



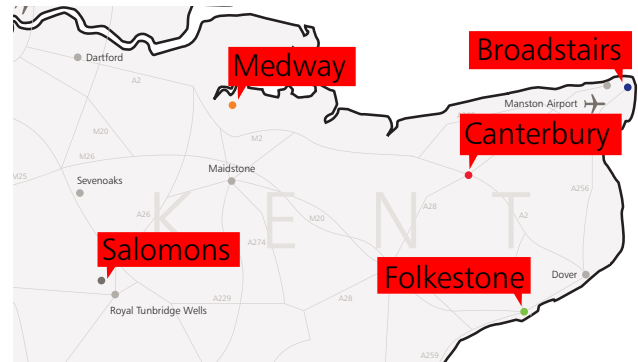
# Kent & Medway STEM

Progress Report 2011

# About Kent & Medway STEM

Kent and Medway is a large geographical area, but because of the University's cross region presence, all schools teachers and/or students can and do experience a consistently high-quality service.

The university has a strong historical links to the local authorities within area. There are shared programmes with the University of Kent (BA QTS Science and Maths programmes) as well as shared STEM activities (Solar Cars). Members of staff work with, and for, the National Centre for Excellence in the Teaching of Mathematics, The Association of Science Education as well as the Science learning centres.



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# Progress 2009 - 2011

The contract was awarded to Canterbury Christ Church University (CCCU) in December 2008. The first quarter payment for ambassadors showed that there were only 26 registered ambassadors who had been active during the previous year.

There were only 125 registered ambassadors who had contact details and on the first quarter review the state of the region prior to CCCU taking over was alluded to:

**“There is a steady increase in active Ambassadors, although there has been a major cleanse, resulting in a substantial fall in registered Ambassadors. The targets are challenging, as the original levels appear to be a mis-representation of actual active Ambassadors”** (RD Q1 2009)

On the 18th April 2011 there were a total of 707 ambassadors registered to the region. Of these 669 have been registered since the contract was awarded to Canterbury Christ Church University.



## Ambassadors: the Changing Population

Positive steps have been taken to ensure that the cohort of ambassadors within Kent and Medway is as diverse as possible. The changes in BME resulted from marketing Stem to a range of audiences, showing appropriate images as well reiterating the advantages of the STEM ambassador programme.

In 2008 the programme was called the SEAs programme and comprised of ambassadors who were Engineers or Scientists. In the last year the number of Technology ambassadors rose from 9 to 76, with Maths rising from 5 ambassadors in 2010 to 62 this year.



# Employer Involvement

The range of businesses who engage with STEM in the region is growing as the numbers of ambassadors increase.

Some ambassadors have changed careers in the last 3 years and phone contact has been vital in re-engaging these ambassadors. A new employer – 'Keysinthepost' was re-engaged by this personal contact.

## Major employers:

- BAE Systems
- Cummins
- dstl
- EDF Energy
- GlaxoSmithKline
- Keir Construction
- National Grid
- Pfizer
- Inetiq
- Delphi Diesel

SMEs including Camtec, Dover Coast Guard, Keysinthepost, metronetallianc Induction. Kent and Medway STEM offer bespoke training within companies which:

- reduces environmental impact
- and is convenient for ambassadors

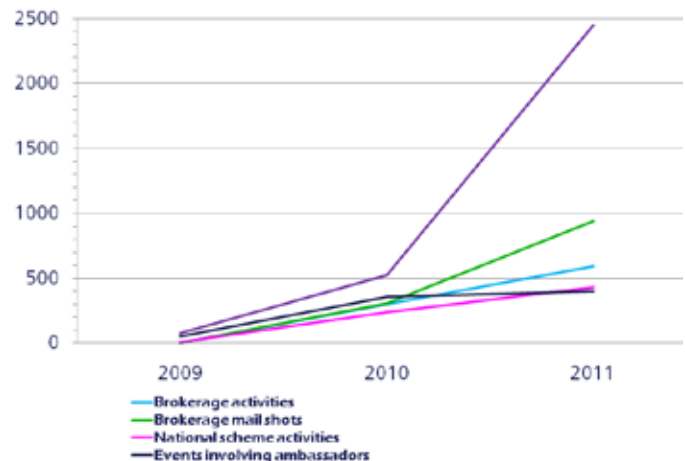
## Brokerage progress

The increase in the number of brokerage activities is clearly seen with the data from the STEMNET database. Ambassador led activities have grown from 55 in the first 6 months to 2451 in January 2011.

There has been an increase in the use of national schemes, this is important as many of these are free to schools. The local schemes are often provided by local organisations and have a set charge for schools to participate.

The steady increase in broker activity has been made possible by the increase in ambassadors, with more than 700 ambassadors it is possible to meet the needs of many more schools and events.

