SOLENT
UNIVERSITY
SOUTHAMPTON

Media Technology, Acoustics and Engineering
Final Year Project Exhibition

Welcome

We are pleased to welcome you to the final year project exhibition for the Media Technology, Acoustics and Engineering students at Solent University in 2020.

The final year project is an opportunity for students to undertake a large-scale piece of independent project work. The project is led by the student, rather than by lecturers, and is an opportunity for students to demonstrate their creativity and problem solving alongside their technical and project management skills.

Students usually showcase their final project in the form of a trade show style exhibition. Due to the lockdown this year's exhibition has gone virtual and on this page you can find summaries of each of the student projects, as well as an academic poster explaining the project, and a short video from each student exhibiting the project and answering some questions about it. We hope that you enjoy the virtual exhibition, and if you wish to contact students to discuss their projects further, please use the 'request to get in touch' on each student's page.

As ever we are grateful to our external sponsors for project prizes, details of which can be found below.

Prof Chris Barlow and Dr Janet Bonar, project co-ordinators

Prizes and Awards

The KP Acoustics Prize

Awarded annually since 2013, the KP Acoustics prize is awarded for the most innovative project in the field of Acoustics. Nominations are made for a shortlist by the academic team, and the final award is based on a review of both the dissertation and the exhibition of the nominees by Dr Kyriakos Papanagiotou, Managing Director of KP Acoustics.

About KP Acoustics

KP Acoustics are a UK-based consultancy firm with a global presence, offering the full range of acoustic services. We prefer the grand scheme of things. We are creative thinkers. We are doers. Our approach to acoustic consultancy is continually refined, allowing us to provide advice in any given scenario.

Our dynamic team of acoustic consultants offers bespoke advice in acoustics, noise and vibration for a wide range of scenarios and industries, worldwide. We believe that specialised advice from an acoustic consultant needs to be clear and robust. Our approach to acoustic consultancy is therefore targeted and inspired. The combination of a thorough understanding of acoustics, a high level of expertise in acoustic measurements, and a natural feel for our clients' aspirations is the platform on which our company operates.

Find out more at https://kpacoustics.com/

The Anna Valley project prize

The Anna Valley project prize is awarded for the best final year project with a focus on audiovisual technology. Nominations are made for a shortlist by the academic team, and the final award is based on a review of both the dissertation and the exhibition of the nominees by Ben Macrow (Project Manager, Anna Valley).

About Anna Valley

Anna Valley provides advanced and integrated audio-visual technology to the broadcast, entertainment and live event industries. With a heritage of three decades, this audio-visual company has roots in the supply of cameras and display technology to the broadcast sector and a reputation for technical innovation. Anna Valley provides both fixed installation and rental services from their base in the UK, to enable every show, in whatever form it takes, to realise the ambitions of its demanding creators and earn the delight of its deserving audiences.

Find out more at www.annavalley.co.uk

Follow Anna Valley at :

https://www.linkedin.com/company/we-are-anna-valley/

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Engineering Project Prizes

Engineering has always been about fixing problems, and the students studying engineering at Solent have worked hard through this year to identify problems to fix, and then identify and implement the solution. In addition to the hard technical work they have put in, they have also managed the projects throughout the year, which has been more challenging this year!

The projects you see will clearly show the interests and abilities of our graduates, their take on the problems facing society and how they have solved them. The student with the top marks for the project reports on each engineering course is recognised with the award of Best Project.

