CNS LAB REPORT (2020-2024)

GRANTS

Awarded

2020 - 2023 $1,015,000 AUD, **Australian Research Council (ID: FT190100623)**
In search of relevant things: A novel approach for image analysis
(Principal Investigator: Di Ieva, A.)

2023 – 2027 $1,870,000 AUD, **NHMRC Ideas (Ref No. GNT202035)**
Computational Analysis and AI in Brain Tumor Imaging
(Principal Investigator: Di Ieva, A, Co-Investigators: Liu, S., Russo, C.)

2024 – 2025 $188,000 AUD, **Critical Technologies Challenge Program Round 1**
Bespoke Quantum Magnetoencephalography (MEG) Scanner Design and Development (Investigators: Liu, S. et. al)

2024-2026 $ 50,000 AUD, **Macquarie University**
The elephant in the room: Information on the overlooked molecules which regulate systems biology (Co-Investigators: Di Ieva, A , Guller, A.,Davidson, J.)

2023 – 2027 $ 2,750,000 AUD, **Australian Cancer Research Foundation**
ACRF infrastructure grant "Centre for Advanced Cancer Modelling"
(Co-Investigators: Di Ieva, A , Guller, A.)

AWARDS, PRIZES AND FELLOWSHIPS

Year	Award	Awardee	Awarding Body
2020	AIHI Rising Start Award – Health Informatics	Dr. Sidong Liu	Centre for Health Informatics, Australian Institute of Health Innovation
2021	Macquarie University Early Career of the Year - STEMM	Dr. Sidong Liu	Macquarie University
2021	AIHI Researcher of the Year	Dr. Sidong Liu	Centre for Health Informatics, AIHI
2021	Macquarie University Research Fellowship (MQRF)	Dr. Anna Guller	Macquarie University
2024	Outstanding Service and Leadership Award	Dr. Anna Guller	Macquarie University

2024	AIHI Researcher of the Year	Dr. Sidong Liu	Centre for Health Informatics, AIHI
2024	1st Prize: ECR Image Competition	Ms. Homay Danaei Mehr	Macquarie University

PUBLICATIONS

Book/Book Chapters

1. *Computational Neurosurgery*, 1st ed (2024) Eds: **Di Ieva, A., Suero Molina, E., Liu, S., Russo, C.** Advances in Experimental Medicine and Biology, ISBN 978-3-031-64892-2, Springer Cham.
2. **Di Ieva, A. et. al.** (2024) Declaration of Computational Neurosurgery. *Computational Neurosurgery*, 1st ed, Eds: Di Ieva, A., Suero Molina, E., Liu, S., Russo, C. Springer.
3. **Suero Molina, E., Azemi, G., Russo, C., Liu, S., Di Ieva, A.** (2024) Artificial Intelligence in Brain Tumors. *Computational Neurosurgery*, 1st ed, Eds: Di Ieva, A., Suero Molina, E., Liu, S., Russo, C. Springer.
4. **Liu, S., Russo, C., Suero Molina, E., Di Ieva, A.** (2024) Artificial Intelligence Methods. *Computational Neurosurgery*, 1st ed, Eds: Eds: Di Ieva, A., Suero Molina, E., Liu, S., Russo, C. Springer.
5. **Suero Molina, E.,** Black, D., Xie, A., Gill, J., **Di Ieva, A.** and Stummer, W. (2024). Machine and Deep Learning in Hyperspectral Fluorescence-Guided Brain Tumor Surgery. *Computational Neurosurgery*, 245-264.
6. Yan, S., **Liu, S.,** Pagnucco, M., Song, Y. (2024) Meta-transfer Learning for Brain Tumour Segmentation: Within and Beyond Glioma. *Computational Neurosurgery*, 1st ed, Eds: A. Di Ieva, E. Suero Molina, S. Liu, C. Russo, Springer.
7. **Di Ieva, A.,** Davidson, J.M., **Russo, C.** (2024). Computational Fractal-Based Neurosurgery. In: Di Ieva, A., Suero Molina, E., Liu, S., Russo, C. (eds) Computational Neurosurgery. Advances in Experimental Medicine and Biology, vol 1462. Springer, Cham.
8. **Cong, C., Liu, S.,** Pagnucco, M., Song, Y. (2024) Computer Vision in Digital Neuropathology. *Computational Neurosurgery*, 1st ed, Eds: A. Di Ieva, E. Suero Molina, S. Liu, C. Russo, Springer.
9. **Newport, R.A., Liu, S., Di Ieva, A.** (2023). Analysing Eye Paths using Fractals. *The Fractal Geometry of the Brain*, 2nd ed, Eds: A. Di Ieva, Springer Nature. Doi:10.1007/978-3-031-47606-8_42
10. **S. Unnikrishnan, L. Jose, S. Liu, Di Ieva, A.** (2022). Intra- and Post-Operative Artificial Intelligence Strategies for Brain Tumor Diagnosis in Computational Digital Neuropathology. *Artificial Intelligence Strategies for Brain Tumor Diagnosis: Postoperative Analysis*. Eds: A.S. El-Baz, Elsevier. (**In Press)**
11. **Russo, C.*, Liu, S. *** (*equal contribution), **A. Di Ieva.** (2021). Impact of Spherical Coordinates Transformation Pre-processing in Deep Convolution Neural Networks for Brain Tumor Segmentation and Survival Prediction. *BrainLesion: Glioma, Multiple Sclerosis, Stroke*

