



WONDER OF SCIENCE

2023 ANNUAL REPORT



FOSTERING A STEM CULTURE

WELCOME

2023 - ONWARD AND UPWARDS FOR AN AWARD WINNING PROGRAM

In 2023, the power of the Wonder of Science program shone through with the program reaching several key milestones and continuing to grow and thrive. This year we reached over 19087 people including over 6650 students and over 300 teachers from 61 schools across Queensland – our biggest year in terms of school reach! Our Flying Scientists program is also flying high with one of our biggest years and 11231 people reached. We also reached an incredible milestone with over 108000 people reached since 2012!

Our annual State Conference was once again a success with 163 students and over 300 people total attending. The event was also attended by several special guests, including Queensland Chief Scientist Professor Kerri Wilson and representatives from with major partners including, Arrow Energy, GroundProbe, Orica and Rio Tinto.

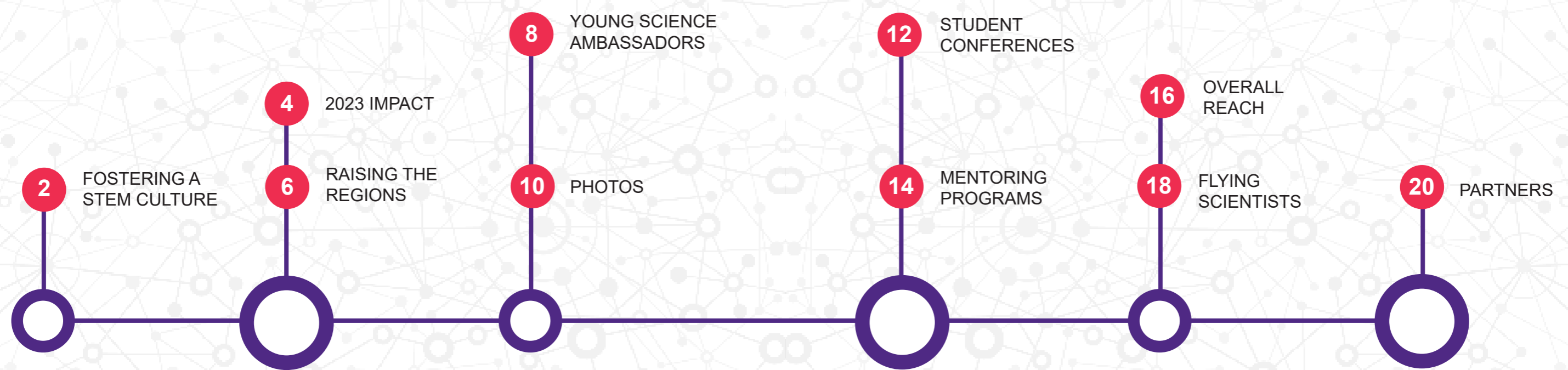
In incredibly exciting news, the team: Alex McKelvey, Lenore Irvine and myself were incredibly honoured to receive a WiT (Women in Technology) award in the “Raising the Regions” Category for our work inspiring women and girls in STEM across rural and regional Queensland. Wonder of Science was also selected as a finalist for the “Lifting Communities” and “Excellence in STEM education” categories.

As we look towards 2024 with our Young Science Ambassadors already preparing to visit schools across Queensland, I continue to be in awe of the transformative power of this program for students, teachers, YSAs and the broader community. We hope you enjoy the 2023 report.

KAYLENE COOPER
MANAGER
WONDER OF SCIENCE



Drillham State School students at the 2023 Wonder of Science Miles Regional Conference



