# CURRICULUM VITAE


**Meysam HASHEMI**

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## CURRENT POSITIONS

***Senior research fellowship,* INS- Inserm UMR 1106, Marseille, France.**

My research integrates mathematical modelling (spiking, mean-field, and whole-brain level), multimodal imaging data, and Bayesian inference to study brain (dys)function. Bridging with clinical translation toward precision medicine, I have developed ***Virtual Brain Twins*** to identify the causal mechanisms underlying different brain disorders and recently in cognitive tasks, leveraging principles from statistical physics, dynamical systems, and **probabilistic machine learning**, such as *Markov chain Monte Carlo sampling, simulation-based inference using deep learning, generative AI* (*See my homepage*).

## PREVIOUS POSITIONS

| Start | End | Institution/ employer | Position and statuts |
|---|---|---|---|
| 01/10/2023 | 30/09/2027 | Institut de Neurosciences des Systèmes (INS), Inserm, UMR 1106, Marseille, France. | Senior Research Fellow (CDD) |
| 01/01/2019 | 30/09/2023 | Protisvalor, Aix Marseille Université (AMU), Marseille, France. | Postdoc Fellow (CDD) |
| 09/10/2017 | 31/12/2018 | SATT Sud-Est, Marseille, France. | Ingénieur de recherche (CDD) |
| 01/09/2016 | 31/08/2017 | INS, La Timone, Marseille, France.<br>CRMBM, La Timone, Marseille, France.<br>TAGC, Luminy, Marseille, France. | Postdoc researcher (CDD) |
| 02/05/2012 | 31/01/2016 | INRIA Nancy –Grand Est, France. | PhD researcher (CDD) |
| 01/10/2008 | 24/10/2011 | Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran. | Teacher assistant, complex systems (CDD) |

## EDUCATION

- **Bachelor of Science: Physics (solid state) |** 2004-2008 **|** Kharazmi University, Iran,
  Awarded a national scholarship by ranking 200th among 300,000 students in basic/applied science.
- **Master of Science: Physics (soft condensed matter) |** 2008-2012 **|** IASBS University, Iran.
  Awarded a national scholarship by ranking 10th among 5000 students in basic/ applied science.
  *Thesis*: Effect of synaptic activity on spike rate of a Hodgkin-Huxley neuron with delayed feedback.
- **PhD: Computer Science |** 2012-2016 **|** Université de Lorraine, Nancy, France.
  *Thesis*: Analytical and numerical studies of thalamo-cortical population models during anesthesia.
- **Postdoctoral: Inference for operating virtual bran twins |** 2016-2024 **|** Aix-Marseille Université, Marseille, France (HBP Fellow during 2019-2023, and PEPR Fellow during 2023-2027).
  *Project*: Probabilistic AI/ML-tailored to virtual brain models of brain diseases toward clinical translation.

## ACTIVITIES

**- Postdoctoral Experience** (9 years), involving (co-)supervision of students, mentoring in the INCF and Google Summer of Code, conducting tutorials/international workshops, grant writing, as well as consulting services to a startup (*VB-Tech*), and contributing to large-scale research infrastructure (*EBRAINS project*).
**- Publication,** > 40 articles and 1270 citations, (*co-)first:* 12*, co-last:* 6, e.g., in journals of IEEE Rev Biomed Eng, Lancet Neurology, Science Translational Medicine, Science Advances, PNAS, Physical Review E, Machine Learning: Science and Technology, Neural Networks, NeuroImage, PLOS CB, Neuroinformatics, Neural Computation, Royal Soc Interface , Communications Biology, eLife *and* iScience.
**- Co-inventor** in 3 patents (plus 1 submitted), with one of which is used in **national clinical trial** *EPINOV.*
**- Co-PI** in large-scale national and European projects *Brain Health Trajectories*, and *Virtual Brain Twin*.
- **Leading** Task 3.3.2 in the *EBRAINS 2.0 project*, developing inference tools operating across scales.
**- Member** of the *VEP-team*, recognized as the **Best Tech Innovation** in the *Human Brain Project*.
**- Awarded** the Japanese *WBAI 2025* for promoting the brain-inspired artificial general intelligence.