Daniel Pressnitzer

Born 25 August 1971, Toulouse, France.
http://audition.ens.fr/dp/

Current position

CNRS research scientist (DR2).
Team Leader, "Audition: Psychophysique, Modélisation, Neurosciences".
UMR 8248 CNRS & Ecole normale supérieure.
Address: ENS, 29 rue d'Ulm, 75005 Paris, France.

Previous positions

2004-2014: Research scientist and team leader (2008-), Laboratoire de Psychologie de la Perception, UMR 8115 CNRS & Université Paris Descartes & Ecole normale supérieure.

2000-2004: Research scientist, CNRS, Institut de Recherche et Coordination Acoustique Musique (Ircam), Paris, France.

1999-2000: Post-doctoral research associate, Wellcome Trust, The Physiological Laboratory, Cambridge University, UK. With I.M. Winter.

1998-1999: Post-doctorate, Fyssen Foundation, Centre for the Neural Basis of Hearing, Cambridge University, UK. With R.D. Patterson.

Degrees

2009: Habilitation à Diriger des Recherches, École normale supérieure, Paris.

1994-1998: PhD,Université Pierre et Marie Curie, Paris. Summa cum laude.

1997-1998: MSc from Université Pierre et Marie Curie. Honours.

1990-1993: Engineering degree from the Ecole Nationale Supérieure d'Ingénieurs en Constructions Aéronautiques (Ensica), Toulouse. Honours.

Awards

2010: Fellow of the Acoustical Society of America.

2010: Prime pour l'Excellence Scientifique, CNRS.

1999: Yves Rocard young researcher award, French Society for Acoustics (SFA).

Grants

*The * symbols indicate the projects where I am/was project leader.*

2012-2017: European Research Council (ERC) Advanced grant "The Adaptive Auditory Mind (ADAM)".
Co-investigator with S. Shamma.

2012-2015: ANR "Extremely Long-Term Memory Acquisition (ELMA)".
Coll. S. Thorpe, CNRS, Toulouse.

2012-2013: Contrat industriel Fondation Pierre Gilles de Gennes "Auditory sketches as sparse representations of speech and music: Applications to fingerprinting and priming".*
Coll. L. Daudet, ESPCI, Paris.

2012-2014: High Council for Scientific and Technological Cooperation between France-Israel, "The sample-and-hold model of hearing (SHH)".
Coll. I. Nelken, Hebrew University, Jerusalem.

2011-2013: PEPII Mathematics/Biology, "Scattering transforms and auditory perception.
Coll. S. Mallat, Ecole Polytechnique, Palaiseau.

2010-2013: ANR "Learning and Enhancement in Auditory Perception". *
Coll. L. Demany, CNRS, Bordeaux.

2010-2015: ERASMUS MUNDUS project, EU/Canada/USA, "Auditory Cognitive Neuroscience Network".

2010-2012: Research grant, Fondation Pierre Gilles de Gennes pour la Recherche. *
Coll. L. Daudet, ESPCI, Paris & C. Suied, ENS.

2010-2012: Research grant from the audiologist's network Groupement Entendre. *

2010-2011: Chaire Blaise Pascal, for a 1-year stay of Pr S. Shamma in my team.

2009-2010: Royal Society travel grant ENS/University College London.
Coll. D. McAlpine, UCL, London, UK.

2008-2011: ANR "Multistability in speech and audition". Coll. J.L. Schwartz, Grenoble.

2007-2012: NTT research grant. Coll. M. Kashino, Atsugi, Japan.

2006-2009: ANR "Hearing in Time". Coll. S. Thorpe, Toulouse. *

2005: Association Franco-Israelienne pour la Recherche en Neurosciences.
Coll. I. Nelken, HU, Jerusalem.

2004-2007: European project "From Sense to Sound, From Sound to Sense", 6th Framework Program, FET Open, contract for Coordination Action.

2001-2004: CNRS ACI grant from the interdisciplinary program "Cognition and information processing". *

Teaching

Teaching of auditory perception at Master's level (approx. 60h/year):

- Coordinator of the teaching unit "Auditory Perception and Cognition" for the Master de Sciences Cognitives (ENS/EHESS/Université Paris Descartes).
- Coordinator of the teaching unit "Music Perception and Cognition" for the Master Acoustics, Signal Processing and Computer science applied to Music (Université Pierre et Marie Curie & Ircam).
- Coordinator of the teaching unit "Psychoacoustics" in the Master of Acoustics, Université du Maine, Le Mans, France.
- Teaching in the Institut Supérieur du Numérique (ISEN), Lille, France.

Invited lecturer:

2013 : Invited lecturer, congrès de la Société Française d'Audiologie, Strasbourg, France.

2012 : Keynote address, 11ème congrès Français d'acoustique (CFA), Nantes, France.

2009: Collège de France, Paris. Invited by Pr C. Petit.

2009-2010: NSF Neuromorphic engineering workshop, Telluride, USA.

2007: Spring School, Hanse Institute of Advanced Studies, Delmenhorst, Germany.

Supervision and Mentoring

- Supervision of 18 MSc or equivalent (7 international).
- Supervision of 4 PhDs (2 international; defended: 2 in 2010, Summa cum laude, in 2013, Summa cum laude).
- Recruited 6 post-doctoral fellows (5 international, current collaborator: 1)
- 12 thesis committees (France 9, UK 2, Italy 1).

Refeering

Reviewing of research articles (~20 per year) for:

- Journal of the Acoustical Society of America
- Hearing Research
- Acta Acustica united with Acustica
- Attention, Perception, and Psychophysics
- Music Perception
- Developmental Science
- Psychological Science
- Brain Research
- Neuroscience Letters
- Journal of Neurophysiology
- Journal of Neuroscience
- Journal of Neuroscience Methods
- Journal of Computational Neuroscience
- Journal of Cognitive Neuroscience
- PLoS Computational Biology
- Current Biology
- Neuron
- Trends in Cognitive Sciences
- Review Editor for Frontiers in Psychological Science

Grant proposals evaluations for :

- Agence Nationale de la Recherche (ANR, France)
- National Science Foundation (NSF, USA)
- French Ministry of Research, international programs
- Fonds Québécois de la Recherche Nature et Technologies (Canada)

Laboratory evaluation for:

- Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur (AERES, France).

