# Durham astronomers reveal universe does not rotate around London, leaving students in existential quandary



Astronomers at Durham University's Institute for Computational Cosmology have made a groundbreaking discovery that challenges the long-held notion of the universe’s structure, asserting that it certainly does not rotate around the capital city of London. This revelation may not only reshape astronomical understanding but also affect the self-perception of many students from the London area attending Durham. One representative from the London student community remarked, “This completely changes the outlook of many of our students, and indeed their entire personality.” In a somewhat surreal encounter, the individual went on to detail their favourite London tube line as if unveiling a profound cosmic revelation, leaving observers to contemplate the disjunction between academic discoveries and local urban identity.

The scientific community's reaction, however, has been considerably more reserved. Dr. Tel Scope, an academic at Trinity College Dublin, exhibited a bemused response, merely stating, “Yea?” This understated acknowledgment highlights the complexity of shifting paradigms in cosmology. Academics at Durham argue that this shift in perspective bears similarities to the tumult triggered by Copernicus’s assertion of heliocentrism in the 16th century, which fundamentally altered humanity's position in the cosmos. The implications of such a shift can evoke significant societal and philosophical reflections, reminiscent of the backlash faced by Galileo during his promotion of heliocentrism; when asked about potential opposition, an anonymous author of the paper quipped, “Absolutely. I mean, at any moment those skinny scarves and signet rings could change to whips and knuckle dusters.”

Yet, the ripple effects of this revelation appear to be currently confined to the campus. Many students from London are grappling with the implications of the findings. One student expressed disbelief, stating, “But how can this be? Everyone I know is from London! And everything I do is in London! I even live there! You’re telling me there’s stuff BEYOND the tube lines?” This confrontation with the vastness of existence beyond the urban sphere underscores the cognitive dissonance felt by those who view London as the epicentre of their universe.

Durham University's Institute for Computational Cosmology has established itself as a leader in the field, leveraging advanced computational methods to explore the universe’s formation and evolution. The institute employs supercomputers to simulate cosmic structures, progressing from the Big Bang to the present day. Their research delves into dark matter and dark energy—enigmatic constituents believed to make up a significant portion of the universe's mass and influence galaxy formation. Notably, the latest MillenniumTNG supercomputer simulation project, utilising globally competitive computing resources, explores galaxy formation in unprecedented detail, drawing comparisons to historical milestones in astronomy.

In addition to recent discoveries, Durham has introduced the Cosmology Machine 8 (COSMA 8), a £10 million supercomputer equipped with the processing power akin to 17,000 personal computers. This facility further augments Durham’s ability to generate high-fidelity simulations and contributes to international collaborations aimed at testing and refining cosmological models. The significance of such advances cannot be overstated: they promise to refine our understanding of not only the evolution of the universe but also fundamental concepts like dark matter and dark energy.

Through its pioneering efforts, the Institute for Computational Cosmology has carved a niche in elucidating cosmic mysteries, paralleling groundbreaking moments in scientific history. As students navigate their own identities in light of these revelations, the universe’s vastness unfolds in ways previously unimagined, inviting both wonder and bewilderment in equal measure.

### Reference Map

1. Paragraphs 1, 2, 3, 4
2. Paragraphs 5, 6
3. Paragraph 5
4. Paragraph 5
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6. Paragraph 5
7. Paragraph 5

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.palatinate.org.uk/astronomers-at-durham-make-shocking-discovery/> - Please view link - unable to able to access data
2. <https://www.durham.ac.uk/departments/academic/physics/ogden/icc/> - The Institute for Computational Cosmology (ICC) at Durham University is a leading international center for research into the origin and evolution of the Universe. Researchers at the ICC conduct supercomputer simulations to model the Universe's development from the Big Bang to the present day, incorporating factors like dark matter and dark energy to track the formation of cosmic structures. Their work aims to produce galaxy populations that closely resemble those observed in the real world, providing insights into the fundamental aspects of cosmology.
3. <https://durham.ac.uk/news-events/latest-news/2023/07/new-supercomputer-simulation-to-test-model-behind-universes-formation/> - An international team of astrophysicists, including experts from Durham University's Department of Physics and the Institute for Computational Cosmology, has developed the MillenniumTNG supercomputer simulations. These simulations aim to test the standard cosmological model by simulating galaxy formation and large-scale cosmic structures with unprecedented detail. The project utilizes powerful supercomputers, such as COSMA 8 at Durham and SuperMUC-NG in Germany, to track the formation of about one hundred million galaxies across a vast region of the Universe, providing valuable insights into the nature of dark energy and dark matter.
4. <https://durham.ac.uk/departments/academic/physics/news/news-durham-hosts-new-10m-supercomputer-to-investigate-the-universe/> - Durham University has unveiled a new £10 million supercomputer, the Cosmology Machine 8 (COSMA 8), which boasts the processing power and memory equivalent to 17,000 personal computers. Hosted by Durham on behalf of the UK's DiRAC High-Performance Computing facility, COSMA 8 will be utilized by scientists worldwide to develop and test theories about the origin of the Universe, dark matter, dark energy, galaxy formation, gravitational waves, star evolution, and planet origins. The supercomputer comprises 67,584 individual processors working together to produce high-powered simulations of the Universe.
5. <https://www.sciencedaily.com/releases/2009/02/090211082359.htm> - Scientists at Durham University's Institute for Computational Cosmology have used computer simulations to predict the appearance of the very early Universe, approximately 500 million years after the Big Bang. The simulations depict the 'Cosmic Dawn,' marking the formation of the first significant galaxies. These findings aim to enhance understanding of dark matter, a mysterious substance believed to constitute about 80% of the Universe's mass, by studying its effects on galaxy formation and evolution.
6. <https://www.ukri.org/news/study-makes-most-precise-measurement-of-expanding-universe/> - An international team, including researchers from Durham University's Institute for Computational Cosmology, has created a 3D map of over six million galaxies, measuring the Universe's expansion over 11 billion years. Utilizing the Dark Energy Spectroscopic Instrument (DESI), this study provides the first measurement of the Universe's expansion history with precision better than 1%, offering the most detailed view of the Universe's evolution to date and shedding light on the nature and effects of dark energy.
7. <https://dirac.ac.uk/facility_updates/new-10m-supercomputer-launches-to-help-scientists-reveal-secrets-of-the-universe/> - The DiRAC High-Performance Computing Facility has launched a new £10 million supercomputer, the Cosmology Machine 8 (COSMA 8), hosted by Durham University. COSMA 8, consisting of 67,584 processors, will assist scientists globally in investigating the mysteries of the Universe, including the origins of galaxies, dark matter, dark energy, gravitational waves, star evolution, and planet formation. The supercomputer is part of the UK's DiRAC High-Performance Computing facility and is available to researchers worldwide through open competitive peer review.