Music Technology and Sound Engineering at Anglia Ruskin University

Research, Innovation and Knowledge Transfer

Dr Rob Toulson

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Cross-disciplinary Research Institute led by Dr Rob Toulson

Department of Computing and Technology led by Dr Doug Nunn
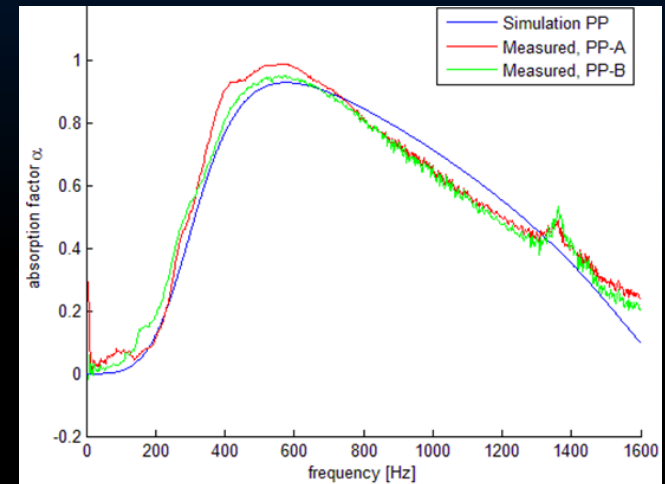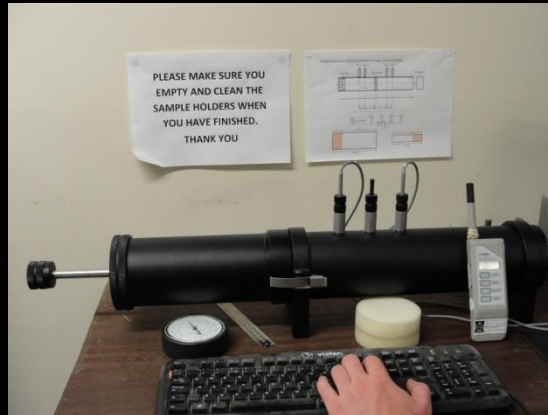

Department of Music and Performing Arts led by Dr Tom Hall and Dr Richard Hoadley

EC FP7 Project Echo2Eco

- Acoustic absorber design for use in thermal mass buildings
- Using Helmholtz designs with acrylic and plastics
- Allows thermal mass buildings to have effective sound control

Technology for Music Therapy

Opportunities:

- A new musical instrument
- Greater participation
- Analysis and evaluation
- Remote therapy
- Invisible vs visible technology
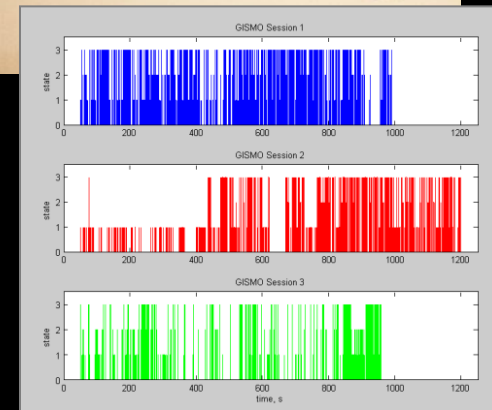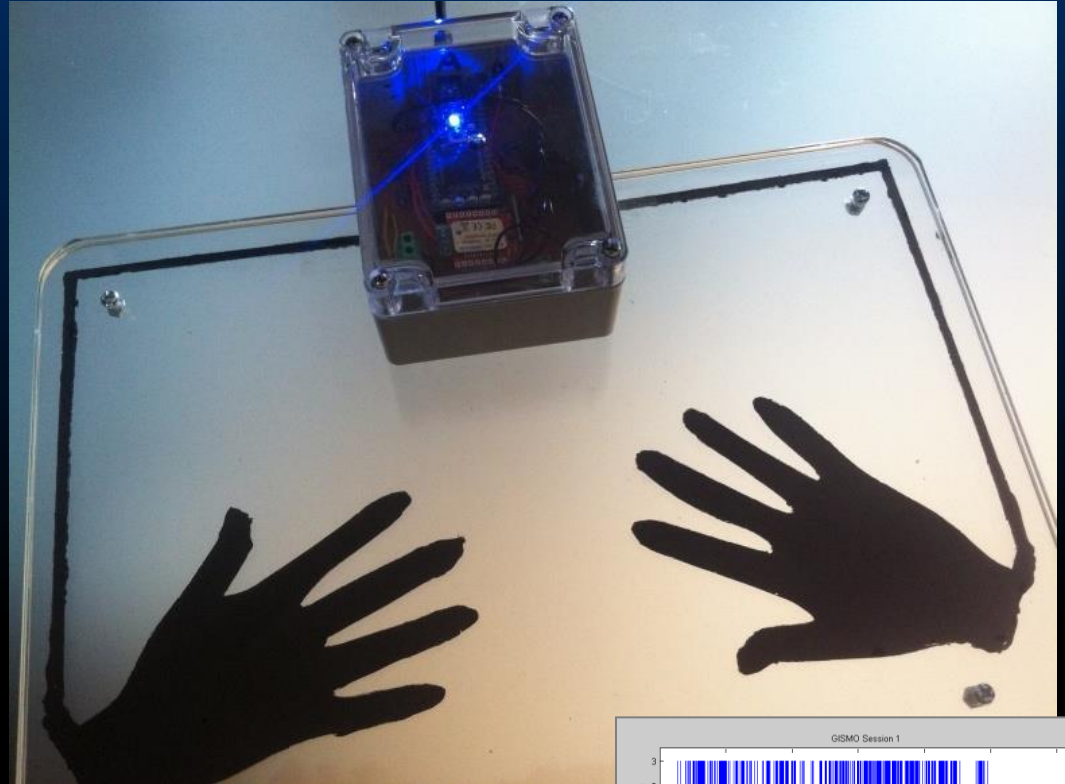
Digital Performance Laboratory