and Traumatic Brain Injuries, Part I. LNCS, 12658: 1-12. Eds: A. Crimi, S. Bakas, Springer Nature Switzerland AG. Doi:10.1007/978-3-030-72084-1_27.

12. Jian, A., Jang, K. **Russo, C., Liu, S., Di Ieva, A.** (2021). Foundations of Multiparametric Brain Tumor Imaging Characterization using Machine Learning. *Machine Learning in Clinical Neuroscience: Foundations and Applications*. Springer Nature Wien New York. Doi:10.1007/978-3-030-85292-4_22.

Journal Articles

1. **Suero Molina, E., & Di Ieva, A.** (2024). Artificial Intelligence, Radiomics, and Computational Modeling in Skull Base Surgery. *Advances in experimental medicine and biology*, *1462*, 265–283. https://doi.org/10.1007/978-3-031-64892-2_16
2. Black, D., Gill, J., Xie, A., Liquet, B., **Di Ieva, A.,** Stummer, W., & **Suero Molina, E**. (2024). Deep learning-based hyperspectral image correction and unmixing for brain tumor surgery. *iScience*, *27*(12), 111273. https://doi.org/10.1016/j.isci.2024.111273.
3. Yan, S., **Liu, S., Di Ieva, A**., Pagnucco, M., & Song, Y. (2024). Meta-transfer Learning for Brain Tumor Segmentation: Within and Beyond Glioma. *Advances in experimental medicine and biology*, *1462*, 221–230. https://doi.org/10.1007/978-3-031-64892-2_13
4. **Suero Molina, E., Azemi, G., Russo, C., Liu, S., & Di Ieva, A**. (2024). Artificial Intelligence in Brain Tumors. *Advances in experimental medicine and biology*, *1462*, 201–220. https://doi.org/10.1007/978-3-031-64892-2_12
5. **Suero Molina, E**., **Azemi, G.,** Özdemir, Z., **Russo, C**., Krähling, H., Valls Chavarria, A., **Liu, S**., Stummer, W. and **Di Ieva, A.** (2024). Predicting intraoperative 5-ALA-induced tumor fluorescence via MRI and deep learning in gliomas with radiographic lower-grade characteristics. *Journal of Neuro-Oncology*, 1-10. https://doi.org/10.1007/s11060-024-04875-0
6. **Di Ieva, A.,** Stewart, C. and **Suero Molina, E**. (2024). Large Language Models in Neurosurgery. *Advances in experimental medicine and biology*, *1462*, 177-198. 10.1007/978-3-031-64892-2_11
7. Beheshti, A., Alinejad-Rokny, H., **Suero Molina, E., & Di Ieva, A.** (2024). Understanding Big Data in Neurosurgery. *Advances in experimental medicine and biology*, *1462*, 157–175. https://doi.org/10.1007/978-3-031-64892-2_10
8. Black, D., Liquet, B., **Di Ieva, A.,** Stummer, W. & **Suero Molina, E**. (2024) Spectral library and method for sparse unmixing of hyperspectral images in fluorescence guided resection of brain tumors. *Biomedical Optics Express,* 15, 4406-4424. https://doi.org/10.1364/BOE.528535
9. Matulionyte, R., **Suero Molina, E**., and **Di Ieva, A.** (2024). Neurosurgery, Explainable AI, and Legal Liability. *Advances in experimental medicine and biology, 1462, 543-553.* 10.1007/978-3-031-64892-2_34
10. Tavoosi, P., **Azemi, G**., Sowman P. (2024). Decoding of auditory surprise in adult magnetoencephalography data using Bayesian model. *Digital Signal Processing, 148*. https://doi.org/10.1016/j.dsp.2024.104450

