

# **VOLUNTEERING WITH SCHOOLS & YOUNG PEOPLE**

Institution of  
**MECHANICAL  
ENGINEERS**



**Improving the world through engineering**

# CONTENTS

## **PART ONE**

Introduction	Page 3
Glossary	Page 3
Benefits of Volunteering	Page 3
Partner Organisations	Page 3
IMechE Education Structure	Page 4

## **PART TWO**

STEM Ambassadors	Page 5
Bloodhound Ambassadors	Page 5
Education Resources	Page 6
Working with Teachers and Schools	Page 6

## **PART 3**

Register as a STEM Ambassador	Page 7
Register as a Bloodhound Ambassador	Page 10

## **PART 4**

Frequently Asked Questions	Page 11
----------------------------	---------

# PART ONE

## INTRODUCTION

Technology is an increasingly important part in our lives yet the number of young people currently choosing to become an engineer remains too low. Becoming a STEM and or Bloodhound Ambassador is one way in which you can help to redress this and show how fulfilling life as an engineer can be.

## GLOSSARY

**STEM** – Science Technology Engineering and Mathematics

**STEM LEARNING** – National organization for managing STEM Ambassadors

**DBS** - Disclosure and Barring Service, previously known as a Criminal Records Bureau (CRB) it is a check to prevent unsuitable people from working with children

**EEGS** – Engineering Education Grant Scheme, a joint funding scheme run by the IMechE and the IET

## BENEFITS OF VOLUNTEERING

Inspiring the next generation of engineers is one of the most important priorities for the Institution's Members, and volunteer STEM and/or Bloodhound Ambassadors play a crucial role in helping to address the growing engineering skills shortage. Exposure to STEM professionals has been shown to have a profound impact on students' opinions and attitudes to STEM as a career. As an IMechE Ambassador you would have the opportunity to make a positive impact at the ground level.

As well as being a hugely rewarding experience, becoming a STEM and/or Bloodhound Ambassador has many other benefits. Taking part in outreach activities will develop your communication skills and increase your confidence at public speaking, since the best communicators are those who can explain their work to non-specialist audiences. You will also be joining an enthusiastic group of like-minded engineers from diverse backgrounds. If you are working towards professional registration, becoming a STEM Ambassador is a great way to improve your D and E competencies.

The Institution is particularly interested in recruiting volunteers from groups traditionally underrepresented in engineering. By sharing your experiences with students of similar backgrounds you can become a powerful role model for students who may otherwise discount engineering as a career choice.

## PARTNER ORGANISATIONS

The Institution works closely with a number of organisations who share our goals of widening participation in STEM subjects and promoting engineering as a career. There are too many organisations to list individually, but some of our key partners include **Tomorrow's Engineers, Primary Engineer** and **Arkwright Scholarships Trust**. For more information on how to volunteer with any of our partner organisations please click on the following [link](#).

## IMECHE EDUCATION STRUCTURE

<p><b>IMechE Education Staff:</b> The Institution has a number of staff working to support the Institution's education strategic objective of inspiring the next generation. They are responsible for managing the implementation of the Institution's education objectives, development of resources and managing the Ambassador network.</p>	<p><b>Education Advisory Group (EAG):</b> The EAG is a group which comprises IMechE staff and members, experienced volunteers, Young Member representatives, external advisors, academics and education professionals who discuss ideas and inform the Institution's education strategy. Members of the EAG are responsible for reviewing applications to the <a href="#">Engineering Education Grant Scheme</a>.</p>
<p><b>Education and Skills Strategy Board (ESSB):</b> The ESSB is responsible for setting the education strategy for the Institution and reports directly to the Institution's Trustee Board.</p>	<p><b>Regional Education Officers (REOs):</b> REOs are regional volunteers who coordinate and keep track of IMechE STEM outreach activities local to you. Your local REO can be a great source of information about activities in your area. To find out who your local REO is contact your regional committee through <a href="#">Near You</a>.</p>

## **PART TWO**

### **STEM AMBASSADORS**

STEM ambassadors are volunteers from science, technology, engineering or mathematics (STEM) related jobs or fields.

As a STEM ambassador your role could range from speaking to young people 5-18 years old and conducting an experiment or activity, to judging a school STEM competition or helping at a careers' fair.