Dr Tom Hall

Researching Morton Feldman's 1953 composition *Intersection for Magnetic Tape* (1953, duration 3'18")
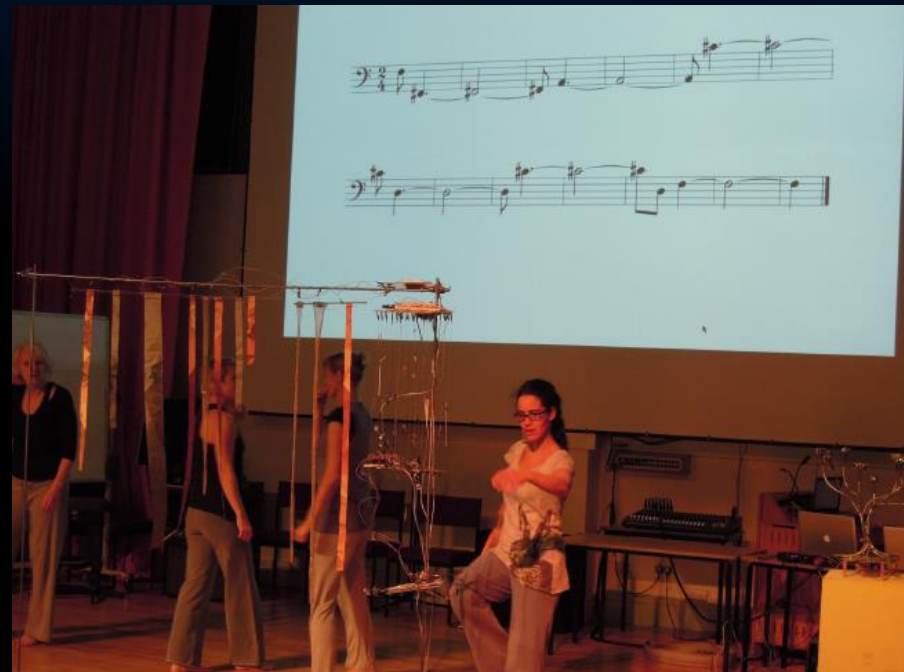
- A novel score for multichannel composition
- *Intersection for Magnetic Tape* was 'realised' in 1954 by John Cage
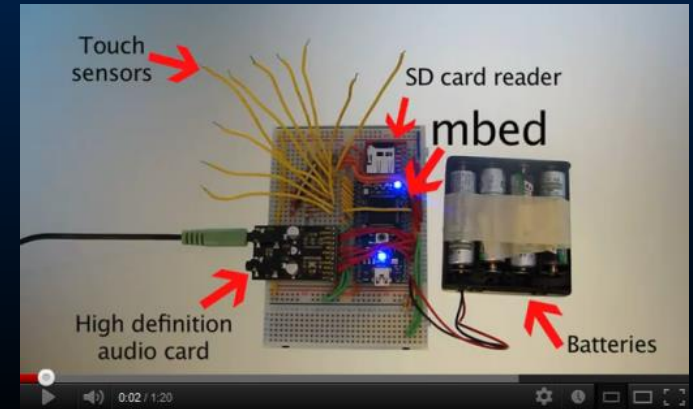

