarbates. Z.S. Lincoln, J.A. Dopke, R.J. Staples

Ruthenium-catalyzed substitutions of icosaheiral dodecarbocar. D.C. Adams, J.A. Dopke, R.J. Staples

Synthesis and characterization of salts derived from 5chloroalkyltetrazoles. Y.O. Ahmed, c. gibson, S. Schneider, S. Deplazes

Synthesis and characterization of new derivatized 1,1dimethylhydrazinium salts. Y.O. Ahmed, c. gibson, S. Schneider, S.F. Deplazes

Cation exchange and disproportionation chemistry of ammonium and potassium magnesium dodecarbocar. D.M. Schubert, K. Kluherz, D. Neiner, M. McCray

Polyphosphazenes as Antibacterial Films. P. Pence, P. Wisian-Neilson

Stabilization of heavier main group analogues by London dispersion force interactions. R.E. Tureski, P.P. Power

Venue

Placeholder Organometallic Chemistry: Catalysis

N. S. Radu, Organizer 5:30 - 7:30

Single step access to long-chain α,ω-dicarbonylic acids by catalytic isomerizing hydroxycarboxylation. Y. Goldbach, L. Fulvrene, L. Caporaso, L. Cavallo, S. Mecking

Carbon dioxide hydroisylation catalyzed by iron. T. Jurado, J.J. Garcia

Robust catalyst for the dehydrogenation of neat formic acid. J. Celaje, Z. Lu, E. Kezdzie, J. Lo, N. Terrile, T.J. Williams

Olefins oligomerization catalysis: Ligand design, organometallic chemistry, and catalysis. T.C. Wambach, T. Tilley

Ammonia formation from a bulky triphosphole amine transition-metal nitrido complex. D. Bae, E. Lee

1.5-Regioisomer of the click reaction: Valuable ligand precursors for new Ru-MIC complexes. L. Suntrap, S. Hochoch, B. Sarkar

Computational studies of rhodium-catalyzed hydrogenation and carbon dioxide activation. M. Trenerry, M.T. Whited, B.L. Taylor

Hydrogenation of unsaturated triglycerides via catalytic hydrogen transfer from glycerol. V. Cherepakhin, T.J. Williams

Highly efficient synthesis of N-alkylation of aromatic amines with primary alcohols catalyzed by an iridium ruthenium pincer complex. F. Yang, Y. Wang, Y. Ni, X. Cao, S. Lu, X. Hao, M. Song

Synthesis and electrochemistry of ruthenium 2,2′-bipyridine-6,6′-dicarboxylate catalysts using different phosphorus ligands. s. yazdani, J.M. Kamdar, E.R. Paulson, A.L. Rheingold, D.B. Grotjahn

Kinetic investigation of the dehydrogenative borylation of terminal alkynes. B.J. Foley, N. Bhuvanes, O. Ozerov


Venue

Placeholder Organometallic Chemistry: New Ligand Platforms

N. S. Radu, Organizer 5:30 - 7:30

Highly selective and sensitive colorimetric chemosensor for detection of Co2+ in a near-perfect aqueous solution. M. Kim, H. Cho, C. Kim

Colorimetric chemosensor for the sequential recognition of mercury (II) and iodide in aqueous media. H. Ahn, S. Hwang, M. Yang, C. Kim

Simultaneous bioimaging recognition of cation Al3+ and anion Fe2+ by a
fluorogenic method. J. Kang, H. Jeong, D. Yun, C. Kim

• Highly sensitive benzimidazole-based chemosensor for the colorimetric detection of Fe(II) and Fe(III) and the fluorometric detection of Zn(II) in aqueous media. H. Jung, J. Chae, A. Kim, C. Kim

• Highly selective fluorescence sensor for Al³⁺ and CN⁻ in aqueous solution: Biological applications and DFT calculations. J. Jung, J. Yun, P. Kim, C. Kim


• Frist-row metal complexes of poly(guanidinyl)aryl ligands. J.E. Allen, L. Wilkinson, W.S. Kassel, N.A. Piro

• Solvent free hydrosilylation of tertiary, secondary and primary amides using BIAN [Bis(Arylimino)-Aacenaphthene] based iron complexes. A. Saini, M. Findlater


• New annulated N-heterocyclic carbenes and their transition metal complexes. G. Bettler, A. Changas, O.J. Buckner, C. Boudreaux, B. Norvell, D. Tapu

• Toward the synthesis of a new anionic N-heterocyclic carbene and its corresponding metal complexes. A. Carter, A. Mason, D. Tapu, M. Baker, G. Bettler, A. Changas

• Synthesis and Characterization of Cr(0) terminated π-linkers based on linear oligoazulenic frameworks. N.R. Erickson, M.V. Barybin

• Hetrobinmetallic complexation of a mercapto and isocynano functionalized linear 6,6'-biazulenic n-linker: Synthesis, redox behavior, and spectroscopic characterization. J.C. Applegate, N.R. Erickson, M.V. Barybin

• Novel mesocious/remote N-heterocyclic carbene ligands and their ruthenium(II) aqua complexes. T.C. Cao, D.B. Grotjahn

• 5:30 - 7:30

• 1,3,6-Trisubstituted fulvene derived ansa-metalloocene ligands: A new route for the synthesis of ansa-ylterbocene and –samarocene. S.K. Adas, G.J. Balach

• Cycopentadienyl pyridazines and oxazines and their applications in energy and advanced electronics. N.C. Tice, E.M. Collins, C.A. Snyder, D.L. Smith

• Influence of the dicopper core on the reactivity of copper(I) hydrides. A.J. Jordan, P.K. Thompson, C.M. Wyss, J.P. Sadighi

• Unusual reactivity of PCP-supported rhenium carboxylates. A.J. Bazanovich, W. Shihi, O. Ozerov

• Activation of small molecules by 2-[dicyclohexylphosphino]ethyltrimethylammonium chloride iodide complexes. J. Knapp, S.H. Schreiner

• Comparative reactivity studies of iridium(I) and rhodium(I) complexes stabilized by chelating diphosphine ligands. K. Olsen, S.H. Schreiner

• Synthesis, characterization and reactivity of group ten phosphinoferrocene - carbonyl complexes. E. Kober, S.H. Schreiner

• Synthetic and structural comparisons between first row transition metal diithiolato complexes and group 14 metalenyes. J. Pratt, P.P. Power

