

# Messenger

University of Pennsylvania School of Dental Medicine

January 2000

## Orthodontic, Prosthodontic Matches Announced

The next class of orthodontic and prosthodontic students was announced December 8 when National Matching Services, Inc. released its Phase I results to applicants from SDM and throughout the country.

Thirteen SDM students participated in the Phase I Matching Program and eight were matched—five in orthodontics and three in prosthodontics.

“I am, as always, incredibly proud of our students and impressed with their results,” notes Anita Henderson, Acting Director of Student Affairs. “Seven of the eight students matched got their first choice, and the eighth student matched to a second choice. I have tremendous respect for not only the work and achievements of our students, but also for the outstanding education they receive at Penn.”

Orthodontics remains one of the most popular and competitive postdoctoral programs, and Ms. Henderson notes that SDM students have developed a strong record of success in entering orthodontics programs of their choice.

Following are summary highlights of the Phase I match:

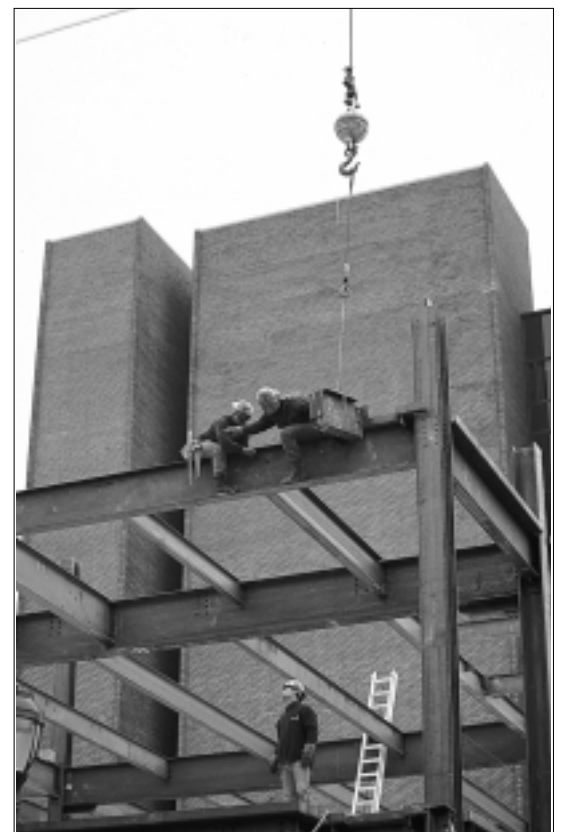
- Nationally, 644 applicants participated in the match.
- At SDM, 61.5% of the applicants (8 out of 13) matched, while nationally, 44% (285 out of 644) matched.
- Of the students who matched, 87.5% (7 out of 8) at SDM got their first choice; nationally, 68% (195 out of 285) were matched with their first choice.
- There were 234 orthodontic positions offered in the match and 230 filled, and in prosthodontics, 81 positions were offered and 55 filled.

*(continued on page 4)*

## 40th Street Renovations Bringing New Services to SDM, Community

Walk down 40th Street between Spruce and Walnut, and it is clear that the neighborhood is changing. In addition to the School's construction of the Robert Schattner Center at 40th and Locust Streets, the University is making rapid progress on its Hamilton Square project. This complex, which features a Sundance Cinemas theater, a fresh food market, and an 800-car garage, is being built at the intersection of 40th and Walnut streets.

“The projects under construction along the 40th Street corridor will improve services and resources for everyone—the Philadelphia community, the University, and *(continued on page 3)*”



*Going up ... Work on the Schattner Center moved forward in December with construction of the steel framework.*



In FY 1999, the School of Dental Medicine retained its standing among the top dental schools in the nation for sponsored research activity, receiving more than \$9 million in research funding. This high level of research activity is part of the School's core mission and also serves its mission of excellence in education, giving students a range of opportunities to explore basic and clinical research. Students are strongly encouraged to participate in research activities through the School's Summer Research Program, for example, which involves approximately 30 faculty members as preceptors.

Current research activities at the School range from studies on bone formation and dental implantology to investigations of HIV/AIDS and periodontal disease. Although it is difficult to capture the full range and depth of research at SDM, the following are highlights of just a few projects currently underway at the School.

