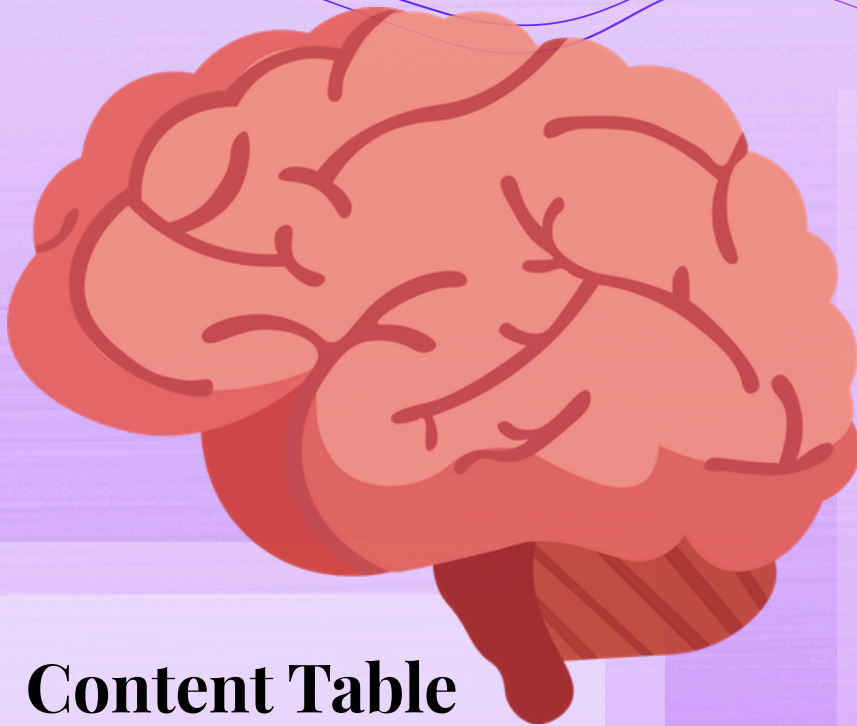


The National Undergraduate Neuroanatomy Competition Newsletter

2026

NEURO transmissions



Content Table

1. About NUNC & meet the Committee
2. Tickets & Our Sponsors!
3. Lesions
4. Brain Map
5. Research Spotlight
6. Event Calendar
7. Contact Us

Editor's Note

Dear Neuro enthusiast,

With the competition now within sight, preparation must evolve. At this stage, success is no longer determined by how much content you have reviewed, but by how efficiently and accurately you can apply it.

Neuroanatomy at competition level demands precision under pressure. You will not be asked simply to name a structure. You will be asked to localise a lesion, interpret a cross-section, predict a deficit, or distinguish between subtly different pathways.

In this issue, we focus on refinement:

- Applied lesion localisation
- High-yield internal capsule anatomy
- Clinically integrated practice questions
- A research spotlight demonstrating anatomy in action

The difference between good and exceptional performance lies in structural reasoning.

Yours faithfully,
Varunikha Anandan
Editor & Welfare Lead

**Are you ready for the next
edition of NUNC?**

About NUNC

The National Undergraduate Neuroanatomy Competition (NUNC) is one of the UK's most respected student-led neuroanatomy events, now celebrating its 14th year. Founded in 2012 to push neuroanatomy education beyond the standard curriculum, NUNC has grown into a national hub for aspiring neurosurgeons, neurologists, and neuroscientists. Hosted this year at the University of Glasgow, the competition blends high-intensity spotters, clinically focused MCQs, expert talks, and hands-on workshops that challenge delegates at every level. What makes NUNC special is the atmosphere, when students come together to test their limits, learn from leading clinicians, and geek out over anatomy that most people never even get to see. Fourteen years on, NUNC continues to champion excellence, curiosity, and the future leaders of neuroscience.

Meet the Committee



Isabelle Choong
President



Lewis O'Brien
Vice President



Thea Naresh Mahubabi
Secretary



Ellie Chen
Treasurer



Sarah Gilhooley
Marketing Lead



Amelia Lawrence
Conference Lead



Aditya Pandey
Dissection Lead



Anushri Bhattacharya
Education Lead



Varunikha Anandan Sangeetha
Welfare Lead & Editor



Amelia Dickson
General Committee Member

WHY ATTEND NUNC?

SBA AND SPOTTER EXAM

Our Single Best Answer paper and laboratory-based spotter exam give you the chance to put your neuroanatomy knowledge to the test!



EXPERT LECTURES

Each year we are joined by guest speakers from the field of neurology, neuroscience or neurosurgery, offering expert talks.

WORKSHOPS

In 2024, we were proud to introduce workshops as part of our afternoon activities for the competition



STAND OUT FROM THE CROWD

This event is the perfect chance to show your passion for neuroanatomy and neurology. A great addition to your CV!



NUNC 2026 Tickets Now Available!!!



Secure your place at the 14th National Undergraduate Neuroanatomy Competition!

