Computational Mechanics and Optimization Laboratory
Research Documentation and Coordination

Calendar

To coordinate our schedules for the purpose of scheduling one-on-one and group meetings, every group member, including myself, must keep their Notre Dame Gmail calendar up-to-date. The calendar does not need to cover all of your time, but should minimally include your class schedule and travel. My calendar will include my teaching schedule, office hours, travel, and other miscellaneous commitments.

Google Group

There is a Google Group for the Zahr Research Group that I will use to communicate with the entire research group, e.g., coordinate group meetings, activities, or news. Email me if I have not already added you to the group.

Project website

Each major project in the CaMOLab will have its own private website, only visible to CaMOLab members and editable by those affiliated with the project. This website will contain all relevant information for the project, including but not limited to: 1) the researchers associated with the project (CaMOLab members and collaborators), 2) notes on background material, regardless of whether developed in CaMOLab or by third party, 3) relevant literature, 4) project milestones, 5) polished results, and 6) papers, publications, and posters associated with the project (PDF only, not entire TeX directory). For clear documentation of the status of the project, it is paramount to keep this up-to-date. Whenever you extend the project, either through a new study or by advancing the underlying method, it is important to update the project website. That being said, the website is reserved for *polished* results, as opposed to preliminary tests and hunches (these are also important to document, but should go in your research journal and only be moved to the project website once polished). When contributing to the project website, be sure to adhere to the formatting standards established.

Research journal

Experimentalists are meticulous about keeping a detailed research journal due to the time and cost associated with running experiments; however, I have found that computationalists rarely do so. This lack of formal research documentation is an enormous missed opportunity because thoughts and results will quickly become disorganized, leading to redundant work and uncertainty in conclusions reached. Formal research documentation that is updated daily will also greatly help in your preparation of papers and talks because you will have documentation of what works, what doesn't work, and what still needs to be checked/tested.

Therefore, I expect you to keep a detailed research journal in the form of slides using the template available in the CaMOLab resources repository. Unlike the project website that will be visible to all members involved in a specific project, this will be kept confidential between the two of us. Our bi-weekly meetings will begin with a discussion of your progress and findings over the previous two weeks and your journal will help guide the discussion. You should include both research activity, e.g., code and papers written, papers read, and numerical experiments ran, as well as research results, e.g., numerical experiments and their output and conclusions. To increase productivity, do not spend time to polish the results, but still include readable plots and tables so we can draw conclusions. Keep the code that was used to generate numerical results *clearly organized and dated* so we can re-visit those experiments. Always note the codebase and the Git commit number used to generate the results so we can easily revert to a previous version of the code and reproduce the experiment. It is also critical to be sufficiently detailed without spending too much time/effort updating your journal. Finally, be sure to write in your journal *everyday* to avoid getting behind. At each of our bi-weekly meetings, we will add slides that summarize our meeting and clearly spell out action items. This will ensure we are both accountable to follow up on the action items and will give us a solid place to begin our next discussion.