



THE UNIVERSITY OF
MELBOURNE

Melbourne School
of Engineering

ENDEAVOUR EXHIBITION 2019

Engineering and IT for the future



For more information, visit
endeavour.unimelb.edu.au

WELCOME TO ENDEAVOUR

The Endeavour Exhibition is an annual showcase of industry, design and research projects developed by University of Melbourne engineering and IT masters students.

Led by the Melbourne School of Engineering, the Endeavour Exhibition provides a platform for final-year students to demonstrate innovative thinking through projects that tackle industry

problems, improve processes and have commercial applications.

By showcasing some of the brightest minds and future-thinkers, the Endeavour Exhibition aims to inspire industry, students and the community with the impact that engineering and IT can have on our lives and on future technologies.

DIRECTOR'S WELCOME

I'd like to welcome you to the Endeavour Exhibition and invite you to join us in celebrating the achievements of our wonderful engineering and IT masters students.

At this exhibition, you'll get to meet our innovative and talented future engineers and discuss their final year projects with them.

Throughout the year, our students have developed projects in partnership with industry, government and not-for-profit organisations. These projects have real-world applications and help find solutions to all sorts of problems, from everyday process improvement through to life-saving innovations. These projects showcase the diverse talents of our students; they necessitate creativity, attention to detail, entrepreneurship and hard work. I encourage

you to meet with our students and discuss these innovative projects with their ingenious inventors.

I would like to thank our sponsors Airwallex, Institute of Electrical and Electronics Engineers (IEEE), QinetiQ, Research, Innovation and Commercialisation (RIC) and Wade Institute. I'd also like to extend special thanks to our supporter Boeing and donor Institute of Marine Engineering, Science and Technology (IMarEST) for their contributions to Endeavour, as well as the Melbourne School of Engineering Foundation Board for their continued support. This support allows our students to undertake high-quality projects with the potential for real-world application.



Professor Andrew Ooi
*Associate Dean,
Student Engagement*
Melbourne School of Engineering
University of Melbourne

ORDER OF PROCEEDINGS

Guests are requested to be seated by 7:30pm.
Please remember to switch off mobile phones as a courtesy to others.

ENDEAVOUR EXHIBITION AWARDS NIGHT

MC

Professor Jamie Evans, Deputy Dean, Melbourne School of Engineering

WELCOME FROM THE DEAN

Professor Mark Cassidy, Dean, Melbourne School of Engineering

GUEST SPEAKER

Jack Zhang, CEO and co-founder of Airwallex

PRESENTATION OF INDUSTRY AWARDS

PRESENTATION OF BEST PROJECT AWARDS

ANNOUNCEMENT OF THE PEOPLE'S CHOICE AWARDS

CONCLUSION

NETWORKING AND CELEBRATIONS

Following the ceremony, guests are invited to join us for refreshments and canapés

SPONSORS, DONORS AND SUPPORTERS

Thank you to our sponsors, supporters and donors for your contribution to Endeavour and for your support of our project students. Your generous support helps make the Endeavour Exhibition possible, enabling our students to connect with industry and take the next step towards commercialising their projects.

Thank you to the Melbourne School of Engineering Foundation Board for contributing to and supporting the People's Choice Awards and the Endeavour Best Project Awards.

The Board is focused on generating financial and community support for the School through relationships with industry, alumni and other groups that are interested in the Melbourne School of Engineering's growth and development. It plays a vital role in bringing together the School's community to develop a culture of philanthropy and engagement.

SPONSORS



SUPPORTER



DONOR



GUEST SPEAKER

Jack Zhang

Co-Founder and CEO of Airwallex

Jack Zhang is the Co-Founder and CEO of Airwallex, responsible for creating and implementing the overall strategic vision of the organisation. Prior to founding Airwallex, Jack was a foreign exchange solution designer at banking institutions including NAB and ANZ, where he was responsible for their respective digital forex trading platforms. While at NAB, Jack was responsible for building Australia's first Single Dealer Platform for Foreign Exchange and Fixed Income. A Melbourne University graduate, Jack has over a decade of experience in foreign exchange trading and investment banking across London, Melbourne and Hong Kong.



INDUSTRY AWARDS

We thank our sponsors, donors and supporters for contributing to the Endeavour Exhibition through their awards and prizes. Your continued support enables us to attract the best and brightest students and helps shape not only their future but those of our community and society.

2019 AIRWALLEX UNIVERSITY OF MELBOURNE ENDEAVOUR AWARDS

Airwallex believes in building global financial infrastructure to scale the digital economy. With technology at their core, they are building a cross-border financial platform that inspires global opportunities and helps their customers to scale their business in every corner of the globe. Airwallex will be offering three awards for this year's Endeavour Exhibition.

Customer-centric Technology Award

This award recognises projects that are customer-centric in their design and acknowledges the specific needs of their stakeholder / end-user group.

