



University of
Salford
MANCHESTER

www.acoustics.salford.ac.uk



Acoustics Research Centre

Fellowship Opportunities



University of Salford Fellowships

- 5 year then transfer to faculty
- First 2 years devoted to research
- £30k start up fund
- Mentoring and development programme
- Build an outstanding track record of research, innovation and impact.
- Complement and extend current research, building novel activity.
- A vision for their future leadership in research, developing new partnerships with public, private and third sector organisations
- Innovating in research-led teaching.
- Diversity
- <https://universityofsalford.tal.net/vx/appcentre-ext/brand-4/candidate/so/pm/1/pl/3/opp/1340-University-Fellow/en-GB>
- https://universityofsalford.tal.net/vx/lang-en-GB/mobile-0/appcentre-1/brand-4/xf-57837bad8019/candidate/download_file_opp/1340/105858/1/0/b9722307ede738bcb8645ab4a62e41a8e806bc98
- <https://www.salford.ac.uk/research/university-fellows-2023>
- Innovation strategy: https://issuu.com/universityofsalford2/docs/uos_innovation_strategy_document



Acoustics at Salford: fact and figures

- Acoustics research since 1958 and courses since 1974.
- 12 Research-active academics (faculty)
- 10 Commercial staff
- 6 Post-docs
- 20+ Research Students
- £0.9M/annum grant income
- £0.7M/annum commercial research and testing income
- New Acoustics building in 2025



Laboratories

- Anechoic chamber
- 2x hemi-anechoic chamber
- Transmission suite
- Reverberation chamber
- 2x Listening room
- Calibration laboratory
- Extensive measurement systems





Acoustics for Health, Well-being & Accessibility

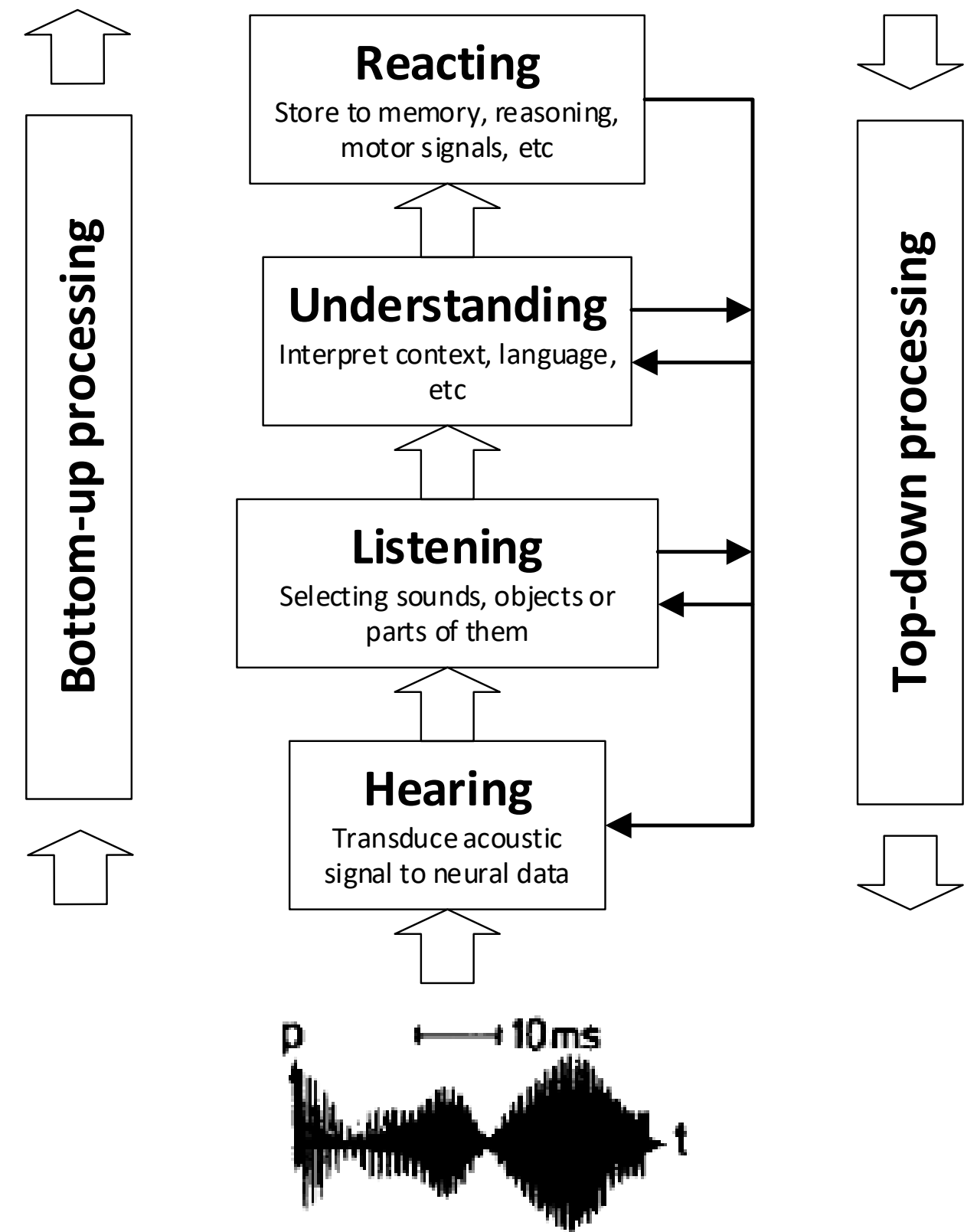
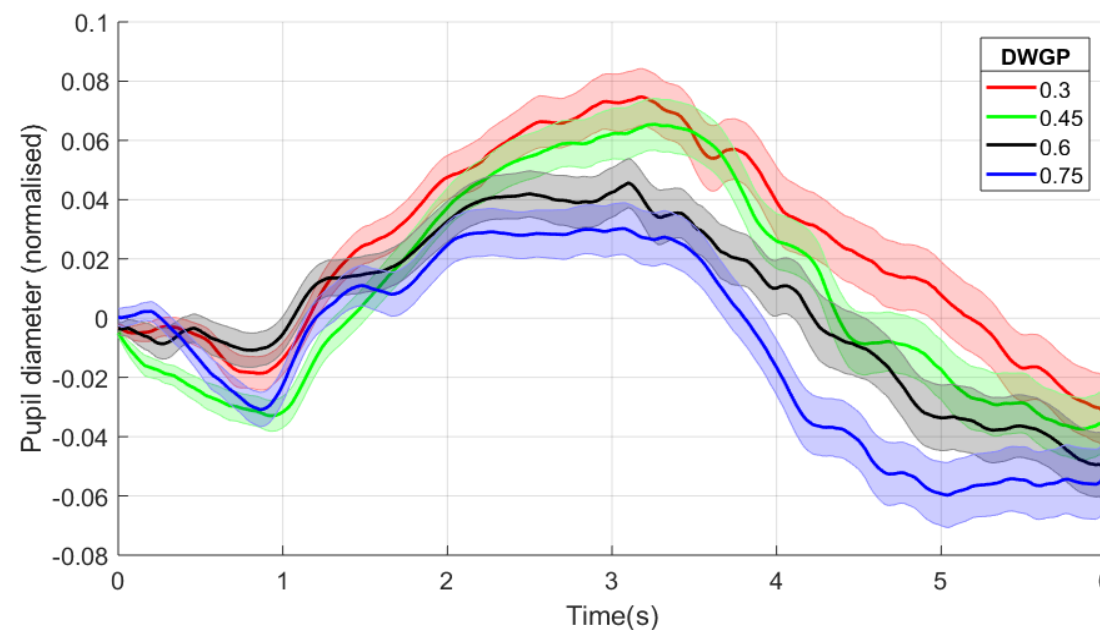
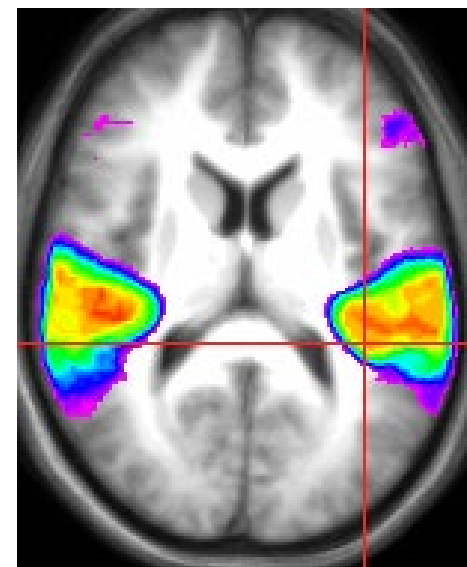
- Healthcare technology e.g. hearing aids
- Accessible audio, AR/VR
- Aural diversity
- Sound therapy
- Environmental Noise and soundscapes
- Perceptual engineering
- Bioacoustics

