THE COMPASS

Charting New Directions for the University of Connecticut School of Dental Medicine

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SPRING, 2003

WE'RE #1 AGAIN!

Photo by Eric Grandquist D'04

On Tuesday, March 18, Dean Peter Robinson announced that the School of Dental Medicine is ranked #1 in the nation for the second time in three years! The American Dental Association just released the rankings on Part II of the National Board Dental Examination and our SDM class of 2003 is ranked #1; that coupled with the fact that this class ranked #2 on Part I of the Boards and with their outstanding residency match results makes them the top class in the nation. Interestingly, our class of 2001 had exactly the same ranking on the National Boards: 1st in Part II and 2nd in Part I, plus outstanding match results.

Our school has consistently ranked in the top 4 in the National Boards for a number of years, but the class of 2003 is truly exceptional in every way -- a hard working, bright group who, most importantly, are one of the most caring groups of students to have ever come through this institution. The faculty and staff at the School of Dental Medicine have a great deal of pride in providing these students the value added education and mentoring that has enabled them to achieve this level of greatness.

Congratulations to our students, faculty and staff on this remarkable achievement.

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Message from the Dean

Peter Robinson, DDS, PhD

Match Day historically at the School of Dental Medicine has been a thrilling and fascinating event and this year was no exception. It was thrilling because, in general, the results for both our students and the School of Dental Medicine's residency programs were exceptionally successful. Most of the School's students and residency programs matched with their top choices. These results speak volumes about the quality of the School's students and residency programs, giving the highest marks by other students and schools to the School of Dental Medicine.

Another unique aspect of the UConn experience on Match Day is the high percentage of the School's students who choose and are selected for the advanced training programs. Nationally, fewer than a third of the graduates of dental schools go into advanced training compared to consistently greater than 80% at UConn. In the Class of 2003, 87% of the graduates will be attending advanced programs in July. Four students have elected to go into private practice and the faculty is confident they will experience much success. For those students who have selected advanced training, advanced general dentistry is by far the most popular residency program. Advanced general dentistry programs provide the new graduates with the opportunity to take their clinical skills from competency to proficiency, provide additional time to explore types of private practice opportunities and to be better equipped to decide whether or not a career in general dentistry is right for them.

The remaining Class of 2003 have elected to become specialists with Orthodontics (7) and Oral Maxillofacial Surgery (4) being the most popular this year. Also selected were Pediatric Dentistry, Implantology, Prosthodontics and Periodontology.

The School of Dental Medicine congratulates all of the students in the Class of 2003. Although the students deserve recognition and credit for their accomplishments in this process, the efforts of the faculty and program directors who wrote letters of recommendation and helped students prepare for interviews should be acknowledged as well. Thanks to all who made this success of the Class of 2003 possible.

New Faculty Members in the School of Dental Medicine

The Department of Oral Diagnosis, Division of Oral Maxillofacial Radiology is pleased to announce the full-time appointment of Assistant Professor **Jennifer A. Diederich, DMD, ABOMR,** January 2, 2003. Dr. Diederich has been part-time faculty in the department for 10 years. Her degrees include an AS Dental Hygiene, University of Bridgeport 1977, BA Biology, Colorado State University 1982, DMD 1987 and Cert. Oral Maxillofacial Radiology 1989, both from the University of Connecticut School of Dental Medicine. She will continue to enjoy teaching pre- and postdoctoral students. Her planned research will be in dosimetry and reproducibility of dental images as applied to development of radiologic models of staging for dental diseases. These in turn would be applied to clinical interventional trials and epidemiology.

Anna Dongari-Bagtzoglou, DDS, PhD joined the Department of Periodontology as full-time faculty in September of 2002, after holding an appointment as assistant professor at Columbia University School of Dental and Oral Surgery since 1997. She completed the Dentist Scientist program in 1997 at the University of Texas, Health Sciences Center in San Antonio graduating with a PhD in Microbiology and Certificate in Periodontics. In 2000 she obtained NIH research funding as a PI of two grants and became a Diplomate of the American Board of Periodontology. Her laboratory examines host cell-parasite interactions that regulate inflammation and innate immune cell function in oral mucosal infections. More specifically she is studying synthesis of cytokines and inflammatory mediators by oral epithelial or connective tissue cells following infectious challenge. Although in the past her primary focus was on infectious agents causing chronic or aggressive forms of periodontitis, recently her focus has shifted towards host cell-parasite interactions in oropharyngeal candidiasis. Future research will focus on the functional role of cytokines generated in oral mucosal cell-C.

The Center for Biomaterials welcomes a new faculty member, **Liisa Tiina Kuhn, PhD.** Dr. Kuhn received her undergraduate degree from Duke University and her graduate degrees from University of California, Santa Barbara. She also completed a two-year postdoctoral fellowship in Biomineralization at Cast Western Reserve University. Dr. Kuhn's most recent research involved the design of optimal formulations of bone apatite and cisplatin to treat mouse osteosarcoma tumors locally without systemic side effects. In addition she has completed research in formulation of various bone graft biomaterials made of bone crystals and bioresorbable polymers for bone regeneration that were evaluated in rodent calvaria and subcutaneous in vivo models.

