APPENDIX P
OUTREACH ACTIVITIES

Since our inception in 2012, Team Bumblebee has steadily grown, becoming a recognisable student team in the maritime robotics community. We remain deeply grateful to this community and our sponsors for their unwavering support over the years. We firmly believe in fostering new relationships and are committed to sharing our knowledge and experiences as a way of giving back.

A. Lab Visits

Team Bumblebee regularly hosts student teams and researchers to foster connections and share technical knowledge. Following recent successes, we welcomed renowned expert Professor Oussama Khatib alongside local and international school and research teams to our lab. These visits serve as a vibrant platform for international technical exchange, building strong relationships within the global robotics community.



Fig. 53: Lab visit by Professor Oussama Khatib.

B. Industrial Partnership and Appreciation

Team Bumblebee is incredibly grateful to our industrial partners and sponsors whose support is fundamental to our continued excellence.

To better understand real-world maritime challenges, we organise frequent site visits. This year, we were highly honored to accept an invitation from the Singapore Chief of Navy to tour their Naval Base and experience the Republic of Singapore Navy's advanced unmanned capabilities.



Fig. 54: Lab visit by CityUHK Underwater Robotics and PolyUHK Engineering Entrepreneurship Club teams from Hong Kong.



Fig. 55: Our 2025 Sponsor Appreciation Event.

C. Hornet Training Programme

The Hornet Training Program is our hands-on engineering initiative for students interested in joining Team Bumblebee. Participants design, build, and test a low-cost Autonomous Underwater Vehicle (AUV) for the Singapore AUV Challenge. The eleventh iteration (Hornet XI) welcomed 20 new members and is now officially recognised as a university elective course (CDE1301B), awarding module credits for their year-long dedication.

D. Academic Research

We actively collaborate with academic researchers to advance the field of underwater robotics. Beyond hosting Professor Oussama Khatib for technical discussions, we participated in a high-profile public showcase alongside Stanford's OceanOneK team at the Singapore Oceanarium. We also regularly host various research groups across Singa-



Fig. 56: Visit to RSN.



Fig. 57: Hornet XI in action during Pool Test in 2026.

pore, including Republic Polytechnic, to share insights and discuss emerging robotic trends.



Fig. 58: Technical sharing with Republic Polytechnic Researchers.

E. Collaboration with Local Schools

Dedicated to inspiring the next generation of engineers, Team Bumblebee conducts engaging sharing sessions with local high school students. We share our firsthand experiences competing globally in RoboNation's RoboSub and RobotX competitions. By providing insights into the design, development, and rigorous testing of autonomous vehicles, we hope to spark early interest in maritime robotics and engineering careers.



Fig. 59: Sharing with local high school students for their project work.

F. Public showcases

Team Bumblebee actively participates in public exhibitions to bridge the gap between complex engineering and the local community. These public showcases allow us to educate audiences of all ages, raising awareness and excitement for the future of maritime robotics technology.



Fig. 60: Joint public showcase with OceanOneK at Singapore Oceanarium.