Industrial Acoustics

- Centre for Built Environment Acoustics
- National Institute Airborne Acoustic Metrology (DI)
- Vibro-acoustics
- Materials
- E-mobility
- Perceptual engineering
- High intensity testing
- Audio systems
- Computer modelling
- Machine learning

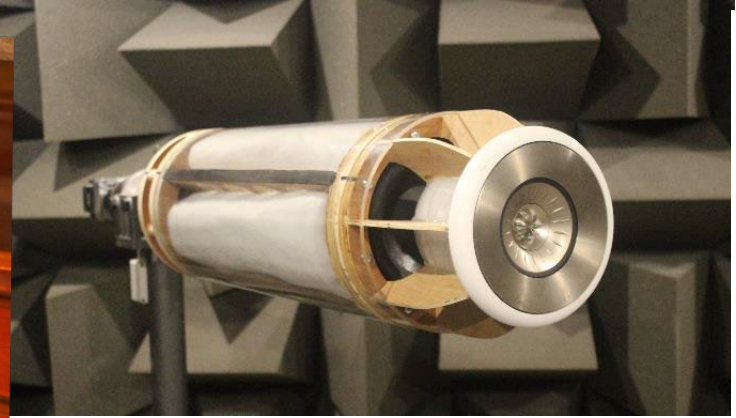
Bill Davies w.davies@salford.ac.uk

- **Expertise:**
 - Soundscape
 - Psychoacoustics
 - Room acoustics
 - Noise annoyance
- **Potential topics:**
 - Aural diversity
 - Autistic listening
 - Individual difference
 - Acoustic lego
 - Intelligent sound level meter
 - Quality mapping



Dr Jonathan Hargreaves (j.a.hargreaves@salford.ac.uk)

Computer Simulation Algorithms

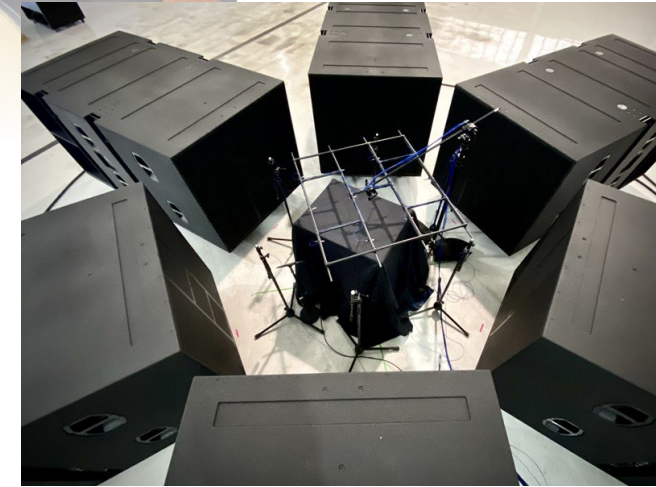


Electroacoustics



Auralisation

Laser Doppler Vibrometry



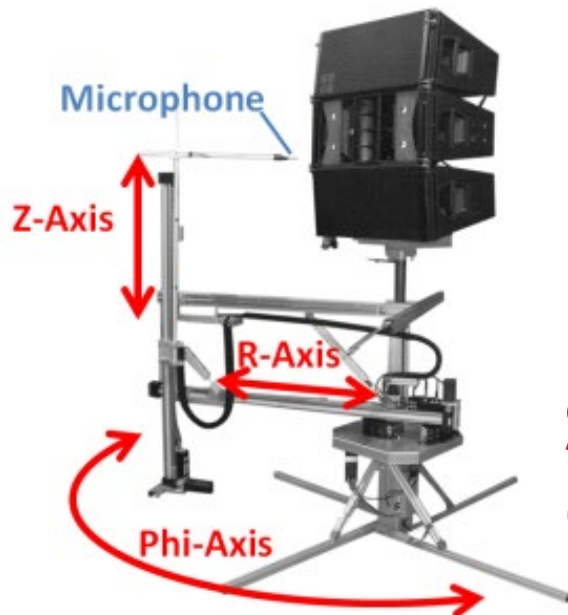
Live Sound



Material Characterisation



Source Characterisation



Microphone & Loudspeaker Arrays



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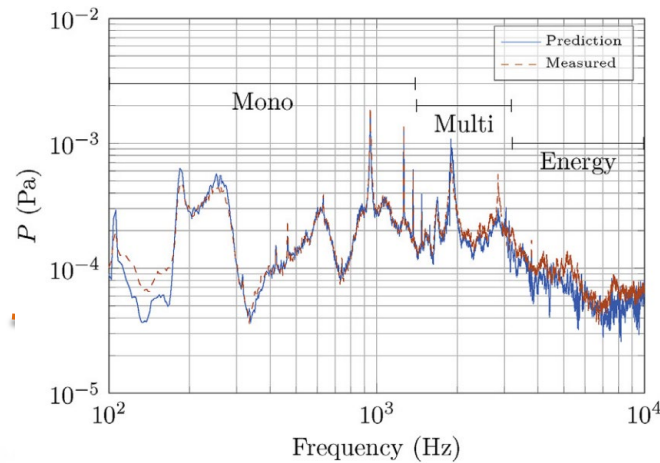
Vibro-acoustics and structural dynamics

Acoustics Research Centre

Joshua Meggitt: j.w.r.meggitt1@salford.ac.uk

Topics: characterisation of vibro-acoustic components (e.g. vibration sources, isolators, joints, etc.), prediction of noise and vibration in complex assemblies, developing *hybrid models* that combine experimental data and numerical modelling, modelling **uncertainty** (quantification and propagation) in vibro-acoustics.

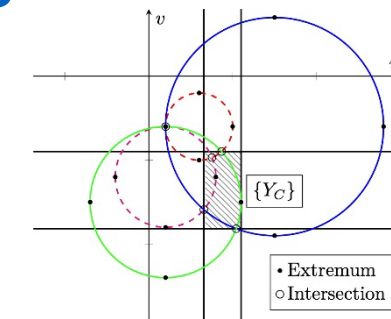
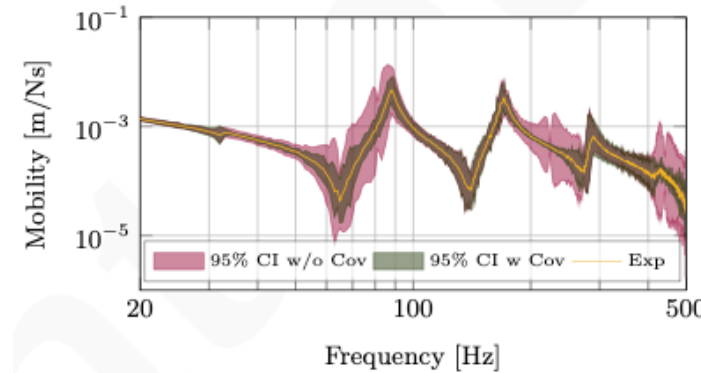
Characterising machines and building Virtual Acoustic Prototypes



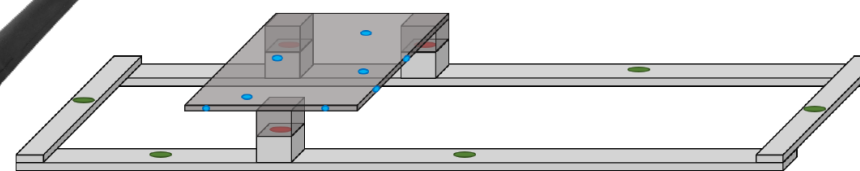
Listening to machines before their built