FOSTERING A STEM CULTURE

OUR MISSION

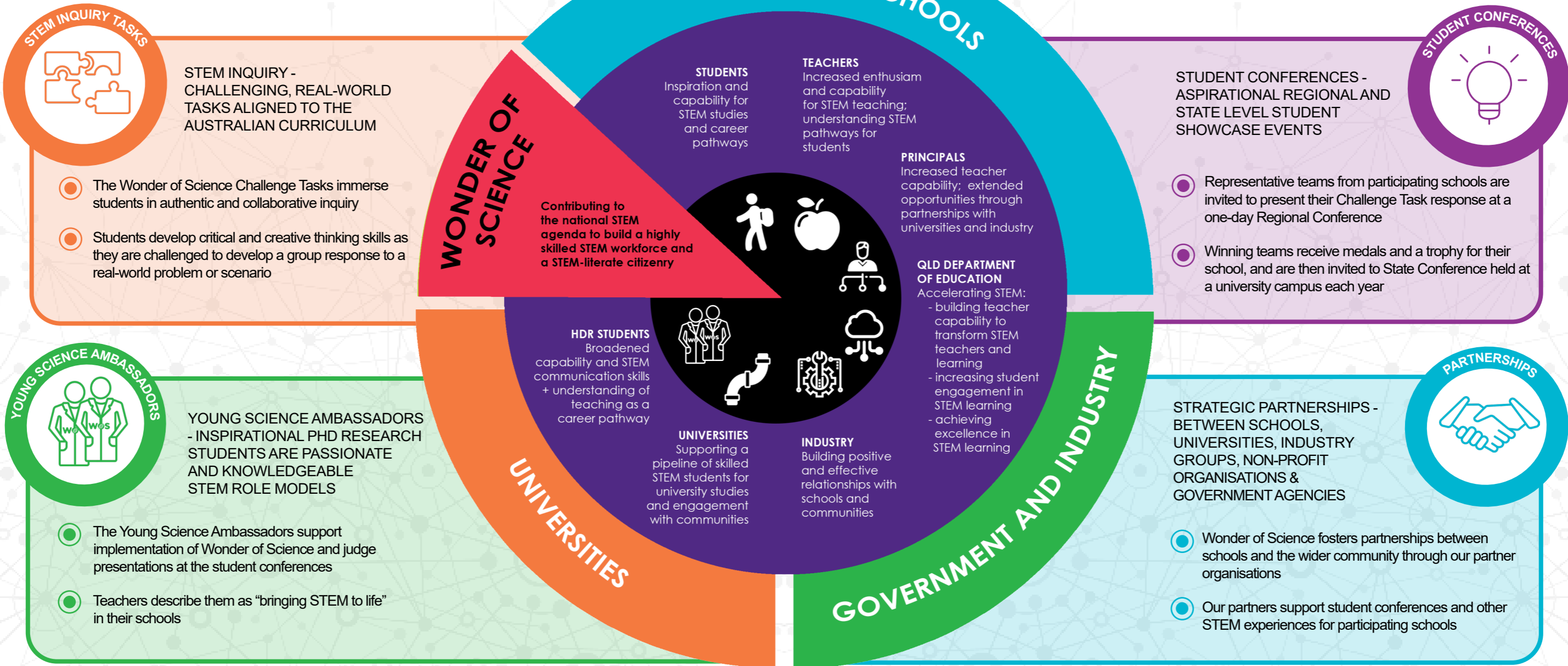
Wonder of Science fosters a STEM culture that empowers and increases capability for positive student and societal outcomes via access to high-quality, evidence-based STEM education. Specifically, fostering a culture where all students, their teachers, parents and other community members understand and value the importance and potential of Science, and STEM pathways and careers.

“A renewed national focus on STEM in school education is critical to ensuring that all young Australians are equipped with the necessary STEM skills and knowledge that they will need to succeed.”

National STEM School Education Strategy, 2015

THE WONDER OF SCIENCE APPROACH

- Promotes problem-solving skills, including critical, creative, collaborative and ethical thinking
- Develops the student capabilities required to achieve and succeed in a rapidly advancing and changing world
- Develops students' deep understanding of STEM concepts and practices
- Supports teacher capability for quality STEM teaching and learning



STEM INQUIRY TASKS

STEM INQUIRY - CHALLENGING, REAL-WORLD TASKS ALIGNED TO THE AUSTRALIAN CURRICULUM

- The Wonder of Science Challenge Tasks immerse students in authentic and collaborative inquiry
- Students develop critical and creative thinking skills as they are challenged to develop a group response to a real-world problem or scenario

YOUNG SCIENCE AMBASSADORS

YOUNG SCIENCE AMBASSADORS - INSPIRATIONAL PHD RESEARCH STUDENTS ARE PASSIONATE AND KNOWLEDGEABLE STEM ROLE MODELS

- The Young Science Ambassadors support implementation of Wonder of Science and judge presentations at the student conferences
- Teachers describe them as “bringing STEM to life” in their schools

STUDENT CONFERENCES

STUDENT CONFERENCES - ASPIRATIONAL REGIONAL AND STATE LEVEL STUDENT SHOWCASE EVENTS

- Representative teams from participating schools are invited to present their Challenge Task response at a one-day Regional Conference
- Winning teams receive medals and a trophy for their school, and are then invited to State Conference held at a university campus each year

PARTNERSHIPS

STRATEGIC PARTNERSHIPS - BETWEEN SCHOOLS, UNIVERSITIES, INDUSTRY GROUPS, NON-PROFIT ORGANISATIONS & GOVERNMENT AGENCIES

- Wonder of Science fosters partnerships between schools and the wider community through our partner organisations
- Our partners support student conferences and other STEM experiences for participating schools

