

SUITABILITY FOR THE POSITION

Bearing in mind the job opportunity, please tell us in your own words why you believe you are a suitable candidate, and what particular qualities and experience you would bring to the post if appointed: this section is your opportunity to sell yourself as the best person for the job. *(Please use an extra sheet if necessary)*

I am interested in the position of Tinkering Officer as it looks to be both a rewarding and challenging position.

Experience of delivering educational STEM activities to a schools and public audience

I have had various positions involving presenting or explaining Science, Technology, Engineering and Maths, STEM, related subjects to different audiences. Although many have not been directly related to mainstream education the subjects have been scientific in nature and the audiences have been broad in nature. I have taught degree level electronics at south Wales University as well as skill-share sessions at Bristol Hackspace. Recently I have had to make several presentations to audiences that are mostly blind or visually and hearing impaired regarding the internal operation of a mechanical braille machine.

Enthusiasm for inspiring and developing skills in others

I have had a lot of positive feedback whenever teaching, running a skill share evening or when someone has asked me to explain anything technical or scientific to them that is within the scope of my knowledge. This is particularly inspiring as once someone has got over the initial hurdle of starting a new hobby, such as getting their first Arduino project running, or how to maintain their motorcycle, or how to brew mead, they are left with the confidence and enthusiasm to continue further. It is a joy to have someone contact me months, or years, later telling me of their project that was only possible because I had helped them get started or that they completed the same task again unaided.

Experience of designing and implementing practical and innovative activities for audiences

I have run and assisted in several skill-share events and regularly give informal support to friends and individuals attempting to use electronics or the Arduino for the first time so their efforts are successful thus enabling them to continue learning.

Educated to minimum of degree level in a relevant discipline (e.g. a science, technology, DT, IT, engineering)

I have a degree in electrical and electronic engineering. I also have a science based post graduate qualification in Materials Engineering as well as attending in-house metallurgical and process control courses when working in the steelworks research dept.

Good understanding of the needs and abilities of school and public audiences

I have worked as a visiting lecturer at University of South Wales teaching degree level electronics to full time students as well as skill-share sessions at Bristol Hackspace to a more general audience. I have also worked with school children on several projects as part of my work with Echo Community Group.

Experience of producing clear, concise written material and other resources for a range of audiences

I have had to produce user manuals for equipment I have made. I have also produced presentation material for professional and technical audiences whilst working in the steel works research dept and degree course notes for the university as well as producing presentation material and reports for public audiences for Echo Community Group.

Experience of managing projects and organising events

I have have co-coordinated a large European steel research program involving four partners in four countries and scheduled progress and technical meetings between all partners. I have also organised public events whilst working for the community group, such as street-clean events and street parties.

Excellent, broad-ranging technical knowledge and skills in a range of areas (potentially anything from soldering irons and solar panels to electronics and computer programming)

My background and working careerer has exposed me to many disciplines. In addition to my formal education and work with electronics I also have an aptitude for general engineering. For instance apart from being competent in designing electrical circuits and PCB generation I have built many mechanical installations for the electronics to control, particularly relevant are several aeronautically based interactive interpretations involving motors, lights and displays to convey a facet of aviation. I have also had to apply scientific principles in order to complete some commissions. For instance I was asked to make a theatrical smoke machine to give the illusion a tobacco pipe was smoking which involved fluids, pumps, vaporisation, metallurgically and corrosion etc.

In addition to electronic tools such as soldering irons, oscilloscopes etc I can use most general workshop equipment from pillar drills, tapping threaded holes, welding, grinding, lathes, bending equipment etc. I also regularly use popular more advanced tools such as laser cutters, 3D printers and desktop CNC mills. I have my own small but fairly well equipped workshop and have my own tooling such as a desk top CNC mill, lathe and welding equipment in addition to the expected vice, pillar drill and hand tools.

