

## Online Survey Questions

# When the Labs Closed: Graduate Students' & Postdoctoral Fellows' Experiences of Disrupted Research During the COVID-19 Pandemic

## Preamble and Consent

### *Preamble Statement*

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### **Purpose of the Study**

We would like to invite you to take part in a study on the impact COVID-19 had on your research. The purpose of this survey is to examine the impact of research disruption during the COVID-19 pandemic on graduate students and postdoctoral fellows. Information gathered during this survey will be written up as a scholarly journal article and potentially presented at conferences. What we learn from this survey will help us identify areas of support needed by graduate students and postdoctoral fellows during the COVID-19 pandemic, as well as support needed once the pandemic dissipates. We also want to identify best practices of how to quickly shut down laboratories, and provide support to students and fellows, that could be used if similar situations arise in the future.

You are eligible to take part in this study if you:

1. Are a graduate student or postdoctoral fellow in Canada
2. Engage in laboratory-based research
3. Have had your research stopped or paused by the COVID-19 pandemic

### **Procedures involved in the Research**

You will be asked to complete one online survey. This interview is **voluntary**, you do not need to participate should you choose not to. You will be provided with a link to complete the survey on LimeSurvey. It should take approximately 30-45 minutes to complete. This survey will be open from April 27, 2020 to June 8, 2020. If you wish to participate, please complete the consent module at the beginning of the survey and then fill out the following questions.

### **Potential Benefits**

This research may benefit you directly if your supervisor, department or faculty implements recommendations based on our findings. We hope what is learned as a result of this study can be used to inform what supports should be offered to graduate students and postdoctoral fellows during COVID-19 and once laboratory research resumes. These findings could also inform the development of best practices to quickly shut down laboratories. We would like to publish our findings so that they can be used design supports for graduate students and postdoctoral fellows in the future.

### **Potential Harms, Risks or Discomforts**

The risks involved in participating in this study are minimal. You may feel uneasy or embarrassed answering questions about your feelings or worries related to COVID-19 and research disruption. You do not need to answer questions that you do not want to answer or that make you feel uncomfortable.

### **Confidentiality**

You are participating in this research anonymously. No one, including those handling the data, will know that you participated. However, others may be able to identify you based on references you make or detailed information you provide. We may display full quotations from descriptive sections as representative statements. Please keep this in mind in deciding what to tell us. Key demographic information will be **anonymized** during analysis, with only cohort data being featured in the final manuscript.

All electronic data will be kept on a computer protected by an encryption, firewall, and password, where only the research team will have access to it. Once the study is complete, an archive of the data, without identifying information, will be maintained until publication. This will be deleted following publication of findings (within five years). The electronic cohort description data will be kept indefinitely as the data will be published.

### **Participation and Withdrawal**

Your participation in this study is voluntary. It is your choice to be part of the study or not. If you decide to be part of the study, you can stop (withdraw) from the study at any point before submitting your survey responses. Once you have submitted your responses for this survey: your answers will be put into a database and will not be identifiable to you. This means that once you have submitted your survey, your responses cannot be withdrawn from the study because we will not be able to identify which responses are yours.

### **Information about the Study Results**

We expect to have initial analysis completed by late June 2020. A pre-print publication will be uploaded to bioRxiv in early July 2020. When our research article is published in a peer reviewed journal, we will make a summary of the publication available on the Truant Laboratory Website (<https://raytruantlab.ca/>).

### **Questions about the Study**

If you have questions or need more information about the study itself, please contact us at: [truant@mcmaster.ca](mailto:truant@mcmaster.ca) or [suartce@mcmaster.ca](mailto:suartce@mcmaster.ca).

### **Ethics**

This survey is part of a study that has been reviewed by the [Hamilton Integrated Research Ethics Board \(HiREB\)](#). The HiREB protocol number associated with this survey 10832. You are free to complete this survey or not. If you have any concerns or questions about your rights as a participant or about the way the study is being conducted, please contact HiREB. The HiREB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call the Office of the Chair, Hamilton Integrated Research Ethics Board at 905.521.2100 x 42013.

### *Consent to Participate*

Having read the above, I understand that by clicking the “Yes” button below, I agree to take part in this study under the terms and conditions outlined above.

- Yes, I agree to participate
- No, I do not agree to participate

## Section A: Transition from Research to Social Distancing

In this section we will ask you questions about the processes of stopping experiments, leaving the lab, and starting to work from home.