• Venue Placeholder

Solid-State Inorganic Chemistry

C. G. Lugmair, V. Pollavets, Organizers

5:30 - 7:30

• Large-scale synthesis of ShB₃Q₁ (Q = S, Se) nanofibers topotactically converted from ternary metal chalcogenides and their optical and transport properties. H. Lee, M. Kim, B. Yoo, K. Ahn, I. Chung

• Hydrothermal synthesis and characterization of three-dimensional titanium(III) phosphites. L. Hung, S. Wang

• Mechanoconglomeration and mechanoracemization of gold(I) complex crystals with optical properties alternation. M. Jin, T. Seki, H. Ito

• Synthesis, crystal structure, and thermoelectric properties of new phosphides BaCu₃P and BaCu₃Mg₂P₂. J. Mazzetti, J. Wang, K. Kovnir

• Synthesis and structural evaluation of manganese doped cobalt oxides. A.R. Thuli, A.M. Morey

• Sol-gel synthesis and characterization of lithium nickel cobalt oxides. J.J. McCune, A.M. Morey

• Heat treatment intensity on rutile pigment production from unenriched industrial TiOSO⁴ solution via short sulfate process. C. TIAN

• Two zinc titanophosphates containing organic linkers from in situ metal/ligand reactions. L. Huang, P. Chen, L. Hung, S. Wang

• Superhard alloys of transition metal dodecadecaborides: Zr₁₁₋₃Y₃₋₁B₁₂, Zr₁₁₋₃Sc₂₋₁B₁₂ and Y₁₆₋₃Sc₂₋₁B₁₂. G. Akopov, M.T. Yeung, Z.C. Sobell, C.L. Turner, R.B. Kaner

• Metal flux and supercritical fluid syntheses of actinide materials. W. Potter, T.E. Albrecht-Schmitt, S.E. Latturner

• Optimization of the CsCl reduction-oxidation flux synthesis of Cs-Zn-Sb clathrates. S. Heinrich, B. Owens-Baird, J. Dolyuni, K. Kovnir

• Thermoelectric properties of n-type Sn-Se-based materials. J. Cha, K. Ahn, I. Chung

• Tunable optical properties of Sn-based perovskite compounds. M. Lee, I. Chung

• Novel light emitting phosphors based on olivine structure type oxide, CaYGaO₃: S.M. Araiza, K. Slowinska, S. Derakhshan

• Chemical conjugation of rare-earth oxycarboline nanocrystals to hybrid organic-inorganic perovskite nanoplatelets for solid-state lighting applications. F.A. Rodríguez Ortiz

• Stabilization of GdB₁₂ in Zr₁₁₋₃Gd₁₂B₁₂ under ambient pressure. G. Akopov, Z. Sobell, M. Yeung, R.B. Kaner

• Using a dataset of magnetic material properties to screen for magnetocalorics. J.D. Bocarsly, E. Levin, S. Wilson, R. Seshadri

• Effects of microstructurally induced strain on magnetic properties of biphasic Heusler systems. E. Levin, M. Buffon, P. Callahan, J. Stinville, S. Mooraj, D. Gianola, T. Pollock, R. Seshadri

• 8:30 Introductory Remarks.

• 8:35 Using inherent substrate-dependent nucleation to promote selective-area atomic layer deposition. G. Parsons, P. Lemaire, M. Ritz, C.J. Oldham

• 9:10 Deposition of ZnO nanostructures on graphene: Application as tin oxide-free photoanodes.

• C. Villarreal, D. Pirizada, A. Wong, A.K. Mulchandani

• 9:35 Sustainable manufacturing of functional materials. C.J. Carmalt

• 10:10 Intermission.

• 10:30 Cobalt thin metal films: Precursor syntheses, atomic layer deposition, and selective growth. C.H. Winter

• 11:05 Chemical self-assembly strategies for metal-organic surface structures. J. Kestell, R. Abuillah, D. Olson, W.T. Tysoe

• 11:30 New precursor chemistries for ALD of transition metal oxides. A. Devi

Venue Placeholder

Celebrating 60 Years of the Division of Inorganic Chemistry
Young Investigators & Officers

D. C. Crans, Organizer M. J. Clarke, Organizer, Presiding L. M. Berreau, C. Turro, Presiding

8:00 Introductory Remarks.

8:05 Chemical tools for investigating cellular zinc metalloenzymes. E.L. Que

8:35 Engineering molecular materials for applications in energy storage. A. Baumann, D. Burns, V. Thoî


10:05 Intermission.

10:20 Highly stable Metal-organic frameworks with ultrahigh capacitance. D. Feng, Z. Bao

10:50 Coordination chemistry with fullerene-based ligands. A.L. Balch, M.M. Olmstead, A. Aghabali, S. Jun

11:20 Employing novel porphyrinoid ligands to access biomimetic manganese and iron complexes of relevance to O₂-activating heme enzymes. D.P. Goldberg, J. Zaragoza, R.A. Baglia, J. Sacramento
11:50, Lanthanide complexes and materials with sensitized metal-centered luminescence. A. De Bettencourt Dias
Venue: Section C
Placeholder

Frontiers in Heavy Element Electronic Structure
Cosponsored by NUCL. D. L. Clark, D. K. Shuh, Organizers L. Soderholm, Organizer, Presiding
8:30, Up all night with Bruce: From computations to experiments to real computations & experiments. G.G. Stanley
8:50, Designing activated carbons for Hg removal from coal combustion flue gas. R. Cayton
9:10, Counting electrons: What they don't teach you in general chemistry. J.S. D'Achhioli, M.K. Heili, P. Sit, E.D. Spetzen, A. Webster, C. Mueller, D. Cunningham
9:50, Bonding with Bruce. D.L. Clark
10:10, Intermission.
10:30, Intriguing aspects of noninnocent ligand transition metal complexes. M.B. Hall
10:50, Give It some thought: Inorganic chemistry and nanotechnology. C.J. Murphy
11:30, Heavy element chemistry in a heterogeneous context. W.F. Schneider
11:50, Excited states of mononuclear and dinuclear complexes and their applications. C. Turro
Venue: Section D
Placeholder