11. **Cong, C., Liu, S., Di Ieva, A., Russo, C., Suero Molina, E.,** Pagnucco, M., & Song, Y. (2024). Computer Vision in Digital Neuropathology. *Advances in experimental medicine and biology*, *1462*, 123–138. https://doi.org/10.1007/978-3-031-64892-2_8
12. **Di Ieva, A., Davidson, J. M., & Russo, C.** (2024). Computational Fractal-Based Neurosurgery. *Advances in experimental medicine and biology*, *1462*, 97–105. https://doi.org/10.1007/978-3-031-64892-2_6
13. **Liu, S., Russo, C., Suero Molina, E., & Di Ieva, A.** (2024). Artificial Intelligence Methods. *Advances in experimental medicine and biology*, *1462*, 21–38. https://doi.org/10.1007/978-3-031-64892-2_3
14. **Di Ieva, A., Suero Molina, E., Liu, S., & Russo, C**. (2024). Computational Neurosurgery: Foundation. *Advances in experimental medicine and biology*, *1462*, 1–8. https://doi.org/10.1007/978-3-031-64892-2_1
15. **Di Ieva, A**. (2024). Computational and Translational Fractal-Based Analysis in the Translational Neurosciences: An Overview. *Advances in neurobiology*, *36*, 781–793. https://doi.org/10.1007/978-3-031-47606-8_39
16. Díaz Beltrán, L., Madan, C. R., Finke, C., Krohn, S., **Di Ieva, A.,** & Esteban, F. J. (2024). Fractal Dimension Analysis in Neurological Disorders: An Overview. *Advances in neurobiology*, *36*, 313–328. https://doi.org/10.1007/978-3-031-47606-8_16
17. **Di Ieva A**. (2024). Fractal Analysis in Clinical Neurosciences: An Overview. *Advances in neurobiology*, *36*, 261–271. https://doi.org/10.1007/978-3-031-47606-8_13
18. **Di Ieva A.** (2024). Fractals in Neuroanatomy and Basic Neurosciences: An Overview. *Advances in neurobiology*, *36*, 141–147. https://doi.org/10.1007/978-3-031-47606-8_6
19. Porcaro, C., Moaveninejad, S., D'Onofrio, V., & **Di Ieva, A.** (2024). Fractal Time Series: Background, Estimation Methods, and Performances. *Advances in neurobiology*, *36*, 95–137. https://doi.org/10.1007/978-3-031-47606-8_5
20. **Newport, R. A., Liu, S., & Di Ieva, A**. (2024). Analyzing Eye Paths Using Fractals. In The Fractal Geometry of the Brain. *Cham: Springer International Publishing,* 827-848. https://doi.org/10.1007/978-3-031-47606-8_42
21. Zeng, G., Krishnamurthy, S., Staats Pires, A., **Guller, A.,** Chaganti J, Tun N, Lockart I, Montagnese, S., Brew, B., Guillemin, G.J., Danta, M., Heng, B. (2024). Activation of the kynurenine pathway identified in individuals with covert hepatic encephalopathy. *Hepatology Communications* 8(12). https://doi.10.1097/HC9.0000000000000559
22. **Darbari, K., R.,** Sacks, P.L., Thiel, C., Rimmer, J., Kalish, L., Campbell, R.G., Sacks, R., **Di Ieva, A**., Harvey, R.J. (2024) Radiomics of the paranasal sinuses: A systematic review of computer-assisted techniques to assess computed tomography radiologic data. *American Journal of Allergy and Rhinology*. (accepted for publication)
23. **Suero Molina, E.,** Black, D., Walke, A., **Azemi, G.,** D'Alessandro, F., König, S. and Stummer, W. (2023). Unraveling the blue shift in porphyrin fluorescence in glioma: The 620 nm peak and its potential significance in tumor biology. *Frontiers in Neuroscience*, *17*, p.1261679. https://doi.org/10.3389/fnins.2023.1261679
24. **Suero Molina, E.,** Tait, M.J. and **Di Ieva, A.** (2023). Connectomics as a prognostic tool of functional outcome in glioma surgery of the supplementary motor area:

