



Dr. Joy Richman is a professor in the Faculty of Dentistry, University of British Columbia, Vancouver, Canada. Dr. Richman is a clinician-scientist who has specialised in Paediatric Dentistry as well as earning a PhD in Developmental Biology from University College London. Her scientific contributions cover embryonic facial development including cleft lip, the role of growth factor signalling in facial development and the control of jaw identity in the chicken embryo. Another theme of her research is evolutionary developmental biology in reptiles. Her main discoveries are reptilian jaw and tooth evolutionary development. In addition to comparative work on dentitions of squamate embryos, she has pioneered studies on adult geckos to identify the locations of progenitor cells that support life-long tooth replacement through waves of tooth initiation and loss. She has developed the methods to follow tooth replacement cycles over a year to understand the local and jaw-wide patterning mechanisms. Following the gecko dentition longitudinally across several animals provides novel insights in the resilience of the animal in responding to environmental stresses. Finally, she has developed methods to selectively remove teeth in order to test some of the classical models of reptilian tooth replacement and, with the collaboration of a mathematician, has established a new model that most accurately reflects real, in vivo data from geckos and disputes older models.