

# Table Clinic Winners

Each year, the California Dental Association invites dental and dental hygiene students from across the state to enter the Table Clinic Competition at the Anaheim Scientific Session. The first-place finishers in each category receive certificates, cash awards, and an invitation to write an abstract of their work to appear in the Journal of the California Dental Association. Following are the winners of the 2006 table clinic competition.

## Clinical Student Winners

### *CBCT (NewTom 3G) Bracket Plane Artifacts Generated by Four Orthodontic Bracket Materials*

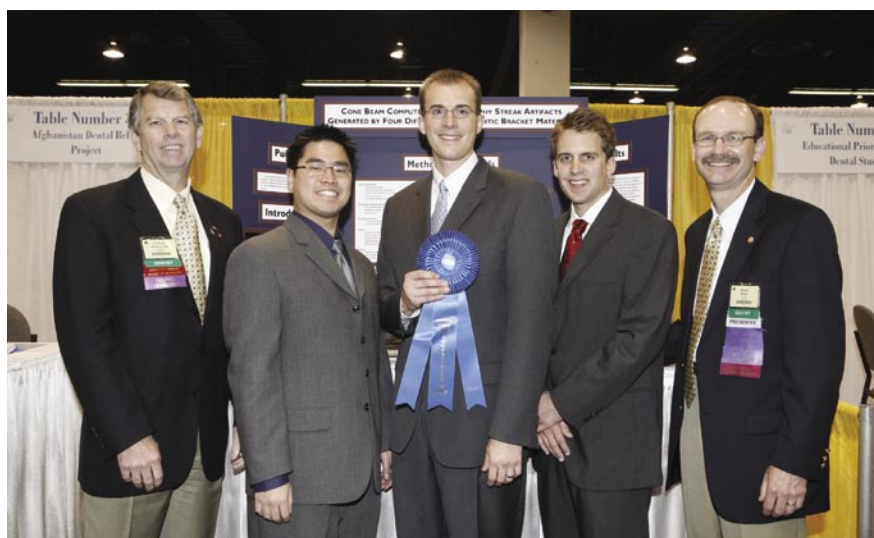
Matthew Sanders, Christian Hoybjerg, Curtis Chu, V. Leroy Leggitt, and Jay Kim, Loma Linda University School of Dentistry.

#### **Objectives:**

This study evaluated the artifacts generated by four types of orthodontic brackets in images produced by the NewTom 3G cone-beam CT machine.

#### **Methods:**

Three cadaver heads were prepared for NewTom 3G scanning by extracting all teeth containing metallic restorations and replacing them with unrestored teeth. Holes (1 mm in diameter) were drilled perpendicular to the occlusal plane in the mesial and distal occlusal pit of all four left-side premolars. Eight thermoplastic trays were constructed for each cadaver to hold a set of orthodontic brackets (stainless-steel, titanium, plastic, ceramic) in ideal positions on the cadaver dental arches (12 brackets per arch). Trays without brackets were used as controls. Twenty-five scans were performed on each cadaver head (five scans per bracket material or control). Standardized 0.5 mm-thick axial slices centered on the maxillary and mandibular bracket planes were analyzed for grayscale contrast with NIH Image analysis software (v. 1.62) along two transects: 1) an anterior tooth transect (canine to canine); and 2) a



premolar transect. A Kruskal-Wallis ranks test and a Mann-Whitney U-test were performed at the  $\alpha=0.05$  level of significance.

#### **Results:**

Stainless-steel brackets caused a statistically significant reduction in grayscale contrast when compared with the control ( $p<0.0001$ ).

#### **Conclusions:**

Stainless-steel orthodontic brackets cause NewTom 3G bracket plane artifacts that reduce the contrast between normal dentin and artificial dentin defects. This type of radiologic artifact may inhibit the clinicians' ability to detect carious lesions in dental tissues along the bracket plane.

To request a printed copy of this article, please contact / Matthew Sanders, 11442 Anderson St., Loma Linda, CA 92354.

*Dr. Richard Rounsavelle, far left, and CDA President Dr. Dennis Hobby, far right, congratulate Curtis B. Chu, Christian J. Hoybjerg, and Matthew A. Sanders who received first place in the clinical student table clinic competition.*

## Scientific Student Winners

### *Farnesol Inhibits C. Albicans Biofilm Formation on Denture Acrylic*

Jane Yi, Andrew John, Loma Linda University School of Dentistry

#### **Purpose:**

The purpose of this study was to demonstrate the effectiveness of farnesol in inhibiting the formation of *Candida albicans* biofilm on denture acrylic.

#### **Materials and Methods:**

Acrylic discs were placed in four flasks, representing the following: negative control, positive control, 30 $\mu$ g/mL farnesol, and 300  $\mu$ g/mL farnesol. CFU count and SEM viewing were performed at seven and 14 days. The data was statistically

analyzed using the Mann-Whitney U-test, with  $\alpha=0.05$  and a Two-Way ANOVA, with  $p>0.050$ .