Dr Richard Hoadley

Research, composition and performances in expressive and live coding

- Interfaces
- Algorithms
- Live score generation

The Lagoglyph Sound System
By Eduardo Kac

Album App Concept for Music Sales

NESTA funded project to research and develop the Album-App commercial music format
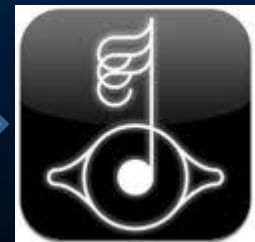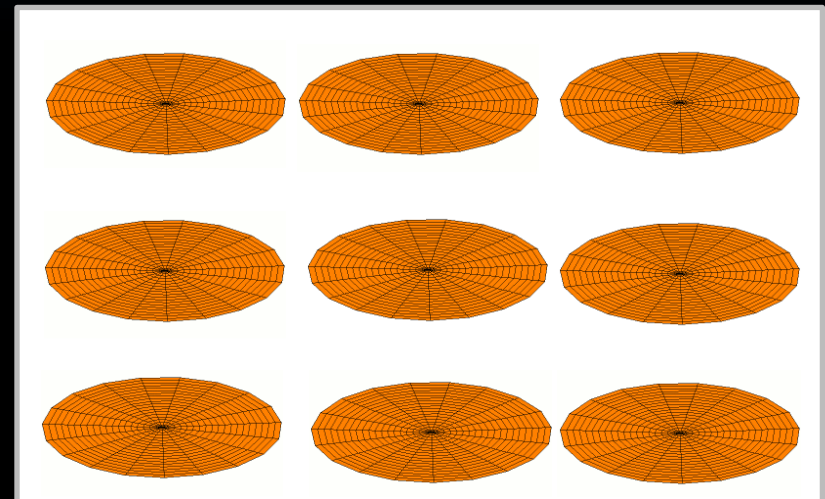

Vinyl　　　*CD*　　　*MP3*　　　*App*

Bjork's Biophilia Album App
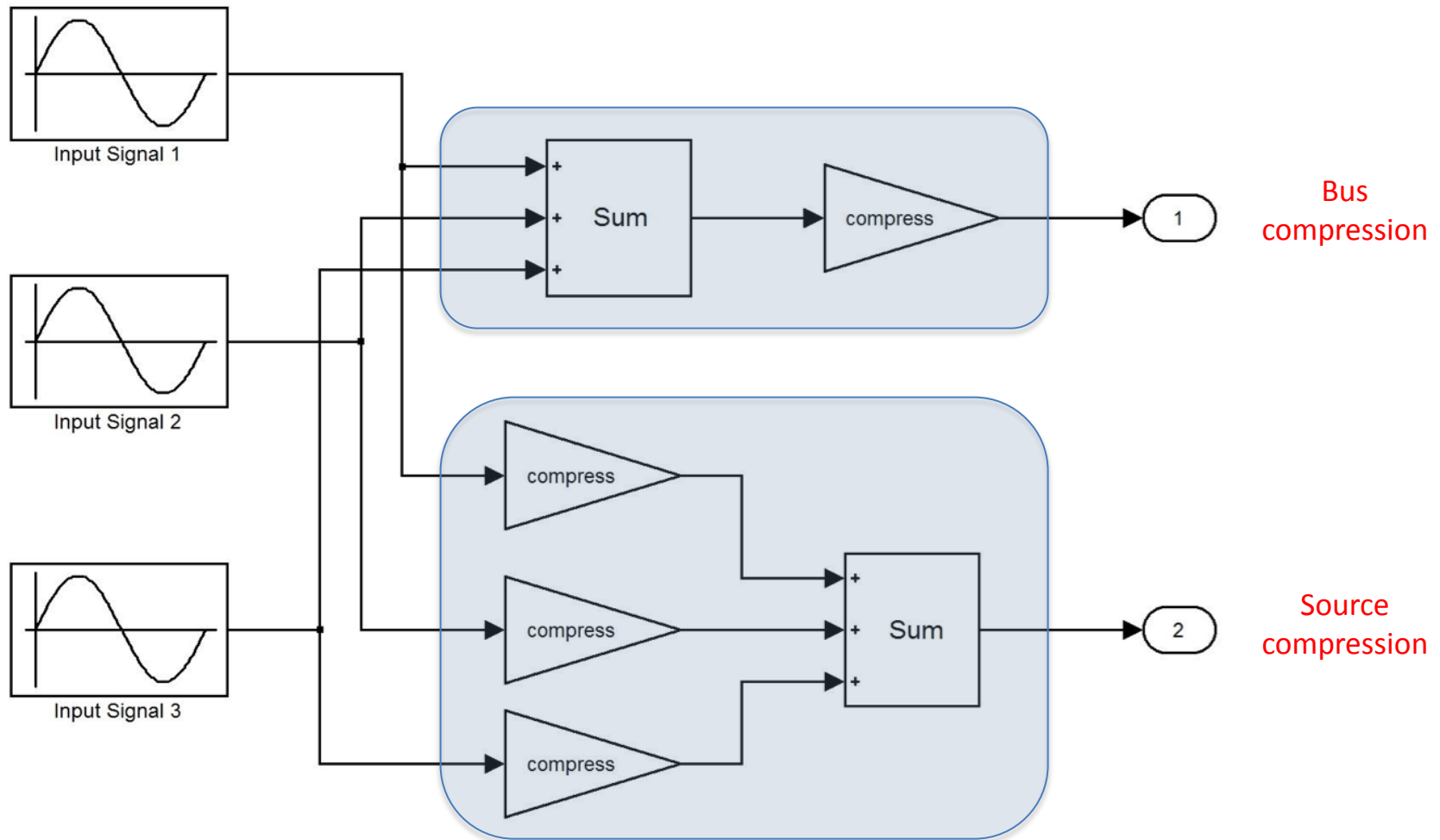
Drum Tuner Application

