STEMSEL Club

STEMSEL FOUNDATION
MEMBERS NEWSLETTER

Special points of interest:

- **STEMSEL INDIA LAUNCHED!!!**
- **A big thanks to our biggest supporter**
- **Workshops - schools, home schoolers and for teachers**
- **Royal Adelaide Show 2015**
- **STEMSEL trip to SYDNEY**
- **Integration with Dare 2 Dream**

Science Technology Engineering Maths Social Enterprise Learning (STEMSEL) is the focus of our Club Workshops. We make this a fun, hands-on problem solving experience. We try to make it relevant to the students' learning in schools. eLabtronics invented a revolutionary technology called STEMSEL to make the programming of microchips simpler, to a level primary school students can use their creativity to Design, Build and Program their own micro-controller projects. Microchips or micro-computers are found in every facet of society e.g. smartphones, cars, aeroplanes, hospitals, water supplies etc. With STEMSEL, imagination is the only limitation. STEMSEL gives kids years of head start in a highly sought after industry skill.

2015 edition

Bill Spur-rs' STEM REVOLUTION

Mr. Bill Spurr AO

STEMSEL promotes STEM (Science Technology Engineering & Math) and CSR (Corporate Social Responsibility). Bill Spurr AO attended numerous high profile STEMSEL meetings in support of International and local students e.g; the CEO of 2006 Nobel Peace Prize Winner Dr. Yunus' Grameen bank in Sydney, STEMSEL India Directors and Australian Trade Commissioner in Delhi etc. The result of these meetings? Poof! A rising star is born! International Student Richards David set up STEMSEL INDIA to promote STEM and international education in his home country. Bill is the Chairman of Study Adelaide and he advises State and Federal Education Ministers. Bill has created many "happy students and happy parents" case studies with STEMSEL. For a long while now he has been an unsung hero and a Dark Knight in the STEMSEL success story and we would like to acknowledge all his efforts in promoting STEMSEL.

Bill and Peng in talks with Karen Iles at Pacific 2015 in Sydney (TATA's head of Corporate Social Responsibility)

At the 2015 Royal Adelaide Show, Bill along with Richards David presented to Premier Jay Weatherill STEMSEL Case Studies which create SKILLS, JOBS and MONEY! This high level STEMSEL network is opening new opportunities for students for their career development and for this we are very grateful to Bill.

John Phillips, TWC's manager of education projects who reports to the chief scientist in Canberra about STEM education interacting with Bill Spurr at the Royal Adelaide Show 2015

Science Week

Miro, Richards and Hari

A workshop at Elizabeth downs Primary School was held as part of Science Week. The workshop was attended by students and teachers from 10 schools. Each school was represented by a teacher and a group of 6 children. They were all taught the importance of technological advancements for the ever developing world. The primary focus was to empower the children from these schools by educating them about programming and its benefits. They were introduced to microchips and given tasks on how to solve everyday problems that arise in farms. So, they came up with ideas to make the lives of farmers easier through technology. Their projects were all entered into the Royal Adelaide Show as entries. These entries would then be judged along with all the other competitors present at the show.

Richards explaining to the children about the Importance of microcontrollers and programming

All the participants intently listening to Richards as he talks about the works of Dr.Yunus

A group photograph with all the children, Uni mentors and teachers at the conclusion of the event

Richards and Hari helping the kids with their projects

The Royal Adelaide Show this year was very special for us for a lot of reasons. Students from the Hallett Cove STEMSEL Inventors Club entered their Sea Perch into the official STEMSEL Inventors Competition at the Show, and demonstrated the devices in the Technology Centre Water Tank and members of the public were also allowed to drive the device using a basic controller.

One of the students involved in the Hallett Cove STEMSEL Club was Heath Eickhoff, who won the Best Exhibit title in the STEMSEL Robotics competition at the 2013 Royal Adelaide Show. Thanks to his prize from the RA&HS Education Foundation he was able to attend a robotics event in Singapore, where he learned about the Sea Perch submarines, bringing his knowledge back to the Adelaide. He will be going to USA next year to take part in the Sea Perch competition and will be competing with participants from around the world.