**When did you last complete experiments and/or other laboratory work?**

- [Enter date]

**Below is a list of emotions that are common to experience during times of sudden change. What words do you see that describe what you experienced when there first was discussion that laboratories (yours and others) may shut down in response to COVID-19? Please select all that apply.**

- |               |             |                |               |
|---------------|-------------|----------------|---------------|
| • Afraid      | • Mad       | • Depressed    | • Unconcerned |
| • Helpless    | • Cheerful  | • Sad          | • Fearless    |
| • Angry       | • Miserable | • Desperate    | • Uneasy      |
| • Hopeless    | • Contented | • Steady       | • Furious     |
| • Anxious     | • Nervous   | • Disbelieving | • Warm        |
| • Hostile     | • Contrary  | • Tense        | • Worrying    |
| • Apathetic   | • Numb      | • Discouraged  | • Lonely      |
| • Indifferent | • Cool      | • Thoughtful   | • Calm        |
| • Bitter      | • Panicky   | • Easy-Going   | • Cross       |
| • Peaceful    |             |                |               |

**Are there any other emotions you were experiencing when there first was discussion that laboratories (yours and others) may shut down in response to COVID-19?**

- [Short text box]

**Please select which statement best describes which the scenario which lead to you working from home:**

- I decided to stop experiments and work from home prior to the lab being officially closed [Follow up question: **What did you consider when you decided to work from home?**]
- My supervisor closed their lab prior to an official shutdown notice by the university or department
- My department or faculty told all supervisors to close down their laboratories, causing my supervisor to close their lab
- My university released an announcement ending all non-essential laboratory research activities
- My province and/or city announced the closure of all non-essential activities, which included non-essential laboratory research
- Other: please describe

**Please describe what steps you had to take to pause or shut down the project(s) you are currently working on.** This may include freezing samples, securing valuable materials, backing up data, etc.

- [Short answer]

**In addition to shutting down your project, did you participate in shutting down other sections of the lab?**

- No
- Yes [Follow up question: **Please describe what steps you had to take to help shut down the lab.**]

**Did your lab have a standard operating procedure (SOP) for quickly shutting down and securing the lab?**

- No
- Yes, the SOP was made before COVID-19
- Yes, the SOP was made in response to COVID-19

**In your laboratory, did all students and postdoctoral fellow stop work at approximately the same time?** This excludes research related to COVID-19.

- No, people stopped working at staggering times [Follow up question: **How did seeing some people working while others were at home make you feel?**]
- Yes, everyone stopped working at the same time [Follow up question: **How did having everyone in the lab transitioning to working from home make you feel?**]

**Initially in your department, did all laboratories close at approximately the same time?** This excludes research related to COVID-19.

- No, the decision to close laboratories was staggered across the department [Follow up question: **How did seeing some people working while others were at home make you feel?**]
- Yes, all laboratories closed at the same time [Follow up question: **How did having everyone transitioning to working from home make you feel?**]

**Prior to an official department or university shutdown of laboratory research, did you feel pressure from the following people to go into the lab and continue research?** Please use the following scale: Extremely Pressured, Very Pressured, Moderately Pressured, Slightly Pressured, Not at all Pressured.

- My Supervisor
- Peers within my lab
- Peers outside my lab
- Internally from myself

**Please describe any pressure you were feeling about continuing laboratory research, prior to an official shutdown.**

- [Short text box]

**During the transition to working from home, did you have to move to another city from which your laboratory is located?**

- No, I remained in the same city
- Yes, I went to a nearby city (less than 1-hour drive away)
- Yes, I went to a city within the same province or territory (more than 1-hour drive away)
- Yes, I went to a city in a different province or territory
- Yes, I went to a different country

If answered “No” on the previous question – **Why did you decide to stay in the same?**

- [Short text box]

If answered “Yes” on the previous question – **Why did you decide to move to another city?**

- [Short text box]

**If you could go back in time and redo the laboratory shut down process, is there anything you would do differently?** If yes, please explain.

- [Short text box]

**Do you have any other feedback on transitioning from research in the lab to social distancing?**

- [Short text box]

## Section B: Current Routines While Social Distancing

In this section, we will ask you questions about your routines now that you are working from home. This will include activities related directly to work, as well as other activities including self-care and household responsibilities.

