

Prajwal Ghimire
Cancer Imaging



Research interests

I am deeply committed to advancing the frontiers of neuro-oncology and neurosurgery through the integration of artificial intelligence. My research focuses on leveraging radiogenomics, advanced imaging biomarkers, and machine learning to enhance the diagnosis, stratification, and personalized treatment of brain tumors, particularly glioblastoma. My work explores the correlation between tumor genomic profiles and imaging features to develop predictive models that inform clinical decision-making and improve patient outcomes. Additionally, I am investigating the interplay between tumor location and occupational factors, aiming to uncover novel insights into disease etiology. Through my efforts, I aspire to bridge the gap between AI innovations and their practical applications in neuro-oncology, fostering transformative changes in patient care.

Employment

Doctor of Philosophy, Development of a panel of predictive immunotherapy biomarkers using MRI-based radiogenomics analysis of glioblastomas

Cancer Imaging
King's College London
1 Jun 2022 → present

Clinical Fellow and Specialist Registrar in Neurosurgery

Kings College Hospital
London, United Kingdom
11 Oct 2016 → present

Research outputs

Transcranial Magnetic Stimulation–Electroencephalography (TMS-EEG) in Neurosurgery: Unexplored Path Towards Personalized Brain Surgery

Ghimire, P., Ashkan, K., Vergani, F., Lavrador, J. P., Bhangoo, R., Gullan, R., Elhag, A., Mirallave-Pescador, A., Baig Mirza, A., Marchi, F., Patel, S., Vastani, A. & Baamonde, A. D., 9 Dec 2024, In: *Journal of Personalized Medicine*. 14, 12, p. 1144 1144.

Letter to editor: The impact of tumor resection on survival and functional outcomes for patients with primary central nervous system lymphoma

Ghimire, P., Marchi, F., Elhag, A., Das, P., Mthunzi, E., Gullan, R., Bhangoo, R., Ashkan, K., Vergani, F. & Lavrador, J. P., Dec 2024, In: *Clinical Neurology and Neurosurgery*. 247, p. 108608 108608.

MGMT methylation and its prognostic significance in inoperable IDH-wildtype glioblastoma: the MGMT-GBM study

Ghimire, P., Kamaludin, A., Palau, B. F., Lavrador, J. P., Gullan, R., Vergani, F., Bhangoo, R. & Ashkan, K., 5 Oct 2024, In: *Acta Neurochirurgica*. 166, 1, 394.

Radiogenomic biomarkers for immunotherapy in glioblastoma: A systematic review of magnetic resonance imaging studies

Ghimire, P., Kinnersley, B., Karami, G., Arumugam, P., Houlston, R., Ashkan, K., Modat, M. & Booth, T. C., 5 Apr 2024, In: *Neuro-Oncology Advances*. 6, 1, p. vdae055 vdae055.

Post-craniotomy coronal suture diastases in a transformed lower grade glioma

Pinheiro, T. M., Awan, M., Wroe-Wright, O., Ghimire, P., Marchi, F., Elhag, A. & Lavrador, J. P., 24 Jan 2024, In: *Journal of surgical case reports*. 2024, 1, rjae004.

Cortical resting motor threshold difference in asleep-awake craniotomy for motor eloquent gliomas: WHO grading influences motor pathway excitability

Pescador, A. M., Lavrador, J. P., Baamonde, A. D., Soumpasis, C., Ghimire, P., Mosquera, J. D. S., Fiandeiro, C., Jones, H., Gosavi, S., Lejarde, A., Lawson, E., Murace, S., Gullan, R., Ashkan, K., Bhangoo, R. & Vergani, F., Jan 2024, In: Cerebral Cortex. 34, 1, bhad493.

Letter: Two Practices to Improve Informed Consent for Intraoperative Brain Research

Ghimire, P., Soumpasis, C., Mirallave-Pescador, A., Gullan, R., Vergani, F., Bhangoo, R., Ashkan, K. & Lavrador, J. P., 1 Sept 2023, In: Neurosurgery. 93, 3, p. E67-E68 2 p.

Therapeutic Strategies and Challenges in the Management of Craniospinal Tumors in Pregnancy: A Ten-Year Retrospective Tertiary-Center Study, Systematic Review, and Proposal of Treatment Algorithms

Ghimire, P., Pang, G., Philip, J., Hazem, S., Rajwani, K., Lavrador, J. P., Grahovac, G., Bleil, C., Thomas, N., Gullan, R., Vergani, F., Bhangoo, R. & Ashkan, K., Mar 2023, In: World Neurosurgery. 171, p. e213-e229

Case report: 'Photodynamics of Subependymal Giant Cell Astrocytoma with 5-Aminolevulinic acid'

Ghani, I., Patel, S., Ghimire, P., Bodi, I., Bhangoo, R., Vergani, F., Ashkan, K. & Lavrador, J. P., 6 Jan 2023, In: Frontiers in Surgery. 9, p. 1065979 1065979.

