---

**Workshop on Physical Sound Synthesis: Ness/STMS/LAM-IJLRA**

Day 1 (Thursday, 13 October 2016)

**Presentations of the NESS team** *(Next Generation Sound Synthesis, ERC project)*

*Studio 5, STMS - IRCAM/CNRS/UPMC*, 1 place Igor Stravinsky, 75004 Paris, France

Day 2 Morning (Friday, 14 October 2016)

**Presentations of the LAM team** *(Equipe Lutherie-Acoustique-Musique)*

*Library, Floor 4, Corridor 55-65, Institut Jean Le Rond d’Alembert*, UPMC, 6 place Jussieu, Paris

Day 2 Afternoon (Friday, 14 October 2016)

**Presentations of the EAC and S3 teams** *(Equipes EAC & S3: Espaces Acoustiques et Cognitifs & Systèmes et Signaux Sonores)*

*Studio 5, STMS - IRCAM/CNRS/UPMC*, 1 place Igor Stravinsky, 75004 Paris

---

**DAY 1 : Presentations of the NESS team** *(Studio 5, IRCAM, 1 pl. I Stravinsky, 75004 Paris)*

Welcome / Coffee (9:30-10:00, Hall, floor -2)

**Session I (10:00-12:00, Studio 5): Models and Algorithms**

1. Introduction: S. Bilbao
2. Brass Instruments: R. Harrison
3. Bowed String Instruments: C. Desvages
4. Guitar Modeling: S. Bilbao
5. Nonlinear Plate and String Vibration: M. Ducceschi
6. Real time Plate Reverberation: C. Webb

**Session II (14:00-16:00, Studio 5): Large Scale Synthesis, 3D Rendering and Parallelisation**

1. Approaches to Parallelisation: A. Gray
2. Large-scale Modular Physical Modeling Synthesis Environments: S. Bilbao
3. 3D Percussion Modeling: A. Torin, presented by M. Ducceschi
5. Real-time Modular Physical Modeling Synthesis: C. Webb
6. Large-scale Wave-Based Room Acoustics Modeling: B. Hamilton and S. Bilbao
7. Noisy Sound: P. Graham

Coffee break (16:00-16:30, Hall, floor -2)

**Session III (16:30-18:00, Studio 5): Musical Use and Experimentation**

1. *Black Dog* (2016) and *Ashes to Ashes* (2013): G. Delap
## Workshop on Physical Sound Synthesis: Ness/STMS/LAM-IJLRA

### Day 1 (Thursday, 13 October 2016)

**Presentations of the NESS team** *(Next Generation Sound Synthesis, ERC project)*

**Studio 5, STMS - IRCAM/CNRS/UPMC**, 1 place Igor Stravinsky, 75004 Paris, France

### Day 2 Morning (Friday, 14 October 2016)

**Presentations of the LAM team** *(Equipe Lutherie-Acoustique-Musique)*

**Library, Floor 4, Corridor 55-65, Institut Jean Le Rond d’Alembert, UPMC**, 6 place Jussieu, Paris

### Day 2 Afternoon (Friday, 14 October 2016)

**Presentations of the EAC and S3 teams** *(Equipes EAC & S3: Espaces Acoustiques et Cognitifs & Systèmes et Signaux Sonores)*

**Studio 5, STMS - IRCAM/CNRS/UPMC**, 1 place Igor Stravinsky, 75004 Paris

---

### DAY 2 - Morning: Presentations of the LAM team *(Library, Floor 4, Corridor 55-65, 6 pl. Jussieu, 75005 Paris)*

**Welcome / Coffee (9:30-9:45, Library/Bibliothèque)**

**Session IV (9:45-11:15, Library/Bibliothèque)**

1. Model based approach for the nonlinear vibration of strings against a unilateral obstacle: Clara Issanchou
2. Attack transients in flute-like instruments: Augustin Ernoult
3. Investigating the playability of the cello: Timothy Wofford
4. Gestural control of Voice Synthesis - Cantor Digitalis : Boris Doval

**Visit of the laboratory (11:15-12:00)**

### DAY 2 - Afternoon: Presentations of the EAC and S3 teams *(Studio 5, IRCAM, 1 pl. I Stravinsky, 75004 Paris)*

**Session V (14:00-16:00, Studio 5): Room acoustics / nonlinear modelling**

1. 3D Acoustic Simulation: M. Noisternig
2. Interaction and Volterra series: D. Roze
3. Identification problems and Volterra series: D. Bouvier
4. Port-Hamiltonian Systems for sound synthesis - open avenues: T. Hélie
5. Simulation and correction of an electrodynamic loudspeaker based on Port-Hamiltonian Systems: T. Lebrun
6. High Performance Computing & Geometry: J. Bensoam

**Open discussion / Free time**