This volunteering opportunity is provided by STEM LEARNING , a national charity that delivers programmes creating opportunities for young people through STEM initiatives. We work extremely closely with STEM LEARNING to raise awareness of the programme. This means that even more engineers have the opportunity to share their enthusiasm for engineering with young people.

STEM Ambassadors should:

- Be enthusiastic about STEM subjects and want to encourage young people to enjoy them.
- Be an IMechE member (any membership grade).
- Want to inspire young people or support teachers in the classroom by explaining current applications of STEM in industry or research.
- Based in the UK

Information on how to register as a STEM Ambassadors can be found later on this guide.

### **BLOODHOUND AMBASSADORS**

Bloodhound SSC ambassadors visit local schools to ignite the next generation's interest in engineering, technology, science and mathematics.

As a Bloodhound ambassador, you'll be assigned a small number of schools close to you, that you will then visit and talk to the pupils about the underlying engineering principles of Bloodhound SSC; including the drag, thrust, aerodynamics, friction etc of a car that will cover a mile in 3.6 seconds.

You'll help the kids make uniquely designed Bloodhound SSC balloon cars, based on an understanding of engineering principles discussed in the presentation. The children can decorate the cars then optimise and race them. This will be supported by worksheets based on the curriculum, information sheets on the entire project including the geography of the race location and driver stats.

Bloodhound ambassadors should:

- Be members of the Institution
- Be willing and able to work in primary and secondary schools, to make engineering fun and exciting for children
- Be enthusiastic and engaging as this role is to excite and inspire young children
- Registered STEM Ambassador
- Based in the UK

Information on how to register as a Bloodhound Ambassadors can be found later on this guide.

## **EDUCATION RESOURCES**

The Institution has a range of resources available for IMechE STEM Ambassadors ranging from banners and promotional materials to careers resources.

- A selection of education banners are held within each region. To request the use of a banner please contact your local Regional Chair and/or Regional Education Officer via [Near You](#).
- Printed education and promotional materials are available to all registered IMechE STEM Ambassadors. The selection of materials available and the online order form can be found [here](#). When requesting resources you should leave at least two weeks for the order to be processed.
- Power Point presentations and ideas for STEM activities can be found on the [Tomorrow's Engineers](#) and [STEM Learning](#) webpages.

IMechE Bloodhound Ambassadors may request any of the above. In addition IMechE Bloodhound Ambassadors can request a Bloodhound Toolkit. The Bloodhound Toolkit is designed to be used with a class of 30 students. Contents of the toolkit and online order form can be found [here](#).

## **WORKING WITH TEACHERS AND SCHOOLS**

Teachers deliver the national curriculum while STEM Ambassadors provide what is known as 'enrichment and enhancement'. It is not necessary for you to know the national curriculum in depth however, your areas of interest or engineering skills will likely tie into several areas. It is very beneficial for teachers if you can link your planned activity to an aspect of the national curriculum as this allows the activity to be integrated into what the students are currently learning. If you are responding to a teacher request, for example through STEM LEARNING, then the teacher is likely to have provided some information about what kind of activity they would like and what areas you should focus on. You should contact the teacher before the event to discuss your plans. Email is often the best way of communicating with teachers, although they may have limited access to their emails so don't expect an immediate response. When proposing an activity to a school keep the description interesting and succinct. Think through any risks so that you propose activities that are easy for schools to say yes to. Schools are generally very supportive of STEM Ambassadors running practical activities, but you should provide details in advance of what you plan to do and any support required. This is particularly important if you are planning on giving a presentation or running an activity which requires a lot of space at schools, so that they can allocate appropriate facilities.

# PART THREE

## REGISTER AS A STEM AMBASSADOR

### 1. Register as a STEM Ambassador.

Registration is free, quick and easy. Please complete STEM LEARNING 's online registration using the following link

<https://www.stem.org.uk/user/register?destination=dashboard>

### STEP 1 –create your account

#### Create an account

Please fill in your details. On completion, you will receive an email from us with an activation link allowing you to confirm your registration.

Title \*

- Select a value -

First name \* Surname \*

Username \*

This is your public screen name and will be visible to other users of the website.  
Spaces are allowed, punctuation is not allowed except for periods, hyphens, apostrophes and underscores.