Simultaneous Motor and Visual Intraoperative Neuromonitoring in Asleep Parietal Lobe Surgery: Dual Strip Technique

Rajashekar, D., Lavrador, J. P., Ghimire, P., Keeble, H., Harris, L., Pereira, N., Patel, S., Beyh, A., Gullan, R., Ashkan, K., Bhangoo, R. & Vergani, F., Sept 2022, In: Journal of Personalized Medicine. 12, 9, 1478.

First Human In Vivo Neuroelectrophysiology Recordings of Uncrossed Dentatohalamocortical White-Matter Connections: On the Fast Tract

Brogna, C., Perera, N., Ghimire, P., Bruchhage, M. M. K., Abela, E., Richardson, M. P., Vergani, F., Bhangoo, R. & Ashkan, K., 23 Aug 2022, In: Neurology. 99, 8, p. 332-335 4 p.

Commissural Inter-M1 Cortico-cortical Evoked Potential: A Proof of Concept Report

Lavrador, J. P., Keeble, H., Ghimire, P., Fiorini, F., Bhangoo, R., Vergani, F., Gullan, R. & Ashkan, K., Aug 2022, In: World Neurosurgery. 164, p. 64-68 5 p.

Casemix, management, and mortality of patients receiving emergency neurosurgery for traumatic brain injury in the Global Neurotrauma Outcomes Study: a prospective observational cohort study

Global Neurotrauma Outcomes Study collaborative, May 2022, In: Lancet Neurology. 21, 5, p. 438-449 12 p.

Preoperative and intraoperative anatomical-functional mapping in insular glioma surgery: integrated model to improve surgical outcome

Lavrador, J. P., Ghimire, P., Gullan, R., Ashkan, K., Vergani, F. & Bhangoo, R., 1 Feb 2022, In: Journal of neurosurgical sciences. 66, 1, p. 74-75 2 p.

Letter: A Crowdsourced Consensus on Supratotal Resection Versus Gross Total Resection for Anatomically Distinct Primary Glioblastoma

Lavrador, J. P., Baig Mirza, A., Ghimire, P., Gullan, R., Vergani, F., Bhangoo, R. & Ashkan, K., 22 Dec 2021, (E-pub ahead of print) In: Neurosurgery.

Superior longitudinal fasciculus (SLF) I and II: an anatomical and functional review

Vergani, F., Ghimire, P., Rajashekhar, D., Dell'acqua, F. & Lavrador, J. P., 1 Dec 2021, In: Journal of neurosurgical sciences. 65, 6, p. 560-565 6 p.

Steroid in Chronic Subdural Hematoma: An Updated Systematic Review and Meta-Analysis Post DEX-CSDH Trial

Shrestha, D. B., Budhathoki, P., Sedhai, Y. R., Jain, S., Karki, P., Jha, P., Mainali, G. & Ghimire, P., 30 Oct 2021, (E-pub ahead of print) In: World Neurosurgery. 158, p. 84-99 16 p.

Letter to the Editor Regarding "The History of Neurosurgical Spinal Oncology: From Inception to Modern-Day Practices"
Ghimire, P., Lavrador, J. P., Srinivasan, H. L. & Grahovac, G., 1 Oct 2021, In: World Neurosurgery. 154, p. 182-183 2 p.

First Report of a Multicenter Prospective Registry of Cranioplasty in the United Kingdom and Ireland
UK Cranial Reconstruction Registry (UKCRR) Collaborative, 16 Aug 2021, In: Neurosurgery. 89, 3, p. 518-526 9 p.

Letter: Electromagnetic Navigation Systems and Intraoperative Neuromonitoring: Reliability and Feasibility Study
Ghimire, P., Lavrador, J. P., Keeble, H., Gullan, R., Vergani, F., Bhangoo, R. & Ashkan, K., 15 Jul 2021, In: Operative neurosurgery (Hagerstown, Md.). 21, 2, p. E173-E175

Pre- and Intraoperative Mapping for Tumors in the Primary Motor Cortex: Decision-Making Process in Surgical Resection
Lavrador, J. P., Ghimire, P., Brogna, C., Furlanetti, L., Patel, S., Gullan, R., Ashkan, K., Bhangoo, R. & Vergani, F., 1 Jul 2021, In: Journal of neurological surgery. Part A, Central European neurosurgery. 82, 4, p. 333-343 11 p.

