LAB MANUAL

(Auditory Aging)

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We are dedicated to providing an inclusive environment that values diverse backgrounds and experiences. We aim to empower all team members, colleagues, clients, and other people we work with regardless of gender identity or expression, sexual orientation, religion, ethnicity, age, socio-economic background, neurodiversity, disability status, citizenship, or any other aspect which makes them unique.

If you are aware of or are experiencing harassment of any kind, please either bring this to my attention and/or reach out to the vice president research (Allison Sekuler) or another trusted principal investigator at the Rotman Research Institute.

Contents

1. Introduction

1.1. Purpose of the lab manual

This document summarizes my expectations for students and trainees, outlines my role as a supervisor, describes my research philosophy, and details aspects of how the lab works. This is a combination of a practical guide and a statement on how I would like the lab to run. It is my hope that this outline will help us collectively contribute to the overall goals of the group, help you to successfully complete your degree or program, and work towards your career goals. **When you join the lab, you are expected to read this manual and sign the form at the end of the manual, indicating that you have done so.**

This lab manual is licensed under a Creative Commons Attribution - NonCommercial 4.0 International License. If you are a PI or a trainee in a different lab and want to write your own lab manual, feel free to take inspiration and text from this one.

This is a living document and will be adapted as necessary to accommodate changes in the lab, policies, or research. I am always open to your suggestions regarding updates to this manual.

1.2. About the Lab

We are part of the Rotman Research Institute at Baycrest Health Sciences. All lab members except collaborators will be members of the Rotman Research Institute as well. I am also affiliated with the Department of Psychology at the University of Toronto via which we recruit, support, and supervise graduate students.

The lab's research aims to understand how we engage in listening and communication as we age and why some people who are hard of hearing disengage from social, communication-mediated activities. We focus on how sounds are encoded in sensory systems, how cognitive processes support listening under challenges, and how sensation and cognition interact to shape listening experiences. We aim to develop better knowledge of the changes in neural circuits associated with aging and hearing loss that lead to adverse listening experiences and disengagement. We tackle these questions from different perspectives ranging from mechanistic neurophysiology to listening experiences in real social situations. We utilize a wide range of methods including electroencephalography, magnetoencephalography, eye-tracking, pupillometry, functional imaging, and psychophysics.

While strongly rooted within the auditory domain, I would like lab members to be broadly inspired by other research areas as well. Intersections with other, new disciplines often lead to exciting and novel research avenues.

2. Equity, Diversity and Inclusion (EDI)

2.1. Statement

We are dedicated to providing an inclusive environment that values diverse backgrounds and experiences. We aim to empower all team members, colleagues, clients, and other people we work with regardless of gender identity or expression, sexual orientation, religion, ethnicity, age, socio-economic background, neurodiversity, disability status, citizenship, or any other aspect which makes them unique.

2.2. Guiding principles

The lab is committed to implementing practices to facilitate equity, diversity, and inclusion (EDI). As a member of the lab, you are expected to support and contribute to best EDI practices outlined here (and in other places). I encourage all lab members to reflect upon topics and areas related to EDI. How can we improve on lab EDI? What are the barriers that exist and prevent you from being your best? How can we implement research strategies to better represent people from all background in our research?

The lab follows guidelines to facilitate EDI:

- We are committed to diversity in the composition of the lab, and I am excited about the research excellence this affords. This includes, but is not limited to, continuously revisiting and refining hiring practices: Facilitation of applications from people with different backgrounds; elimination (as much as possible) of the influence of unconscious bias during interview and selection.

- We are dedicated to treating everyone fairly and uniquely in line with their needs. This includes, but is not limited to, providing all lab members with chances and opportunities to grow, and working with and for you to overcome barriers that my keep you from making use of them.

- We are committed to providing an environment in which everyone feels comfortable to bring and express their unique identities, to offer opinions, views, and ideas without reservations, and to ask for help and support if needed (scientifically or otherwise). This will include, but is not limited to, continuously evaluating lab practices (e.g., does the way we communicate exclude someone?) and improving them.

- We aim to provide training and a forum for discussion and reflection on issues surrounding EDI. We will use lab meetings from time to time to read and discuss papers focusing on selected EDI topics. Training is also provided at the Rotman Research Institute and Baycrest. Please talk to me if you have further ideas about how to facilitate EDI awareness and skills in the lab.

