

## **An Interview GLAO Member, Dr. W. Eugene Roberts, Recipient of the 2023 AAO Lifetime Achievement Award in Orthodontic Research**

The Lifetime Achievement Award in Orthodontic Research (LAAOR) seeks to recognize those who have advanced the specialty of orthodontics through their efforts in research conducted over their career.

We are thrilled that the 2023 recipient is the well-deserved Dr. Gene Roberts, member of the GLAO. We took time to discuss this award with Dr. Roberts and what it means to him personally. Dr. Roberts will be presented with this prestigious award at the 2023 AAO Annual Session in Chicago!

### ***Who have been some of your greatest influences in orthodontics and why?***

*My influence on orthodontics is best judged by others, but I have trained many orthodontists in basic principles: 1. **Etiology** - most patients are predisposed for ideal dentofacial form, so “what went wrong?” is the key to diagnosis of the malocclusion. Treatment directed at the etiology, it is more likely to produce an efficient and stable result. 2. **Basic Science** - understanding the physiology of craniofacial tissues (how they work) is the guide for optimal correction of developmental problems. 3. **Biomechanics** - the response to mechanics in 3D is determined by the mechanical properties of the tissues. Thus, finite element analysis of 3D clinical images has a bright future for more efficient orthodontics and dentofacial orthopedics. 4. **Skeletal Anchorage** - dental implants and temporary skeletal anchorage devices (TSADs) outside the alveolar process deliver determinate loads to predictably move teeth, segments or entire arches. 5. **Outcomes Assessments** - careful grading treatment results relative to the initial discrepancy (ABO standards) is the path to sustained clinical excellence.*

### ***How have the AAO and the GLAO played a role in your career?***

*The AAO was an important format for continuing education, networking, and the presentation of my research. The Council on Orthodontic Education (COE) provided leadership opportunities to enhance graduate training. The GLAO was a more grass-roots approach for addressing important issues like ABO certification, clinical standards, student debt, and educational objectives. All these organizations were critical for my professional growth, career advancement, and leadership potential.*

### ***What motivated you to continue to stay engaged in research throughout your career?***

*My inherent curiosity and the exposure to research early in my pre-dental education were the basis of my dental career, because I love to pursue the unknown. To me every malocclusion is an “experiment in nature” so the etiology dictates the treatment. Each result is an assessment of how well I understood the discrepancy as well as my skill in eliciting compliance. I learn from studying the outcomes for each patient. The continuing pursuit of excellence in clinical practice is rooted in “research.”*

**Is there a moment in your career that stands out to you as pivotal in regards to your involvement in research?**

*In the second year of dental school, there was an excellent lecture on the endocrine pathophysiology of osteoporosis that was presented by two medical school residents. I was thrilled with the scientific material, and asked so many questions the residents invited me to the medical school to meet their professor. He was a gracious mentor who invited me to attend seminars and do research in his laboratory. That experience led to recommendation for a summer internship in bone research at the University of Utah. That summer I produced research that was published and presented as a paper at the IADR meeting in Miami. I was hooked, and started pursuing my PhD research in Utah the next summer.*

**What have been some of your greatest hurdles when it comes to pursuing orthodontic research and how did you overcome them?**

*My first faculty appointment was at a private school (UOP) where the administration viewed research as a waste of time unless it was externally funded. That was my incentive to pursue NIH and NASA grants to fund 50% of my time. Because of my success in publications and funding at UOP, I was recruited to IUPUI to pursue basic science research in biomechanics. Administrative problems within the dental school precluded my basic science opportunities, so I changed my career direction to pursue clinical outcomes assessments. Those studies resulted in a dramatic improvement in the clinical outcomes of the orthodontics graduate program. Research was always my academic priority, but institutional obstacles required flexibility in what I pursued. Fortunately, I had the foresight to pursue both basic science and clinical capabilities. That was essential for the continuity of research throughout my career.*

**Are there certain topics within our profession that you feel need to be focused on and/or researched more actively? If so, why?**

*I began my career teaching growth and development (G&D) courses to predoctoral and graduate orthodontics students. As a joint clinical experience, I initiated an Oral Development Clinic with pediatric dentistry faculty. Patients with developing malocclusion were treated with removable upper and lower lingual arches, bite-plates and headgear. Treatment simply guided oral-facial development. Fixed appliances were delayed until the permanent dentition. The overall concept was **Comprehensive Dental Care for Children: Pediatric Dentistry, Orthodontics, and Dentofacial Orthopedics**. Patients and parents loved the oral development concept because of the continuity of care. Compared to typical two-phase orthodontic treatment, I was impressed with superior outcomes: less adolescent treatment time, as well as fewer extractions, white spot lesions, and rapid palatal expanders. I would like to pursue the oral development concept in routine clinical practice with a skilled pediatric dentist.*

***Looking back at your career, what advice would you give your younger self? Do you have any advice for balancing a career of both academics and private practice?***

*With the military options available today, I would pursue early commissioning while in dental school and apply for specialty training while on active duty. After completing 20yr of military service, I could retire with a pension and then pursue academics and/or private practice at whatever level I desired.*

***If you were not an orthodontist, what would you be doing?***

*That is an excellent question because I have never seriously considered other options. Indeed, my first vocation was roofing, so a career in construction is a realistic possibility. However, my insatiable curiosity about "how things work" would probably have lead me to some area of applied technology or engineering.*

***Congratulations Dr. Gene Roberts!***