Thank you for your interest in the University of North Carolina (UNC) Masters Program in Operative Dentistry. Operative Dentistry can be defined as “the art and science of the diagnosis, treatment and prognosis of defects of the teeth that do not require full coverage restorations for correction.” Operative Dentistry also includes the diagnosis, prevention, management and minimally-invasive treatment of dental caries, and the study of dental biomaterials. As such, Operative Dentistry is a vital discipline of any School of Dentistry curriculum, as well as a key competency of clinical dental practice.

This brochure provides an overview of the UNC Operative Dentistry Graduate Program and the Operative Dentistry Department. We encourage you to visit the Operative Dentistry Department page on the UNC School of Dentistry website (https://www.dentistry.unc.edu/academicprograms/ade/operative/) for additional information.

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**Program Overview**

With the increased complexity of restorative options, materials, techniques, adhesive dentistry strategies, caries management protocols, and esthetic dentistry possibilities, Operative Dentistry is once again in high demand.

The Department of Operative Dentistry at the University of North Carolina at Chapel Hill (UNC) offers a three-year graduate program leading to a Master of Science degree and a Certificate in Operative Dentistry. The primary objective of the program is to provide advanced Operative Dentistry training that will prepare graduates for careers in dental education and research. Graduates also have the potential for other careers such as clinical or technical research directors, and consultants to dental corporations, insurance providers, public health policy organizations, professional dental societies and philanthropic dental research or education funding agencies. Among others, our program alumni hold faculty appointments in dental schools in the US and internationally, leading positions in the dental industry, or continue their careers in private dental practice. Our graduate students come from very diverse backgrounds and different parts of the world, including the US, Brazil, Canada, Colombia, Iceland, India, Japan, Jordan, Pakistan, Peru, Saudi Arabia, Thailand, and Venezuela.

The Operative Dentistry Graduate Program was established in 1997 and accepts 2-3 students per year.
Curriculum

The Operative Dentistry Graduate Program curriculum includes core courses and discipline-specific courses. In addition, students can enroll in a wide range of elective courses based on their research and career interests, including courses in public health, epidemiology, clinical research methods, material sciences, oral biology, biostatistics and education. Students are also involved with research, patient care and teaching activities throughout the program.

Year 1 Overview (Begins July 1)

Summer Session
Clinical Pharmacology and Therapeutics
Regional Anatomy
Cariology
Introduction to Operative Dentistry

Fall Semester
Operative Dentistry Seminar
Operative Dentistry Literature Review
Operative Dentistry Graduate Clinic
Graduate Dental Biomaterials
Introduction to Research Design
Interdisciplinary Care Conference
Introduction to Extracellular Matrices
Introduction to Host Pathogens Interactions
Introduction to Dental Implants
Advanced Operative Dentistry
Teaching Internship: Functional Dental Anatomy

Spring Semester
Operative Dentistry Seminar
Operative Dentistry Literature Review
Operative Dentistry Clinical Seminar
Graduate Dental Biomaterials
Clinical Implantology
Biostatistics
Interdisciplinary Care Conference
Operative Dentistry Graduate Clinic
Advanced Oral Radiology

*Teaching Internship: Conservative Operative Dentistry*

**Year 2 Overview**

**Summer Session**
Operative Dentistry Graduate Clinic
*Teaching Internship: Clinical Teaching*

**Fall Semester**
Operative Dentistry Seminar
Operative Dentistry Literature Review
Operative Dentistry Research (Thesis Materials and Methods)
Operative Dentistry Clinic IV
Applied Dental Research Methods
Interdisciplinary Care Conference
*Teaching Internship: Advanced Operative Dentistry*
Operative Dentistry Clinic

**Spring Semester**
Operative Dentistry Clinical Seminar
Operative Literature Review
Operative Dentistry Research (Thesis Testing and Data Collection)
Operative Dentistry Graduate Clinic
Interdisciplinary Care Conference
*Teaching Internship: Operative Dentistry Clinic*