Solid-State Inorganic Chemistry
C. G. Lugmair, V. Poltavets, Organizers
S. E. Lattaner, C. J. Lany, C. Musgrave, G. Schulz, L. Ma, J. Im, C. Stoumpos, C. Malliakas, M.R. Wasielowski, A.D. mohite, M.G. Kanatzidis
8:45, Pressure-induced structural, electronic, and optical evolution of hybrid perovskites. A. Jaffe, Y. Lin, C. Beavers, J. Voss, W. Ma, H. Karkanadasi
9:00, Tuning indirect to direct bandgaps in double perovskites. T. Tran, J. Panella, J. Chamorro, J.R. Morey, T. McQueen
9:45, Negative thermal expansion and other anomalous properties in mixed metal fluorides with structures related to that of ReO3: A perovskite with helium on the A-site?. A.P. Wilkinson, B. Hester
10:00, Tuning photochemical and photophysical properties of metallosupramolecular materials. A. Rzagoniaev, A. Ostrowski
10:15, Intermission.
10:30, Synthesis of new complex metal hydrides and carbides from ytterbium/lithium flux. M. Dickman, S.E. Lattuver
10:45, In situ identification of kinetic factors that expedite inorganic crystal formation and discovery. Z. Jiang, A. Ramanathan, D. Shoemaker
11:00, Dynamic origins of noncentrosymmetry in KNbO3F2. M. Holland, K.R. Poeppelmeier, J. Rondinelli, N. Charles
11:15, In-situ reduction study of the effect of anion concentration in the Fe-Ga-S system. R. McAluliffe, D. Shoemaker
11:45, Piezoelectrics: Putting the squeeze on new materials. M. Dolgos
12:15, Synthesis of bimetallic trifluorocarvotes through a crystalllochemical investigation of their monometallic counterparts: The case of (A, A’)(CF3COO)2.nH2O (A, A’ = Mg, Ca, Sr, Ba, Mn).
B. Dhanapala, N. Mannino, K. Dissanayake, L. Suescun, F. Rabuffetti
Venue: Section E
Placeholder

Chemistry of Materials: Nanomaterials
C. G. Lugmair, Organizer
B. E. Cohen, F. Rabuffetti, Presiding
8:00, Pnictide precursors for pnictide-based thermoelectric nanomaterials. A. Das
8:20, Syntheses of Zn1-xCdx nanocrystals with tunable band structure for efficient reduction of nitroaromatics in water. Kaur
9:00, Investigations of using environmentally responsive polymers as capping materials for aluminum nanoparticle. W. Zeng, S.W. Buckner, P.A. Jelliss
9:20, Ultrathin copper based core shell nanowires for high-performance transparent conductors - from synthesis to application. F. CUI, P. Yang, L. Dou, Z. Niu, Y. Yu
9:40, Chemically and structurally flexible hosts for Yb-Er sensitizer-activator pairs. K. Dissanayake, B. Dhanapala, F. Rabuffetti
10:00, Intermission.
10:15, Flexible transparent film heaters based on random networks of silver nanowires. Seshadri
10:35, Fabrication of high quality compressible 3D graphene aerogel based on graphene oxide nanoplates and for supercapacitor. T. Fan, Z. Xiao, T. He, Y. Liu, Y. Min
10:55, Expansion of the family of gigantic palladium macrocycles based on [Pd84]. L. Cronin
11:15, Spatially orthogonal chemical functionalization of a hierarchical porous network for catalytic cascade reactions. C.M. Parlett, S.K. Beaumont, L.J. Durndell, M. Isaacs, N.S. Honadow, K. Wilson, A.F. Lee
11:55, Synthesis and characterization of o-carborane passivated aluminum nanoparticles. A. Benziger, S.W. Buckner, P.A. Jelliss
Venue: Section F
Placeholder

Lanthanide & Actinide Chemistry
Cosponsored by WCC
A. De Bettencourt Dias, Organizer
R. J. Abergel, K. Kavallieratos, D. A. Penchoff, Presiding
8:30, Terminal Uranium(VI) sulfido and hydroxysulfido complexes: Theoretical study of the uranium-sulfur bond. C. Alvarez Lamsfus, L. Maron
9:10, Computational prediction of paramagnetic NMR spectra of f-element complexes. H. Moylan, J. McDouall
9:50, Intermission.
10:00, Actidine coordination with bioinspired ligands: A bridge between fundamental felement chemistry and new therapeutic drug development. R.J. Abergel, G. Deblonde, I. Captain, P. Agbo, A. Ricano, D. An
10:40, Trivalent F-metal coordination and extraction by tripodal sulfonamide ligands and analogs. E.V. Govor, V.A. Anagnostopoulos, A.N. Morozov, A.M. Mebel, R.G. Raptis, K. Kavallieratos
11:00, Intermission.
11:10, Synthesis and redox noninnocent reactivity of bis(NHC)borate-supported thorium complexes. M. Garner, S. Hohloch, L. Maron, J. Arnold
11:50 Chalcogenide insertion reactivity of a thorium-alkyl complex supported by amineid ligands. N. Setterini, J. Arnold

Section G

Venue: Placeholder

Nanoscience

B. G. Trewyn, Organizer

B. A. Hernandez-Sanchez, Presiding

8:00 Hyaluronic acid conjugated carbon quantum dots for bioimaging and targeted drug delivery in ophthalmology. B.B. Karakocak, J. Liang, P. Biswas, N. Ravi

8:20 Bacteriophages-conjugated quantum dots as in vivo luminescent bioimaging agents. W.C. Corbin, M. Casillas, J. Pelowitz, A. Ashley

8:40 Bioconjugation chemistry in luminescent gold nanoparticles. R. Vinhuan, J. Zheng

9:00 Nanoelectronic signaling approaches for chemical sensing and fundamental investigation of chemical/biological systems. M. Ding, Y. Huang, X. Duan


9:40 Liquid biopsy for detecting ducal pancreatic adenocarcinoma. S.H. Bossmann, H. Wang, M. Kalubowilage, O. Covarrubias


10:00 Intermission.