**Dr. Edward Macarak, Professor of Anatomy/Histology.**

Dr. Macarak's lab is investigating how mechanical forces can alter the genetics of cells.

"The way we do this," explains Dr. Macarak, "is to isolate cells of tissues such as the blood vessel, the bladder wall, or the periodontal ligament, place the cells on a deformable membrane which we mechanically stretch, and then assay for changes in cell behavior." The study of mechanical forces has been the central research focus here for over 20 years, with all the apparatus used to perform this research developed at SDM.

Presently, investigations on the impact of mechanical forces on the periodontal ligament system are being set up, and Dr. Macarak estimates work will continue in this area over the next five years. "Every time you chew, the periodontal ligament cells experience some degree of stretch. We want to confirm if cells can sense a difference between compressive and tensional forces," notes Dr. Macarak. "So, we are subjecting periodontal ligament cells to compressive forces to see if there is an increase in the degradation of proteins, and to tensional forces to see if there is an increase in cell synthesis."

Collaborating with Dr. Macarak on this work is Dr. Pamela Howard, Research Assistant Professor of Anatomy/Histology, and Dr. Jonathan Korostoff, Assistant Professor of Microbiology.

Dr. Macarak stresses that mechanical forces impact the normal growth and development of any organ that experiences physical or mechanical deformation as a part of its normal cellular activities, making it important to understand the molecular mechanism by which forces can alter gene activity.

**Dr. Margaret Grisius, Assistant Professor of Oral Medicine.**

Dr. Grisius is presently researching salivary gland disease and dysfunction, an area in which she has been involved for approximately five years. The focus of her major project is on salivary

cytokines (immune mediators) in Sjogren's syndrome, an autoimmune disease that affects the salivary glands.

"Currently there is no cure for Sjogren's syndrome, no universally accepted diagnostic criteria, and we do not understand the disease process," says Dr. Grisius. This study has three goals—to help explain the etiology of Sjogren's, to find a specific salivary cytokine profile, which may aid in the diagnosis of Sjogren's syndrome, and hopefully, to lead to treatment for salivary glands destroyed by autoimmune disease.

To date, the salivary and blood levels of several cytokines have been investigated in Sjogren's patients and in healthy volunteers, and so far, only two cytokine levels differ between the two groups. "These two cytokines may be a useful diagnostic tool in the future," notes Dr. Grisius.

Dr. Grisius became interested in this project while at The National Institutes of Health /NIDCR and has continued to collaborate with the NIH/NIDCR on this study since joining SDM's Oral Medicine Department.

**Dr. Hyun-Duck Nah-Cederquist, Research Assistant Professor of Biochemistry.** Dr. Nah-Cederquist's work involves the study of regulatory mechanisms in normal and abnormal craniofacial skeletal development.

One of her ongoing projects involves investigating the molecular and cellular mechanisms underlying certain conditions associated with gene mutations of fibroblast growth factor receptor 2 (FGFR2). These conditions include Apert's, Crouzon's, Pfeiffer's and Jackson-Weiss syndromes, all of which are characterized by the premature closure of cranial bones, leading to facial deformities and neurological complications in patients.

"In growing children, patency of the cranial suture is crucial for normal development of the craniofacial skeletal complex and the brain," explains Dr. Nah-Cederquist. She hopes the study will provide insight into the normal and abnormal development of sutures, which could lead to better management of patients with related syndromes. Postdoctoral students who have worked with Dr. Nah-Cederquist on this project include Dr. Ali Fakhry and Dr. Chootima Ratisoontorn. In addition, Dr. Thomas Bietsch is beginning work on the project this month.

"There have been remarkable advances in the field of molecular genetic research during the 1990s," adds Dr. Nah-Cederquist. "A large number of gene mutations have been linked to various genetic disorders." In the coming years, she foresees the focus in biomedical research shifting to the functional analysis of normal and mutated genes, ultimately delineating the pathogenesis of genetic disorders, and in turn, leading to more effective controls of disease. ■

## Long-time Service Recognized at SDM

The School recently recognized 92 of its faculty and staff for their years of dedicated service to the University. The University's annual length of service program honors faculty and staff with ten or more years of service, at each five-year milestone. Honored staff members receive a gift selected by a campus-wide Recognition and Appreciation Committee, including such items as an engraved silver photo album (10 years of service), an engraved silver swing clock (20 years), and an engraved pewter vase (35 years).