Issues surrounding EDI require attention and revision of practices. This is best lived through all lab members by contributing, learning, and understanding. Working in the lab is thus more than learning about science and research, but is also actively engaging in our small community to make work experiences fulfilling and fun. I am dedicated to facilitating EDI in the lab and encourage all lab members to help me facilitate.

2.3. Reading materials

I encourage you to familiarize yourself with EDI, its barriers, and how to overcome barriers. The following two books provide well-written overviews about EDI in non-academic (Brown 2016) and academic settings (Steward & Valian 2018). Both are well worth reading.

- Brown J (2016) Inclusion: Diversity, the new workplace & the will to change. Publish Your Purpose Press. USA
- Steward AJ & Valian V (2018) An inclusive academy: Achieving diversity and excellence. The MIT Press. USA

3. Expectations and Roles

I supervise volunteers, undergraduate projects, master's students, doctoral students, and postdoctoral scholars. My role as supervisor varies according to the specific role of the trainee. Below are some specifics with respect to my role and the expectations and roles for each category of trainee. Many of these things overlap (e.g. attendance at lab meetings is expected for many trainees) but in other cases the expectations are specific (e.g. senior PhD students are often expected to play a supervisory role with respect to undergraduate students).

3.1. Everyone

Science is hard. But it is also fun. We want to make sure that everyone experiences a positive, engaging, hostility-free, challenging, and rewarding lab environment. To maintain that environment, we all have to do a few things:

- Work on what you are passionate about, work hard at it, and be proud of it.
- Scientists have to be careful. Do not rush your work. Think about it. Implement it. Double and triple check it. **Incorporate sanity checks**. Ask others to look at your code or data if you need help or something looks off. It is ok to makes mistakes, but mistakes should not be because of carelessness or rushed work.
- If you do make a mistake, you should definitely tell your collaborators (if they have already seen the results, and especially if the paper is being written up, is already submitted, or already accepted). We admit our mistakes, and then we correct them and move on.
- It is never ok to plagiarize, tamper with data, make up data, omit data, or fudge results in any way. Science is about understanding the world better, and null and unexpected results are still important. This cannot be emphasized enough: no academic misconduct!
- Be independent when possible, ask for help when necessary. Try to figure out and problem-solve things on your own, but also learn when to ask for help so that you do not get stuck. We are collaborative and supportive, but try googling first by yourself.

- Work towards proficiency in Unix, Matlab, Python and/or R. Honing your programming skills is a must in the lab (for graduate students and postdocs). This will enable you to analyze data better, more efficiently, and in new ways (the coolest tools may not be readily available in any available toolbox), while also reducing the likelihood of making mistakes. Programming skills is also a really good skill for non-academic jobs.
- Support your fellow lab-mates. Help them out if they need help (even if you are not on the project) and let them vent when they need to. Science is collaborative. Help others, and you can expect others to help you when you need it.
- Respect your fellow lab-mates. Respect their strengths and weaknesses, respect their desire for quiet if they need it, and for support and a kind ear when they need that. Respect their culture, their religion, their beliefs, their sexual orientation, and any other aspect which makes them unique.
- If you are struggling, tell someone (feel free to tell me!). Your health and happiness come first. The lab looks out for the well-being of all its members. We are here to help. It is ok to go through hard patches (we all do), but you should not feel shy about asking for help or just venting.
- If there is any tension or hostility in the lab, something must be done about it immediately. We cannot thrive in an environment we are not comfortable in, and disrespect or rudeness will not be tolerated in the lab. If you do not feel comfortable confronting the person in question, please come talk to me. Come to me in any case.
- If you have a problem with me and you are comfortable telling me about it, please do! I will listen carefully. If you are not comfortable, then tell a trusted lab member (for smaller issues) or another member of the Rotman Research Institute (for more serious issues).
- Read, read, read. It is important to stay up to date on the latest research. This will help you with generating new ideas. Also consider following scientists in the field on Twitter.
- We like to do good science and have fun; at the same time, but also separately. Have a life outside of the lab, take care of your mental and physical health, and do not ever feel bad for taking time off work.