illustrative case. *Journal of Neurosurgery: Case Lessons*, *6*(6). https://doi.org/10.3171/CASE23286

25. **Tabassum, M**., **Suman, A. A., Suero Molina, E.,** Pan, E., **Di Ieva, A., & Liu, S**. (2023). Radiomics and Machine Learning in Brain Tumors and Their Habitat: A Systematic Review. *Cancers*, *15*(15), 3845. https://doi.org/10.3390/cancers15153845
26. Vaezzadeh, M., Kachooei, E., Krishnamurthy, S., Manandhar, P., Nadort, A., Guillemin, G.J., **Di Ieva, A.,** Santiago, M., Heng, B. and **Guller, A. (**2023). Combination Drug Therapy of Glioblastoma: Lessons from 3D In Vitro Models and the Roadmap for Future Research. *Advanced Therapeutics*, *6*(11), p.2300197. https://onlinelibrary.wiley.com/doi/full/10.1002/adtp.202300197
27. Tanaka, K.W., **Russo, C., Liu, S.** Stoodley, M. A., and **Di Ieva, A**. Use of deep learning in the MRI diagnosis of Chiari malformation type I. *Neuroradiology* 64, 1585–1592 (2022). https://doi.org/10.1007/s00234-022-02921-0
28. **Newport, R.A., Russo, C., Liu, S., Suman, A.A. and Di Ieva, A**. (2022). SoftMatch: comparing scanpaths using combinatorial spatio-temporal sequences with fractal curves. *Sensors*, *22*(19), p.7438. https://doi.org/10.3390/s22197438
29. Koong, K., Preda, V., Jian, A., Liquet-Weiland, B., & **Di Ieva, A**. (2022). Application of artificial intelligence and radiomics in pituitary neuroendocrine and sellar tumors: a quantitative and qualitative synthesis. *Neuroradiology*, *64*(4), 647–668. https://doi.org/10.1007/s00234-021-02845-1
30. **Russo, C., Liu, S. & Di Ieva, A**. (2022). Spherical coordinates transformation pre-processing in Deep Convolution Neural Networks for brain tumor segmentation in MRI. *Medical and Biological Engineering & Computing* 60, 121–134 https://doi.org/10.1007/s11517-021-02464-1
31. **Suman, A.A., Russo, C.,** Carrigan, A., Nalepka, P., Liquet-Weiland, B., **Newport, R.A., Kumari, P. and Di Ieva, A.** (2021). Spatial and time domain analysis of eye-tracking data during screening of brain magnetic resonance images. *PLOS One*, *16*(12), p.e0260717. https://doi.org/10.1371/journal.pone.0260717
32. **Cong, C., Liu, S., Di Ieva, A.,** Pagnucco, M, Berkovsky, S., Song, Y. (2021). Stain Normalization of Histopathology Images with Semi-supervised Generative Networks. *Medical Image Analysis* 82.https://doi:10.1016/j.media.2002.102580
33. **Jose, L., Liu, S., Russo, C.,** Nadort, A., & **Di Ieva, A.** (2021). Generative Adversarial Networks in Digital Pathology and Histopathological Image Processing: A Review. *Journal of pathology informatics*, *12*, 43. https://doi.org/10.4103/jpi.jpi_103_20
34. **Newport, R.A., Russo, C., Al Suman, A**. and **Di Ieva, A.** (2021). Assessment of eye-tracking scanpath outliers using fractal geometry. *Heliyon*, *7*, p.e07616. 10.1016/j.heliyon. 2021.e07616
35. Jian, A., Jang, K., Manuguerra, M., **Liu, S**., Magnussen, J., & **Di Ieva, A.** (2021). Machine Learning for the Prediction of Molecular Markers in Glioma on Magnetic Resonance Imaging: A Systematic Review and Meta-Analysis. *Neurosurgery*, *89*(1), 31–44. https://doi.org/10.1093/neuros/nyab103
36. **Di Ieva, A., Russo, C., Liu, S.** Jian, A., Bai, M. Y., Qian, Y., & Magnussen, J. S. (2021). Application of deep learning for automatic segmentation of brain tumors on magnetic resonance imaging: a heuristic approach in the clinical

