

Teaching Team

- **Instructor:** Keary Engle (keary@scripps.edu)
- **TAs:** Wen-Ji He (wehe@scripps.edu), Annabel Zhang (zizhang@scripps.edu)

Lecture Schedule

- **DAY 1 (4/08):** Strong Inference & Main Group Organometallics
- **DAY 2 (4/10):** Coordination Chemistry: History & Electron Counting
- **DAY 3 (4/15):** Coordination Chemistry: Periodic Trends, Structure, & Bonding
- **DAY 4 (4/17):** Elementary Reactions I
- **DAY 5 (4/22):** Elementary Reactions II
- **DAY 6 (4/24):** Elementary Reactions II
- **DAY 7 (4/29):** GUEST - Ligands Isoelectronic to CO (**J. Figueroa**, UCSD)
- **DAY 8 (5/01):** Carbenes and Other M–C and M–X Multiple Bonds I
- **DAY 9 (5/06):** Carbenes and Other M–C and M–X Multiple Bonds II
- **DAY 10 (5/08):** Principles of Catalysis and Ancillary Ligand Design
- **DAY 11 (5/13):** Catalytic Hydrogenation
- **DAY 12 (5/15):** MIDTERM
- **DAY 13 (5/20):** Catalytic Carbonylation
- **DAY 14 (5/22):** Wacker- and Heck-Type Nucleopalladation
- **DAY 15 (5/23):** Allylic Substitution Chemistry
- **DAY 16 (5/27):** GUEST - Organometallic Chemistry of (Het)arynes (**C. Roberts**, UMN)
- **DAY 17 (5/29):** GUEST - Application, Mechanism and Catalyst Activation in the Real World (**S. Wisniewski**, BMS)
- **DAY 18 (6/03):** GUEST - Decarboxylative Allylic Substitution (**R. Navarro**, Oxy)
- **DAY 19 (6/05):** Catalytic Cross-Coupling
- **DAY 20 (6/10):** GUEST - OM Innovations in Pharma (**D. Le/L. Chen/Z. Chen**, Merck)
- **DAY 21 (6/12):** PROJECT - Wikipedia Page Presentations
- **DAY 22 (6/17):** Olefin Metathesis
- **DAY 23 (6/24):** GUEST - Frontiers in C–H Activation (**J.-Q. Yu**, TSRI)
- **DAY 24 (6/26):** FINAL EXAM

Schedule

- **Day/Time:** Tu & Th, 8:30–10:00 AM (unless indicated)
- **Location:** Keck (CA), A116 (FL), Zoom (<https://scrippsresearch.zoom.us/j/92418444932>)

Grading

- **Participation:** 5%
- **Homework:** 10%
- **Wikipedia Project:** 15%
- **Midterm:** 30%
- **Final:** 40%

Wikipedia Project

- **Overview:** pick a topic relevant to OM chemistry where no suitable wikipedia article exists and (re)write the article (with figures/images)
- **Pick Topic:** by 4/17/25 (e-mail Keary)
- **Article Draft Due:** by 5/15/25
- **Peer Review:** by 5/29/25
- **Final Version:** by 6/6/25
- **In Class Summary:** 6/12/25

Textbooks

- *Organotransition Metal Chemistry: From Bonding to Catalysis* (Hartwig)
- *The Organometallic Chemistry of the Transition Metals* (Crabtree)

April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29	30				25	26	27	28	29	30	31	29	30					

-  Class
-  Guest
-  Test
-  Project