Modelling uncertainty in vibro-acoustic systems

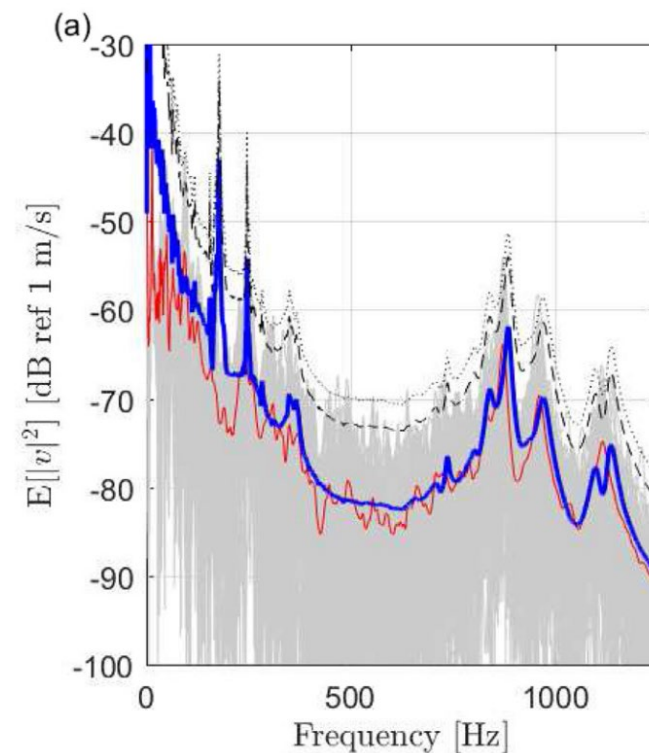
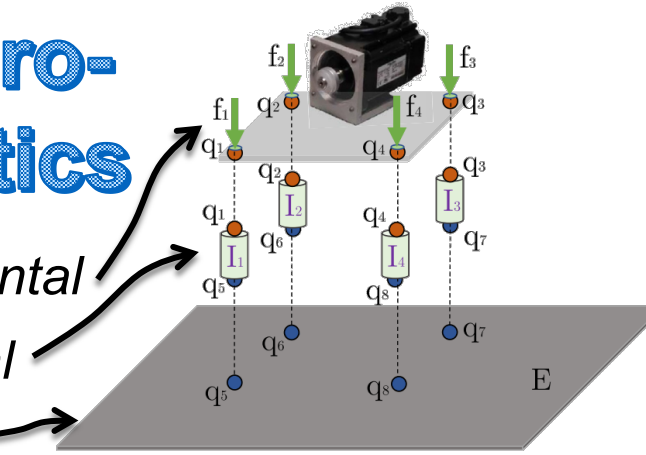


Experimental structural dynamics – mostly hitting things with hammers...



Hybrid simulation for vibro-acoustics

Experimental
