

Curriculum Vitae – Gaël RICHARD

Adresse professionnelle

Télécom Paris, 19 place Marguerite Perey, 91120 Palaiseau, France

Tel: +33 (0) 1 75 31 96 60

<https://www.telecom-paris.fr/gael-richard?!=fr>

POSTE ACTUEL

Directeur Exécutif de Hi! Paris

Professeur à Télécom Paris, Institut Polytechnique de Paris

THEMATIQUES DE RECHERCHE

Modèles et représentations de signaux (représentations parcimonieuses, analyse sinusoïdale, méthodes de décomposition, Factorisation en matrices non-négatives,...), Séparation de sources, Apprentissage machine et modèles pour les signaux audio, parole et musique, Informatique musicale, transcription musicale, Codage audio, 3D Audio, Analyse des signaux multimédia et parole.

POSTES PRECEDENTS

2015 – 2021 Responsable du département Image, Données, Signal à Télécom Paris (*120+ personnes incluant 40 permanents dont 35 Enseignants-Chercheurs et plus de 80 doctorants*)

2004 - Professeur à Télécom Paris

2001 - 2004 Maître de conférences à Télécom Paris

2000 - 2001 Chef de projet à Philips Consumer Communications, France.

1997 - 2000 Chef de projet à Matra Nortel Communications puis à L&H (France)

1994 - 1996 Post-Doc au CAIP center, Université de Rutgers, USA (supervision: Pr. James Flanagan).

1990 - 1994 Doctorant et enseignant à l'Université Paris XI (supervision: Dr. d'Alessandro).

1989 - 1990 Stage au KTH, Suède

RESPONSABILITES

2020 - Directeur executif de Hi ! Paris

2020 - Membre du conseil académique de l'institut polytechnique de Paris (IP Paris)

2020 - Membre du bureau du département Informatique, Données et IA de l'IP Paris

2015 - 2021 Responsable du département *Image, Données, Signal (IDS)* à Télécom Paris

2015 - 2021 Membre du Comité de Direction de Télécom Paris

2011- 2021 Membre du comité de la recherche de Télécom Paris

2015-2019 Membre du comité de pilotage de la chaire « Machine Learning for Big Data »

2017-2019 Membre du comité d'orientation stratégique du Labex SMART (UPMC,...).

2016-2019 Membre du comité scientifique de Teralab – plateforme « Big Data »

2005 - 2015 Responsable du groupe de recherche « Audio, Acoustique et Ondes »

2013 - 2015 Membre élu du sénat académique de l'Université ParisSaclay

2006 - 2016 Membre élu du conseil de laboratoire LTCI/CNRS

2005 - 2015 Membre du conseil de département « Traitement du Signal et des Images »

2005 – 2012 Membre du comité de l'enseignement de Telecom Paris

FORMATION

2017	Auditeur du cycle national de l'Institut des Hautes Etudes pour la Science et la Technologie
2001	« Habilitation à Diriger des Recherches », Université Paris-Sud, Orsay.
1994	Doctorat en informatique de l'Université Paris-Sud, Orsay.
1990	Diplôme d'ingénieur de Télécom Paris.
1988	Maîtrise EEA de l'Université Paris-Sud, Orsay.

DISTINCTIONS, PRIX

2020	Grand prix IMT- Académie des Sciences
2017	Chevalier de l'ordre des palmes académiques
2017	Fellow IEEE
2010	Prix de thèse du GdR-Isis/EEA/GRETSI's pour l'étudiante N. Bertin en doctorat sous ma direction.
2006	Prix de thèse de Paris Ph.D. pour l'étudiant R. Badeau en doctorat sous ma direction.
2021	Prix de la meilleure présentation video à ISMIR 2021 pour le papier: L. Prétet, G. Richard, G. Peeters. "Is There a "Language of Music-Video Clips" ? A Qualitative and Quantitative Study"
2018	Prix du meilleur poster du workshop NILM 2018 pour le papier, S. Henriët, U. Simsekli, G. Richard, B. Fuentes, « Energy Disaggregation for Commercial Buildings: A Statistical Analysis », Austin, Tx, USA, 2018.
2012	Prix du meilleur papier de la convention de l'AES pour le papier: "N. Sturmel, A. Liutkus, J. Pinel, L. Girin, S. Marchand, G. Richard, R. Badeau and L. Daudet, (2012), Linear mixing models for active listening of music productions in realistic studio conditions, "132nd AES Convention", Budapest, Hongrie.
2010	Prix du meilleur papier « jeune auteur » de CORESE2010 pour le papier : C. Joder, S. Essid, and G. Richard, "Approche Hiérarchique pour un Alignement Musique-sur-partition efficace", In Proc. Compression et Représentation des Signaux Audiovisuels (CORESA), Lyon, France, Octobre 2010.
2005	Prix du meilleur papier à CBMI'05 pour le papier : O. Gillet and G. Richard, "Indexing and querying drum loops databases", International workshop on Content Based on Multimedia and Indexing (CBMI'05), Riga, Latvia, June 2005.

