

NEUroscience Research in Occupational therapy

NeuRO Lab Manual

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Welcome

Welcome to the NeuRO lab, directed by Dr. Jewel Crasta. Our research team operates under the School of Health and Rehabilitation Sciences program at the Ohio State University, Columbus campus. We are comprised of thoughtful and motivated individuals who are interested in research within the field of Occupational Therapy, specifically in children with neurodevelopmental differences such as autism. Our team values collaboration, communication, and support as we work together to explore novel concepts in Occupational Therapy. The following manual outlines our team (roles and responsibilities), our research focus, lab expectations/policies, and team operations. Please review our lab manual and let us know if you have any questions.

“This manual borrows heavily from the following sources. We thank these labs for making their manuals publicly available.”

- Dr. Brittany Hand, PhD, OTR/L's Lab Manual <https://u.osu.edu/hand.58/files/2020/10/Han...>
- Jessica Schleider, PhD's lab manual for the lab of Scalable Mental Health: <https://osf.io/pwnsm/>
- Dr. Chris Beevers' Mood Disorders Laboratory Manual: <http://dx.doi.org/10.26153/tsw/2169>
- Dr. Mariam Aly's Aly Lab Manual: <https://github.com/alylab/labmanual/blob/master/aly-lab-manual.pdf>
- Dr. Maureen Ritchey's Memory Modulation Lab Manual: <https://github.com/memobc/memolab-manual#introduction>

Our Focus Area

With a background in Occupational Therapy, the NeuRO lab focuses on examining the relationship between attention and sensory processing in children and young adults with autism spectrum disorders. We use neuroimaging tools such as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) along with performance-based measures. Other areas of focus include identifying active ingredients in routine occupational therapy interventions for children with autism and the role of engagement as an active ingredient.

Roles and Responsibilities

Research Team Expectations

Every Individual on the research team is expected to conduct themselves professionally and respectfully. Our goal is to support a safe environment for open communication, collaboration, and integrity. We must monitor our verbal and nonverbal contributions and make sure they are all constructive, purposeful, and respectful of all. Any issues concerning this should be communicated to Dr. Crasta.

- We have a zero-tolerance for discrimination of any kind and adhere to OSU's non-discrimination policy:
 - <https://equity.osu.edu/sites/default/files/policy110-non-discrimination-notice.pdf>
- We use respectful inclusive language, and do not tolerate hateful speech
- We always practice professionalism
 - Arrive at meetings on time or early
 - Communicate as soon as possible if you will be late or absent
- Be prepared
 - Find an organizational system that works best for you
 - There are typically multiple projects going on at once; try to balance your time accordingly
 - Reach out to peers or Dr. Crasta if you are struggling
- Respect deadlines
 - Communicate with Dr. Crasta as needed regarding deadline changes, extensions, etc.
- Report
- Respect differing opinions and engage positively in constructive criticism
 - Respect mentor/seniority feedback
 - Accept constructive criticism with thanks and work to implement it
 - Always assume positive intent
 - Offer critiques of team members' work with respect and in a manner that is conducive to the betterment of the science

We take pride in our research and value the population it aims to serve. It is our duty, as a team, to work together to achieve the highest standard of research possible. This can only be

done through effective collaboration; we encourage all members to ask for help when they need it, and for our team to always foster an environment of growth and learning.

- Our team strives to produce high-quality work. Please always take your time and do not rush on an assignment just to meet the deadline.
- Adhere to the university's academic integrity policy- failure to do so has serious consequences and could result in removal from the university. Further detail is provided in the Academic Integrity section of this manual.
 - Never take credit for work that you did not do
 - Always cite your sources
 - Do not alter or fabricate data
- Be a “team player”
 - Make sure all feedback is meaningful and respectful
 - Help team members find and use resources that may be helpful
 - Always appreciate every member’s contribution to the team

Day-to Day Expectations

- Wear appropriate clothing, typically business casual, to lab meetings and anytime you are working on research in person. For more formal occasions such as conferences, you are expected to dress in professional clothing (nice dress or slacks and a blouse).
- To help prevent the spread of COVID-19, if you are feeling sick or have had any contact with a symptomatic individual, please let Dr. Crasta know as soon as possible and do not come in person to any lab meetings or events. We will happily accommodate and Zoom you in.
- Any time we meet in person, you are expected to wear a surgical face mask. Your mask must cover your nose and mouth at all times, except when taking a quick drink of water.
- If you are working in a University or Medical Center space, please remember to clean up the area after you leave. These are often shared spaces, and we are there as a guest, so please be respectful!