10:10 Synthesis of multifunctional dendronized-gold nanoparticles for bimodal in vivo imaging. A. SAHA

RAY, M.W. Brechbiel, M. Daniel

10:30 Developing lanthanide doped alkaline earth chalcogenide nanoparticles for scintillators and bioimaging agents. B.A. Hernandez-Sanchez, T.J. Boyle, T.N. Lambert, P. La

10:50 Light scattering study on the interaction of poly(N-isopropylacrylamide) and transition metal dications. L. Fulton, J. Tsavalaras, W.R. Seitz, R.P. Planalp


11:30 Bottom-up synthesis and self-assembly of atomically precise pristine and nitrogen-doped graphene nanoribbons. A. Sinitskii

11:50 Integrating sphere microscopy to quantify losses and limits in nanoscale solar cells. S.A. Mann, S. Oener, A. Cavali, J. Haverkort, E. Bakkers, E. Garnett

12:10 Approaching the hole mobility limit of GaSb nanowires. Z. Yang, J.C. Ho

Venue: Placeholder

Organometalllic Chemistry: Applications to Organic Transformations. N. Radu, Organizer B. Fraga, Presiding

8:30 Mechanistic understanding of catalyst-controlled and tunable, chemoselective silvercatalyzed intermolecular nitrene transfers. T. Yang, J.F. Berry

8:50 Preparation and characterization of copper(I) diazabutadiene complexes and catalytic applications. B. Zeleznay, F. Maseras, S. Diz-Gonzalez

9:10 Synthesis and reactivity of weakly interacting dicationic systems. M.B. Pastor, T. Betley, Q. Zhao

9:30 Synthesis and reactivity of mixed-ligand dirhodium(II) complexes with pendant axial ligands. A. Darko, D. Cressy, B. Anderson, W.A. Sheffield

9:50 Selective ortho C-H activation of pyridines directed by Lewis acidic boron of PBP pincer iridium complexes. W. Shih, O. Ozerov

10:10 Mechanistic insight into carbon-sulfur bond formation at cobalt (III). B.J. Foley, C. Páli, O. Ozerov

10:30 Oxidative reactivity of organometallic Ni2, Ni3 and Ni4 complexes in the formation of CC bonds. M.B. Watson, L.M. Mirica


11:10 Rational design of improved Pd(II) precatalysts and their application towards new crosscoupling reactions. P. Melvin, N. Hazari


12:10 Asymmetric transfer hydrogenation of ketones by rhodium and iridium complexes of chiral oxazolidine fused N-heterocyclic carbene ligands. B. Ramasamy, P. Ghosh

Venue: Placeholder

2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

Polymerization, Coordination Chemistry & Interfacial Catalysis

CospONSORED by PmSE Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Carnegie Mellon University A. Facchetti, T. Lohr, Organizers M. Delferro, Presiding

8:30 Introductory Remarks.

8:35 Controlling ethylene-o-llefin selectivity with molecular olefin polymerization catalysts. J. Klosin

9:05 Performance polymers in the petroleum additives industry. N.A. Cain, J.D. Moore

9:35 Deactivation and reactivation of methylaluminoxane (MAO) and the derived metalloocene catalysts. New insight into MAO active site structure and activation mechanism. L. Luo, A. Jain, J. Harlan


10:30 Intermission.

10:45 Can microdroplets catalyze chemical reactions?. R.N. Zare

11:15 Reactions of C-Au and C-H bonds with polynuclear metal carbonyl cluster complexes. R.D. Adams, P. Dhill, V. Rassolov, J. Tedder, Y. Wong

11:45 Sustainable polymers with complete recyclability for a circular economy. E.Y. Chen

Venue: Placeholder

Chemistry is Central to Applied Materials

C. J. Chang, Organizer C. R. Bertozzi, M. A. Paley, Organizers, Presiding

8:30 Hybrid perovskites under pressure: Accessing new properties through lattice compression. A. Jaffe, Y. Lin, U. Umeyama, C. Beavers, J. Voss, W. Yao, H. Karunadasa


10:15 Intermission.

10:30 Electrolyte-Mediated assembly of charged nanoparticles. M. Olivera De La Cruz

11:05 Seaweed-Based synthesis of nanostuctures for multiple energy storage. D. Yang, X. Yao

11:40 Framework chemistry and its global reach. O.M. Yaghi

Venue: Placeholder

Switchable Catalysts

J. A. Byers, Organizer P. Diaconescu, Organizer, Presiding F. Breher, Presiding

8:30 Altering the selectivity of iron-catalyzed hydrocarbon upgrading. P.J. Chirik, J. Steves, V. Schmidt

9:00 Reversible interconversion of CO2/H2 and formic acid using Cp*Ir(III) complexes with proton responsive ligands. E. Fujita, J.T. Muckerman, Y. Himeda

9:30 Switchable polynuclear complexes consisting of ambidentate ligands. F. Breher

10:00 Redox catalysis for biomass degradation. C. Stephenson

10:30 Intermission.

10:45 Cerium clusters supported by trimetalllic crown ethers as catalysts for alternative copolymerization of cyclohexene oxide and CO2. K. Moshina, H. Nagae, R. Aoki, T.P. Spaniol, J. Okada

11:15 One-pot switchable catalytic processes involving the copolymerization of epoxides and carbon dioxide. D.J. Darenbourg

11:45 Supramolecular approach to enzyme mimics. C.A. Mirkin

12:15 Concluding Remarks.

Venue: Placeholder

Bioinorganic Chemistry

S. A. Koch, Organizer D. Wang, Y. Zhang, Presiding
V. C. Popescu, Organizer, Presiding
1:30 | Achieving surface sensitivity in soft x-ray spectroscopy: Transient reflectivity of charge transfer dynamics in iron oxide. A. Cirri, J. Hasek, S. Biswas, L. Baker


2:10 | Design principles for porous materials containing quantum sensors. J. Zadrozny, A. Gallagher, D. Harris, D.E. Freedman

2:30 | Probing ion-pairing trends in aqueous polyoxometalate solutions. D. Sures, K. Kozma, P.I. Molina, S. Serapian, C. Bo, M.D. Nyman


4:10 | Relativistic effects on the spectra and redox properties of 5d metalloccorroles. A. Ghosh, R.F. Einrem, A. Alemayehu

4:30 | Systematic study of luminescence rigidochromism on ambipolar polyamine rhenium(I) complexes. G.A. Salazar-Garza, B. Hua, C.M. Williams, V. Nesterov, M.A. Ormary

4:50 | Role of specific and non-specific interactions in understanding the excited-state processes of transition-metal complex based photodrugs. B. Dietzek


5:30 | Achieving surface sensitivity in metal nanoclusters: Characterization and catalytic applications. A.W. Cook, T.W. Hayton