#### **Results:**

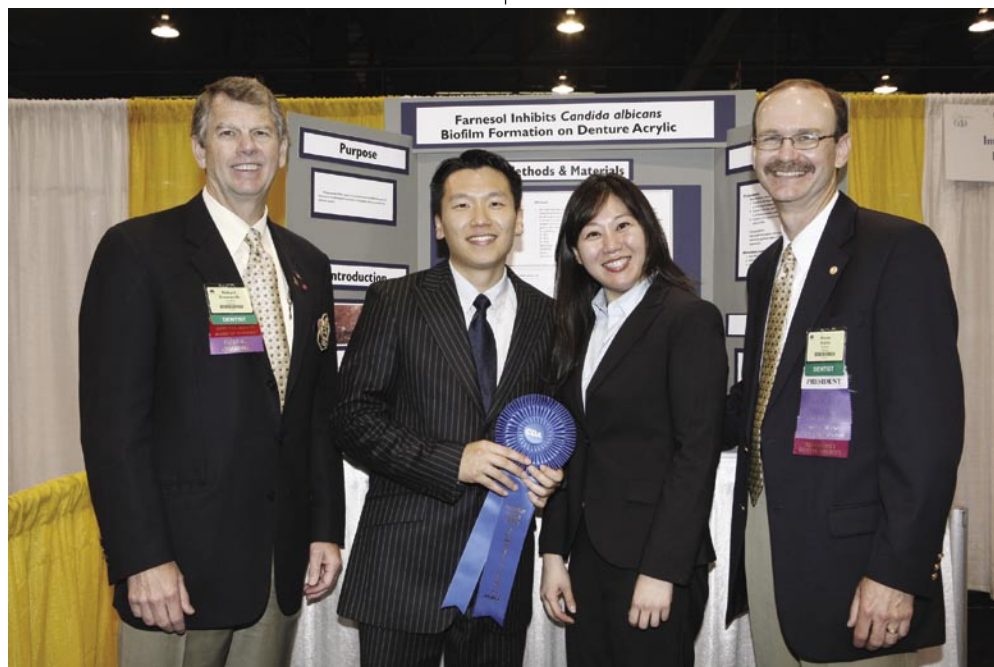
Growth in positive control was significantly lower than in all farnesol samples. Growth in negative control was significantly higher than in all farnesol samples. Moreover, both length of incubation and concentration of farnesol had statistically significant effects.

#### **Conclusion:**

Farnesol, an FDA-approved food additive, effectively inhibits the formation of *C. albicans* biofilm on denture acrylic and has tremendous potential as a means of preventing oral candidiasis in denture patients.

To request a printed copy of this article, please contact / Jane Yi, [yyi07d@llu.edu](mailto:yyi07d@llu.edu).

Andrew John and Jane Yi take a moment at their scientific table clinic with Drs. Rounsavelle and Hobby during the Spring Session in Anaheim.



## Dental Hygiene Student Winners

### *Oral Health Care in American Sign Language*

Shanan M. Carlson, Heather S. Neufeld, and Joseph D. Jordan, Loma Linda University School of Dentistry

#### **Abstract:**

Currently, there is a disparity of dental education among the deaf community. Increased access to dental care has been stressed by Healthy People 2010, the American Dental Association, and the American Dental Hygienists' Association. This study's purpose was to determine the effectiveness of an oral health care video presented in American Sign Language for the deaf.

#### **Materials and Methods:**

The dental school's support services media center was utilized to film and edit an oral health care video in American Sign Language. The actors in the video used ASL as a means of communication and explanation. Three objectives were emphasized in the video to accomplish the authors' goal to introduce and emphasize how better oral hygiene and diet is the secret to the long-term success of oral health. The first objective was to create a deaf-friendly communication environment in the dental office. The second objective was to demonstrate brushing and flossing technique on a typodont. The third objective was to discuss nutritional habits with an emphasis on minimal snacking. Following the completion of the video, the authors went to the California School for the Deaf in Riverside where a pre- and postsurvey of the video was completed with 80 children between the ages of 10 and 14.



#### **Results:**

The results of the surveys revealed overall positive behavior modifications in attitudes toward visiting a dental office and maintaining good oral hygiene. There was an increase in brushing and flossing frequency, as well as a decrease in the frequency of sugar consumption.

#### **Conclusion:**

Oral Health Care in American Sign Language is an effective means of communicating fundamental oral health care instruction to the deaf as evidenced by positive behavior modifications.

#### **Clinical Significance:**

Oral Health Care in American Sign Language is clearly a valuable tool in presenting oral health care education to the deaf, due to positive behavior modifications noted from the survey results. This study demonstrates a means for increased access to dental care and education by this special population.

*From left, dental hygiene students Heather S. Neufeld, Joseph D. Jordan, and Shanan M. Carlson receive a blue ribbon from Drs. Rounsavelle and Hobby for their table clinic Oral Health Care in American Sign Language.*

To request a printed copy of this article, please contact / Heather Neufeld, hneufeld@llu.edu.