



Research centres at HYMS

Centre for Anatomical and Human Sciences

Based within Hull York Medical School, the Centre for Anatomical and Human Sciences (CAHS) delivers undergraduate and postgraduate education in clinical anatomy, functional morphology and evolution.

Current research

Much of our work takes a systems approach to relate organismal form and function to environmental and ecological influences. It is characterised by cutting edge applications of imaging, statistical and biogeographic methods and *in silico* approaches to animal simulation.

Our research in functional morphology and evolution is frequently published in high impact journals and we have been highly successful in raising research grant support from the research councils, charities, the EU (Marie Curie) and other international sources.

Our postgraduate programmes are driven by our research and benefit from our close links with other departments at the Universities of Hull and York. Our research is highly collaborative and interdisciplinary. We are core members of the Centre for Medical Engineering Technology (CMET) at Hull (<http://www2.hull.ac.uk/science/cmet.aspx>) and the Human Palaeoecology And Evolutionary Origins (PALAEO) collaboration at York (<http://www.palaeo.eu/>).

One major research strand aims to explain how skeletal and dental morphologies arise during evolution in terms of developmental processes and functional adaptations. The key underpinning technologies are geometric morphometrics, CT imaging, Finite Element Analysis, polarising and scanning electron microscopy. The advances in morphometrics that have

arisen during this work are also being applied in functional studies and imaging. Another key strand focuses on biogeographic and temporal variation in modern and fossil primates, relating morphological variation and functional morphology to environmental change. Our work is directly applicable to the study of human evolution and understanding modern human biological variation. It has important medical and forensic applications through the use of morphometrics in CT, MR and other diagnostic imaging modalities and also in kinematic analyses of facial and body motion.

Key staff and research areas

The following members of staff are currently accepting postgraduate research students:

Professor Paul O'Higgins

Applications of geometric morphometrics and functional simulation approaches to the study of skeletal variation.

E: paul.ohiggins@hyms.ac.uk

Dr Sarah Elton

Primate palaeobiology, palaeoecology, Old World monkey morphology, ecology and variation, Pleistocene mammalian dispersals, evolutionary medicine.

E: sarah.elton@hyms.ac.uk

Dr Sam Cobb

Coordinated development, evolution and function of the mammalian masticatory system.

E: sam.cobb@hyms.ac.uk

Current postgraduate research activity

Details are available at our website at
<http://www.hyms.ac.uk/research/centre-for-anatomical-and-human-sciences.aspx>

MSc in Human Evolution

From October 2012 HYMS will offer an MSc in Human Evolution. Open to strong graduates in anthropology, archaeology, biology, psychology, zoology and related fields, this MSc in Human Evolution will be unique in its focus on modern imaging and quantitative methods, reinforced by the strong links between CAHS and CMET. Membership of the interdisciplinary PALAEO Centre at the University of York also makes this MSc an attractive option for those wishing to combine anatomical and archaeological approaches to the study of palaeoanthropology.

Opportunities

We offer research projects in the areas of functional morphology and evolution especially in relation to primates (including humans). These can lead to the degrees of MSc by Thesis, PhD or MD. We also offer taught postgraduate courses.

Further information

For informal enquiries about research degrees please contact any member of staff from CAHS whose research particularly interests you. For enquiries about the MSc in Human Evolution please contact:

Professor Paul O'Higgins

Head of Centre

E: paul.ohiggins@hyms.ac.uk

For enquiries about short courses in anatomy for clinical trainees please contact:

Jackie Houlton

E: jackie.houlton@hyms.ac.uk

Dr Peter Bazira

E: peter.bazira@hyms.ac.uk