- Do your best to keep up and stay on task with your individual responsibilities. These may include:
 - Data collection
 - Literature review
 - Writing and editing manuscripts in preparation for publication
 - Preparing material for team meetings

Principal Investigator and Lab Director

- Provide supportive, thoughtful, and individually tailored scientific and professional guidance, appropriate to your training level.
- Prioritize each team members' growth as a scientist. This involves laying out opportunities (usually more than the team member could reasonably pursue) to contribute to ongoing projects; apply for funding and awards; and take ownership of new ideas. She will do her best to serve as a support, guide, and collaborator on team members' work—but she will not micro-manage it. Ultimately, the onus is on the team member to see ideas through to completion. This means that, while significant support is available, trainees do a large amount of work independently.
- Provide feedback on scientific products (abstracts; papers; pre-registrations; etc). Usually, this means within a week, unless Dr. Crasta is tied up with other commitments. She will let team members know when this is the case.
- Be readily available to discuss research, lab-related, and professional development-related topics.
- Maintain a vision for where the team is going and provide thoughts as to where our field is headed.
- Welcome feedback from team members at all stages of their training on how to improve our team's communication, productivity, and supportiveness.
- Help team members prepare for whatever comes next for them.
- Provide doctoral students with feedback about their performance on an annual basis. If any issue requires attention, Dr. Crasta will provide feedback as soon as possible, and the challenges will be addressed collaboratively.

Doctoral Students

- Develop your ideas for your semester paper. Identify the “big-picture questions” you would like your research to address and relate to the purpose of our lab.
- Doctoral students enter our program with a variety of experiences, skills, and growth areas. Dr. Crasta will work with you to construct a set of research opportunities that make sense for you, build on your strengths, and that align with your goals. Keep in mind that, even within our team, no two students’ trajectories will look the same.
- Your research will be done both independently (with substantial feedback and support) for your paper and in collaboration with team members for the research.
- Talk to Dr. Crasta early and often about your professional goals. Spend time thinking about and talking through what kind of career you would like—e.g., whether you would like a career within versus outside of academia (and, if within academia, what type of setting you would prefer). This will allow Dr. Crasta to help you seek out opportunities best-fit to your goals. (Note: If you are interested or potentially interested in an academic career, it will be helpful to prioritize research as much as is feasible).
- Discuss program milestones (per the OSU OTD Division Student [Handbook](#)) with Dr. Crasta at least once per semester to ensure you are on-track to complete them.
- Seek out funding/awards when possible (e.g., Gibson Research Award via CCBBI)
- Remember that Dr. Crasta and the team are very excited to have you on our team. Your perspectives and insights are invaluable.

Research Assistants

Our research students include Ohio State University undergraduate students and graduate students in the Doctorate of Occupational Therapy program.

The Primary Functions of Research Assistants include:

- Preparing for weekly meetings including reading assigned articles or watching assigned videos.
- Attending weekly meetings.

- Assisting Dr. Crasta in data collection. Students learn about the EEG system and setup, data collection procedures and informed consent to help aid in the project procedures.
- Seek out professional development opportunities, goals and opportunities. A portion of the lab meetings are dedicated to professional development, students are encouraged to propose professional development topics of interest.
- Complete a literature review on a topic of their choice. By the end of the semester, students will have completed a formal literature review pertaining to their research interests.

Meetings

We typically will meet in Atwell, but occasionally will meet in McCampbell Hall if we are working with EEG equipment. All team members are expected to arrive on time and ready to discuss individual updates. Some weeks Dr. Crasta will assign an article for us to discuss during the lab meeting. All team members are expected to have read and made notes prior to the lab meeting. All are expected to be engaged and actively participate in the discussion.

Individual Meetings

Additional meetings may be necessary for students to discuss individual projects and tasks with Dr. Crasta. If this is the case, let Dr. Crasta know as soon as possible, and she will be happy to help determine a time that works for both individuals.

Academic Integrity

Our team, and the Ohio State University, is strongly committed to maintaining a standard of academic integrity. As such, we have a zero-tolerance policy for academic/scientific misconduct of any kind, including plagiarism, falsification, or fabrication of data. Participating in such activities will result in serious disciplinary action by the university's committee on academic integrity and misconduct (COAM) and may result in a penalty as severe as dismissal from the university. It is **your responsibility to be up-to-date and aware** of the university's policies related to academic integrity, available at: <https://trustees.osu.edu/bylaws-and-rules/code>

Searchable document:

https://trustees.osu.edu/sites/default/files/documents/2019/08/CodeStudentConduct_0.pdf

The importance of your commitment to academic integrity cannot be emphasized enough. Participating in academic misconduct of any kind is a disservice to not only yourself, but also your colleagues, the subjects of your research, and The Ohio State University. If you have questions or are unfamiliar with any university policies related to what constitutes academic misconduct, please contact Dr. Crasta. It is much better to ask a question and avoid falling into academic misconduct than to not ask and find yourself in a very difficult situation. Please know that as a team we support each other in maintaining our standard of academic integrity.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- Committee on Academic Misconduct web page (go.osu.edu/coam)
 - Ten Suggestions for Preserving Academic Integrity (go.osu.edu/ten-suggestions)
 - Eight Cardinal Rules of Academic Integrity (go.osu.edu/cardinal-rules)

Human Subjects Research

All research procedures of NeuRO Lab are reviewed and approved by Ohio State University's Institutional Review Board ([IRB](#)).

The Human Research Protection Program is responsible for all Ohio State research involving human subjects. The HRPP's primary responsibility is to protect the rights and welfare of human research subjects, in accordance with Department of Health and Human Services (DHHS) and Food and Drug Administration (FDA) regulations.

For more information, please visit OSU's Office of Responsible Research Practices' [Human Subjects page](#).