

# Philippe Ciuciu

## Curriculum Vitae

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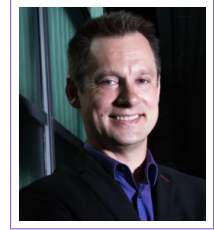
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🐦 [Philippe\\_Ciuciu](#)



- 2022– **CEA Research Director**, co-Head of the future Inria-CEA MIND team at NeuroSpin, Gif-sur-Yvette, France.
- 2018–21 **CEA Research Director**, Head of the Compressed Sensing group in the Inria-CEA Parietal team at NeuroSpin, Gif-sur-Yvette, France.
- 2013-18 **CEA Senior Expert**, in the Inria-CEA Parietal team at NeuroSpin.
- 2012-13 **Visiting Scientist (2 months)**, in Biyu J. He's NIH group, Bethesda (DC, USA).
- 2012-13 **Invited Professor (5 months)**, at the University of Toulouse III Paul-Sabatier, Institut of Maths (CNRS UMR 5219), Toulouse, France.
- 2007-12 **Senior Research Scientist**, at NeuroSpin, Gif-sur-Yvette, France.
- 2000-06 **Postdoc Fellow (2000-02), then Junior Research Scientist**, at SHFJ, Orsay, France.

## Education and Diploma

- 2008 **Habilitation degree (HDR):**, *Ultimate French academic degree requested to officially serve as PhD advisor*, Paris-Sud University, Orsay, France.
- 2000 **PhD thesis**, in *Signal processing* (cum laude), Lab of Signals & Systems (L2S), Paris-Sud University, Orsay (1-year break for military service in Sep. 1998).
- 1996 **MSc**, in *Signal processing and automatic control* (summa cum laude), Paris-Sud University.
- 1996 **MScEng**, in in signal & image processing (summa cum laude) at ESIEA, Paris.

## Honors & Awards

- 2020 **Finalist**, at the 2020 brain fastMRI challenge organized by Facebook AI Research and NYU..
- 2019 **Maupertuis Fellowship**, from the Finish academy of sciences and letters to visit Palva Lab, University of Helsinki.
- 2019 **Vice-chair (elected)**, of the Biomedical Image & Signal Analytics special area team of the European Signal Processing Society (EURASIP).
- 2013 **Visiting Professor Fellowship**, to spend 5 months at University of Toulouse.
- 2009-2010 **Best paper awards**, at IEEE MLSP (Grenoble) and ISABEL (Roma) workshops.

## Scientific Production

- **Scientific Publications:** H-index: 32, citations: 4375 (Google Scholar, 11.10.2021, full list here)
  - 57 research articles in international peer-reviewed journals;
  - 6 scientific mediation articles/5 peer-reviewed book chapters;
  - 153 communications in peer-reviewed international conferences.
- **Invited Lectures:** 20 keynotes/invited lectures in France or from abroad since 2017. Distinguished lecture at Collège de France (Apr 2019) on Deep learning for MR image reconstruction (FR).
- **Sharewares:** Python software: software architect of PyHRF, scientific leader of PySAP.
- **3 Patents:** cf [P1] in MRI reconstruction (US Patent 10,551,461), cf [P2] in MRI acquisition (US Patent App. 16/639,725) and in  $B_0$  field inhomogeneity estimation (US Patent App. 63/124,911).

## Graduate & post-graduate Mentoring, Evaluation Committees

- **8 Post-Doctoral Fellows (2007–)**: : Since 2019, two postdocs in collaboration with DRT/LIST and DRT/LETI in the context of PTC projects on compressed sensing (e-tomography, US imaging).
- **20 PhD students (2003–)**: Currently, **PhD director** of 5 doctoral students (Z. Ramzi, G. Daval-Fr  rot, A. Wagu  t, C. Giliyar-Radhakrishna, M. Dumeur) at EOB   (Paris-Saclay Univ., ADUM ID: N  32589) and **co-supervisor** of two additional ones (Z. Amor, A. Artiges).  
Outstanding PhD students who have recently contributed to my research on Compressed Sensing in MRI: Zaccharie Ramzi (2019–), Carole Lazarus (2015-18) and Nicolas Chauffert (2012-15).
- **24 MSc students (2002–)**: **Supervisor** of two MSc students in 2021 (P.A. Comby, K. Pooja).

