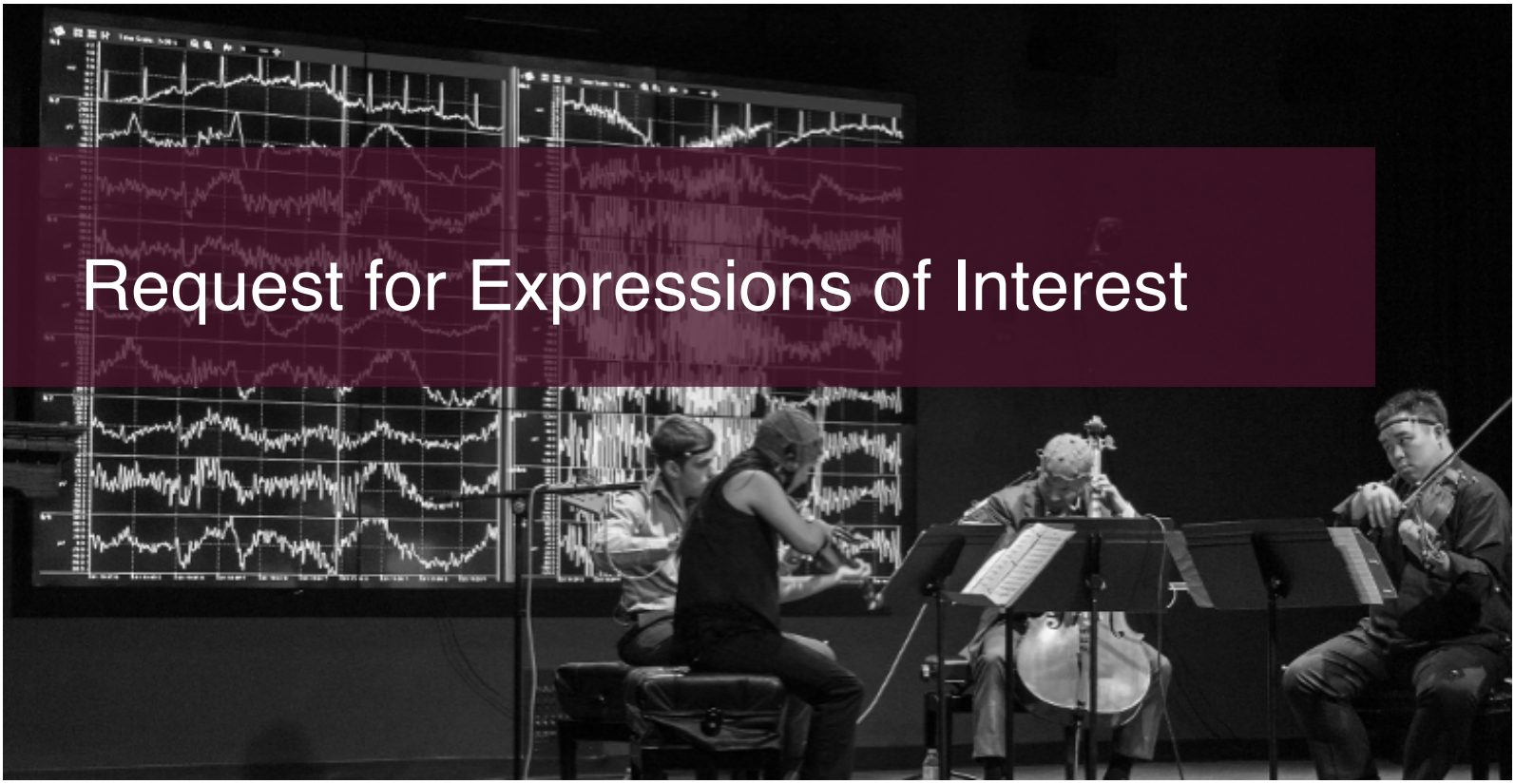
Call for Artistic Collaborators
LIVELab, McMaster University



Deadline: **March 24, 2017, 4:00pm**

For more information:
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livelab.mcmaster.ca

McMASTER INSTITUTE FOR MUSIC & THE MIND

Overview

Located within the McMaster Institute for Music & the Mind (MIMM), the LIVELab is a 106 seat **research-focused performance venue** which has the capacity to capture behavioural and neurophysiological measurements from performers and audience members. The LIVELab is **committed to developing a world-class facility for the scientific study of music, sound, and movement** and their importance in human development and human health.

