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The primary research interest of our lab revolves around human diet; changes in diet have been a driving force in human evolution. However, it is still not clear what type of diets our early ancestors had and how this influenced the emergence and evolution of the genus Homo. We particularly focus on functional analysis of cranio-dental morphology in human and nonhuman primates, using advanced cutting-edge technology that combines 3D digital modeling, biomechanics and functional morphology. Our aim is to reconstruct the diets of our earliest ancestors, thus shedding new light on our enigmatic past.

### Research Projects

1. Tooth function, ecology and diet in Primates
2. Dental wear development in children



Virtual 3D model of Homo habilis skull (KNM-ER 1813)



Digital polygonal models of a child's mandible

### Selected significant publications:

1. Oxilia G, Peresani M, Romandini M, Matteucci C, Spiteri C, Henry A, Schulz D, Archer W, Crezzini J, Boschini F, Boscato P, Jaouen K, Dogandžić T, Moggi-Cecchi J, **Fiorenza L**, Hublin JJ, Kullmer O, Benazzi S. 2015. Earliest evidence of dental treatment in the Late Upper Paleolithic. *Scientific Reports* 5, 12150.
2. **Fiorenza L**, Benazzi S, Henry A, Salazar-García DC, Blasco R, Picin A, Wroe S, Kullmer O. 2015. To meat or not to meat? New perspectives on Neanderthal ecology. *Yearb Phys Anthropol* 156, Suppl. S59, 43-71.
3. **Fiorenza L** and Kullmer O. 2013. Dental wear and culture in the Middle Paleolithic humans from the Levant. *Am J Phys Anthropol* 152, 107-117.
4. **Fiorenza L**, Benazzi S, Tausch J, Kullmer O, Bromage TG, Schrenk F. 2011. Molar macrowear reveals Neanderthal eco-geographical dietary variation. *Plos One* 6 (3), e14769.
5. Kullmer O, Benazzi S, **Fiorenza L**, Schulz D, Bacco S, Winzen O. 2009. Occlusal Fingerprint Analysis (OFA) – Quantification of tooth wear pattern. *Am J Phys Anthropol* 139, 600-605.