Advanced Education in Dental Genetics
A Clinical Continuing Education Program

OVERVIEW
This program is specifically designed for the dentist who wishes to gain a scientific background and additional clinical learning about the emerging role human genetics will play in the future of dentistry.

Dental Genetics is the branch of dentistry that focuses on the effects that inherited variation among individuals has on both risk of developing both rare (e.g., orofacial clefting) and common (caries and periodontitis) dental diseases and disorders. Just as physicians envision a future of “personalized medicine” where the “one size fits all” model of diagnosis and treatment are a thing of the past, this same strategy is also emerging as the new field of “personalized dentistry.” Areas of active investigation and genetic research include orofacial pain, craniofacial disorders, periodontitis, dental caries and dental fluorosis, orthodontic and others. The foundation of this science is the recognition that individuals differ substantially, in large part because of differences in their inherited DNA, in susceptibility to developing diseases, rates of disease progression, responses to alternative treatments as well as risk of side effects. Inherited genetic variation is also becoming an important component of diagnosis, as specific mutations can reveal subtypes of disease etiology that on the surface appear clinically very similar or even indistinguishable. Use of genetic tools to reveal this diagnostic and etiological heterogeneity in an increasing number of cases will prove invaluable in the selection of the most appropriate types of treatment to maximize chances of successful outcomes.

PROGRAM DESIGN/OBJECTIVES
This program offers the dentist a collegial environment to accomplish his/her personal objectives. The curriculum is comprised of didactic assignments, clinical observations, possibility of involvement with teaching, as well as a strong opportunity for mentored clinical research. Different types of learning experiences include seminars, lectures, workshops, and self-study activities. Although there is considerable flexibility in the selection and sequencing of the didactic and clinical components, each student is required to complete a rigorous program customized to their strengths and interests that will provide the necessary foundation for understanding the role that genetics plays in dental research and treatment in the future. Included in the program year are opportunities for basic science and oral biology courses designed to give the student a strong science and analytical foundation necessary to understand genetics and how it applies to dentistry. Understanding of software tools, databases and approaches for bioinformatics is an essential part of a modern genetics education, and students are trained to critically use and evaluate these usually web-based resources without needing to acquire computer programming skills.

An important part of the Advanced Education Program is clinical observations, which continues across the entire program commencing in the first quarter. The clinical component of the program will comprise about 10-25% of the student’s time. Students are also required to complete a paper of publishable quality for submission to a refereed scientific journal on a topic to be mutually determined by the student and program director.
SCHEDULE

- This Advanced Education program is an eleven-month experience starting on July 1 each year; Mondays through Fridays, from 8 a.m. to 5 p.m. each day.
- Holidays and vacations coincide with the post-graduate schedule.
- Participants will be allowed five additional vacation days and three sick days.
- The school may also close for severe weather events.

CRITERIA FOR SELECTION

- DDS, DMD or equivalent degree.
- Submission of TOEFL examination scores.
- Two letters of recommendation.
- Admission interview.

COURSE COMPONENTS/DISCIPLINES (selected examples)

Dent 5010 Foundations of Oral Biology
Dent 5020 Foundations of Oral Biology
GEN ### Dental Genetics Literature Review
OFP 701 Seminars in Orofacial Pain
OFP 703 Orofacial Pain Literature Review (Journal Club)
OFP 704 Grand Rounds in Orofacial Pain
OM 806 Oral-Maxillofacial Radiology and Advanced Imaging

Dent 5010 and 5020: Foundation of Oral Biology and Advanced Biomedical Science for Dentistry (74 hours):

These courses, which are a requirement for all postdoctoral graduate students, are given over a two-year period. Because the Program is only one year, students have the option of choosing from any of the courses listed below depending upon scheduling and possible conflicts.

- Head and Neck Anatomy ........................................ 14 hours
- Pain / Neurosciences ............................................. 12 hours
- Pathobiology .......................................................... 14 hours
- Orofacial Pain Disorders ......................................... 8 hours
- Clinical Pharmacology and Therapeutics ............... 14 hours

Tuesdays – 8:00 to 10:00 a.m. (September to May)

GEN ###: Dental Genetics Literature Review (Journal Club):

This seminar consists of an overview of the current scientific literature relating to the fundamental of dental genetics. Each student will be responsible for a specific reading assignment and will take turns lead the seminar. An informal seminar setting is used to encourage stimulating discussion from all the participants. This seminar will be held weekly.

Fridays – 10:00 a.m. to 12:00 p.m.

OFP 701: Seminars in Orofacial Pain (60 hours):

This seminar series focuses primarily on the diagnosis and management of temporomandibular disorders, musculoskeletal disorders of the head and neck, neurovascular disorders, and neuropathic pain disorders.

Fridays – 8:30 to 10:00 a.m.
OFP 703: Orofacial Pain Literature Review (Journal Club):
This seminar consists of an overview of the current scientific literature relating to the fundamental of pain and pain management as well as orofacial pain. Each student will be responsible for a specific reading assignment and will lead the seminar. An informal seminar setting is used to encourage stimulating discussion from all the participants. This seminar will be held weekly.

