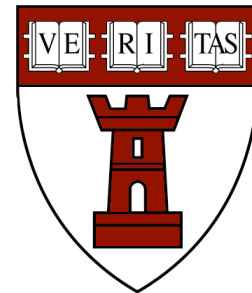


# HSDM OFFICE OF RESEARCH

# BULLETIN



January 1, 2004

## RESEARCH GRANTS & AWARDS:

Congratulations to **Catherine Hayes, DMD, SM, DMSc** from the Oral Health Policy and Epidemiology Department for her recently funded projects. Dr. Hayes received a William F. Milton Fund grant for her project, Oral Clefts and MTHFR: The Gene Environment Interaction. The central hypothesis of Dr. Hayes' investigation is that defects in folate pathways genes are related to an increased risk of oral clefts. The specific aims of the project are (1) to assess the association between maternal variants of MTHFR and oral clefts; (2) to assess the association between subject variants of MTHFR and oral clefts; (3) to assess effect modification among the MTHFR variants; and, (4) to assess effect modification by folate-containing periconceptional multivitamin intake.

**Catherine Hayes, DMD, SM, DMSc** also received an award funded by the Boston Public Health Commission entitled, Oral Health Equity Project. Dr. Hayes will coordinate oral health screenings in elder facilities in Boston. She will supervise dental students who will assist in providing examinations as well as educational programs and referral systems.

Congratulations to **AJ Ortega, Jenny Jackson** (Class of 2004), **Rishita Saraiya** (Class of 2005), and **Dana Yee** (Class of 2006) for their funded project, Operation Mouthguard. AJ Ortega and Jenny Jackson co-founded Operation Mouthguard during their first year at HSDM. This grant is a compilation of work from HSDM students funded by the Academy of General Dentistry Foundation. Operation Mouthguard works with Boys and Girls Clubs of Boston and the YMCA of Greater Boston to provide free, custom-made mouthguards for members of the Clubs. In addition, Club members actively participate in programs designed by HSDM students about orofacial injury prevention, oral health and tobacco's effects.

## RESEARCH FOCUS:

Aside from practicing in the Faculty Practice at the Harvard Dental Center and teaching dental students, **Shigemi Nagai, DDS, MSD, PhD**, Instructor in Restorative Dentistry and Biomaterials Sciences is active in several research projects. Dr. Nagai received her DDS and PhD degrees from Iwate Medical University in Japan, and her MSD from Boston University Goldman School of Dental Medicine. Dr. Nagai is also a certified Prosthodontic Specialist. Dr. Nagai's research focuses on the color science in dentistry related to dental biomaterials and tooth color esthetics.

Dr. Nagai received a 2003 HSDM Dean's Award for Clinical Research for her project, Computerized Coloration Methodology for Maxillofacial Protheses. The purpose of this study is: (1) to define the optical properties (scattering and absorption coefficients) of maxillofacial elastomers and pigments based on spectrophotometric analysis; (2) to make the Computer Color Matching (CCM) program compatible with procedures involved in the fabrication of maxillofacial protheses; and, (3) to calibrate the CCM system to the level able to accurately reproduce skin colors in the process of creating esthetically optimal maxillofacial protheses.

**(continued):**

## RESEARCH FOCUS:

Aside from her Dean's Award for Clinical Research, Dr. Nagai is actively involved in the following projects:

- ◆ Dr. Nagai received a 2003 Ultradent, Inc. award for her project, **Computerized Color Analysis for Effectiveness of Tooth Bleaching**. Dr. Nagai's collaborator on this project is **Dr. Michael Ferguson**, Assistant Professor in the Restorative Dentistry and Biomaterials Sciences Department.
- ◆ Dr. Nagai received a 2003 award from ITI Foundation award for her project, **Optical Analysis to Determine the Preferred Neck Color for ITI Implants to Facilitate Optimal Soft Tissue Esthetics**.
- ◆ Dr. Nagai received a 2002 Shofu, Inc. award for her project, **Evaluation of the Effectiveness of Colorimetry as Compared to Perceptual Color Selection in Restorative Dentistry**.

Lastly, Dr. Nagai's research has resulted in the following abstracts accepted for the March 2004 IADR Honolulu meeting.

