**Moore Group Manual-Abbreviated**

**Purpose and Expectation:** All new Moore group members are required to read the entirety of this document upon arrival; this manual outlines the expectations of all members, new and current alike. This is a living document which the group commits to revisiting at least once a year, or more often as deemed necessary. This document was last updated on March 1, 2022.

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1. Introduction

Breadth of Research

The Moore group is dedicated to the professional development of next-generation scientists and educators who will impact the world with their skills and knowledge. Research in the Moore group is highly collaborative, integrating a broad range of areas including, but not limited to, physical organic chemistry, polymer chemistry and materials engineering. Specific examples include:

1. New mechanophores for force-responsive polymers.
2. Molecular architectures (cages, ladders) with high structural complexity via dynamic covalent chemistry, e.g. alkyne metathesis.
3. Sustainable redoxmers for next-generation redox-flow batteries.
4. Relationship between property and primary sequence in sequence-defined oligomeric and polymeric materials.
5. Transient polymer with stimuli-responsive depolymerization.
6. Frontal ring-opening metathesis polymerization for rapid manufacturing of polymers.
7. Plasma chemistry for molecular transformations

Diversity Statement

We strive for diversity in our make-up and outlook. We welcome and respect people of all races, ethnicities, countries of origin, religious beliefs, genders, sexual orientations, and abilities. Diversity is a boon to any group of thinkers that value logic and creativity, and as such we will not tolerate harassment or hateful speech on the basis of the above categories. We feel that a positive and helpful environment is vital to promoting diversity. We hold regular discussions in our group meetings around race, identity, and unnecessary stressors in the research space among ourselves and in our communities. We advocate for dismantling systemic barriers to higher education in STEM including standardized test scores and admission fees. We listen to, and work to amplify the voices of BIPOC and other underrepresented minorities, especially regarding issues of race and inequality, to improve the scientific community. In this context, we strive to put our words into actions, discussing and reflecting upon diversity equity and inclusion and endeavor to put at least one positive change into our community each year. For example, in 2019 we supported a motion to the college of Liberal Arts and Sciences (LAS) to remove GRE testing requirements for application to the graduate program. Group members have also won awards for being an inclusive leadership award. We challenge future Moore group members to continue to fight for positive changes in our community.

Mentoring Statement

Jeff meets regularly with graduate students, undergraduate students, and post-doctoral scholars, both during group meeting and one-on-one to facilitate their diverse career goals and their growth as independent scientists capable of driving their own projects. We recognize that no single mentoring style exists, and that Jeff is flexible with the mentoring needs of the individual researcher in the group. This requires members of the Moore group who can design creative experiments and digest and critically evaluate the literature; equally important are topics related to safe working environments and research ethics. Jeff also strives to create an environment where mentorship is performed by everyone in the lab according to their level of ability; mentoring is a shared activity. This givesstudents and post-doctoral scholars valuable experience and ensures good information flow in the group. On average, our lab mentors 10 undergraduates from a wide range of majors, per semester. Mentorship within the Moore group continues even after you leave. In 2020, group alumni, both from industry and academia, volunteered to share their life experiences outside of the Moore group and discuss their experience of both entering the job market and lessons learned along the way. Moore group members are encouraged to seek outside mentorship experiences as well, whether that is in the form of a collaboration, an internship, a seminar, or an outreach opportunity. **All members of the Moore group (Jeff included) are expected to learn and grow during their time at Illinois.**

Mission Statement

In the Moore group, we believe that ***it’s all about the delta.*** Progress is never a straight line, but every day in the Moore group is an opportunity to grow. We succeed not only as individuals, but also as a group. We understand the importance of a positive work environment and constantly work to better ours. We focus on putting people first with core values built around equality, inclusivity, diversity, honesty, and mutual respect. We encourage creative freedom as an invaluable tool to grow as scientist and ultimately, we persevere through failure, learn from mistakes, and aim to be a positive change for the future.

Shared Values

Collaboration, Curiosity, Equality, Diversity, Inclusion, Creativity, Honesty, Integrity, Mutual Respect, Progress, Innovation

2. Workplace Expectations

Expectations of Jeff

Jeff’s role in the group is to support and provide guidance to scholars, both in the context of their research as well as professional development. Jeff’s role is also to help researchers prepare for their desired field of work upon departure from the group. Jeff is expected to meet with the graduate students and postdocs at least as frequently as they deliver group meeting (approximately once every three to five months). **Students are encouraged to request additional meetings with Jeff if and when needed** to discuss topics including but not limited to research, career development, and group businesses. Jeff may direct students towards funding opportunities, conferences, job opportunities, and help students prepare for their desired career.