I am an active member of Bristol Hackspace and get involved with group projects and also on a steering group for starting a Newport Hackspace. The involvement with these groups has given me hands on experience with the growing maker movement in addition to the ability to become familiar with many of the popular maker tools that give the extra edge to hobby projects.

Experience of managing or mentoring other staff or volunteers

During my work for British Steel I had to supervise the day to day management of several placement students and a technician and had to ensure they kept on track with work programmes and general performance and workload.

Proficiency in computing and coding

I have strong ICT skills and can competently use Microsoft Office (Word, Excel, Powerpoint) however I prefer Linux and OpenOffice (Writer, Calc, Impress) for personal and business use. I regularly use various micro controller development environments and electronic and circuit design suites. I also use various different software tool paths to use 3D printers, CNC mills and Laser Cutters and PCB production on a regular basis. I have a predisposition for using open source software where possible however I have no aversion to using any package or platform to perform the task at hand.

I code comfortably in C but also use assembly language when needed. I have worked with a few other languages such as BASIC and occasionally Python. I have picked up the basics of additional languages when necessary to collaborate on existing projects. I work with the Arduino, ArduinoMega, Raspberry Pi platforms and have also used other development boards when needed. I also code bare Atmel processors for many projects I have worked on.

Familiarity with the current National Curriculum

As I have a 6 year old daughter I am more familiar with this age groups education. I am happily involved with my daughters education and believe in inclusive education and opportunity for everyone. I have also joined the schools parent council to support and also gain a greater insight into the schools needs .

Experience of training others

I have experience teaching Degree level electronics at South Wales University and running skill share events at Bristol Hackspace as well as informally teaching people of a wider audience to code the Arduino and use basic electronics. As a general preference I prefer teaching someone to do something than to do it for them or solve their problem.

Knowledge of risk assessment and health and safety processes

Ability to work safely and effectively within a workshop-style environment

I have had to complete risk assessments for hazardous areas in the steelwork galvanising plant involving poisonous gasses, molten metal and exposed live wiring. I have also had to complete risk assessments for public events for the community group as well as my own risk assessments for my self employed work. I have a level headed approach to health and safety and a pragmatic attitude to resolving situations and risks that are all part of the health and safety process.

Ability to research and understand new and varied science and technology topics

The world of electronics is a fast moving one. I have to keep abreast of current developments of components and their capability to stay in the loop of what is current. I also have a keen interest in science and will often research subjects that have appeared in the news.

Enthusiasm for practical, making activities and a commitment to developing these skills in others, Confident, flexible and engaging presenter / educator

Both my professional and personal experiences have demonstrated to me that I have an aptitude to understand many scientific concepts and to then explain that concept to someone else who often does not have a strong academic background. When helping someone solve a hobby project issue I often prefer telling them why it is not working so they can arrive at the solution with me rather than just giving them the answer which is harder in the short term but allows them to use the same reasoning when facing similar problems.

Excellent written and verbal communication skills

I have had to write reports and present to a wide range of audiences. These have ranged from expert audiences in European scientific conventions as part of my steelwork research, lecturing students at university, through to public audiences when hosting community group AGMs or festive evenings.

Ability to lead and manage complex and time-pressured tasks and events

Innovative and self-motivated, Excellent time-management skills

My self employed work involves many different customers with many different expectations and deadlines. I have to manage all of these clients demands around one another so as to deliver timely results and on the rare occasion of conflicts or changing workloads I've had to negotiate and changes.

Good team player with ability to enthuse and motivate others

I have always been a good team player. I am comfortable working in a group, sharing ideas and knowledge and then keeping momentum on my own personal tasks.

My friendly approach to knowledge, ideas and pragmatic solving techniques often encourage people to continue with their own ideas and projects.

In relation to the position of tinkering Officer I have always been able to explain what I am working on to other people irrespective of their own background, skill level, age or ability. I respond well to public presentations and groups of strangers and enjoy explaining how things work and the science and mechanics or electronics behind why it works. I work well in groups and am an open and supportive team member. I feel I can bring my broad skill base and rich working experience with an aptitude for understanding science and integrating new skills and ideas to present them to others.

