

# Day 1 Making Sense of Sound 2012

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09.00

Registration  
Welcome Tea & Coffee

09.50

Sue Denham  
(Plymouth University)

**Welcome**

**Session 1:**

**Listening in time:  
human perception  
of temporal  
sequences**

**National Marine Aquarium (Horizon Suite)**

10.00

István Winkler (MTAPI,  
Budapest)

Hearing through our AERS – perceptual organization of the auditory world

10.30

Maria Chait (Ear  
Institute, UCL)

Change detection in complex acoustic scenes

11.00

Marina Wimmer  
(Plymouth University)

The development of ambiguous figure perception

11.20

Orsolya Szalárdy  
(MTAPI, Budapest)

The effects of melody and rhythm on auditory stream segregation

11.40

Sundeeep Teki (UCL)

Temporal coherence mediates auditory object segregation in complex acoustic scenes

12.00

Tamás M. Bóhm  
(MTAPI, Budapest)

Do visual cues of motion affect the perceptual organization of sound sources moving in space?

12.20

**Lunch**

**Session 2:**

**Listening in the real  
world:  
communication  
sounds**

**National Marine Aquarium (Horizon Suite)**

14.00

Guy Brown (Sheffield  
University)

Perceptual compensation for the effects of reverberation on consonant identification: Perceptual and computer modelling studies

14.30

Lars Kindermann  
(Alfred Wegener  
Institute)

Strange Sounds of the Southern Ocean

15:00

Laurence White  
(Plymouth University)

Where is the rhythm in speech?

15.20

Pierre Divenyi (VA  
Medical Center, USA)

Decomposition of speech into underlying articulatory gesture functions helps phonetic restoration

15.40

**Break**

**Session 3:**

**Listening in the real  
world: soundscapes**

**National Marine Aquarium (Horizon Suite)**

16.00

Tjeerd Andringa  
(Groningen  
University)

Making sense of pleasurable and annoying sound

# Making Sense of Sound 2012

<b>Day 1</b>		
<b>16.30</b>	Judy Edworthy (Plymouth University)	Form appears irrelevant when listening to popular song
<b>17.00</b>	Dirkjan Krijnders (INCAS3)	Sensor City project
<b>17.20</b>	Tony Stockton (Queen Mary, University of London)	Listening to people, objects and interactions in the real and virtual worlds
<b>17.40</b>		<b><i>Break</i></b>

<b>Session 4:</b>	<b>Bio-inspired hardware for sound processing</b>	<b>National Marine Aquarium (Horizon Suite)</b>
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<b>18.00</b>	Elisabetta Chicca (Bielefeld University)	Emergent auditory feature tuning in a real-time neuromorphic VLSI system
<b>18.30</b>	Julio Georgiou (University of Cyprus)	Bioinspired Acoustic Processing Hardware
<b>19.00</b>		<b><i>End of Talks: Day 1</i></b>
<b>19.30</b>	<b>Tour of Aquarium</b>	
<b>20.00</b>	<b>Conference Dinner</b>	

# Making Sense of Sound 2012

<b>Day 2</b>		
08.30	Welcome Tea & Coffee	
<b>Session 5:</b>	<b>Neural basis for auditory perception</b>	<b>National Marine Aquarium (Horizon Suite)</b>
09.00	Georg Klump (Oldenburg University)	Mechanisms of auditory scene analysis: psychophysics and neural correlates
09.30	Katrin Krumbholz (MRC Institute of Hearing Research)	Is auditory stimulus-specific adaptation a correlate of early-warning function or priming?
10.00	Alexander Gutschalk (Heidelberg University)	Functional imaging of bistable perception and auditory perceptual awareness
10.30	Kathrin Lange(Heinrich-Heine-Universität )	Effects of temporal attention on early auditory processing are not based on simple gain control: Evidence from event-related potentials
10.50	Ekaterina Vinnik (Champalimaud Centre for the Unknown)	Individual differences in sound-in-noise perception are related to the strength of short-latency neural responses to noise.
11.10		<b>Break</b>
<b>Session 6:</b>	<b>Computational models of perception</b>	<b>National Marine Aquarium (Horizon Suite)</b>
11.30	Nicol Harper (Oxford University)	‘What and where’ in the auditory system; an unsupervised learning approach
12.00	Martin Coath (Plymouth University)	Thalamocortical modelling and recurrent networks
12.20	Salvador Dura Bernal (Plymouth University)	A model of perception based on belief propagation and Bayesian networks with a multi-stage Hubel and Wiesel architecture.
12.40	Rob Mill (Plymouth University)	Competition Amongst Auditory Proto-Objects Leads to Multistable Perception
13.00		<b>Lunch</b>
<b>Session 7:</b>	<b>Sound Processing Methodologies</b>	<b>National Marine Aquarium (Horizon Suite)</b>
14.00	Maneesh Sahani (Gatsby Institute, UCL)	Primitive Auditory Scene Analysis as Inference