All schools in the region have escalator rating and as the FE sector had little engagement prior to 2010 they were made a priority. The events involving ambassadors has increased dramatically in the last year.

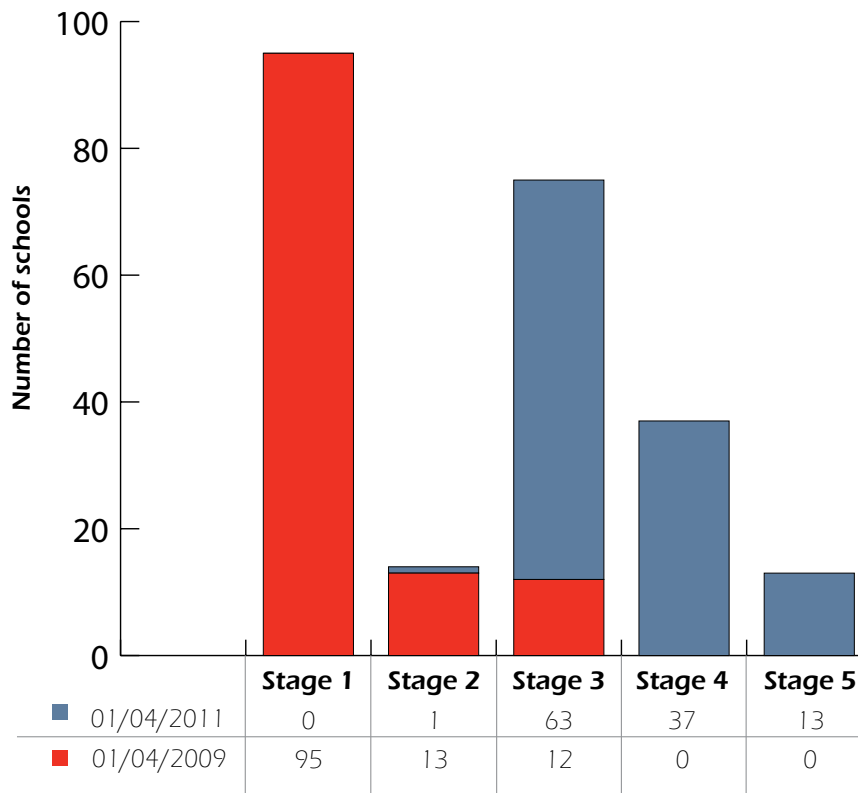


# Secondary Schools Escalator Ratings

The escalator database is used to target support and the schools' engagement is looked at regularly to ensure that the escalator is a true representation of their current engagement.

As a result there has been some further evaluation of those schools at stage 4 and 5. This will be vital if the proposed plan to link these schools with ambassadors, in a pilot, is to be successful.

All primary schools have been assessed and regional activities to promote engagement have been undertaken i.e. South Malling cluster.



At the start of the contract less than 1 in 4 secondary schools engaged with ambassadors, this now stands at 3 of out 4. In 2011 87% of FE colleges had engaged with ambassadors programme.

There is only 1 secondary school who has an escalator rating of stage 2 in the region. Specific targeting is occurring but the needs of each school is taken into account when communications are undertaken.

The working relationships with local authorities and others enables a clearer picture of the sub-region to be understood.

# Communication Strategies

Getting the message to schools and colleges is the main focus for both the brokerage and the ambassador programmes. The school newsletter is currently produced 3 times a year. The ambassadors newsletter is sent monthly to all ambassadors. The electronic request form has made it easier for schools to identify the information needed to ensure a successful event.

Audit forms help schools to identify the type of enrichment and engagement activity occurring in their school. The audit process has also helped schools to expand the year groups or the STEM subjects that they are involved with. The Medway LA adviser included the audit as part of a heads of science training activity and copies were provided to Kent and Medway.



## Do you know about Kent & Medway STEM?

Canterbury Christ Church University is your Kent and Medway STEMPOINT contract holder with STEMNET providing:

- a brokerage service working with schools and colleges in the Kent and Medway region, helping young people and their teachers access a range of STEM enhancement and enrichment opportunities including STEM Clubs and links with STEM Ambassadors;
- coordination for the region of the STEM Ambassadors Programme, which enables anyone with **science, technology, engineering and maths (STEM)** skills to inspire young people and demonstrate the possibilities of STEM subjects and careers. STEM Ambassadors are people working within science, technology, engineering and maths careers, who have **volunteered to work in schools**. They each hold a current CRB certificate and have attended an induction session discussing how to approach volunteering in schools. They are generally not trained teachers, **but people who can bring the real world to life for your class.**

For tailored advice and to request an Ambassador-led activity, please email [stempoint@canterbury.ac.uk](mailto:stempoint@canterbury.ac.uk)

STEM Directories provide enough information for teachers to pinpoint quickly which activities and events provided by organisations across the UK will enrich their school curriculum. You can find out more about the STEM Directories by visiting [www.stemdirectories.org.uk](http://www.stemdirectories.org.uk)

## STEM Conference 10 June 2011 Canterbury Christ Church University

Primary and Secondary workshops including...