Our STEMSEL team also had the wonderful opportunity to meet with the Premier of South Australia Jay Weatherill and tell him about all the STEMSEL projects and how our projects can be used in the future as a way to conserve energy, end poverty and improve the economy.
Here is a list of all STEMSEL winners from the show

UAV:
Adnan Hasnat

Line Following Robot:
Up to year 4 - Alex Farmer
Year 5/6/7 - Maeve A Horvat (Best Exhibit)
Year 8/9/10 - Mia Juers

Soccer by remote control:
Up to year 4 - Alex Farmer
Year 5/6/7 - Nick Egert
Year 8/9/10 - Adam Bardon (Best Exhibit)

Judges with the winners

Innovation, Invention and Enterprise:
Entertainment + Recreation - Coin Sorting Machine
Environment issues + Agricultural applications- Seaperch (Heath Eickhoff- Best Exhibit in environment & best exhibit in innovation, invention & enterprise awards in robotics competition 2015)

Manufacturing & Industrial application- Anti-theft device (Zainab Rehman)
Energy & Transport- Letter box indicator (Madeleine Flapper)
Smart Farm (School group)- Sensor Tap (Elizabeth East Primary School)
Smart City- Carmel School (Kerala, India) (Best Exhibit)

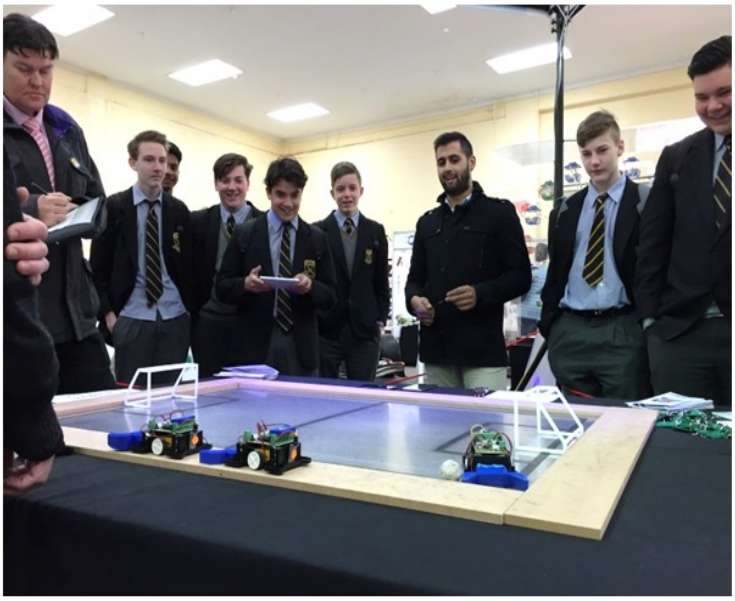

Heath with the competition judges

STEMSEL Genius (Adult Competition):
Bluetooth Scales (Colin Prydham-used in Kyrgyzstan)

A young mind of the public controlling Heath's Seaperch

Judges questioning a group of contestants from South Downs Primary school

Judges with Elliot Shine (self-watering plant)



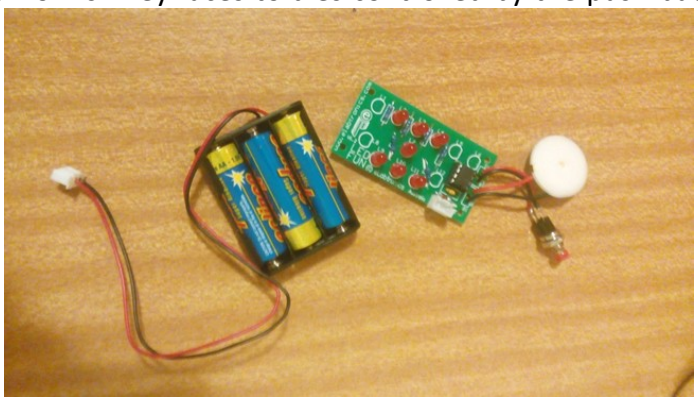
Intern Marcus with the students from St. Pauls during the soccer robot competition

Lance Feldman demonstrating his coin sorting machine to the judges at the Royal Adelaide Show 2015

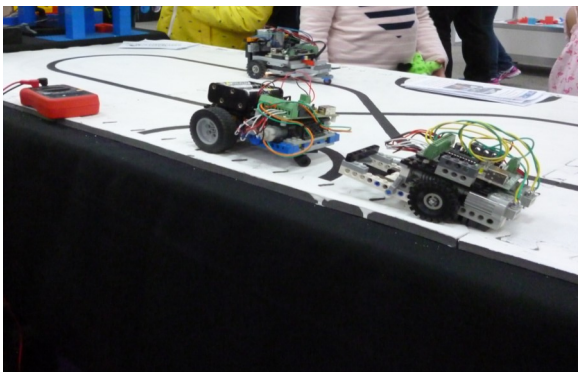
The public observing the working of the line following robot