There are a few day-to-day things to keep in mind to keep the lab running smoothly:

- If you are sick, stay home and take care of yourself, because you need it, and also because others do not need to get sick. If you are sick, reschedule your meetings and participants for the day (or the next couple of days) as soon as you can.
- You are not expected to come into lab on weekends and holidays, and you are not expected to stay late at night. You are expected to get your work done (whatever time of day you like to do it).
- Show up to your meetings, show up to run your participants, show up to your classes, and show up to lab meetings. You do not have to be in at 9am every day – just show up for your commitments and work the hours you need to work to get stuff done.

- We share lab space at the Rotman Research Insitute, and we strive to be good members of the RRI community. Keep the lab tidy. Put lab equipment back where you found it. Keep common areas uncluttered.
- Dress code is casual (and you can dress up if you want!) but not **too** casual. When interacting with participants or presenting your work, do not wear pajamas and sweatpants – but regular clothing is totally fine. Use your judgement of what is appropriate when interacting with participants or presenting your work.
- Be on time. Especially when you are running participants – in fact, show up 15-20 minutes early to set everything up. And be on time for your meetings: respect that others have packed days and everyone's time is valuable.

3.2. PI, me

My primary role is to be the lab's director. In this capacity, I provide supervision, guidance and advice. It is important to note that outside of your research project, my ability to guide and advise is intimately related to your own personal goals. The more open and transparent you can be with respect to your long-term goals, the more helpful I can be in making sure you are optimally prepared to pursue them. I will endeavor to set the research agenda for the lab and will strive to create a culture where all ideas and suggestions are valued.

You can expect me to:
- Care about your emotional and physical well-being and your happiness
- Support you (scientifically, emotionally, financially)
- Support you in your career development, including writing letters of recommendation, introductions to other scientists, conference travel, and promoting your work as often as possible
- Give my perspective on where the lab is going, where the field is going, and tips about surviving and thriving in academia
- Help you prepare for the next step of your career, whether it is a post-doc, a faculty job, or a job outside of academia
- Give you feedback on a timely basis, including feedback on project ideas, conference posters, talks, manuscripts, figures, grants
- Make the time to meet with you regularly and talk about science.
- Obsess over font choice, layout, and graphic design – i.e., the aesthetics of work-related things

3.3. Postdocs

All of the above ("Everyone" section), and you will also be expected to …
- Develop your own independent line of research
- Help train and mentor students in the lab (both undergraduate and graduate) when they need it – either because they ask, or because I ask you to.

- Help with minor organizational work in the lab (e.g., organize lab meetings, order lab supplies, etc.)
- Present your work at departmental events, at other labs (if invited), and at conferences.
- Apply for grants/funding (e.g., CIHR fellowship, etc.). Though I will only hire you if I can support you for at least one year, it is in your best interest to get experience writing grants – and if you get them, you will be helping out the entire lab as well as yourself (because you will free up funds previously allocated to you).
- Contribute to knowledge translation and public outreach activities
- Apply for jobs (academic or otherwise) when you are ready, but no later than the beginning of your 4th year of post-doc. If you think you would like to leave academia, that is completely ok – but you should still treat your post-doc seriously, and talk to me about how to best train for a job outside academia.
- **Challenge me (Björn)** when I am wrong or when your opinion is different, and treat the rest of the lab to your unique expertise. Telling me when I am wrong or where I could improve helps me to facilitate the lab and all our members. I will listen carefully.

3.4. Graduate students

All of the above ("Everyone" section), and you will also be expected to …

- Develop your dissertation research. Your dissertation should have at least 3 substantial experiments that answer a big-picture question that you have. Much of your work has to be done independently, but remember that others in lab (especially me!) are there to help you when you need it.
- Help mentor undergraduate students in the lab when they need it – either because they ask, or because I ask you to. Undergrads can also help you collect data.
- Help with minor organizational work in the lab (e.g., organize lab meetings, order lab supplies, etc.)
- Present your work at departmental events, at other labs (if invited), and at conferences.
- Apply for grants/funding (e.g., OGS, NSERC, etc.). It is a valuable experience, and best to get it early.
- Contribute to knowledge translation and public outreach activities
- Think about what you want for your career (academia – research or teaching, industry, science writing, something else), and talk to me about it to make sure you are getting the training you need for that career.
- Make sure you meet all departmental deadlines (e.g., for your exams and thesis) – and make sure I am aware of them!
- **Prioritize time for research.** Coursework and TAing are important, but ultimately your research gets you your PhD and prepares you for the next stage of your career.