Enhancing the Australian Economy Through Innovation Award

This award recognises projects that could be leveraged beyond Endeavour to further drive growth within the Australian and global economy.

Enhancing Social Impact Through Innovation Award

This award recognises projects that provide a positive social impact through their design and delivery.

ENDEAVOUR BOEING PRIZE

Boeing has a long tradition of aerospace leadership and innovation. The company continues to expand its product line and services to meet emerging customer needs.

The Endeavour Boeing Prize recognises a project group who offers an innovative approach in providing solutions to challenging problems related to aerospace engineering, mechanical engineering, energy conversion or software engineering.

ENDEAVOUR RESEARCH, INNOVATION AND COMMERCIALISATION PRIZE

The University of Melbourne is home to some of the best thinkers in the world. The Research, Innovation and Commercialisation (RIC) team is there to help transform those ideas into reality.

This prize is awarded to a project group who offers a genuinely innovative approach to solving problems and investigating the potential commercial applications of their final year project.

IEEE AWARD FOR TECHNICAL INNOVATION AND ENGINEERING ACHIEVEMENT

The Institute of Electrical and Electronics Engineers (IEEE) is the world's largest professional organisation and is dedicated to the advancement of technology for humanity.

The IEEE Award for Technical Innovation and Engineering Achievement is awarded to a project group from an electronic engineering, electrical engineering or computer software discipline that demonstrates the most innovative technical project outcome.

IMAREST ENDEAVOUR AWARD

The Institute of Marine Engineering, Science and Technology (IMarEST) is the international professional body and learned society for all marine professionals.

The IMarEST Endeavour Award was established in 2015 and is awarded to a project that demonstrates an application in hydrodynamics, marine engineering, oceanography or fluid mechanics.

QINETIQ ENDEAVOUR AWARD

QinetiQ is a leading science and engineering company committed to listening, understanding and responding to their customers' needs. QinetiQ collaborates with research, science and technology customers to deliver customer-focused engineering solutions and services.

The QinetiQ Endeavour Award is given to one project group who imparts QinetiQ's values of Integrity, Collaboration and Performance into the innovation of their project.

WADE INSTITUTE ENTREPRENEURSHIP AWARD

Wade Institute for Entrepreneurship is a leading centre for entrepreneurial training based at Ormond College, the University of Melbourne. Established in 2015 with a generous gift from entrepreneur Peter Wade, the Institute deliver a range of immersive education programs, including the University of Melbourne's Master of Entrepreneurship, VC Catalyst, the investor education program, and UpSchool workshops for educators passionate about revolutionising education.

BEST PROJECT AWARDS

The Melbourne School of Engineering Foundation has generously donated funds for the Best Project Awards, to be presented in the following disciplines:

- Biomedical Engineering
- Computing and Information Systems
- Electrical and Electronic Engineering
- Infrastructure Engineering
- Mechanical Engineering
- Mechatronics Engineering

Best Project Awards will be judged by University of Melbourne academics and will be awarded to projects based on performance throughout the development of the project and the quality of presentation at the Endeavour Exhibition.

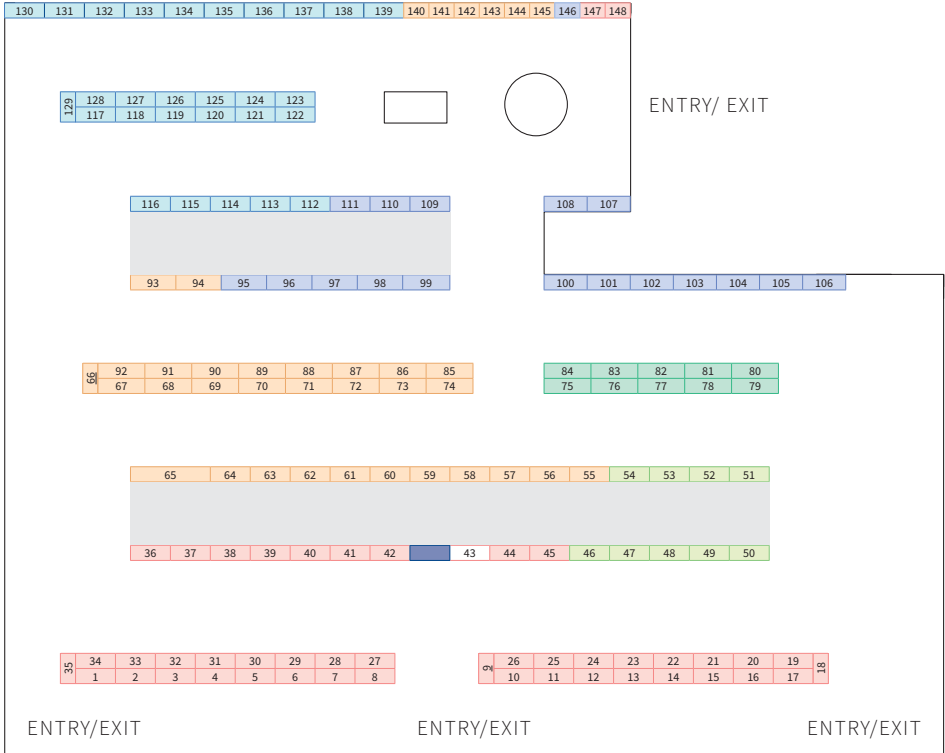
Winning projects will receive a prize to be split among team members evenly. Runners-up prizes will also be awarded.