*Thursdays – 2:00 to 4:00 p.m.*

OFP 704: Orofacial Pain Grand Rounds:
The OFP fellows present all new and ongoing patients seen in the clinic every Wednesday morning in an open discussion with the faculty. Emphasis is on diagnosis and management strategies with all clinical decisions validated and supported by the scientific literature.

*Tuesdays – 2:00 to 4:00 p.m.*

EVALUATION OF PARTICIPANT
For satisfactory completion of the program, the Participant must:

- Complete attendance requirements of the program.
- Demonstrate didactic and clinical knowledge in Dental Genetics as determined by the director and attending faculty in the Department of Oral Biology.
- Achieve a minimum grade of 80% on a comprehensive written or oral examination at the conclusion of the program.
- Submit a written paper of publishable quality. The Program Director and Participant will mutually agree upon topic.

FACULTY

*Department of Oral Biology*

SCOTT R. DIEHL, PhD – Program Director
Professor of Oral Biology,
Rutgers School of Dental Medicine
Professor of Health Informatics,
School of Health Related Professions

HAROLD V. COHEN, DDS
Professor and Director,
Division of Oral Medicine

SAMUEL Y.P. QUEK, DDS
Professor and Director,
General Practice Residency Program

*Department of Diagnostic Sciences*

STEVEN R. SINGER, DDS
Chair and Professor,
Acting Director, Division of
Oral & Maxillofacial Radiology

GARY M. HEIR, DMD
Clinical Professor, Division of Orofacial Pain

RICHARD A. PERTES, DDS
Clinical Professor, Division of Orofacial Pain

FACILITIES
The Rutgers School of Dental Medicine is located on the Rutgers Biomedical and Health Sciences Newark Campus. The medical and dental schools, graduate school of biomedical sciences, and the University Hospital are grouped together on an attractive campus with convenient private parking.
ADMISSION REQUIREMENTS

• Have a DDS/DMD degree or its equivalent from an accredited dental school.
• Payment of non-refundable applicant fee of $200 U.S. (send with application).
• Submission of a completed application form, include:
  Documentation of your Objectives and Goals (see page 2 of this form).
  Curriculum Vitae (attach a small photo if available).
  Copies, verified by your dental school, of your Transcript and Dental School Diploma.
  Two to three original Letters of Recommendation (see page 4 of this form).
• Applicants with foreign degrees will be considered based upon an evaluation of their academic credentials. An original Evaluation Report from one of the following is required:
  Educational Credential Evaluators (ECE); World Education Services (WES);
  Global Language Services, Inc.; or National Assoc. of Credential Evaluation Services (NACES).
• Applicants with English as a second language must attain a TOEFL score of 80 or higher; or an International English Language Testing System (IELTS) overall score of 6 or greater. Submit an original report.
• Although Graduate Record Examination (GRE) and National Board scores are not required, but may be submitted in support of the application.
• Attend a personal interview when possible.
• Be a citizen or a permanent resident of the United States, or a foreign national with a visa status acceptable to the CE program.

Deadline for submission of application: December 1, 2015 for the July 1, 2016 start date.

Further Requirements
Upon notification of preliminary acceptance into the program, the applicant will also be required to:

• Pay a non-refundable deposit of $1,000 (U.S.) within 20 days of notification of acceptance.
• Submit Health and Immunization Forms per University policy (see “Student Immunization and Health Requirements”). Completed forms must be submitted 2 months prior to the start of the program. Participant may not start their program until they have been cleared by Student Health Services.
• Submit Cardio Pulmonary Resuscitation (CPR) certification that will be valid for duration of program.
• Be cleared by a Background Check; an additional fee is required for this.
• Provide proof of Health Insurance.
• Licensed U.S. Dentists provide proof of Liability Insurance.
• Full tuition is due three (3) weeks prior to the start of the program.

TUITION
The tuition for this Advanced Education program for the academic year 2016-2017 will be a total of $25,000 (US). Some additional fees and expenses may be applicable. A non-refundable deposit of $1,000 is required to hold your place in the program; payment must be received within 20 days of notification of acceptance. Full tuition is due three weeks prior to the start of the program.
CANCELLATION POLICY

To participate in this program you must be pre-registered with the Office of Continuing Dental Education. No refunds of any tuition paid will be made after program has started.

CREDIT

This Advanced Education program offers a unique opportunity for didactic and hands-on clinical experience in the Department of Oral Biology. It is a non-matriculated, continuing dental education program. If participant completes the program as designed, they will earn 1,430 continuing education credit hours.

HOW TO APPLY

Submit completed application to:

Rutgers School of Dental Medicine
Continuing Dental Education
Attn: Corinne Swass-Fogarty
110 Bergen Street, B701
Newark, NJ 07103

For more information:

Phone: 973-972-6561
Email: cde@sdm.rutgers.edu

Link to the Application Form can be found on this webpage:
http://sdm.rutgers.edu/CDE/advanced_programs/index.html