Students and project titles

Student		Degree title	Project title	Nominations and awards
Josephine	Criddle	BEng (Hons) Audio and Acoustic Engineering	Investigating the Subjective Effectiveness of AVAS (Acoustic Vehicle Alert System), from Different Manufacturers, in comparison to ICE (Internal Combustion Engine)	
Kyle	Brooks	BEng (Hons) Audio and Acoustic Engineering	The Reduction in Size of a Point Source	Nominated for the KP Acoustics Prize
Jackson	Vui Kee Ho	BEng (Hons) Audio and Acoustic Engineering	Natural plant fibres as sustainable acoustic absorbers	Awarded the KP Acoustics Prize
Daniel	Milne	BSc (Hons) Audio Engineering	Use of Artificial Intelligence in Room Acoustics Prediction Using a Photograph	Nominated for the Anna Valley project prize Awarded the KP Acoustics Prize
Damian	Mrowka	BSc (Hons) Audio Engineering	Distributed Mode Loudspeaker Investigation	
Abbie	Lumley	BSc (Hons) Live Sound Technology	Incorporating Bone pConduction Technology with Virtual Reality	Nominated for the KP Acoustics Prize
Aron	Allcock	BSc (Hons) Live Sound Technology	Low disturbance sounds for electric vehicles	
Matthew	Baines	BSc (Hons) Live Sound Technology	What impact does the presence of background sound have on task performance and concentration?	Nominated for the KP Acoustics Prize
Leigh	Beckly	BSc (Hons) Live Sound Technology	The Effect of Different Acoustic Environments on Singing Voice Performance	
Oliver	Buckland	BSc (Hons) Live Sound Technology	To build a DML flat panel and test its chrematistics and compare it to a typical Bookshelf speaker.	
Tom	Cotter	BSc (Hons) Live Sound Technology	Measuring Speech Intelligibility Using a Binaural Decode of a First-Order Ambisonics Microphone	Nominated for the KP Acoustics Prize
Ehlana	Godfrey	BSc (Hons) Live Sound Technology	What is the Optimum Climate for the highest quality of sound in live music?	
Scott	Kennett	BSc (Hons) Live Sound Technology	Use of tactile transducers to reduce the use of low frequency airborne sound in cinema	Awarded the Anna Valley Project Prize
Duncan	Lang	BSc (Hons) Live Sound Technology	Interfacing two-way radios into a 4-wire Communication System	
Alfie	Marles	BSc (Hons) Live Sound Technology	Emulating Commercial Headphones Through the Use of Frequency Responses and Impulse Responses	
Harry	Moreland	BSc (Hons) Live Sound Technology	How Reliable are Free Acoustic Simulation Programmes	
Hannah	Roberts	BSc (Hons) Live Sound Technology	Cupping the microphone: how microphone handling technique can affect polar response.	
Ayden	Kelly	BSc (Hons) Music Technology	Audio Format Superiority: Manufacturing Pretentiousness?	
Tom	Aries	BSc (Hons) Sound for Film, TV and Games	How Does the Positional Accuracy of Binaural Plugins Differ?	
Merlin	Blackham	BSc (Hons) Sound for Film, TV and Games	Building a VR Synthesizer in Unreal Engine 4	
Lucas	Hand	BSc (Hons) Sound for Film, TV and Games	Exploring the Impact of Music on Immersion in Video Games	
Thomas	Jesson	BSc (Hons) Sound for Film, TV and Games	Localisation Performance using different Binaural plugins	
Montgomery	Moorhouse	BSc (Hons) Sound for Film, TV and Games	An investigation into the acoustic variation between seat locations tested in classrooms of higher education sites	
Ramon	Navarro Dulin	BSc (Hons) Sound for Film, TV and Games	Optimisation of reflection in acoustic modelling plugins within game engines	
Joseph	Franklin	BSc (Hons) Television Production Technology	Camera Tracking in Sport	Nominated for the Anna Valley Project Prize - Highly Commended
Callum	Payne	BSc (Hons) Television Production Technology	Analysing How Different Generations of Broadcast Formats Compare	
Owen	Quenby	BSc (Hons) Television Production Technology	Live streaming video over a 5G network compared to a 4G network	Nominated for the Anna Valley project prize
Luke	Tresidder	BSc (Hons) Television Production Technology	Testing and Evaluating synchronisation methods of audio and video over traditional and IP based video systems	Nominated for the Anna Valley project prize
Oscar	Davidson	BEng (Hons) Electronic Engineering	Switch Mode Power Supply	
Robert	Gresham	BEng (Hons) Electronic Engineering	Smart portable burglar alarm system	
Daniel	Hawkins	BEng (Hons) Electronic Engineering	Auto-Ranging RLC Meter	
William	Kippen	BEng (Hons) Electronic Engineering	User adjustable loudness control for sound reproduction using Digital Signal Processing.	Awarded Best Project in BEng (Hons) Electronic Engineering
Jordan	Ludlow	BEng (Hons) Electronic Engineering	Lightweight ARINC429 Generator	
David	Minchin	BEng (Hons) Electronic Engineering	Helium Speech Simulator	
Louis	Parker	BEng (Hons) Electronic Engineering	Smart Water Meter Adapter	
Samuel	Patient	BEng (Hons) Electronic Engineering	Complex Waveform Generator	
Liam	Pearce	BEng (Hons) Electronic Engineering	Automated environment controller for a reptile house.	
Yan Rocha	Damiao	BEng (Hons) Electronic Engineering	Face Recognition Door Lock	
Louise	Ryan	BEng (Hons) Electronic Engineering	Domestic Waste Organiser	
Taha	Shafique	BEng (Hons) Electronic Engineering	Sun tracking solar panel	
Oliver	Smith	BEng (Hons) Electronic Engineering	Reinventing the Wheel	
Jack	Stride	BEng (Hons) Electronic Engineering	High Voltage Exhibit – Dual Resonant Solid-State Tesla Coil	