2023 IMPACT

10750

people reached through the Flying Scientists Program

**STATE CONFERENCE
2023 CHAMPION TEAMS**



This year Wonder of Science reached
19087 people
including students, teachers, parents and other community members

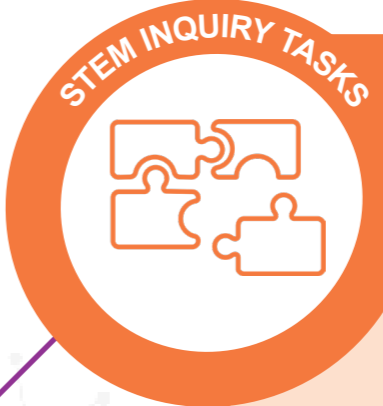
**Year 4
Kimberley Park State School**



**Year 5
Taroom State School**



726
students attended a Regional Conference



STUDENTS IMPACTED THROUGH CHALLENGE TASK PROGRAM SCHOOL OR VIRTUAL VISITS

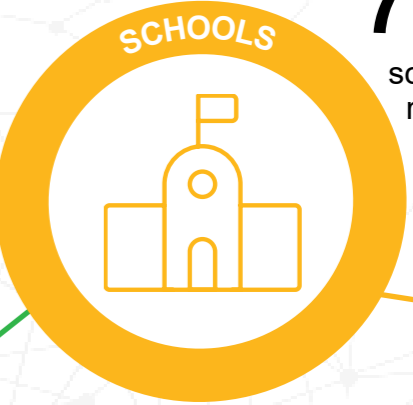
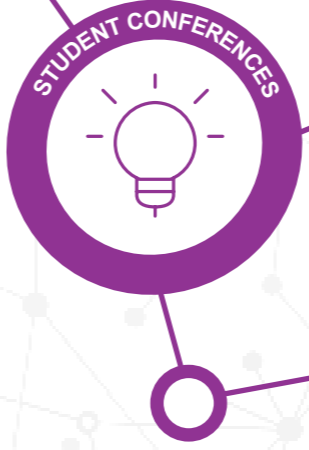
6650



**Year 6
Brightwater State School and Kimberley Park State School**



163
students attended State Conference



78%
schools from rural, regional or remote areas

141
Young Science Ambassadors

77%
of Young Science Ambassadors are female

49
are state schools

61
schools from regional, remote and metropolitan Queensland

**Year 7
Spinifex State College**



**Year 8
Foxwell State Secondary College**



**Year 9
Bundaberg State High School**



1687
additional people reached through additional outreach activities

127
students reached through mentoring programs at Foxwell State Secondary College and Brisbane South State Secondary College

300
teachers reached

STEM INCLUSION - RAISING THE REGIONS

Over
108000 people
reached since 2012

Striving for universal accessibility in STEM - Wonder of Science is changing the face of STEM education across Rural, Regional and Metro Queensland by reaching across the state, involving all students across a year level, supporting Women and Girls in STEM and supporting neurodiverse students to participate in WoS.

The majority of the 100,000 people reached since the programs's inception were located in rural and regional areas. Wonder of Science is raising the regions by making our Challenge Task programs and Flying Scientists accessible and supporting schools and teachers in these areas.

61%

of participating schools in 2023 are rated below the average socio-education advantage (ICSEA)*

An award winning program



This year, the Wonder of Science team was incredibly honoured and proud to receive the **Women in Technology 2023 Raising the Regions Award**.

The team was honoured to be finalists in three categories, having also been finalists in the Lifting Communities and Excellence in STEM Education and Research categories.

77%

of our Young Science Ambassadors were women in 2023. In 2023, 8 of our 9 major Flying Scientists events showcased women in STEM.



80%

of Regional and State Conference winners each year are female.

Wonder of Science is proud to have become a **Women in Technology Member in 2023**



