DANIEL EDWARD COX

The Scots College | Sydney, New South Wales, Australia | www.danielcox.info

Aspiring engineer, researcher and entrepreneur using science and technology to turn environmental and social problems into practical, real-world solutions.

SELECTED ACADEMIC HONORS & AWARDS

- **4th Prize Grand Award, Environmental Engineering, Regeneron ISEF 2026** — SunRays: Solar-Thermal Weed Control System.
- **Cambridge Battlecode 2026** — 6th of 587 teams worldwide (1,500+ competitors, 50+ countries); the only high-school team, competing as a pair against university and postgraduate entrants; invited to compete live in Cambridge, UK.
- **Global Finalist; National Winner, Australian Stockholm Junior Water Prize 2026** — Australia's sole representative at the Stockholm Junior Water Prize, the world's premier youth water-science competition, with SunRays Aqua.
- **The Diana Award 2026** — recognized for humanitarian impact through NPF Green Kites' work in rural Vietnam.
- **Australian Science and Engineering Fair** — national team selection 2025 (SunRays); National Finalist, Highly Commended 2024 (Cycle Sentinel).
- **Science Olympiads** —Australian Informatics Olympiad, Silver (2025, 2024); Australian Chemistry Olympiad, Distinction (2025).
- **Australian Mathematics Competition** — Distinction, top 6% nationally (2025, 2024).
- **The Scots College** — Prize for Software Engineering; Outstanding Achievement Award, Technological & Applied Studies (2025).

SELECTED PUBLICATIONS

Engineering

Cox, D.E. (2025). "Cycle Sentinel: Enhancing Smart City Mobility Through Novel Sensing System Design for E-Bike Speed Law Enforcement." *Proceedings of ICECCME 2025*, IEEE Xplore. DOI: 10.1109/ICECCME64568.2025.11277676.

Cox, D.E. (2026). "Safety, Security, and Privacy in Micromobility Speed Enforcement: A Governance Architecture Framework." Accepted; to appear in *Proceedings of ICECCME 2026* (IEEE).

Cox, D.E. (2026). "Distributed Solar-Thermal Suppression of Invasive Floating Weeds for Freshwater Ecosystem Protection." *Ozwater'26 Proceedings*, Australian Water Association. Available on AWA Indigo.

Tran, L.C., Ly, S.K., Blacklidge, R., Shemmell, J., Difford, N., **Cox, D.E.**, & Harada, T. (2026). "AI-Assisted Vision Alarming System for Blind and Vision-Impaired People." *Sensors*, 26(10), 2929. DOI: 10.3390/s26102929. (Scopus Q1 journal).

Contributions: investigation, formal analysis, data curation, and writing—review & editing.

Public Policy

Cox, D.E. (forthcoming 2027). "From Rainfall to Healthy Schools: A Youth-Led Non-Profit WASH+ Rainwater Harvesting Model." *Ozwater'27 Proceedings*, Australian Water Association. Accepted.

Cox, D.E. (forthcoming). "Vietnam, Hydrological Hostage, and the Case for Rainfall Sovereignty." *International Journal of Water Resources Development*, Special Issue on Transboundary Water Governance. Draft accepted for the workshop; invited to the Special Issue workshop, Southern University of Science and Technology, Shenzhen, China, 7–8 Nov 2026.

ENGINEERING & ENTREPRENEURSHIP

Founder & CEO, Decnova Engineering Pty Ltd (2025–present) — environmental engineering products www.decnova.com

- **Cycle Sentinel** (2023–2024) — e-bike speed law-enforcement device; provisional patent 2024903530; exhibited at the National Roads & Traffic Expo (Melbourne, 2024) and Highways AU (Sydney, 2025); production contract for 150 units (Dec 2025).
- **SunRays** (2025) **& SunRays Aqua** (2026) — solar-thermal weed control for terrestrial and aquatic weeds using mechanically actuated heliostats and a mobile treatment platform; provisional patent 2025905235; funded by Zinfra Australia and LAPP Australia through AUSSEF; design reviews with Zinfra engineers toward deployment.
- **Varroa Laser Gate** (2026–present) — laser-based detection and removal of Varroa mites from bees; provisional patent 2026908641; AUSSEF entry, Nov 2026.