scenario. *Neuroradiology* 63, 1253–1262 https://doi.org/10.1007/s00234-021-02649-3

37. Jang, K., **Russo, C., & Di Ieva, A.** (2020). Radiomics in gliomas: clinical implications of computational modeling and fractal-based analysis. *Neuroradiology*, *62*(7), 771–790. https://doi.org/10.1007/s00234-020-02403-1
38. Jang, K., Rosenfeld, J. V., & **Di Ieva, A**. (2020). Paulus of Aegina and the Historical Origins of Spine Surgery. *World neurosurgery*, *133*, 291–301. https://doi.org/10.1016/j.wneu.2019.10.026
39. **Liu, S.,** Shah, Z., Sav, A., **Russo, C.,** Berkovsky, B., Qian, Y., Coiera, E., **Di Ieva, A.** (2020)**.** IDH status prediction in histopathology images of gliomas using deep learning**.** *Scientific Reports* 10(1):7733, 2020. https://doi.org/10.1038/s41598-020-64588-y

Peer-reviewed Conference Papers and Proceedings

1. **Danaei Mehr, H.,** Noorani, I., Rana, P., **Di Ieva, A**. and **Liu, S.** (2024), (2024) AI in Neuro-Oncology: Predicting EGFR Amplification in Glioblastoma from Whole Slide Images using Weakly Supervised Deep Learning. The 22nd International Conference on Artificial Intelligence in Medicine (AIME 2024); Salt Lake City, Utah, USA, July 9-12, 2024. DOI:10.1007/978-3-031-66535-6_3.
2. **Tabassum, M.,** Rana, P., **Suero Molina, E., Di Ieva, A**. and **Liu, S.** (2024) Cross-Modality Synthesis of T1c MRI from Non-Contrast Images using GANs: Implications for Brain Tumor Research. The 22nd International Conference on Artificial Intelligence in Medicine (AIME 2024); Salt Lake City, Utah, USA, July 9-12, 2024. DOI:10.1007/978-3-031-66535-6_7.
3. **Kellermann, L., Azemi, G., Unnikrishnan, S., George, L.,** Haueisen, J., **Di Ieva, A.** Assessing the treatment efficacy in chronic pain patients through spatiotemporal fractal analysis of the resting-state MEG data: A feasibility study. Sydney, 26-29 August 2024. https://www.biomag2024.org/cms/
4. **Kaul R.D** et al, Radiomics and Artificial Intelligence in CT paranasal sinus imaging. 2024 Surgical Robotics and Innovation Summit, Sydney Australia, 14 -15 June 2024. [Oral Presentation].
5. Yan, S., **Liu, S., Di Ieva, A.,** Pagnucco, M. and Song, Y. Meta-Transfer Learning for Few-Shot Meningioma Segmentation. International Symposium on Biomedical Imaging (ISBI 2024), Athens, Greece; 27-30 May 2024.
6. **Cong, C.,** Xuan, S., **Liu, S.,** Zhang, S., Pagnucco, M. and Song, Y. (2024) Decoupled Optimisation for Long-tailed Visual Recognition. The 38th AAAI Conference on Artificial Intelligence (AAAI 2024). Vancouver, Canada; 22-25 February 2024.
7. Chitnis, S.R., **Liu, S.,** Dash, T., Verlekar, T.T., Di Ieva, A., Berkovsky, S., Vig, L. and Srinivasan, A. (2023). Domain-Specific Pre-training Improves Confidence in Whole Slide Image Classification. International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2023), IEEE. [Oral Presentation]
8. **Tabassum, M., Al Suman, A., Russo, C., Di Ieva, A. and Liu, S.** (2023). A Deep Learning Framework for Skull Stripping in Brain MRI. International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2023), IEEE.
9. Yang, L., Mehta, D., **Liu, S.,** Mahapatra, D., **Di Ieva, A**. and Ge, Z. (2023). Trainable Prototype Enhanced Multiple Instance Learning for Whole Slide Image Classification. Medical Imaging with Deep Learning Conference (MIDL 2023). Proceedings of Machine Learning Research 227:1655-1665.

