

**Dr Eric Albone ; Speech at Embassy of Japan on receiving Order of the Rising Sun, Gold and Silver Rays, 6 June 2017**

Your Excellency, I am greatly honoured to receive this prestigious award from the Government of Japan. To be recognised in this ceremony is amazing. But this award I feel recognises also the dedicated teamwork of many colleagues and friends in both countries, without whom absolutely nothing would have been possible. Of course high on my list comes my family, and particularly Kumyul my wife, whose support over the years has been constant. And most importantly, I thank you all for coming to be here this evening, some from considerable distances. This too is a great honour.

Beyond this It would be invidious of me to select names for mention from the many who have contributed so much, teachers.. central to the programme, scientists and engineers many of whom give their time and effort gratis, although we always make it a point of offering honoraria to the graduate and postdoc students who are involved. We thank them all, and also our facilitators, usually volunteer Japanese university graduate students or postdocs who play such a vital role in welcoming and supporting in their projects the often initially nervous Japanese students. This is the pattern in the UK; in Japan our colleagues closely follow our model, which is a remarkable endorsement in itself.

Each Workshop is one big team effort. It is hard work, it is huge fun, it is immensely rewarding, and very significantly the scientists, engineers, teachers and the schools they represent, as well as the facilitators very often return year on year to be involved again.

In all this there is however one person I must single out for special mention, one person who has worked with me from the beginning. This is Dr Toru Okano who teaches at the Rikkyo School in England. We have collaborated closely since the mid 1990s. Through him these Workshops have become truly international, and an initiative which has momentum in both countries. Thank you so much, Dr Okano.

In addition Clifton Scientific Trust is greatly indebted to our Patrons, the Earl of St Andrews, Professor Dame Athene Donald FRS, Professor Anthony Cheetham FRS, and Mr Mouhssin Ismail, and particularly to the late Lord Jenkin of Roding. Patrick was a great supporter and it was he who started us off along this path to partnership with Japan. He would have been delighted with the recognition

we are receiving today. As a non-scientist himself, he saw the point. In his words

*Few activities are more “global” than science and technology, and in an increasingly global world these Workshops convey this essential truth to young scientists in both our countries...*

Indeed in our tormented world, global understanding and friendship must play an ever greater role in any education worth its name, and here UK-Japan Young Scientists play a role. I am reminded of the words of a student at our very first Workshop in Bristol. She was a recent refugee from a particularly blood-stained part of Africa, and in her feedback she wrote

*It has made me realise how much differences we all have, yet we all have so much in common and can enjoy our differences instead of having conflicts*

Another student in the same Workshop wrote

*At the beginning of the week, communication was a problem, but now it has been overcome and everything is exciting..*

Yes the Workshops are about achievement in science and engineering, but at the same time they are about people, and we see the personal growth of the students from both countries involved through the Workshop's international teambuilding encounter with science and engineering.

Finance is really important of course. We have no endowment of our own and we thank especially the companies, charities, and individuals who have given such vital support over the years, and particularly this year we thank Barclays Bank, the Great Britain Sasakawa Foundation, Mitsubishi Electric, Toshiba and the Japan Women's Association in Great Britain who are all supporting our 2017 Workshops in Cambridge and in Kyoto. Thank you very much indeed.

We always ask schools to make a contribution but our aim in the UK is to engage as many able students from disadvantaged communities as possible, and here donations are vital.

Also following the terrible 2011 Japan earthquake and tsunami, we have used funds particularly donated over a number of years by Rolls-Royce and Barclays to invite students and teachers from communities in the Fukushima and Miyagi prefectures which have suffered so much to be our guests in our Cambridge Workshops. This is apart from in 2014 and 2016 when our Japanese colleagues have organised fantastic reciprocal Workshops for us in Tohoku University.

These Workshops work magic, as anyone who has taken part will confirm. This is quite a lot to do with the scientists and engineers who structure the experience so admirably, and also to the input of the accompanying teachers who are part of the team, but much of the magic comes from the students themselves who are set free to be the creative, people they truly are. Somehow the Workshops generate great commitment and the students work extremely hard. Faced with the challenge of living and working in small international teams on a very tight schedule (just 3 days with their scientists) with fellow students from a very different culture, and in areas far removed from anything they experience in school, all under the tension of having to give public team presentations at the end of the week, one would expect the atmosphere to be worried and grim.

Not the case! True the experience is very challenging, but there is much exhilaration and laughter. In just three days the students achievements can be amazing. Last year the engineers in Cambridge were so impressed by the achievements of the students who took part in the jet engine compressor blade design project they had run with us over a number of years in the Whittle Laboratory that they presented a formal account of their experience at the American Society of Mechanical Engineers conference in Seoul. The achievements were ranked amazing and the engineers'... Dr Sam Grimshaw is with us today.. contribution was awarded the Best Paper by the ASME Education Committee. This is but one example of amazing outcome, one which has been presented publicly.

So how does this happen? The students are put in an environment full of opportunity, where their contribution really matters, where they can think for themselves and question, and where in spite of the tension of the presentations on the last day, they are not judged. Rather they judge themselves to make the fullest use of the great opportunity. And it is about teamwork, and it is the achievement of the team that matters. The science and engineering are important, but as well as the encounter with amazing science and engineering, what they remember is the experience of working closely together in international partnership and forming friendships which bridge the continents. Teachers will tell you of lives changed. As one of our Patrons, Mr Mouhssin Ismail, Principal of the Newham Collegiate Sixth Form Centre in East Ham has written,

*We have found that on their return, students who found it difficult to speak in front of large groups now have the confidence and skill to do so.*

*Students who shied away from leadership positions are now putting themselves forward and leading a team to achieve a successful goal..*

We have a slide loop running .. do look at it... it goes round in about 2 minutes... just a variety of photographs which give a sense of the spirit of the workshops. You will see school students working in small international teams with British and Japanese scientists and engineers, you will see them giving their team presentations, you will see the amazing excitement they gain and the friendships they form, you will see a slide of happy teachers from both countries... taking back the experience to their own schools.

We believe we have come across an amazingly powerful model for engaging young people through science and engineering with the modern world and with their own futures as tomorrow's global citizens.

Again I feel greatly honoured, Your Excellency, to be recognised in this way by the Government of Japan.