1:50 | Understanding the mechanisms of CO₂ adsorption enhancement/degradation in all silica zeolites under wet conditions. W. Jeong, J. Kim 2:10 | Photochemistry of a direct contact core-shell tandem photocatalyst for overall water splitting. M.A. Melo, F.E. Osterloh


5:00 | Controlling single-molecule magnetic behavior of two families of metalloccorroles by modifying lanthanide choice or structural components. T.T. Boron, J.C. Lutter, C.J. Daly, C. Chow, A.H. Davia, A. Nimthong-Roldan, M. Zeller, J.W. Kampf, T. Mallah, C.M. Zaleski, V.L. Pecoraro

Venue Placeholder

Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, Organizer
5:20, Electrochemical evaluation of Ru(II) carbene complexes for CO₂ reduction. D.P. Harrison, J.T. Hyde, D. Chisner

Venue
Placeholder

2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

Catalysis: Characterization, Computations, & Reactivity
Cosponsored by PMSE

Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University A. Facchetti, T. Lohr, Organizers M. Stalzer, Presiding

1:30 Introduction Remarks.


2:35, DMF-stabilized single-nano-sized metal nanoclusters as catalyst for cross-coupling reactions. Y. Obora

3:05 Intermission.

3:15, Preparation of deuterated drugs through novel catalysis: Synthesis, purification, and preclinical data. G.Y. Li

3:45, Mechanistic insights into catalytic conversion methane and light alkanes over supported catalysts. M. Neurock

4:15, DFT approach for the investigation of single-site supported catalysts. A. Motta, M. Delferro, T. Lohr, T.J. Marks

Venue
Placeholder

Organometallic Chemistry: Synthesis & Characterization-Late Transition Metals

N. S. Radu, Organizer
L. Geary, V. M. Iluc, Presiding

1:30, σ-Complexes of cobalt and copper. Y. Lee


2:30, C=C=C-cyclometalated mesoionic NHC ligands in phosphorescent platinum(II) complexes. J. Schollner, T. Strassner

2:50, Adaptable chelating diphosphine ligand for the stabilization of elusive palladium and platinum alkylics. B. Barrett, V.M. Iluc

3:10, C=C=C cyclometalated ruthenium NH complexes. D. Schleicher, T. Strassner

3:30, Reactivity of nickel complexes bearing a H1(CH2CH2Pr)2 ligand. N.P. Nambukara, J. Luebung, J.A. Krause, H. Guan

3:50, Enhanced photoluminescence quantum yields through excimer formation. P. Fioriniera, T. Strassner

4:10, Synthesis of luminescent gold(III) cyclometalated complexes. A.N. Sulicva, A. Maity, T. Gray

4:30, Structural and electronic characterization of early stage Magnus-type organocobalt intermediates in the Pauson-Khand reaction via x-ray absorption spectroscopy. J. Geary

4:50, Delocalised chains and rings of ferrocenes. I.E. Wilson, T. Albrecht, N.J. Long

5:10, Selective C8-metatlation of various purine nucleosides. F. Kampert, E.F. Hahn

5:30, Oxidation chemistry of palladium complexes with the smallest steric N-heterocyclic carbene, 1 Me (I Me = 1,3-Dimethylimidazole-2-yldiene). E. Lee

Venue
Placeholder

Main Group Chemistry T. W. Hudnall, Organizer T. Perera, Presiding

1:30, Antimony(III) secondary bonding interactions for anion binding. J. Qiu, A.F. Cozzolino

1:50, Novel reactivity of N-heterocyclic carbene toward one-electron oxidants. E. Lee

2:10, Synthesis and photochemistry of N,N'-diamidocarbene – Supported Sh(V) and Bir(III) chloro complexes for solar fuel production. T.A. Perera, T.W. Hudnall


2:50, Using N-Heterocyclic Olefin (NHO) ligands to advance concepts in main group chemistry. E. Rivard, C. Hering-Junghans, M. Lui, N. Paisley

3:10, Synthesis and characterization of stable emissive radicals and biradicals derived from singlet carbene. R.N. Arias, C. Barragan, T.W. Hudnall

3:30, Flexible nature of the carbodiphosphorane, C(PPH2)3, and its reactivity towards main group alkyl complexes. P. Quinlivan, G. Parkin

3:50 Intermission.

4:00, Hydrostannylation reactions of low valent tin(II) hydrides, [ArSnH3]2 (Ar = Ar4Sn2 or Ar3Sn, Ar4Sn = CH3-H2-6-(2,6-H2-Pri2)] and [Ar2SnH and Pri4SnAr2, Ar2SnH = C2H2-6-H2-(2,6-H2-Pri2)] with acyclic and bicyclic olefins. S. wang, M. McCrea-Hendrick, C.A. Caputo, C. Weinstein, J.C. Fettinger, P.P. Power

4:20, Sterically encumbering N-heterocyclic tetr enes and their reactivity. C. Weinstein, Y. Zhu, G. Bertrand

4:40, Amido and alkyl complexes of magnesium, calcium and stront ium containing highly fluorinated Tp' ligands. N. Romero, Q. Dufrois, C. Dini, M. Etienne

5:00, Synthesis of Lewis acid-stabilized calcium imides. B.M. Wolf, C. Maiche-Mössmer, R. Anwander


Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory
Experimental Characterization
Sponsored by PHYS, Cosponsored by INOR

Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis
Devices, Assemblies & Hybrid Processes
Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

THURSDAY MORNING

Venue
Placeholder

Bioinorganic Chemistry: Proteins & Enzymes & Model Systems

S. A. Koch, Organizer
L. E. Cheruzel, S. A. Toledo, Presiding

B. Mestre, C. Hureau, D.C. Crans
9:20: Organic molecular computational methods.

8:50: Soluble water soluble cationic zinc lysine hydrochloride compound for spontaneous coating of ZnO on biomaterial surfaces. L. Pan
9:30: Designing and crystallographic characterization of trimetallic Cu(II) and dinuclear Zn(II) clusters. M. Shahid, F. Sama
10:10: Electron transfer in intermetallic compounds. P.T. Truong, T.C. Harrop, T.C. Harrop, T.C. Harrop
10:30: Origins of the catalytic proficiency of cytochrome-based artificial metalloenzymes. M. Garcia-Borras, G. Jimenez-Oses, K.N. Houk
10:50: Expanding our understanding of Nickel-Acridinedione Dioxogenase (Ni-ARD) through a family of structural analogues of the resting state of the enzyme. S.A. Toldeo, D. Ivan , A. Sanchez, A.J. Gremillion , S. Sanchez, J.D. Green, V. Lynch
11:30: Structure-function relationships of Mn-containing super oxide dismutases (SOD) studied via quantum mechanical computational methods. J.H. Rodriguez
11:50: Merged heme and non-heme manganese co-factors for a dual anti-oxidant surveillance in photosynthetic organisms. M. Bonchio