Organisation and co-organisation of conferences

2013: Sensory perception: How the past affects the present. ENS, Paris.

2012: Mathematical models of sound analysis, Institut des Hautes Etudes Scientifiques, Gif-sur-Yvette.

2012: New ideas in models of hearing impairment, ENS, Paris.

2010: Auditory features workshop, ENS, Paris.

2008: Special session on Integrated Approaches to Auditory Scene Analysis, 155th Meeting of the Acoustical Society of America - Acoustics'08, Paris.

2008: International workshop on "Perceptual Bistability in Audition and Vision", ENS, Paris.

2008: French-Israeli workshop on "Hierachies in Hearing", ENS, Paris.

2006: International workshop on "New Ideas in Hearing", ENS, Paris.

2003: 13th International Symposium on Hearing (ISH), Dourdan.

Administrative and scientific responsibilities

2008- : Team leader, "Audition: Psychophysique, Modélisation, Neurosciences". Coordination and scientific animation of a CNRS research team located at Ecole normale supérieure, Paris. About 4 PIs, 20 members (see webpage).

2013-2014: ANR (French granting agency) evaluation committee.

2014- : Coordination of the Neuroscience track, Master de sciences cognitives ENS/EHESS/Paris Descartes

2012-2013: Member of the steering committee, chair of the Auditory sub-committee, DEFI-SENS, CNRS coordinated action on sensory deficits.

2010- : Associate member, Laboratoire Européen Associé FILN (CNRS – Hebrew University, Jerusalem). Local coordinator for ENS.

2008-2012 : Elected member, Acoustical Society of America, Psychological & Physiological Acoustics Technical Committee.

2008-2012 :Elected member, Groupe Perception Sonore, Société Française d'Acoustique.

2006- : Member of two selection committees (7-16 ENS, Comité selection MC Université Paris Descartes).

2004- : Co-founder of the Equipe APMN. Member of the board of the Département d'études cognitives, Ecole normale supérieure, Paris.

Other

2008: Consultant for Arkamys (audio technologies).

2007: Exhibition on Perceptual Illusions, Palais de la Découverte, Paris, France.

2005-2006: Consultant for Advanced Bionics (music perception with a cochlear implant).

1999: Development of a real-time auditory neurophysiology platform.

Publications list

*The * symbols indicate supervised students, PhDs or post-doctoral associates.*

Peer-reviewed journals

Kondo, H.M, Toshima, I., Pressnitzer, D., & Kashino, M. (2014). Probing the time-course of head-motion cues integration during auditory scene analysis. *Frontiers in Neuroscience*, in press.

Kumar, S., Bonnici, H.M., Teki, S., Agus, T.R., Pressnitzer, D., Maguire, E.A., & Griffiths, T.D. (2014). Representations of specific acoustic patterns in the auditory cortex and hippocampus. *Proceedings of the Royal Society B.* Last revision.

Chambers*, C., & Pressnitzer, D. (2014). Perceptual hysteresis in the judgment of auditory pitch shift. *Attention, Perception, & Psychophysics*, E-pub ahead of print.

Cousineau, M., Carcagno, S., Demany, L., & Pressnitzer, D. (2014). What is a melody? On the relationship between pitch and brightness of timbre. *Frontiers in Systems Neuroscience,* 7:127. doi: 10.3389/fnsys.2013.00127

Suied, C., Agus, T.R., Thorpe, S., Mesgarani, N., Pressnitzer, D. (2014) Auditory gist: Recognition of very short sound from timbre cues. *Journal of the Acoustical Society of America,* 135, 1380-1391.

Agus*, T.R., & Pressnitzer, D. (2013). The detection of repetitions in noise before and after perceptual learning. *Journal of the Acoustical Society of America.* 134, 464-473.

Agus*, T.R., Carrión-Castillo, A., Pressnitzer, D., & Ramus, F. (in press). Perceptual learning of acoustic noise by dyslexic individuals. *Journal of Speech, Language, and Hearing Research.*

Suied*, C., Dremeau, A., Pressnitzer, D., & Daudet, L. (2013). Auditory sketches: Sparse representations of sounds based on perceptual models. *Lecture Notes in Computer Science,* 7900, 154-170.

Suied*, C., Agus., T.R., Thorpe, S.J., & Pressnitzer, D. (2013). Processing of short auditory stimuli: The Rapid Audio Sequential Presentation paradigm (RASP). *Adv Exp Med Biol,* 787, 443-451

Agus*, T.R., Suied*, C., Thorpe, S.J., & Pressnitzer, D. (2012). Fast recognition of musical sounds based on timbre. *Journal of the Acoustical Society of America.* 131, 4124-4133.

Hupé, J.M., & Pressnitzer, D. (2012). The initial phase of auditory and visual scene analysis. *Philosophical Transactions of the Royal Society B*, 367 (1591), 942-953.

Joly, O., Pallier, C., Ramus, F., Pressnitzer, D., Vanduffel, W., & Orban, G.A. (2012). Processing of vocalizations in humans and monkeys: A comparative fMRI study. *Neuroimage*, 62. 1376-1389.

Joly, O., Ramus, F., Pressnitzer, D., Vanduffel, W., & Orban, G.A. (2012). Interhemispheric Differences in Auditory Processing Revealed by fMRI in Awake Rhesus Monkeys. *Cerebral Cortex*, 22(4), 838-583..

Kondo, H., Pressnitzer, D., Toshima, I., & Kashino, M. (2012). Effects of self-motion on auditory scene analysis. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, 109, 6775-6780. [joint first authorship].

