

Number 7www.castme.org.uk**January 2014****CASTME for the Future**

A major development in the way CASTME works is being developed. It is spearheading a new approach in which its strategy is more fluid and its work is to be focused on real Science, Technology, Engineering and Mathematics (STEM) Educational developments in the Commonwealth which can be nurtured and sustained by it. The consultative Committee has reformed itself: The new Principal Officers are:

Chairman: Sue Dale Tunnicliffe
Vice-Chairman: Anoop Singh
Secretary: Colin Matheson
Treasurer: Jonathan Ling

The 2014 Alexander Prize* - this year is awarded to Mrs Nishi Misra:

Mrs Misra is the Principal of a School in Gwalior, India: Scindia Kanya Vidyalaya (SKV). She has engaged her female students into conducting research and surveys for over 15 months. These show that a large proportion of Gwalior residents live in slums, with no access to basic services such as water and sanitation. The female population has to resort to unhygienic alternatives to sanitary towels ranging from rags, leaves and even sand!



After much brain storming and research, the students identified a low cost fully indigenous sanitary towel machine designed, created and tested by a local industrialist in Coimbatore. This uses bio-degradable materials such as banana fibre.

Finance for the project was obtained from Funfairs, House Sales, and Alumni and from The Friends of Round Square, an international organisation, of which the school is a member.

The simple machines are the size of a student's desk: the raw-cotton sheets are torn and mixed with binding cotton in a Mixer Jar. 12 grams of the material is put into moulds which are compressed by an air-powered stamp. After inserting a water-proof strip, this initial napkin is sealed into absorbent tissue-cloth. An adhesive is applied and at the end of the assembly line, the towel is sterilised in a UV chamber.

Students distribute the towels to women in Zagra and Sausa on the outskirts of Gwalior and spend time with the women to educate them about the use and disposal of the towels.



The product only costs about 1 Rupee per napkin and Mrs Misra has commissioned her Commerce students to develop a Project to initiate this. Although SKV is an all-girls school, Mrs Misra invites boys and girls of many schools in the country and abroad, to sign up by building it as an activity during Youth Festivals that she holds at the school.

The initiative of setting up this unit to produce and distribute sanitary towels by her SKV girls helps many women to live with dignity.



This award was announced by Lynne Symonds at the ASE International Dinner in Birmingham on 9th January 2014.

***The Alexander Prize** is specifically for women educators working under difficult conditions. The award is named after the Alexander family who worked in science education in many commonwealth countries for over 50 years and is supported by the ASE. It is awarded to women who have made a significant contribution to encouraging the scientific, technological or mathematical education of girls or women in a situation of particular difficulty or scarce resources. A nomination for the Alexander Prize should explain the reasons for the nomination, and detail the achievements of the nominee/s over a period of time. And may be made by a third party, or by the nominee herself.

CASTME Award Scheme

Teachers and officials (advisers, inspectors, etc.) working in primary, secondary and tertiary education are invited to enter for the CASTME Awards. Entries should be educational projects, which address the social or human context of science, technology and mathematics. Individuals or groups may submit projects. Only one project can be accepted from any one individual or group. Projects previously submitted for a CASTME Award may not be re-submitted.

For further information and entry forms in regard to the CASTME Award Scheme or the Alexander Prize, please contact the Secretary, Colin Matheson on: colinmatheson@me.com.

The Intersection of Astronomy and**Poetry**

Professor Dame Jocelyn Bell Burnell provided an excellent interactive lecture in celebration of the late Dennis Chisman at Westminster University in March.

The subject chosen by Professor Bell Burnell looked at the intersection of Astronomy and Poetry. She covered such questions as:

- What topics have caught the attention of poets?
- How do they handle the science?
- Are they sympathetic or antipathetic?
- Are they up-to-date?
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The talk included the reading of some very interesting poems and members of the audience were invited to be the readers.

CASTME regularly commemorates the late Dennis Chisman, who died in 2008, with a prestigious Memorial Lecture. He was an inspirational founding member of both CASTME and ICASE (International Association of Associations for Science Education) and also its President.



Dennis Chisman

CASTME Partners with CIID at AGM

CASTME has formed a partnership with CIID – the Commonwealth Association for Infrastructure Development. Dr Lady (Sue Dale) Tunnicliffe was elected Chair of CASTME its Vice Chairman is the Chief Operating Officer of CIID, Anoop Singh. The CASTME Newsletter Editor, Jonathan Ling also a CIID Director is now the Treasurer of CASTME. CIID is the Commonwealth Institute for Infrastructure Development and works with Commonwealth (and other) Governments, public and private sector organisations, and other stakeholders on the development of economic and social infrastructure in many sectors, including education.

CASTME will collaborate with CIID to develop projects in the education sector in Commonwealth countries, and in particular the development and promotion of STEM projects. CASTME will also seek to collaborate with other Commonwealth organisations to help achieve the primary and subordinate goals of the post-2015 Development Framework for Education.

CASTME's partnership with CIID will focus on the development of educational infrastructure (both hard and soft infrastructure), and in particular the role of capacity building for human capital. This embraces the philosophy of "educate the educators".