Venue

Placeholder

Coordination Chemistry: Synthesis & Characterization

S. A. Koch, Organizer
L. Pan, L. Yang, Presiding
8:50: Water soluble cationic zinc lysine hydrochloride compound for spontaneous coating of ZnO on biomaterial surfaces. L. Pan
9:30: Designing and crystallographic characterization of trimetallic Cu(II) and dinuclear Zn(II) clusters. M. Shahid, F. Sama
10:10: Electron transfer in intermetallic compounds. P.T. Truong, T.C. Harrop, T.C. Harrop, T.C. Harrop
10:30: Origins of the catalytic proficiency of cytochrome-based artificial metalloenzymes. M. Garcia-Borras, G. Jimenez-Oses, K.N. Houk
10:50: Expanding our understanding of Nickel-Acridinedione Dioxogenase (Ni-ARD) through a family of structural analogues of the resting state of the enzyme. S.A. Toldeo, D. Ivan , A. Sanchez, A.J. Gremillion , S. Sanchez, J.D. Green, V. Lynch
11:30: Structure-function relationships of Mn-containing super oxide dismutases (SOD) studied via quantum mechanical computational methods. J.H. Rodriguez
11:50: Merged heme and non-heme manganese co-factors for a dual anti-oxidant surveillance in photosynthetic organisms. M. Bonchio

Venue

Placeholder

Electrochemistry

B. L. Lucht, Organizer, Presiding
N. R. Neale, Presiding
8:20: Effect of surface ligands on CoP for the hydrogen evolution reaction. D. Ung, B. Cossart
9:00: High frequency resistivity: Determining fundamental photoelectrode properties in a complex world. N.C. Anderson, N.R. Neale
9:20: Redox-active deep eutectic solvents. J.C. Goetzl, L.N. Matsushima, D.G. Jones
10:00: Semiconductor-to-metal transition in rutile TiO2 induced by tensile strain. E. Benson, E.M. Miller, S. Nanayakkara, B.A. Gregg
11:00: Electrochemical detection of doxorubicin and salinomycin. J.A. nikles, B.J. McCormick, S. Pan, D.E. Nicholas
11:20: Fluorescence spectroelectrochemistry of integrated anthraquinone-polyether macrocycles. A.G. Sykes

Venue

Placeholder

Solid-State Inorganic Chemistry

C. G. Lagmair, V. Povilaitis, Organizers
J. Brgoch, K. Kovnir, Presiding
8:30: Decoupled electronic and phonon transport in complex chalcogenides: A substructure approach. K. Biswas
8:45: Thermoelectric performance of ZnIn phase Yb2, Eu4, CdSb, exhibiting low thermal conductivity. J. Cooley, P. Promkhan, S. Gangopadhyay, D. Donadio, S. Kauzlarich
9:00: Stabilization of extraordinary off-stoichiometric Bi2Te3 for enhancing n-type thermoelectric performance. I. Chung
9:15: Synthesis, structure, and properties of new Si-As framework compounds. K. woo, J. Dolyniuk, K. Kovnir
9:45: Crystal chemistry and magnetism of complex compounds with Zn-P frameworks. K. Kovnir
10:00: Mg2B4C2 carbaboride as Mg-iron intercalation cathode with redox active anions by first principles calculations. V. Povilaitis, J.D. Davis, M. Johannes
10:15: Elucidating the mechanism of high-rate and high-capacity lithium-ion intercalation in bulk complex transition metal oxides. K.J. Griffith, A. Forse, J.M. Griffith, C.P. Grey
10:30: Internnissum.

10:45: Developing persistent luminescent phosphors for use in point-of-care diagnostics. J. Brgoch, E. Finley, A. Cobb
11:00: Design and synthesis of novel rare earth kagome materials: Applications in geometric magnetic frustration. M.B. Sanders, R.J. Cava
11:15: Development of a low-temperature solvothermal route to a variety of novel iron chalcogenides. J.T. Greenfield, K. Kovnir
12:00: In situ real-time monitoring of mecanochemical ZIF8 synthesis via gas pressure measurements. I. Brekalo, C. Motillo, K.T. Holman, T. Friscic


11:40 Highly controllable syngas (H2 + CO) production through immobilized dual metallic Re(I)/Co(III) catalyst on a ternary TiO2 hybrid system. J. Lee, D. Won, W. Jung, H. Son, C. Pac, S.O. Kang

Section F

Venue

Placeholder

Inorganic Catalysts

S. A. Koch, Organizer
M. T. Kieber-Emmons, X. Zhao, Presiding

8:50 Reactivity of the MoO3S2(DMF) complex with cyanide and catalytic conversion of cyanide to thiocyanate. S.G. Suman, J. Gretsardottir, R. Bjornsson

8:50 Electro- and photolytic hydrogen production catalyzed by molecular Co complexes with pentadentate ligands in aqueous solution. X. Zhao, P. Wang, Y. Sun, L. Duan, M. Long, D. Reese, A. Bab, C. James, G. Liang, C.E. Webster

9:10 Alcoxyxilanes production from silica and dimethylcarbonate promoted by alkali bases: A DFT investigation of the reaction mechanism. V. Butera, Y. Choe, N. Fukaya, J. Choi, K. Sato

9:30 Dehydrogenation of ammonia borane through the third equivalent. X. Zhang, L. Kam, T.J. Williams

9:50 Synthetic approaches for cyclic biodegradable polymers using ligated tin(II) complexes. K. Phomphrai, P. Piromjitpong, P. Wongmahasirikun

10:10 Intermission.