Maier*, J.K., Hehrmann, P., Harper, N.S., Klump, G.M., Pressnitzer, D., & McAlpine, D. (2012). Adaptive coding is constrained to midline locations in a spatial listening task. *Journal of Neurophysiology*, 108, 1856-1868.

Patil, K., Pressnitzer, D., Shamma, S., & Elhilali, M. (2012) Music in our ears: the biological bases of musical timbre perception. PLoS Computational Biology 8(11):e1002759.

Schwartz, J.L., Grimault, N., Hupé, J.M., Moore, B.C.J., & Pressnitzer, D. (2012). Multistability in perception: binding sensory modalities, an overview. *Phil. Trans. R. Soc. B*, 367(1591), 896-905.

Demany, L., Semal, C., & Pressnitzer, D. (2011). Implicit versus explicit frequency comparisons: Two mechanisms for auditory change detection. *Journal of Experimental Psychology: Human Perception and Performance*, 37, 597-605.

Pressnitzer, D., Suied, C., & Shamma, S.A. (2011). Auditory scene analysis: the sweet music of ambiguity. Frontiers in Human Neuroscience, 5, 158.

Agus*, T.R., Thorpe, S.J., & Pressnitzer, D. (2010). Rapid formation of auditory memories: Insights from noise. *Neuron*. 66, 610-618.

Cousineau*, M., Demany, L., Pressnitzer, D. (2010). The role of peripheral resolvability in pitch-sequence processing. *Journal of the Acoustical Society of America*. 128: EL 236.

Cousineau*, M., Demany, L., Meyer, B., & Pressnitzer, D. (2010). Pitch and loudness sequence perception with a cochlear implant. *Hearing Research*. 269, 34-41.

Demany, L., Semal, C., Cazalets, J.R., & Pressnitzer, D. (2010) Fundamental differences in change detection between audition and vision. *Experimental Brain Research*. 203, 261-270.

Gnansia*, D., Pressnitzer, D., Péan, V., Meyer, B., & Lorenzi, C. (2010). Intelligibility of interrupted and interleaved speech for normal-hearing listeners and cochlear implantees. *Hearing Research*. 265, 46-53.

Maier*, J.K., McAlpine, D., Klump, G., Pressnitzer, D. Context effects in the discriminability of spatial cues. (2010). *Journal of the Association for Research in Otolaryngology*. 11, 319-328.

Cousineau*, M., Demany, L., & Pressnitzer, D. (2009). What makes a melody: The perceptual singularity of pitch sequences. *Journal of the Acoustical Society of America*. 126, 3179-3187.

Demany, L., Pressnitzer, D., & Semal, C. (2009). Tuning properties of the auditory frequency-shift detectors. *Journal of the Acoustical Society of America,* 126*(3),* 1342-1348.

Ardoint, M., Lorenzi, C., Pressnitzer, D., & Gorea, A. (2008). Investigation of perceptual constancy in the temporal-envelope domain. *Journal of the Acoustical Society of America*, 123(3), 1591-1601.

Hupé, J. M., Joffo*, L. M., & Pressnitzer, D. (2008). Bistability for audiovisual stimuli: Perceptual decision is modality specific. *Journal of Vision,* 8(7), Special issue on Perceptual organization and neural computation, 1-15.

Pressnitzer, D., Sayles, M., Micheyl, C., & Winter, I. M. (2008). Perceptual organization of sound begins in the auditory periphery. *Current Biology,* 18, 1124-1128.

Widmer, G., Rocchesso, D., Valimaki, V., Erkut, C., Gouyon, F., Pressnitzer, D., et al. (2007). Sound and music computing: Research trends and some key issues. *Journal of New Music Research,* 36(3), 169-184.

de Cheveigné, A., & Pressnitzer, D. (2006). The case of the missing delay lines: Synthetic delays obtained by cross-channel phase interaction. *Journal of the Acoustical Society of America,* 119(6), 3908-3918.

Pressnitzer, D., & Hupé, J. M. (2006). Temporal dynamics of auditory and visual bistability reveal common principles of perceptual organization. *Current Biology,* 16(13), 1351-1357.

Pressnitzer, D., Bestel, J., & Fraysse, B. (2005). Music to electric ears: Pitch and timbre perception by cochlear implant patients. *Annals of the New York Academy of Sciences,* 1060, 343-345.

Pressnitzer, D., de Cheveigné, A., & Winter, I. M. (2004). Physiological correlates of the perceptual pitch shift for sounds with similar waveform autocorrelation. *Acoustics Research Letters Online,* 5(1), 1-6.

Verhey, J. L., Pressnitzer, D., & Winter, I. M. (2003). The psychophysics and physiology of comodulation masking release. *Experimental Brain Research, 153*(4), 405-417.

Meddis, R., Delahaye, R., O'Mard, L., Sumner, C., Fantini, D. A., Winter, I. M., et al. (2002). A model of signal processing in the cochlear nucleus: Comodulation masking release. *Acta Acustica United with Acustica,* 88(3), 387-398.

Pressnitzer, D., de Cheveigné, A., & Winter, I. M. (2002). Perceptual pitch shift for sounds with similar waveform autocorrelation. *Acoustics Research Letters Online,* 3(1), 1-6.

Pressnitzer, D., Meddis, R., Delahaye, R., & Winter, I. M. (2001). Physiological correlates of comodulation masking release in the mammalian ventral cochlear nucleus. *Journal of Neuroscience*, 21(16), 6377-6386.

Pressnitzer, D., Patterson, R. D. & Krumbholz, K. (2001) The lower limit of melodic pitch. *Journal of the Acoustical Society of America,* 109**,** 2074-84.

Neuert, V., Pressnitzer, D., Patterson, R. D., & Winter, I. M. (2001). The responses of single units in the inferior colliculus of the guinea pig to damped and ramped sinusoids. *Hearing Research,* 159(1-2), 36-52.

Krumbholz, K., Patterson, R. D., & Pressnitzer, D. (2000). The lower limit of pitch as determined by rate discrimination. *Journal of the Acoustical Society of America,* 108(3 Pt 1), 1170-1180.