**ASE Annual Conference 2015 @ University of Reading**
Wednesday 7th - Saturday 10th January 2015

Venue: University of Reading, Whiteknights, Reading, RG6 6AH [view map](#) and find directions

Feb 2014 - Call for proposals opens Sept 2014 - Delegate bookings open

Great personalised CPD with 250+ sessions dedicated to all science subject areas with excellent key speakers, ideas from the forefront of science research and lots of take-home resources. Visit over 100 exhibitors in our marquee market place, share an idea at a TeachMeet and network with like-minded science educators from all over the world.

The Pakistan Mothers Talking Science project will be starting in February and will develop activities to increase the self-esteem of mothers and raise their awareness of science all around them. Up to 60 mothers have come on board for this project which is to be run using charitable funds.

e-Newsletter

Future plans

CASTME has a unique and useful purpose and will continue to develop, as its prime purpose, the integrated delivery of STEM Education across the Commonwealth.

To this end it is in the process of:

- Restructuring and redefining its relationship with its overseas branches to maximise their effectiveness
- Seeking sponsorships
- Identifying a number of useful partners, with the potential for developing joint projects:
 - Forming a partnership with the Commonwealth Institute for Infrastructure Development (CIID)
 - Developing collaboration with the private sector, to provide “in kind” support as well as funding.

After implementing a new target operating model, CASTME will deliver through a “hub and spoke” model, with the regional branches providing local delivery in order to support local needs that vary from region to region.

As part of these considerations the organisation is:

- Examining its working practices to maximise their effectiveness.
- Expanding the number of Trustees, to ensure better continuity between meetings.
- Determined to clarify the role of membership and the potential source of income from subscriptions.
- Extending and clarifying the role of the officers of the organisation, to streamline its operational processes.
- Developing a new business plan and has established a sub-committee which will report on this early in 2014.

CASTME will continue to issue its newsletter, and is about to re-launch its website, which it has revamped to provide a more useful resource and is considering how it might establish an online journal available through this medium.

CASTME will continue to undertake core activities:

- The bi-annual Dennis Chisholm lecture
- On-going project work, such as the “Mothers talking Science” project in Bangladesh, now being launched in Pakistan
- Participation in conferences and workshops.
- Awards for contributions to STEM Education such as:
 - The Alexander Award.

Alexander Award Winner 2013

- *Lynne Symonds*

This was awarded to Mary Andoh, the tailoring teacher at Savelugu Vocational School for Girls, Northern Ghana, is a most worthy recipient of this prestigious award.

Although her success has been based on recommendations from those who are aware of her work, her own written report shows how proud she is of her work there. She had been paid for 8 months but worked for 2 years without pay. She earns approx. £100 for 4 months.

Mary wrote:

‘Their way of life has changed drastically since they are now able to read and write common sentences in the literal classes offered to them every morning before dispersing to their various departments. Because of moral lessons they have been protected from ill activities such as stealing and fornication. For now they know their right from their left when they are heading towards a serious zone in life.

In our communities the older people are now relieved from the syndrome of poverty since, after their course, their wards bring to the homes ability to start a small business to earn a reliable living.’

Mary gathers girls from the streets in the evenings and trains them to sew. This is voluntary. She currently has 20 and teaches them in her ‘shop’ in Savelugu. These girls can’t go to the vocational school as they are unable to pay the small fees. When she trained earlier girls, UNICEF paid her a small amount. However this meant she could apply to be a teacher at Savelugu.

Mary is doing what she can to encourage more girls out of virtual slavery and into education. She has asked for phone money so she can talk to the Imams etc. to ensure their continued support, and works hard to support the ethos of the school, particularly to motivate other teachers.

In teaching tailoring and weaving, Mary exposes girls and women to relevant mathematics. Cloth dying is based on scientific principles, requiring students to engage with filtering, obtaining natural dyes and understanding the differing properties of fabrics and threads as well as the engineering behind sewing machines and looms. In this region, less than 1% of heads of households have had any education, and schooling for girls is far behind that for boys. Most have little or no primary education and are illiterate and innumerate. Through their tailoring, they learn to read, write and work with numbers. The outcomes are life-transforming, leading to greatly enhanced autonomy through increased self-esteem. An educated girl is likely to ensure that all of her own children go to school.



ASTME

Commonwealth Association of Science, Technology and Mathematics Educators

e-Newsletter

- o The CASTME Annual Award

Some CASTME activities

CASTME organises international seminars and regional conferences and meetings



Delegates from many countries attending the Annual Workshop of CASTME Africa



Students working on a project for the CASTME Awards



The CASTME awards celebrate the creativity and energy of science teachers from around the world, in finding new and engaging ways to help their students learn Science, Technology Engineering or Mathematics.

We welcome entries from teachers in any Commonwealth country who has a brilliant idea for teaching which can be shared with others across the world.

See Page 1 for details of how to enter for the CASTME Awards.

Editor's Note: For the next edition of this newsletter please send articles to Jonathan Ling at: j.g.ling@btinternet.com by 31st March 2014. CASTME website: <http://www.castme.org.uk>

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