PEOPLE'S CHOICE AWARDS

The People's Choice Awards will be presented to the winning groups as voted by Exhibition attendees. The first, second and third-placed project groups will each receive a prize, to be shared among group members.


Thank you to the Melbourne School of Engineering Foundation Board for its support of the People's Choice Awards.

ENDEAVOUR EXHIBITION FLOOR PLAN





 Electrical and Electronic Engineering

 Australian Turntable Company


 Computing and Information Systems


 Airwallex

 Mechanical Engineering

 LinkedIn Photobooth

 Infrastructure Engineering

 Mechatronics Engineering

 Biomedical Engineering

BOOTHS ON DISPLAY BY NUMBER

Booth No.	Title	Group member(s)	Category
1	Signal Processing and Control for Gravitational Wave Detection and Estimation	Xingyu Duan, Changrong Liu, Xu Zhang	Electrical and Electronic Engineering
2	Modelling Neural Mechanisms of Bee Flight	Chenghao Gao, Mengchen Shih, Huimin Zhang	Electrical and Electronic Engineering
3	Predictions of Temperature Rise in Stator Insulation	Mitchell Donegan, Daniel Landgraf, Olivia Panjkov	Electrical and Electronic Engineering
4	Controlling a Rotary Inverted Pendulum at Low Bit Rates	Jeremy Cox, Yuchen Yang, David Wang	Electrical and Electronic Engineering
5	Detecting and Classifying Human Activities from Wearable Devices	Boyu Han, Yizhou Li, Dechen Wang	Electrical and Electronic Engineering
6	Improve the Efficiency of Current Car-Sharing Systems	Binghan Li, Dexin Liu, Haotian Xia	Electrical and Electronic Engineering
7	Deployable Ground Sensor Network for Perimeter Intrusion Detection	Dominique Ling, Tyler Frost, Clare Thomas	Electrical and Electronic Engineering
8	Control and Visualization of Distributed Energy Resources (DER) in LV Networks	Michael de Looper, Yuhao Li, Gopen Raval	Electrical and Electronic Engineering
9	Development of Fully Autonomous Drones for Disaster Management	Ngoc Dinh Phuc, Guoxin Sun, Yijie Tao	Electrical and Electronic Engineering
10	Optimal Network Design - Steiner Trees	Behzad Moazeni, Aaron Pacanowski, Mingyang Sun	Electrical and Electronic Engineering
11	Lab-On-A-Smartphone	Renyu Li, Hanbo Wang, Xinjing Wang	Electrical and Electronic Engineering
12	Photonic Sensor: FBG Invasion Detector System	Gen Li, Yifei Wang, Jiayu Yang	Electrical and Electronic Engineering
13	Detecting Vocal Fold Abnormalities from Computed Tomography (CT) Images	Ziyue Lin, Jin Pan, Yuan Zhang	Electrical and Electronic Engineering
14	Optimal Path-Planning and Following for Autonomous Race Cars	Seth Siriya, Tony Srour, Khoa Tran	Electrical and Electronic Engineering
15	Intelligent Parking System	Junzhang Jia, Yifei Yun, Rui Zhou	Electrical and Electronic Engineering
16	Real-Time Visualization and Analysis of Distributed Energy Resources (DER) in the University Campus	Kaiyang Li, Yuanzheng Li, Xinyun Zhang	Electrical and Electronic Engineering
17	Integrated Multispectral Sensor System	Jiaye Lang, Zhiyu Yao, Keren Yu	Electrical and Electronic Engineering
18	Micro-Scale Wind Turbine Control	Xiaoli Chen, Xudong Wang, Ruoyuan Zhang	Electrical and Electronic Engineering