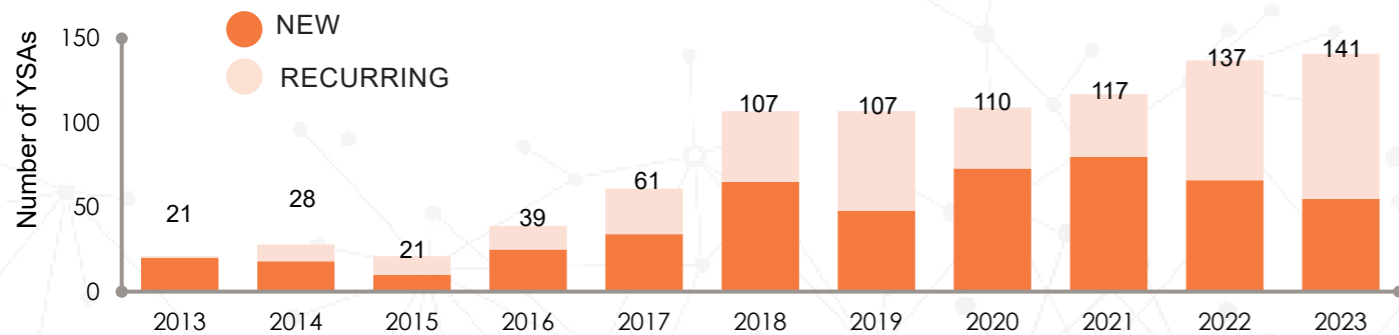
Mount Isa Regional Conference 2023

YOUNG SCIENCE AMBASSADORS™

68% of 2022 Young Science Ambassadors continued in 2023

The Young Science Ambassador program has reciprocal benefits. It provides enthusiastic and inspirational STEM role models in the form of Higher Degree Research (HDR) students to school students and teachers. Likewise, the program enriches the experience for the postgraduate students, with many demonstrating enhanced science communication skills and workforce preparedness, as well as an aptitude for teaching. This year, 141 Young Science Ambassadors from four partner universities participated in Wonder of Science.

52% of Young Science Ambassadors have participated for 2 or more years



Kirsten Kenney
Young Science Ambassador
The University of Queensland



"What a terrific year 2023 has been for the Wonder of Science Program! I am beyond grateful to be a Young Science Ambassador and to interact with such talented students across Queensland. Working alongside students as they conduct experiments, discuss their results, and present their findings, has been a truly rewarding experience. I look forward to seeing what the students in Wonder of Science discover next year!"

AMBASSADOR TESTIMONIALS



Lize Coetzee
QUT

"This is my first year as a YSA with Wonder of Science, and it has been an amazing experience! I've had the opportunity to travel all across Queensland, and everywhere I've gone I've been blown away by the excitement and enthusiasm of both the students and teachers."



Jessic White
Griffith University

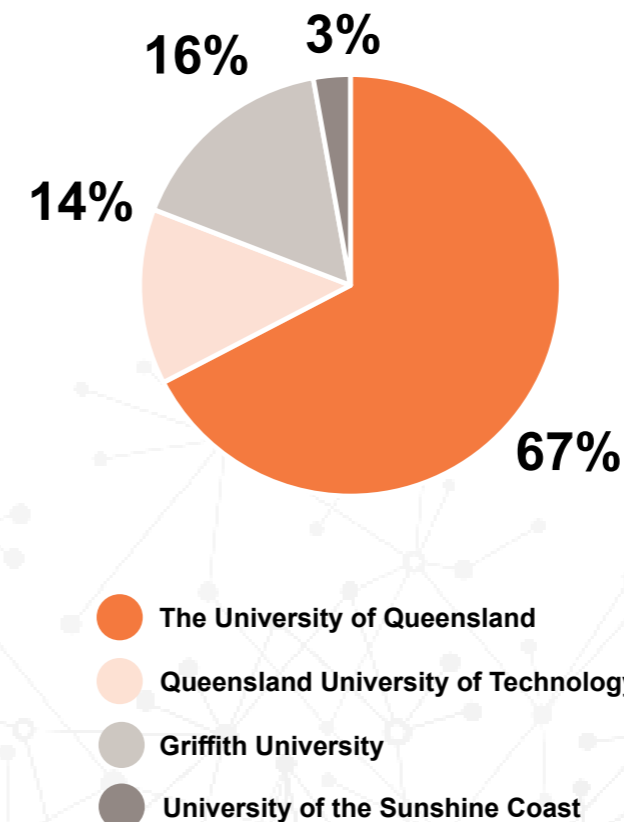
"I have thoroughly enjoyed my experience as a Wonder of Science Young Ambassador in 2023. Connecting with students all over Queensland and witnessing their creativity and passion was truly rewarding. The program was executed flawlessly thanks to a highly supportive and organized team."



Kaijie Tang
The University of Queensland

"I am very grateful for the Wonder of Science project. As an international PhD student, without these projects, I would basically have no chance to visit places other than Brisbane in Queensland. Wonder of Science has allowed me to understand the real Australia, and I now know that places other than big cities are so beautiful."