**Below is a list of emotions that are common to experience during times of sudden change. What words do you see that describe what you experienced when you transitioned to working from home? Please select all that apply.**

- Afraid
- Helpless
- Angry
- Hopeless
- Anxious
- Hostile
- Apathetic
- Indifferent
- Bitter
- Peaceful
- Mad
- Cheerful
- Miserable
- Contented
- Nervous
- Contrary
- Numb
- Cool
- Panicky
- Depressed
- Sad
- Desperate
- Steady
- Disbelieving
- Tense
- Discouraged
- Thoughtful
- Easy-Going
- Unconcerned
- Fearless
- Uneasy
- Furious
- Warm
- Worrying
- Lonely
- Calm
- Cross

**Are there any other emotions you were experiencing when you transitioned to working from home?**

[Short text box]

**In your dwelling, do you have a dedicated space where you can complete work?**

- No
- Yes, my own
- Yes, shared with another member of the household

**Are you currently taking or just finished taking a course or courses as part of planned studies?**

- No
- Yes

***If yes, did this course move online?***

- No – The course ended or paused
- Yes

***If yes, what support was given to students during this transition?***

- [Short text box]

**Are you currently or just finished being a teaching assistant or lead instructor for an undergraduate or graduate course?**

- No
- Yes

***If yes, did this course move online?***

- No – The course ended or paused
- Yes

***If yes, what support was given to you during this transition?***

- [Short text box]

**Do you have a paper currently in the peer-review process?** If yes, please select what stage of peer review the manuscript is at.

- No
- Yes – just submitted or with an editor
- Yes – sent for peer review
- Yes – completing revisions (major or minor)
- Yes – submitted revisions
- Yes – recently accepted

**Are you or have you completed any of the following activities related to supporting the COVID-19 efforts?** Please select all that apply.

- Collecting/donating personal protective equipment or other supplies to local hospitals
- Sharing accurate information about COVID-19 with family and friends
- Sharing accurate information about COVID-19 with the general public
- Volunteering your research skills to support research on COVID-19 (in person or remote work)
- Volunteering your research skills to support patient testing efforts for COVID-19
- Supporting family, friends, or others in quarantine (for example, picking up groceries)
- Supporting health care professionals (for example, picking up groceries, providing childcare support)
- Other [please describe]

**Are you or have you completed any of the following self-care activities?** Please select all that apply

- Exercise (indoor or outdoor)
- Meditation or mindfulness
- Connecting with family and friends by phone
- Connecting with family and friends by email, text, or other messaging software
- Connecting with family and friend by video chat
- Practicing an old hobby or skill (for example, baking, gardening, music, reading)
- Developing a new hobby or skill (for example, baking, gardening, music, reading)
- Attending virtual religious or spiritual services
- Establishing and maintaining routine
- Other [please describe]

**Are you or have you completed any of the following remote research activities?** Please select all that apply.

- Virtual laboratory meetings
- Virtual journal clubs
- Virtual scientific meetings, conferences, or seminars
- Virtual Committee Meeting
- Virtual Comprehensive Examination
- Virtual Thesis Defence
- Updating laboratory notebooks
- Creating strategic plans for future experiments
- Analysis of data gathered before laboratory closing
- Preparing applications for awards, conferences, scholarships, etc.

- Writing thesis chapter(s)
- Writing draft manuscript(s)
- Writing review article(s)
- Writing protocols, SOPs
- Designing scientific figures
- Working on written revisions to a paper in peer review
- Organizing reagents and/or data spreadsheets
- Reading the literature
- Completing online training or learning new skills virtually
- Updating your CV, LinkedIn, ORCID, or similar online platform
- Other [please describe]

**Are you or have you completed any of the following household responsibilities?** Please select all that apply.

- Care and supervision of children
- Supervising Emergency Remote Learning / Homeschooling of children
- Care of dependent adults
- Care of pets
- Completing necessary excursions to support your household (for example, to obtain groceries or medication)
- Completing necessary excursions to support others (for example, to obtain groceries or medication for family)
- Cooking meals for myself
- Cooking meals for others in my household
- Domestic cleaning tasks (for example, vacuuming, washing dishes, doing laundry)
- Other [please describe]

**Do you believe there has been an equal distribution of household responsibilities across people living in your dwelling?** This excludes people who are unable to assist in household responsibilities due to age, illness, or disability.

- No
- Yes

**Please elaborate on your above response. Why did you choose this answer?**

- [Long text box]

**Please select which option best describes your experience of each of the following while you have been working from home.** Scale: None of the time, Rarely, Some of the time, Often, All of the time.