Numerical
Statistical

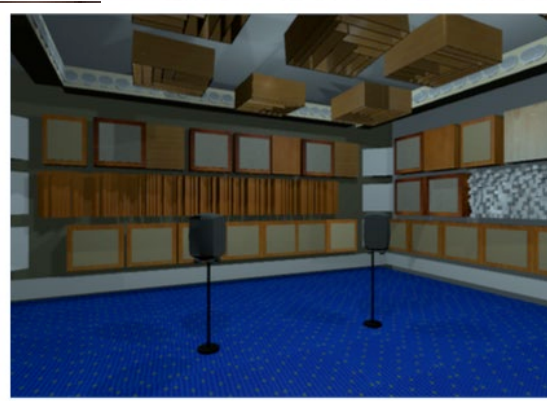
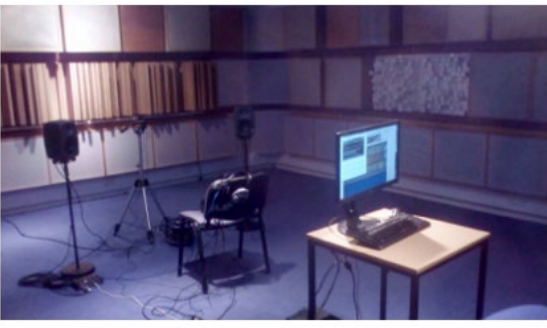
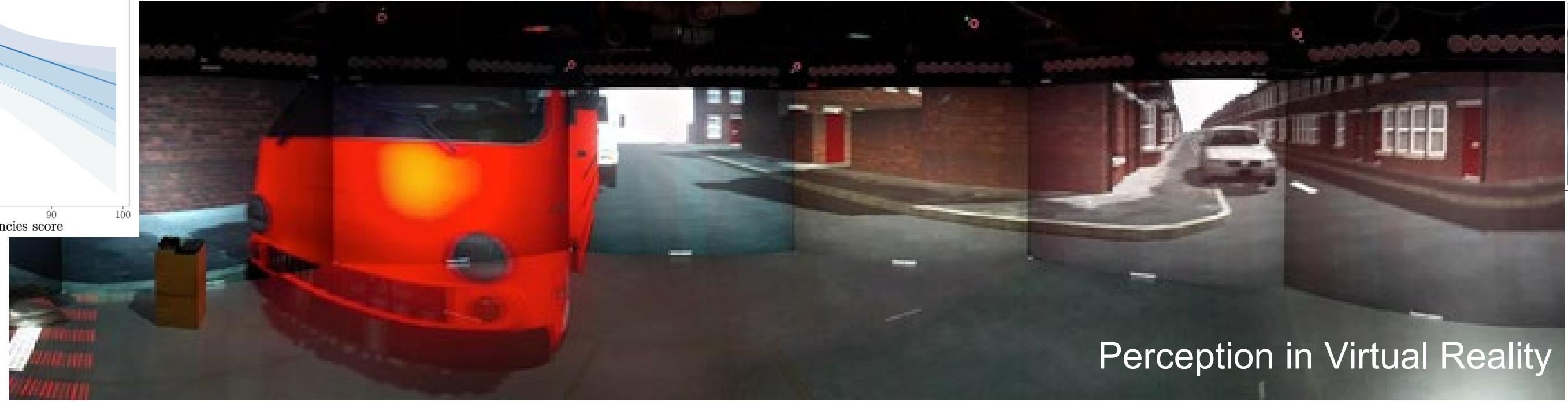
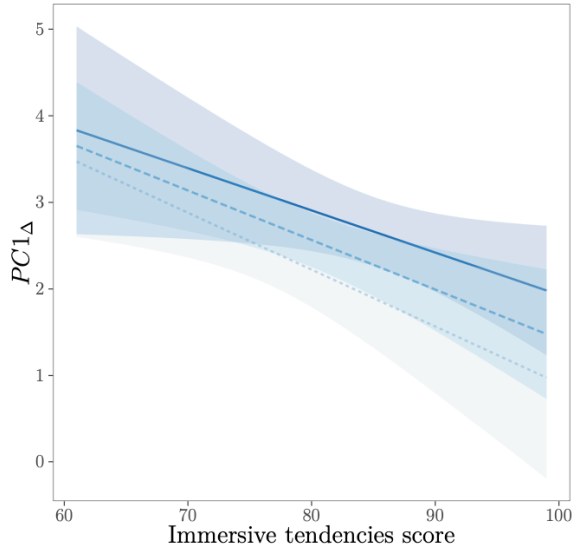
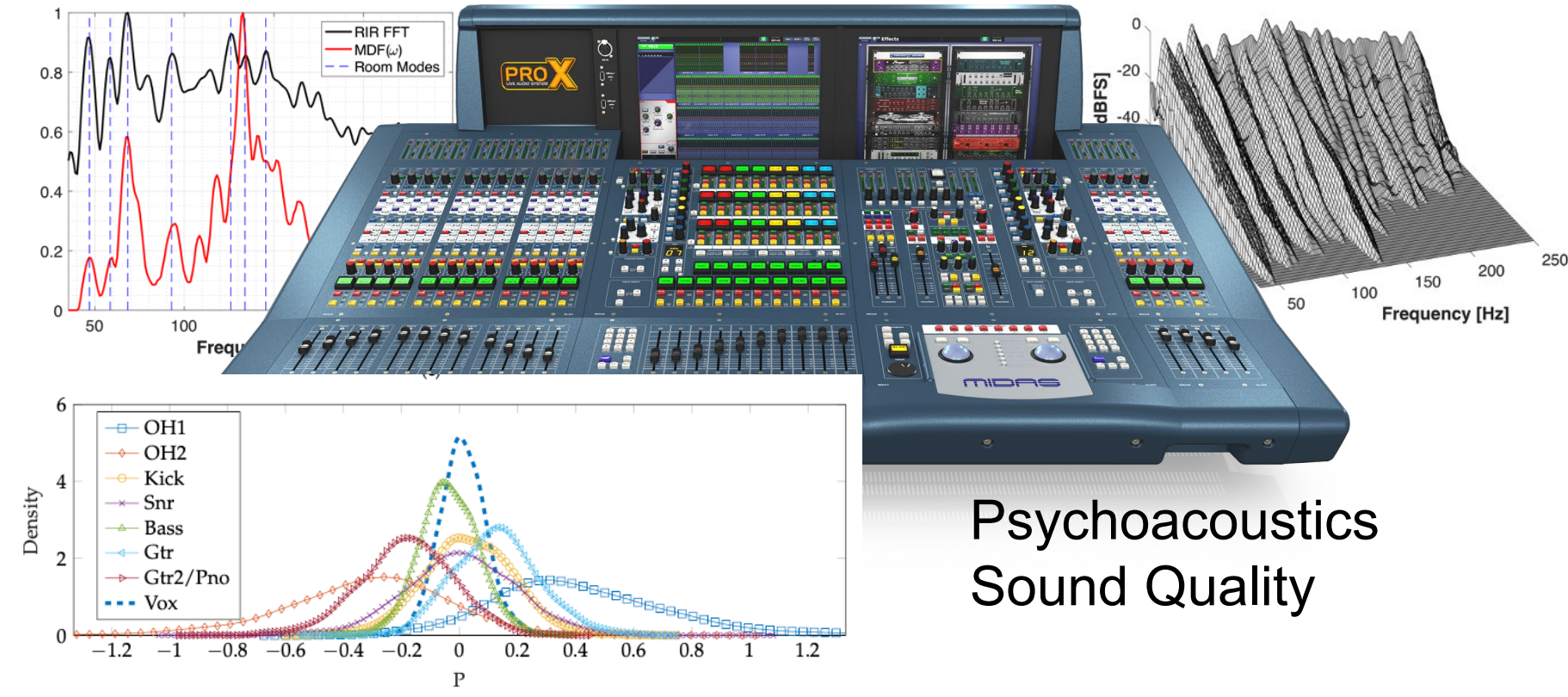
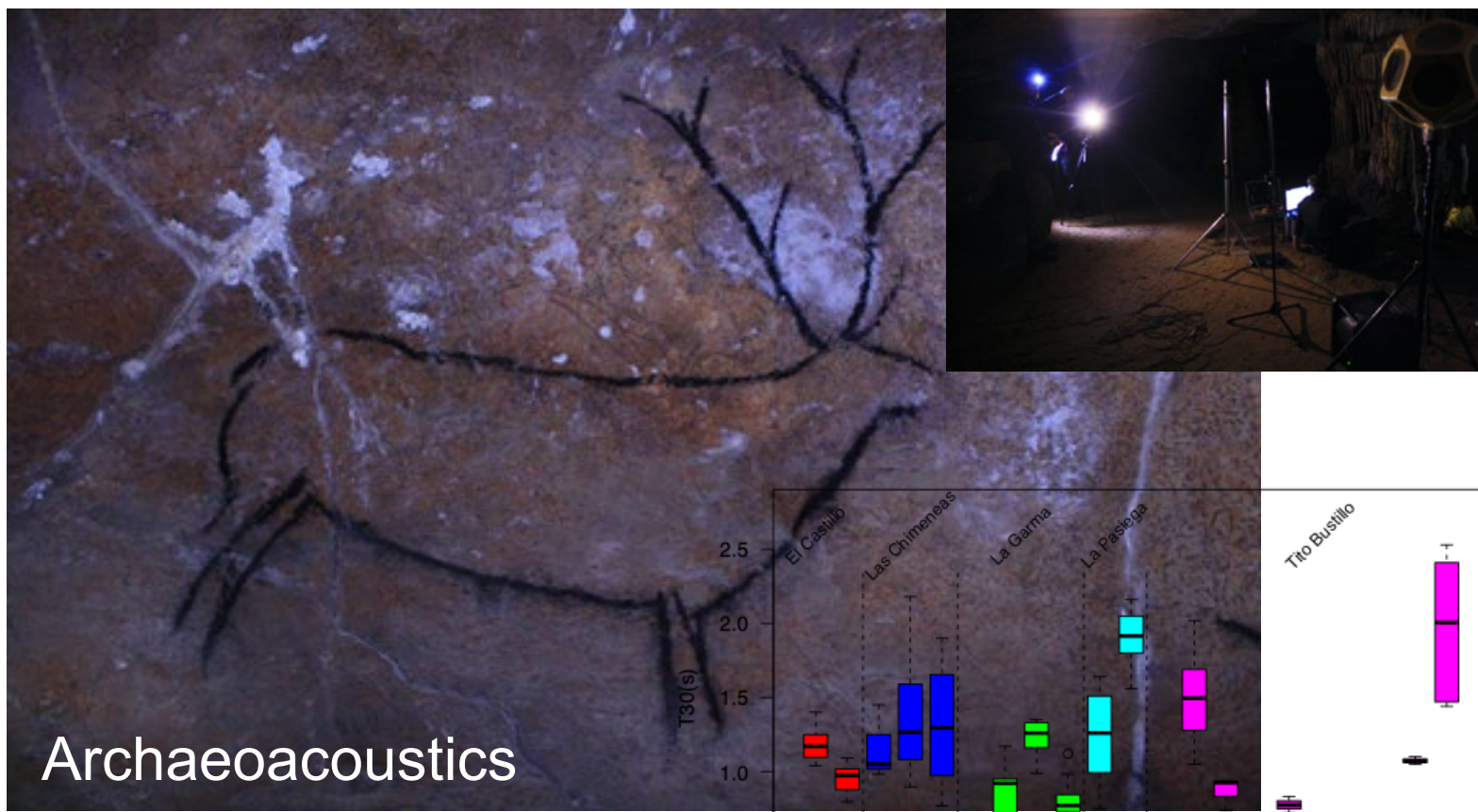


