

## Amandine Gasc

## Curriculum Vitae

Born on October 14th 1985 in Pontoise (95), France  
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Driving License, Diving Level 1, First Aid valid until end 2016

### Education

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- 2012 **PhD** in biodiversity assessment with acoustic methods, Muséum national d'Histoire naturelle (MNHN), France.
- 2009 **Master degree in Ecology, Biodiversity and Evolution with a specialization in Conservation biology.** Agro Paris Tech, ENS, MNHN and Paris 6, UFR des sciences d'Orsay, France.

### Professional experience

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- 2014-2016 **Post-doctoral position in "Soundscape Ecology"**, directed by Bryan C. Pijanowski in the Center for Global Soundscapes, Purdue University, Indiana. Funded by NSF.
- 2013 (2 mois) **Development and application of an acoustic monitoring protocol to evaluate the diversity and composition of grillidae communities.** Co- directed by Laure Desutter-Grandcolas (UMR7205 CNRS-MNHN) and Hervé Jourdan (IMBE-IRD, Nouméa), Nouméa. Funded ATM du MNHN.
- 2013 (6 mois) **Post-doctoral position in "Anthropic impacts on Chiropteran populations: habitat modifications and wind farms"**. Directed by Jean-François Julien (UMR 7204 CNRS-MNHN), Paris. External collaborators: Maïa Eolis et CPIE pays de Soulaines. Funded ADEM.
- 2009-2012 **PhD in "Analyses and monitoring of biodiversity using a new passive acoustic method: the Rapid Acoustic Survey"**. Directed by Philippe Grandcolas and co-directed by Jérôme Sueur (UMR 7205 CNRS-MNHN) and Sandrine Pavoine (UMR 7204, CNRS-MNHN, Paris. Funded INEE-CNRS.
- 2009 (2 mois) **DNA analysis for phylogenetic studies of Orthoptera species micro-endemic to New Caledonia.** Directed by Romain Nattier and Tony Robillard (UMR 7204 CNRS-MNHN), Paris.
- 2009 (4 mois) **Study of rats impact on a insular species of lezards *Anolis sagrei*.** Directed by Ryan Calsbeek from Dartmouth University, New Hampshire (USA).
- 2008 (2 mois) **Set-up of a monitoring plan for french Chiroptera in "Essonne" area (France).** Directed by Jean-Marc Lustrat from Conseil général de l'Essonne, Evry, France.

## Area of expertise

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### Research leadership

- Management and development of the *Center for Global Soundscapes* sound library.
- Scientific consultations for the CGS projects and for FoxFire Interactive company.
- Management of the collaborative data collection network (Wells, Maine-USA; Chiricahua National Monument, Arizona-USA ; La selva, Costa Rica).
- Report writing (office, LaTeX), graphic design (Abode Illustrator and InDesign), oral presentation of results and work statement. Work with Linux, Windows and Mac.
- Extensive multidisciplinary collaboration.

### Methods development

- Protocol for recording collections acquisition in natural area.
- Acoustic diversity indices and bioacoustics signal analyses.

### Analytic tools

- Acoustic signal analyses: Avisoft, Goldwave, Audacity, R (seewave, tuneR).
- Expertise in R coding: function creation for frequency peak detection in a recordings (fpeak {seewave}) and analyses semi-automatic of bioacoustics signals. Basic knowledge in other language such as Python, Latex, SQL, Html5 and PHP.
- Acoustic recorder and microphones: D240X, SM1 to SM4, Zoom H1 to H5, Mixer SoundDevices. Recording in various environments: terrestrials and aquatics, in all range of frequencies. Microphones omnidirectional, figure 8 and cardioid.
- Statistical analyses uni- and multi-variables, temporal and spatial.
- Manipulation of BigData set. Basic knowledge in SQL language, manipulation of SQL data base using phpMyAdmin. Use of Clusters resources for a calculs automatisation.
- Molecular analyses: DNA extraction and amplification, PCR.
- Cartography. Arcgis 10, Qgis 1.8.