Soldering Workshop

On the 30th of September, there was a soldering workshop held for kids as a holiday workshop. Kids ranging the age of 6 to 10 were taught how to handle a soldering iron and the consequences of mishandling it. They soldered LEDs, resistors, a push button and the microchip holder to the STEMSEL controller board using molten lead! At the end of the long and exciting workshop, the children made all sorts of things from smiley faces to dies controlled by the push button. And thankfully, nobody hurt themselves!



Line following ROBOT



STEMSEL holds a workshop every Wednesday for home-school kids and every week the kids learn interesting and informative projects that can be implemented in everyday life. However, one Wednesday we thought of spicing it up a notch and taught the kids how to build a smart robot that can follow the light on the ground and accordingly move towards it. There were interesting activities including a snail race and a quest to see which robot could follow the strip of white tape on the ground the longest!

STEMSEL trip to Sydney

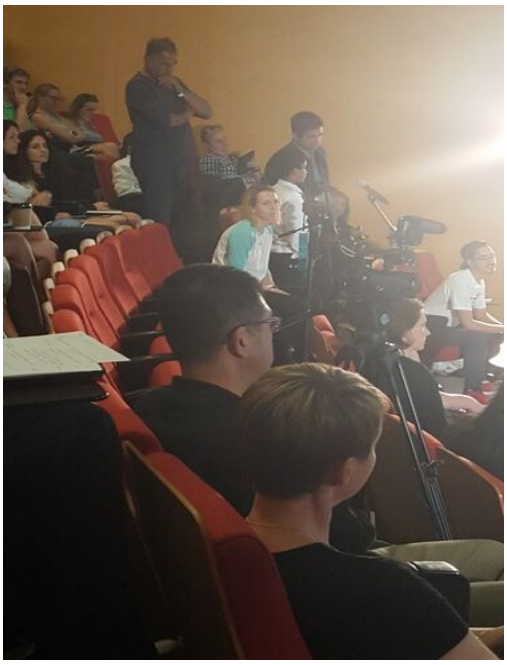
Peng, Richards, Bez and Hari with Dr. Yunus' Grameen Bank CEO Lopa Merotra and TATA head of CSR Karen Iles

A team of STEMSEL members went to Sydney to attend the Pacific 2015 Maritime conference from the 6th to 8th October where Mr. Peng Choo (director, STEMSEL) was pitching about the dangers of programming with the wrong intent. STEMSEL interns Hari, Richards and Bez got the opportunity to meet many eminent personalities like the Deputy Consul General of India Dr. Bahade, Dr. Yunus' Grameen bank CEO Lopa Mehrotra and the TATA Head of CSR Karen Iles. A workshop at Athena School was conducted for children up to year 10. Young STEMSEL inventor Adnan Hasnat attended the Social Good summit, where he posed questions to Australian micro financiers sitting in the audience.

Bez, Bill Spurr, Richards, Dr. Bahade (Deputy Consul General of India), Peng and Hari

Peng Choo (director, STEMSEL), John Kennedy (United Indian Association President), Hari and Richards

Peng interacting with the students of Athena School, Sydney



Adnan posing a question to the Australian micro financiers at the Social Good summit on 10/10/15

& Yuva Jyothi

STEMSEL met with Rita Shepherd, the deputy principal of St. Dominic's Priory College and learnt about their Dare 2 Dream (D2D) foundation helping extremely poor orphans in Nagpur, India. Each year they send a group of volunteers from Adelaide to visit the orphans and live with them. STEMSEL got in touch with these orphans and the priest, Father Herald D'Souza who manages the orphanage. We also learnt that a group of volunteers (engineering and business students) called MAD (MAKE A DIFFERENCE) teach these kids Math and English among other subjects.

Jason and Jamie at the STEMSEL stall in the fair

STEMSEL had a Skype session with Fr. Harry, the MAD volunteers and the enthusiastic orphans to explain to them what microchip programming is and how it could change the lives of the orphans. Blown away by this opportunity, the volunteers have started teaching the kids about Dr. Yunus and his micro-finance graph. After the seeing the positivity of the kids, we're looking to start a STEMSEL Inventor's club in the orphanage really soon.