COMITES EXTERNES, SOCIETES SAVANTES ET CONSEIL SCIENTIFIQUE

2021 -	Président du comité <i>Audio and Acoustic Signal Processing</i> de l'IEEE
2021 -	Membre du conseil scientifique de la société <i>Smart Impulse</i>
2019 -	Président du conseil scientifique d'EURECOM
2018-2019	Président-référent de la commission d'évaluation CE23 : « Intelligence Artificielle » de l'ANR
2018	Membre du comité d'évaluation HCERES de l'UMR STMS (Ircam, Paris)
2018	Expert pour <i>l'Academy of Finland</i> (review panel)
2017	Conseil scientifique, Deezer S.A.
2017 -	Fellow member de l'IEEE, membre de EURASIP et AES.
2017	Comité d'évaluation du laboratoire CREATE, Aalborg, Danemark
2016	Comité d'évaluation/promotion au niveau directeur de recherche, IRCAM (Paris)
2015 -	Membre du comité <i>Acoustic, Sound and Music Signal Processing</i> de l'EURASIP
2010 -	Membre du comité technique <i>Audio and Acoustic Signal Processing</i> de l'IEEE
2010 – 2015	Membre du comité de sélection de l'ANR - programme CONTINT
1998 -	Expert pour la commission européenne, évaluation de projets (FP6, FP7, H2020, FET, EiC)
2001 -	Membre de nombreux jurys de thèses et HDR en France, Europe (UK, Finlande, Suède, Allemagne, Portugal, Italie, Danemark, Espagne, Pays-Bas) et Afrique (Tunisie)

- 2001- Membre des jurys de “Habilitation à Diriger des Recherches – HDR” en France (S. Marchand, L. Girin, M. Chetouani, N. Evans, G. Peeters) et en Tunisie (S. Djaziri-Larbi).

ACTIVITES D’EDITION ET DE RELECTURE

- 2022 - Membre senior du comité éditorial de *IEEE Signal Processing Magazine*
2017 Editeur d’un numéro spécial sur “*Sound Scene and Event Analysis*” du journal « ACM/IEEE Transactions on Audio, Speech and Language Processing »
2013 Editeur d’un numéro spécial sur “*Informed Acoustic Source separation*” du journal « EURASIP Journal on Advances in Signal Processing ».
2007 - 2011 Editeur associé de la revue « IEEE Transactions on Audio, Speech and Language Processing »
2010-2011 Editeur invité du numéro spécial sur “*Music Signal Processing*” de la revue « IEEE Journal of Selected Topics in Signal Processing »
1994 - Relecteur régulier pour des conférences majeures (Icassp, Eusipco, Ismir, Interspeech, Waspa, ...)
1996 - Relecteur régulier pour des revues majeures (IEEE transactions, Eurasp journals ...)

IMPLICATION ET ORGANISATION DE CONFERENCES

- 2018 *Co-)General chair* de la conférence International Society for Music Information Retrieval (ISMIR-2018)
2015 *(Co-)General chair* de la conférence « IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA-2015) »
2013 *(Co-)General chair* de la conférence « International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS-2013) »
2006 *(Co-)General chair* de la conférence « Workshop on Acoustic Echo and Noise Control (IWAENC-2006) »

2018 *Program (Co-)Chair* pour le Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)
2018 *Area Chair* pour la conférence Eusipco-2018
2017 *Area chair* de la conférence IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA-2017)
2013 *Area Chair*, pour le domaine « Analysis of Speech, Audio Signals, Speech Coding, Speech Enhancement » de la conférence « International Conference of Speech Communication Association (INTERSPEECH 2013) »
2013 - 2018 *Area Chair*, pour le domaine « Audio and Acoustic Signal Processing » pour la conférence « IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP) »

TUTORIELS ET CONFERENCES INVITEES (KEYNOTES)