3.5. Undergraduate students

All of the above ("Everyone" section), and you will also be expected to…

- Assist other lab members with data collection and analysis (unless you are working on your own independent project under the mentorship of another lab member, in which case you should work on that).
- Develop your weekly schedule by talking to your graduate student mentor or your post-doc mentor. You should come in every week and schedule enough time to get your work done.
- If you are earning course credit for research, you must also attend lab meetings when your schedule permits, present at one of these lab meetings, and submit a write-up of your research by the end of the semester.

4. Code of Conduct

4.1. Essential policies

The lab, and the institution, is an environment that must be free of harassment and discrimination. All lab members are expected to abide by the Rotman Research Institute and Baycrest policies on discrimination and harassment.

The lab is committed to ensuring a safe, friendly, and accepting environment for everybody. We will not tolerate any verbal or physical harassment or discrimination on the basis of gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, religion, or any other aspect which makes us unique. We will not tolerate intimidation, stalking, following, unwanted photography or video recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. Finally, it should go without saying that lewd language and behavior have no place in the lab, including any lab outings.

If you notice someone being harassed, or are harassed yourself, tell me immediately. If I am the cause of your concern, then reach out to the vice president research (Allison Sekuler) or another trusted principal investigator at the Rotman Research Institute.

4.2. Taking photos and videos

We respect the privacy and comfort of lab members by only taking photos or video recordings of them with their explicit knowledge and consent. This is especially important in situations where a lab member would otherwise not be aware of you taking a photo and therefore cannot object if they do not want you to – e.g., if they are wearing one of our EEG caps or are being scanned. To avoid ambiguity about when a lab member is versus is not aware of photos being taken, **we ask that everyone obtains consent from lab members before taking photos or videos and obtains consent again before posting any images on social**

media. This is done to respect others' privacy and acknowledge that people have varying degrees of comfort related to being photographed and especially with having those photographs shared on social media.

The goal of this is to foster an environment where everyone feels safe to be who they are, take risks, and have fun, without worry or self-consciousness. If someone wants to be photographed doing something fun or silly in lab events, and consents to be photographed, by all means go ahead! Just please respect the privacy of those who do not want that.

On a related note, **you cannot photograph your participants during an experiment**. We do not have REB approval to do this. If you would like a photograph of someone demonstrating your experiment, ask a lab member if they would feel comfortable being photographed while demonstrating what a participant does in an experiment.

4.3. Ethics and human participant research

All of our research involving human participants needs to be approved by the Baycrest/Rotman Research Ethics Board (REB). Adherence to approved REB protocols is essential, and non-adherence can lead to severe consequences for the entire lab (i.e., we may lose permission to run any research on human participants). All lab members must read and comply with the REB consent form and research summary for any project that they are working on. Please note that **it is your responsibility to be intimately familiar with any and all ethics documentation related to your project**.

You must ensure that you have REB approval to run your study before you begin (which means that you either submitted an REB protocol that got approved, or your name was added to an existing or amended REB). If you are not on the REB, you cannot run participants, look at the data, analyze the data, or be in any way involved with the project.

If a participant falls ill, becomes upset, has an accident with lab equipment, or experiences any problems while you are conducting your research, you must notify me and the lab manager as soon as possible. We may need to report this information to the REB and/or funding agencies.

If at any time you are concerned that your research practices fall outside of that outlined in the ethics documentation, please contact me ASAP. We will periodically review all of our open protocols to ensure compliance.

5. Scientific Integrity

5.1. Research (mis)conduct

You have a responsibility to me, the institutions that support our work, and the broader scientific community to uphold the highest standards of scientific accuracy and integrity. By being in the lab you agree to adhere to professional ethical standards. The lab, and the Rotman Research Institute, is committed to ensuring

research integrity, and we take a hard line on research misconduct. We will not tolerate fabrication, falsification, or plagiarism.

