

Research Associate in Music Acoustics

Faculty of Science

School of Physics

REF. 9856

Salary Level A: A\$81K – A\$87K per year (plus 17% employer superannuation and leave loading)

The Music Acoustics Lab at UNSW Australia conducts research into musical instruments and the voice and, in these areas, it is one of the world leaders. It's also a cool place to work. This position is to conduct research into the transient and sustained sounds of reed instruments and to understand the physical processes associated with high quality performance and sound. The candidate will have a PhD and research experience in some or all of these areas: physical modelling, psychophysical measurements and analysis, real time measurement and analysis, transfer functions, acoustical instrumentation, reed instruments, adaptive control, sound recording, sound synthesis, image analysis, sound analysis.

This is a fixed term full time (35 hours per week) position available for 2 years.

An applicant may be required to undergo pre-employment checks prior to appointment to this role.

Applicants should address the selection criteria found within the position description, in their online application.

For further information about the position, please contact Joe Wolfe on telephone (61 2) 9385 4954 or email J.Wolfe@unsw.edu.au

Applications close: **7 February 2014**

Position title:	Research Associate	Level:	6
School/Unit:	Physics	Faculty/Division:	Science
Written by:	Joe Wolfe	Date:	17/12/13

A. A. JOB PURPOSE

This position is to conduct research into the transient and sustained sounds of reed instruments and to understand the physical processes associated with high quality performance and sound.

A. B. MAIN DUTIES *(For broadbanded position, show duties at each level)*

The successful candidate will conduct research at a postdoctoral level including some or all of the following areas:

- Experimental measurements of the instrument-reed-player system, including development of instrumentation and adaptive control, and analysis of the results
- Coordinating, recording, analysis and synthesis of performances by experimental subjects
- Constructing and supervising psychophysical experiments and analysing their results.
- Theoretical modeling of the instrument-reed-player system
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

A. C. ENVIRONMENT *(Use some or all of the following headings)*

Position Context

The Music Acoustics Lab at UNSW Australia conducts research into musical instruments and the voice and, in these areas, it is one of the world leaders. Its members publish regularly in the top acoustics and general science journals, usually as collaborative teams. It also maintains a large web site to make the results of its research available for the benefit of music performers, teachers and students.

Reporting Relationships *(Attach organisation chart)*

The successful candidate will report to the academic staff in the lab. Other research associates, research students also report to the academic staff, and the successful candidate will assist in the supervision of research students.

Challenges & Constraints

The principal challenge is to perform original research at the top international level. In this project we seek to analyse subtle but important effects in systems with human variability, and technical difficulties, including the difficulty of making transfer function systems in noisy environment, and in quantifying subtle psychophysical effects and correlating them with physical phenomena.

A. D. PRINCIPAL ACCOUNTABILITIES *(For broadbanded position, show duties at each level)*

- All experiments will be planned in close collaboration with the project research team, which will usually include academic staff and possibly research students
- New experimental equipment will be designed in collaboration with the team and built either in the lab or in the Faculty workshops.
- Raw results will be recorded in appropriate media and formats and analysed for discussion with the project team.
- Research manuscripts for journal and conference papers will be written in the project research team.
- The successful candidate may be involved in the supervision of research students.

A. E. SELECTION CRITERIA *(For broadbanded position, you may show additional criteria at the higher level)*

The candidate will have a PhD or equivalent qualification and research experience in some or all of these areas:

- acoustical instrumentation measurement and analysis
- acoustical transfer functions
- sound recording, synthesis and analysis
- image analysis
- psychophysical measurements and analysis
- musical reed instruments
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training
- Knowledge of equal opportunity principles