Pressnitzer, D., Winter, I. M., & Patterson, R. D. (2000). The responses of single units in the ventral cochlear nucleus of the guinea pig to damped and ramped sinusoids. *Hearing Research,* 149(1-2), 155-166.

Pressnitzer, D., McAdams, S., Winsberg, S., & Fineberg, J. (2000). Perception of musical tension for nontonal orchestral timbres and its relation to psychoacoustic roughness. *Percepion &t Psychophysics,* 62(1), 66-80.

Pressnitzer, D., & McAdams, S. (1999). Acoustics, psychoacoustics, and spectral music. *Contemporary Music Review,* 19, 33-60.

Pressnitzer, D., & McAdams, S. (1999). Two phase effects in roughness perception. *Journal of the Acoustical Society of America,* 105(5), 2773-2782.

Abstracts or short papers in peer-reviewed journals

Agus*, T.R., Jeannou*, C., & Pressnitzer, D. (2012) Individual differences for pitched features learnt in white noise by musical listeners. *The British Society of Audiology Short papers meeting on Experimental Studies of Hearing and Deafness*, Keele, UK.

Chambers*, C., Akram, S., Shamma, S., & Pressnitzer, D. (2012). The influence of perceptual organization on an auditory context effect. *Journal of the Acoustical Society of America,* 131, 3230.

Agus*, T.A., & Pressnitzer, D. (2011). The recognition of tone-clouds: learning observed with complex parametrically-controlled stimuli. *The British Society of Audiology Short papers meeting on Experimental Studies of Hearing and Deafness*, Nottingham, UK.

Agus*, T.R., & Pressnitzer, D. (2010). Deep frozen noise: Long-term learning in adverse conditions. *International Journal of Audiology*. In press.

Chambers*, C., Park-Thompson*, V., & Pressnitzer, D. (2010). Biasing perception of ambiguous pitch stimuli. *International Journal of Audiology*. In press.

Cousineau*, M., Demany, L., Meyer, B., & Pressnitzer, D. (2010). Pitch-sequence processing for normal-hearing listeners, cochlear implant users, and noise-vocoder simulations. *International Journal of Audiology*. In press.

Jardine*, G., & Pressnitzer, D. (2010). Acoustic cues to disambiguate questions and statements in noise-vocoded speech. *International Journal of Audiology*. In press.

Agus*, T.R., & Pressnitzer, D. (2009). Implicit learning of noise. *International Journal of Audiology*. In press.

Pressnitzer, D. (2009). Subcortical contributions to the temporal dynamics of auditory streaming. *International Journal of Audiology*. In press.

Cousineau*, M., Pressnitzer, D., & Demany, L. (2008). From sounds to melodies: Memory for sequences of pitch and loudness. *Journal of the Acoustical Society of America, 123*(5), 3562. [Best student paper award].

Cusack, R., & Pressnitzer, D. (2008). Auditory scene analysis emerges from a distributed yet integrated network. *Journal of the Acoustical Society of America, 123*(5), 3052.

Demany, L., Pressnitzer, D., & Semal, C. (2008). On the binding of successive tones: Implicit versus explicit pitch comparisons. *Journal of the Acoustical Society of America, 123*(5), 3049.

Elhilali, M., Pressnitzer, D., & Shamma, S. (2006). Models of musical timbre using cortical spectro-temporal receptive fields and temporal codes. *Journal of the Acoustical Society of America, 120*, 3085.

Pressnitzer, D., Joffo*, L. M., & Hupe, J. M. (2007). Bistability for auditory, visual, and audio-visual stimuli: Evidence for distributed neural mechanisms of perceptual organization. *Hearing Research, 229*, 246.

Pressnitzer, D., & Hupé, J. M. (2005). Is auditory streaming a bistable percept? *Acta Acustica united with Acustica, 91*(S1), S102.

Pressnitzer, D., Tardieu*, J., Ragot, R., & Baillet, S. (2004). Mechanisms underlying the continuity illusion. *Journal of the Acoustical Society of America, 115*(5), 2460.

Patterson, R. D., Krumbholz, K., & Pressnitzer, D. (2002). The existence region for melodic pitch and computational models. *Journal of the Acoustical Society of America, 111*(5), 2416.

Kult, A., Rupp, A., Pressnitzer, D., Scherg, M., & Supek, S. (2003). Meg study on temporal asymmetry processing in the human auditory cortex. *NeuroImage, 19*(2).

Pressnitzer, D., Winter, I. M., & Patterson, R. D. (2000). A hierarchy of sensitivity to temporal asymmetry: Cochlear nucleus responses to damped and ramped sinusoids. *British Journal of Audiology, 34*(2), 88-89.

Krumbholz, K., Patterson, R. D., & Pressnitzer, D. (2000). The lower limit of pitch as determined by rate discrimination. *Journal of the Acoustical Society of America*, 108(3 Pt 1), 1170-1180.

Winter, I. M., Pressnitzer, D., & Meddis, R. (2000). Across frequency processing in the ventral cochlear nucleus: Searching for a physiological substrate of comodulation masking release. *British Journal of Audiology, 34*(2), 89-90.

Pressnitzer, D., Patterson, R. D., & Krumbholz, K. (1999). The lower limit of melodic pitch with filtered harmonic complexes. *Journal of the Acoustical Society of America, 105*, 1052.

Misdariis N., Smith B., Pressnitzer D., Susini P., & McAdams S. (1998). Validation of a multidimensional distance model for perceptual dissimilarities among musical timbres. *Journal of the Acoustical Society of America,* 103 : 3005.

McAdams S., Pressnitzer D. (1996). Psychoacoustic factors to musical tension in Western nontonal music. *International Journal of Psychology*, 3(3-4): 148.

Non peer-reviewed journals

Pressnitzer, D., Suied, C., Agus, T.R. (2013). La reconnaissance du timbre des sons. *Acoustique et Techniques,* sous presse.

