

Curriculum Vitae – Gaël RICHARD

French,

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Current position: **Executive director of Hi! Paris,**

Professor at Télécom Paris, Institut Polytechnique de Paris

APPOINTMENTS HELD AND ACTIVITIES

Main responsibilities

- Head of the Image, Data, Signal department at Télécom Paris (2015-2021)
- Member of the steering committee of Télécom Paris (2015-2021)
- Member of the research council of Télécom Paris (2011-2021)
- Head of the « Audio, Acoustics and Optical Waves » research team (2005-2015)
- Elected member of the Academic Senate of University ParisSaclay (2013-2015)
- Elected member of the LTCI research lab council (2006-2016)
- Member of the teaching council of Telecom Paris (2005 – 2012)

External Committees, Expertise, Evaluation

- Chair of the IEEE Audio and Acoustic Signal Processing Technical Committee (2021 -)
- President of scientific council of EURECOM (2019-)
- President of the evaluation committee CE23 : « Artificial Intelligence » of ANR (2018-2019)
- Member of the EURASIP Special Area Team on *Acoustic, Sound and Music Signal Processing* (2015 -)
- Evaluation committee member for ANR (2010 – 2015) and European Commission (FP6,FP7,H2020)
- Associate Editor of the IEEE Transactions on Audio, Speech and Language Processing (2007-2010)
- Guest editor of 3 special issues in IEEE or EURASIP journals on “*Sound Scene and Event Analysis*”(2017), “*Informed Acoustic Source separation*” (2013) et “*Music Signal Processing*” (2011)
- Conference organization (*General Chair*): ISMIR’18, WAASPA’15, WIAMIS’15, IWAENC’06
- **IEEE Fellow member, IMT-Académie des sciences Grand prix (2020)**

Research

- **Main research interests:** Audio signal representations and models, Source Separation, Machine learning methods for audio/music signals, Music Information Retrieval (MIR), Music transcription, Audio Coding, 3D Audio, Multimedia and speech signal analysis.
- Phd (co-)supervision: 33 graduated since 2005, 2 PhD prizes
- Many collaborative research projects/grants (Networks of excellence ITN-MIP Frontiers, IST-K-Space, FP7-3Dlife and regular projects FP7-LASIE, OSEO-QUAERO, ANR-Dream, ANR-Aida,..).
- 7 keynotes (DCASE’16, IWAENC’14, AES’14, WIAMIS’12, Smart Media’12, JIM’10, DRMN’07)
- >270 papers : 64 journal papers, 8 book chapters, 205 conference papers, 10 patents 8959 citations, **h-index: 49**; 4 *best paper awards*

Teaching

- Lectures, projects, responsibilities (between 90h to 220h teaching per year)
 - Responsible of the course *Audio signal Analysis*, Master MVA, Univ. ParisSaclay
 - “*chevalier*” of the order of Academic palms
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PREVIOUS POSITIONS

- Associate Professor in signal processing at Télécom Paris (2001-2004)
 - Software project leader at Philips Consumer Communications, France (2000-2001)
 - Project leader at Matra Nortel Communications and then L&H (France) (1997-2000)
 - Post-Doc at CAIP center, Rutgers, Univ., USA (supervision: Pr. James Flanagan) (1994-1996)
 - Ph.D student at LIMSI-CNRS, on speech synthesis (1990-1994)
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EDUCATION

- « Auditeur » of the national cycle of *Institution des Hautes Etudes en Sciences et Technologies* (2017)
- « Habilitation à Diriger des Recherches » (HDR), University Paris-Sud, Orsay (2001)
- Phd in computer sciences University Paris-Sud, Orsay, prepared at LIMSI-CNRS (1994)
- State Engineering Degree of Télécom Paris (1990)

SELECTION OF PUBLICATIONS

Full list of downloadable publications at: <https://perso.telecom-paris.fr/grichard/Publications.html>

Bibliometry: <https://scholar.google.fr/citations?user=xn70tPIAAAAJ>

O. Cifka, U. Simsekli, G. 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

Z. Duan, S. Essid, C. C. S. Liem, G. Richard, G. Sharma, “Audio-Visual Analysis of Music Performances”, *IEEE Signal Processing Magazine*, vol. 36, no. 1, pp. 63-73, Jan. 2019.

