

Ali-Kemal Aydin

MD, PhD

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- 2024 – ... **Medical resident in Psychiatry**, *Université de Paris Cité*, Paris
- 2021 – ... **Research Fellow Collaborator**, *NeuroSpin, CEA*, Gif-Sur-Yvette

Education

- 2025 **MD thesis**, *Université de Paris Cité*, Paris
Scientific impact of MD theses since 2004
- 2024 **Computational Psychiatry Course**, *University of Zurich & ETH Zurich*, Zurich
1-week summer school with both theoretical and hands-on sessions, see the website here
- 2021–2024 **Master degree in Medicine**, *Université de Paris Cité*, Paris
- 2018–2021 **PhD in Neurosciences**, *Université de Paris*, Paris, S. Charpak's team
Functional brain imaging techniques: bridging the gap between microscopic and mesoscopic vascular measurements
- 2016–2017 **Master 2 in Neurosciences**, *Ecole Normale Supérieure of Paris & Sorbonne Université*, Paris
IMaLis at the ENS and BIP at SU.
- 2013–2016 **Bachelor degree in Medicine**, *Lyon Est Faculty of Medicine*, Lyon
Intense one-year class preparing the entrance examination - passed on the first try in the top 10%
- 2012–2013 **Highschool diploma**, *Lycée l'Oiselet*, Bourgoin-Jallieu, Baccalauréat S Sciences de l'ingénieur
First class honors

Past lab internships

- 2017–2018 **Post-Master 2 internship**, *Université Paris Descartes*, Paris, S. Charpak's team, full-time
Determination of the Hemodynamic Response Function – Ultrafast ultrasound imaging, two-photon, chronic imaging
- 2017 **Master 2**, *Institut de Biologie de l'ENS*, Paris, B. Barbour's team – 6 months, full-time
Electrophysiological study of the silent synapses between Granule and Purkinje cells in the rodent's cerebellum – Rodent model, patch-clamp in slices, confocal microscopy
- Spring 2016 **Master 1**, *Neuroscience Research Center of Lyon*, Lyon, L. Seugnet's team – 3 months, full-time
Gaboxadol and its effects on sleep and metabolism in *Drosophila melanogaster* – Fly model, biochemical approaches
- Summer 2015 **Master 1**, *Institut NeuroMyoGène*, Villeurbanne, JL. Bessereau's team – 3 months, full-time
Clustering of the GABA A receptors at the *Caenorhabditis elegans* neuromuscular junction – Worm model, vector design, molecular biology

Honours

- 2025 **Vocation Prize**, *The Vocation Foundation*
The Vocation Foundation rewards young adults whose calling necessitates financial help.
- 2022 **Albert Sezary Prize**, *French National Academy of Medicine*
Young Researcher Award for the work from my PhD thesis
- 2022 **PhD Thesis Award**, *French Society for Neurosciences*
<https://www.neurosciences.asso.fr/en/ouractions/soutiens/>
- 2022 **Finalist of the European PhD Thesis Award of the FENS Kavli**
European Federation of Neuroscience Societies (FENS)-KAVLI Network of Excellence

2015 **INSERM School Laureate**
Ranked 7th out of 54, after an initial selection over whole France 2nd year medical students

Publications (clickable titles)

- 2025 **Scientific impact of French MD theses: a retrospective cohort study since 2004**, *Under review*
Aydin A.-K.
- 2024 **Rhabdomyolysis induced by an increase in venlafaxine dosage**, *The American Journal of Psychiatry Residents'*
Aydin A.-K.
- 2024 **Individual analysis of fMRI data reveals incongruency in a potential CADASIL biomarker**, *Journal of Neurological Sciences*
Boido D., Huneau C., Lebenberg J., **Aydin A.-K.**, ... Chabriat H.
- 2024 **Neurovascular coupling and briefCO2 interrogate distinct vascular regulations**, *Nature Communications*
Tournissac M., Chaigneau E., Pfister S., **Aydin A.-K.**, ... Joutel A. & Charpak S.
- 2022 **The oxygen initial dip in the brain of anesthetized and awake mice**, *PNAS*
Aydin A.-K., Verdier C., Chaigneau E., Charpak S.
- 2021 **Functional brain imaging techniques: bridging the gap between microscopic and mesoscopic vascular measurements**, *Manuscrit de Thèse*
Aydin A.-K.
- 2021 **Diversity of neurovascular coupling dynamics along vascular arbors in layer II/III somatosensory cortex**, *Communications Biology*
Rungta R. L., Zuend M., **Aydin A.-K.**, Martineau E., Boido D., Charpak S
- 2021 **Iliski, a software for robust calculation of transfer functions**, *PLOS Computational Biology*
Aydin A.-K., Haselden W. D., Dang J., Drew P.J., Charpak S. & Boido D.
- 2020 **Transfer functions linking neural calcium to single voxel functional ultrasound signal**, *Nature Communications*
Aydin A.-K., Haselden W. D., Houssen Y. G., ... Charpak S. & Boido D.

