

# Al-Naser Al-Rais

Researching brain ageing and neurodegeneration  
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## EDUCATION

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### University of Cambridge

*BA in Natural Sciences (Hons)*

- Courses: Biochemistry, Computational Biology, Pharmacology, Mathematical Biology, Chemistry
- Specialization: Genetics

Cambridge, UK  
Oct 2024 – Jun 2027

## EXPERIENCE

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### Church Lab, Wyss Institute, Harvard (Incoming)

*Undergraduate Research Fellow*

- Partial reprogramming to reverse brain aging in dopaminergic neurons for Parkinson's Disease
- Self-funded via independent fundraising and Vivensa Foundation Ignition Award (\$15k)

Boston, MA  
Jun 2026 – Sep 2026

### Knowles Lab, University of Cambridge

*Undergraduate Researcher, Chemistry*

- Fabricated PDMS microfluidic devices using soft lithography for peptide hydrogel screening
- Built UV spectroscopy calibration curves and measured peptide hydrogel dissociation kinetics across pH/salt conditions
- Investigated full length-Tau monomer states (coil-like vs premolten globule-like) using CD spectroscopy
- Explored microelectrophoresis approaches for single-particle charge determination of LNPs and condensates

Cambridge, UK  
Oct 2025 – Mar 2026

### Lu Lab, Harvard Medical School

*Undergraduate Research Fellow, Systems Biology*

- Engineered doxycycline-inducible protein aggregation model in HEK293T and U2OS cells
- Expanded model to include Tau, alpha-synuclein, TDP-43, FUS via Gibson assembly
- Generated stable cell lines expressing sfGFP-tagged constructs using lentiviral transduction
- Created 20 P301X Tau (K18 domain) variants using site-directed mutagenesis to map aggregation propensity and toxicity
- Quantified aggregate formation and cytotoxicity using fluorescence microscopy and cell detachment counts

Boston, MA  
Jun 2025 – Sep 2025

## HONOURS & AWARDS

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- Secured \$8000 from angel investors to fund placement at Church Lab, Harvard 2026
- Vivensa Foundation Ignition Award - \$7000 for aging research in Church Lab, Harvard 2026
- G.R.N. Minchin Award, University of Cambridge - Substantial travel grant 2025
- TU Munich / Max Planck Placement - 1 of 10 selected worldwide, fully funded 2025
- Bio-Spark Exploring Fellow 2025

## EXTRACURRICULAR ACTIVITIES

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### Cambridge Society for Ageing Research

*Head of Undergraduate Engagement*

- Organised 100-person screening of Forever Young, hosting Prof. Steve Horvath (Altos Labs)

Jan 2026 – Present

### No Patient Left Behind

*Fellow*

- Authored commentary on NICE's rejection of lecanemab/donanemab (on website)

Mar 2026 – May 2026

### Darwin Society (Christ's College Scientific Society)

*Speaker's Officer*

- Interviewed Sir Mene Pangalos (Venture Partner, Omega Funds); 5 speaker events; 3 formals

Jun 2025 – Jun 2026

### British Powerlifting

*National Competitor*

2022