U. Şimşekli, Ç. Yildiz, T. H. Nguyen, G. Richard, A. T. Cemgil, “Asynchronous Stochastic Quasi-Newton MCMC for Non-Convex Optimization”, *International Conference on Machine Learning (ICML)*, Stockholm, Sweden, 2018

S. Leglaive, R. Badeau and G. Richard, "Student's t Source and Mixing Models for Multichannel Audio Source Separation", *IEEE Transactions on Audio, Speech and Language Processing*, vol. 26, n° 5, pp. 1 15, 2018.

S. Parekh, S. Essid, A. Ozerov, N. Q. K. Duong, Patrick Pérez, Gaël Richard, “Weakly Supervised Representation Learning for Unsynchronized Audio-Visual Events”, *CVPR Workshop*, Salt Lake City, 2018.

T. H. Nguyen; U. Şimşekli; G. Richard; A.T. Cemgil, “Efficient Bayesian Model Selection in PARAFAC via Stochastic Thermodynamic Integration”, *IEEE Signal Processing Letters*, April 2018

V. Bisot, R. Serizel, S. Essid, G. Richard, "Feature Learning with Matrix Factorization Applied to Acoustic Scene Classification", *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, Special Issue on Sound Scene and Event Analysis, June 2017.

S Durand, J. Bello, S. Leglaive, B. David, G. Richard, "Robust Downbeat Tracking Using an Ensemble of Convolutional Networks", *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 25, no. 1, pp. 76-89, Jan. 2017.

U. Simsekli, R. Badeau, G. Richard and A. T. Cemgil, “Stochastic Quasi Newton Langevin Monte Carlo,” *International Conference on Machine Learning (ICML)*, New York, NY, USA, 2016.

H. Bai, G. Richard, L. Daudet "Late Reverberation Synthesis: From Radiance Transfer to Feedback Delay Networks", *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 2015 vol. 23, n° 12,

G. Richard, S. Sundaram, S. Narayanan "An overview on Perceptually Motivated Audio Indexing and Classification", *Proceedings of the IEEE*, vol. 101, no. 9, pp. 1939-1954, Sept. 2013.

M. Mueller, D. Ellis, A. Klapuri, G. Richard, “Signal Processing for Music Analysis”, *IEEE Journal on Selected Topics in Signal Processing*, October 2011.

J-L Durrieu, G. Richard, B. David, C. Févotte, Source/Filter Model for Unsupervised Main Melody Extraction From Polyphonic Audio Signals, *IEEE Transactions on Audio, Speech and Language Processing*, Vol. 18, No 3, March 2010,

C. Clavel, I. Vasilescu, L. Devillers, G. Richard, T. Ehrette Fear-type emotion recognition for future audio-based surveillance systems, *Speech Communication*, Vol 50, pp. 487–503, 2008.

P. Leveau, E. Vincent, G. Richard, L. Daudet, “Instrument-specific harmonic atoms for mid-level music representation”, *IEEE Trans. Audio, Speech and Language Processing*, vol. 16, no.1, pp. 116-128, Jan. 2008.

M. Betser, P. Collen, G. Richard and B. David « Estimation of frequency for AM/FM models using the phase vocoder framework», *IEEE Transactions on Signal Processing*, Vol. 56, N°. 2, February 2008.,

R. Badeau, B. David and G. Richard, “Fast Approximated Power Iteration Subspace Tracking”, *IEEE Transactions on Signal Processing*, Volume 53, Issue 8, Part 1, Aug. 2005