Email address \*

Confirm e-mail address \*

Password \* Password strength: \_\_\_\_\_

Confirm password \*

#### Registration is completely free

Becoming a member will allow you to:

- Access thousands of resources
- Book onto our CPD activities
- Sign up to eNewsletters
- Contribute to online groups

Registering is free, quick and easy! If you have any problems please [contact us](#).

### STEP 2 –select 'STEM Ambassador volunteer'

I am a... \*

**School, College or University**  
*Teachers, technicians, trainee teacher or those working in education settings should sign up here.*

**STEM Ambassador volunteer**  
*If you work in a STEM-related role register as a volunteer and sign up as a STEM Ambassador.*

**Employer or professional institution**  
*Employer or professional institution representatives should sign up here.*

**Youth or community group**  
*Youth or community group leaders should sign up here.*

**Other**  
*There are many reasons that you might be signing up. You may work at a STEM support organisation, be a researcher or you might not currently be employed.*

### STEP 3 –enter your personal information

Register as an Ambassador

**Home Address**

Postcode \*

Address \*

Town or city \*

Phone number \*

Mobile phone number

Date of birth \*

Ethnicity \*

Gender \*

**STEP 4 – please select Institution of Mechanical Engineers as your/one of your professional institutions. Please tick the box allowing STEM LEARNING to share details with IMechE. This information is vital and without it IMechE are unable to maintain an accurate and up to date record of our STEM Ambassadors.**

**My employment**

Employment status \*

**Professional Institution Membership**

I am a member of one or more professional institutions/trade associations

Please tick if you are happy for us to share your STEM Ambassador volunteer work and contact details with the professional institutions you are a member of.

**My activity preferences**

My Skills

My Areas of Expertise

Biology  Chemistry  Computing  Engineering

Mathematics  Physics  Technology

## STEP 5 – indicate what activities you might be interested in getting involved with

The screenshot shows a registration form titled "My activity preferences". It is divided into three sections: "Type of activity", "Age range I'd prefer to work with\*", and "Groups I'd like to work with".

**Type of activity**

- Employability skills session e.g. mock interviews/CV writing
- Hands on practical
- Hosting a visit to a STEM workplace
- Information and advice for senior leaders e.g. head teachers, governors
- Interactive STEM session e.g. speed networking or Q&A session
- Judging a STEM competition/challenge
- Mentoring or support e.g. for STEM projects
- Other
- Professional development of educators
- STEM careers talk and/or advice session
- STEM presentation e.g. assembly or learning
- Support an exhibition or event

**Age range I'd prefer to work with\***

- 4-5 years
- 5-7 years
- 7-11 years
- 11-14 years
- 14-16 years
- 16-19 years
- 19+ years
- Working with teachers

**Groups I'd like to work with**

- Governors
- Other
- Parents/carers
- Students
- Teachers
- Technicians
- Youth group

### Registration form complete.

#### 2. Connect to your local STEM Ambassador Hub.

Once registration form has been submitted your details will be passed onto your local STEM Ambassador Hub who support ambassadors in your area. The STEM Ambassador Hub will be in contact with next steps.

#### 3. Complete your free of charge Enhanced Disclosure Check.

An enhanced DBS check is mandatory for all those working with schools, colleges and youth groups. Your local STEM Ambassador Hub will be in contact with details on how to complete a free DBS check.

If you already hold a valid enhanced DBS certificate and are registered with the DBS Update Service you do not need to complete another check. Your STEM Ambassador Hub will instead ask you to provide them with your DBS certificate and ID.

#### 4. Complete an induction.

The induction can be completed either online or face to face. Your STEM Ambassador Hub will provide you with dates for upcoming face to face inductions or if you prefer provide you with the link to the online induction course.

The induction will provide you with all the necessary information as to the role of a STEM Ambassador and answer any questions you may have.

#### 5. Receive your ID card and become an approved STEM Ambassador.

Having completed the DBS check and induction your STEM Ambassador Hub will confirm that registration has been successful and you are officially a STEM

Ambassador.

## **6. Update your IMechE record**

Once your local STEM Ambassador Hub has confirmed your STEM Ambassador status please write to the IMechE Ambassador team [ambassador@imeche.org](mailto:ambassador@imeche.org) to request your membership record to be flagged as STEM Ambassador.

## **7. Start volunteering**

You can start looking for volunteering opportunities through STEM Learning and through your IMechE Regional Education Officer.