- 2021 Résumé et discussion au colloque interdisciplinaire sur l’IA, “*Qu’est-ce qui échappe à l’Intelligence Artificielle*”, Palaiseau, France.
2019 Conférence (keynote), “*Machine listening: l’intelligence artificielle pour les sons et la musique*”, Colloque IMT - L’intelligence artificielle au coeur des mutations industrielles, Paris, France.
2019 Table ronde au workshop IANP2019 “Intelligence Artificielle : Nouvelles Puissances”, Avril 2019, CNAM, Paris
2018 Table ronde au congrès de l’Université Franco-Italienne sur « *Les défis de l’Intelligence Artificielle* », novembre 2018, Paris.
2016 Conférence (Keynote) sur *Acoustic Scene and Events Recognition: How Similar is it to Speech Recognition and Music Genre Recognition?* à “International Workshop on Detection and Classification of Acoustic Scenes and Events”, Budapest, Hongrie.
2015 Conférence (Keynote) sur *Melody Extraction from music signals: “blind” and “informed” approaches* à « 5th International Workshop on Folk Music Analysis (FMA 2015) », Paris, France
2014 Conférence (Keynote) sur « *Informed Audio Source Separation*” at the « AES 53rd Conference on Semantic Audio », Londres, UK.
2014 Conférence (Keynote) sur « *Melody Extraction from Polyphonic Music Signals*” à « International Workshop on Acoustic Echo and Noise Control (IWAENC 2014) », Nice, France.

- 2012 Conférence (Keynote) sur *Audio and Multimedia Music Signals Indexing* à « International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS-2012) », Dublin, Irlande.
- 2010 Conférence (Keynote) sur *olyphonic music signals indexing* aux « Journées d'Informatique Musicale (JIM 2010) », Rennes, France.;
- 2007 Conférence (Keynote) sur *Recent advances in Digital Music Processing and Indexing* à « Digital Music Research Network (DRMN+2) », Londres , UK.
- 2014 Tutoriel avec A. Ozerov et A. Liutkus sur « Séparation de sources informée » à « IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP 2014) », Florence, Italy
- 2011 Tutoriel sur « *Multimedia Music Signal Processing* » à « ACM Multimedia conference », Scottsdale, USA.

Séminaires récents

- 2021 “Deep Neural Network for Audio and Music Transformations”, Journée Statistique et Informatique pour la Science des Données à Paris Saclay, Orsay, France
- 2020 “Analysis, transformation and recognition of audio signals”, National Academy of Science, Paris, France
- 2020 “Machine listening: Artificial intelligence for sounds and music”, Webinar at SONOS.
- 2019 New Frontiers in Music Information Processing (MIP-Frontiers) a focus of some ongoing projects”, Fraunhofer, Erlangen, Germany
- 2017 “Traitement des signaux audio numériques”, Rencontre Scientifique Innovation, PSA, Vélizy
- 2015 “Melody Extraction from Music Signals: “Blind” to “Informed” Approaches”, New York University, US.
- 2014 “A view on Greedy pursuits algorithms for representing audio signals”, Mitsubishi Electric Research Laboratories, Boston, US.
- 2014 Invited talk on “Informed Audio Source Separation” at the Speech and Audio in the Northeast workshop (SANE), Boston, US.
- 2013 « Should Computational Audio processing systems have ears and brain ?”, Stimulus talk at Dagstuhl Seminar on “Computational audio analysis”
- 2013 “Some research in Audio, Music and Multimodal Signal Processing”, Fraunhofer Institute, Ilmenau, Germany
- 2012 “Greedy pursuits algorithms for representing audio signals: avec applications to Compression, Source separation and Audio Fingerprint”, Berkeley University, US
- 2012 “Audio Processing Research and Technologies”, Korea University, Seoul, Korea.
- 2012 “Greedy pursuits algorithms for representing audio signals: avec applications to Compression, Source separation and Audio Fingerprint”, University of California at Los Angeles, US
- 2012 “Research in audio Processing”, Technical University of Berlin, Germany
- 2011 “Multimodal Music Processing”, Dagstuhl Seminar, Germany
- 2010 “Research in audio Processing”, IRCAM, Paris, France
- 2010 “Transcription and Separation of the main melody”, Queen Mary University, London, UK
- 2009 “Beyond the bag-of frames approach for musical instrument recognition”, Aalborg University, Denmark.
- 2009 “Beyond the bag-of frames approach for musical instrument recognition”, Dublin City University, Ireland.
- 2009 “Beyond the bag-of frames approach for musical instrument recognition”, INESC Porto, Portugal.
- 2008 “Recent advances in Digital Music Processing and Indexing”, Acoustics’08 warm up, Paris, France
- 2008 “Novel approaches for musical instrument recognition”, Tampere University, Finland
- 2007 “Audio signal indexing”, Enterface’07 workshop, Istanbul, Turkey
- 2007 “Transcription and separation of drum signals from polyphonic music”, Enterface’07 workshop, Istanbul, Turkey
- 2007 “Audio signal indexing: Application to drum track separation and transcription”, Cambridge University, UK.