Pressnitzer, D. (2012). Des illusions sonores pour étudier l'audition. Cerveau & Psycho - L'Essentiel. 12, 48-54.

Pressnitzer, D. (2008). L'organisation des sons, de l'illusion à la perception. *Pour la Science, 373*, 116-123. [French edition of Scientific American, special issue on Auditory perception and Music].

Pressnitzer, D. (2006). La perception auditive. Entendre et comprendre. *Découvertes, revue du Palais de la découverte, 341*, 33-40.

Canévet, G., Demany, L., Grimault, N., McAdams, S., & Pressnitzer, D. (2005). La psychoacoustique: Science de l'audition, science du son. *Acoustique et Techniques, 42-43*, 28-34.

Peer-reviewed proceedings

Agus*, T.R., Suied*, C., Thorpe, S.J., & Pressnitzer, D. (2010). Characteristics of human voice processing. *IEEE International Symposium on Circuits and Systems.* 509-512.

Joly, O., Ramus, F., Pallier, C., Pressnitzer, D., Dupoux, E., Hauser, M. D., et al. (2008). *Functional lateralization in monkey auditory cortex?* 37th annual meeting of the Society for Neuroscience, Washington, USA.

Elhilali, M., Shamma, S., Thorpe, S. J., & Pressnitzer, D. (2007). *Models of timbre using spectro-temporal receptive fields: Investigation of coding strategies.* 19th International Congress on Acoustics, Madrid, Spain.

Loiselle*, S., Rouat, J., Pressnitzer, D., & Thorpe, S. (2005). *Exploration of rank order coding with spiking neural networks for speech recognition.* International Joint Conference on Neural Networks, p. 2076-2080. Montreal, Canada.

Pressnitzer, D., & Hupé, J. M. (2005). *Is auditory streaming a bistable percept?* Proceedings of Forum Acusticum, Budapest, Hungary.

Pressnitzer, D., & Gnansia*, D. (2005). *Real-time auditory models.* Proceedings of International Computer Music Conference, p. 295-298. Barcelona, Spain.

Pressnitzer, D., Ragot, R., Ducorps, A., Schwartz, D., & Baillet, S. (2004). *Is the continuity illusion based on a change-detection mechanism? A MEG study.* Proceedings of Joint Congress on Acoustics CFA/DAFA'04, p. 589-590. Strasbourg, France.

Rivenez, M., Gorea A., Pressnitzer, D., Drake C. (2002) *The tolerance window for sequences of musical, environmental and artificial sounds.* Proceedings of the 7th International Conference on Music Perception and Cognition, Stevens C., Burnham D., McPherson G., Schubert, E., Renwick, J. (Eds). Causal Productions : Adelaide, Australie.

Pressnitzer, D., McAdams S. (1997). *Influence of phase effects on roughness modelling.* Proceedings of the International Computer Music Conference, p 31-34. Thessaloniki, Grèce. [Best student paper award].

Pressnitzer, D., McAdams S. (1997). I*nfluence de la phase sur la perception de rugosité sons complexes.* Actes du 4ème Congrès Français d'Acoustique, pages 535-538. Marseille, France.

Book chapters

Pressnitzer, D., Agus*, T.R., Suied*, C. (2013,). Acoustic timbre recognition. In: Jaeger D., Jung R. (Ed.) Encyclopedia of Computational Neuroscience: SpringerReference (www.springerreference.com). Springer-Verlag Berlin Heidelberg.

Suied*, C., Agus*, T.R., Thorpe, S.J., & Pressnitzer, D. (2013). Processing of short auditory stimuli: The Rapid Audio Sequential Presentation paradigm (RASP). In Moore, B.C.J, Patterson, R.D., Winter, I.M., Carlyon, R.P., & Gockel, H. (Eds.). *Basic Aspects of Hearing: Physiology and Perception.* (pp. 443-451). New York: Springer.

Shamma, S., Elhilali, M., Ma, L., Micheyl, C., Oxenham, A.J., Pressnitzer, D., Yin, P., Xu, Y. (2013) Temporal coherence and the streaming of complex sounds. In Moore, B.C.J, Patterson, R.D., Winter, I.M., Carlyon, R.P., & Gockel, H. (Eds.). *Basic Aspects of Hearing: Physiology and Perception.* (pp. 535-543). New York: Springer.

Englitz, B., Akram, S., David, S.V., Chambers*, C., Pressnitzer, D., Depireux, D., Fritz, J.B., Shamma, S.A. (2013). Putting the tritone paradox into context: insights from neural population decoding and human psychophysics. In Moore, B.C.J, Patterson, R.D., Winter, I.M., Carlyon, R.P., & Gockel, H. (Eds.). *Basic Aspects of Hearing: Physiology and Perception.* (pp. 157-164). New York: Springer.

Agus*, T.R., Beauvais*, M., Thorpe, S.J. & Pressnitzer, D. (2009). The implicit learning of noise: Behavioural data and computational models. In E. A. Lopez-Poveda, R. Meddis & A. Palmer (Eds.), *Advances in auditory physiology, psychophysics and models.* New York: Springer-Verlag.

Elhilali, M., Chi, T. S., Pressnitzer, D., & Shamma, S. (2009) Neural basis of timbre of musical instruments. In T. Klouche (Ed.), *Mathematical and computational musicology* (in press).Berlin.

Krumbholz, K., Patterson, R. D., & Pressnitzer, D. (2001). The perception of periodicity near the lower limit of pitch. In D. J. Breebart, A. J. M. Houtsma, A. Kohlrausch, V. Prijs & R. Schoonoven (Eds.), *Physiological and psychophysical bases of auditory function* (pp. 75-82). Maastricht: Shaker Publishing BV.

Krumbholz, K., Patterson, R. D., & Pressnitzer, D. (1999). Period difference limens for harmonic complex tones in and below the pitch region. In T. Dau, V. Hohmann & B. Kollmeier (Eds.), *Psychophysics, physiology and models of hearing* (pp. 85-88). Singapore: World Scientific Publishing.