A big problem is why people feel the need to engage in misconduct in the first place, and that is a discussion that we can have. If you are feeling pressured to succeed (publish a lot, publish in high impact journals), you should reach out to me and we can talk about it – but this pressure is something we all face and is never an excuse to fabricate, falsify, or plagiarize. Also, think about the goal of science and why you are here: you are to understand the world better, to get as close as we can to facts about the brain, behavior, and impact on society. Not only is research misconduct doing you and the lab a disservice, it is also a disservice to the field. And it risks your entire career. It is never right and never worth it. Do not do it.

If you have any questions, or in the unlikely event that you have concerns about a research practice you have seen in the lab, please talk to me immediately.

5.2. Reproducible Research

If you gave someone else your raw data, they should be able to reproduce your results exactly. This is critical, because if they cannot reproduce your results, it suggests that one (or both) of you has made errors in the analysis, and the results cannot be trusted. Reproducible research is an essential part of science, and an expectation for all projects in the lab.

For results to be reproducible, the analysis pipeline must be organized and well documented. To meet these goals, you should take extensive notes on each step of your analysis pipeline. This means writing down how you did things every step of the way (and the order that you did things), from any pre-processing of the data, to running models, to statistical tests. It is also worth mentioning that you should take detailed notes on your experimental design as well. Additionally, your code should also be commented, and commented clearly. We all know what it is like to sit down, quickly write a bunch of code to run an analysis without taking time to comment it, and then having no idea what we did a few months down the road. **I expect you to take the time to ensure your code is commented so that every step is understandable by an outsider**. Finally, it is highly encouraged that you use some form of version control (e.g., Git in combination with GitHub) to keep track of what code changes you made and when you made them, as well as sharing code with others. The lab's GitHub is https://github.com/auditoryaging.

Reproducibility is related to replicability, which refers to whether your results can be obtained again with a different data set. That is, if someone ran your study again (with a different group of participants), do they get the same results? If someone ran a conceptually similar study, do they get the same results? Science grows and builds on replicable results – one-off findings do not mean anything. Our goal is to produce research that is both reproducible and replicable.

6. Open Science

For lab manuscripts, we go through a paper checklist1 that includes sections on open science and statistics to encourage us to continually keep these issues in mind.

6.1. Pre-registration

6.2. Open data and code

We are all for open science, so lab members are encouraged (well, required) to share their code and data with others, whether they are in the lab or outside of it. Within the lab, you can share your code and data whenever you like. **But do not share your code or data with the outside world until you think (and I agree) that the lab has finished working with it.** This gives us an opportunity to work with the data to meet our needs (including grant needs!) before releasing it for other people to use. Generally, we will try to make our data and code publicly available within one year of publishing the results (longer if work on the dataset is ongoing); often already at the time of publication. Currently, the good options for sharing smaller datasets might be the Open Science Framework, FigShare, or OpenNeuro (let the lab know if you find others). Generally, data uploaded on public servers for sharing should adhere to the BIDS format that provides structure to datasets (see also "Data Management").

6.3. Open publishing

We will also share our work via preprints. The lab policy is to upload a preprint of a manuscript simultaneously with the initial submission to a journal. The preferred preprint servers are bioRxiv and PsyArXiv. When revisions are handed in to the journal, also update the preprint. You should share PDFs of your paper with whoever asks. We may also upload the non-copy-edited version of the manuscript to the University of Toronto repository after a manuscript has been accepted for publication.

7. Data Management

7.1. Data storage

7.2. Data organization

If you have already run several independent projects and have a data organization structure that works well for you, feel free to use it. If not (or if you are looking for a change), the following structure is recommended (based on BIDS):

projectName/

7.3. Archiving inactive datasets

Before you leave, or upon completion of a project, you must archive old datasets and back them up. We will develop the instructions for this when we reach our first inactive dataset.

8. Lab Communication and Meetings

8.1. Slack channels

8.2. Calendars

8.3. Lab meetings
Not yet there.

9. Conferences

One of the best ways to present your current research, to find out about other cutting-edge research, and to meet other scientists is at scientific conferences and conventions. There are a number of conferences that the lab is involved with, though we may not all attend every conference. I usually attend 1-2 conferences per year but I encourage students and trainees to present at conferences most germane to their project/interests.