The LIVELab is seeking 2-3 artistic collaborators in the fields of **music (any genre) or performance-based technology** for a joint application relationship. This relationship is an ideal opportunity for individual musicians, ensembles, bands, composers, technicians and music researchers to spend focused time working on a specific project. Successful collaborators will have access to the LIVELab technology and staff to develop artistic projects which include a clear research component.

The process and output for a collaboration can take many forms such as, but not limited to:

- Exploring the creation of a responsive technology to more expressively control the LIVELab's sound system in real time
- Development of a new creative work that integrates some of the measurement capabilities of the lab (either audience or performer)
- Performances that use technology to improve accessibility (for example tailored for the aurally or visually impaired)

Each collaborator will present their work in the form of a public lecture / performance at the LIVELab. Additionally, projects should generate other outputs such as:

- Published articles in peer reviewed or industry publications (not necessarily academic)
- Public presentation of artwork and/or research
- Unique data collection opportunities
- Interaction between artist / research and McMaster University faculty/ students / staff
- Development of new technology or software

Who Should Apply?

This Request for Expressions of Interest is open to Canadian professional musicians, curators, technicians or arts-focused researchers working in the fields of music or responsive technology. Applicants must demonstrate previous experience in conducting research (not necessarily in an academic environment) and public presentation of their work (i.e. publication, performance, etc.). Applicants must demonstrate a strong interest in collaborative research.

Length of Residency

This residency is an open, flexible format. The length of the residency will be considered on a project-by-project basis but generally will range from 3 to 6 months in length.

Budget and Funding

The LIVELab and artist will collaboratively pursue funding to support the development of the residency. This may include application to the following funders:

- INCITE Foundation
- Canada Council for the Arts
- McMaster Arts Research Board
- Social Science and Humanities Research Council
- Ontario Arts Council
- Hamilton Community Foundation
- City of Hamilton

Artists will be expected to pursue funding for which they are primarily eligible (ie Ontario Arts Council) independently and with the assistance of the LIVELab.

Additional Resources:

In addition to the financial support achieved via the funding opportunities listed above, the LIVElab will offer:

- 2 days / month of in-kind access to the LIVELab facility and associated staff expertise to assist with artwork production, creation and research
- Connection to other faculties and researchers to assist with project
- Connection with students
- Connection to research participants
- Connections to Hamilton arts community through Cobalt Connects

About the LIVELab

The LIVE (Large Interactive Virtual Environment) Lab is a unique 106-seat Research Performance Hall designed to investigate the *experience of music, dance, multimedia presentations, and human interaction*.

The space includes Active Acoustic Control; Sound Recording Equipment; and measurement of Behavioural Responses (100 tablets), Movement (motion capture), Brain Responses (EEG), Muscle Tension (EMG), Heart Rate, Breathing Rate, and Sweating Responses (GSR).

The aims include:

- A neuroscientific understanding of how performers interact, what moves audiences during a performance, and the cognitive, social and emotional impact of these experiences;
- Incorporating technology and real-time audience feedback into creative performances;
- Development and evaluation of new technologies for health (e.g., hearing aids, dance for Parkinson's) and artistic expression;
- Neuroscientific evaluation of human responses (e.g., market research; defining important aspects of culture) and what makes for successful human interactions (e.g., educational techniques, group problem solving).

Research in the LIVELab is aimed both at *theoretical understanding* and *applications to business, health, education public policy, and artistic creation*.

Technology

A summary of the technology available at the LIVELab is listed below. Detailed spec sheets and additional information can be found at: http://livelab.mcmaster.ca/research/technology/

Brain Waves and Physiology

One of the most unique features of the lab is that you can measure the brain waves (EEG), Heart Rates, Breathing Rates, and Skin Conductance (GSR) in up to 32 audience members or performers at the same time. This allows one to study physiology en masse in response to your stimuli. Using our Noraxon Wireless DTS, you can capture muscle activity from up to 8 separate channels, as well as biological activity (HR, BR, ECG, Temperature; Up to 4 people). The simple, unobtrusive, and lightweight transmitters can be attached to participants quickly and easily allowing for new research innovations.

Applications: Studying changes in physiology in response to a performance or media piece, see changes in heart rate variability, provide live feedback to performers, muscle use measurement, measurement from moving participants, teaching and training, and more.

