**Project Title:** Postural physiology: optimising musical performance  
**Code:** SoMS8

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<tr>
<th>Host School/ Institute</th>
<th>Address: Medical Foundation Building / Sydney Conservatorium of Music / ICT Innovation Lab</th>
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<td>School of Medical Sciences/ Biomedical Sciences</td>
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**Personal Supervisor:** Professor Philip Poronnik

**Phone:** 0412 058 245  
**Email:** philip.poronnik@sydney.edu.au

**Project Type:** Laboratory based

**Project Category:** Education, Technology, Physiology

**Project Keywords:**
1. musical performance
2. digital analysis
3. posture

**Project Description:**

Physical wear and tear is a hazard in any profession that requires repeated activity. In the context of music performance, the playing of musical instruments places a number of physiological challenges on the musician. One key element in the ability to perform effectively over a lifetime of practice is posture. Posture is a dynamic physiological process resulting from the coordination of reflexes and other inputs in the context of the task being performed. Hence understanding how posture can impact on musical performance as well as performer longevity are critical aspects to consider in training musicians – and has been an ongoing issue in music education.

Recent technological advances have made motion monitoring devices and analysis software readily affordable and adaptable. As such these devices can be adapted and deployed as instructional / learning tools in many contexts.

This is an exciting collaborative project that between Physiology, the Sydney Conservatorium of Music and the ICT Innovation Lab that is an initiative of the Charles Perkins Centre research node on Health and Creativity. You will use portable devices such as the Xbox Kinect and Mindwave EEGs to design and develop monitoring and feedback solutions to aid instructors in helping music students improve postural parameters as they play their instruments. We are looking for a creative and motivated student who can work with an interdisciplinary team.

**Note:** in order to undertake this project you will need to have some Object oriented programming skills using languages such as C#, C++, Python or Java.