Meddis, R., Delahaye, R., Fantini, D., Winter, I. M., & Pressnitzer, D. (2001). A model of a brainstem circuit that might be involved in comodulation masking release. In D. J. Breebart, A. J. M. Houtsma, A. Kohlrausch, V. Prijs & R. Schoonoven (Eds.), *Physiological and psychophysical bases of auditory function* (pp. 252-257). Maastricht: Shaker Publishing BV.

Pressnitzer, D., & Patterson, R. D. (2001). Distortion products and the perceived pitch of harmonic complex tones. In D. J. Breebart, A. J. M. Houtsma, A. Kohlrausch, V. Prijs & R. Schoonoven (Eds.), *Physiological and psychophysical bases of auditory function* (pp. 97-107). Maastricht: Shaker Publishing BV.

Pressnitzer, D., & McAdams, S. (1999). Summation of roughness across frequency regions. In T. Dau, V. Hohmann & B. Kollmeier (Eds.), *Psychophysics, physiology and models of hearing* (pp. 105-108). Singapore: World Scientific Publishing.

Pressnitzer, D., & McAdams, S. (1998). Phase effects in roughness perception. In A. Palmer, A. Rees, Q. Summerfield & R. Meddis (Eds.), *Psychophysical and physiological advances in hearing* (pp. 286-292). London: Whurr Publishers.

Edited book

Pressnitzer, D., de Cheveigné, A., McAdams, S., & Collet, L. (Eds.). (2005). *Auditory signal processing: Physiology, psychoacoutics and models*. New York: Springer.

PhD Thesis

Pressnitzer, D. (1998). Perception of auditory roughness: from a basic perceptual attribute to the perception of music. Université Paris 6, Paris, supervised by S. McAdams. Félicitations du jury.

Invited talks in international and national conferences

Pressnitzer, D. (2013). Contexte et mémoire en audition. *Congrès de la Société Française d'Audiologie,* Strasbourg, France.

Pressnitzer, D. (2013). Adaptive processes in audition. University College London, UK.

Pressnitzer, D. (2012) The Adaptive Auditory Mind. Keynote address, *Congrès Français d'Acoustique,* Nantes, France.

Pressnitzer, D. (2012). Implanted prosthetic devices. *DEFI-SENS workshop*, Marseille, France.

Agus*, T.A., & Pressnitzer, D. (2011). Rapid auditory learning for meaningless sounds. *ESCOP 2011, 17th Meeting of the European Society for Cognitive Psychology. Special Symposium on Auditory Learning.* San Sebastian, Spain.

Pressnitzer, D. (2011). Hearing in Time. *Grand Colloque ANR Biologie Santé.* Lyon, France.

Pressnitzer, D. (2010). Characteristics of Human Voice Processing. *International Symposium on Circuits and Systems (ISCAS, IEEE).* Paris, France. Session special "Biologically-inspired speech processing".

Pressnitzer, D. (2010). A mid-level framework for auditory scene analysis *CogX international conference.* Budapest, Hungary.

Pressnitzer, D. (2010). Memory for noise. *Gatsby workshop on Computational Audition.* UCL, London, UK.

Pressnitzer, D. (2010). Memory for noise. *Third France-Israël binational conference in Neuroscience.* Technion, Haïfa, Israël.

Pressnitzer, D. (2010). Subcortical contributions to auditory scene analysis. *European Winter Conference on Brain Research (EWCBR).* Special session: "Challenges in sensory representations : the top-down and bottom-up of segregation, abstraction and learning". Les Deux-Alpes, France.

Pressnitzer, D. (2010). The perception of pitch sequences by normal hearing listeners and people using a cochlear implant. *Advanced Bionics Music Perception conference,* Budapest, Hungary. [Keynote].

Pressnitzer, D. (2009). Models for auditory perception. *Neuromorphic cognition engineering workshop,* Telluride, USA.

Pressnitzer, D. (2009) Auditory scene analysis: using illusions to probe perception. *Wellcome Trust Symposium: Signalling Sound*, Warwick, UK. [Keynote].

Pressnitzer, D., Sayles, M., Micheyl, C., & Winter I.M. (2009) Neural correlates of the temporal dynamics of auditory scene analysis. *9ème colloque de la Société des Neurosciences,* Bordeaux.

Pressnitzer, D. (2008). Perception auditive non-verbale chez les personnes normo- et malentendantes, *Deuxième conférence virtuelle Audiologie/Audioprothèse Phonak.*

Pressnitzer, D. (2008). L'organisation des scènes auditives: des illusions pour mieux comprendre la perception. *Collège National d'Audioprothèse,* Paris. [Plenary].

Pressnitzer, D. (2008) Universals in Music Perception. *2nd Japanese French Frontiers of Science.* [Plénière].

Pressnitzer, D. (2007) Temporal dynamics of auditory scene analysis. *Spring School of the Hanse Institute of Advanced Studies, Neuroscience,* Delmenhorst, Allemagne.

Pressnitzer, D. (2007) Temporal dynamics of auditory scene analysis. *2nd France-Israël Neuroscience Binational conference.* Bordeaux, France.

Pressnitzer, D. (2007) Méthodes d'evaluation de la perception de la musique. *Première conférence virtuelle Audiologie/Audioprothèse Phonak.*

Pressnitzer, D. (2006). The perception of pitch and timbre by normally hearing listeners and cochlear implant users. *Bionics Investigators Meeting,* Venise, Italie. [Keynote].

Pressnitzer, D., Hupé, J. M. (2006). Bistable perception in audition: can it tell us anything about auditory scene analysis? *Computational and systems neuroscience (Cosyne),* Salt Lake City, USA.

Pressnitzer, D. (2006). Ecoute musicale et perception de hauteur. *Congrès Français de Phoniatrie,* Paris, France. [Plenary].

Pressnitzer, D., & Bestel, J. (2005). CI-Music, a set of objective tasks to evaluate pitch and timbre perception in cochlear implant patients. *Bionics European Investigators Conference*, Istanbul, Turquie.