INSTITUTION BREAKDOWN



GENDER BREAKDOWN



Young Science Ambassadors at Cairns Regional Conference

QUT Regional Conference



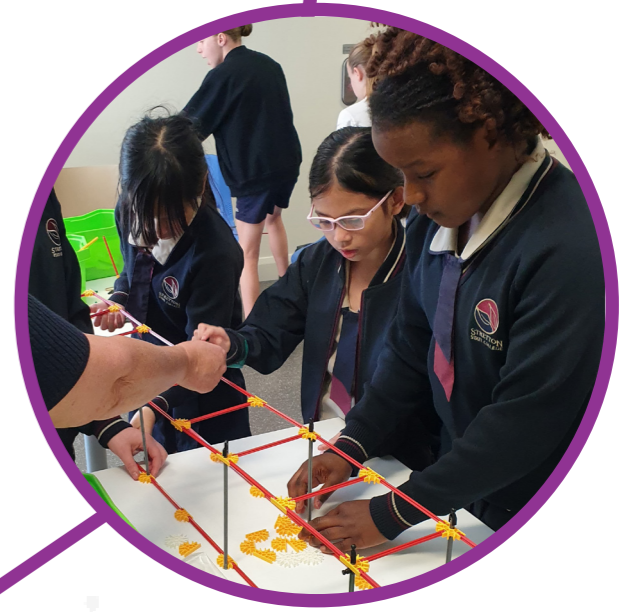
Year 6 Seismograph prototype at the Brightwater Regional Conference



Year 9 student demonstration at the Cairns Regional Conference



K'nex workshop at Kimberley Park Regional Conference



Speed-Meet a Scientist

Year 5 winning presentation at Emerald Regional Conference



Virtual reef diver workshop at the Mount Isa Regional Conference



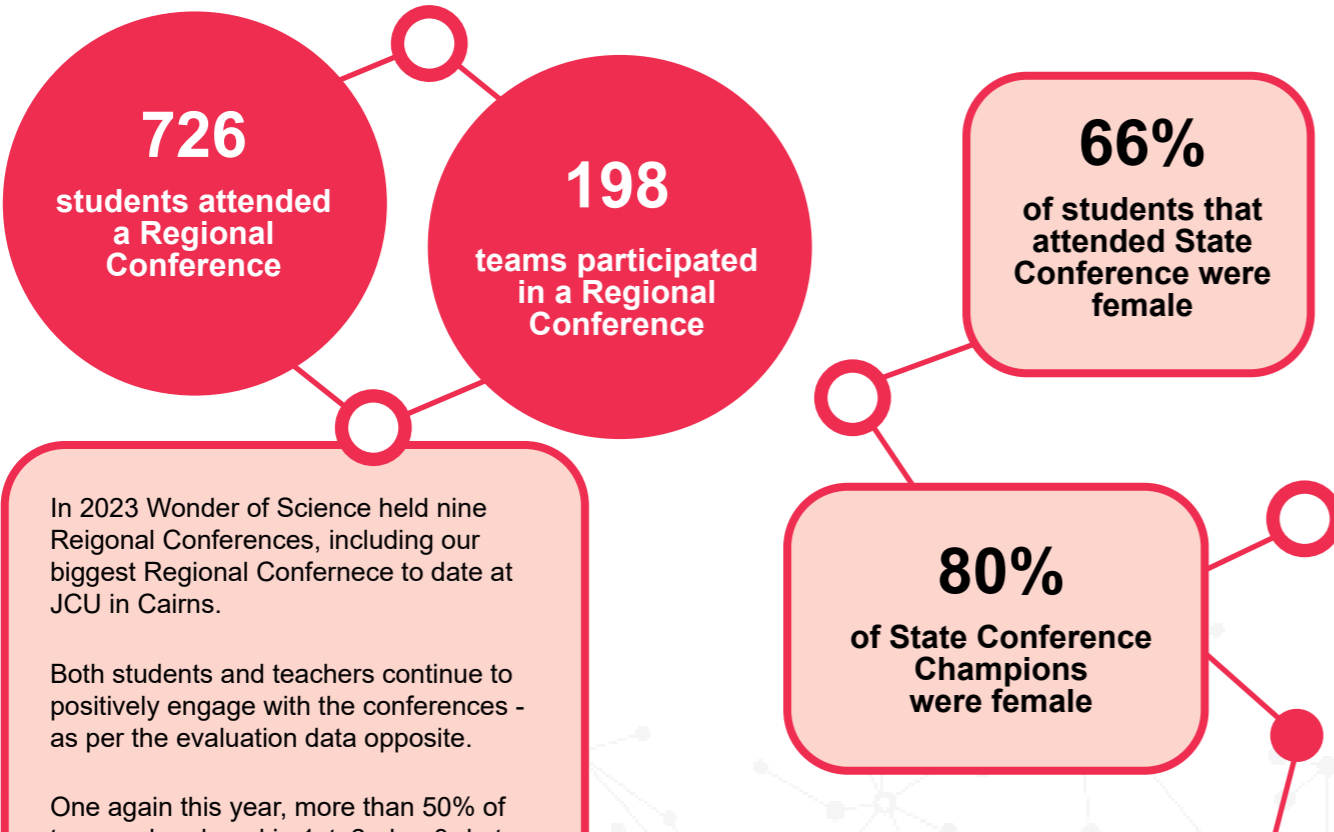
State Conference winning Year 8 presentation



Gladstone Regional Conference

FOSTERING A STEM CULTURE IN QUEENSLAND SCHOOLS

STUDENT CONFERENCES



In 2023 Wonder of Science held nine Regional Conferences, including our biggest Regional Conference to date at JCU in Cairns.