Expectation of all trainees

Members of the Moore group are expected to develop their own academic and career objectives, while supporting one another’s goals. Group members commit to be hardworking, collaborative, and conscientious. Trainees are expected to set their own academic and career goals, explore academic (awards, fellowships, and conference presentations), employment (exchange program and industrial internship), and outreach opportunities, track and report their progress, and consult with Jeff when necessary. The Moore group values the quality of results and the thoughts behind it, not time spent in the lab. Hours will not be counted so long as you are making sufficient progress. **Work in the lab, don’t live in the lab.**

The Moore Group also values teaching/education duties. Trainees are expected to collaborate with group members as well as other researchers on and off the campus. Graduate students and postdocs are welcome to explore teaching opportunities. Previous Moore group members have successfully taught classes across the University and in other local institutions, if interested, talk to Jeff about opportunities. Members are expected to maintain an orderly workspace, process and backup data in a timely manner, report on research progress to the group, and publicize their results via conferences and journal publications. **Finally, be patient and healthy (mentally and physically), enjoy the process of learning and be willing to overcome challenges in your research and in your daily life**. Be humble and respectful regardless of the degree you hold or the time you’ve spent in the lab.

Trainees are encouraged to follow four main principles: to not blindly trust their advisor, to fail early and often, to ask for help when they need it, and to “be the delta (change)” they want to see in the world.

1. *Do not blindly trust your advisor* because Jeff shares many ideas with the expectation that students will identify the most reasonable and feasible to test. Do not be afraid to disagree with Jeff, but do be prepared with evidence and good reasoning.
2. *Fail early and often* because the scientific research experience (e.g., research, presentations, collaborations) is filled with opportunities for growth. Never be afraid of making mistakes, but be sure to learn from them!
3. *Ask for help when needed;* you are surrounded by supportive and talented coworkers that want to see you succeed. Asking for help is not indicative of lacking intelligence, being unprepared or unable to succeed, it is an integral part of building trust in a team and of the learning process! Recognize that asking for help also requires your commitment. Be willing to meet someone halfway when asking for their help.
4. *Be the (Moore group) delta you want to see in the world;* discuss your work with others. Start a revolution. Call people out on their biases. Challenge yourself to be comfortable with uncomfortable situations. Correct people respectfully when they are wrong. If you see something you want to change within the Moore Group, the scientific community, or the shared experience we call life, take the first step.

Expectation for postdocs

Postdocs are a group of experienced scholars in specific fields. They are expected to initiate their own projects, mentor junior researchers, and to establish new collaboration with other research labs or facilities. Postdocs are expected to actively engage and provide feedback in group functions (e.g., group meeting, prelim practices, and ORPs). Some will be also heavily involved in writing proposals, funding applications, renewals, reports, variety of group business, and voluntary teaching assignments. Postdocs are expected to be group leaders that are productive and respectful to everyone within and outside of the group.

Expectation for graduate students

In addition to the expectations listed above for all trainees, graduate students are expected to transition from a knowledge consumer to a knowledge communicator over their time in the group. The first few semesters will consist mostly of knowledge consumption in the form of classes and instrument training. With dedication, curiosity, and guidance from mentors, students will learn to lead their own projects, produce meaningful work, and obtain other professional skills including proposal writing and scientific communication. Graduate students are expected to follow the department degree requirements and take an active role in their career planning.

Expectation for undergraduates

Undergraduate members of the Moore are expected to be motivated and curious as they seek to develop research experience. All undergraduates will be assigned to a graduate or postdoc mentor, with whom they will work closely. Expectations for work by the undergraduate will be set ahead of time in discussions with their mentor. Mentors are responsible for making sure their undergraduate does not overwork, as the primary focus for undergraduates is classes, not research. Undergraduates will never work in lab without supervision of a senior researcher. Most undergraduates will assist their mentor in the completion of a research aim. Independent research can be arranged after the undergraduate has exemplified a strong research capability and has discussed the goals of this project with their supervising mentor. The long-term goal is to have them develop their own ideas and contribute to research, not just do manual/repetitive work. Undergraduates are expected to bring a willingness to learn, they are not expected to already possess laboratory and research skills.

Mentorship expectations

Mentorship is crucial to the continuation of quality research within the group and the scientific community. Expectations and goals for the relationship should be discussed and agreed upon early and often. A mentor is expected to ensure that their mentee is conducting research in a safe manner and has the resources to accomplish the set goals. Adjustment of goals based on the progression of the project or the abilities of the mentee will often be necessary. A mentor does not use a mentee for remedial labor, but aids in the development of a researcher that can both complete and understand scientific investigations (the mentee is not expected to start with these traits). Mentors should encourage idea development and ask for criticism. In summary, a mentor is a role model that embodies trust, guidance, and humility in the goal of molding future and current researchers.

Well-Being

We are committed to being great scientists and healthy well-rounded individuals. Therefore, we value a positive well-being inside and outside of the lab. **We also encourage lab mates to look out for each other. We encourage participation in self-care activities**.