- Earth Science Teachers
- Fun Physics
- Science Outside the Classroom
- The Invention Creator
- The Science of Teamwork
- Mathematics workshops for both primary and secondary
- The Scientist Journal
- Astrodome
- Whiz Kids
- ...and much more!

All participants will receive 5 books that support the teaching of nature of science.

Please visit [www.kentandmedwaystem.org.uk/conference](http://www.kentandmedwaystem.org.uk/conference) to enrol. There are early booking reductions, as well as reductions for multiple attendance from one school. Each school will also get a "goodie bag" to support STEM in the classroom.

Schools  
Update  
Spring 2011

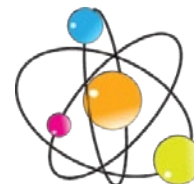
## STEM Clubs Network

Whether your STEM club has been established for years, or you are only just thinking of starting a STEM club, the STEM Clubs Network is for you.

Managed by STEMNET, it enables you to explore ways of making your STEM club something really special! Through the network, club leaders get the chance to collaborate with other STEM club leaders via the web, CPD and other specifically tailored events.

A wealth of STEM club-related ideas and resources can be accessed, without cost, online at [www.stemclubs.net](http://www.stemclubs.net)

To affiliate to the STEM Clubs Network simply send an email to [join@stemclubs.net](mailto:join@stemclubs.net) stating your name (title, first name and surname), school name and school address. We'll do the rest.



# Website

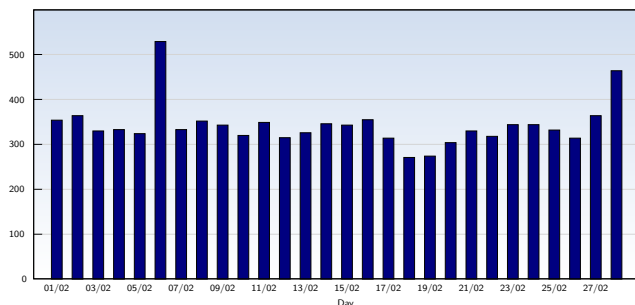
The website is a very successful and effective form of communication. The continued improvement and constant updating of materials on the website has enabled it to be an invaluable way of communicating with all the schools and colleges in the area.

Additional materials are updated upon the website each week and new features have been added. The regular updating of the website ensures that it is a one stop place for information on all aspects of the STEM contract. Whilst it does not replace STEM Networking, its aim has always been to provide information and guidance to schools and ambassadors. It is used most on Mondays!



**Monthly Report 01/02/11 - 28/02/11**  
For kentandmedwaystem.org.uk

## Unique Visits



Date	Amount
Tuesday 01/02/11	354
Wednesday 02/02/11	364
Thursday 03/02/11	330
Friday 04/02/11	333
Saturday 05/02/11	324
Sunday 06/02/11	529
Monday 07/02/11	333
Tuesday 08/02/11	352
Wednesday 09/02/11	343
Thursday 10/02/11	320
Friday 11/02/11	349
Saturday 12/02/11	315
Sunday 13/02/11	326
Monday 14/02/11	346

Date	Amount
Tuesday 15/02/11	343
Wednesday 16/02/11	355
Thursday 17/02/11	314
Friday 18/02/11	271
Saturday 19/02/11	274
Sunday 20/02/11	304
Monday 21/02/11	330
Tuesday 22/02/11	318
Wednesday 23/02/11	344
Thursday 24/02/11	344
Friday 25/02/11	332
Saturday 26/02/11	314
Sunday 27/02/11	364
Monday 28/02/11	464
<b>Total</b>	<b>9589</b>

# Evidence of impact

## Feedback from Ambassadors



“Excellent introduction to Engineering Challenge” **[STIXX]**

“I enjoyed this session. It cleared my mind on what to expect and what would be expected from me. Presentation style was very good. I am looking forward to my

next experience as an ambassador.”

**[Bath Bomb]**

“I will open myself more to opportunities such as this. It will make a great impact on students and I will learn new things.” **[Solar Car]**



Today gave me ideas for science team building sessions, meeting other ambassadors to share good practice and ideas.”

**[Wind Turbine]**

“Really enjoyable session...excellent...would definitely recommend this to others.”

**[Astrodome]**

The feedback from schools on the ambassador led activities shows that schools value the programme and are wanting to carry out more events as a result of previous successful engagements.