- Designed for drummers and engineers
- Based on scientific research in collaboration with Dr Phill Richardson of Cambridge University
- Over 10,000 worldwide sales

www.idrumtune.com

Loudness Analysis

In collaboration with Justin Paterson at Uni West London
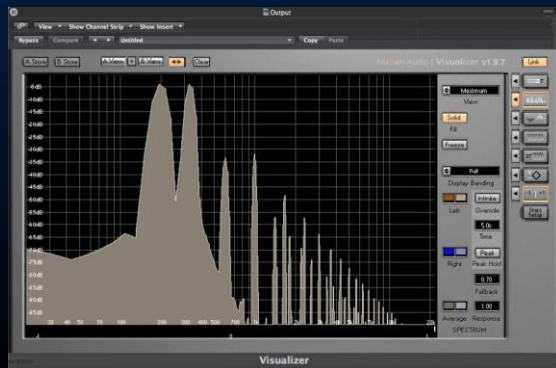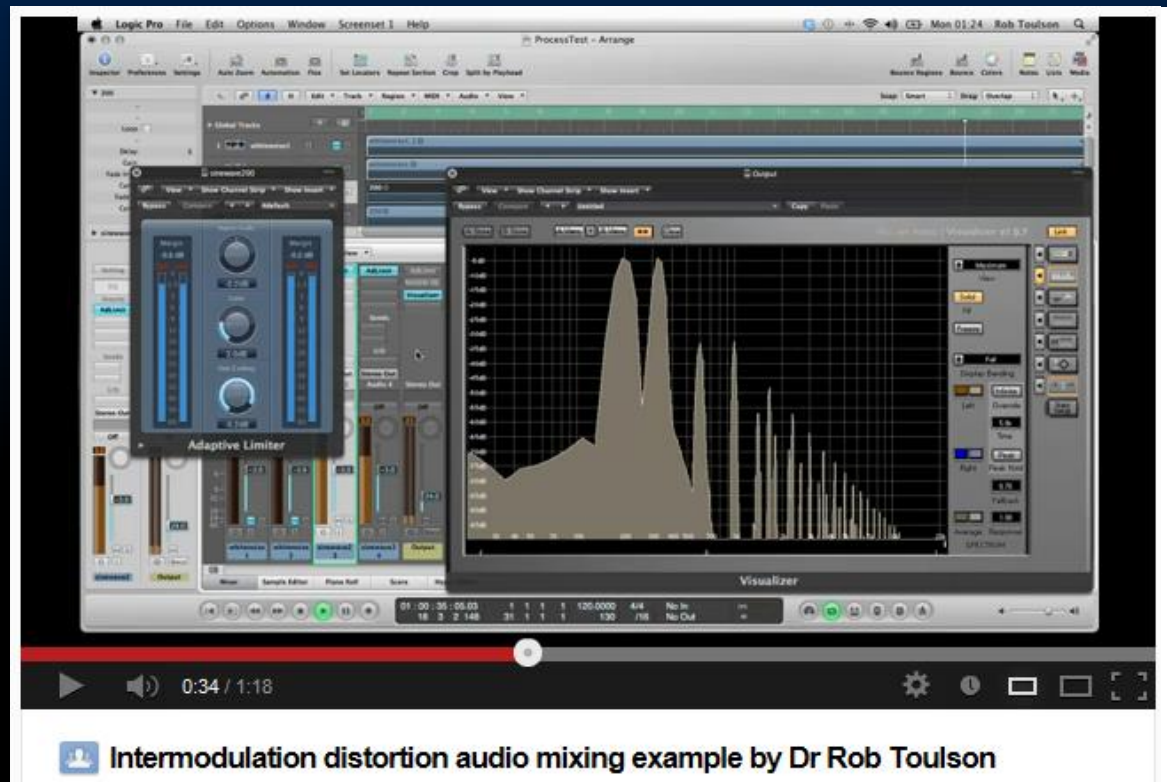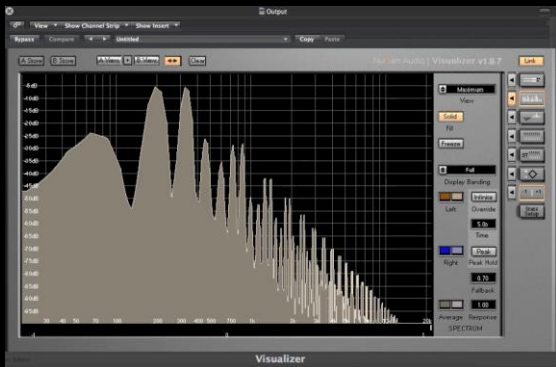Is it better to compress before mixing or after mixing?