- ◆ **Shade Selection by Dental Students - Factor of Clinical Experience**  
R SARAIYA, S NAGAI, HP WEBER
- ◆ **Preliminary Evaluation of the Effect of Crown on Gingival Color**  
D NATHANSON, S NAGAI, S PO, H YAMAMOTO, HP WEBER
- ◆ **Color Distribution of Marginal and Attached Gingivae**  
C ODAIRA, S NAGAI, D NATHANSON, T TERUI, K ISHIBASHI
- ◆ **Self-bonding Polymers as Surface-coatings of Restorative Resins to Prevent Staining**  
S PARK, S NAGAI, HP WEBER
- ◆ **Optical Effects of Resin Cements on Ceramic Restorations**  
S-H CHANG, S NAGAI, J SALCEDO, HP WEBER
- ◆ **Correlation of Bleaching Color Changes and Tooth Sensitivity with 10%-CP**  
M FERGUSON, S NAGAI, K ISHIBASHI, T TERUI, HP WEBER

**Congratulations to Dr. Nagai  
for her numerous accomplishments  
since arriving at HSDM in 2001!**

## RECENT PUBLICATIONS:

*Please note, if we have not captured your recent publications, please email (dawn\_decosta@hsdm.harvard.edu). You can be assured they will be listed in the next Bulletin. Thanks!*

Asakawa R, Komatsuzawa H, Kawai T, Yamada S, Goncalves RB, Izumi S, Fujiwara T, Nakano Y, Suzuki N, Uchida Y, Ouhara K, Shiba H, Taubman MA, Kurihara H, Sugai M. Outer membrane protein 100, a versatile virulence factor of *Actinobacillus actinomycetemcomitans*. *Mol Microbiol* 2003; 50(4):1125-1139.

Correia FF, Plummer AR, Ellen RP, Wyss C, Boches SK, Galvin JL, Paster BJ, Dewhirst FE. Two paralogous families of a two-gene subtilisin operon are widely distributed in oral treponemes. *J Bacteriol* 2003; 185(23):6860-6869.

Gensure RC, Ponugoti B, Gunes Y, Papasani MR, Lanske B, Bastepe M, Rubin DA, Juppner H. Identification and characterization of two PTH-like molecules in zebrafish. *Endocrinology* 2003;Dec.

He K, Merchant A, Rimm EB, Rosner BA, Stampfer MJ, Willett WC, Ascherio A., Dietary fat intake and risk of stroke in male US healthcare professionals: 14 year prospective cohort study. *BMJ* 2003;327(7418):777-782.

Levin M. A novel immunohistochemical method for evaluation of antibody specificity and detection of labile targets in biological tissue. *J Biochem Biophys Meth* 2004;58(1):85-96.

Marneros AG, Keene DR, Hansen U, Fukai N, Moulton K, Goletz PL, Moiseyev G, Pawlyk BS, Halfter W, Dong S, Shibata M, Li T, Crouch RK, Bruckner P, Olsen BR. Collagen XVIII/endostatin is essential for vision and retinal pigment epithelial function. *EMBO J* 2003;Dec.

Merchant AT, Pitiphat W, Rimm EB, Joshipura K, Increased physical activity decreases periodontitis risk in men. *Eur J Epidemiol* 2003;18(9):891-898.

Payne-Ferreira TL, Yelick PC. Alk8 is required for neural crest cell formation and development of pharyngeal arch cartilages. *Dev Dyn* 2003;228(4):683-696.

Smith DJ. Caries vaccines for the twenty-first century. *J Dent Educ* 2003;67(10):1130-1139.

Scully C, Epstein J, Sonis S. Oral mucositis: A challenging complication of radiotherapy, chemotherapy, and radiochemotherapy: Part 1, pathogenesis and prophylaxis of mucositis. *Head Neck* 2003;25(12):1057-1070.

Ylikarppa R, Eklund L, Sormunen R, Kontiola AI, Utriainen A, Maatta M, Fukai N, Olsen BR, Pihlajaniemi T. Lack of type XVIII collagen results in anterior ocular defects. *FASEB J*

## **RESEARCH PRESENTATIONS:**

Taru Mustonen, PhD from the HSDM Oral Health Policy and Epidemiology Department and Tobacco Dependence Treatment and Research Group, will be presenting a “Brown Bag Lunch Seminar” sponsored by the Joint Committee on the Status of Women.

Dr. Mustonen’s presentation When Resolutions Are Hard to Keep: Tobacco and Women’s Health will be held on January 22, 2004 from 12PM-1PM in the MEC.

## **H S D M   G R A N D   R O U N D S !**

**JOHN B. MULLIKEN, MD**

**REPAIR OF BILATERAL CLEFT LIP:  
THIRD AND FOURTH DIMENSIONS**

**JANUARY 26, 2004 FROM 12:00PM-1:00PM**

**HMS MEC CANNON ROOM**

**DAWN\_DECOSTA@HSDM.HARVARD.EDU**

To learn more about research activities at HSDM, have questions, comments, and/or suggestions for this Bulletin, please contact us, or visit the HSDM website at:

<http://www.hsdm.harvard.edu/asp-html/research.html>



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