Intraoperative mapping of pre-central motor cortex and subcortex: a proposal for supplemental cortical and novel subcortical maps to Penfield's motor homunculus

Ghimire, P., Lavrador, J. P., Baig Mirza, A., Pereira, N., Keeble, H., Borri, M., Furlanetti, L., Brogna, C., Jarosz, J., Gullan, R., Vergani, F., Bhangoo, R. & Ashkan, K., 1 Jun 2021, In: Brain structure & function. 226, 5, p. 1601-1611 11 p.

Letter to the Editor Regarding "A Historical Review of Endoscopic Spinal Discectomy"

Ghimire, P., Lavrador, J. P. & Grahovac, G., 1 Jun 2021, In: World Neurosurgery. 150, p. 229-230 2 p.

Patient-reported Experience Measure for Neuro-oncology Telephone Clinics during the COVID-19 Pandemic

Ghimire, P., Lavrador, J. P., Onyiriuka, L., Robinson, C., La, J., Mullens, L., Hurwitz, V., Cikurel, K., Al-Salihi, O., Swampillai, A., Brazil, L., Bhangoo, R., Vergani, F., Gullan, R. & Ashkan, K., Jan 2021, In: Clinical Oncology. 33, 1, p. e87

Inter-dural spinal cyst with acute thoracic compressive myelopathy: anatomical aspects of spinal dura, case report and literature review

Ghimire, P., Perera, A., Lavrador, J. P., Bodi, I., Jarosz, J., Grahovac, G. & Ashkan, K., 14 Oct 2020, (E-pub ahead of print) In: British Journal of Neurosurgery. p. 1-5 5 p.

Spontaneous tension pneumocephalus and pneumoventricle in echordosis physaliphora: case report of a rare presentation and review of the literature

Ghimire, P., Shapey, J., Bodi, I., Connor, S., Thomas, N. & Barkas, K., 1 Oct 2020, In: British Journal of Neurosurgery. 34, 5, p. 537-542 6 p.

Patient-reported experience measures in patients undergoing navigated transcranial magnetic stimulation (nTMS): the introduction of nTMS-PREMs

Patel, S., Ghimire, P., Lavrador, J. P., Jung, J., Gullan, R., Ashkan, K., Bhangoo, R. & Vergani, F., 1 Jul 2020, In: Acta Neurochirurgica. 162, 7, p. 1673-1681 9 p.

Letter to the Editor. Insular glioma surgery

Lavrador, J. P., Ghimire, P., Gullan, R., Ashkan, K., Vergani, F. & Bhangoo, R. S., 30 Aug 2019, In: Journal of Neurosurgery. 131, 5, p. 1681-1682 2 p.

Somatotopy of corticospinal tract fibres of the intercostal muscles: report of a case and review of literature

Ghimire, P., Bedussa, N., Giamouriadis, A., Brogna, C., Pereira, N., Howells, H., Bhangoo, R., Ashkan, K. & Vergani, F., 1 Mar 2019, In: Brain Structure and Function. 224, 2, p. 515-520 6 p.

Neurosurgery: a case-based approach

Tolias, C. M., Giamouriadis, A., Hogg, F. R. A. & Ghimire, P., 2019, Cham, Switzerland: SPRINGER. 225 p.

Patient-Reported Outcome Measures in Neurosurgery: A Review of the Current Literature

Ghimire, P., Hasegawa, H., Kalyal, N., Hurwitz, V. & Ashkan, K., 1 Oct 2018, In: Neurosurgery. 83, 4, p. 622-630 9 p.

In Reply: Patient-Reported Outcome Measures in Neurosurgery: A Review of the Current Literature

Hasegawa, H., Ghimire, P. & Ashkan, K., 1 Jul 2018, In: Neurosurgery. 83, 1, p. E56

Prizes

Distinction in Masters of Clinical Neuroscience (MSc) King's College London

Ghimire, P. (Recipient), Sept 2016

Post Graduate Research(PGR) International Studentship for PhD at King's College London (Full)

Ghimire, P. (Recipient), May 2022

The Elsevier Best Research Paper Award (World Congress of Neurology 2021)

Ghimire, P. (Recipient), Oct 2021

The NHS Leadership Academy Award in Healthcare Leadership Foundations (Edward Jenner Programme, NHS Leadership Academy)

Ghimire, P. (Recipient), Jun 2021

Student theses

Patient Reported Outcome Measures(PROMs) in Neurosurgery: A review of Current Literature and Recommendations for development of Neuro-oncology specific Patient reported Outcome Measure (PROM)

Ghimire, P. (Author), Ashkan, K. (Supervisor), Sept 2016