Is it better to compress before or after summation?

Take two sine waves at 200 Hz and 300 Hz
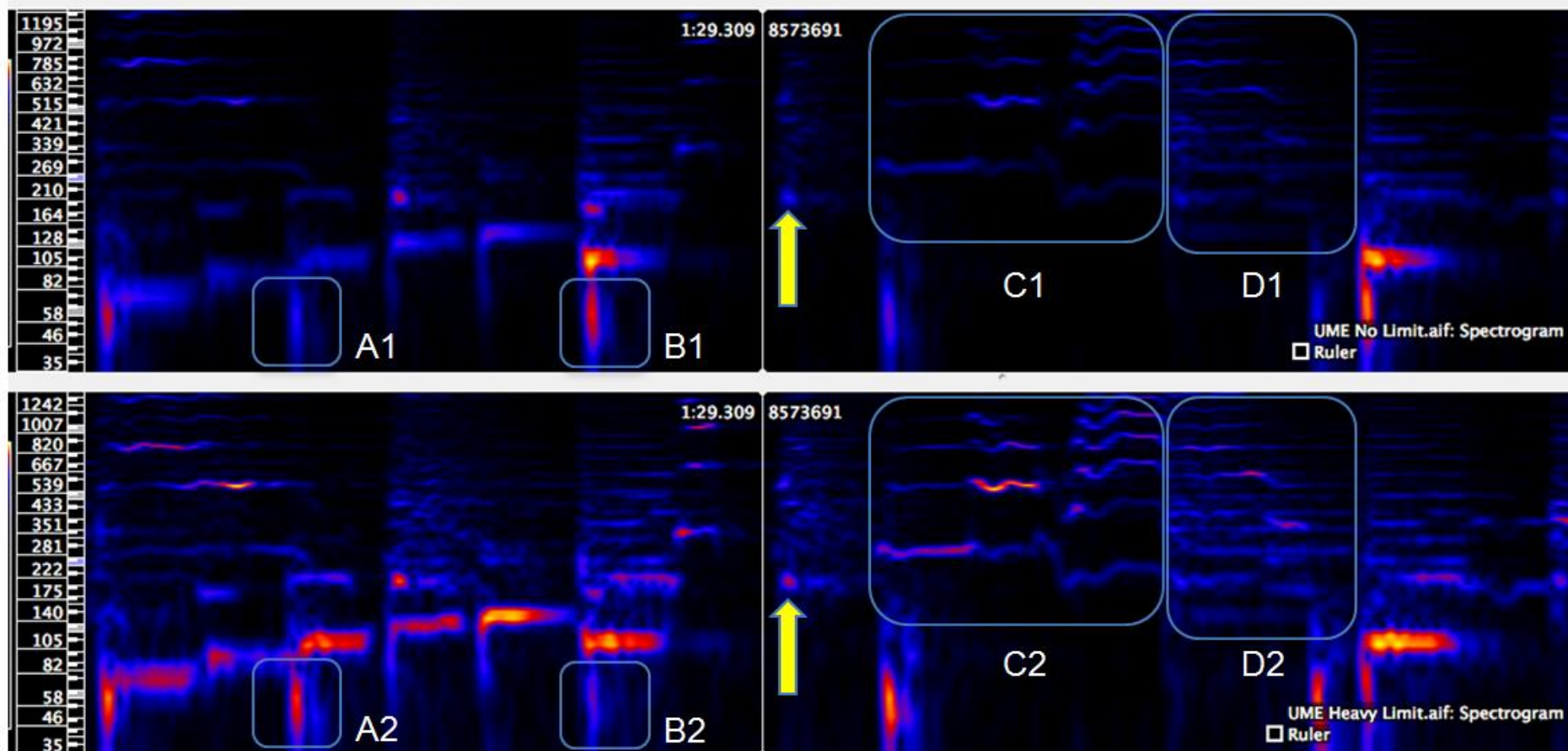
Compress before mixing