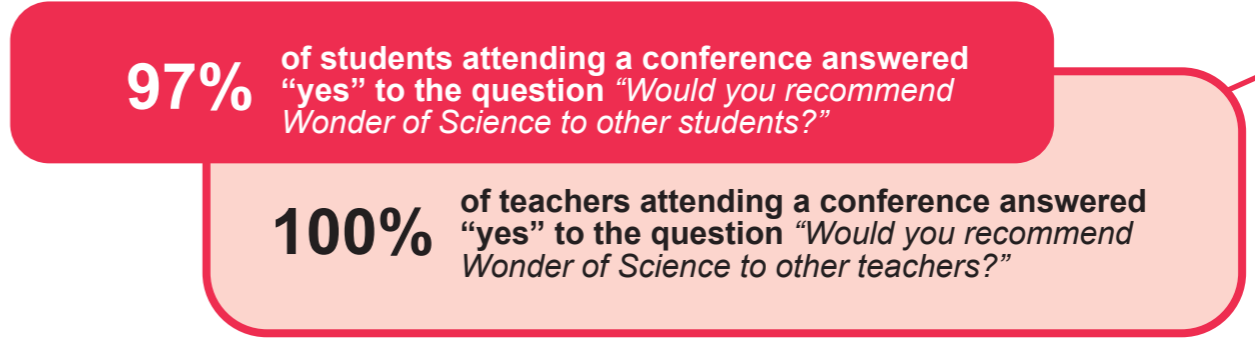
Both students and teachers continue to positively engage with the conferences - as per the evaluation data opposite.

One again this year, more than 50% of teams who placed in 1st, 2nd or 3rd at State Conference were from rural and regional areas.

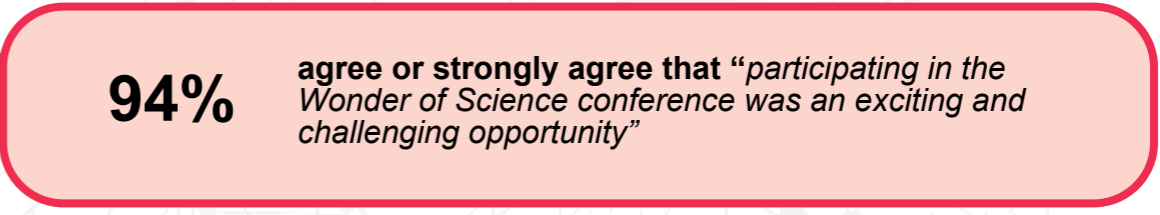
The success of our State Conference was also featured on 7NEWS Toowoomba and received a mention in Australian Parliament!

Congratulations to all of the participating students and their teacher - we hope to see many of you again in 2024!

- THE 2023 STATE CHAMPION TEAMS**
- Year 4 - Kimberley Park State School
 - Year 5 - Taroom State School
 - Year 6 - Brightwater State School and Kimberley Park State School
 - Year 7 - Spinifex State College
 - Year 8 - Foxwell State Secondary College
 - Year 9 - Bundaberg State High School



STUDENT CONFERENCE EVALUATIONS



State Conference Year 9 Champions from Bundaberg State High School



Wonder of Science 2023 STEM Excellence Awardees

Congratulations to Chase from Hambleton State School and Kevin from Kimberley Park State School for receiving the STEM Excellence Award. Each year this award goes to a Year 4 – 9 student who shows a great commitment to STEM.

MENTORING PROGRAMS

Wonder of Science also partners with schools to deliver bespoke mentoring programs where YSAs mentor students one-on-one or as part of a team.

Contact Wonder of Science for more information and pricing models. Find out more about some of our mentoring programs below.

BSSSC Biomedical Science Academy

In 2023, Wonder of Science was thrilled to work with Year 9 Biomedical Science Academy students from Brisbane South State Secondary College.

In Terms 2 and 4 over 100 Year 9 students worked collaboratively in teams to deliver research and deliver STEM(M) solutions to real world problems facing the community. Each team was mentored by a Young Science Ambassador. This program is continuing in 2024 when we will work with both Year 9 and 10 students.



