Postdoctoral Associate in Clinical Neuroscience / Music Neuroscience

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Position Summary

The Music, Mind, and Medicine (3M) Laboratory seeks an ambitious, creative, and mission-driven Postdoctoral Associate with expertise in clinical neuroscience and music neuroscience to join an innovative interdisciplinary research program at the intersection of music, neuroscience, mental health, neurodevelopment, rehabilitation, and precision medicine.

The successful candidate will work closely with the Principal Investigator and collaborators across the University of Rochester Medical Center and the Eastman School of Music to develop and lead research investigating how music and the arts influence the brain, behavior, physiology, and health across the lifespan.

Research within the laboratory spans multiple domains, including neuroimaging, neurodevelopment, autism, mental health, music therapy, computational psychiatry, precision medicine, and large-scale data science. Current projects include studies utilizing one of the world's largest deep-phenotyping datasets on music and health, comprising over 200,000 participants across more than 150 countries, as well as advanced neuroimaging studies employing a head-only SIGNA MAGNUS MRI system.

The University of Rochester offers an exceptionally rich translational neuroscience ecosystem. The successful candidate will have opportunities to leverage advanced research infrastructure including dual-EEG paradigms, mobile brain/body imaging (MOBi) technologies for studying naturalistic behavior and group dynamics, large-scale clinical and population datasets, biobanks linking biological samples with longitudinal health data, and cutting-edge neuroimaging resources. The laboratory actively seeks to integrate these approaches to understand the mechanisms for how music and the arts change the brain and to help move the field towards a precision medicine approach.

This position offers a unique opportunity to help shape a rapidly emerging field and to contribute to research with the potential to transform scientific understanding, clinical care, and human well-being. The ideal candidate is intellectually curious, collaborative, analytically rigorous, self-disciplined and conscientiousness, and excited by the opportunity to build a high-impact research program at the interface of neuroscience, medicine, and the arts.

Primary Responsibilities

Research & Scientific Leadership (30%)

- Design and lead independent and collaborative research projects.
- Develop novel studies in clinical neuroscience, music and health, or related areas.
- Analyze and interpret complex behavioral, physiological, neuroimaging, and clinical datasets.
- Contribute to the development of new research directions and grant proposals.
- Present findings at national and international conferences.
- Collaborate with faculty, clinicians, and researchers across disciplines.

Neuroimaging & Clinical Research (30%)

- Design and conduct neuroimaging studies involving MRI, EEG, hyperscanning, MOBi, and related technologies.
- Oversee studies involving clinical populations, including individuals with neurodevelopmental, psychiatric, or neurological conditions.
- Contribute to experimental design, data acquisition, preprocessing, and statistical analysis.
- Develop or apply advanced analytical methods for brain, physiological, and behavioral data.
- Integrate neuroimaging, physiological, and biobank-derived data where appropriate.

Manuscripts, Grants & Dissemination (30%)

- Lead and co-author peer-reviewed manuscripts.
- Contribute to NIH and foundation grant proposals.
- Assist in the preparation of progress reports and presentations.
- Participate in dissemination and public engagement activities.

Laboratory Leadership (10%)

- Mentor graduate students, undergraduate students, and research assistants.
- Contribute to a collaborative and inclusive laboratory environment.
- Leadership in laboratory meetings and contribute to and interdisciplinary initiatives.

Minimum Qualifications

- PhD in neuroscience, psychology, cognitive science, biomedical engineering, psychiatry, neurology, music cognition, computational neuroscience, or a related field.
- Demonstrated record of peer-reviewed publications.
- Experience conducting research involving human participants and/or clinical populations.
- Expertise in at least one of the following:
  - Clinical neuroscience
  - Neuroimaging
  - Computational psychiatry

- Developmental neuroscience
- Music cognition or music therapy research
- Machine learning or data science

• Strong quantitative and analytical skills.
• Programming experience in Python, R, MATLAB, or related languages.
• Excellent written and verbal communication skills.

Preferred Qualifications

• Experience working within an academic medical center or research hospital.
• Experience with MRI, hyperscanning, EEG, MOBi, or multimodal neuroimaging analyses.
• Experience with large-scale datasets, biobanks, machine learning, or longitudinal data.
• Experience studying neurodevelopmental, psychiatric, or neurological populations.
• Interest in translational research and developing novel music-based interventions.
• Experience contributing to NIH or foundation grant proposals.
• Experience mentoring students or junior researchers.

The ideal candidate will be:

• Scientifically creative and intellectually curious.
• Excited by interdisciplinary collaboration across neuroscience, medicine, psychology, engineering, and music.
• Comfortable working in a dynamic and entrepreneurial research environment.
• Interested in building an internationally recognized research program.
• Passionate about advancing our understanding of how music and the arts can improve human health and well-being.