Compress after mixing

Intermodulation distortion audio mixing example by Dr Rob Toulson

0:34 / 1:18

[YouTube Demo Video](#)
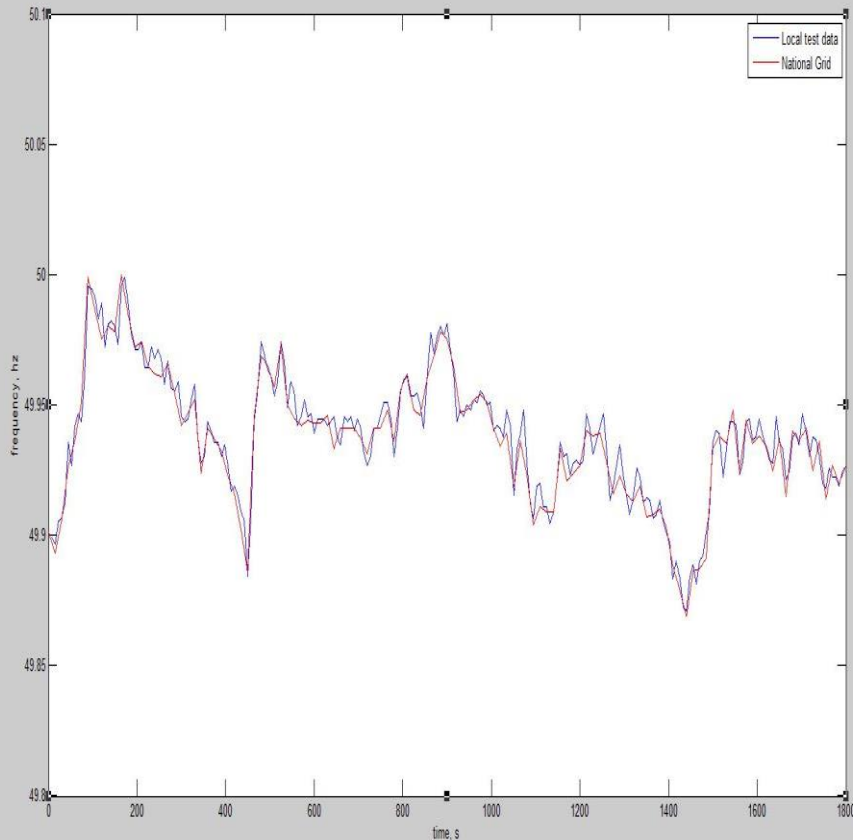
Loudness Analysis

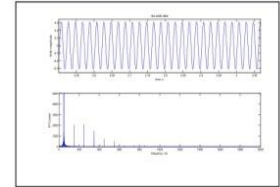Bill Campbell's analysis of instrument masking in loudness maximised music

Spectrograph demonstrating differences between top uncompressed signals and bottom compressed signals
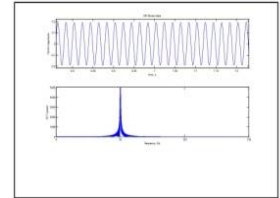
Audio Forensics