 **Location: University of Glasgow**

 **Date: 30 May 2026**

Our website can be accessed in our Linktree
linktr.ee/natneurocompuk

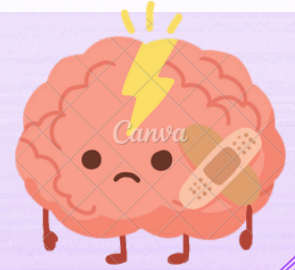
or on our website
www.natneurocomp.com

OUR SPONSORS

We are grateful to our sponsors for their continued support of the National Undergraduate Neuroanatomy Competition. Their contributions help deliver high-quality educational opportunities and support the development of future leaders in neuroscience.



LESIONS



QUESTION TIME

Question 1 — Midbrain Lesion

A 54-year-old patient presents with:

- Right-sided hemiparesis
- Left-sided ptosis
- Left pupil dilated and non-reactive

Where is the lesion?

Question 2 — Pure Sensory Stroke

A 70-year-old patient develops:

- Contralateral loss of pain, temperature, vibration, and proprioception
- No motor deficit
- No cranial nerve signs

MRI confirms a small lacunar infarct.

Where is the lesion?

ANSWER

1. ANSWER 1 :

- Ipsilateral CN III palsy → oculomotor nerve involvement
- Contralateral weakness → corticospinal tract above decussation
- Localisation → Left midbrain (Weber syndrome region)

This is a classic ventral midbrain lesion affecting:

- Cerebral peduncle
- Oculomotor nerve fascicles

2. ANSWER 2:

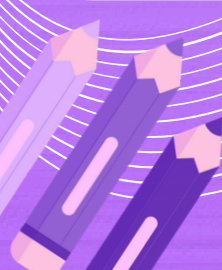
- Complete hemisensory loss
- No motor involvement
- Most likely localisation → Ventral posterolateral (VPL) nucleus of the thalamus

This tests whether you know thalamic relay nuclei and their somatotopic organisation.



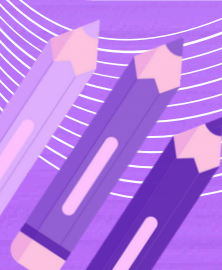
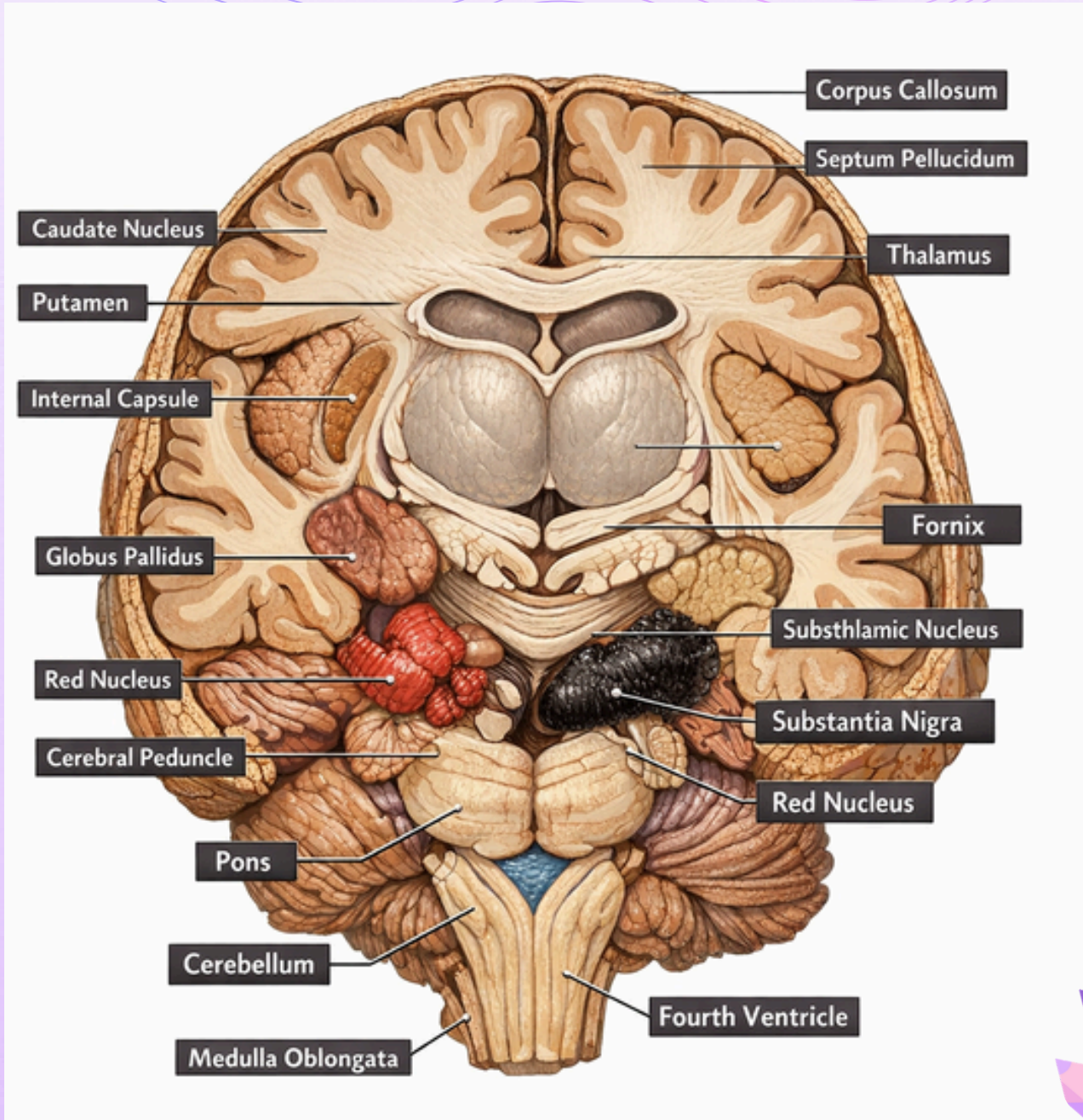
The Brain Map

