Chemistry 4000: Applications of Modern Organic and Organometallic Chemistry
December 2022

Presentation Guidelines and Expectations

Value: 25% of final grade

- Spelling, grammar, quality and consistency of chemical structures and overall presentation are important and marks will be given or deducted accordingly.
- You will be evaluated on the length of your presentation, speaking (projection, clarity, command of terminology), quality of electronic materials, how questions are answered, and your overall success at conveying the information in a logical and easy-to-understand fashion.

Student Presentations:

- The presentation should be ~20 minutes in length (including ~5 minutes for questions) and will take place on day 11 (December 22nd)
- The material should be presented as though you are teaching it to senior undergraduate chemistry students.
- PowerPoint should be used for the presentation. You are encouraged to supplement your PowerPoint presentation with white board notes/drawings and/or models.
- An electronic copy of your presentation (and any other electronic materials you plan to use) must be submitted no later than 10:00 am on December 22.

Possible Topics:

- Catalytic CO_2 Activation (Joseph Sadighi, Karsten Meyer, Carol Burns)
- C–H bond Activation (John Bercaw, Karen Goldberg, Alex Goldman, John Hartwig, David Milstein, Makoto Yamashita)
- Organometallic Electrochemistry (Bill Geiger)
- Extended Organometallic Arrays/Materials (J. Fraser Stoddart, Dwight Sweigert, George Shimizu, Omar Yaghi)
- N_2 Activation/N_2 Fixation (Mike Fryzuk, Christopher Cummins, Jonas Peters)
- Metal Carbides (Christopher Cummins)
- Olefin Metathesis (Robert Grubbs, Richard Schrock, Amir Hoveyda, Warren Piers)
- Metal–Metal Bonds (esp. quintuple bonds) (Philip Power, F. Albert Cotton)
- Catalytic Hydroamination (Tobin Marks, John Hartwig)
- Frustrated Lewis Pairs (Douglas Stephan, Gerard Erker, Warren Piers)
- Bioorganometallics (Gerard Erker, Chris Pickett, Neil Burford, Chris Orvig)
- Asymmetric Synthesis or Catalysis (Antonio Togni, Barry Trost, Greg Fu, Mark Stradiotto)
- M=E multiple bonding (E = N, P, Si, O, etc.) (T. Don Tilley, Hiaski Hashimoto, Robert Bergman, Greg Hillhouse, Yaofeng Chen)
- Organolanthanide or Actinide Chemistry (Tobin Marks, Karsten Meyer, Polly Arnold, Carol Burns, Jacqueline Kiplinger, Richard Andersen, David Berg, David Emslie)
- Computational Organometallic Chemistry (Tom Ziegler, Tom Woo, Michael Hall, Laurent Maron, Odile Eisenstein)
- Total synthesis of bioactive compounds (Elias J. Corey)
- Synthesis of pharmaceuticals (Christopher J. O'Donnell)
- Photocatalysis (David MacMillan, Prashant Kamat, Abigail Doyle)
- Metals in organic synthesis (Ritter Tobias, Liu Guosheng, Chien-Tien Chen, Laurel Schafer)
- Asymmetric organocatalysis (David MacMillan, Benjamin List)
- Any topic approved by Dr. Hayes