

## Center Award

### Dr. Mark Hans, *Case Western University*

#### Digitizing a Unique and Historic Longitudinal Collection of Dental Casts

Dr. Mark Hans is professor and chairman of the Department of Orthodontics in the School of Dental Medicine at Case Western Reserve University and Director of the Bolton Brush Growth Study Center. He attended Yale University in New Haven, CT, where he earned his Bachelor of Science degree in chemistry in 1975 and then went to Case Western Reserve University in Cleveland, Ohio, where he received his Doctorate of Dental Surgery in 1979 and his Master of Science in dentistry and orthodontics in 1981. Since 1981 he has maintained an active private orthodontic practice in Berea Ohio and was certified by the American Board of Orthodontics in 1989. Since 1989 he has been the head of the orthodontic department at CWRU and has trained over 120 dentists to be specialists in orthodontics. His main research interests are human facial growth, obstructive sleep apnea in teenagers, and outcomes of orthodontic treatment.



The Bolton-Brush Growth Study radiographs of the head and neck for 102 subjects with the most complete longitudinal records have been digitized and made available online at no cost to craniofacial researchers via the American Association of Orthodontists Foundation (AAOF) Legacy Collection. We plan to scan the dental study casts from these subjects and link them to the lateral cephalograms. This will provide an enriched dataset of three-dimensional growth and development changes in the human face that will be meaningful for research, education and practice.

Currently, the Legacy Collection draws researchers from the areas of orthodontics and physical anthropology, and the 102 subjects already added to the Legacy Collection have been used successfully by researchers throughout the world. Addition of the digitized dental casts and integration with the radiographs will be of benefit orthodontic education and research because the content of the dataset will be enriched. Currently, the only control data available is the lateral cephalogram. There are many orthodontic questions that require a control sample of dental casts. One obvious question has to do with the natural stability of alignment of the teeth in the absence of treatment. In an era of increased competition for orthodontic services, stability of orthodontic treatment will be a key element in the continuation of our specialty. As Shelly Baumrind so famously said “If we give up on stability as a goal of treatment, we will have no specialty”.

In addition, the lay public may have an interest in dental alignment and what happens to the alignment of teeth over time.