9.1. Conference funding

A local conference might cost several hundred dollars to attend and a national or international conference might cost over two thousand dollars. I will do my best to subsidize one conference per graduate student per year. Trainees will be expected to apply for any and all travel grants to help subsidize these costs, and to **apply by the early-bird deadline** where applicable. To maximize the experience and minimize expenses, I ask that you consider room sharing with other graduate students. Please save every receipt: hotel, taxi, flight and each meal, etc. These are needed to complete a travel reimbursement. It is your responsibility to complete the reimbursement form. **Please discuss reimbursement prior to attending, in order to ensure that I have budgeted for this trip. Make sure you communicate the estimated the costs to me prior to registering for a conference.**

9.2. Common conferences

This is a list of conferences that we have attended with some regularity:

Association for Research in Otolaryngology (ARO) meeting: The Midwinter Meeting of the Association for Research in Otolaryngology is held in February in the USA and the abstracts are due in September. As a trainee, you can present a poster or give a talk. To attend the meeting, you will also become

a member of ARO (the discount for members is less than the cost of an annual membership). I attend the ARO meeting almost every year and will encourage any trainees who have research to present to join me.

Society for Neuroscience (SfN) meeting: The meeting of the Society for Neuroscience is held in October/November in the USA and the abstracts are due early May. As a trainee, you can present a poster or give a talk (it is often more considered a "poster" conference). To attend the meeting, you will also need to become a member of SfN. This is a huge conference (N~30,000 attendees), covering all sorts of subfields. I think of it as conferences within a conference. It can feel overwhelming. The conference is not very specialized, but its appeal is that you will see the newest approaches in the neuroscience fields (specialized conferences sometime lag a bit in this regard), and it allows to see research a bit outside of your area.

Advances and Perspectives in Auditory Neuroscience (APAN): This is a 1-day satellite event held the day prior to SfN, focusing specifically on auditory neuroscience. You would submit the same abstract you submitted to SfN to APAN. It is a relatively cheap event and auditory researchers going to SfN use it to cover all the auditory work; they may not go the auditory sections during SfN. If you go to SfN, you should also go to APAN.

Gordon Research Conference on the Auditory System: This conference is held every second July and the submissions are due in May. There is also an associated meeting just for trainees (Gordon Research Seminar) that occurs immediately before the meeting at the same location. This is an excellent opportunity to meet your colleagues and form a social network, before moving onto a conference which specializes in unpublished, current research. Trainees are largely limited to presenting posters at this meeting.

10. Authorship

We are working together to carry out scientific investigations. Part of this process is writing up the work for publication and depending on your role, you may be added as an author on the paper. This is more common for postdocs and graduate students, but authorship is possible for undergraduate students as well.

10.1. What counts as a contribution?

Authors on journal articles and chapters are expected to have made a **substantive contribution** to the project, and/or paper. For example, the following would typically be justification for inclusion as an author:

- You designed one or more experiments in the paper.
- You wrote the initial draft or a major section.
- You wrote the entire paper.
- You designed and carried out the analyses.

In many cases, your contribution to a project/paper, although helpful and appreciated, will not reach the threshold for inclusion as an author. The following are several examples:

- You helped to carry out data collection.
- You created the reference section, table, or figure.
- You scored a test or created a data set.
- You helped to proof-read or edit.

In these cases, you will be acknowledged by name in the paper.

10.2. Author order

The order of authorship matters, but there is no consistent agreement as to how authors should be ordered. In our field, the most common convention is that the first and last positions have special meaning. The last author is usually the principal investigator or senior investigator on a multi-author paper. The first author is often the trainee (PhD or Postdoc) who wrote much of the paper.

The second author position has a bit more value than positions three, four, etc. (apart from the last author position). The second author is usually the person who contributed substantially, but not quite as much as the first author, for example, a postdoc who supported a graduate student throughout the project. There is also the possibility to share the first authorship, which would be acknowledged in the published paper by indicating that the first two authors contributed equally to the work. Which of the two persons is the named first author in such cases needs to be transparently discussed; please include me in these discussions.

There is also the corresponding author, which is the person who corresponds with the journal (submits the manuscript, receives revisions, etc.), who is ultimately responsible for the contents of the manuscript (together with the first author), and who will underwrite the costs associated with publication; in most cases, I will serve as corresponding author, but it is possible that a postdoctoral scholar may serve in this role.

