

先端科学技術推進機構講演会

標記について、先端科学技術推進機構では、下記のとおり講演会を開催いたします。講演内容に関心のある方は、ご出席下さいますようお願い申し上げます。

主催： 関西大学先端科学技術推進機構

共催： 日本騒音制御工学会アクティブコントロール分科会

IEEE Student Branch at Kansai University

電子情報通信学会信号処理研究会

日本音響学会騒音振動研究会

IEEE Signal Processing Society Kansai Chapter

日本音響学会関西支部

電子情報通信学会応用音響研究会

Audio Engineering Society Japan Chapter

騒音・振動制御研究グループ

開催日時： 平成27年 2月 26日(木) 15:00~17:00

開催場所： 第4学舎 3号館 2階 3202教室

【演題】: Active Control of Sound in Vehicles and in the Ear

【講師】: Stephen J. Elliott

Professor, University of Southampton, ISVR

【概要】: The low frequency sound and vibration inside aircraft and cars is now attenuated using commercial active control systems. These typically operate using many shakers acting on the structure to modify its vibration and hence reduce excitation of the sound field.

As the structure becomes larger, the number of actuators and sensors required for effective control rises significantly. Conventional, fully coupled, control systems then become costly in terms of weight and sensitivity to individual failures. An alternative strategy is to distributing the control over multiple local controllers, which has been shown to be effective in a number of cases. Recent work will be presented on tuning these local control loops to maximise the power they absorb from the structure, which may allow the mass production of generic active control modules that include an actuator, sensor and self-tuning controller.

The workings of the inner ear also provide a remarkable natural example of distributed active control, whose objective is to enhance the motion within the cochlea. A simple model for this cochlear amplifier, in which each of the outer hair cells act as a local control loop, will be described and its use illustrated in predicting the otoacoustic emissions generated by the ear. These emissions are used clinically to screen the hearing of young children and so it is important to understand how they are generated within the cochlea.

* 科学研究費助成事業(基盤研究(C)) * 本講演は英語で行われます * 事前申込み:不要、参加費:無料

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【会場案内図】

関西大学千里山キャンパス



【 お問合せ先 】

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