Booth No.	Title	Group member(s)	Category
19	Home Monitoring System	Siming Hao, Junting Lu, Lingbo Xuan	Electrical and Electronic Engineering
20	Impact of Intermittent Renewable Energy in the Power Grid Using Machine Learning	Mengyuan Gu, Lu Han, Yiyuan Li	Electrical and Electronic Engineering
21	Artificial Intelligence Gesture Recognition On the Go	Zhongting Li, Mo Shen, Lin Zheng	Electrical and Electronic Engineering
22	Flying Scarecrow	Alistair Chandler, Nathan D'Souza, Jeffrey Zhu	Electrical and Electronic Engineering
23	Deployable Indoor-Localisation System	Percy Morphy, Max Stewart, Scott Taylor, Ruixin Wen	Electrical and Electronic Engineering
24	Task Allocation and Agent Coordination for Multi-Robot System	Jin Cheng, Wenguang Tian, Lingnan Xia	Electrical and Electronic Engineering
25	Spectrally-Resolved Photodetector System	Wenqi Lyu, Yunjia Meng, Hongwei Wu	Electrical and Electronic Engineering
26	Audio-Based Chord Recognition	Sajid Abdullah, Taixiang Li, Zhenyu Wang	Electrical and Electronic Engineering
27	Ultra-Highspeed Universal Power and Data Interface for Portable Devices and Media Players	Kieran Bowkett, Matthew Cheng, Sean Phan	Electrical and Electronic Engineering
28	Exploration Using Heterogeneous Vehicle Testbed	Aman Kaushal, Zehua Shen, Shang Zhai	Electrical and Electronic Engineering
29	Energy Harvesting Internet of Things Sensors for High-Current Switch Board	Jinsha Liao, Peikai Throng, Shifan Wang	Electrical and Electronic Engineering
30	Radio Frequency Based Localization Network	Xindi Chen, Shijie Wang, Xuan Zhao	Electrical and Electronic Engineering
31	Analysis of Stochastic Optimal Power Flow Formulations	Shulang Liu, Jian Luo, Zongyuan Wang	Electrical and Electronic Engineering
32	Smart Support Cane (SSC)	Yaameen Al-Muttaqi, Thomas Garsia, Andrea Gonsalves	Electrical and Electronic Engineering
33	Vision-Based Navigation at Low Bit-Rates	Elena Neocleous, Tristan Robinson, Maxwell Varley	Electrical and Electronic Engineering
34	Efficient Reconfigurable High-Precision Three Phase Inverter	Wang He, Minghui Wang, Yiming Xu	Electrical and Electronic Engineering
35	Live Emergency Personnel Tracking (LEPT)	Qixuan Dang, Chengzhao Ying, Xiaojing Zhao	Electrical and Electronic Engineering
36	Real-Time Internet-of-Things (IoT) for Distributed Machine Learning	Yue Chang, Wanjing Chen, Yi Jian	Electrical and Electronic Engineering
37	iGrow: Smart Garden	Josh Foleti	Electrical and Electronic Engineering
38	Efficient Calibration of Automotive Engines	Zitan Cheng, Jingru Xiong, Hao Yin	Electrical and Electronic Engineering

Booth No.	Title	Group member(s)	Category
39	Intelligent Chess-Board	Yuheng Liu, Jiaxiao Qin, Tianyu Zhang	Electrical and Electronic Engineering
40	Impact Analysis of Forecasting Models of Renewable Generation on Power System Operation	Suya Bai, Xiaohui Wang, Yang Wang	Electrical and Electronic Engineering
41	Muscle Fatigue Detection Using Surface Electromyography (SEMG) Sensors and Sensor Fusion	Xinliang Guo, Huiyuan Wang, Zhe Zhang	Electrical and Electronic Engineering
42	Embedded Wireless Accelerometers for Sporting Applications	Zhehan Chen, Yanfeng Liu, Zili Yang	Electrical and Electronic Engineering
43	Airwallex		Sponsor
44	Image Style Transfer	Yifan Hu, Yucheng Xia, Jinhao Yang	Electrical and Electronic Engineering
45	Design of a New Mini-Z Scale Race Car for Drifting Control	Sike Liu, Yiliu Liu, Zhuo Tian	Electrical and Electronic Engineering
46	Fire Equipment Services (FES) Fire Technician Application	Callum Bradshaw, Haoyang Cui, Margareta Hardiyanti, Patrick Hudgell, Yu Lan, Yunpeng Wang, Xin Wu, Zeming Yao, Vincent Yuwono, Shibao Zhang, Xujia Zhu	Computing and Information Systems
47	National Disability Insurance Scheme (NDIS) Financial Planner	Lachlan Black, Yifan Fan, Austin Lancaster, Yicong Li, Yefra Sutanto, Chuang Wang, Yuncheng Wang, Ziwei Xu, Runze (Francis) Zhang, Linyuan Zhao	Computing and Information Systems
48	CIS Seminar Management System	Dafu Ai, Tzu-Hung Chen, Zhaolin Deng, Yixiong Ding, Grady Fitzpatrick, Mincheng Li, Xixiang Wu, Zhangyun Ye, Rui Zhao, Yunjia Zhou	Computing and Information Systems
49	Software to Manage Nurse Burnout at the Royal Melbourne Hospital Intensive Care Unit (ICU)	Dhilan Chandrasekara, Cameron Dempsey, Feifan Lai, James Laphorne, Yingzi Song, Yang Xu, Guoxin Xuan, Zhuxin Yang, Feng Zhao	Computing and Information Systems
50	PerformIQ	Zhuoyao Feng, Hannah (Thuy Ngoc) Ha, Yanzhe Huang, Kai Ji, Emily Marshall, Marko Mihic, Tan Khanh Nguyen, Petr Stenin, Mian Wang, Yiyun Zhai	Computing and Information Systems
51	Integrity Checking	Aymen Al-Quaiti, Yuwei Bao, Haonan Chen, Savan Kanabar, Wenqiang Kuang, Zhuolun Lang, Umut Cem Soyulmaz, David Stern, Juntao Wu, Zhaopeng Xie, Yuchen Zheng	Computing and Information Systems
52	CoachingMate Analytics	Anjana Reddy Basani, Ivan Ken Weng Chee, Dongming Li, Jingjiahui Lu, Ruifeng Luo, Jiapeng Tong, Kaixin Xu, Junhan Yang, Jiaming Zhang, He Zhu	Computing and Information Systems
53	Project Management System for CIS	Sathitsak Anawatmongkol, Costa Armen, Bowen Bai, Chamira Balasuriya, Emily Ha, Reyna Yi Chen Tan, Yuan Yuan, Xiaoming Zhang, Muyuan Zhu, Zhengqing Zhu	Computing and Information Systems