Richards and Jason with the D2D team

STEMSEL was at the St. Dominican fair held on the 25th of October and our 3D-printed Street Light and Lego projects managed to catch the attention of many young kids. And what caught our attention was the fact that even the parents were fazed by our works. We were fundraising for the orphans in Nagpur and this was definitely a bright start for our journey.

Jason showing two enthusiasts 3D street lights

The MAD volunteer teaching the kids Dr. Yunus' banana micro-finance graph

Father Harry, MAD volunteers with the Orphans

The children of Yuva Jyothi in Nagpur, India learning about STEMSEL, programming and micro-finance

An Indian and South Australian success story

Richards David came to Adelaide to pursue electronic engineering and joined STEMSEL as part of his placement. He was amazed to see how kids here were taught university-level microchip programming and that triggered his mind. He started STEMSEL India in Kerala to teach school kids the same and employed 10 managers and engineers while still studying at university. This Indian success story was published in Indian magazines (Beyond India and Indus Age) which was published all over Australia.

Richards with Bill Spurr Advisor to Federal Minister of Education & Chair of Study Adelaide, George Chin Chinatown Ass, Chris Chong

Joseph C C Managing Director of STEMSEL India & A J Davis (Richards' Father) presented a souvenir to UniSA Vice Chancellor Dr David Lloyd

Richards with Study Adelaide CEO Karyn Kent

Richards explains to Loreto Students Wind Farm Generator STEMSEL Project to reduce greenhouse gases and learn about carbon economy

Hariharan (UTS Alumni) R7 STEMSEL NSW Manager with Richards Bill Spurr R3 & Royal Adelaide Show STEMSEL competitions judges John Phillips TWC USYD R4 Miro Barry Grear Past President of UN WFEO

Richards, STEMSEL Directors RAAF SQNLDR Gonzalez, Peng Choo & supporters of overall Royal Adelaide Show STEMSEL Competitions winner Yr6 Maeve Horvat

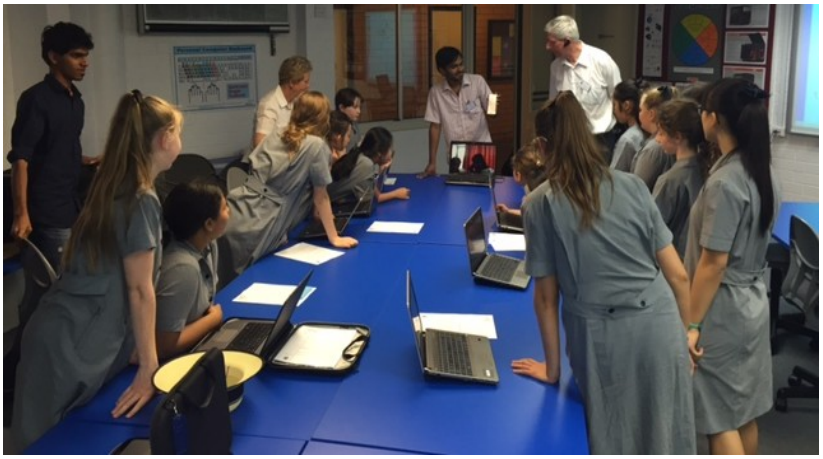
ST DOMINIC'S PRIORY COLLEGE

Workshop

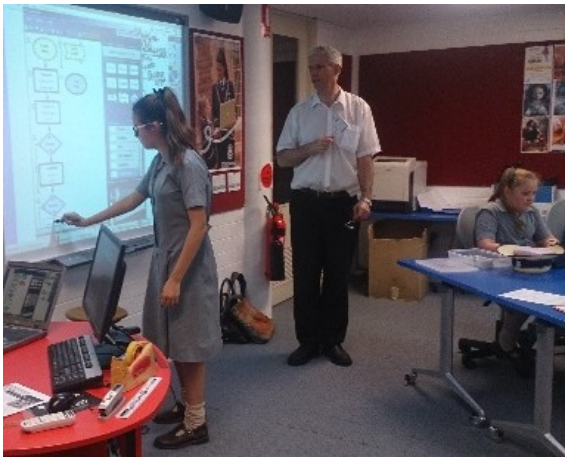
Richards with Miro – educating the children about Dr. Yunus and his achievements in alleviating poverty

On Monday the 19th October, the first STEMSEL Inventors Club workshop took place after school for 16 students in Years 5-9. The club is run to help educate students on programming and logical thinking. Its aim is to provide a greater understanding of the technological world we live in and how we can use that knowledge. All the students were so glad about taking part in the workshop because the skills taught in this program will be valuable. We would recommend it to anyone and everyone.

