JOSÉ PEDRO MANZANO PATRÓN

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EDUCATION

- **Feb. 2019 – Dec. 2022 – PhD in Neuroimaging & AI at the University of Nottingham**
- Sept. 2017 – Sept. 2018 – MSc. In **Computational and Statistic Treatment of Data** at UPM & UCM.
- Oct. 2016 – Sept. 2017 – Mres. In **Advanced Artificial Intelligence** at UNED.
- Oct. 2012 – June 2016 – Beng. In **Electronic Engineering** at Complutense University of Madrid.

RESEARCH EXPERIENCE

- **Sir Peter Mansfield Imaging Centre, School of Medicine, University of Nottingham**
  Research Fellow (January 2023 – Present)
  Efficient inference, denoising and uncertainty quantification for microstructural models in diffusion MRI

  PhD Student (February 2019 – December 2022)
  "On noise, uncertainty and inference for computational diffusion MRI" (Link)

- **National Centre of Cardiovascular Research (CNIC) - Fundación Carlos III**
  Data Scientist (October 2017 – December 2018)
  Progression of Early Subclinical Atherosclerosis (PESA) Project

  Research associate (August 2016 - September 2017)
  Development of pig's brain analysis pipelines and models.
  Development of new computational approaches for spatio-temporal patterns: Spiking Neural Networks.

- **Neural Rehabilitation Group (NRG), National Research Council of Spain (CSIC)**
  Research intern (February 2016 - July 2016)
  Development of neurofeedback platform for assessment and modulation of Somatosensory Evoked Potentials

ACADEMIC PUBLICATIONS (GOOGLE SCHOLAR LINK)

- **J.P. Manzano Patron** et al. "Uncertainty mapping and probabilistic tractography using Simulation-Based inference in diffusion MRI: A comparison with classical Bayes". bioRxiv, 2024. https://doi.org/10.1101/2024.11.19.624267

- **J.P. Manzano Patron** et al. "Denoising Diffusion MRI: Considerations and implications for analysis". Imaging Neuroscience, 2024. https://doi.org/10.1162/imag_a_00060

- R. Austin Benn, R. Mars, Ting Xu, L. Rodriguez-Esparragoza, P. Montesinos, **J.P. Manzano-Patron**, et al. "*A Pig White Matter Atlas and Common Connectivity Space Provide a Roadmap for the Introduction of a New Animal Model in Translational Neuroscience*". Nature Res. (*under review*). https://doi.org/10.21203/rs.3.rs-105759/v1

- Stefan Pszczolkowski, **José P. Manzano-Patrón**, et al. "*Quantitative CT radiomics-based models for prediction of haematoma expansion and poor functional outcome in primary intracerebral haemorrhage*." European Radiology, 2021. https://doi.org/10.1007/s00330-021-07826-9

- R. Gau et al. "*Brainhack: developing a culture of open, inclusive, community-driven neuroscienc**e***" Neuron, 2021. https://doi.org/10.1016/j.neuron.2021.04.001

- **J.P. Manzano-Patron**, Isabel Lopez-Neira, Pablo Izquierdo. "*Open Science in Spain: towards a coordinated strategy*". Journal of Science Policy & Governance, 2021. https://doi.org/10.38126/JSPG180108.

- Fátima Sánchez-Cabo, Xavier Rossello, Valentín Fuster, Fernando Benito, **Jose Pedro Manzano** et al. "*Machine learning improves cardiovascular risk definition for young, asymptomatic individuals*" Journal of the American College of Cardiology, 2020. https://doi.org/10.1016/j.jacc.2020.08.017

- Paula Andrea Martinez, et al. (2019). "***Top 10 FAIR Data & Software Things***." http://doi.org/10.5281/zenodo.3409968

- Del Barrio, A. A., **Manzano, J. P.**, et al. "*HackRF + GNU Radio: A software-defined radio to teach communication theory*". The International Journal of Electrical Engineering & Education (IEEE Education) 2019. https://doi.org/10.1177/0020720919868144

INVITED TALKS

- "**Denoising Diffusion MRI: Considerations and implications for analysis**" - CUBRIC, Cardiff (Nov. 2024).