I assume that, unless we have talked about it, I will be an author on papers coming out of the lab. This does not mean that you should add me on to papers as a courtesy; it means that I expect you to include me in the process of discussion and writing in a way that merits authorship. In other words, the same approach I take with you.

It is worth pointing out that there are many views regarding authorship, and within any view there are always borderline cases. When collaborating with other people, I tend to defer to their own lab culture. However, it is important that within our own lab, we are clear on the expectations for authorship and transparent about authorship discussions and decisions. If you ever have any questions, please come speak to me.

On a last note, **it is the responsibility of the person who leads the project (e.g., graduate student, postdoc) to keep note of all people who have contributed, and to what degree they contributed**. This is important so that contributions are appropriately acknowledged according to the guiding principles outlined here.

10.3. Old projects

If a student or post-doc collects a dataset but does not completely analyze it or write it up within 3 years after the end of data collection, I will re-assign the project (if appropriate) to another person to expedite publication. If a student or post-doc voluntarily relinquishes their rights to the project prior to the 3-year window, I will also re-assign the project to another individual. This policy is here to prevent data (especially expensive data, e.g., EEG, MEG, fMRI) from remaining unpublished, but is meant to give priority to the person who collected the data initially. This will likely lead to changes in the order of the authors on a paper, but will not lead to the removal of persons who have made a substantive contribution. We will discuss the author positions transparently and openly in these cases.

11. Knowledge Translation

Science should not be done in a vacuum; the results should not only be interesting to you or a very few other people. Much of our funding comes from taxpayers (via Government funding), and we want to honor the commitment by doing good, interesting, and valuable research. For this reason, one of the most important guiding principles for research studies in lab is "Why is this an important research question?". I expect you to be able to answer this question for each of your projects. Also, think of it this way: Would you be excited giving talk about your research in another lab? Would you think the audience would be excited? Would you be excited to tell your family about it?

We are committed to providing the knowledge we gather from our studies to different stakeholders. Presenting our research at conferences, publishing the research in journals, and highlighting it on social media (e.g., Twitter) is the minimum. These knowledge translation activities only reach the research community, which is great, but we would like to engage people further.

Participating in community and public outreach is an important (and often rewarding) part of our lab work. Timely after publishing a research study, the person leading the project may write (together with me) a lay summary of the work to be posted on the lab webpage (you will be named as a contributor). We may also create a short (2-3 min), semi-professional video interview about the project to be posted on the lab webpage as well. We may further work with the Communications Department at Baycrest to publish a press release or reach out to public media (local radio, TV, press). Hearing clinics have picked up work from the lab in the past: they wrote blogs on their webpages about a study from the lab. We may proactively reach out to hearing clinics and provide them with results from newly published lab research. We may give talks in the community, for example, in retirement communities or community centers. A pint of science (lay science talks in a bar) is another good opportunity to engage the general public in science.

As a member of the lab, you are expected to contribute to these activities when they arise. You are further encouraged to actively engage in public outreach and to bring new opportunities for public outreach to my

attention; but please keep me informed about all outreach activities related to the lab, in which you may be involved.

12.   General lab polices

12.1. Hours

Being in lab is a good way of learning from others, helping others, building camaraderie, having fast and easy access to resources (and people) you need, and being relatively free from distractions at home (e.g., your bed or Netflix). That said, hours in academia are more flexible than other jobs – but you should still treat it as a real job (40 hours/week) and show up to the lab. My primary concern is that you get your work done, so if you find that you are more productive at home, feel free to work at home occasionally. If you have no meetings, no participants, and no other obligations that day, it might be a good day to work at home – but you cannot do this all the time, and I expect to see everyone in the lab on a regular basis. To encourage lab interaction, try to be in most weekdays during 'peak' hours – e.g., between 11am and 4pm. This is not a hard rule, you can work at home occasionally, and I understand other obligations. For graduate students, I understand having to be away for classes and TAing, but show up in the lab on a regular basis when you do not have those obligations.

The only exception to this is lab managers / research assistants, who must keep more regular hours and be in lab 5 days a week (excluding vacations, doctor appointments, family issues, etc.). I expect lab managers / research assistants to be in about 8 hours a day, starting around 9am or 10am and ending around 5pm or 6pm. I will try to accommodate any specific needs; please come talk to me, we will find a solution that works for you.