# **REGISTER AS A BLOODHOUND AMBASSADOR**

## **1. STEM Registrations**

In order to register as a Bloodhound Ambassador you must first sign up as a STEM Ambassador (please follow the steps in 'Register as a STEM Ambassador' section)

## **2. Contact IMechE Ambassador Team**

Once STEM registration has been confirmed please write to the IMechE Ambassador Team confirming your STEM Ambassador status and express your interest in becoming a Bloodhound Ambassador

## **3. Bloodhound Registration**

The IMechE Ambassador team will pass your details onto Bloodhound who will confirm the final stages of registration

# PART FOUR

## FREQUENTLY ASKED QUESTIONS

### **Q: What kind of activities can I get involved in?**

**A:** IMechE Ambassadors participate in many different types of activity ranging from large events such as manning stands or running demonstrations at Big Bang science fairs right through to mentoring individual students, and everything in between. Ambassadors work with a variety of ages, aiming to inspire younger students and provide valuable advice to older students who are taking the first steps in deciding their future careers. You need not limit yourself solely to promoting mechanical engineering; as a STEM Ambassador you can get involved in any STEM related activity you have passion and enthusiasm for.

### **Q: How much time do I need to commit?**

**A:** To remain registered as an active Ambassador with STEM LEARNING you only need to take part in one outreach activity per year. However, most of our Ambassadors do much more than that and the amount is up to you. Some activities such as presentations or workshops in schools necessarily take place during working hours but other activities such as mentoring can be carried out in your own time.

### **Q: How do I find out about volunteering opportunities?**

**A:** Once you have registered with STEM LEARNING you can let your STEM LEARNING contract holder know that you are interested in receiving information on the full range of activities they support. You will be able to view all the Ambassador requests advertised on their website.

Once you are an Institution STEM Ambassador, you will receive volunteering opportunities as and when they arise in your region. You should also get in touch with your local Regional Education Officer (REO) who will be able to keep you up to date on IMechE specific events you can support as many regions also host networking events for Ambassadors and teachers to meet and discuss opportunities.

Bloodhound maintain an up to date website and regularly send out newsletters with information about upcoming events to people who have registered interest.

### **Q: What is STEM LEARNING ?**

**A:** STEM LEARNING is a national charity delivering programmes that create opportunities for young people through STEM subjects, one of which is the STEM Ambassadors programme. The Institution works very closely with STEM LEARNING and their vision is to increase young people's choice and chances through science, technology, engineering, and mathematics. STEM LEARNING is coordinated nationally, but runs on a regional basis. More information and how to register with STEM LEARNING can be found on [www.stem.org.uk](http://www.stem.org.uk) All Institution Ambassadors must be registered with STEM LEARNING because they provide the Disclosure and Barring Service check.

### **Q: Do I need a Disclosure and Barring Service (DBS)?**

**A:** An enhanced DBS check is mandatory for all those working with schools, colleges

and youth groups. All ambassadors are required to sign up through STEM Learning . Once you have completed the STEM ambassador registration form you will be contacted by your local STEM Ambassador to complete a DBS check. If you already hold a valid enhanced DBS certificate and are registered with the DBS Update Service you will not be required to complete another check and instead your STEM Ambassador Hub will ask you to provide them with your DBS certificate and ID.

**Q: I already have a DBS check do I need to a new form if I want to sign up as an IMechE STEM Ambassador?**

**A:** Even if you have previously obtained a DBS check we would ask that a new check is completed via STEM LEARNING . This is the only way IMechE and STEM LEARNING can ascertain the check has been conducted.

**Q: Who do I need to tell about activities I take part in?**

**A:** If you are a STEM Ambassador you should always inform your regional STEM LEARNING team before an event to ensure you are covered for insurances purposes. They will also be able to add a record of the event to your profile. You should also let your REO know so that they can keep track of the activities happening in the region and report them back to the Institution They may also be able to help you find other volunteers to assist with the activity if necessary. Please also remember to log the activity on CPD.

**Q: If want to become a Bloodhound Ambassador, do I still have to register as a STEM Ambassador with STEM LEARNING ?**

**A:** Yes in order to ensure all ambassadors are DBS checked and receive training registration through STEM LEARNING is required prior to becoming a Bloodhound Ambassador.

**Q: Can I sign up as both a STEM and Bloodhound Ambassador?**

**A:** Yes you can register as both a STEM and Bloodhound Ambassador.