LABEL THE BRAIN!!!



The Brain Map

ANSWERS



RESEARCH CORNER

Mapping the Human Thalamus Using Ultra-High-Resolution Diffusion MRI

Recent advances in diffusion-weighted imaging have allowed unprecedented in vivo visualisation of thalamic connectivity. Traditional neuroanatomical understanding divides the thalamus into nuclei based on histology. However, modern tractography now enables subdivision based on structural connectivity to specific cortical regions. A landmark neuroimaging study using high-resolution diffusion MRI demonstrated that thalamic nuclei can be parcellated according to their cortical projection patterns, effectively mapping motor, sensory, associative, and limbic territories within the thalamus in living subjects.

Why This Matters

Historically, detailed thalamic nuclear anatomy required post-mortem histological analysis. The ability to identify connectivity-defined subregions in vivo represents a major shift in applied neuroanatomy.

This has implications for:

- Functional neurosurgery
- Deep brain stimulation targeting
- Thalamic stroke localisation
- Movement disorder treatment
- Neuropsychiatric research

Rather than viewing the thalamus as a static relay structure, modern imaging confirms it as a dynamic network hub with distinct cortical circuits.

Key Findings

Thalamic nuclei demonstrate reproducible structural connectivity patterns.

Motor-related nuclei project preferentially to premotor and motor cortices.

Sensory nuclei show strong connectivity to primary somatosensory cortex.

Association nuclei connect with prefrontal and parietal regions.

Limbic-associated regions demonstrate medial connectivity patterns.

This connectivity-based mapping aligns closely with classical anatomical descriptions, reinforcing the validity of traditional neuroanatomical models while extending them into functional territory.

Interested in submitting your own research ?

Contact us at natneurocomp@gmail.com or
[@natneurocompuk](https://www.instagram.com/natneurocompuk) on instagram

RESEARCH CORNER

REFERENCES

Research Paper of the Month — References

1. Behrens, T. E., et al. Non-invasive mapping of connections between human thalamus and cortex using diffusion imaging. *Nature Neuroscience*, 2003;6(7):750–757. Foundational paper validating diffusion tractography for thalamic connectivity.
2. Johansen-Berg, H., & Behrens, T. E. (Eds.) *Diffusion MRI: From Quantitative Measurement to In vivo Neuroanatomy*. Elsevier, 2013. — Comprehensive textbook on diffusion MRI and white matter mapping principles.
3. Gläscher, J., et al. Parcellation of human thalamus using diffusion tensor imaging and connectivity. *NeuroImage*, 2009;47(4):1864–1876. Connectivity-based segmentation of thalamic nuclei in vivo.
4. Zhang, S., et al. Mapping the structural connectivity of thalamic nuclei and their cortical projections using 7 Tesla MRI. *Frontiers in Neuroanatomy*, 2019;13:62. — High-field imaging study giving detailed thalamocortical evidence.
5. Sherman, S. M. & Guillery, R. W. *Exploring the Thalamus and Its Role in Cortical Function*. MIT Press, 2006. — Seminal work on thalamic anatomy, physiology, and systems-level function.
6. Craig, A. D. Forebrain emotional asymmetry: a neuroanatomical basis? *Trends in Cognitive Sciences*, 2005;9(12):566–571. — Discusses thalamic involvement in limbic and associative networks.

Event Calendar

January

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

March

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September

M	T	W	T	F	S	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December

M	T	W	T	F	S	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Key Dates:

January: 27th BIASP Medical Student Short Essay Prize Deadline

February:

7th-8th NANSIG Annual Conference 2026 (Imperial College London)

April:

20th -21st Royal College of Surgeons Future of Surgery Festival

May:

30th NUNC Competition Date (University of Glasgow)



NB, even if you are subscribed to the newsletter, you will still need to purchase a ticket from our website here <https://natneurocomp.com/tickets/>



Interested in promoting your own Neuro-related event?

Contact us at natneurocomp@gmail.com or

[@natneurocompuk](https://www.instagram.com/natneurocompuk) on instagram