I also work well in a dynamic and friendly environment of At-Bristol makes me feel as if I'd fit into it very well.

LEISURE INTERESTS

How do you spend your spare time?

I have always had an active hobby of making electronic gizmos and gadgets. I usually have a personal project I am working on. My most recent tinkering includes a dot matrix LED message badge for my daughter, a POV propeller message sign made from a junk fairground toy and servo control system for a larger automotive project.

I enjoy walking my dog and since my partner has got a horse helping look after it is also stimulating.

I am a keen cyclist, especially in summer months, and have taken part in past cyclo sportive events in Newport.

As a home owner I do all my own DIY and home maintenance.

I am a keen all weather motorcyclist and enjoy touring as a pastime. I have toured around the French and Swiss Alps and into Germany, Holland, Italy and France. More recently I stay closer to home and have explored the Highlands of Scotland. I perform all my own maintenance, engine tuning and repair work.

I have also modified and built custom motorcycles in the past and have won several awards for engineering. My current ongoing project is making a scratch built diesel powered motorcycle with the end plan of attaching a sidecar. So I have had to research and understand the appropriate current regulations for self built road vehicles.

REFEREES

Please list two people whom we may approach for professional references - one of these should be your present employer if applicable. (Please complete fully.)

Professional (delete as appropriate)

Name Gavin Elliot Turner

Address _____

Department of Interpretations and Collections _____

Imperial War Museum, Duxford, Cambridgeshire _____

Cambridgeshire CB22 4QR _____

Occupation Senior Displays Technician _____

Tel No _____

Personal (delete as appropriate)

Name Dr Christopher Tubb

Address 37 Albert ave

Newport _____

NP198FS _____

Occupation Senior Lecturer _____

Tel No 07971863544

E-mail gelliott-turner@iwm.org.uk

E-mail christopher.tubb@southwales.ac.uk

May we approach the above referees at this stage? (delete as appropriate)

YES

YES

Have you ever been convicted of a criminal offence?
(Declaration subject to the Rehabilitation of Offenders Act 1974)

NO

If yes, please give details:

How did you find out about this vacancy? (Name of website etc)

Word of mouth also spotted it on Bristol Hackspace mailing lists.

Signature

Date 30/1/16.

EQUAL OPPORTUNITIES MONITORING

At-Bristol values diversity and believe that people with different backgrounds, skills and experiences can bring fresh perspectives and help us improve the services we provide. All applicants are invited to provide information about their ethnicity, gender and disabilities to help us monitor our equal opportunities policies and codes of practice. This information will be used for statistical purposes only and will form no part of the selection process.

Post applied for Tinkering Officer Date 29/1/16

Job Reference

Medical Conditions					
	No	Do you have any medical conditions you would like us to be aware of? If 'Yes', please provide details below.			
Disability					
	No	The Disability Discrimination Act 1995 (DDA) defines a person as disabled if they have a physical or mental impairment, which has a substantial and long term effect (ie has lasted or is expected to last at least 12 months) on the person's ability to carry out normal day-to-day activities.			
Do you consider yourself to have a disability according to the terms given in the DDA?					
Gender					
Male	X	Female		Prefer not to say	
Ethnic group - (These are based on the Census 2001 categories, and are listed alphabetically.)					
Asian, Asian British or Asian Irish.					
Bangladeshi		Indian		Pakistani	Other Asian Background
Black, Black British, or Black Irish.					
African		Caribbean		Black Somali	Other Black Background
Chinese, Chinese British, or Chinese Irish.					
Chinese		Other Chinese Background			
Mixed					
White & Black African		White & Black Caribbean		White & Asian	Other Mixed Background
Other					
Please state				Prefer not to say	
White					
White-British	X	White-European		White Non-European	