- 2007 “Audio signal indexing: Application to drum track separation and transcription”, Stanford University, US.
- 2006 “Drum signal processing and tempo extraction for Audio indexing”, University Pompeu Fabra, Barcelona, Spain.
- 2005 “Tempo extraction for Audio indexing”, Columbia University, New York, USA.
- 2005 “Musical instruments recognition and tempo extraction for Audio indexing”, CAIP center, Rutgers University, US.
- 2005 « Indexation des signaux audiofréquences :vue d'ensemble (in French) », Workshop of the French Acoustical Society, Paris, France.

Vulgarisation

- 2019 Gaël Richard, Sébastien Fenet, Yves Grenier, “De Fourier à reconnaissance musicale”, Revue Interstices, Fev. 2019, online at: <https://interstices.info/de-fourier-a-la-reconnaissance-musicale/> (in French)
- 2008 Conférence expérimentale avec B. David à l'Espace des Sciences Pierre Gilles de Gennes, « L'ordinateur a le sens du rythme et de la mélodie ? », ESPCI, Paris.
- 2004 Participation à la “Fête de la Science”, avec un stand sur « Du rythme à la musique » à la Cité des Science et de l'industrie, Paris, France. Diffusé sur France Culture.

Enseignement (quelques exemples de cours récents)

(200h entre 1990 et 1994 et entre 90h et 220h d'enseignement annuel entre 2001 et 2016)

- 2020- Course en “*Audio et indexation musicale (AMIR)*”, Master DataScience, Institut polytechnique de Paris.
- 2007- Cours en traitement du signal audio, Master MVA, ENS Cachan, Telecom Paris
- 2016- Cours en traitement du signal musical, Master ATSI, Université Paris-Saclay
- 2003-2015 Cours en traitement du signal audio, Master ATIAM, Université Pierre et Marie Curie, Telecom Paris
- 2011-2014 Encadrement de projets collaboratifs – 1^{ère} année école d'ingénieur.
- 2004-2014 Cours en traitement de la parole et du signal audio, Master IMA, Université Pierre et Marie Curie, Telecom Paris
- 2001 -2016 Cours en traitement du signal à Telecom Paris
- 2001-2016 Cours en traitement du signal audio et parole à Telecom Paris

Principaux projets de recherche

- 2020-2023 Contrat de recherche collaborative et encadrement de thèse avec Thales sur *Complex valued representation for deep learning: application to audio signals*, xx k€ (amount on request) with G. Peeters.
- 2019-2022 Contrat de recherche collaborative et encadrement de thèse avec Creaminal on *Analyse et apprentissage multimodaux pour le montage audio/vidéo*, xx k€ (amount on request), avec G. Peeters.
- 2018-2022 European Training Network MIP-Frontiers (*New Frontiers in Music Information Processing*) 1 051 k€ pour Télécom Paris
- 2018-2021 Contrat de recherche collaborative avec DEEZER, 48 k€ pour Telecom Paris, avec F. d'Alché-Buc.
- 2017-2020 Contrat de recherche collaborative avec PSA sur “Amélioration de l'intelligibilité de la parole en contexte automobile”, 70 k€ pour Telecom Paris, avec B. David.
- 2016-2020 Projet international ANR/Tubitak FBIMATRIX on “*Parallel and Distributed Markov Chain Monte Carlo for Bayesian Inference in Matrix and Tensor Factorization Models*”, 184 k€ for Telecom Paris, avec U. Simsekli.
- 2016-2019 Contrat de recherche collaborative et encadrement de thèse avec Smart Impulse on *electric source separation*, xx k€ (amount on request).