10. **Newport, R., Liu, S., Di Ieva, A**. (2022). Integrating Eye Gaze into Machine Learning using Fractal Curves. NeurIPS Gaze Meets ML Workshop. DOI:10.1007/978-3-031-21014-3_36.
11. **Cong, C.,** Yang, Y., **Liu, S.,** Pagnucco, M., **Di Ieva, A.,** Berkovsky, S. and Song, Y. (2022). Progressive Joint Learning for Imbalanced Classification. MICCAI Workshop on Machine Learning in Medical Imaging (MLMI 2022).
12. **Cong, C.,** Yang, Y., **Liu, S.,** Pagnucco, M. and Song, Y., (2022).Imbalanced Histopathology Image Classification using Deep Feature Graph Attention Network. International Symposium on Biomedical Imaging (ISBI 2022).
13. **Cong, C**., **Liu, S., Di Ieva, A.,** Pagnucco, M., Berkovsky, S. and Song, Y. (2021). Semi-supervised Adversarial Learning for Stain Normalization in Histopathology Images. International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2021), Lecture Notes of Computer Science 12908: 580-591.
14. **Cong, C., Liu, S., Di Ieva, A.,** Pagnucco, M., Berkovsky, S. and Song, Y. (2021) Texture Enhanced Generative Adversarial Network for Stain Normalization in Histopathology Images. International Symposium on Biomedical Imaging (ISBI 2021). doi: 10.1109/ISBI48211.2021.9433860. [Oral Presentation]

Peer-reviewed Abstracts / Conference Presentations

1. **Suero Molina, E., Tabassum, M., Azemi, G.**, Özdemir, Z., Valls Chavarria, A., Roll, W., **Cong, C., Russo, C., Liu, S.,** Stummer, W., **Di Ieva, A.** (2024) Synthetic [18F]FET-PET Generation and Hotspot Prediction via Preoperative MRI of Glioma Lacking Radiographic High-Grade Characteristics. Neuro-Oncology 26(S5): v14-15.
2. Black, D., Byrne, D., Walke, A., **Liu, S., Di Ieva, A**., Stummer, W., Salcudean, T. and **Suero Molina, E** (2023). Machine-Learning-based Spectroscopic Tissue Differentiation in Fluorescence-Guided Neurosurgery. Neuro-Oncology 25(s5):161-2.
3. **Di Ieva, A**., **Russo, C., Al Suman, A., Liu, S.** (2021). Computational Neurosurgery in Brain Tumors: A Paradigm Shift on the Use of Deep Learning and Connectomics in Pre- and Intra-Operative Imaging. SNO Maximal Safe Brain Tumor Resection: Intro-operative Visualization and the Connectome Conference: IOTG-01.