Room Acoustics & Psychoacoustics

Bruno Fazenda

@bfazenda

b.m.fazenda@salford.ac.uk



AFFECTIVE JUKEBOX:
CONFIRMATORY STUDY OF EEG EMOTIONAL
RELATES IN RESPONSE TO MUSICAL STIMULI

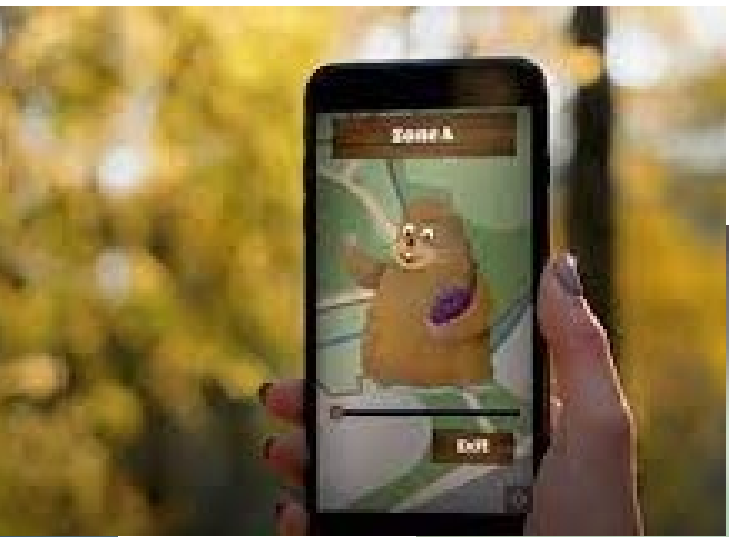


International Series on Computer Entertainment
and Media Technology

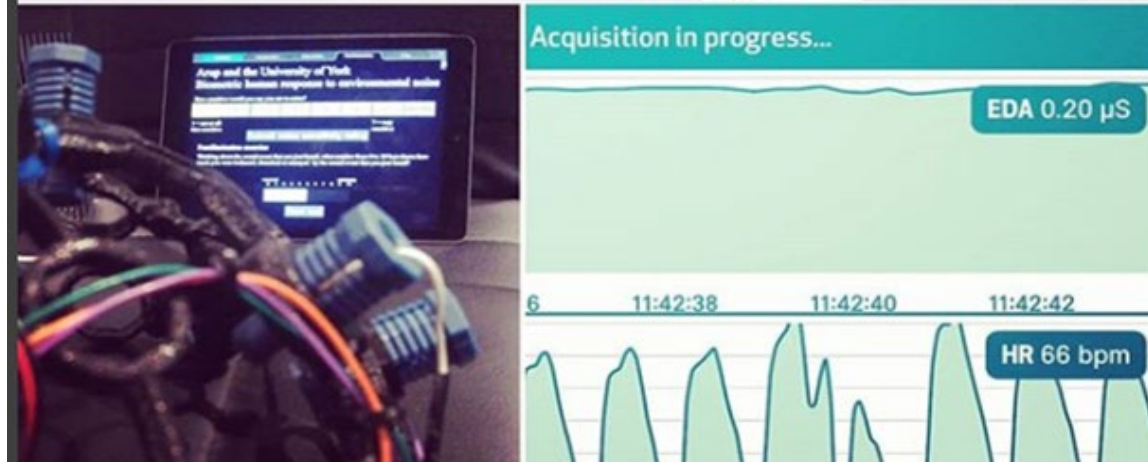
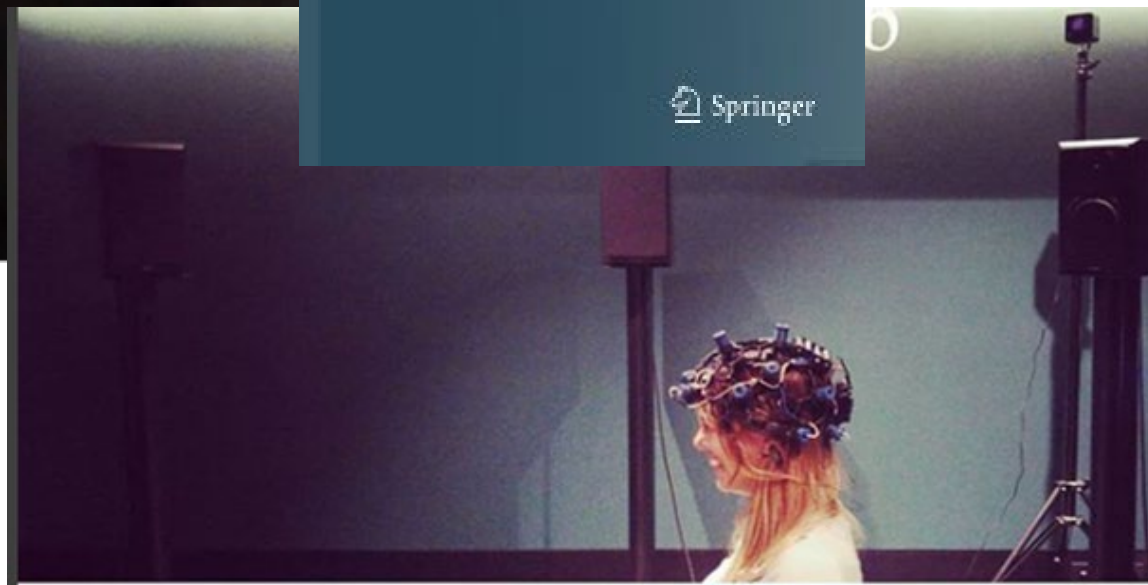
Duncan Williams
Newton Lee

Emotion in Video Game Soundtracking

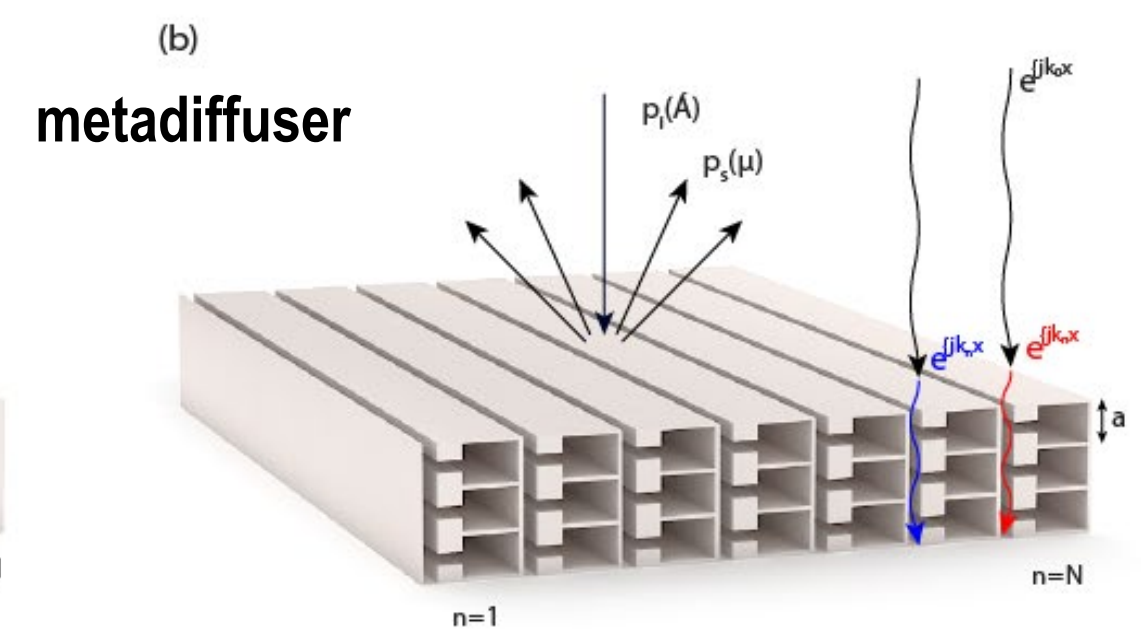
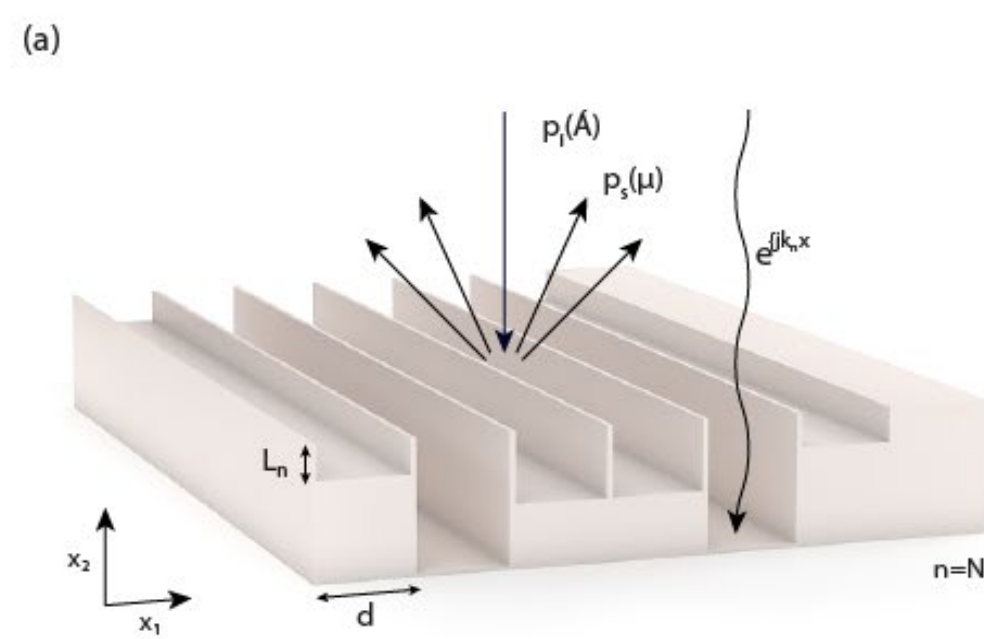
Springer



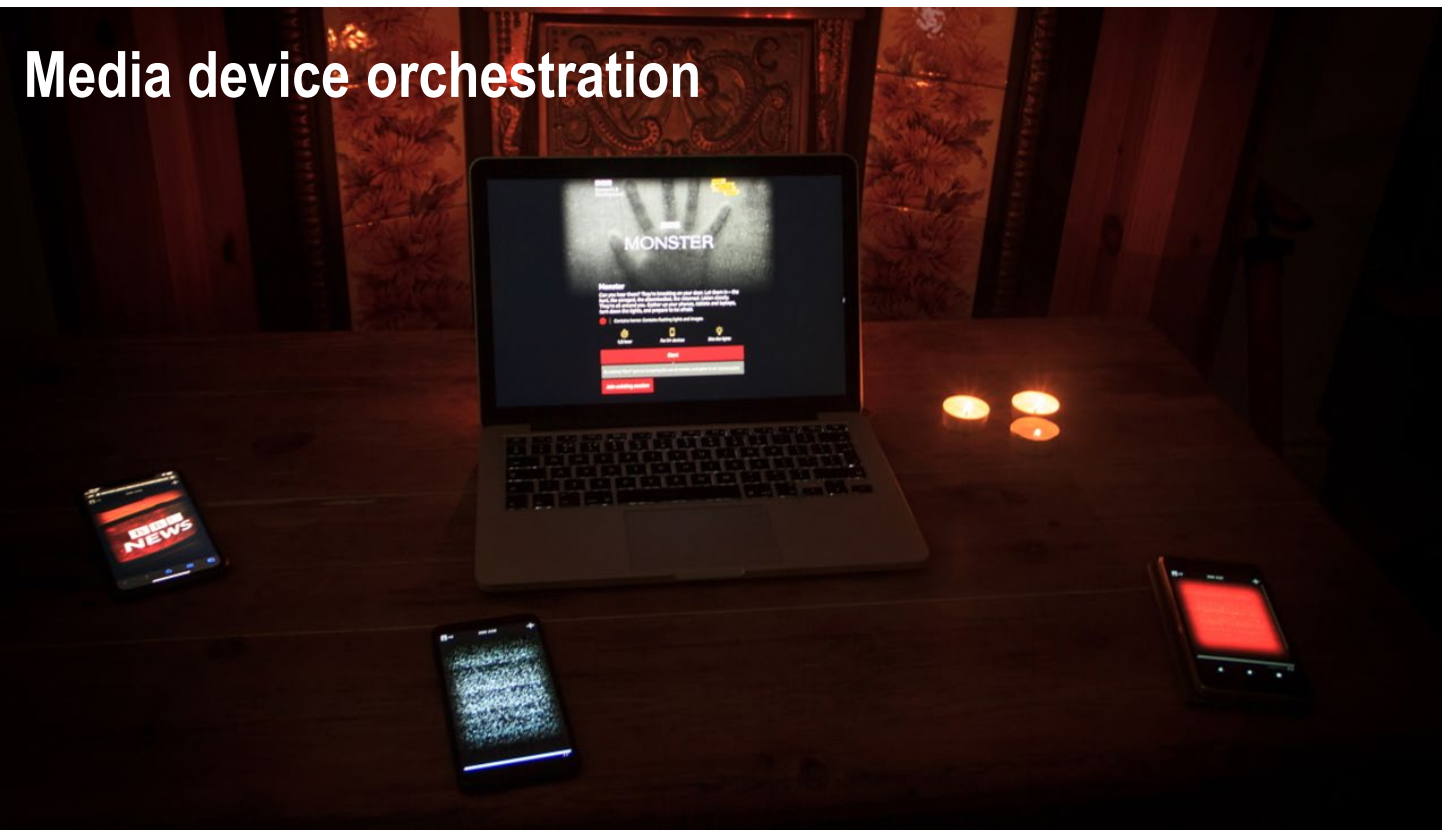
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claritychallenge.org/
Machine Learning Challenges to Improve Hearing Aids