**Year 3 Overview**

**Summer Session**
Operative Dentistry Graduate Clinic
*Teaching Internship: Clinical Teaching*

**Fall Semester**
Operative Dentistry Graduate Clinic
Thesis Development
*Teaching Internship: Clinical Teaching*

**Spring Semester**
Operative Dentistry Graduate Clinic
Thesis Development
*Teaching Internship: Clinical Teaching*
Students in the Operative Dentistry Graduate Program are taught by faculty members from Operative Dentistry and other UNC School of Dentistry Departments. In addition, graduate students have seminars with invited guest speakers on a regular basis. Many of the Operative Dentistry faculty are accomplished authors and internationally recognized by their expertise in esthetic dentistry, adhesion, health services research and biomaterials.

<table>
<thead>
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<th>Faculty</th>
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<tr>
<td>Lee Boushell</td>
<td>Associate Professor, Graduate Program Director</td>
</tr>
<tr>
<td>Terence Donovan</td>
<td>Professor, Graduate Clinic Director Section Head of Biomaterials</td>
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<tr>
<td>Richard 'Scott' Eidson</td>
<td>Clinical Associate Professor</td>
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<tr>
<td>Harald Heymann</td>
<td>Professor</td>
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<tr>
<td>André V. Ritter</td>
<td>Professor, Department Chair</td>
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<tr>
<td>Christine Downey</td>
<td>Clinical Associate Professor AEGD Program Director</td>
</tr>
<tr>
<td>John Sturdevant</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Patricia Miguez</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Ricardo Walter</td>
<td>Clinical Associate Professor</td>
</tr>
<tr>
<td>Andrea Zandonna</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Gustavo Oliveira</td>
<td>Clinical Assistant Professor</td>
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Research

One vital component of our program is the development and successful completion of a thesis research project. Core courses in research design and protocol development assist students in this task. Specific research themes include basic (biomedical) research, behavioral and social sciences research, and translational research. Operative Dentistry graduate students are encouraged to identify a research topic and mentor early in the program, and to work with their mentor and committee towards the successful completion of the thesis project. Students typically defend the thesis in the spring of year three of the program.

The Department of Operative Dentistry is involved in a wide array of research projects spanning many interests, including in vitro biomaterials research, Operative Dentistry clinical research and health services research. The department also works collaboratively with other units and schools, extending the range of opportunities for graduate thesis research.

Examples of recent thesis research projects completed by Operative Dentistry graduate students include:

- “Comparison of clinical and digital radiographic detection of occlusal and proximal dental caries in caries-active adults” by Dr. Mario Ramos (advisor: Dr. Ritter)
- “Development and Assessment of Faculty Calibration methods in Pre-clinical Operative Dentistry” by Dr. Sumitha Ahmed (advisor: Dr. Boushell)
- “Effect of surface sealant on stain resistance of novel tooth colored restorative materials” by Dr. Supawadee Naoranrak (advisor: Dr. Donovan)
- "Comparison among ACP, Fluoride and a combination of ACP/Fluoride and their ability to remineralize white spot lesions in vitro" by Dr. Gustavo Oliveira (advisor: Dr. Tim Wright)
- "Effect of chemical cross-linking agents on dentin bonding” by Dr. Georgia Macedo (advisor: Dr. Mitsuo Yamauchi)
Since the primary objective of the program is to provide advanced Operative Dentistry training that will prepare graduates for careers in dental education, teaching also is a key component of our program. As noted in the curriculum section described previously, Operative Dentistry graduate students have the opportunity to engage in a variety of teaching internships, including pre-clinical laboratory, clinical teaching and didactic courses, offered by the department to UNC dental students.