Young Science Ambassador mentors at Brisbane South State Secondary College

Foxwell State Secondary College

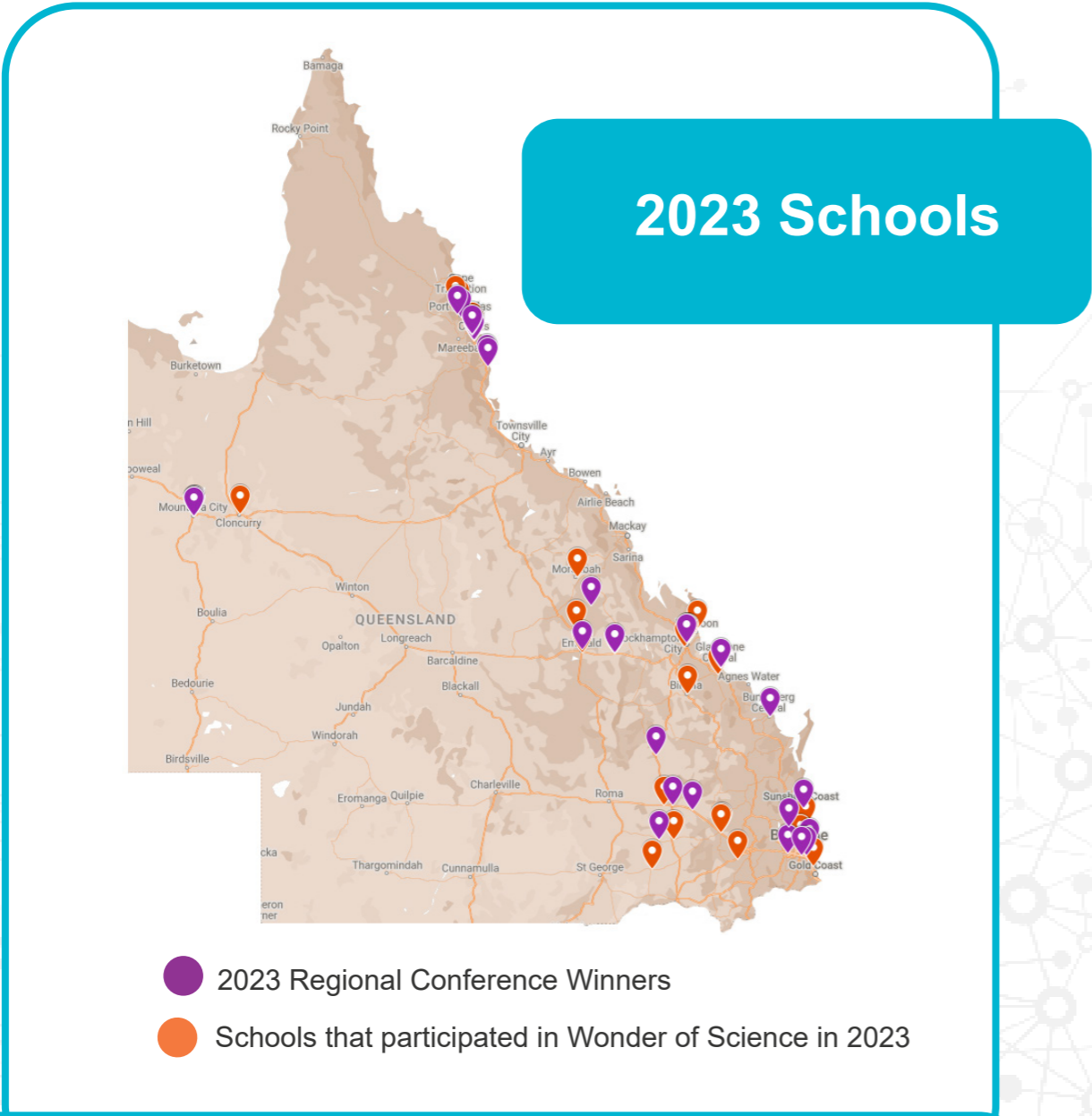
Gen-STEM is a Girls in STEM program in which Year 7 students from Foxwell State Secondary College are partnered one-on-one with female mentors (Young Science Ambassadors) upon their introduction into the 3-year program. These students then undertake a research project, or passion project, in a STEM field. Throughout Term 3, students work with their mentor for 15-20 minutes on Teams every week (8 sessions total), with their passion projects culminating in the signature Up & Atom Gen-STEM Fair held at Foxwell State Secondary College at the end of Term 3. Students then complete their mentoring phase, as they move into Year 8 Gen-STEM and beyond.