Booth No.	Title	Group member(s)	Category
54	Assistive Technology (AT) Outcomes Framework	Jiankun Cai, Ruizhi Li, Xin Li, Tom Lynch, Anthony Miller, Zhitao Pan, Jack Stinson, Matthew Van, Wenzhou Wei, Wenhao Zhang	Computing and Information Systems
55	Internal Wave Generation	Alexander Gudgeon, Je Pyo Hong, Shivam Mahajan, Asmit Naik	Mechanical Engineering
56	Effect of Ambient Current on Antarctic Ice-Shelf - An Experimental Study	Shridhar Dhulappa Kambale	Mechanical Engineering
57	Kangaroo Grass Seed Processing System: Design & Development	Wenen Feng, You Peng, Jiaming Tang	Mechanical Engineering
58	Assessing Novel Machine-Learnt Modelling Techniques for Race Car Aerodynamics	Dominic Guerrero, Chengeng Wei, Yufei Zhang	Mechanical Engineering
59	Cubesat Deorbiting and Recovery - Dessender	Gavin May, Jesse Velasquez	Mechanical Engineering
60	Computational Fluid Dynamics (CFD) Studies of Flow Over a Propeller	Changsheng Sun, Hao Zhu, Yisong Zhu	Mechanical Engineering
61	Numerical Simulation of Flow Over a Confined Flat Plate	Peiming Qing, Zhongchi Wang	Mechanical Engineering
62	Low-Tech Passive Energy Concepts - Scaling Up the Wind-Belt	Dakshinee Kodi, Jessica White, Jack Young	Mechanical Engineering
63	Extreme Altitude Mountain Rescue Vehicle	Jayath Randula Panapitiya Dias, Kevin (Jingheng) Liang, Selena Wang, LiuJun Yang	Mechanical Engineering
64	Reverse Engineering of Steam Locomotive	Tianmeng Gong, Tongwei Hou, Shuyang Li, Lingze Meng	Mechanical Engineering
65	Dyson Cascade Wind Tunnel	Utsav Bhat, Fred Keck, Tom Stegink	Mechanical Engineering
66	Characterizing Security Attacks in Internet of Things (IoT)	Lizhen Chen, Mingxiao Li, Sangeetha Sivalingam, Hua-Chun Tseng	Mechanical Engineering
67	External Corner Flows	Max Rounds	Mechanical Engineering
68	Design and Build Particle Laden Pipe Flow Facility	Wan Md Fathi Wan Md Jalal Azmi, Muhamad Addeen Aiyman Roslan, Dany Muhajir Sjaifie	Mechanical Engineering
69	Water-Tunnel Measurements of Flow Over Canopies	Fengyu Deng, Haochen Feng, Di Han, Jin Zhu	Mechanical Engineering
70	Asahi Beverages - Fill Volume Analysis	George Juliff, Seraphin Ratnam, Mandy Tam, Zhiyang Yin	Mechanical Engineering
71	Computational Fluid Dynamics (CFD) of Flow in Coronary Arteries	Farbod Rahimi, Jordan Winterling	Mechanical Engineering
72	Unmanned Combat Aerial Vehicle (UCAV) Wind Tunnel Test Model	Neil Campbell, Matthew Correy	Mechanical Engineering
73	Computational Fluid Dynamics (CFD) Analysis of Disease Development in a Patient Specific Artery	Dishan Ali Nambidiveetil Sanketh Skaria Pallippadan, Vishaal Gajendran Raja, Shiyam Sharabinth	Mechanical Engineering