Media device orchestration



@Trevor_Cox

- Audio
- Machine learning
- Modelling
- Public engagement
- Psychoacoustics



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Accessible & Personalised Audio

Ben Shirley



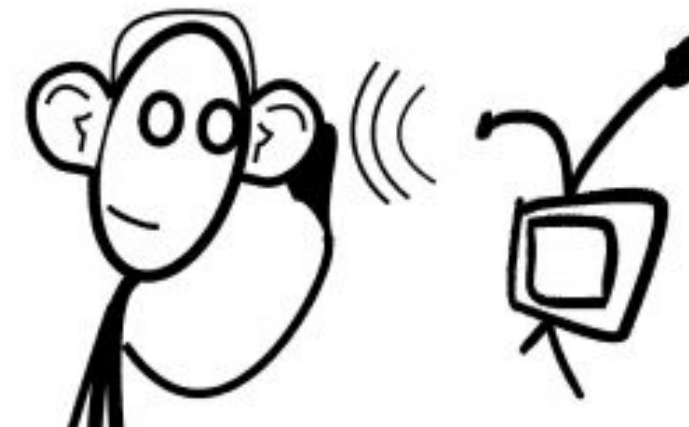
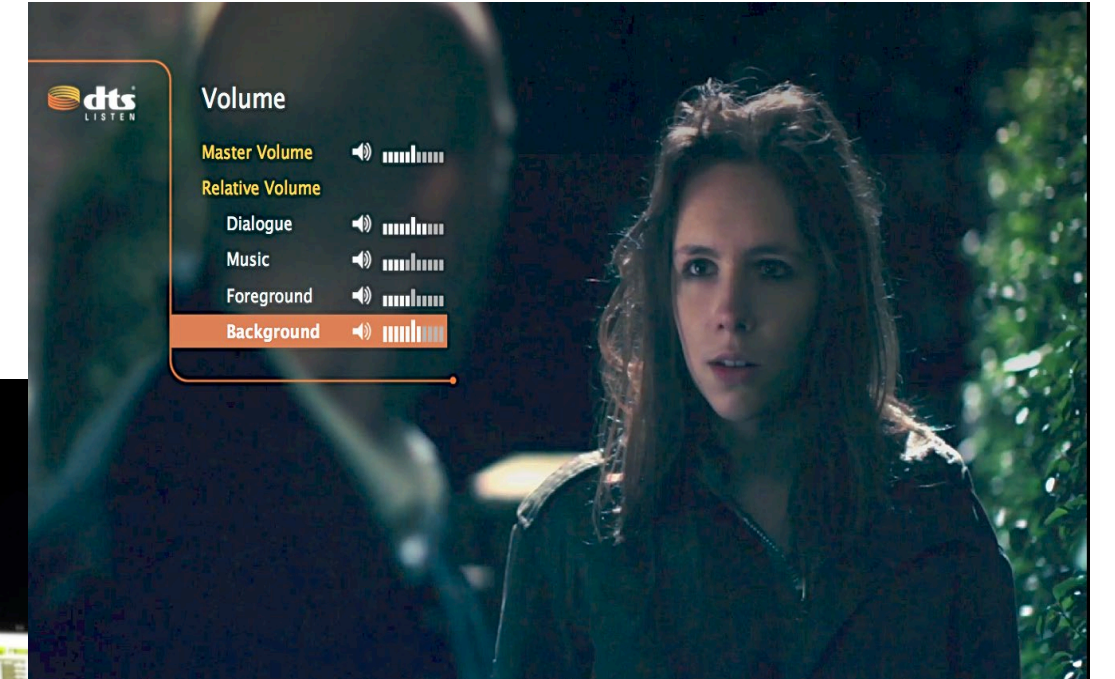
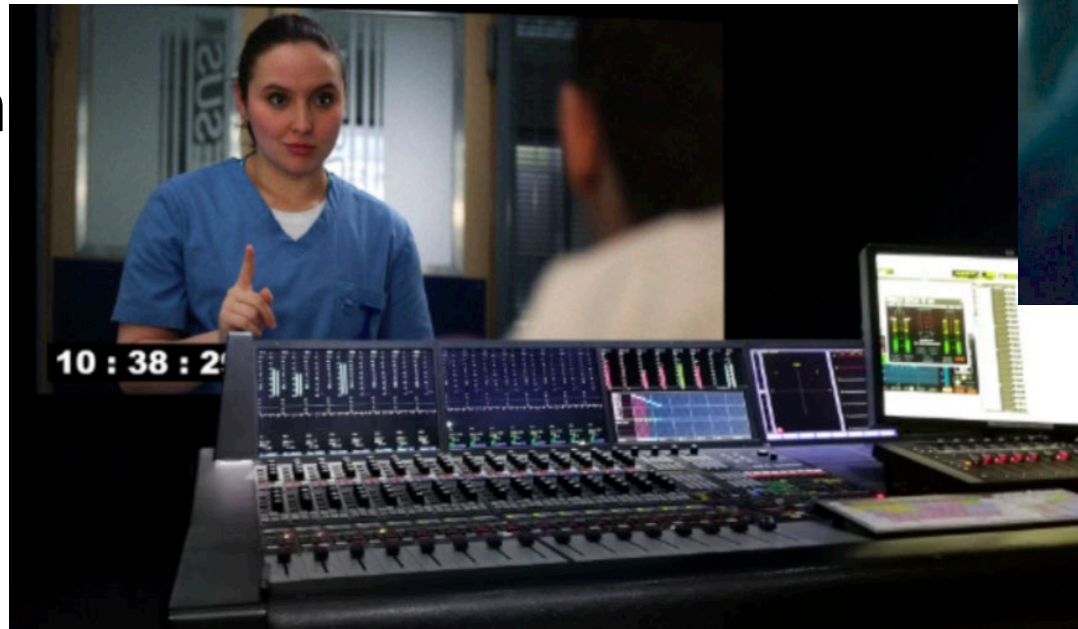
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Next-Generation audio formats and new web audio capabilities allow personalization of people's media experience.