Young Science Ambassadors (YSAs) also work with Year 7, 8 and 9 Gen-STEM students in Term 2 as they complete their Wonder of Science Challenge Task and students present the result of their work at a mini-Regional Conference.



Year 7 Gen STEM students visiting the University of Queensland to meet their mentors

OVERALL STUDENT REACH



61 schools participated in the Wonder of Science Challenge Task Program

2023 WONDER OF SCIENCE STUDENT REACH

Cluster/Region	Funding model		Number of schools	Number of classes	Total students	Conference attendees		
	Funded	Fee				Name	Teachers	Students
Darling Downs South West	●		10	31	601	Miles	21	119
North Coast		●	4	21	500	Brightwater	9	73
Metro (Brisbane and Gold Coast)	●		9	34	1267	Metro (Foxwell)	3	53
						Metro Primary	4	76
						Metro Secondary	7	64
						Total	14	193
Lockyer		●	1	5	150	Participated in Metro Regional Conferences		
Bowen Basin	●		7	36	735	Emerald	7	60
Mount Isa	●		6	34	839	Mount Isa	9	83
Far North Queensland	●		15	89	1703	Cairns	28	161
Central Queensland	●		9	35	855	Gladstone	19	37
Total in WoS STEM inquiry program			61	285	6650	Conference	107	726
Additional school visits (Flying Scientists)			14	Years P - 12	69	1216	N/A	
Additional reach through other STEM activities (Prep - Year 12)						1687	N/A	
Total			82	367	9899	Conference	107	726

FLYING SCIENTISTS

The Flying Scientists program is provided in partnership with the Office of the Queensland Chief Scientist (OQCS). The Flying Scientists are early-mid career researchers who accompany Young Science Ambassadors into regional Queensland centres for community Science, Technology, Engineering and Mathematics (STEM) awareness events.

In 2023, the program reached over 11000 people. This year included trips to Goondiwindi Miles, Mount Isa, Emerald and a return to Cooktown.

Joel Davis
Teacher
Gindie State School

"Thanks so much to Wonder of Science for our recent visit. Our Junior Class students had a blast making slime and our Senior Class students asked lots of questions about tertiary pathways to study science. With any luck, Gindie SS will have some budding scientists of its own before long."

Dr Rachel Allevana
2023 Flying Scientist

"I greatly enjoyed the trip. I love connecting with kids and talking science, and the diverse types of schools and ages of children made the trip both challenging and very exciting...it really felt like we made a difference in travelling around in Western Queensland. Personally, I really like the pedagogical challenge of talking to school children as it is quite different from teaching adult learners, and it makes me revisit how I lecture at university and to get a bit more creative."



FLYING SCIENTIST EVENTS

Date	Location	Flying Scientist	Activities	Attendees	Total Attendees
7-10 February	Goondiwindi	Dr Rachel Allevana	Community Event	3	334
			School Visits (4)	331	
29 March - 1 April	Cooktown	Dr Rhonda Green	Community Event	50	264
			School Visits (3)	214	
4-7 June	Miles	Dr Rebecca Larkin	Community Event	23	257
			School Visits (6)	234	
12-14 June	Mount Isa	Dr Anne Sawyer	Community Event	42	388
			School Visits (3)	346	
20/22 June	Charleville School of Distance Education	Dr Ronda Green, Dr Melanie Roberts	Virtual Panel	60	60

Date	Location	Flying Scientist	Activities	Attendees	Total Attendees
23 – 24 June	Townsville	Dr Debottam Sinha	World Science Festival Community Events	2188	2188
27 – 29 July	Gladstone	Joy Seitanidou	World Science Festival Community Events	3323	3323
11 – 12 August	Ipswich	Alise Fox and Alireza Nilli	World Science Festival Community Events	3315	3315
4 – 5 September	Cairns School of Distance Education	Sandra Duffy, Rebecca Wilcoxson, Ana Valencia Hernandez	Virtual Panel	34	34
4 - 7 December	Emerald	Dr Jessica Desport	Community Event	68	587
			School Visits (5)	519	
10 events	Total	13 Scientists	10 Community Events	9106	10750
			21 School visits (students and teachers)	1644	
Flying scientists also reached additional people through other Wonder of Science activities:					481
Total Flying Scientists Engagement (including additional activities)					11231

PARTNERS

Hosted by



CREATE CHANGE

in partnership with



Wonder of Science would not be possible without our valued partners - thank you all!



PARTNER WITH US

We welcome organisations, philanthropic foundations, universities and other STEM agencies as partners.

For further information, please contact Wonder of Science

CONTACT

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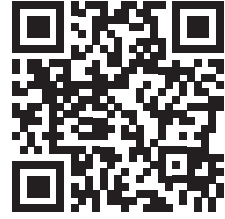
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