

List of publications and communications

Arnaud Dessein

August 29, 2013

Chapters in books

- [1] Arnaud Dessein, Arshia Cont, and Guillaume Lemaitre. Real-time detection of overlapping sound events with non-negative matrix factorization. In Frank Nielsen and Rajendra Bhatia, editors, *Matrix Information Geometry*, chapter 14, pages 341–371. Springer, Berlin/Heidelberg, Germany, 2013.

Articles in international peer-reviewed journals

- [2] Arnaud Dessein and Arshia Cont. An information-geometric approach to real-time audio segmentation. *IEEE Signal Processing Letters*, 20(4):331–334, April 2013.
- [3] Guillaume Lemaitre, Arnaud Dessein, Patrick Susini, and Karine Aura. Vocal imitations and the identification of sound events. *Ecological Psychology*, 23(4):267–307, November 2011.

Articles in international peer-reviewed conferences

- [4] Arnaud Dessein and Arshia Cont. Online change detection in exponential families with unknown parameters. In Frank Nielsen and Frédéric

Barbaresco, editors, *Geometric Science of Information: First International Conference, GSI 2013, Paris, France, August 28-30, 2013, Proceedings*, volume 8085 of *Lecture Notes in Computer Science*, pages 633–640. Springer, Berlin/Heidelberg, Germany, 2013.

- [5] Arnaud Dessen, Arshia Cont, and Guillaume Lemaitre. Real-time polyphonic music transcription with non-negative matrix factorization and beta-divergence. In *11th International Society for Music Information Retrieval Conference (ISMIR)*, pages 489–494, Utrecht, Netherlands, August 2010.
- [6] Arnaud Dessen and Guillaume Lemaitre. Free classification of vocal imitations of everyday sounds. In *6th Conference on Sound and Music Computing (SMC)*, pages 213–218, Porto, Portugal, July 2009.

Articles in national peer-reviewed conferences

- [7] Arnaud Dessen and Arshia Cont. Segmentation statistique de flux audio en temps-réel dans le cadre de la géométrie de l’information. In *23e Colloque du Groupe de Recherche et d’Études du Traitement du Signal (GRETSI)*, Bordeaux, France, September 2011.
- [8] Guillaume Lemaitre, Arnaud Dessen, Karine Aura, and Patrick Susini. Do vocal imitations of environmental sounds enable their recognition? In *10e Congrès Français d’Acoustique (CFA)*, Lyon, France, April 2010.

Abstracts in international peer-reviewed conferences

- [9] Guillaume Lemaitre, Arnaud Dessen, Karine Aura, and Patrick Susini. Perception of vocal imitations and identification of the imitated sounds. *Journal of the Acoustical Society of America: Program Abstracts of the 159th Meeting of the Acoustical Society of America*, 127(3):1955–1955, March 2010.
- [10] Guillaume Lemaitre, Arnaud Dessen, Karine Aura, and Patrick Susini. Do vocal imitations enable the identification of the imitated sounds?

In *8th Auditory Perception, Cognition and Action Meeting (APCAM)*, Boston, MA, USA, November 2009.

- [11] Guillaume Lemaitre, Arnaud Dessen, Karine Aura, and Patrick Susini. Why and how do we vocally imitate sounds? In *Workshop on Sketching Sonic Interaction Design (SID)*, Holon, Israel, November 2009.

Abstracts in non-peer-reviewed conferences

- [12] Arnaud Dessen, Arshia Cont, and Guillaume Lemaitre. Real-time polyphonic music transcription with non-negative matrix factorization and beta-divergence. In *6th Music Information Retrieval Evaluation eXchange (MIREX)*, Utrecht, Netherlands, August 2010.
- [13] Arnaud Dessen. La géométrie de l'information pour l'analyse et le traitement des flux audio. In *5es Journées Jeunes Chercheurs en Audition, Acoustique musicale et Signal audio (JJCAAS)*, Marseille, France, November 2009.

Tutorials in international peer-reviewed conferences

- [14] Arnaud Dessen and Arshia Cont. Applications of information geometry to audio signal processing. In *14th International Conference on Digital Audio Effects (DAFx)*, Paris, France, September 2011.

Theses

- [15] Arnaud Dessen. *Computational Methods of Information Geometry with Real-Time Applications in Audio Signal Processing*. PhD thesis, Université Pierre et Marie Curie, Paris, France, December 2012.
- [16] Arnaud Dessen. Incremental multi-source recognition with non-negative matrix factorization. Master's thesis, Université Pierre et Marie Curie, Paris, France, June 2009.

Invited talks

- [17] Arnaud Dessein. Computational methods of information geometry with real-time applications in audio signal processing. In *Research Seminar*, Télécom ParisTech, Paris, France, August 2013.
- [18] Arnaud Dessein. Computational information geometry for audio signal processing. In *Symposium on Optimal Transport and Information Geometry*, Institut Henri Poincaré, Paris, France, February 2012.
- [19] Arshia Cont and Arnaud Dessein. Applications de la géométrie de l'information au traitement des flux audio temps réel. In *5e Biennale Française des Mathématiques Appliquées, Congrès de la Société de Mathématiques Appliquées et Industrielles (SMAI)*, Guidel, France, May 2011.
- [20] Arnaud Dessein. Music information geometry. In *Journée interdisciplinaire Mathématiques et Musique (JMM)*, Institut de Recherche Mathématique Avancée, Strasbourg, France, April 2011.
- [21] Arnaud Dessein and Arshia Cont. Applications of information geometry to audio signal processing. In *Indo-French Workshop on Matrix Information Geometry (MIG)*, pages 16–17, École Polytechnique, Palaiseau, France, February 2011.
- [22] Arnaud Dessein. Information geometry for real-time processing of audio signals. In *Research Seminar*, Japanese-French Laboratory for Informatics, Tokyo, Japan, November 2010.
- [23] Arnaud Dessein. Some applications of non-negative matrix factorization and of information geometry in audio signal processing. In *Research Seminar*, RIKEN Brain Science Institute, Tokyo, Japan, October 2010.
- [24] Arnaud Dessein. Introduction to the tools of information geometry for the manipulation of audio streams. In *Séminaire Mathématiques, Musique et relations avec d'autres disciplines (MaMuX)*, Institut de Recherche et Coordination Acoustique/Musique, Paris, France, October 2009.

Internal talks

- [25] Arnaud Dessen. Geometry of music. In *Prospective Days*, Institut de Recherche et Coordination Acoustique/Musique, Paris, France, March 2012.
- [26] Arnaud Dessen. Change detection for audio signals in real-time. In *Research and Technology Seminar*, Institut de Recherche et Coordination Acoustique/Musique, Paris, France, March 2011.
- [27] Arnaud Dessen. Real-time multi-source recognition with non-negative matrix factorization. In *Research and Technology Seminar*, Institut de Recherche et Coordination Acoustique/Musique, Paris, France, March 2010.
- [28] Arnaud Dessen. Study on vocal imitation. In *Research and Technology Seminar*, Institut de Recherche et Coordination Acoustique/Musique, Paris, France, January 2009.