Using an electronic evaluation form enables feedback from ambassadors and schools to be collected in a time effective method. The system helps to ensure the ambassadors’ response is fed back into the system and to the schools. The feedback mechanisms also provides an insight into ambassadors perceptions, which can be shared at induction. Two such personal reflections are provided:

- I was very impressed with the school, both in its facilities and in the whole ‘buzz’ of the place. Also, seeing thriving STEM clubs is great and reflects the work of the school and Stempoint.
- Educated a few pupils on Chemical Engineering and roles we can play in industry. I also had a very good talk with a young man who is going on to do Chemical engineering at university and offered my experience and advice on how to make the most of his experience and future career.

## Enrichment and enhancement

Confidence is the limiting factor for ambassadors. Schools like to have activities that fit in with the curriculum, for which there is no charge and to be provided with support to run these. The development of enrichment and enhancement activities as part of ambassadors induction has been popular.

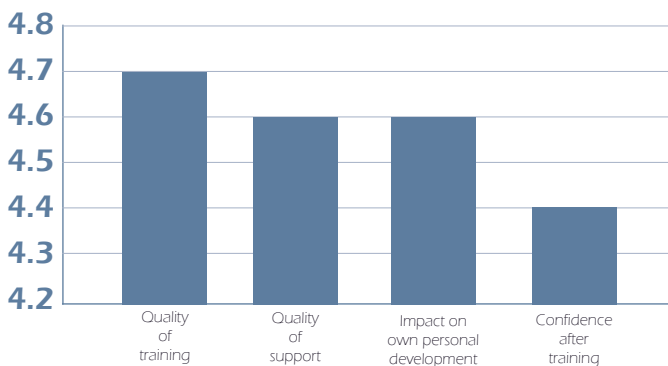
This also provides top-up training for some established ambassadors and activities that can then be taken into schools and offered free of charge. It has been very successful.

The materials and equipment are provided by Kent and Medway STEM and the feedback has demonstrated the effectiveness of this approach.



## Quality of training

All training events are evaluated before the end of the session. The score is out of 5 with 5 representing excellent / or strongly agree to 1 being poor / strongly disagree.



The quality of training provided is shown above as the mean. The lowest score is for confidence after training and whilst it is improved from confidence before the event, it has a mean of 4.4 .

This is in line with our expectations as ambassadors find their confidence improves whilst working in schools.

Plans are in place to improve this score, with the buddy system and regional team structure further supporting this aspect.

# Evidence of impact

## Feedback from schools and colleges

"We really appreciated your presentations, they started the day perfectly. It was fantastic to see those kids so engrossed. Thank you for giving up your time!" **(FE College)**

"The 3 ambassadors were all in attendance and did a very good job for us. We very much look forward to working with STEM for a similar event in the future" **(RGMS)**

"Students and teachers loved the STIXX activity. So much so that 3 extra sessions were run after the careers fair. Many Thanks" **(DTC)**



"The help from STEM was excellent and the Ambassadors really enthused the children about science. We would really like to invite more ambassadors in to do projects in the future! Please pass on our thanks to the ambassadors involved in our science week!" **(Primary School)**

## Forensic Crime Session:

- I liked today it will help in my future.
- It was interesting but not something I want to do.
- It was interesting to work on a crime scene.
- I liked going to court.
- It was good fun and much better than normal subjects.
- I did not know that CSI was not like real life.

**We hope that you enjoyed your day. Please could you provide some feedback on this event. This feedback will be used to design future events and activities.**

**1. What part of the day did you enjoy most**

*Making the genetic lamps*

*why? It was fun, and was unusual to find the vast variation between everyone's ideas even though we had the same equipment.*

**5. What have you learnt as a result of taking part in today's activities**

*public speaking, team building skills and that science is awesome.*

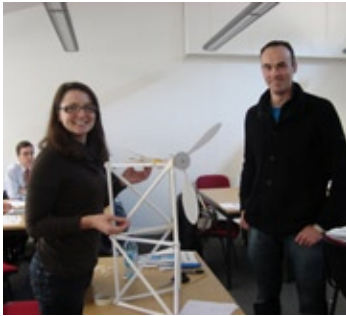
A gifted and talented chemistry activity was run at the University for a local technical school during Science and Engineering Week.

This use of laboratory space and exceptional teaching provided opportunities for pupils to engage in STEM. This was a trial but is an area for future development.



- “I enjoyed the experiments specially extracting the elements.”
- “Chemistry is for Everyone (not just geeks).”
- “I enjoyed practical work and I like the site of the University.”
- “Today was good because I learn more when doing practical because it helps me understand a lot more.”

- “One thing I enjoyed today is doing the practical because it was very interesting and fun to do. I in fact enjoyed the whole day and thought it was excellent experience.”
- “I enjoyed the Practicel!”
- “I really enjoyed today, learning about furthering my knowledge of chemistry and hydrocarbons. I hope to study chemistry further at A level!”
- “My favourite part was the water going everywhere in the practical.”
- “Inspiring Young Scientists!”



Kent and Medway STEM

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