Teaching
Clinical Patient Care

All Operative Dentistry graduate students provide patient care during weekly clinic sessions. Patient care is centered primarily on (1) caries risk assessment and management, and (2) conservative, esthetic, adhesive Operative Dentistry procedures, such as anterior and posterior composite resin restorations, esthetic composite additions following orthodontics, diastema closure, porcelain veneers, esthetic crowns, ceramic inlays/onlays, and restoration of fractured anterior teeth. Residents also receive didactic and clinical training in a variety of implant supported restoration techniques. Students are encouraged to thoroughly document cases with digital photography and records, and are required to present them throughout the program in both discipline-specific and interdisciplinary seminars.
Tuition, Fees and Financial Aid

Graduate students must pay tuition and fees for all three years of study and training. These fees are subject to change and a yearly increase of 5 percent to 10 percent should be anticipated each year.

Out-of-state and international students with permanent resident status (i.e., green card holders) are encouraged to establish legal residence in North Carolina and to apply for classification as state residents for tuition purposes. State laws preclude international students who are not permanent residents from establishing residency, so these students must pay the out-of-state rate in all semesters unless tuition remission is granted. Guidelines and application forms for establishing residency are available from the UNC Graduate School.

Financial aid in the forms of grants, fellowships, teaching assistantships and departmental stipends (approximately $6,500 per year in the 2014-2015 Academic Year) may be available but is subject to yearly budget considerations.
Application and Admission Requirements

Application Deadline

The deadline for completion of an application is March 13 for a program start date of July 1 of the same calendar year. However, preference will be given to applications received by the UNC Graduate School by December 3 of the previous calendar year. Candidates should apply for the Second Summer Session Term (July 1 start date).

Procedure

Applications for admission to the program are made through the UNC Graduate School. General questions may be directed to:

The Graduate School  
University of North Carolina  
200A Bynum Hall, CB# 4010  
Chapel Hill NC 27599-4010  
Phone: (919) 966-2611

Online applications are available at:  
http://www.gradschool.unc.edu/students_prospective.html. All applicants must submit three letters of recommendation to the program director, and a limited number will be afforded in-person interviews based on preliminary evaluation of the application packet. All application packets are reviewed by the program director and a faculty committee. Two or three applicants are accepted for admission each year, depending on funding and the qualifications of the applicant pool.

Admission criteria are applied equally to all applicants regardless of race, gender, color, national origin or religion. The University and the Department encourage minority student applications.
Requirements

Applicants must possess a D.D.S., D.M.D. or equivalent degree. Required materials for all applicants include: Graduate School application, non-refundable application fee, transcripts from each university attended, current letters of recommendation, statement of purpose and a current Curriculum Vitae.

International Students

International applicants, including those with green card status, must submit official academic records bearing the signature of the registrar or another academic official and either a raised or ink stamp or seal of the issuing institution. Records must be issued in the original language and be accompanied by certified English translations.

To be considered for admission, international students are required to take the TOEFL exam and produce a score of at least 90. The exam score must be less than two years old.

International students must submit financial certification as part of the Graduate School application. A completed Financial Certificate outlining financial support available, along with original evidence to support the amounts indicated (e.g., bank statements, scholarship letters), must be submitted along with the application for admission.
Department Information

The UNC Department of Operative Dentistry has a strong tradition in the field. The Department performs a broad range of activities that involve the four primary missions of the UNC School of Dentistry: teaching, scholarship, patient care and service. Our faculty members are all involved in didactic, preclinical, clinical and extramural teaching programs. The department has published six editions of The Sturdevant's Art and Science of Operative Dentistry, which traditionally has been the world's top-selling dental textbook, and its faculty members have received numerous teaching awards over the course of their careers.

Scholarly activities are always happening at the UNC School of Dentistry. Foremost in that scholarship, faculty members participate in research involving a variety of clinical, dental materials and health services topics. In the area of service, the Department and its individual members offer numerous continuing education courses locally, nationally and internationally.