I sometimes work in the evening and during the weekends. This means that I will sometimes send emails or Slack messages outside of normal working hours. I do not expect you to respond until you are back at work (ignore me!). I do not expect there to be cases when I suddenly and urgently need something from you over the weekend (e.g., for a grant deadline), but should I anticipate that happening, I will bring it up in advance so we can plan accordingly. All this said, I realize that being told you can ignore my messages might not take away the stress of seeing my messages if you check work email or Slack in the evenings or on weekends. If my off-hours messages are unwelcome and cause distress, please talk to me, and I will be better at not bothering you during your time off.

Although I sometimes work weekends, I try to only do that when necessarily. Please respect that by making sure to give me enough heads-up about impending deadlines so that I can get things done for you (e.g., write letters of recommendation, give feedback on manuscripts, etc.) while maintaining my work/life balance.

12.2. Office hours of principal investigator

In addition to weekly meetings, and occasionally dropping by the lab, you can find me in my office. My door is almost always open; if it is, feel free to ask for a chat. I will almost always say yes, though sometimes I can only spare a couple of minutes or I might ask you to let me finish typing a sentence. If my door is closed, assume that I am either gone, in a meeting in my office, or do not want to be disturbed – so please send a message (Slack or e-mail) rather than knocking.

12.3. Deadlines

One way of maintaining sanity in the academic work is to be as organized as possible. This is essential because disorganization does not just hurt you, it hurts your collaborators and people whose help you need. When it comes to deadlines, tell your collaborators as soon as you know when a deadline is, and make sure they are aware of it the closer it gets. Do not be afraid to bug them about it (yes, bug me as well). If you would need me to do anything to meet a deadline, follow the following guidelines:

- Give me at least one week's notice to do something with a hard deadline that does not require a lot of time (e.g., reading/commenting on conference abstracts, filling out paperwork, etc.).

- Give me at least two weeks' notice (preferably more) to do something with a hard deadline that requires a moderate amount of time (e.g., a letter of recommendation).

- If you want feedback on research and teaching statements, or other work that requires multiple back-and-forth interactions between you and me before a hard deadline, give me as much time as you can; at the very least four weeks.

For manuscript submissions and revisions (i.e., which either have no deadline at all or only a weak deadline), send drafts to me as soon as you have them, and bug me to give you feedback if I have not responded in two weeks – papers are important!

12.4. Recommendation Letters

For all trainees: I will act as a professional reference for you. You can count on me to write you a letter if you have been in the lab at least one year (it is hard to really know someone if they have only been around for a few months). Exceptions can be made if students or post-docs are applying for fellowships shortly after starting in the lab. In the rare case that I believe that someone other than myself could provide a stronger letter of reference, I will communicate this to you. The type of letters I write for you include letters of reference for employment, for training opportunities, graduate school, grants, and awards.

If you need a letter, notify me as soon as possible with the deadline (see Deadlines for guidance), your CV, and any relevant instructions for the content of the letter. It is also often most helpful to provide a list of things you would like mentioned specifically in the letter. If the letter is for a grant, also include your specific aims. If the letter is for a faculty position, also include your research and teaching statements. In some cases (especially if short notice is given), you may also be asked to submit a draft of a letter, which will be modified

based on my experience with you, made more glamorous (people are much too humble about themselves!), and edited to add anything you left out that I think is important. This will ensure that the letter contains all the information you need, and that it is submitted on time.

The more information you provide, the better the letter will be. Please bear in mind that I often have many other letters to write, including those for students outside the lab. As a rule, I will write your letter personally and ensure that it arrives when and where it needs to.

13.   Acknowledgments

I would like to thank Blake Butler, Mariam Aly, and Jonathan Peelle for making their lab manuals available. A lot of content in this document is adapted from their manuals.

Lab Manual Signature Form

I confirm that I have read the lab policies laid out in the Auditory Aging lab manual. I raised any questions or concerns about them with Dr. Björn Herrmann, and those discussions have alleviated my concerns and answered my questions. I agree that I will abide by the policies set forth in the manual. Please send a signed copy of this page as a pdf-file to Björn (bherrmann@research.baycrest.org).

Printed name: _____   Lab Role: _____

Signature: _____   Date: _____