

Research interests

- **Multichannel processing:** source separation, beamforming (fixed and adaptive), robot audition
- **Acoustics:** Binaural source spatialization, HRTF individualization
- **Machine learning:** automatic feature selection for classification, automatic classification

Educational background

- 2009–2012 **Ph.D. with distinction in audio signal processing**, Télécom ParisTech (Paris, France), Signal and Image Processing department.
- *Topic: Source separation for robot audition*
 - *Supervisors: Yves Grenier and Karim Abed-Meraïm*
 - *Jury members: Christian Jutten, Rémi Gribonval, Yannick Deville and Olivier Warusfel*
- 2007–2008 **M.Sc. Information Processing and Living Complexity**, a co-diploma with the M.Sc. Mathematics and Informatics of the university Paris Descartes, option *signal and numeric communication* (Tunis, Tunisia and Paris, France).
- 2005–2008 **Engineer school**, École Nationale d'Ingénieurs de Tunis (ENIT, Tunis, Tunisia).
- Obtained diploma : The National diploma of Telecommunication Engineer

Work experience and internships

- 2017 **Auto-entrepreneur**, (Paris, France).
Multichannel audio signal processing
- 2015–2016 **Post-doctorate**, IRCAM (Paris, France).
- *Estimation of individualized HRTF in unsupervised conditions - BILL project*
 - *P.I.: Olivier Warusfel*
- 2015 **Auto-entrepreneur**, (Paris, France).
Voice enhancement in car environment using multichannel processing
- 2012–2014 **Post-doctorate**, Télécom ParisTech (Paris, France).
- *Development and implementation of real-time source separation algorithms using C language.*
 - *Source separation aided by video. Application to robot audition.*
 - *P.I.: Yves Grenier*
- 2009–2012 **Ph.D. in audio signal processing**, Télécom ParisTech (Paris, France).
- *Multichannel source separation using beamforming preprocessing. Application to robot audition*
 - *Supervisors: Yves Grenier and Karim Abed-Meraïm*
- 2008 **Master internship**, three months at Télécom ParisTech (Paris, France).
- *Topic: Study and conception of HMM-SVM hybrid algorithms for environmental sound classification*
 - *Supervisor: Slim Essid*

2008 **Engineer internship**, three months at Télécom ParisTech (Paris, France).

- *Topic: Automatic feature selection for musical instruments classification*
- *Supervisor: Slim Essid*

Teaching

Lectures, practical works and tutorial classes on:

- **Room acoustics**, Master cycle at Télécom ParisTech
- **Speech and audio signals**, Master cycle at Télécom ParisTech
- **Advanced methods for audio signal processing**, Master cycle at Télécom ParisTech
- **Continuous Optimization Methods with Applications**, 1^{rst} year classes at Télécom ParisTech
- **Sound Processing and Transformation**, Master II ATIAM (a master with IRCAM)

Reviewing

International journals

- IEEE Transactions on Audio, Speech, and Language Processing
- ELSEVIER Digital Signal Processing

Conferences

- European Signal Processing Conference, EUSIPCO
- Joint Workshop on Hands-free Speech Communication and Microphone Arrays, HSCMA
- International Conference on Systems, Signals and Image Processing, IWSSIP

Computer and language skills

Environnements Linux, Windows, Mac OS

Programming Matlab, Python, C/C++

Languages English (fluent), French (fluent), Arabic (mother tongue)

Administrative activities

- Local chair of 2013 WIAMIS workshop: 14th International Workshop on Image and Audio Analysis for Multimedia Interactive Services
- IEEE Larry K Wilson price of the best contribution in student activity of region 8 in 2009

Selected publications

- M. Maazaoui, et O. Warusfel. **Estimation of individualized HRTF in unsupervised conditions**, *140th convention of Audio Engineering Society, 2016*
- M. Maazaoui, K. Abed-Meraïm and Y. Grenier. **Blind Source Separation for Robot Audition using fixed HRTF beamforming**, *EURASIP Journal on Advances in Signal Processing, 2012*
- M. Maazaoui, K. Abed-Meraïm and Y. Grenier. **Adaptive blind source separation with HRTFs beamforming preprocessing and varying number of sources**, *IEEE Sensor Array and Multichannel Signal Processing Workshop, SAM 2012*
- M. Maazaoui, Y. Grenier and K. Abed-Meraïm. **From Binaural to Multimicrophone Blind Source Separation using Fixed Beamforming with HRTFs**, *International Conference on Systems, Signals and Image Processing, IWSSIP 2012*
- M. Maazaoui, Y. Grenier and K. Abed-Meraïm. **Blind Source Separation for Robot Audition using fixed beamforming with HRTFs**, *Annual Conference on the International Speech Communication Association, Interspeech 2011*
- M. Maazaoui, Y. Grenier and K. Abed-Meraïm. **Frequency Domain Blind Source Separation for Robot Audition Using a parameterized sparsity criterion**, *European Signal Processing Conference, EUSIPCO 2011*

- S. Essid, Y. Grenier, M. Maazaoui, G. Richard and R. Tournemenne, **An audio-driven virtual dance-teaching assistant**, *ACM Multimedia*, 2011
- N. López, M. Maazaoui, Y. Grenier, G. Richard and I. Bourmeyster, **Does dereverberation help multichannel blind source separation? A study case**, *European Signal Processing Conference, EUSIPCO 2013*