How can this be used to increase:

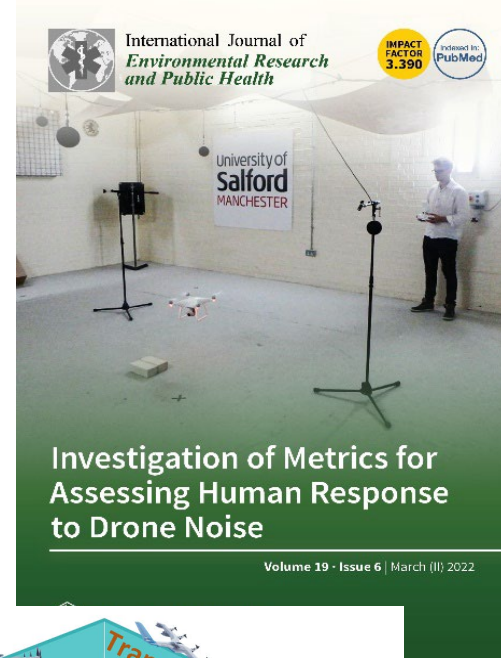
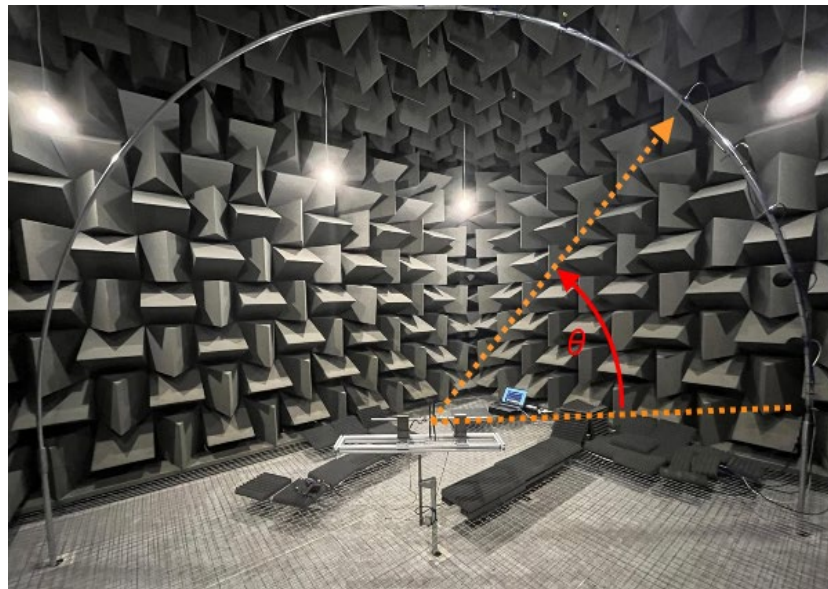
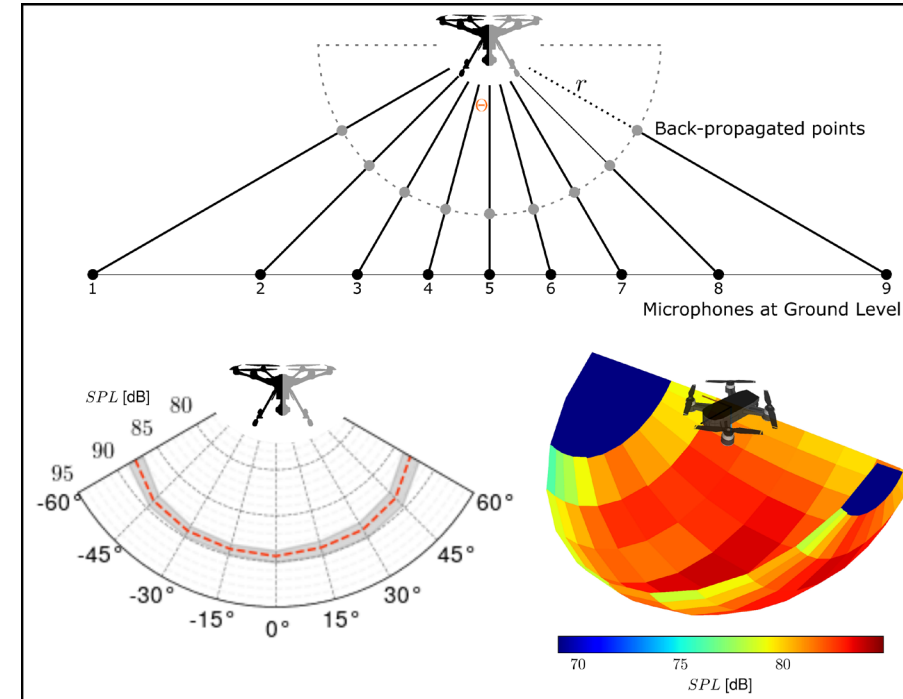
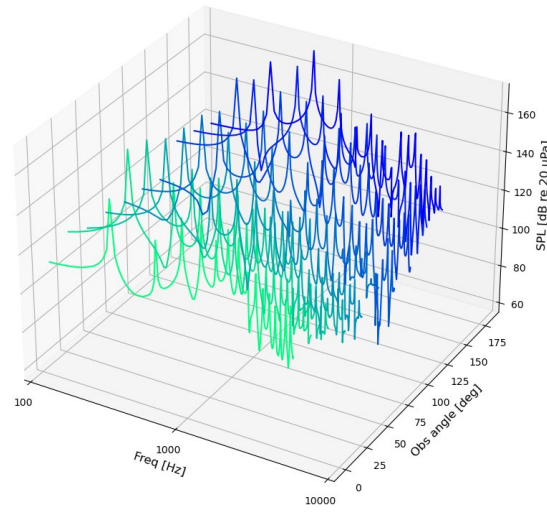
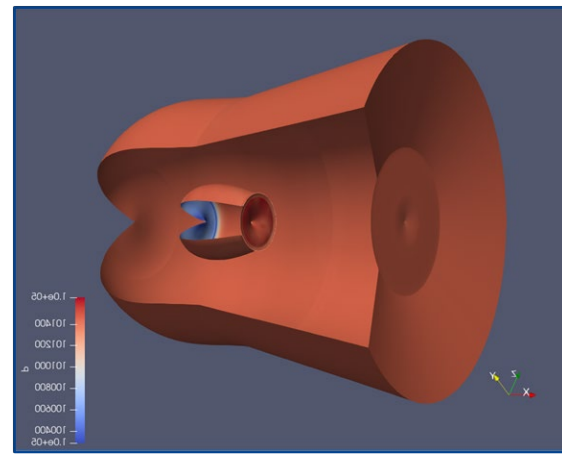
- Access
- Engagement
- Entertainment

for broadcast, VR, AR & XR experiences?



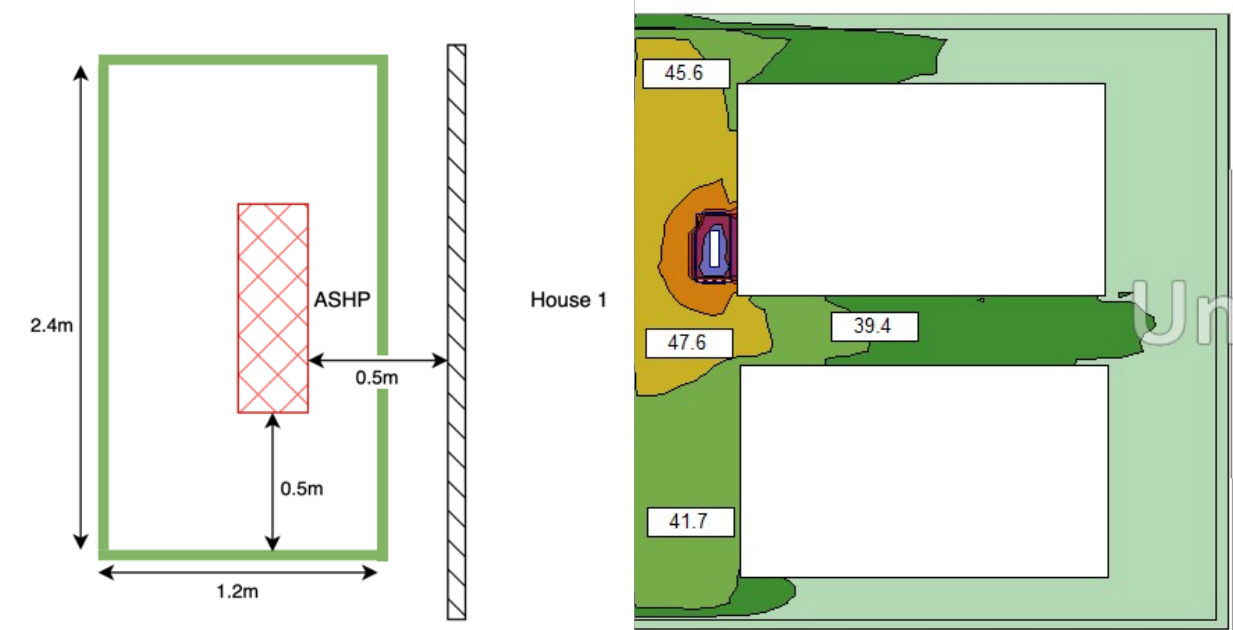
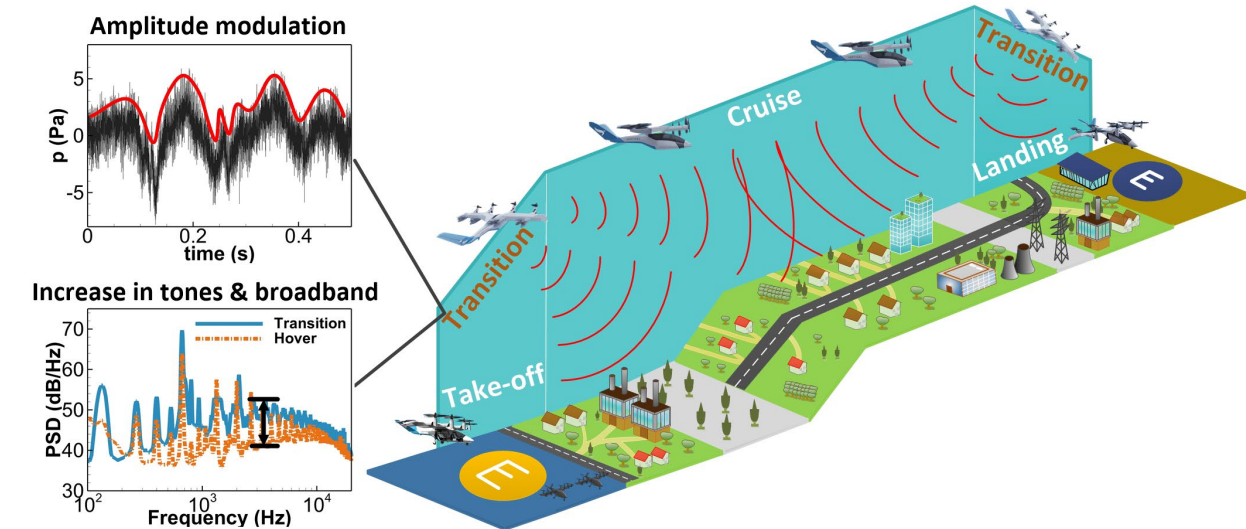
Perception-Driven Engineering – Advanced Air Mobility (EPSRC DroneNoise, IUK InCEPTion, Horizon Europe REFMAP)