Active Acoustics

The lab is built to NC10 standards, meaning there is a background noise level of only 10dB (thousands of times quieter than a typical classroom) and low reverberation time. This is

accomplished via unique architectural designs, including room-within-room construction, floating floor, concrete outer ceiling, custom noiseless HVAC system, and acoustic panels. With this blank slate, we can use our Meyer Sound Active Acoustic System to digitally recreate any type of environment, such as from a cathedral, to concert hall, to classroom to anechoic chamber. You can also use the system to immerse participants in sound environments such as restaurant ambient noise to simulate real environments.

Applications: Studying hearing aids in realistic environments, studying music in different acoustic environments, showcasing uniquely sounding performances, and more.

Motion Capture
Featuring a Qualysis Motion Capture System with 28 IR Cameras and 1 Color Camera. Using infrared light and advanced analysis, the system can very precisely capture the motion of your participants. All the markers are passive and can easily be placed on desired joints.
Applications: Studying movement in Parkinson's Disease, Capturing the movement of dancers and musicians, Capturing the position/view of audience members' heads, and more.

Yamaha Disklavier
A state of the art Yamaha Disklavier M4 Pro that can record and reproduce the exact timing and velocity of each keystroke making the perfect reproduction of a performance. The Disklavier can also be networked for remote performances, and recordings can be modified with changed timings or notes.

Applications: Studying the effects of live performances or recorded performances, pedagogy, training, and more.

Response Tablets
In collaboration with CoBALT Connects, the lab features a suite of 100 android tablets that can be used to collect responses from audience members during presentations. The tablets feature a number of question types and are synchronized with the stimuli.

Applications: Market research, behavioural studies, audience feedback during performances, and more.

Video Wall
An array of 9 Mitsubishi low bezel screens are mounted at the front of the stage that allow you to present images or video to the audience. This model was specially selected as they do not produce any noise while operating, thus maintaining the ultra-quiet environment the lab can achieve. The stimuli presented can also be synchronized with the tablets in your study.
Applications: Stimuli presentation in research studies, market research, presentations and more

KEMAR
An anatomically average manikin with specially calibrated binaural microphones that can record sound the way a real human would hear. This allows one to have recordings of the sound environment in the LIVELab as any real participant would have.

Applications: Hearing Aid testing, performance archiving, unique media, and more.

Application Deadline and Receipt

All Expressions of Interest are due on or before **Monday, March 24, 2017 by 4:00pm.** All applicants will receive notice via email that their application has been received. It is the responsibility of the applicant to ensure that his/her application has been received by the LIVELab. If you do not receive verification within one week of submitting your application, please contact livelab@mcmaster.ca or 289.335.0870

Loss or Damage: While every precaution will be taken to prevent loss or damage, the LIVELab, Cobalt Connects and Selection Committee shall not be liable for any loss or damage, however caused, to materials submitted for this process.

Please note, application materials will not be returned.

Application Requirements

1. **Application Form** Completed application form

2. **Expression of Interest Statement – 1 page maximum** Briefly outline your proposed project including anticipated resources required (i.e. lab time, staff time, access to other researcher / professionals, etc.) and anticipated outputs.

3. **Curriculum Vitae – 5 pages maximum** Outline your recent qualifications including links to any published works, past projects, reviews, etc.

4. **Support Materials - maximum of 3** Include a maximum of 3 support materials that you feel best connect to your proposed project. Support materials could include artwork samples (i.e. images, video, audio, etc.), published materials about your work (i.e. critical writing, news clippings, etc.), website links, etc.

   Please submit all support materials in digital format. Time-based media (i.e. audio, video, web-based, etc.) should be limited to a maximum of 2 minutes per sample.

5. **Documentation List** Please provide a brief description of the support materials submitted. For the following items, please include:
   - Digital images: year, title of work, medium, dimensions, location
   - Video / Audio: year, title, production credits
   - Published materials: date, author, publication

Application Form

Applications are due on or before Monday, March 24, 2017 at 4:00 p.m. Applications may be sent via email to **livelab@mcmaster.ca** or by mail to the address below. If submitting by email, please include the following information (application form) in the body of the email.

Name (project lead): _____

Address _____

City _____ **Postal Code** _____

Phone (day) _____ **Phone (evening)** _____

Email _____

Website (if applicable) _____

Signature of applicant_____ Date _____

Send Submissions to:
livelab@mcmaster.ca

OR

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For Questions:

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