TEACHING AND RESEARCH SUPERVISION

Teaching

2021 - 2024 Medical Doctor Research Program (MEDI8300/8303/8400), FMHHS, Macquarie University **(Dr. Sidong Liu)**

2022 - 2024 Research Frontiers in Medical Science (MEDI7011), FMHHS, Macquarie University **(Dr. Sidong Liu)**

2022, S2 Research Rotation Session 2 (MEDI7042), FMHHS, Macquarie University **(Dr. Sidong Liu)**

2021 – 2024 Research methodology through individual student research projects (MEDI3900, MEDI3901, MEDI7041, MEDI7042) and leading Undergraduate and MRes Yr1 students' research rotations (6- and 12-weeks programs), Macquarie University **(Dr. Anna Guller)**

2024, S2 Research Data Analysis (MEDI7002), Macquarie University **(Dr. Anna Guller)**

2024, S1 Researcher Professional Development (MEDI7003), Macquarie University **(Dr. Anna Guller)**

Research Supervision

Current Poonam Kumari (PhD), MQ, 2021-2025, Primary Supervisor: Prof. Antonio Di Ieva

Mehnaz Tabassum (PhD), iMQRES scholarship, MQ, 2021 – 2024 Primary Supervisor: Dr. Sidong Liu, Co-Supervisor: Prof. Antonio Di Ieva

Sahar Moradizeyveh (PhD), MQ, 2023-2025, Primary Supervisor: Prof. Antonio Di Ieva, Co-Supervisor: Dr. Sidong Liu

Millijoy Dennise Villanueva (PhD), MQ, 2024 - 2026, Primary Supervisors: Prof. Antonio Di Ieva and Dr. Anna Guller

Rhea Kaul (MRes + PhD), MQ, 2024-2027, Primary Supervisor: Prof. Antonio Di Ieva

Somayeh Farahani (Cotutelle PhD), iMQRES scholarship, TUMS-MQ, 2023-2026, Primary Supervisor: Dr. Sidong Liu

Homay Danaei Mehr (PhD), iMQRES & MediBank Top-up, MQ, 2023-2025, Primary Supervisor: Dr. Sidong Liu

Wenjin Zhong (MRes + PhD), MQ, 2024-2027, Primary Supervisor: Dr. Sidong Liu

Xingnan Li (MRes + PhD), iMQRES scholarship, MQ, 2024-2027, Primary Supervisor: Dr. Sidong Liu

Completed Laya Jose (PhD), MQ 2019-2022, Primary Supervisor: Prof. Antonio Di Ieva, Co-Supervisor: Dr. Sidong Liu

Robert Newport (PhD), MQ, 2020 - 2023, Primary Supervisor: Prof. Antonio Di Ieva, Co-Supervisor: Dr. Sidong Liu

Cong Cong (PhD), UNSW, 2021 - 2024, Co-Supervisor Dr. Sidong Liu

Millijoy Dennise Villanueva (MRes), MQ, 2022, S2, Primary Supervisors: Dr. Anna Guller and Dr. Sidong Liu

Visiting Scholars

Joseph Ayinde, July 2023- September 2023, Rising Junior, UNC Chapel Hill, USA, internship in CNS Lab under the supervision of Prof. Antonio Di Ieva

Lucas Lazari, October 2023 – April 2024, PhD student from University of São Paulo, scholar in CNS Lab under the supervision of Prof. Antonio Di Ieva

Lena Kellarmann, November 2023 – April 2024, Graduate student from Technical University of Ilmenau (Germany), internship in CNS Lab under the supervision of Dr. Ghasem Azemi

Merve Yazol, September 2024- February 2025, Associate Professor from Gazi University Hospital, Turkey, working as research fellow at CNS Lab under the supervision of Prof. Antonio Di Ieva

Nicole Ward, September 2024- February 2025, Graduate from Western University, Canada, internship in CNS Lab under the supervision of Prof. Antonio Di Ieva

MEDIA AND COMMUNITY COMMUNICATIONS

2022/05/05 Macquarie University This Week – 10 questions with Sidong Liu

2021/10/18 Macquarie University This Week – 2021 Academic Staff Awards Winners

2021/08/29 Macquarie University This Week – How Macquarie's CNS Lab is Dealing with Lockdown

2021/04/30 AIHI Annual Report - AI Improves Diagnosis and Treatment of Brain Diseases

2021/03/17 The Australian - Brain Cancer Treatments to be Revolutionized with Artificial Intelligence

2020/06/23 Macquarie University Lighthouse - New Precision Pictures Improve Diagnosis and Treatment of Brain Diseases