- I've been feeling overwhelmed
- I've been feeling that things are hopeless
- I've been feeling exhausted (not from physical activity)
- I've been feeling very lonely
- I've been feeling very sad
- I've been feeling so depressed that it was difficult to function
- I've been feeling overwhelming anxiety
- I've been feeling overwhelming anger
- I've been easily annoyed or irritable
- I've been so restless it has been hard to keep still



- I've had a hard time focusing on tasks
- I've had trouble sleeping
- I've had a hard time connecting with people
- I've had difficulty relaxing
- I've had lowered productivity
- I've had a hard time getting out of bed in the morning

**Are there specific people, resources, or organizations you have turned to for support with how you are feeling?**

- No
- Yes

***If yes, please describe your experiences.***

- [Text Box]

**What are the three greatest barriers to you getting work done at home?** Please describe how these barriers impact you.

- [Long text box]

**What are the three best supports you have received while working from home?** Please describe how these supports impact you.

- [Long text box]

**Do you have any other feedback on your current routines while social distancing?**

- [Short text box]

### Section C: Concerns of the Impact of COVID-19 on Future Research and Career

In this section, we will ask you questions about your thoughts, concerns, and feelings about how this delay in research and education will impact you in the future.

**Below is a list of emotions that are common to experience during times of sudden change. What words do you see that describe what you experience when you think about how the research disruption caused by COVID-19 might affect you in the future? Please select all that apply.**

- Afraid
- Helpless
- Angry
- Hopeless
- Anxious
- Hostile
- Apathetic
- Indifferent
- Bitter
- Peaceful
- Mad
- Cheerful
- Miserable
- Contented
- Nervous
- Contrary
- Numb
- Cool
- Panicky
- Depressed
- Sad
- Desperate
- Steady
- Disbelieving
- Tense
- Discouraged
- Thoughtful
- Easy-Going
- Unconcerned
- Fearless
- Uneasy
- Furious
- Warm
- Worrying
- Lonely
- Calm
- Cross

**Are there any other emotions you were experiencing when you think about how the research disruption caused by COVID-19 might affect you in the future?**

- [Short text box]

**What is the biggest worry you have about how COVID-19 might impact your personal life?** Please describe why this is something you worry about.

- [Long text box]

**What is the biggest worry you have about how COVID-19 might impact your current research project?** Please describe why this is something you worry about.

- [Long text box]

**What is the biggest worry you have about how COVID-19 might impact your scientific career?** Please describe why this is something you worry about.

- [Long text box]

**Please select which option best describes your level of worry with respect to each of the following when thinking about how COVID-19 might impact you.** Scale: Not at all worried, Slightly worried, Moderately worried, Very worried, Extremely worried

- Not being able to pay rent, mortgage, or bills
- The economy is going to be hurt by this
- I will become sick
- A friend or family member will become sick
- I will need to delay key life milestones (new job, moving out, marriage, children, etc)
- Failing necessary courses or credits
- Not being able to graduate on time
- Falling behind on research
- Not keeping up with peers in my research field
- I've lost data I will never be able to get back
- My peers are doing more work at home than I am

- My lack of productivity during social distancing will make me a less competitive candidate for future opportunities
- I've lost a significant amount of time on the project I am working on
- My project/thesis will be forever impacted by this disruption
- My funding is going to run out due to this delay
- I've missed out on opportunities to network at conferences
- This will delay/prevent my transition to a new program or position
- Research funding on non-COVID-19 related projects is going to decrease
- General worry about the future

**What kind of support/resources do you want to receive from your supervisor when you transition back to working in the lab?**

- [Long text box]

**What kind of support/resources do you want to receive from your department, faculty, or University when you transition back to working in the lab?**

- [Long text box]

**Do you have any other feedback on the impact of COVID-19 on your future research or career?**

- [Short text box]

## Section D: Demographic Information

In this section, we will ask you questions about who you are and other demographic information, including what kind of research you conduct and what stage you are at in your career. These responses will help us find trends across different groups of people.

However, others may be able to identify you based on references you make or detailed information you provide. Please keep this in mind in deciding what to tell us. You can decline to answer any questions without providing a reason. Key demographic information will be anonymized during analysis, with only cohort data being featured in the final manuscript.