Ali Sanaei's research in electric network frequency (ENF) analysis for authenticating audio recordings
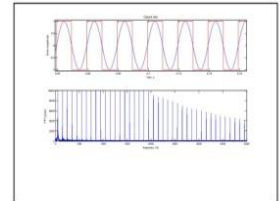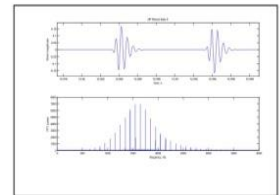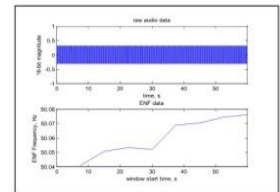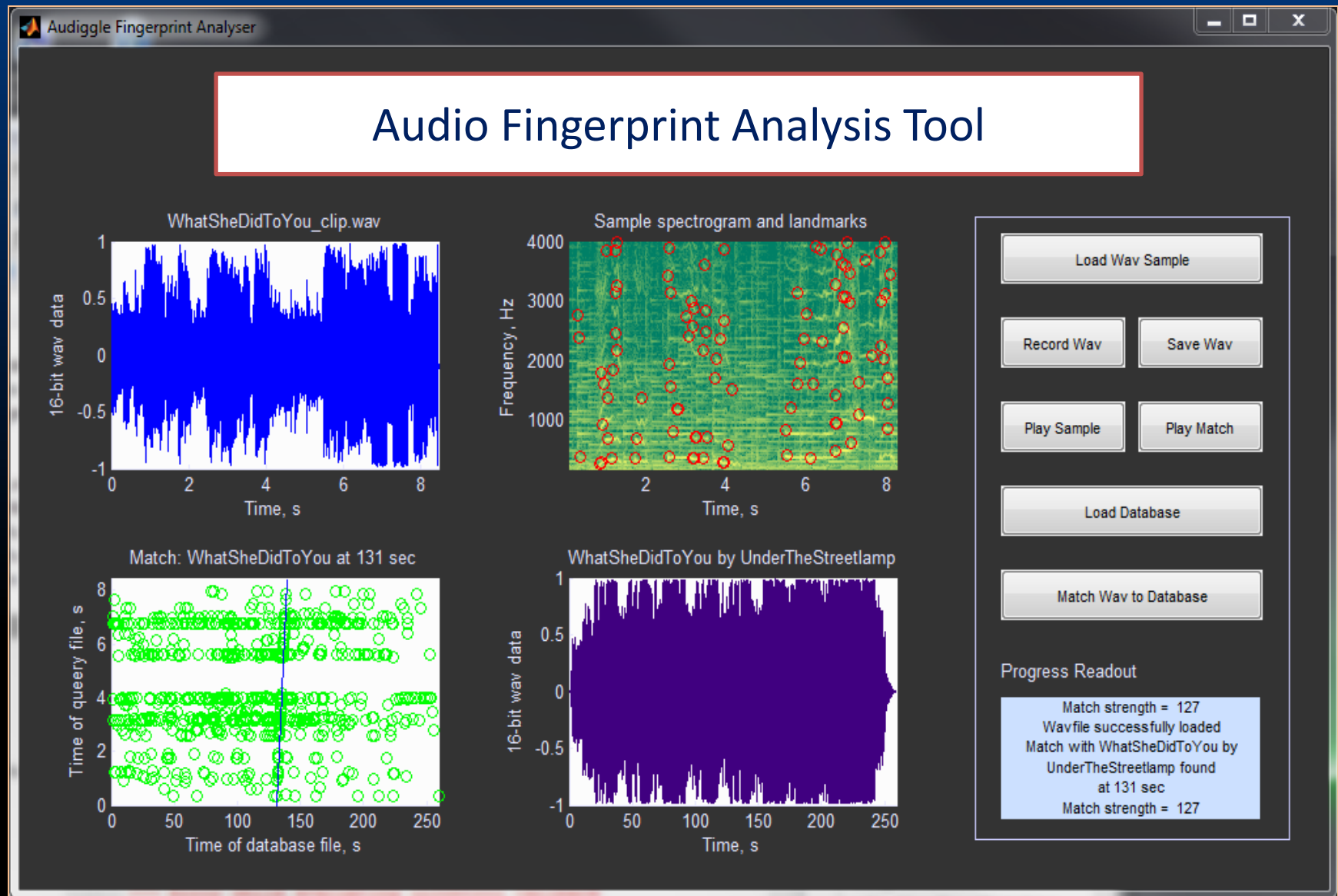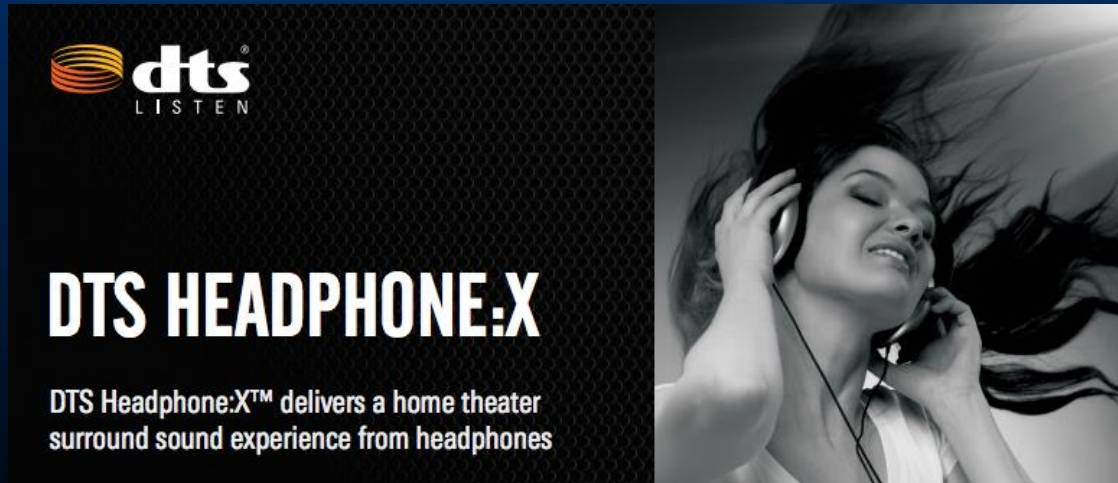
Shazam fingerprint algorithm described by Wang, A. L. (2003). An industrial Strength Audio Search Algorithm, Proc. 2003 ISMIR International Symposium on Music Information Retrieval, Baltimore, MD, Oct. 2003.