- 2014-2018 Projet européen FP7-LASIE (*Large Scale Information Exploitation of Forensic Data*), 420 k€ pour Telecom Paris, avec S. Essid.
- 2014-2017 Projet national Digiteo/Digicosme (*Expert knowledge for audio and musical signals*), 120 k€ pour Telecom Paris avec M. Kowalski (Université Paris-Sud), H. Papadopoulos (CNRS).
- 2016 Contrat de recherche collaborative avec Technicolor, 45 k€ pour Télécom Paris avec S. Essid.
- 2013-2017 Projet ANR-AIDA (*Intelligible Car for Hearing Impaired*), 95 k€ pour Telecom Paris.
- 2013-2016 Programme « Marie Curie International Outgoing Fellowships (IOF) » *Statistical models for musical signal processing*) avec H. Papadopoulos.
- 2013-2017 Projet ANR-Edison3D (*Editing and Rendering for next generation of 3D sound*), 458k€ pour Télécom Paris.
- 2015 Projet « Futur & Ruptures », *Deep Learning for Multiple Instrument Identification in Recorded Music*, 50k€.
- 2011-2015 Projet européen FP7-REVERIE (*REal and Virtual Engagement in Realistic Immersive Environments*), 604 k€ pour Telecom Paris avec S. Essid.
- 2011 Contrat de recherche collaborative avec Arkamys, 45 k€ pour Télécom Paris avec Y. Grenier
- 2011-2013 Projet européen (Support Action), « *Towards Excellence in Media Computing and Communication* », 25 k€ pour Telecom Paris.
- 2011 Contrat de recherche collaborative avec Audionamix, 15 k€
- 2010-2013 Réseau d'excellence européen FP7-3DLife (*Bringing the Media Internet to Life*), 415 k€ pour Telecom Paris avec S. Essid.
- 2009-2013 Projet ANR-DREAM (*Active Music Listening*), 140k€ pour Telecom Paris.
- 2008-2013 Projet franco-allemand QUAERO (*Multimedia document retrieval*), 800 k€ pour Telecom Paris.
- 2007-2009 Projet Infom@gic (*Audio indexing and Retrieval*), 75 k€ pour Telecom Paris.
- 2006 Contrat de recherche collaborative avec RTL, 45 k€ pour Telecom Paris.
- 2006-2008 Réseau d'excellence européen FP6-K-SPACE (*Knowledge Space of Semantic Inference for Automatic Annotation and Retrieval of Multimedia Content*), 310 k€ pour Telecom Paris.
- 2005-2007 Projet ACI Big Data Musicdiscover (*Music Information Retrieval and Discovery*), 75 k€ pour TelecomParis
- 2004 Réseau d'excellence européen avec Thales et LIMSI, 20 k€ pour Telecom Paris
- 2001-2002 Projet RNRT-COHRAINTE (*Robust and Scalable coding of audiovisual sources avec applications to Internet*), 100 k€ pour Telecom Paris
- 2001-2004 Projet européen FP5-IST- JOCO (*JOint source-channel COding-driven digital baseband design for 4G multimedia streaming*), 500 k€ pour Philips.
- 2000-2003 Projet européen FP5-IST- INTERFACE (*Multimodal analysis/synthesis system for human INTERaction to virtual and augmented environments*), approx.. 200k€ pour Matra-Nortel (*project transféré*)
- 2000-2003 Projet européen FP5-IST-BANCA (*Biometric Access Control for Networked and e-Commerce Applications*), 500 k€ pour Matra Nortel (*projet transféré*)

Encadrement de thèses de doctorat (40 diplômés, 4 en cours)

- 2020- F. Mathieu, « Représentations en nombres complexes pour l'apprentissage profond ; applications au signal audio », encadrement principal G. Peeters, en collaboration avec la société Thales.
- 2019- L. Pretet, « Analyse et apprentissage multimodaux pour le montage audio/vidéo », co-encadré avec G. Peeters (Télécom Paris) en collaboration avec la société Creaminal.
- 2018- G. Cantisani, « Multimodal music recording remastering », co-encadrée par S. Essid (Télécom Paris), collaboration prévue avec Technicolor
- 2018- J. Nistal, « Conditional generation of audio using deep learning: application to music production », co-encadré par S. Lattner (Sony).
- 2018-2021 K. Schulze-Forster, « Text-Informed Lead Vocal Extraction », coencadré par R. Badeau (Télécom Paris), C. Doire (Audionamix)
- 2018-2021 K. Ibrahim, « Audio Content and Context in Music Recommendation », co-encadré par G. Peeters (Télécom Paris), J. Royo Letellier et F. Lesaint (Deezer),
- 2018-2021 O. Cifka, « Context-Driven Music Transformation », co-encadré par Umut Simsekli (Telecom Paris), collaboration prévue avec Technicolor.
- 2018-2021 Andréa Vaglio, « Transcription de voix chantée », co-supervisée par F. d'Alché-Buc, R. Hennequin (Deezer), M. Moussallam (Deezer)