Booth No.	Title	Group member(s)	Category
74	Surface Roughness on Submarine and Modern Ship	Haiquan Bai, Shiyu Chen, Xiaotong Pan, Yumeng Zheng	Mechanical Engineering
75	Energy Performance of Ground Heat Exchangers Embedded In Retaining Wall	Wenqin Gu, Youfu Hou, Brandon Lee Spezzano	Infrastructure Engineering
76	The Use of Fibre Optic (FO) Sensors to Monitor Pipeline Response During Pipe-Jacking	Michael Jiang, Michelle Lim Sze Min	Infrastructure Engineering
77	Changes in Humidity Across Australia	Eleanor Denson	Infrastructure Engineering
78	Appropriate Technologies for Dehumidifying, Cooling and Ventilating	Ella Guthrie, Isabella Oliver, Uvini Mariya Peris, Fujia Yang	Infrastructure Engineering
79	Estimation of the Environmental Footprint of Household Transport in Melbourne	Yiqiao Li, Olga Pilipenets, Ramya Srinivasan	Infrastructure Engineering
80	Early Age Strength and Hydration Evolution of Ternary Blended High Volume Fly Ash Concrete	Yixin Liu, Muhammad Talha Mansoor, Mingyu Wang, Tao Wang	Infrastructure Engineering
81	Indigenous and Humanitarian Engineering – Restoring Vulnerable Communities	Lik-Min Chang, Hefei Wang	Infrastructure Engineering
82	Image-Based CCTV Monitoring for the Safety of Vulnerable Road Users	Yi-Ling Chen, Goh Wei Kai Jervis, Yuerongjiao Han	Infrastructure Engineering
83	Investigation of the Improvements in Fibre Reinforced Polymer (FRP) Reinforced Concrete Beams with Bio-Inspired Geometries	Minming Jiang, Shuonan Liu, Zixi Ren	Infrastructure Engineering
84	Development of Bio-Inspired Fibre Reinforced Polymer (FRP) Concrete Composite System	Yu Bai, Zirui Wang	Infrastructure Engineering
85	Permeability Measurement of Porous Media	Chenfeng Hao, Dan Li, Qiang Ma, Yuanhong Xu	Mechanical Engineering
86	Development of a Spark-Ignited (SI) Hydrogen-Fuelled Reciprocating Engine	Stephen Yoannidis	Mechanical Engineering
87	Supersonic Parachute	Aidan Lakey, Tom Rickard, Eric Stephens	Mechanical Engineering
88	Surface Roughness on Modern Aircraft	Hao Ge, Jianan He, Ruishu Jin	Mechanical Engineering
89	Elevated Phototropic Photovoltaic (PV) Panels	Lingxuan Li, Yuming Yang	Mechanical Engineering
90	Developing an Extrusion-Based Concrete 3D Printer	Rahul Dahiya, Wenqian Ji, Canghai Li, Ziyang Su	Mechanical Engineering