11:00 Lanthanide & Actinide Chemistry Cosponsored by WCC


8:50 Synthesis, structure, and reactivity of complexes containing +2 ions of late lanthanide metals in tris(silylamide) coordination environments, [Ln[N(SiMe3)2]3]+. A. Ryan, J.W. Ziller, W.J. Evans

9:10 Metalation of C–H bonds by Cp2Y(μ-Me)MMe2 (M = Al, Ga). M. Bonath, C. MaicheleMössmer, R. Anwander

9:30 Radical-Bridged Lanthanide Single-Molecule Magnets with High Blocking Temperatures. S. Demir, J.R. Long

9:50 Intermission.


10:40 Structural exploration of trivalent f element-containing species of interest for liquidliquid extraction processes. J.F. Corbey, B.K. McNamara, B.M. Rapko, J.M. Schwantes 11:00 Intermination.

11:10 Optical spectroscopic foray into the redox chemistry of the early actinides. M. Andrews, S. Woodall, A. Swinburne, J. Lloyd, A. Ward, S. Botchway, J.S. Natrajan

11:30 Synthesis and magnetic characterization of trinuclear, radical-bridged lanthanide singlemolecule magnets. C.A. Gould

11:50 Hydroxypyridonate ligands: From iron(III) to kerelium(IV) chemistry. G. Deblonde, D. An, P.B. Rupert, R.K. Strong, R.J. Abergel

Section G

Venue

Placeholder

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugnagir, Organizer

P. Deria, M. C. So, Presiding


8:50 Molecular mechanisms of spin crossover in the [Fe(pz)2[Pt(CN)4]] complex with cyanide. A. Adhikary, J.R. Morris

H. Guan, S. M. Kilyaneck, Presiding

8:30 Palladium POCP-POincer complexes: Catalysis in reduction of CO2 with boranes. A. Adhikary, J.A. Krause, H. Guan

8:50 Using stopped-flow kinetics as a mechanistic probe for the insertion of carbon dioxide into metal-hydride bonds. J. Heimann, N. Hazari

9:10 Role of LiCl in generating soluble organocatalysts. C. Feng, D. Cunningham, Q. Easter, S. Blum

9:30 Filling the gap: Exploration of organoactinide catalysts with amine boranes reveal highly active catalysts and unique structural motifs. K. Erickson, B. Scott, P. Dub, J.L. Kiplinger

9:50 Catalysis, carbon-hydrogen, and carbon-carbon bond activation with NPN Pincersupported group 3 and lanthanide alkyl complexes. D.S. Levine, T. Tilley, R.A. Andersen

10:10 Unexpected proton transfer mechanism in the racemization of lactic acid catalyzed by lactate racemase: A DFT study. B. Qiu, X. Yang

10:30 Mechanism based oligomerization catalysis for upgrading a-olefins to produce specialty fuels and chemicals. T.N. Gunasekara, M.M. Abou-Omar

10:50 Mechanistic studies of the deoxygenylation of polyols by group VI transition metal catalysts. S.M. Kilyaneck, R. Tran, K.A. DeNive

11:10 Isolation of key intermediates in Mo-catalyzed hydrosilylation. K. Mandla, J.S. Figueroa


11:50 Norbornenyl-Acyl-Rhodium(III) complex as a likely intermediate in the catalytic hydroacylation of norbornadiene. M.A. Huertos

M.OF upon guest adsortion. H. Pham, F. Paesani

9:10 Multifunctional MOFs materials platform for biomedical applications. D.F. Sava Gallis, L.E. Rohwer, M.A. Rodriguez


9:50 Topology-Dependent photophysical properties of zirconium-based metal-organic frameworks. P. Deria

10:10 Porous metal-organic magnets exhibiting high temperature magnetic ordering. L.E. Darago, D. Reed, M. Aubrey, E.D. Bloch, J. Zadrozny, J.S. Miller, J.R. Long

10:30 Intermission.


11:05 Isolation of metalloporphyrin dioxogen addsucts in metal-organic frameworks. A. Gallagher, D. Harris, J. Anderson, M. Kelty

11:25 Ultra-sensitive detection of mycoxins by a luminescent metal-organic framework. Z.


12:05 Preliminary electrochemical studies on effects of linker length and metal nodes on redox hopping in layer-by-layer assembled metalloporphyrin metal-organic framework-like thin films. M.C. So, K. Hara, J.T. Hupp, O.K. Farha
metal complexes. P. Bunting, J.R. Long

4:20 , Electronic conductivity and magnetic ordering in mixed-valence M11,2,3-triazolato-(M = CrIII, FeII) metal-organic frameworks. J.G. Park

4:40 , Deconvoluting the relative oxidation states in hexanuclear cobalt clusters. R. Hernandez

Sanchez, A. Champsaur, D. Paley, B. Choi, M.L. Steigerwald, C.P. Nuckolls

Section B

Venue

Placeholder

Inorganic Catalysts

S. A. Koch, Organizer

C. J. Stromberg, Presiding

1:30 , Hierarchical structured TiO2 nanoporous membranes with enhanced flexibility and photocatalytic activity. M. Zhang, J. Song, B. Ding

1:50 , Computational investigations of ruthenium with promoters for Fischer-Tropsch processes. E.N. Brothers, S. Moncho, B.G. Janesko


2:30 , First principles study of sulfamidofurole-olignic acids in the rhodium-catalyzed addition of arylboronic acids to ketones. P. Miro, R. Recio, I. Fernandez

2:50 , Electrochemical Reduction of CO2 Catalyzed by Re(pyridine-oxazoline)(CO)Cl Complexes. j. nganga

3:10 Intermission.

3:20 , One-pot synthesis of Pt nanoparticles supported by Graphene Nanoribbons with enhanced catalytic performance towards 4-nitrophenol reduction. D.A. Martinez, S. Wang, W. Chiang

3:40 Important role of the electrode surface in the electrochemical reduction of CO2 by Nicyclam. A. Zhanalaidarova

4:00 , Copper tungstate microcrystals as photocatalyst for water oxidation under visible light. Z. Wu, F.E. Osterloh

4:20 , Ultrafast dynamics of cyanato functionalized [FeFe]-hydrogenase model compounds. C.J. Stromberg, E.J. Heitweil

4:40 , Selective H2 or formate production from CO2 and water: Mechanistic insights achieved from ligand design. N.D. Loewen, L.A. Berben

Venue

Placeholder

Lanthanide & Actinide Chemistry

Cosponsored by WCC

1:10, F.E. Osterloh

2:10, R. Hernandez

3:10, S. A. Koch, Organizer

C. J. Stromberg, Presiding

1:30 , Lewis acidic amiony: Application as a non-ionic ligand for the activation of platinum catalyst. D. You, H. Yang, F. Gabbai

1:50 , Fluorescent frustrated Lewis pairs for the coordination and functionalization of small molecules. Z.M. Heiden, I.A. Kieffer, R.J. Allen

2:10 , Ambiphilic molecules with (quinolin-8-yl) groups on electrophiles. J. Son, S.R. Tamang, J.I. Fostvedt, J.D. Hoefelmeyer

2:30 , Reactivity of Verkade’s superbase with various strong Lewis acids. S. Mummadu, D. Unruh, C. Kemptner


3:10 , Solvent-free mechanochemical s-block chemistry: When synthesis and reactivity don’t follow the rules. N.R. Rightmire, N.C. Boyle, T.P. Hansa

3:30 Intermission.