Numerous activities often involve patient care activities. The undergraduate and graduate programs provide the full spectrum of Operative Dentistry and esthetic dentistry procedures. New procedures and products are evaluated in clinical research with patients. The clinical faculty also are active participants in the UNC Dental Faculty Practice.
UNC School of Dentistry

The UNC School of Dentistry was founded in 1950 and is consistently ranked as one of the nation’s best dental schools. The school hosts a D.D.S. program, fourteen Advanced Education Certificate and Masters Degree Programs, and two Ph.D. programs. We are located in the heart of the Health Sciences UNC Campus, which encourages collaboration between the School of Dentistry and the other health sciences schools.

The UNC School of Dentistry is dedicated to providing its students top-quality dental education at undergraduate, graduate, doctoral and postdoctoral levels. Students at our school are exposed to an unrivaled level of scholarship and excellence across all our school’s disciplines. We encourage collaboration across departments between students, researchers and professors alike since we understand that working together makes us a better, more productive place to learn and work. Students at the UNC School of Dentistry are challenged to balance this appreciation for collaboration with developing a sense of independent thinking and a passion for lifelong learning, later enhanced through our continuing education program available to all our graduates.

At the UNC School of Dentistry, we believe we prepare our students for any challenges they may meet along their selected career path. We strive to provide an environment that encourages constant learning and high standards while exposing them to a wide range of diverse cultures and patient needs to ensure they leave our school well-rounded and well-prepared for life away from UNC.
UNC Chapel Hill

The University of North Carolina at Chapel Hill is the US first public university and first opened its doors in 1795. Our University educates more than 29,000 undergraduate, graduate and professional students each year. These students come not only from North Carolina, but also from upwards of 40 states across the US and multiple countries around the world annually. Our campus spans more than 700 well-manicured acres, much of which has been developed with long-term sustainability in mind. In fact, all our new building projects must meet a minimum of LEED Silver certification.

At UNC, our mission is to serve as a center for research, scholarship and creativity while instructing a diverse community of students who will become the next generation of leaders. In order to accomplish that mission, we hire exceptional faculty and staff to educate our students and help prepare them to make the world a better place. Our students actively work to assist local and global citizens through countless charity events and non-profit activities sponsored by our more than 600 campus organizations available for student participation.

Our student body, history, strong alumni network, commitment to scholarship and dedication to excellence in education are just a few of the things that set UNC apart from other universities. We firmly believe that UNC offers a top-level education to each of our students during their time with us, and that our sense of family and community does not expire after graduation but is instead part of our alumni for a lifetime.
Life in Chapel Hill

The Town of Chapel Hill is located principally in Orange County and slightly in Durham County in the north central portion of North Carolina on the Piedmont Plateau, East Coast of the United States. As one of the three “points” of the Research Triangle, Chapel Hill, along with Raleigh and Durham, continually receives accolades for being a top location to live, study, and conduct business. Our immediate neighbors are Carrboro to the west and Hillsborough to the north. Chapel Hill is approximately 4 hours driving distance from Washington D.C., and a short 1.5 hours flight from New York City and Miami. Our local international airport (RDU) has direct flights to most major US cities and many international hubs.

Chapel Hill has built a reputation as being a leader in North Carolina on social, economic and environmental issues. The Chapel Hill-Carrboro City School System is considered to be one of the best in the nation. Consistently ranking at the top of the state in student tests, the system also boasts the lowest dropout rate in the state. The system consists of 17 schools: 9 elementary, 4 middle, 3 high schools and the UNC Hospital School.

The arts abound in Chapel Hill, which makes us a community that values the ways that art and culture enrich our lives, help define the unique and special qualities of our town, and teach us about each other. Chapel Hill has a multitude of restaurants, taverns, clubs and theaters; different eating places throughout town are like hidden jewels, reflecting the different moods, cultures and flavors of our area.

For more information on Chapel Hill, visit http://www.chocvb.org and www.ci.chapel-hill.nc.us
UNC Operative Dentistry Masters Program
Contact Information

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