

KIWI REPTILE MAY EXPLAIN BITE FORCE



Using a moving 3D computer model based on the skull and teeth of a New Zealand reptile called the tuatara, a team of researchers has revealed how damage to dental implants and jaw joints may be prevented by sophisticated interplay between our jaws, muscles and brain.

The tuatara is a lizard-like reptile that has iconic status in its homeland of New Zealand because its ancestors were widespread at the time of the dinosaurs. Unlike mammals and crocodiles which have teeth held in sockets by a flexible ligament, tuataras have teeth that are fused to their jaw bone - they have no ligament, much like modern dental implants.

The team of researchers come from the University of Hull, University College London and the Hull York Medical School and are funded by the Biotechnology and Biological Sciences Research Council (BBSRC).

'Humans and many other animals prevent damage to their teeth and jaws when eating because the ligament that holds each tooth in place also feeds back to the brain to warn against biting too hard,' said Dr Neil Curtis from the University of Hull.

'In the sugar-rich western world many people end up with dentures or dental implants,' said Dr Marc Jones from UCL. 'They've also lost the periodontal ligament so we wanted to know how their brains can tell what's going on when they are eating.'

Dr Curtis explained that tuataras live for over 60 years without replacing their teeth as they have the ability to unconsciously measure the forces in their jaw joint and adjust their jaw muscle contractions accordingly.

The research will appear in a future edition of the *Journal of Biomechanics*; the abstract can be found here: [http://www.jbiomech.com/article/S0021-9290\(10\)00431-8/abstract](http://www.jbiomech.com/article/S0021-9290(10)00431-8/abstract).

SUCCESS FOR FEMALE ACADEMICS

Two of the UCL Eastman Dental Institute's female academics have been successful in the most recent round of senior promotions.

Susan Cunningham has been promoted to Professor of Orthodontics - making her currently the only female professor of orthodontics in the UK. Susan originally joined the Institute as an MSc student in 1992 and was later promoted to Senior Lecturer following completion of her PhD in 2000. Her research interests include the psychology of dentofacial deformity, the out-

comes of orthognathic treatment and the application of health care economics in orthodontics.

Yuan-Ling (Paula) Ng has been promoted to Senior Lecturer in Endodontology. Paula also joined the Institute as a Masters student and is currently Programme Director for both the MSc in Endodontics and the MClinDent in Endodontology, and Clinical Lead for Endodontic services. Her research interests are centred on the effectiveness and long-term outcomes of endodontic therapy.