

### 30<sup>th</sup> Youth Science Conference (YSC)

The Youth Science Conference (YSC) is an annual event organized by the Gifted Education Branch, MOE, for students involved in scientific research under either the Science Mentorship Programme (SMP) or the School-Based Science Mentorship Programme (SB-SMP).

The 30<sup>th</sup> YSC was held on Saturday, 14 September at Ngee Ann Polytechnic. The conference showcased 10 SMP projects and 9 SB-SMP projects from RGS. In addition, the RGS SMP team consisting of Jessyn Oh Jia Xin, Amelia Tay Juey Oon and Luo Xindi were one of three SMP and SB-SMP projects that were selected to present their project to the audience in attendance at the conference. We congratulate all the RGS teams for their outstanding performance!

RGS SMP Projects				
S/n	Name of Students	RGS Teacher Advisor	Project Title	Achievement
1	JESSYN OH JIA XIN (S3-08), AMELIA TAY JUEY OON (S3-11) and LUO XINDI (S3-12)	Ms Cheong Szu Chuang	Posture detection for geriatric physiotherapy applications	Distinction
2	YU YOURAN SERENA (S3-07), ALEENTA QUEK ZI LE (S3-12) and DENG SIQI (S3-14)	Ms Cheong Szu Chuang	Investigating the effects of environmental stress on biofilm formation in <i>E.coli</i>	Distinction
3	KATE ISABELLE ONG (S3-06), CLARA TONG RUI SZE (S3-07) and LEE SIO HUANG (S3-09)	Ms Carmen Hoo	Stereocontrolled synthesis of functional cavitands	Distinction
4	CHIEU LE XUAN (S3-14), MICHELLE KHOO HUI SIN (S3-14) and SOH PING LYNN (SU BINGLIN) (S3-10)	Ms Cheong Szu Chuang	Posture detection for therapy application in the paediatric population	Merit
5	AVA KRISTEN TAN (S3-11), B AARADHANA (S3-08) and NANDINI GUPTA (S3-01)	Ms Cheong Szu Chuang	Technical and economic analysis of electrolyser systems: Modelling, life cycle cost assessment, and calculator GUI for sustainable hydrogen production	Merit
6	RANITA BERNADETTE D'SOUZA (S3-05), TAY YEE TENG, GWYNETH (ZHENG YITING) (S3-11) and VANISHA KRISHNA (S3-01)	Ms Carmen Hoo	Investigation of factors affecting the efficacy of microplastic removal via electrocoagulation	Merit
7	LEE TING XUAN CHANELLE (S3-13), XIAO YUXI (S3-08) and CHEN SI RUN (S3-12)	Ms Carmen Hoo	Determination of the optimum concentration of carrageenan (Irish moss)-based edible coating in extending of shelf-life of strawberries	Merit

8	VARADHA RAJ HARSSHITHA (S3-07), STEFFI-ANNA LIM (S3-06) and TAN YING XI (S3-10)	Ms Cheong Szu Chuang	Protein aggregation in amino acids	Participation
9	PRUDENCE SARAH HALL (S3-14) and CHOE KAH NING, CELESTE (CAO JIANING) (S3-11)	Ms Cheong Szu Chuang	Generative adversarial networks is an important enabler of large language models	Participation
10	KLARISSE NG SHEE CHIN (HUANG SHIQING) (S3-12) and CHAI CHANG XUAN CHERYL (S3-12)	Ms Carmen Hoo	Investigating the mechanisms underlying RNA editing of Cav1.3 in the suprachiasmatic nucleus	Participation

RGS School-Based SMP Projects				
S/n	Name of Students	RGS Teacher Mentor	Project Title	Achievement
1	CHARLENE POH QING WEI (S2-03), LI PENGFEI (S2-03) and TAN YUROU, JASELLE (S2-03)	Dr Lim Ai Khim	Investigating the effect of duration of heat treatment of vegetable oils on the locomotion and cognition in Alzheimer's disease <i>Drosophila</i>	Distinction
2	HARINI GUNASEKARAN (S2-06), CHEN ZIXIN (S2-06) and ELENA WIDJAJA (S2-06)	Dr Lim Ai Khim	A study on the mechanism of <i>Lactobacillus</i> as an effective treatment for Alzheimer's disease	Distinction
3	CALLY SIM ZHI YA (S2-06), DU YILIN (S2-03) and ZHUANG YIYI, ISABELLE (S2-09)	Dr Prama Sundari	Investigation on mechanical properties of bioplastic by biowaste	Distinction
4	GUO YUEYANG (S3-13) and ANG ZI TING (S3-14)	Mr Chan Sau Siong	Lowering PM2.5 levels using air filters made of nanocellulose synthesized from corn husk	Distinction
5	SOPHIE WONG YING XUAN (S2-02), ALYSSA TEE XI MING (S2-02) and TAN JIA YUN (S2-02)	Dr Lim Ai Khim	The effect of N-acetyl-cysteine supplementation on locomotive function of <i>Drosophila melanogaster</i>	Merit
6	SAANVI SAREPAKA (S2-12), KOO YUN YE (S2-12) and YEO JUEN MIEN, KEIRA (S2-12)	Dr Prama Sundari	Investigating the effect of peanut and pistachio shells on the growth of cress	Merit
7	LEI RUJINING (S3-09) and IFZA NASIM (S3-04)	Dr Lim Ai Khim	Investigating the effect of Lion's Mane mushroom on Alzheimer's disease	Participation
8	LIM RUI EN ASHLEY (S2-04), KYRA LEE (S2-04) and LIU XINMENG (S2-04)	Dr Prama Sundari	Research on ability of mango starch to produce bioplastic as alternative	Participation

			packaging material with the addition of glycerol and chitosan as plasticiser	
9	CLARA KHO (S3-06) and LAKSHANA RAJADURAI (S3-06)	Mr Chan Sau Siong	Developing a silver nanoparticle Infused filter out of sustainable materials to oxidise formaldehyde most effectively	Participation

**Student Reflections:**

“From refining our coding skills to switching our project midway, our SMP journey has been nothing short of fulfilling, culminating in something all of us are glad to say we are proud of.

We worked hard and played harder, as a team, but more importantly, as best friends. Our sincerest gratitude goes out to RGS and our teacher-mentor Ms Cheong for her unwavering support, for constantly pushing us to further our project and providing us with plenty of feedback; we truly could not have come this far without her.” – *Jessyn Oh Jia Xin, Amelia Tay Juey Oon and Luo Xindi*