eMobility and Decarbonisation – Safe and Sound (AVAS for micromobility), ASHP Noise



Research Topics

- Perception Driven Engineering
- eMobility Noise
- Aircraft Noise (including AAM)
- Noise Modelling
- Psychoacoustics
- Auralisation (NAF) / VR

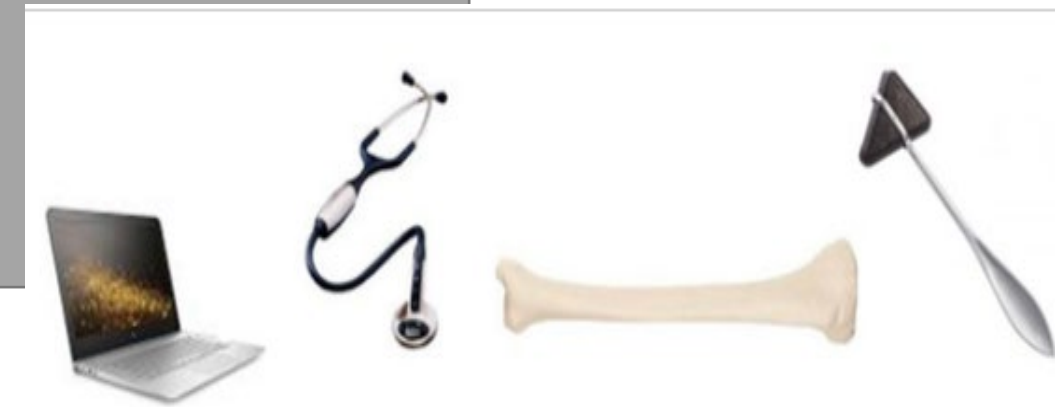




Machine audition for acoustics audio AI synthesis and soft-computing applied to BME and others

Francis Li

f.f.li@salford.ac.uk



DSP and machine learning for acoustics, speech and music audition

- Room acoustics from natural sound sources
- Speech intelligibility and speech quality assessments
- Audio content analysis
- Robust speaker recognition

Generative AIs model for soundtracks and speech

(Not necessarily using big data but attempting to work on relatively small data sets)

- Synthesis of instrumental sonic element to restore degraded soundtracks (e.g., through separation)
- Synthesis of speech elements to replace degraded signal segments (e.g., due to transmission)
- Music variations and improvisation

Machine learn and soft-computing for BME and other applications

(Not restricted to acoustics and vibration)

- ECG signal separation and pattern recognition
- Vibroacoustic signal analysis, e.g., stethoscope signal pattern recognition for the detection of osteoporosis and other applications.
- Generic denoising algorithms using singular spectrum analysis.

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- Mentoring and development programme
- Build an outstanding track record of research, innovation and impact.
- Complement and extend current research, building novel activity.
- A vision for their future leadership in research, developing new partnerships with public, private and third sector organisations
- Innovating in research-led teaching.
- Diversity, non-traditional career paths.
- <https://universityofsalford.tal.net/vx/appcentre-ext/brand-4/candidate/so/pm/1/pl/3/opp/1340-University-Fellow/en-GB>
- https://universityofsalford.tal.net/vx/lang-en-GB/mobile-0/appcentre-1/brand-4/xf-57837bad8019/candidate/download_file_opp/1340/105858/1/0/b9722307ede738bcb8645ab4a62e41a8e806bc98
- <https://www.salford.ac.uk/research/university-fellows-2023>
- Innovation strategy: https://issuu.com/universityofsalford2/docs/uos_innovation_strategy_document

Application

- Through the University system
 - Acoustics staff can't take applications directly
 - If you are known to Salford Acoustics, still write the application for people who don't know you.
- Feel free to contact Acoustics staff for advice.
- Content
 - A CV (maximum of five-pages of A4).
 - A covering letter addressing the person specification and stating which of the research area/s the application relates to (max three-pages).
 - A two-page outline of your proposed research programme, including: a research plan which particularly concentrates on for the first 2-3 years and highlights in particular: the novelty; details of any planned activities to maximise collaboration, partnership and knowledge exchange; plans for the £30K start-up funding.
- Closing date for applications is 23:55 on 26th February 2023.

Person specification

- It is vital to address the items in the table from the pdf in your application.
- If you don't address an "essential" item you can't be shortlisted

Person Specification

Qualifications

	The successful candidate should have:	Essential/ Desirable	Tested by* A, I, P, T
1	A degree or equivalent professional qualification	Essential	A
2	A PhD in a relevant area	Essential	A

Background & Experience

	The successful candidate should have:	Essential/ Desirable	Tested by* A, I, P, T
3	Recent record of excellent publications, appropriate to stage of career.	Essential	A, I, P
4	Evidence of the ability to obtain funding to support research, appropriate to stage of career	Desirable	A, I, P

Use the items in the person specifications as headings and write an answer underneath

- **Good understanding of the potential non-academic impacts of the research and ways of engaging in order to achieve these.**
- Write something here to answer the point. Best if you can evidence something you have already done, but if not write something to demonstrate your understanding.

- **Research**

- To undertake world-leading research and build a research programme and group.
 - Undertake individual or collaborative research projects
 - **Identify external sources of funding and develop and contribute to funding bids – research, knowledge transfer and engagement grant applications**
 - Promote graduate studies by contributing to the supervision of postgraduate research students
 - Write and contribute to publications in peer reviewed academic journals and/or disseminate research findings using other appropriate media
 - Make presentations at conferences or exhibit work in other appropriate events, participating in dissemination and engagement activities to contribute to knowledge base of area of expertise, maximise policy, media industrial or community impact of research
 - Extend, transform and apply knowledge acquired from scholarship to learning, research and appropriate external activities
 - Contribute to impact generation, including but not limited to outreach, public engagement and industry / stakeholder policy change



Other fellowship schemes

- MSCA Postdoctoral Fellowships, <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-msca-2022-pf-01-01>
- EPSRC, www.ukri.org/opportunity/epsrc-open-fellowship/
- RAEng, www.raeng.org.uk/grants-prizes/grants/support-for-research/raeng-research-fellowship
- IC via RAEng, www.raeng.org.uk/grants-prizes/grants/support-for-research/ic-postdoctoral
- AHRC, www.ukri.org/opportunity/ahrc-research-development-and-engagement-fellowships-standard-route-to-support-mid-career-and-established-researchers/