Booth No.	Title	Group member(s)	Category
91	Design and Development of a Soft Prosthetic Wrist	Yihang Yu, Ran Zhang, Pu Zhao	Mechanical Engineering
92	Dynamic Area Coverage with Autonomous Vehicles	Matthew Chew, Kusal Kithul-Godage, Steven Lam, Dean Peach	Mechanical Engineering
93	Lubrication Systems Standardization & Optimization	Raymond Cai, Edward Dong, Kathy Lai, Alex Zhu	Mechanical Engineering
94	Warehouse Robot	Yinong Han, Yufan Wei, Dexin Yu, Zijian Zhu	Mechatronics Engineering
95	Wireless Warehouse Robot	Martin Diep, Jianbo Ling, Junhao Wang	Mechatronics Engineering
96	A Virtual Reality (VR) Based Brain-Computer Interface Development	Jiawei Liao, Harfianto Dharma Santoso, Albert Hann Tien	Mechatronics Engineering
97	Artificial Intelligence Robot Localisation	Mo Chen, Ruilin Yao, Ce Zhang	Mechatronics Engineering
98	Design and Development of a Soft Synergistic Prosthetic Elbow	Christopher Hobbs, Doudou Liu, Mathew Peverill, Tianshi Yu	Mechatronics Engineering
99	Weeding Robot for Backyard Lawn	Weiming Li, Mingyan Lu, Xingzhao Xiong, Chuqiao Zhao	Mechatronics Engineering
100	Using Electroadhesion for Pick and Place Applications in Aerospace Manufacturing	Karina Fransiska Lee, Pim Quach-Thaniassorn, Chris Daniel Samulde	Mechatronics Engineering
101	Autonomous Optimal Data Collection Using an Unmanned Ground Vehicle	Vineet Soppadandi	Mechatronics Engineering
102	BonI 2.0 - Portable Bone Conduction Transducer Device	Walid Ayoub, Tony Dai	Mechatronics Engineering
103	Advanced Lower-Extremity Exoskeleton (ALEX) Mechanical Design	Nathan Batham, Benjamin Hunt, Damian Nelson	Mechatronics Engineering
104	Advanced Lower-Extremity Exoskeleton (ALEX) Research and Development	Qianyang Chen, Dillon Wan Loong Chong, Egil Heier, Bing Da Xu	Mechatronics Engineering
105	Advanced Lower-Extremity Exoskeleton (ALEX) Embedded Systems	Arjun, William Campbell, Robert Gadsby	Mechatronics Engineering
106	Advanced Lower-Extremity Exoskeleton (ALEX) Coordination	Joshua Liao, Adeline Ting, Gilbert Wijaya	Mechatronics Engineering
107	Aerodynamics and Acoustic Analysis of Various Propeller Blade Profiles	Muhammed Ashraf Shaik Dawood, Wei-Yen Huang, Ihtisham Kalimullah	Mechatronics Engineering
108	Quadrotor Piggyback	Jack Cockinis, Gabriella Lynch, Connor Moodie	Mechatronics Engineering
109	Designing Low Cost Prosthetic Leg for Children	Yue Li, Jinglun Mai, Xintong Song, Yiming Zhao	Mechatronics Engineering
110	Artificial Intelligence for Horse Injury Prevention	Denny Chen, Emily Dioguardi	Mechatronics Engineering
111	Design and Build of Low-Noise Quadcopters	James Cong Peng, Shuoyang Qin, Yixuan Yang	Mechatronics Engineering

Booth No.	Title	Group member(s)	Category
112	Neurovis: Addressing Nerve Damage in Urological Surgeries	Demuni Vinuri Dewanga De Silva, Can Ertan, Ethan Samuel Grooby, Matthew James Woolley	Biomedical Engineering
113	Edible Scaffolds for Tissue Engineering Clean Meat	Wiktor Zywicki	Biomedical Engineering
114	Functionality and Composition of High-Density Lipoprotein in Subjects with Age-Related Macular Degeneration (AMD)	Ellen Welsh	Biomedical Engineering
115	Anaesthetic Monitoring Device	David Bryan, Gemma Donker, Zulhusni Idris, Anna Magennis	Biomedical Engineering
116	CARI: A Better-Fitting CPAP Interface for Preterm Babies in NICU	Mengfan Bao, Jieying Li, Di Miao, Yu Zhang	Biomedical Engineering
117	Novel Glaucoma Drainage Device	Jingyang Liu, Kuan-Ying Lu	Biomedical Engineering
118	Classification of Task-Based Activation in the Prefrontal Cortex Using Functional Near-Infrared Spectroscopy (fNIRS)	Kaitlyn Chase	Biomedical Engineering
119	Automatic Quantification of Neurons in the Cochlear	Kathrine Clarke	Biomedical Engineering
120	Pocket CPR Guidance Device	Nicholas Chu, Dan Ferrier, Kelvin Ye, Jajin Zheng	Biomedical Engineering
121	Microwell Cell Culture Platform to Assess Stem Cell Heterogeneity	Lauren Rigbye, Ziqing Zhou	Biomedical Engineering
122	Dual Tasking and Postural Control Using CAREN System	Bhargav Ganti, Naoya Tashiro	Biomedical Engineering
123	Compact Distortion Product Otoacoustic Emissions (DPOE) Measurement Device	Nicholas Bulmer	Biomedical Engineering
124	3D Extrusion-Based Bioprinting: Overview and In-Depth Analysis of Correlations Between Critical Properties	Shunling Chen, Peiqi Yang	Biomedical Engineering
125	Noise Reduction in Functional Near Infrared Spectroscopy (fNIRS) Recordings	Pengzhi Liu	Biomedical Engineering
126	Moment Arms of the Finger Flexors and Extensors	David Sforzin, Richard Thomas	Biomedical Engineering
127	Representation of a Movie in Human Brain Functional Magnetic Resonance Imaging (fMRI)	Saampras Ganesan	Biomedical Engineering
128	Modelling Hidden Hearing Loss	Xiaoxuan Tang, Siyu Zhou	Biomedical Engineering
129	A Biomechanical Model of the Upper Limb for Investigating Shoulder Instability Surgery	Srijana Chaulagain, Yanchuang Pei	Biomedical Engineering

