Job Profile

Core job information

Job Title	**Postdoctoral Research Assistant**		
School	Electronic Engineering and Computer Science	Section/Centre/Unit	Centre for Digital Music
Career Family	Academic and Education (Research)	Grade	4 through 5
Working hours per week	35	Appointment period	Fixed Term
Reports to (job title)	Dr. Andrew McPherson	Current location	Mile End

Job purpose

Digital Musical Instrument Design and Evaluation: EPSRC Reference: EP/N005112/1
The activities associated with this post are to:
- study the interaction between performer and instrument in various musical contexts;
- design and conduct experiments assessing how changing musical instrument properties affects the performer experience;
- work on a team including the PI and another PDRA to design new digital musical instruments which build on the existing skills of trained musicians;
- work with motion capture systems, hardware sensors and audio signal processing to analyse musical performances;
- publish original research on musical interaction in relevant journals and conferences;
- explore broader applications of the research to extra-musical domains including human-computer interaction;
- assist with impact and public engagement activities involving musicians, students, electronics and audio hobbyists, and industry

Knowledge, Skills & Experience

	Requirements	Essential/Desirable
Qualifications	1. Have a PhD, DMA, or equivalent degree in one of the following: Computer Science, Electrical/Electronic Engineering, Psychology, or Music (performance/composition/musicology)	1. Essential

Experience	2. Experience in conducting studies with human participants (e.g. HCI user studies, evaluations of interactive systems, performance studies, psychology experiments, etc.) 3. Experience conducting studies with musicians 4. Musical proficiency (any genre/instrument) at an intermediate level or higher, either through formal training or equivalent performing/composition experience 5. Ability to read standard Western music notation 6. Experience designing or evaluating interactive hardware or software systems 7. Appropriate publication or artistic record 8. Experience working on interdisciplinary projects combining the arts with engineering or computer science	2. Essential 3. Desirable 4. Essential 5. Desirable 6. Desirable 7. Essential 8. Desirable
Knowledge, skills & abilities	8. Understanding of the research process 9. Working knowledge of audio signal representation and processing 10. Familiarity with the current literature and methods in human-computer interaction research or a closely related field 11. Programming ability in one or more of: C/C++, Python, Matlab 12. Ability to design electronic circuits and/or work with microcontrollers 13. Knowledge of statistical analysis of data (e.g. using R, Python or SPSS) 14. Familiarity with experimental design for human studies 15. Familiarity with qualitative analysis methods for human studies 16. Familiarity with the use of motion capture systems 17. Ability to organise and prioritise own work and organise research within the project timetable 18. Effective team working. 19. Good communication skills 20. Analytical skills	8. Essential 9. Essential 10. Desirable 11. Desirable 12. Desirable 13. Desirable 14. Desirable 15. Desirable 16. Desirable 17. Essential 17. Essential 18. Essential 19. Essential
Attitude & disposition	20. Flexible and co-operative 21. Self-motivated and hardworking 22. Willingness to learn new skills	20. Essential 21. Essential 22. Essential
Other circumstances	23. Willingness to work flexibly in order to achieve project demands.	23. Essential

Working Environment

1. Contribute toward research in studying performer-instrument interaction and digital musical instrument design.

2. Responsible, under the general guidance of the Line Manager/Supervisor/PI, for undertaking the programme of work.

3. Prepare reports of appropriate research results for public presentation through seminars and conferences. Contribute to writing papers summarising research findings for publication in peer-reviewed journals (of high international standing where possible). Contribute to other reports where possible.

4. Comply with any requirements of the awarding authority.

5. Conduct empirical research as required by the research programme.

6. Collect data and undertake any appropriate analysis of data as requested.

7. Maintain appropriate databases, keeping accurate written and computerised records and to ensure that these records are stored in a secure place, and to maintain confidentiality of all electronically stored personal data in line with the provisions of the Data Protection Act.

8. Attend regular meetings with the research team and investigators as required.

9. To attend and participate in the School academic activities.

10. Undertake literature and database searches for the research project, and to be able to interpret and present the findings of the literature searches and advise the research teams appropriately regarding potential projects as required by the line manager/supervisor/PI.

11. Keep up to date with subject related and professional issues, in particular, developments in the specific subject area.

12. To undertake certain housekeeping responsibilities, the nature of which will be discussed and agreed by the Line manager/supervisor/PI, but which may need to be changed from time to time during the course of the project. [from old form]

13. Comply with relevant College policies and regulations with due regard to financial matters, harassment, equal opportunities, public interest disclosure, health and safety, intellectual property and patenting, data protection or any other rules, regulations or codes binding on the member of staff.

14. Participate in the College Appraisal Scheme (QMPAS) and demonstrate a commitment to continuing professional development.

15. To show a professional attitude to matters of laboratory hygiene, organisation and safety, and to observe and to take an active role in fulfilling all statutory health and safety regulations.

16. To ensure that all research is undertaken according to good research practice and guidance, such as Good Clinical Practice (GCP), / Good Laboratory Practice (GLP),/ College and Trust protocols.

17. To undertake any other relevant activities related to the project as appropriate.

18. The duties of the post outlined above are not exhaustive, and the postholder will be expected to be co-operative and flexible, undertaking such administrative and other duties as may from time to time be reasonably expected of a member of research grade staff in a university.

19. These duties will be subject to review in line with the changing requirements of the School or College, and with the development needs of the postholder as identified through regular review/appraisal processes.

Freedom to Act & Decision Making

20. Responsible, under the general guidance of the Line Manager/Supervisor/PI, for undertaking the programme of work.

21. Develop, in collaboration with the Principal Investigator/line manager/supervisor, such new techniques as may be necessary to achieve the objectives of the research.

22. Make research initiatives and original contributions to the research programme wherever possible, and to contribute freely to the team research environment in a manner conducive to the success of the research project as a whole.

23. Monitor research findings with a view to commercial exploitation, and to inform the Head of School (or line manager, as appropriate) and Head of Innovation and Enterprise of any appropriate novel research outcomes [from old form]

24. Assist in the supervision of student projects, if necessary.

25. Make research contributions to the research programme wherever possible, and to contribute freely to the team research environment in a manner conducive to the success of the research project as a whole.

26. Monitor research findings with a view to commercial exploitation, and to inform the Head of School (or line manager, as appropriate) and Head of Innovation & Enterprise of any appropriate novel research outcomes.

27. Judgements involving complex facts or situations, which require analysis, interpretation and comparison of data or any other information.

28. To adopt flexible working practices where required.

29. Encourage interaction between team members.

Communication & Networking

30. Exchange relevant information, relevant to the project both internally and externally: with staff, students, senior management and peers.

Internal
31. Establish and maintain relationships in order to collaborate with researchers and academics in own team, within the School and outside the School within the College when necessary.
32. To work with students.

External
33. Work with external collaborators as agreed with the Supervisors.
34. Providing, receiving and presenting complex information to a large group of people.

Finance/Resource Management

n/a

People Management

1. Where appropriate to assist the supervision, training, expert advice and / or assistance to new members of the team, research students.

This job description sets out the duties of the post at the time it was drawn up. Such duties may vary from time to time without changing the general character of the duties or level of responsibility entailed. Such variations are a common occurrence and cannot of themselves justify a reconsideration of the grading of the post.

Organisation Chart