Giannis	Theodotou	BEng (Hons) Electronic Engineering	Assisted Kitchen Area for wheelchair users	
Robert	Thompson	BEng (Hons) Electronic Engineering	Bone conduction glasses	
Aran	Brady	BEng (Hons) Mechanical Engineering	Improve fire retardence of cables to a defined level	
Thomas	Brazier	BEng (Hons) Mechanical Engineering	Anemometer Rail System	
Brandon	Carter	BEng (Hons) Mechanical Engineering	Design and development of a Jenbacher 4 series engine cradle	
Steven	Cook	BEng (Hons) Mechanical Engineering	Design and development of adjustable bicycle rack	
Sam	Harden	BEng (Hons) Mechanical Engineering	Construction 'HH' Handle	Awarded Best Project in BEng (Hons) Mechanical Engineering
Megan	Kelly	BEng (Hons) Mechanical Engineering	Design and development of an automated ramp system for ease of accessibility on the railway	
Thomas	Ralfs	BEng (Hons) Mechanical Engineering	Pitot tube attachment rig of open channel flow experiments	
Mhairi	Smith	BEng (Hons) Mechanical Engineering	Reducing air emissions from Superyachts	
Ralph	Ali Yahia	BEng (Hons) Renewable Energy Engineering	Floatable Photovoltaic structure for lagoon use	
Natali Khalil	Asfour	BEng (Hons) Renewable Energy Engineering	Cleaning and monitoring PV system	Awarded Best Project in BEng (Hons) Renewable Energy Engineering
Ette Melissa	Affiba	BEng (Hons) Renewable Energy Engineering	Quality assessment of Environmental Impact Assessments of Wind Farms in the UK	
Jurgen	Mjeshtri	BEng (Hons) Renewable Energy Engineering	Solar Shutters	
Joao	Vieira Junior	BEng (Hons) Renewable Energy Engineering	Emergency power supply for small fishing boats	
Pawel	Kolakowski	BSc (Hons) Engineering Design and Manufacture	Coopervision Neo Primary Packaging Development Rig	
Joseph Gordon	Mills	BSc (Hons) Engineering Design and Manufacture	Refrigerant Reclamation Processing – A Development Study	Awarded Best Project in BSc (Hons) Engineering Design and Manufacture
Teboho (Simon)	Moshoeshoe	BSc (Hons) Engineering Design and Manufacture	Remote Controlled Door Operating	