Ernst Reichenberger, Ph.D. joined UCHC as Assistant Professor in the Department of BioStructure and Function with a secondary appointment in the Department of Genetics and Developmental Biology in September 2002. After his PhD from the University of Erlangen (Germany), he spent time as a postdoctoral fellow in the Department of Cell Biology at Harvard Medical School and worked as Instructor in the Department of Oral Biology at Harvard School of Dental Medicine and Forsyth Institute in Boston. The interests of his lab are centered around research on development and maintenance of the skeleton and on genetic disorders which affect extracellular matrix of bone and skin. Currently his lab is studying the roles of gene mutations that cause two rare craniofacial disorders. Craniometaphyseal dysplasia (CMD) is a disorder where cranial bones show striking overgrowth an increased density of bone. The opposite

Continued next page

Another Successful Match

George Betancourt and Dr. Joseph Grasso.

Srdan Sanovic and Dr. Monty MacNeil.

Dr. Jeff Kingsbury, Matthew Kolesar, Matthew Jacobsen and Craig Stasulis.

Match Day proved to be another happy and successful occasion for students and faculty at the School of Dental Medicine on January 27, 2003. This year, 30 students in the Class of 2003 applied for residencies either through the Match Program or by direct application to advanced education programs. Approximately three-fourths of applicants (24 or 77%) will be entering programs ranked as one of their top three choices; within this group, 17 students (55%) secured their #1 choice of advanced program. Next year, the 32 members of the SDM Class of 2003 will pursue program or practice opportunities as follows: AEGD (5), GPR (8), Oral and Maxillofacial Surgery (4), Orthodontics (7), Pediatric Dentistry (1), Periodontics (1), Prosthodontics (1), Implant Fellowship (1) and Private Practice or Other Activity (4).

Congratulations Class of 2003!

Amy Campbell and Dr. Peter Robinson.

Dr. Keat Sanford and Craig Stasulis.

Dr. Theodora Vogiatzi, Dr. Jeff Kingsbury, Vincent Michael and Jorge Furnaris.

Photos by Eric Grandquist D'04

New Faculty *continued...*

effect is observed in cherubism (CBM). Cherubism is a disorder of age-related bone remodeling that is limited to the maxilla and the mandible. During childhood, increased bone resorption leads to loss of bone in the jaws and replacement of bone with large amounts of fibrous tissue that keeps proliferating like a tumor. The third major project is to identify genes that cause keloids, a disorder of excessive dermal scarring. Keloid formation is most prevalent in populations of African descent, but is also found in Asians, Native Americans, and Caucasians. They still have to identify genes by genome wide screening and linkage analysis with large families before we can study why these scars keep proliferating for several years. Dr. Reichenberger, his wife and son are enjoying their new home in Connecticut. He enjoys working with his new colleagues and engaging in interactive research with other departments.

Dental School Professors Receive Funding for Equipment Grant

Drs. J. Robert Kelly, Thomas Taylor, and **A. Jon Goldberg** (Department of Prosthodontics and Operative Dentistry) have received a $250,000 equipment grant from the ITI Foundation of Basel, Switzerland, to establish a laboratory dedicated to researching how cyclic loading influences dental implants and implant restorations. This multi-station laboratory will be capable of instrumented, low load (10 N to 1000 N), high cycle (n · 106) testing and would operate as a core facility serving unmet fatigue research needs of corporate and academic partners.

Fracture resulting from the application of low cyclic loads is known as fatigue fracture. In many materials cyclic loading can either reduce or enhance the time to failure compared to an equivalent static load, an influence known as the fatigue effect. Processes that lead to a fatigue effect are well known for metals, but can also be a factor in the lifetimes of ceramics and brittle polymers as well. In the case of ceramics the superimposition of cyclic loads can lead to differences in crack growth rates and lifetimes (static versus cyclic) even where there are often no known differences between the mechanisms of static and cyclic crack growth. In brittle polymers cyclic loads can lead to crazing resulting in cyclic softening. Permanent deformation ahead of propagating cracks in brittle plastics (involving crazing or microcracking) can lead to modes of crack initiation and growth not seen under monotonic loads.

It is increasingly important for manufacturers and the profession to have an independent source of knowledge regarding the behavior of dental implants, implant components, and implant-supported prostheses under high numbers of low load cycles in an appropriate environment. This grant establishes an academically-based Center for Fatigue Studies devoted to: (i) developing an independent fatigue database; (ii) the publication of relevant comparative information; and, (iii) the further development and refinement of implant-related fatigue testing protocols.

Dr. Richard Putnam (Department of Behavioral Sciences and Community Health) and his wife, Carolyn, announce proudly the birth of their son, Nathaniel, born November 7, 2002.

He joins big sister, Carina.

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The Compass is written for the dental school. We strongly encourage everyone to participate by submitting articles, events, milestones, etc. If you have any suggestions, please drop us a line.

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