- 2017-2021 E. Gentet, « Amélioration de l'intelligibilité en contexte bruité automobile », co-encadré avec B. David (Telecom Paris) et V. Roussarie (PSA)
- 2017-2021 Thanh-Huy Nguyen, « Méthodes parallèles distribuées de Monte-Carlo par Chaînes de Markov pour l'inférence Bayésienne de Modèles à Factorisation de tenseurs », co-supervisé par Umut Simsekli (Telecom Paris)
- 2017-2020 S. Henriët, « Analyse et séparation de sources d'intensités électriques », co-encadré avec U. Simsekli (Telecom Paris) et B. Fuentes (Smart Impulse)
- 2016-2019 S. Parekh, « Models for audiovisual objects discovery, localization and extraction », co-encadré avec S. Essid (Telecom Paris), A. Ozerov (Technicolor)
- 2014-2018 V. Bisot, « Multimodal analysis and indexing of complex urban scenes », co-encadré avec S. Essid (Telecom Paris)
- 2014-2018 T. Jansoone, « Multimodal analysis and recognition of social signals : application to the synthesis of social attitudes of an animated agents », Co-encadré avec C. Clavel (Telecom Paris), K. Bailly (Université Pierre and Marie Curie).
- 2014-2017 S. Leglaive, « Under-determined audio source separation in reverberant environment », co-encadré avec R. Badeau (Telecom Paris).
- 2014-2017 C. Laroche, « Sparse approaches for music transcription », co-encadré avec H. Papadopoulos (CNRS), M. Kowalski (University Paris-Sud)
- 2013-2017 S. Durand, « Automatic music transcription », Co-encadré avec B. David (Telecom Paris)
- 2012 -2016 A.C Conneau, « Dynamic identification of emotional state by analysis of heterogenous biological signals », co-encadrée avec S. Essid (Telecom Paris)
- 2012-2016 H. Bai, « Hybrid models for sound reverberation », co-encadré avec L. Daudet (Université Paris 6).
- 2011-2015 X. Jaureguiberry, « Fusion for audio source separation », co-encadré avec E. Vincent (INRIA, Nancy).
- 2011-2015 A. Masurelle, « Multimodal action and dance steps recognition », co-encadré avec S. Essid (Telecom Paris)
- 2011-2014 N. Lopez, « Monochannel approaches for speech dereverberation », co-encadré avec Y. Grenier (Telecom Paris).
- 2010-2013 S. Fenêt, « Audio-Fingerprints and Associated Indexing Strategies for the Purpose of Large-Scale Audio-Identification », co-encadré avec Y. Grenier (Telecom Paris).
- 2009-2013 R. Foucard, « Multilevel fusion by boosting for automatic tagging », co-encadré avec S. Essid (Telecom Paris)
- 2009-2013 B. Fuentes, « Latent component probabilistic analysis and its adaptation to music signals. Application to automatic music transcription and source separation » co-encadré avec R. Badeau (Telecom Paris).
- 2010-2012 A. Liutkus, « Gaussian processes for source separation and posterior source coding », co-encadré avec R. Badeau (Telecom Paris).
- 2009-2012 M. Moussallam, « Sparse and herarchical representations for archival and compression of audio scenes », co-encadré avec L. Daudet (Univ. Paris 6).
- 2008-2011 S. Gulluni « An interactive system for electro-acoustic music analysis », co-encadré avec S. Essid (Telecom Paris), O. Buisson, E. Favreau (INA)
- 2007-2011 C. Joder, « Audio-to-score temporal alignment avec discriminative graphical models », co-encadré avec S. Essid (Telecom Paris)
- 2007-2011 F. Vallet, « Automatic structuring of TV talk shows », co-encadré avec S. Essid (Telecom Paris), J. Carrive (INA).
- 2007-2010 J-L Durrieu, « Automatic transcription and separation of the main melody in polyphonic music signals », co-encadré avec B. David.
- 2006-2010 M. Ramona, « Automatic classification of broadcast audio streams avec Support Vector Machines », co-encadré avec B. David.
- 2006-2009 V. Nguyen, « Study of characteristics of the vietnamese language for its synthesis and its automatic recognition : Static and dynamic aspects », co-encadré avec R. Carré (CNRS), E. Castelli (MICA, Vietnam).
- 2005-2009 N. Bertin, « Non-negative matrix factorizations : constrained and probabilistic approaches and application to automatic transcription of polyphonic music », co-encadrée avec R. Badeau (Telecom Paris).
- 2005-2008 E. Ravelli, « Audio signal representations avec overcomplete transforms for coding and indexing », co-encadré avec L. Daudet (Univ. Paris 6).
- 2004-2008 M. Betser, « Sinusoidal modeling and applications to audio indexing », co-encadré avec B. David (Telecom Paris) and P. Collen (Orange Labs).
- 2004-2007 P. Leveau, « Structured sparse decomposition : application to object representation of music : signal models, algorithms and applications », co-supervised with L. Daudet (Univ. Paris 6).