# Making Sense of Sound 2012

Day		
<b>2</b>		
<b>14.30</b>	Mark Plumbley(Queen Mary, University of London)	SoundSoftware: Towards reusable software for audio and music research
<b>14.50</b>	Alexis Kirke (Plymouth University)	Pulsed Melodic Processing - Using Music for natural Affective Computation and increased Processing Transparency
<b>15.10</b>	Madhurananda Pahar (University of Stirling)	Reconstructing Sound from a Spike Based Coding System
<b>15.30</b>		<b><i>End of Talks: Day 2</i></b>
<b>Session 8:</b>	<b>Poster Session 16:00 - 18:00</b>	<b>Roland Levinsky Building, Plymouth University</b>
<b>1</b>	Marie-Mandarine Colle-Quesada (Université de Toulouse)	How to create soundscapes in order to make sense for the hearer: a questionnaire approach
<b>2</b>	Victoria Leong (University of Cambridge)	Speech Rhythm Perception and Phase Relations in the Amplitude Envelope: An Amplitude Modulation Phase Hierarchy (AMPH) Model for Linguistic Prosody
<b>4</b>	Lefkothea-Vasiliki Andreou (UCL Ear Institute)	The role of temporal regularity in auditory segregation
<b>5</b>	Lubos Hladek (University of P. J. Safarik)	Short-term adaptation of auditory distance perception in a reverberant room
<b>6</b>	Bassem Khalaf (Plymouth University)	Using Mental Imagery to Control Action
<b>7</b>	Susanne Mayr (Heinrich-Heine-Universität)	Search in an acoustic environment of natural sounds: The role of spatial sound source separation and cue modality
<b>8</b>	Eoin Lynch (Trinity College Dublin)	Parameter estimation of an auditory spiking neuron model using evolutionary algorithms.
<b>9</b>	Wiktor Młynarski (Max Planck Institute for Mathematics in the Sciences)	Sound source positioning and tracking with Slow Feature Analysis
<b>10</b>	Simon Jones (Oldenburg University)	Stimulus-Specific Adaptation in the Inferior Colliculus of the Awake Gerbil in Response to Markov Chain Tone Sequences

# Making Sense of Sound 2012

Day		
2		
11	Tim Rumbell (Plymouth University)	A spiking neuron model of the self-organising map algorithm
12	Beibei Jiang (Plymouth University)	Listening in the real world: biophysical mechanisms for cochlear automatic gain control
13	James Humble (Plymouth University)	STDP pattern onset learning depends on background activity
14	Martin Coath (Plymouth University)	Emergent Feature Sensitivity in Hardware and Software Models of Auditory Processing
15	Martin Coath (Plymouth University)	Stimulus variability and information transfer in hardware models of dynamic feature sensitivity
16	Rob Mill (Plymouth University)	A Spiking Neuron Model of Rarity and Novelty Detection in Stimulus-Specific Adaptation
17	Lucy Davies (Plymouth University)	Modelling sensory adaptation and gain control
18	Anthony Morse (Plymouth University)	Developmental Robotics: How space and language shape infant development
19	Dan Stowell (Queen Mary, University of London)	Framewise chirp analysis of birdsong and bird calls
20	Paul White (ISVR, Southampton)	Humpback whale song classification using HMMs
	<b>Demonstrations</b>	<b>Crosspoint, Roland Levinsky Building, Plymouth University</b>
21	Axel Plinge (Dortmund University)	Reverberation-Robust Many-Channel Tracking of Speakers by Online CASA Processing
22	Dorrine Davis (The Davis Center)	Sounds Emitted By Ear Promote Self-Healing
23	Tom Walters (Google)	Tools for generating, visualizing and processing stabilized auditory images
24	Guillaume Garreau (University of Cyprus)	Ultrasonic Micro-Doppler Signatures for Object Recognition
25	Horacio Rostro Gonzalez (University of Cyprus)	A Silicon Auditory Pathway
26	Salvador Dura Bernal (Plymouth University)	Real-time human action categorization using ultrasound micro-doppler signatures

# Making Sense of Sound 2012

**Day**

**2  
27**

Joshua Carr (Plymouth University)

Neuro-inspired Speech-to-Sound-Conversion

**Public  
Event**

**Roland Levinsky Building, Plymouth University**

**18:00**

Drinks Reception

Demonstrations  
Music

**Lecture**

**Lecture Theatre 1**

**19:30**

Andreas Andreou  
(John Hopkins University)

Mind from Matter: A Journey Through Sound

***End of Workshop***