Pressnitzer, D. (2005). Ecoute musicale et perception de hauteur. *9ème Symposium Entendre,* Cagliari, Italie. [Plenary].

Pressnitzer, D., & Hupé, J. M. (2005). Is auditory streaming a bistable percept? *Forum Acusticum,* Budapest, Hongrie.

Pressnitzer, D. (2004) Perception et Cognition Auditive. *Ecole d'été Acoustique et Musique, Institut Scientifique de Cargèse,* Corse.

Pressnitzer, D., Ragot R., Ducorps A., Schwartz D., & Baillet S. (2004). Is the continuity illusion based on a change-detection mechanism? *Joint Congress on Acoustics CFA/DAGA'04,* Strasbourg, France.

Pressnitzer, D., & Meddis, R. (2002) Modèles fonctionnels du système auditif périphérique. *VIème congrès de la Société Française d'Audiologie*, Paris, France [Plenary].

Pressnitzer D., Demany L., & Rupp A. (2002) The perception of frequency peaks and troughs: psychophysical data and functional brain imaging data. *Forum Acusticum*, Sevilla, Spain.

Pressnitzer D., McKinney M., de Cheveigné A., & Winter I. M. (2002). Pitch perception and the encoding of click trains in the mammalian ventral cochlear nucleus. *Forum Acusticum*, Sevilla, Spain.

Pressnitzer, D. (2000). Modèles psychoacoustiques et perception de hauteur. *Journées d'Informatique Musicale*, Bordeaux, France.

Talks in international conferences, symposia

Agus*, T.R. & Pressnitzer, D. (2012) Tone clouds: learning and models. Status seminar on computational neurosciences & computational cognitive sciences, Jerusalem.

Agus*, T.R., de Vries, F. & Pressnitzer, D. (2012) Robust noise recognition despite spectral changes (poster presentation). British Society of Audiology, Short Papers Meeting, Nottingham.

Agus*, T.R. & Pressnitzer, D. (2011) The recognition of tone clouds: learning observed with complex parametrically controlled. stimuli (poster presentation). British Society of Audiology, Short Papers Meeting, Nottingham.

Chambers*, C., Pelofi*, C. & Pressnitzer, D. (2011). Perception of ambiguous auditory stimuli: Hysteresis and context effects. The Erasmus Mundus Symposium on Auditory Cognitive Neuroscience. Leipzig, Germany.

Pelofi*, C., Chambers*, C. & Pressnitzer, D. (2011). Perception of ambiguous auditory stimuli: Memory and distractors. The Erasmus Mundus Symposium on Auditory Cognitive Neuroscience. Leipzig, Germany.

Chambers*, C., & Pressnitzer, D. (2011). The effect of context in the perception of an ambiguous pitch stimulus. 34nd MidWinter Meeting of the Association for Research in Otolaryngology, Baltimore.

Agus*, T., & Pressnitzer, D. (2010). The timbral features of voices investigated through reaction time data. 10eme Congrès Français d'Acoustique, Lyon, France.

Chambers*, C., Parks-Thompson, V., & Pressnitzer, D. (2010). Biasing Ambiguous Pitch Stimuli. 10eme Congrès Français d'Acoustique, Lyon, France.

Agus*, T., Beauvais*, M., Thorpe, S.J., & Pressnitzer, D. (2009). *The implicit learning of noise: Behavioural data and computational models.* 15th International Symposium on Hearing, Salamanca, Spain.

Cousineau*, M., Demany, L., Meyer, B., & Pressnitzer, D. (2009). *The perception of sound sequences by normal-hearing and cochlear-implant listeners.* 32nd MidWinter Meeting of the Association for Research in Otolaryngology, Baltimore.

Demany, L., Pressnitzer, D., & Semal, C. (2009). *Tuning properties of the auditory frequency-shift detectors.* 32nd MidWinter Meeting of the Association for Research in Otolaryngology, Baltimore.

Goodman*, D., Pressnitzer, D., & Brette, R. (2009) *Sound localization with spiking neural networks.* 18th Annual Computational Neuroscience Meeting, San Francisco, USA.

Pressnitzer, D., & Agus*, T. (2009). *Reaction times for natural sound identification.* 32nd MidWinter Meeting of the Association for Research in Otolaryngology, Baltimore.

Fraysse, B., Bestel, J., Pressnitzer, D., Sterkers, O., Frachet, B., Mondain, M., et al. (2008). *Frequency alignment and music perception: Results of a multicenter study.* 10th International Conference on Cochlear Implants and other Implantable Auditory Technologies, San Diego, USA.

Maier*, J. K., McAlpine, D., Klump, G., & Pressnitzer, D. (2008). *Coding of interaudal time and level differences in the human brain: Adaptation and interactions?* 31st MidWinter meeting of the Association for Research in Otolaryngology, Phoenix, USA.

Pressnitzer, D. (2008). *The build-up of streaming adapts to sequence duration.* 31st MidWinter meeting of the Association for Research in Otolaryngology, Phoenix, USA.

Kirchner, H., Thorpe, S. J., & Pressnitzer, D. (2007). *Ultra-rapid communication of natural sounds: Assessing auditory processing speed with saccadic eye movements.* 14th European Conference on Eye Movement, Potsdam, Germany.

Ardoint, M., Gorea, A., Debruille, X., Pressnitzer, D., & Lorenzi, C. (2007). Recognition of complex temporal envelopes in normal hearing listeners and cochlear implantees. Paper presented at the 8th EFAS Conference, Heidelberg, Germany.

Maier*, J. K., McAlpine, D., Klump, G., & Pressnitzer, D. (2007). *Adaptive coding of interaural time and level differences in the human brain: jnds and interactions.* British Society of Audiology Short Papers Meeting on Experimental Studies of Hearing and Deafness, University College, London, UK.