- "**Simulation-based inference applied to neuroimaging: challenges and opportunities**" - Machine Learning in Science, University of Tübingen & Tübingen AI Center (April 2024)

- "**Simulation-based inference applied to neuroimaging**" - Neurochats, School of Psychology and School of Mathematical Sciences, University of Nottingham (May 2023)

- "**Denoising in diffusion MRI**" - Diffusion Analysis group, Welcome Centre for Integrative Neuroimaging, Oxford (June 2022)

- "***Hacking the brain***" - Faculty of Computer Science, Complutense University of Madrid (Oct. 2018)

- "***AI and Open Big Data tools in neuroscience***" - José Pedro Manzano and Robert Austin Benn. National Congress of the Spanish Society of Neuroscience (SENC). Alicante, Spain (Sept. 2018) *(whorkshop + presentation*

CONFERENCE PRESENTATIONS (SELECTED)

- "**Considerations for denoising in diffusion MRI**" (*Poster*) – **3rd prize**
  J.P. Manzano-Patron, Francesco D'Antonio, Steen Moeller, J.L.R. Andersson, Kamil Ugurbil, Essa Yacoub, Stamatios N. Sotiropoulos. Neuroscience@Nottingham (2024).

- "**Generative models of whole-brain, surface-based imaging features using artificial neural networks**" (*Poster*)
  Mohammed Amer, Jose Pedro Manzano Patron, Shaun Warrington, Xin Chen, Stamatios Sotiropoulos. Organization For Human Brain Mapping (OHBM) Annual Meeting. Montreal, Canada (2023).

- "**Amortised simulation-based inference in diffusion MRI using artificial neural networks**". (*Poster*)

Jose Pedro Manzano Patron, Theodore Kypraios, Stamatios Sotiropoulos. Organization For Human Brain Mapping (OHBM) Annual Meeting. Montreal, Canada (2023).

- "**EDDEN: Towards a framework for Evaluating Diffusion MRI DENoising approaches**" (*Talk*) – **Best Oral Presentation award and Magna Cum Laude abstract merit**

J.P. Manzano-Patron, Steen Moeller, Essa Yacoub, Stamatios N. Sotiropoulos. ISMRM (Proc. Intl. Soc. Mag. Reson. Med. 30). London, UK (May 2022)

- "**Amortised inference in diffusion MRI biophysical models using artificial neural networks and simulation-based frameworks**" (*Poster*)

Jose Pedro Manzano Patron, Theodore Kypraios, Stamatios Sotiropoulos. ISMRM (Proc. Intl. Soc. Mag. Reson. Med. 30). London, UK (May 2022)

- "***Precon_all: A Preclinical Cortical Surface Generation Pipeline***" *(Poster)*

Robert Austin Benn, Ting. X, José Pedro Manzano, Paula Montesinos, Javier Sánchez-González, Stephen Smith, Eugene Duff, Borja Ibáñez. Organization for the Human Brain Mapping Annual Meeting. Rome, Italy (9-13 June, 2019)

- "***BOLD and Pigheaded: Resting State Networks in the Porcine Brai***n" *(Poster)*

Robert Austin Benn, José Pedro Manzano, T. Xu, Paula Montesinos, Javier Sánchez-González, Stephen Smith, Eugene Duff, Borja Ibáñez. Organization for the Human Brain Mapping Annual Meeting. Singapore (17-21 June, 2018)

- "***Machine Learning from the bench to the clinicial: Predicting the risk of subclinical atherosclerosis in young asymptomatic individual from the PESA Study***". *(Poster)*

José Pedro Manzano, Fernando Benito, J.C. Silla, Fernando Martinez, Belen Oliva, Jose Manuel Garci-Ruiz, Ana Dopazo, Lopez Melgar B, Fernandez-Friera L, Javier Sanz, Jose Maria Mendiguren, Vicente Andrés, Hector Bueno, Borja Ibáñez, Antonio Fernández Ortiz, Valentín Fuster, Jose María Ordovás, Enrique Lara-Prezzi, Fátima Sánchez-Cabo. 3rd European Conference on Translational Bioinformatics Biomedical Big Data supporting Precision Medicine. Barcelona, Spain (April, 2018).

- "***Spiking neural networks for a multimodal data integration framework for dynamic functional analysis of whole brain networks***" *(Poster + oral presentation)* – ***1st National Award of Master Thesis in Engineering and computer science.***

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- Certamen Universitario Arquímedes. Ministerio de Educación, Cultura y Deporte. (Poster + Presentation).
- Bernstein Conference Association. 13-15 September. 2017. BCCN Göttingen, Germany. (Poster)
- 4th Human Brain Project Summer School. 12-18 June, 2017. Obergurgl, Austria. (Poster + Short presentation)