- 2004-2007 C. Clavel, “Acoustic analysis and recognition of fear-type emotions occurring in abnormal situations, co-encadrée avec L. Devillers (Univ. ParisXI) and S. Sedogbo (Thales)
- 2003-2007 O. Gillet, “Drum signal analysis : applications to music video analysis”, Telecom Paris.
- 2002-2006 S. ESSID, “Automatic classification of audio signals : machine recognition of musical instrument, Co-encadré avec B. David (Telecom Paris)
- 2002-2006 M. Alonso, “Extraction of metrical information from acoustic music signals”, Co-encadré avec B. David (Telecom Paris)
- 2001-2005 R. Badeau, “High resolution methods for estimating and tracking modulated sinusoids : Application to music signals, Co-encadré avec B. David (Telecom Paris)

PUBLICATIONS

270+ articles incluant 74 revues et chapitres de livres, 11 brevets et plus de 200 articles de conférences
(9435 citations, h-number = 51, Source Google Scholar, Aout 2021)

Journals/Book Chapter (74)

K. Schulze-Forster, C. Doire, G. Richard, R. Badeau Phoneme Level Lyrics Alignment and Text-Informed Singing Voice Separation, IEEE/ACM Transactions on Audio, Speech, and Language Processing, to appear, 2021

G. Peeters, G. Richard, Deep Learning for Audio and Music, published in Multi-faceted Deep Learning: Models and Data, edited by J. Benois-Pineau, A. Zemmari, 2021, Springer

Ondrej Cifka, Umut Simsekli, Gaël Richard, “Groove2Groove: One-Shot Music Style Transfer with Supervision from Synthetic Data”, IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 28, pp. 2638-2650, 2020

Sanjeel Parekh, Slim ESSID, Alexey Ozerov, Ngoc Q. K. Duong, Patrick Perez, Gaël Richard, “Weakly Supervised Representation Learning for Audio-Visual Scene Analysis”, IEEE/ACM Transactions on Audio, Speech, and Language Processing, dec. 2019

Simon Henriët, Umut Simsekli, Sergio Dos Santos, Benoit Fuentes, Gaël Richard, “Independent-Variation Matrix Factorization With Application to Energy Disaggregation”, IEEE Signal Processing Letters, Vol. 26, no. 11, November 2019

Zhiyao Duan, Slim ESSID, Cynthia C. S. Liem, Gaël Richard, Gaurav Sharma, “Audio-Visual Analysis of Music Performances”, IEEE Signal Processing Magazine, vol. 36, no. 1, pp. 63-73, Jan. 2019.

Gaël Richard, Sébastien Fenêt, Yves Grenier, “De Fourier à reconnaissance musicale”, Revue Interstices, Fev. 2019, online at: <https://interstices.info/de-fourier-a-la-reconnaissance-musicale/> (in French)

Thanh Huy Nguyen, Umut Şimşekli, Gaël Richard, Ali Taylan Cemgil, “Efficient Bayesian Model Selection in PARAFAC via Stochastic Thermodynamic Integration”, IEEE Signal Processing Letters, April 2018

Simon Henriët, Umut Simsekli, Benoit Fuentes, Gaël Richard, (2018), "A Generative Model for Non-Intrusive Load Monitoring in Commercial Buildings", Volume 177, Oct. 2018, Pages 268-278 (a former version on arxiv).

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