



NEWS RELEASE

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Speech by the Chief Defence Scientist, Professor Lui Pao Chuen, for the Defence Science Club (DSC) “Next Generation Flyer” Annual Design Contest 1999 cum Young Defence Scientists’ Programme Prize Presentation Ceremony

07 Sep 1999

Good afternoon, principals, teachers, students and fellow colleagues.

I can feel the excitement in the air as I walked into this hall. It is a very familiar setting - one that we get to experience every year during the Annual Design Contest Finals. It is for this reason that I looked forward to be here this afternoon for the Defence Science Club Next Generation Flyer Design Contest '99 Finals. The organisers have also taken this opportunity to invite those who have participated and supported the YDSP mentorship programmes to be here.

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As part of our continuous effort to promote awareness of science and technology, MINDEF has since 1993 organised annual design contests for our promising young scientists in the schools. This year, the Next Generation Flyer Design Contest attracted 79 teams from 37 secondary schools and junior colleges. 30 teams made it to today's finals. I congratulate them for their achievement.

Four centuries ago, Leonardo da Vinci conceived the first flying machine. Today, in this contest, you are given the challenge to design and build an aircraft of the future. You are expected to develop a Next Generation Flyer that can fulfil two requirements, namely endurance and range. To make it even more difficult, constraints are imposed on the design. You have to work with a limited budget and cannot use any off-the-shelf aero-model engines,

electric motors and pre-fabricated airfoil wings or fuselage. Your creative mind is really put to test!

I can imagine the hard work and frustrations that you have gone through in the past six months. When you were given the contest requirements, some of you probably did not know how an aircraft flies! You pore over books, and come to understand the principles of basic aerodynamics and some previously unfamiliar terminology, such as rudder, aileron, elevator and aspect ratio. With the limited knowledge that you have gained, you start to form ideas of how your aircraft should look like. But the most difficult part is to build working models from your ideas. The first model will usually fail to work, as engineers and scientists can tell you. You go back to the drawing board to improve the design. When you are running out of time, frustrations and anxieties creep in. Those who persevered have reached today's finals. For those who did not reach the finals, it would certainly be worth the effort as you have gained additional knowledge beyond your physics textbooks. I hoped that through it all, you have gained a greater appreciation and love for science and technology.

This year, 28 students participated in our YDSP mentorship programmes - namely the Defence Science Programme, the Science Research Programme and the Mentor-Link Programme. For many of you, the research projects have given you an introduction to the world of research and development. While your mentors have guided you, I am sure each and every one of you worked hard on your own - in search of solutions to real problems that have no model answers. For the past six months, you have gone through the same long and arduous journey as your cohort in the Next Generation Flyer Design Contest.

It was with the intention of cultivating future scientists and engineers that MINDEF started the Young Defence Scientists' Programme (YDSP). With the strong support from the schools, I am sure our YDSP programmes and activities would continue to nurture Singapore's future generation of scientists, engineers and researchers. I look forward to continued active participation by our schools and JCs in our programme. This will also contribute towards encouraging a culture of scientific and engineering innovation in Singapore.

For those who win the prizes after the judging results, you will certainly feel a sense of great achievement after you have spent your effort and time for this competition amidst your heavy schoolwork. For the rest of the participants, I hope you will cherish the experience gained through this competition and continue to maintain your interest in such endeavours in the future.

Let me conclude by thanking the organisers and technical advisors of the Next Generation Flyer Design Contest - for helping our future generation in gaining a head-start in the world of science and technology. I would also thank the mentors in the YDSP Mentorship Programmes for their dedication and enthusiasm. You have given the students an invaluable insight into the world of research.

With that, I wish you good luck and a fruitful day. Thank you.

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