Booth No.	Title	Group member(s)	Category
130	Intra-Operative Cochlear Implant Trajectory at Insertion Point	Thanomporn Wittayachareonpong	Biomedical Engineering
131	The Biomechanics of Woomera Throwing	Laetitia Dabouineau, Wenjun Dai, Tsutomu Luke Reid	Biomedical Engineering
132	Verification Testing of Non-Condensable Gas Removal of a Novel New Australian Device for Hospital Sterilisers	Guangze Fu, Weijie Qi	Biomedical Engineering
133	Image-Guided Micromechanical Evaluation of Biological Tissues	Daniel Anderson	Biomedical Engineering
134	Z-Disk Segmentation with Machine Learning Methods	Xiaoqian Yu	Biomedical Engineering
135	Simulating Breast X-Ray Mammogram Using MRI Constructed Finite Element Modelling	Yanyan Liu, Tonglong Song	Biomedical Engineering
136	Computational Modelling of Neural Stimulation Using Endovascular Focused Ultrasound	Yi Zhang	Biomedical Engineering
137	Maintaining a High Degree of Cell Viability During Infusion and 3D Printing	Yunong Li, Yihao Wang	Biomedical Engineering
138	Objective Measure of Pain Using a Wearable Device	Yiping Tao, Wenqi Wu	Biomedical Engineering
139	3D Scanning of Ear Moulds	Aishwariya Shenbagamoorthy	Biomedical Engineering
140	MUR Motorsports Business Team	Muhammad Mujtaba Habib, Aidan James Koay	Mechanical Engineering
141	MUR Motorsports Powertrain Control	Ibrahim Ahmed, Abhishek Rajendran	Mechanical Engineering
142	MUR Motorsports Combustion Powertrain	Tien Ling Chao, William Dimery, Lucas Shaw, Arjun Soudakar	Mechanical Engineering
143	MUR Motorsports Suspension	Sam Barnden, Brett Hansen, Lewis Mombo	Mechanical Engineering
144	MUR Motorsports FSAE Electric Car Chassis & Drive Train	Jonathon Di Palma, Luke Iacono, Yui Kageyama, Carl Tomczak	Mechanical Engineering
145	MUR Motorsports Aerodynamics	Brandon Afat, Jarrad Haywood	Mechanical Engineering
146	MUR Motorsports Electric Powertrain	Patrick Lewien, Gabriel Varveri, Rhys Williams, Kegong Zhong	Mechatronics Engineering
147	MUR Motorsports LV And Safety	Michelle Yan, Navid Tasin Zaman, Yunsong Zhao	Electrical and Electronic Engineering
148	MUR Motorsports Accumulator	Oyindenyafa Tarakeme, Liam Traynor, Sirui Zhu	Electrical and Electronic Engineering

GET INVOLVED

Our engineering and IT graduate students are trained to be cross-disciplinary technical experts, skilled communicators and innovative problem solvers, who are globally aware and ethical.

By hosting an engineering or IT student in an Industry Project or Internship, you can help your organisation meet its goals while contributing to the development of the next generation of engineering and IT professionals.

STUDENT INDUSTRY PROJECTS

By hosting a student in a research or design Industry Project, you will have the opportunity to resource projects you may not otherwise have undertaken while gaining access to the next generation of top-quality recruits for your organisation.

Work with students enrolled in the following Masters degree programs:

- Biomedical Engineering
- Chemical and Biochemical Engineering
- Computing and Information Systems
- Electrical and Electronic Engineering
- Infrastructure Engineering
- Mechanical & Aerospace Engineering
- Mechatronics Engineering

Find out more: eng.unimelb.edu.au/industry/student-industry-projects

INTERNSHIPS

By choosing to host an intern you will help shape the next generation of engineering and IT professionals. We will work with you to provide a suitable student to meet your organisational needs by advertising and shortlisting potential candidates while giving you the opportunity to interview.

Work with students enrolled in the following Masters degree programs:


- Biomedical Engineering
- Civil Engineering
- Electrical Engineering
- Environmental Engineering
- Materials Engineering
- Mechanical Engineering
- Mechatronics Engineering
- Software Engineering
- Spatial Engineering
- Structural Engineering
- Information Systems
- Information Technology

Find out more: eng.unimelb.edu.au/industry/students/internships




THE UNIVERSITY OF
MELBOURNE

WANT TO FIND OUT MORE?

 endeavour.unimelb.edu.au
eng.unimelb.edu.au

 endeavour-mse@unimelb.edu.au

 facebook.com/engunimelb

 [@engunimelb](https://www.instagram.com/engunimelb)
[#EndeavourUoM](https://www.instagram.com/engunimelb)

.....

The Endeavour Project Management Team has used its best efforts to ensure that the material contained in this publication was correct at the time of printing. The Endeavour Management Team gives no warranty and accepts no responsibility for the accuracy or completeness of information.

CRICOS Provider Code: 00116K