## Institutional Responsibilities

- **2020–**: Member of the CEA steering committee on HPC, AI and numerical simulation.
- **2020**: CEA/DRF imaging expert in the PhD program focusing on numerical experimentation/twin.
- **2016–19**: Member of the Inria Saclay scientific Committee (elected), Palaiseau, FR.
- **2016–18**: Member of the national PhD Award in Signal & Image processing delivered by both CNRS/GdR ISIS and the French Electrical Engineering society, Paris, FR.
- **2009–**: Member of PhD/HDR committees: **33** (FR: 25, CH: 2, CA: 2, BE: 1, UK: 2, FI:1)/2.

## Commissions of Trust and Administration of International Research

- **2019–**: Representative of the IEEE Signal Processing Society at the ISBI conference in Venice (2019), Iowa City (2020, virtual) and Nice (2021, virtual).
- **2019–20**: European expert reviewer for the H2020 WIDESPREAD-05-2020 – Twinning actions.
- **2017–18**: Member of ANR Scientific Evaluation Committee (CES45) in charge of selecting grant proposals submitted to the track: *Mathematics, Computer science and signal processing methods to address challenges in biology and healthcare*, Paris, FR.
- **2017**: Reviewer for hiring and promoting Professors, Montreal Polytechnic school, CA.
- **2015–19**: Grant reviewer for i) the Research Foundation Flanders (FWO), Brussel, BE, ii) the Swiss National Science Foundation, Div. Maths., Phys. and Eng. Sci, Bern, CH iii) the Natural Sci. & Eng. Research Council of Canada, CA and iv) Dutch Research Council (NWO), NL.

## International Scientific Activities

- **Organizer of recent National/International Workshops/Conferences:**
  - **Jul 2023**: *Harmonic and Multifractal analyses: From Mathematics to Quantitative Neurosciences* (50 people), 3 weeks, Montreal, CA.
  - **2021-2022**: Thematic program on “AI for Signal and Image Processing”, sponsored by Institut Pascal (IPa, Paris-Saclay University). Teasing day on Sep, 10 2021
  - **2020-2021**: Member of the Congress Planning Committee for ESRMBM 2021 .
  - **Jan 2018**: *CEA Compressed Sensing day* (60 people), Gif-sur-Yvette, FR.
- **Chairman of scientific sessions at international conferences**: IEEE ISBI'18/'19, EUSIPCO'18/20/'21'.
- **Senior Area Editor (2019–)**: IEEE Open access Journal of Signal Processing.
- **Associate Editor (2020–)**: Frontiers in Neuroscience and Neurology, section Brain imaging methods.
- **Associate Editor/Area chair in conferences**: EUSIPCO'18-'21, ISBI'19, ESRMB'21.
- **Reviewer**: for high IF journals (Nature Comm., PNAS, Scient. Rep., Plos. Comp. Biol) and technical journals in signal processing (IEEE TSP/TIP), medical imaging (MedIA, IEEE TMI), MRI (MRM), neuroimaging (NeuroImage, HBM) and neuroscience (J. Neurosci, J. Neurosci Meth).

## Funding and Management (Recent activities)

- **2021-25: Co-Investigator** of the **ANR VLFMRI** project (610k€) aiming at developing low field MRI for neonatal imaging.
- **2020-24: Co-Investigator** of the **ANR DARLING** project (450k€) aiming at developing new adaptive distributed and collaborative learning-based methods for dynamic graphs in high-dimension.
- **2020: Coordinator** of the BaBAR project submitted to the H2020 FET Open call (Not funded).
- **2019-22: Industrial collaboration** with Siemens AI lab (Princeton, NJ, USA) on machine learning techniques for correction of the B0 inhomogeneities effects in susceptibility weighted imaging.
- **2016-20: Principal Investigator** of the **CEA/DRF impulsion & PTC-SN COSMIC** projects (300k€) aiming at improving CS-MRI reconstruction methods and developing the PySAP software.
- **2016-20: Co-Investigator** of the **ANR MultiFracs** project (360 k€) aiming at developing new complexity measures for analyzing brain activity using multifractal analysis.