Awards: now in Round 2, 2026 NSW Sustainability Award in the Climate Innovation Award Category; Winner, 2025 Edstart Achievement Award (Innovation & Entrepreneurship); Winner, 2025 Teens in Business Award.

INTERNSHIPS & WORK

Hysata — Engineering & Data Intern | Dec 2023–Jan 2024; Jan 2025 | hysata.com
Hydrogen-technology company; worked on PLC signal wiring, engineering test fixtures, parametric resistor-network modelling, and Python/SQL data analysis and visualisation.

Trans Traffic Survey — Transport Data Intern | June- Jul 2023; June - Jul 2024 | transtrafficsurvey.com.au

Australia–New Zealand transport-data consultancy; analysed traffic and transportation data, gaining early exposure to real-world mobility challenges that later informed the development of Cycle Sentinel.

POLICY & PUBLIC ENGAGEMENT

Water Research & Policy

- **World Water Week 2026, Stockholm, Sweden** (Aug 2026) —selected through competitive interview as the sole youth voice on a panel examining the future of water governance and innovation at the world's leading global conference on water, alongside Professor Kaveh Madani, 2026 Stockholm Water Prize Laureate, and international water experts.
- **2026 United Nations Water Conference, Asia-Pacific Researchers' Consultation, Sydney, Australia** (Sep 2026) — participant and facilitator; facilitate a regional discussion on human rights to water and sanitation across Asia-Pacific.
- **Australian Water Association NSW Conference, Wollongong, Australia** (Aug 2026) — presented "SunRays Aqua: Solar-Thermal Control of Invasive Aquatic Weeds."
- **12th Sustainable Development Conference, Bangkok, Thailand [online]** (Jul 2026) — presented "Vietnam, Hydrological Hostage, and the Case for Rainfall Sovereignty."

Youth Advocacy & Empowerment

- **Hoa Sen University, Ho Chi Minh City, Vietnam** (Jul 2026) — invited speaker on *Engineering Under Constraint: Designing Sustainable Systems for Remote Communities*.
- **Gmartek & Green Kites Webinar Series** (Jan 2025, Aug 2025, Mar 2026 & upcoming Nov 2026) — featured speaker at three webinars (258+ attendees), presenting "Don't Wait Until You're Older: How Young People Turn Ideas into Impact", focusing on youth leadership, social innovation and community-impact projects.
- **Creator & Host, "Gen Alpha Giving: Building a Non-Profit from Scratch" podcast** (2025) —explored Green Kites' fieldwork, youth-led nonprofit practice and frameworks for sustainable community impact.

LEADERSHIP & SOCIAL IMPACT

Founder, Green Kites International Association (2023–present) — youth-led nonprofit supporting underserved children and schools in Vietnam through water, health, education and infrastructure projects. www.greenkitesinternational.com

- Designed and implemented a WASH+ model integrating water, sanitation, hygiene and sustainability; installed rainwater-harvesting and water-filtration systems across 8 underserved schools, benefiting 2,000+ students and staff; providing 124,500 L of storage and 10.05 million litres of annual roof-runoff potential.
- WASH+ model was officially endorsed by Lào Cai Province for province-wide replication
- Built a computer lab, a community library and a school playground
- Recruited and trained 25 long-term volunteers
- Recognized by Vietnamese authorities: Award Certificate, Executive Committee of the Youth Union of Lào Cai Province; Certificate of Golden Heart, Đắk Lắk Province; official Letters of Appreciation and Recognition from Tuyên Quang and Vũng Tàu.