The Dental School traditionally has a high record for longevity, and this year, a total of 25 of these awards at SDM went to individuals in the 25-, 30-, and 35-year categories. Among the highlights of this year's program was the presentation of the 10-year service award to Dean Fonseca. ■

## Levy Building Facade Getting Makeover

As construction continues on the Robert Schattner Center, the facade of the School's Levy Building will also be getting a makeover. As of presstime, workmen were expected to begin repointing the bricks on the exterior of the Levy Building in early January.

According to Associate Dean James Galbally, the work on the Levy Building's exterior is the beginning of Phase III of the School's facilities program, which includes complete renovation and refurbishment of the Levy interior. He notes that, "We're beginning with the exterior envelope, just as we did with the Evans Building." Work on the Levy Building facade will begin on its 40th-Street side.

According to Jerry Friel, SDM Facilities Manager, the repointing will not affect access to or movement around the building for SDM students, staff, and faculty. The only change will be the addition of scaffolding at the building's entrance, which has been at the rear of the building since the beginning of the Schattner Center construction. ■

## 40th Street Renovations *(continued from page 1)*

the School's students, staff, and faculty," notes Dean Raymond Fonseca. University officials see the \$35-million Hamilton Square project as playing a pivotal role in spurring further redevelopment on the western side of campus, as does the community. The project has garnered much support from community leaders, who have been involved and consulted throughout its development.

The Sundance theater complex will include seven to eight movie screens, a restaurant, a tapas bar, an outdoor cafe, an espresso bar, a lecture hall, a video library, and a reflecting pool and gardens.

Across the street, an 800-car parking garage will top a new food market, FreshGrocer.com, which will feature the offerings of a full supermarket but with an emphasis on fresh foods. It will also include an indoor and outdoor cafe, a sushi bar, and a juice bar. The close proximity of a new parking garage to the SDM will be an added convenience for

School staff and faculty." The new facility will be part of the University parking system, and thus, accessible to faculty and staff in the same fashion as existing spaces," notes Tom Lussenhop, the University's top real estate official.

The FreshGrocer.com market and garage are presently scheduled to open in summer 2000 with Sundance opening soon thereafter. When completed, the University hopes the Sundance Cinemas will help strengthen University City as a destination area that attracts people from all parts of the city. In addition, the entire Hamilton Square project is anticipated to create more of a street presence in the 40th Street neighborhood and encourage further redevelopment in this area where campus meets community. ■

## **Matches Announced** *(continued from page 1)*

- Of those applicants matching to orthodontic programs, 149 are members of the Class of 2000, and 81 graduated before 2000 (46 with previous graduate training); among the prosthodontic applicant matches, 18 are Class of 2000 graduates and 37 graduated before 2000 (11 with previous graduate training).

Phase II matches for the postdoctoral programs of General Practice Dentistry, Advanced Education in General Dentistry, Pediatric Dentistry, and Oral and Maxillofacial Surgery will be released January 31. ■

## **SDM Calendar: January-June 2000**

January 3	School opens
January 4	Classes and clinics resume for all students
January 21	Penn reception at Yankee Dental meeting, Boston
March 13-19	Spring break for Classes of 2002 and 2003 (classes and clinics continue for Classes of 2000 and 2001 and DADE students)
March 15	Alumni, Faculty, Senior Day and Dinner
March 20	Classes resume for Classes of 2002 and 2003
March 30	Penn reception at American Association of Endodontics meeting, Honolulu
April 3, 4	National Boards, Part II
May 16, 17	Tentative date for Northeast Regional Boards
May 19	Last day to complete sign-out for Class of 2000
May 19, 20	Alumni Weekend
May 22	Commencement (clinics closed)
May 29	Memorial Day (no clinics or classes)
June 22	Last day of classes for Class of 2003
June 30	Last day of classes for Classes of 2001 and 2002

The SDM Messenger is a publication of the University of Pennsylvania, School of Dental Medicine, Office of the Dean.  
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