Openly available softwares and data

- 2022 **Data and analysis scripts from Aydin et al., 2022**, *GitHub and Zenodo*
Liens cliquables : GitHub et Zenodo
- 2021 **Iliski**, *GitHub*, Software described in *Aydin et al., 2021*
Clickable links : GitHub with data at Zenodo

Teaching & Supervision

- 2024–2027 **Valentine Perez, Ph.D. Student**, *NeuroSpin, CEA, Gif-Sur-Yvette*
Part-time Ph.D. supervisor: Biomarkers in functional imaging of vascular dementia
- 2022–... **Methodology and legislation in clinical research**, *IFMK Paul Guinot, Villejuif*
To Master 2 students in Physical Therapy
- 2021 **Camille Verdier, Master's student**, *Université de Paris, Paris*, S. Charpak's team
Supervisor, for the *initial dip* project
- 2017–2019 **Mathematics**, *TalENS Program, ENS Ulm, Paris*
Teaching to young high-school students for underprivileged areas, to help them keep motivated for postgraduate studies

Posters and Talks

- 2022 **Poster**, *FENS 2022*, Paris, France
- 2022 **Poster**, *Brain & Brain PET 2022*, Glasgow, Scotland
- 2021 **Talk**, *My Thesis in 180 seconds*, Finalist of Université de Paris
MT180 is a french contest where PhD candidates present their work for 3 minutes to a crowd of non-specialists, *from 7 to 77 years old*. Find my presentation in french at https://www.youtube.com/watch?v=WD_oo9FzBtM.
- 2018–2021 **Talks**, *Fondation Leducq Transatlantic Networks of Excellence*, Toronto, Paris, Online
As part of the Leducq network on *Understanding the role of the perivascular space in cerebral small vessel disease*, I presented my work during the regular meetings.
- 2019 **Poster**, *Society for Neuroscience's yearly congress*, Chicago, USA
- 2018 **Poster**, *Vision Institute Yearly Conference*, Paris
- 2018 **Poster & Talk**, *Research Day*, Lyon Medical Faculty
- 2016–2021 **Posters & Talks**, *INSERM School Yearly Conference*, Paris
Yearly presentation of my ongoing research work.

Associative/Volunteering tasks & Elected positions

- 2025–2026 **Vice-President in charge of higher education and research**, *Paris' Residents Union*
- 2024–2025 **Executive board**, *Paris' Residents Union*
- 2024–2025 **In charge of the Numeric affairs**, *Paris' Psychiatry Residents Association*
Website, online tools for the residents, ...
- 2024–2025 **Residents' representative**, *Hôpitaux Paris Est Val de Marne*
Medical Commission of the Hospital
- 2019–2021 **PhD candidates representative**, *Université de Paris*, Elected
Research Commission of the Faculty of Sciences of the Université de Paris
- 2018–2019 **In charge of the MD-PhD Double Curriculum**, *ANEMF – National French Medical Students Association*, Elected
As part of the executive board of the the representative association of french medical students, I worked on a diversity of subjects, mainly linked to research : Open Science, Public Health Politics, integration of research in regular med studies, ... It is done in collaboration with government's representatives and faculties' deans. An important part of the work is also dedicated to sensilize students to those subjects as soon as possible.
- 2015–2017 **Student representative**, *Lyon Est Faculty of Medicine*, Elected
Medical Bachelor Pedagogy Committee, participation in the creation of the Lyon MD-PhD Curriculum
- 2015–2016 **Vice-President in charge of the Educational Student's Initiatives**, *ACLE – Lyon's medical students association*, Elected
In full collaboration with the faculty teachers, our goal was to develop innovative approaches to improve the medical training. Among other things, we created student-to-student tutorship, in English, but also to learn clinical examination or technical gestures. I also greatly contributed to the implementation of fully "official" textbooks in the Faculty, based on student writings of the courses.
- 2016 **Research Day**, *Lyon Est Faculty of Medicine*
On 2016 March the 12th, a full day was organized by MD-PhD students, to show the importance of research in everyday's clinic. We had great speakers, such as A. Carpentier or I. Frachon and over a 100 students for this first edition. Website : <https://journeerecherche.wordpress.com>
- 2014–2015 **Chief of the Student Writings of Courses**, *ACLE - Lyon's medical students association*
Leading a team of 70 students, with 2 co-chiefs, we organized a week-to-week printing of every courses given at the Faculty, to help every student learn and study according to his needs (such as working for financial reasons).
- 2014–2015 **Tutor in genetics**, *First Year Tutorship*
Wrote mock examination, as a 2nd year medical student, for all the first year students. Helped them on a daily basis on these specific courses *via* an internet forum.