3:40 , Direct aromaticity link between Hückel’s rule and closo boron hydride clusters. J. Poater, M. Solà, F. Teixador, C. Viñas

4:00 , Ultrashort beryllium-beryllium distances in molecular clusters. X. Wang

4:20 , Boron-based donor-spiro-acceptor compounds as TADF emitters. A. Lorbach

4:40 , Synthesis and characterization of polyborophospholes, a novel boron doped variant of polyphosphophene. L.A. Brettell-Adams, P. Rupar

5:00 , Novel aminyycle-containing heterocycles synthesized via a Zr-transfer strategy. A.M. Christianson, F.P. Gabbai, E. Rivard


5:40 , Solid, stable, soluble, and stoichiometric oxidizing agents: Hydrogen peroxide and dihydroperoxyalkane adducts of phosphine oxides. J. Bluemel

1:30 , Cationic palladium(II) complexes for the catalytic Wacker-type oxidation of styrenes to ketones using O3 as the terminal oxidant. H. Chai, Q. Cao, L.M. Dornan, M.J. Muldoon

1:50 , Imparting nobility to first-row metal-hydrides: Unusual anionic Ni-H stabilized by Lewis acidic metal supports and their role in catalytic carbon dioxide hydrogenation. R. Cammarota, C. Lu

2:10 , In situ infrared spectroscopy study of iron-catalyzed transfer hydrogenolysis. J.A. Rogers, B.V. Popp

2:30 , Metalloenes adsorbed on silica and activated carbon: Solid-State NMR and catalysis. J. Bluemel, K.J. Cluff


3:10 , Bio-inspired design and computational prediction of iron, manganese and cobalt complexes with pendant amines for the hydrogenation of CO2 to methane. X. Chen, X. Yang

3:30 Mechanistic study of cyclotrimerylation of alkynes via a two-coordinate iron complex. R. Witzke, T. Tilley


Section F

Venue

Placeholder

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, Organizer

C. McGuirk, Presiding

1:30 , Polymer/Metal-organic-framework composite nanoparticle for gas separation: Rational design and theoretical analysis of core-shell structure. K. Xie, Q. Fu, P. Webley, G.G. Qiao


2:10 , Cooperative and reversible chemisorptive capture of carbon

Venue
3,5-dimethylphosphine (MDMPP), bis-(2-methoxyphosphine (MPP) and further structural studies on higher coordinate Au(I) phosphine complexes.

Z. Assefa, K. Brown, G. Agebeworvi, M. Kanipes-Spins, C. Rorie


2:50. Thermolytic molecular precursor methods to germanium-doped single-sites on silica. J.P. Dombrowski, T. Tilley, A.T. Bell


3:50. Intermission.

4:05. Simple method to predict the electronic spin configuration of Fe(II) tris-dimine complexes. H. Phan, J. Huadka, M. Shatruk


4:45. Water confinement properties of monodisperse CdS nanocrystal syntheses via thiocarbonates, thiocarbonates, and thioureas. L. Hamachi, J. Jen-La Plante, G. Cleveland, J.S. Owen

Chlorides of magnesium oxychloride as a fire resistant construction material. R.F. Gochez, C.L. Kitchens


Venue
Placeholder
Chemistry of Materials: Synthesis & Properties

C. G. Lugman, Organizer

B. A. Kilos, L. Vilà Nadal, Presiding


1:50. Study of Pr(III) precursors for focused electron beam induced deposition of Pt nanostructures. H. Lu, J.A. Spencer, Y. Wu, H. Fairbrother, L. McElwee-White

2:10. Long route from hexagonal-AMnO to AMnO. M. Olivier, T. Pussacq, M. Huvé, F. Tessier, H. Kabbour


2:50. Thermolytic molecular precursor methods to germanium-doped single-sites on silica. J.P. Dombrowski, T. Tilley, A.T. Bell


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Chlorides of magnesium oxychloride as a fire resistant construction material. R.F. Gochez, C.L. Kitchens


Venue
Placeholder
NanoScience B. G. Trewyn, Organizer E. Johlin, Presiding

1:30. Monocrystalline nanopatterned films made by nanocube assembly and chemical welding. B. Sciacca, A. Berkhou, M. van Huis, B. Brenny, A. Polman, E. Garnett


2:10. Photovoltage, effective bandgap and photochemical charge transfer in nanoscale transition metal (Cu, Fe, Mn, Ni) doped SrTiO3 photocatalysts. X. MA, E.F. Osterloh

2:30. Semiconductor nanocrystals with compact fluorinated shells. P. Xia, M.L. Tang

2:50. 3D Nanonarture imaging via multi-energy deconvolution SEM. E. Johlin, M. de Goede, B. Sciacca, F. Bougherbel, E. Garnett

3:10. Opportunities and limitations for nanoscale photovoltaics to surpass the Shockley-Queisser limit. S.A. Mann, R. Grote, R.M. Osgood, A. Alu, E. Garnett

3:30. Intermission.

3:40. Metal halide perovskite nanowire arrays for photodetection with significantly improved stability. Z. Fan, L. Gu, M. Tavakoli, A. Waleed

4:00. Exploring of the scope of polaryboranes. M.W. Lee, T. Wang


4:40. Elucidation of synthesis and characterization of non-precious nanoscale mixed metal oxides for green chemistry catalysis. A.M. York, C.A. Cadigan, R.M. Richards

5:00. Carrier selective contacts for nanowire solar cells. S. Oener, A. Cavalli, J. Haverkort, E. Bakkers, E. Garnett