Since the children of St. Dominic were curious on how STEMSEL India helped the orphans, we managed to organize a Skype call between the two wherein the girls interacted with STEMSEL India and found out about how they help Yuva Jyothi.



Students of St. Dominic's engaging in a Skype session with STEMSEL INDIA



Hands on participation – Student comes up to demonstrate the programming of sensors

Supervision by Uni mentors and teachers from St. Dominic's college during the workshops

Jason and Miro explaining microfinancing - replacing Yunus' model with microchips

CABRA Workshop

DOMINICAN COLLEGE

Four workshops at Cabra College were been conducted over the course of two days. The children enjoyed learning about Dr. Yunus and his humanitarian efforts to reduce poverty worldwide. They were educated about the growth in technological advancements since the invention of microchips and the necessity of learning programming. They were taught how to save electricity by the use of a smart street light and even had hands on experience on how to program the microchips and assemble the kits to make a working model.

Jason and Hari with Miro asking the children "Who here does not know Dr. Yunus?"

Children of Cabra College taking part in the Human Conductor to show 'Many hands make light work'

We know that the Royal Adelaide Show 2015 was a huge hit in Adelaide, but it may come as a surprise to you that it was a huge hit internationally as well. The Royal Adelaide Show International STEMSEL competition made waves in India, with the Australian High Commission Trade Executive in Kerala recently presenting prizes to winners in India. Students involved in eLabtronics STEMSEL India project were able to enter the Show - their entries judged via Skype from Adelaide, and broadcast on state television in Kerala.

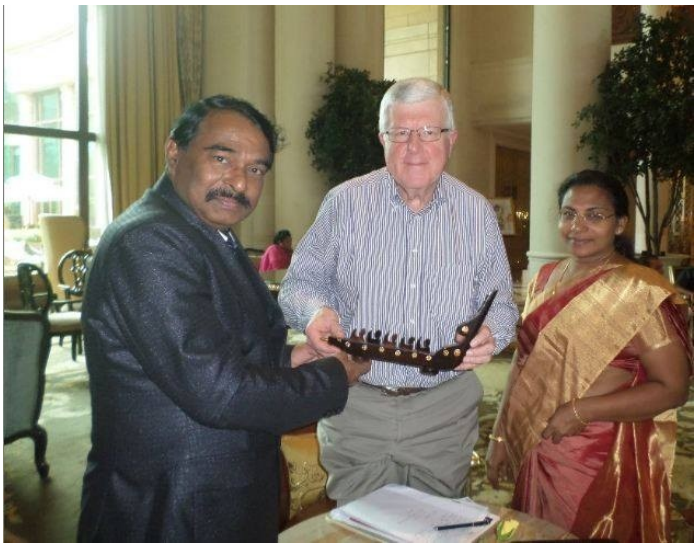
These winners were from the Carmel Higher Secondary School in Kerala, India. STEMSEL India is supported by the Federation of Indian Communities in SA (FICSA), which has approximately 30,000 members, and the Royal Show competition was reported in Beyond India Magazine, which is distributed to expat Indians throughout Australia.

Competition spokesperson Miro Kostecki said the STEMSEL competition was also strengthening its ties with the State Government and University of South Australia. "Bill Spurr introduced UniSA Vice Chancellor Professor David Lloyd to STEMSEL India directors Joseph CC and Jenny Davis in New Delhi in September this year and he was very happy to collaborate with STEMSEL India to promote world-class education in Adelaide and expressed interest in incorporating STEMSEL Inventors projects in UniSA to accelerate innovation and student engagement", Miro said.

From a corporate social responsibility perspective, STEMSEL India has provided free training to 92 underprivileged girls from Mercy Home Orphanage so they can use STEMSEL projects to fundraise for a fellow student who has cancer.

Fellow organiser Graham Brand said the growing international significance of the STEMSEL competition reinforced the importance of technology in bringing people together and improving quality of life. "Technology needs to be used in the most appropriate manner, to foster social and economic growth in solving issues to help our global citizens recover from natural or man-made problems. It also creates a pathway and a means of learning or expression to foster growth of knowledge and skills, to understand our present and future world."