Research Consultancy

Helping DTS to develop and showcase their audio algorithms

DTS HEADPHONE:X

DTS Headphone:X™ delivers a home theater surround sound experience from headphones

Helping Audio Analytic to develop and test their audio algorithms

Algorithms for automatic detection of sounds including

– Car alarms

– Babies crying

– Aggressive language

– Broken windows
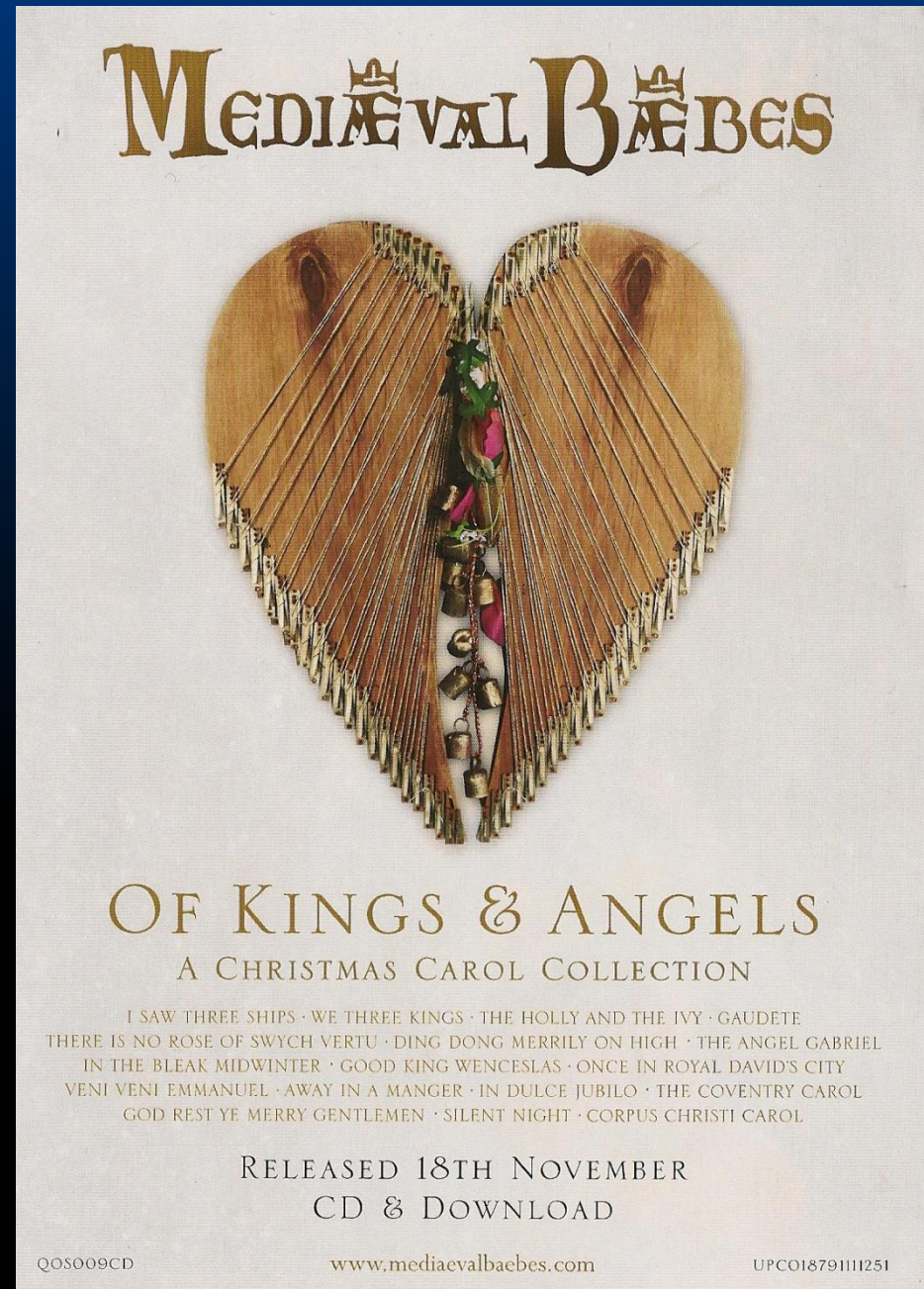
– Gunshot

Events and Exhibitions

Music Production

Rob Toulson recording and mix engineer of *Of Kings & Angels – A Christmas Carol Collection* by Mediaeval Baebes. Mastered by Mandy Parnell and released 18 Nov 2013.

MPG
music producers guild (uk)

JAMES
JOINT AUDIO MEDIA
EDUCATION SUPPORT

MEDIÆVAL BÆBES

OF KINGS & ANGELS
A CHRISTMAS CAROL COLLECTION

I SAW THREE SHIPS · WE THREE KINGS · THE HOLLY AND THE IVY · GAUDETE
THERE IS NO ROSE OF SWYCH VERTU · DING DONG MERRILY ON HIGH · THE ANGEL GABRIEL
IN THE BLEAK MIDWINTER · GOOD KING WENCESLAS · ONCE IN ROYAL DAVID'S CITY
VENI VENI EMMANUEL · AWAY IN A MANGER · IN DULCE JUBILO · THE COVENTRY CAROL
GOD REST YE MERRY GENTLEMEN · SILENT NIGHT · CORPUS CHRISTI CAROL

RELEASED 18TH NOVEMBER
CD & DOWNLOAD

QOS009CD   www.mediaevalbaebes.com   UPC018791111251

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