### Field expertise

- Knowledge in bird and chiropteran groups, base in floristic.
- Expertise in insular areas (Bahamas and New-Caledonia), temperate forest (France), tropical forest (New-Calédonia, India and French Guyana), desert (Arizona, USA), tidal zone (Maine, USA) and aquatic temperate ponds (France).

### Co-organization of workshops and public seminars

- Workshop 2014 and 2015 for the 'Global Sustainable Soundscapes Network'.
- Scientific conferences about bioacoustics research in 'la cité des sciences et de l'industrie' for the scientific day 2012 in collaboration with the journalist Antonio Fischetti.

### Language

- French (native speaker), English (fluent), Spanish (read).

## Scientific publications (selection)

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- Lomolimo M.V., Pijanowski B.C. and **Gasc A.** (2015). The Silence of Biogeography. *Journal of Biogeography*, 42: 1187-1196.
- Gasc A.**, Lellouch L., Pavoine S., Grandcolas P., Sueur J. (2015). Acoustic indices for biodiversity assessment: analyses of biases on bird assemblage simulations and recommendations for field survey. *Biological Conservation*, 191: 306-312.
- Ulloa J. S., **Gasc A.**, Gaucher P., Aubin T., Réjou-Méchain M., Sueur J. (2015). Screening large audio datasets to determine the time and space distribution of Screaming Piha birds in a tropical forest. *Ecological Informatics*, 31:91-99.
- Gasc A.**, Sueur J., Jiguet F., Devictor V., Grandcolas P., Burrow C., Depaetere M. and Pavoine S. (2013). Assessing biodiversity with sound: do acoustic diversity indices reflect phylogenetic and functional diversities of bird communities? *Ecological indicators*, 25: 279-287.
- Gasc A.**, Sueur J., Pavoine S., Pellens R. and Grandcolas P. (2013). Biodiversity sampling using a global acoustic approach: contrasting sites with microendemics in New Caledonia? *PLoS ONE*, 8(5) : e65311.

## Scientific conferences (selection)

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- Gasc A.** (2015). Soundscape ecology. New perspectives for conservation biology. Western Michigan University, USA. 1h presentation.
- Gasc A.** (2015). Perspectives of Soundscape Ecology. Global Sustainable Soundscapes Network conference. Nebraska, USA. 30 minutes presentation.
- Gasc A.** (2014). Turn on our ears to ecosystems. Acoustic indices for ecology and biological conservation. Seminaire à l'université de Montréal à Trois Rivières, Trois rivières, Quebec. Et Seminaire à McGill University, Montreal, Quebec. 1h presentation.
- Gasc A.** et al. (2014). Soundscape measurements to evaluate impacts of habitat degradation on acoustic animal communities. Ecology and acoustics, Paris, France et US-International Association for Landscape Ecology Annual Symposium, Anchorage, USA. 15 minutes presentation.

## Review for scientific journal

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Ecological Indicators (1), Landscape Ecology (1), Environmental Conservation (1), Ecological Informatics (1)

## Teaching

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- “Introduction to Soundscape Ecology”**. Creation and teaching. 5 h. Level Master and PhD. Taught in 2015 and 2016 at Purdue University.
- “Your Ecosystem Listening Labs YELLS”**. Co-creation. 5 days. Level Middle school student
- “Soundscape at Perkins”**. Co-creation and teaching. 3 Days. Visually impaired students from Perkins School for the Blind.
- “L’acoustique pour l’identification taxonomique”**. Creation and teaching. 2 h. Level Master. Taught at the Museum national d’Histoire naturelle Paris.
- “Utilisation du logiciel d’analyses statistiques de données R”**. Teaching assistant. 60 h. Level Master and PhD. Taught at the Muséum national d’Histoire naturelle, Paris.
- Co-advisement**. Undergraduated (3) ; Master Ecology and Biodiversity et Evolution (2).