Pressnitzer, D., Micheyl, C., Sayles, M., & Winter, I. M. (2007). Responses to long-duration tone sequences in the cochlear nucleus. 30th MidWinter meeting of the Association for Research in Otolaryngology, Denver, USA.

De Cheveigné, A., Pressnitzer, D., Parmentier*, F., & Gandon*, C. (2006). *Temporal integration in pitch perception.* 29th MidWinter meeting of the Association for Research in Otolaryngology, Baltimore, USA.

Pressnitzer D., & Winter I. M. (2000) *Encoding first- and second-order periodicity in the ventral cochlear nucleus.* 23rd MidWinter meeting of the Association for Research in Otolaryngology, St Petersburg, USA.

Winter I. M., Pressnitzer D., & Meddis R. (2000) *Physiological correlates of comodulation masking release in the ventral cochlear nucleus.* 23rd MidWinter meeting of the Association for Research in Otolaryngology,St Petersburg,USA.

Pressnitzer, D., Patterson, R. D., & Krumbholz, K. (1999). *The lower limit of melodic pitch with filtered harmonic complexes.* Joint Meeting 137th ASA, 2nd EAA : Forum Acusticum 99, 25th DAGA, Berlin, Allemagne.

Pressnitzer D., McAdams S. (1997). *Influence de la phase sur la perception de rugosité sons complexes.* 4ème Congrès Français d'Acoustique, Marseille.

Pressnitzer D., McAdams S. (1997). *Influence of phase effects on roughness modelling.* International Computer Music Conference, Thessaloniki, Grèce.

Pressnitzer D., McAdams S., Winsberg S., Fineberg J. (1996). *Roughness and tension of orchestral timbres.* 4th International Conference on Music Perception and Cognition. Montreal, Canada.

Organization of conferences and workshops

04/2012 Co-organizer of the workshop Schlumberger Workshop on Mathematical Models of Sound Analysis. IHES, Bures-sur-Yvette. [12 communications, http://www.ihes.fr/jsp/site/Portal.jsp?document_id=3072&portlet_id=114437].

04/2012 Co-organizer of the workshop New Ideas in Hearing 2012: Hot topics in Audiology., ENS, Paris [37 communications, http://audition.ens.fr/newideas3/].

06/2010 Organizer of the workshop Auditory Features in Machine Learning and Auditory Perception, ENS, Paris [13 communications, plenary from R. Lyon, Google, USA].

11/2008 Co-organizer of the international workshop "Hierarchies in Hearing". ENS, Paris[16 communications, programme at http://audition.ens.fr/ws2/]

06/2008 Co-organizer of the session "Integrated approaches to auditory scene analysis". Acoustics'08, EAA & 156th Acoustical Society of America meeting & SFA. [18 talks, 8 posters, > 300 participants]. Funding from US Air Force.

06/2008 Organizer of the international Workshop "Perceptual Bistability in Audition and Vision", ENS, Paris. [14 talks, programme available online at http://audition.ens.fr/ws2/news/bistable_ws.html].

05/2006 Co-organizer of the international Workshop "New Ideas in Hearing", ENS Paris, France [14 talks, programme at http://audition.ens.fr/ws/].

2006 Organizer of the « Séminaires Audition », 17 talks by invited professors to the Paris lab. [Programme at http://audition.ens.fr/news/seminaires.html].

08/2003 Co-organiser of the XIIIth International Symposium on Hearing [70 talks, proceedings and book].

03/2001 Organizer of the Journées Magnétoencéphalographie et Audition, Paris.

Lab seminars and national conferences

02/2013 Invited talk, UCL Ear Institute, London, UK.

07/2012 Invited talk, Lyon Neuroscience, France.

11/2010 Invited talk, Leibniz Institute for Neurobiology, U. Magdeburg, Germany.

12/2009 7th Paris area Computational Neuroscience day, Paris, France.

10/2008 Scientific days Collège de France – Ecole Normale Supérieure, Paris, France.

05/2007 Département Parole et Cognition, GIPSA lab, Grenoble, France.

04/2007 NTT Human and Information Science Laboratory, Atsugi, Japon.

02/2007 Institute of Hearing Research, Nottingham, UK.

01/2007 UPR CNRS 640, Laboratoire de Neurosciences Cognitives & d'Imagerie Cérébrale, Paris, France.

11/2006 UMR CNRS 5020, Neurosciences & Systèmes sensoriels & unité INSERM 280, Lyon, France.

06/2005 LMA, UPR CNRS 7051, Marseille, France.

01/2005 Graduiertenkolleg Psychoakustik, Oldenburg, Allemagne.

08/2002 Workshop on Pitch : Neural coding and perception, Delmenhorst, Allemagne.

11/1999 Graduiertenkolleg Psychoakustik, Université de Oldenburg, Allemagne

06/1999 Hörobjekte, Zoologisches Institut, Université de Munich, Allemagne.

Software

2005- *CI-Music.* Assessment software for cochlear implant users. Designed and implemented as part of a consulting contract with Advanced Bionics. The software has been used by several French and European centers. Used for two multi-centre studies.

Scientific diffusion, Media

2014: Nuit des Sciences, École normale supérieure (speaker).

2012: Reports on the PNAS paper on self-motion and auditory-scene analysis ScienceNOW, WIRED, Popular Science, The Naked Scientists, COSMOS magazine, Huffington Post, …

2012: TV interview, E=M6 (auditory scene analysis).

2012: Sollicited paper in Cerveau & Psycho – L'Essentiel.

2010: CNRS press release and interviews for the Neuron paper on the memory of noise (Live Science, La Recherche, Pour la Science, Huma Dimanche, etc).

2010: General audience conferences (conservatoire de Lyon, Semaine du cerveau ENS Paris).

2008: Invited paper in *Pour la Science.* [French ed. of Scientific American].

2006-2007: Palais de la découverte. Scientific advisor for the exhibit "Illusions".

2006: CNRS press release and interviews for the Current Biology paper on auditory bistability (Nouvel Observateur, Pour la Science, etc).