Founder & Mentor, Youth Changemakers Impact Lab (Jan 2025–Present)
Shifting Vietnamese youth from one-off charity to strategic philanthropy: co-mentored 18 groups (450+members) on vision, governance and community projects through a permanent weekly coaching Lab.

Youth Advisory Council Member, Young Change Agents, Australia (Oct 2026–present) — appointed to a national youth advisory council; helped develop six national priorities to support youth entrepreneurship. https://youngchangeagents.com/youth-council/

Member, The Ashburner Society, The Scots College (2024–present) — invited by the Principal as one of nine Year 10 inductees into the College's academic leadership society, which sets the standard for scholarship and intellectual culture across the school; led academic debates and published two essays in its journal, *The Scotian*.

Student Founder, TEDxYouth@ScotsCollege (2025–present) — Revived TEDx at The Scots College after an 11-year hiatus and founded TEDxYouth@ScotsCollege; led licensing, speaker recruitment and event production, and spoke at the first inaugural event in November 2025.

Co-Founder, Scots Informatics Club & Scots Hack (Engineering Club) (2025–present) — built student communities for programming, informatics and engineering, meeting three times weekly; coach members in competitive programming and project engineering.

ARTS & CREATIVE WORK

Macro Photography — exploring small-scale natural systems.

- Shortlisted, Young Close-up Photographer of the Year (CUPOTY) 2025 — selected from 11,000+ global entries.
- Commended Award, Australasia's Photographer of the Year 2025 (Junior category) — selected from 3,000+ entries.
- Exhibitions: "The Small Lives of the Garden" (macro 2025); "Lives at the Water's Edge" (2026).

Creative Writing — competitively selected for the Kenyon Review Young Writers Winter Online Workshop (2025); First Prize, Art and Poetry, NSW State da Vinci Decathlon (2025); Honorable Mention, NYC Midnight Flash Fiction, for "The Last Gill" (2025).

Public Speaking — shortlisted, TEDx Global Idea Search 2025.

VOLUNTEERING & SERVICE

Volunteer, Hope for Tomorrow Medical Mission, Vietnam

- Đắk Lắk, Jul 2025
- Tây Nguyên, Jul 2026

Duke of Edinburgh's International Award (2026) — Silver.

SPORTS

Running —long-distance runner; qualified at state level; Coaches' Award, The Scots College (2025), for commitment and perseverance.

Cycling — endurance cyclist, incorporating regular rides into a structured cross-training program for long-distance running.

SELECTED MEDIA COVERAGE

Featured in 20+ Australian and international media reports, including 10 News First, Manufacturing Magazine and Industry Update; profiled by the Stockholm WaterFoundation and Teens in Business.

Selected:

- **10 News First (Channel 10, national television)** — "Good News: Daniel Cox's SunRays solar-powered weed-control system" (2026). instagram.com/reel/DX28-2Hy4QZ
- **Stockholm Water Foundation** — profiled as Australia's Stockholm Junior Water Prize representative and World Water Week youth panellist (2026). instagram.com/p/DdVzqocjkX-
- **Australian Water Association** — "Daniel Cox to represent Australia in Stockholm with innovative aquatic weed control system" (2026); listed among the 2026 Australian Water Awards winners, "Australia's top water talent celebrated" (May 2026).
- **VnExpress International** (Vietnam's most-read news outlet) — "A new youth-led approach to long-term philanthropy in Vietnam" (Jan 2026); "Australian-Vietnamese teen turns passion into action for kids in need" (May 2025).
- **Industry Update / Manufacturing Magazine** — "'The future of STEM is bright' as Year 12 student develops ingenious solution" (2026).
- **Young Change Agents / Teens in Business** — featured video case study on the programme's homepage, "Daniel Cox, Founder of Decnova Engineering" (Sep 2026). teensinbusiness.com
- Also: The Daily Telegraph, The Courier-Mail, Inside Water, DRT Vietnam Television, Click Petróleo e Gás (Brazil), The Times of India.