**Please select your current academic position:**

- MSc/MEng/MASc/Master's Degree Student
- PhD Student
- Postdoctoral Fellow

If the respondent is a graduate student:

***How far along are you in your degree?***

- First-year of study
- Mid way through degree
- Entering last year of study
- All but defence completed
- Recently defended

[If MSc] ***Have you been in the process of finding a PhD position in the past six months?***

- No
- Yes, casually looking for positions
- Yes, actively looking for positions
- Yes, I have had interview(s) for a PhD position
- Yes, I have found a PhD position

[If PhD] ***Have you been in the process of finding a postdoctoral position in the past six months?***

- No
- Yes, casually looking for positions
- Yes, actively looking for positions
- Yes, I have had interview(s) for a postdoctoral position
- Yes, I have found a postdoctoral position

If the respondent is postdoctoral fellow:

***If you are a postdoctoral fellow, how many months have you been in your current position?***

- [Whole number field]

***Have you been in the process of finding a new postdoctoral position or a faculty position in the past six months?***

- No
- Yes, casually looking for a new postdoctoral position
- Yes, casually looking for a faculty position
- Yes, actively looking for a new postdoctoral position
- Yes, actively looking for a faculty position

- Yes, I have had interview(s) for a new postdoctoral position
- Yes, I have had interview(s) for a faculty position
- Yes, I have found a postdoctoral position
- Yes, I have found a faculty position

**Which category most closely describes your research field?**

- Biology
- Chemistry
- Computer Science
- Engineering
- Environmental Science
- Geography
- Health and Medical Research
- Kinesiology
- Physics
- Psychology

**How would you describe your research field?** Please use three words or less, such as “Biochemistry” or “Chemical Engineering”

- [Short text field]

**Please briefly describe what specialized equipment, model systems, and/or reagents that you use frequently as part of your research.** For example: mouse models, cell culture models, confocal microscope, human participants, polymers, acids, etc.

- [Short text field]

**Have you previously published primary research article(s) in scientific journals?**

- Yes
- No

**As you practice social distancing, are there other people living with you in your dwelling?** Please select all that apply.

- No one else – I live alone
- Roommate(s) or Friend(s)
- Partner or Spouse
- Children
- Parent(s)
- Grandparent(s)
- Sibling(s)
- Other Extended Family
- Other [please describe]

**What is your gender?**

- [Short text field]

**In which province or territory is your institution located?**

- Alberta
- British Columbia

- Manitoba
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

## Section E: Participation in Future Research

In this section, we will ask questions about if you would want to be contacted about future research.

**In addition to this current survey feedback, we will also be conducting virtual one-on-one interviews with graduate students & postdoctoral fellows and administering a follow-up survey once the COVID-19 pandemic has dissipated.**

**Are you interested in being contacted about the follow-up survey once the COVID-19 pandemic has dissipated?**

- No
- Yes

If yes is selected, display the following:

**Please create an anonymized identifier code using the following steps: (1) write the FIRST three letters of the month you were born in, (2) write the LAST three letters of your mother's first name, (3) write the FIRST three letters of the town you were born in, (4) write the FIRST three letters of the department you belong to.** For example, if you were born in January, your mother's first name is Anna, you were born in Toronto, and you were in Kinesiology; your code would be JANNNATORKIN.

- [Short Answer Text Box]

**If you are interested in being contacted about:**

- **The one-on-one interviews graduate students & postdoctoral fellows being conducted now**
- **The follow-up survey being conducted once the COVID-19 pandemic has dissipated**
- **Getting email notification with a summary of findings once the study has concluded**

**Please click on the following link. It will take you to a separate survey form to obtain your email address. This will keep your contact information separate from the responses that you have provided in this survey.** [Link to separate contact information survey]

## Closing Statement

Thank you for taking this survey. Your answers are a valuable part of this research.

## Separate Contact Information Survey

[This text would only be accessible by completing the previous survey and consent]

**In addition to survey feedback, we will also be conducting one-on-one interviews with graduate students and postdoctoral fellows on how the COVID-19 disruption has impacted them. These meetings will be conducted via Zoom and will take between 30 minutes to 1 hour.**

**Are you interested in receiving more information about participating in one-on-one interviews?**

- No
- Yes [Provide Email]

**Are you interested in being contacted about the follow-up survey once the COVID-19 pandemic has dissipated?**

- No
- Yes [Provide Email]

**Are you interested in receiving a summary of the findings once the study has concluded?**

- No
- Yes [Provide Email]

### **Closing Statement**

Thank you for taking this survey. Your answers are a valuable part of this research.