He added, "we need to be smarter with our products that we sell to the world, and yet respond with compassion and understanding of other cultures. The community at large is the beneficiary of the goodwill and miracles of our students in STEMSEL, and still holds the key to the skills acquired by its global citizens, to 'self-solve' when problems arise. At the Royal Adelaide Show technology has enabled us to connect with people in India, South-East Asia and the USA for competitions in Robotics Invention, Innovation and Enterprise without them being physically present. They've been able to form STEMSEL groups willing to compete at Show-time to share and display their inventions in a creative manner. This is a truly global fellowship in technology and also maintains our philosophy of working together with local, interstate and overseas people to assess and compare our products and progress in Advanced Technology in its many diverse fields."



Adviser to the Minister of Science and Higher Education, Bill Spurr AO with STEMSEL India directors Joseph CC and Jenny Davis

The orphans at STEMSEL India

The prize distribution was attended by over 200 students and teachers

One of the winners collecting her prize

The competition judges with the participant from STEMSEL India

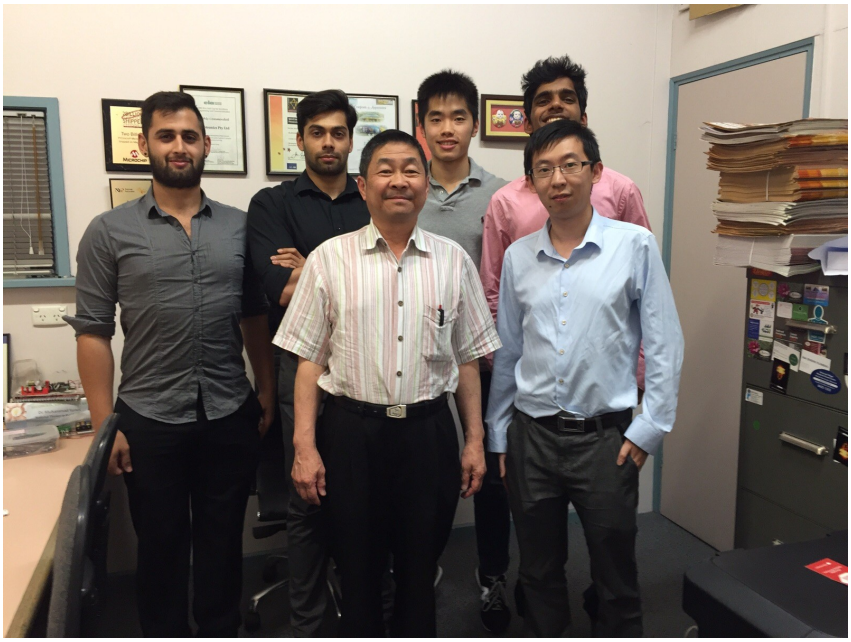
TEACHERS WORKSHOP

Miro, Richards and Hari with the teachers in the first workshop (above) and Miro with the teachers in the second workshop

STEMSEL has always endeavoured to empower students with the power of programming and so this one might come as a surprise to most of you but STEMSEL learning doesn't only deal with kids! It so happened that some of the innovative teachers from ten different schools took a chance at becoming students once again to enrich their skills and on the 22nd of September STEMSEL held their first workshop for teachers followed by another one held on the 26th of November. They realized the potential that STEMSEL has in impacting the lives for the betterment of people. All the teachers were quite thrilled by the advancement in technology and microchips and will be sharing their new knowledge with students in their respective schools.

The teachers have enjoyed the experience of being kids once again

Miro asking the teachers if they know Dr. Yunus



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"MANY HANDS MAKE LIGHT WORK!"

Check out our Website.
www.stemsel.com

Club Membership

STEMSEL Members can join different workshops catering to three different levels. The three streams include beginners, intermediates and advanced workshops. Beginners will be working on simpler projects while intermediates will be working on activities with themes of LCDs and motors. Advanced workshops will be supervised by Miroslav Kostecki and past group activities for STEMSEL Members include Royal Adelaide Show competitions and exhibitions, upgrade of electronics of large size RAAF Orion Aero-model plane, Quadrocopter Project, guest lectures and networking opportunities with experts from RAAF, Engineers Australia, University professors, NASA supplier, Creative thinker, etc.

Please contact Miroslav Kostecki (Miro) for Membership or to enrol in workshops. We are happy to talk to parents with more than one child about discounts. Thank You.

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