

## CURRICULUM VITAE: Lyndon F. Cooper, D.D.S., Ph.D.

EDUCATION

Date Confirmed	Institution and Location	Degree
1992	National Institute for Dental Research	Post-doctoral Fellowship
1990	Eastman Dental Center, Rochester, New York	Prosthodontics Certification
1990	Dentist-Scientist Program University of Rochester	Ph.D. Department of Biochemistry
1985	Eastman Dental Center, Rochester, New York	Oral Biology Fellowship
1984	Long Island Jewish -Hillside Medical Center New Hyde Park, New York	GPR Certificate
1983	New York University College of Dentistry, New York, New York	DDS
1979	Hobart College, Geneva, New York	

DENTAL LICENSURE

2016 - present	State of Illinois License (019.030537)
1993 - present	North Carolina Interim Permit
1983-1990	New York State Dental License
1983 -	New York, North East Regional Board

SPECIALTY BOARDS

2013 -	Recertification, American Board of Prosthodontics
2005-	Recertification, American Board of Prosthodontics
1996 -	Diplomate, American Board of Prosthodontics

**PRIVATE DENTAL PRACTICE**

1984- 1986	Private Practice, Pittsford, New York
1993-2015	Dental Faculty Practice The University of North Carolina at Chapel Hill Practice Limited to Prosthodontics
2017- 2019	Vence Dentistry; Practice Limited to Prosthodontics

**PROFESSIONAL DEVELOPMENT**

2005 - 2008	Kermit Eide, Tecker and Associates Knowledge-Based Governance Training American College of Prosthodontists
1998	Center for Creative Leadership Five-day Executive Leadership program Greensboro, NC

**ADMINISTRATIVE APPOINTMENTS**

2015-present	University of Illinois at Chicago College of Dentistry	Head, Department of Oral Biology
	<ul style="list-style-type: none"> <li>○ Led comprehensive revision of MS in Oral Sciences Curriculum</li> <li>○ Successfully transitioned the NIH funded DMD/PhD in oral sciences to a successful program for DMD/PhD and PhD for Trained Dentists</li> <li>○ Established universal teaching commitment of all departmental faculty</li> </ul>	
2015-present	University of Illinois at Chicago College of Dentistry	Associate Dean for Research
	<ul style="list-style-type: none"> <li>○ Established grant writing mentorship program involving professional grant advisor</li> <li>○ Increased NIH research funding from \$2M (2017) to &gt;\$5M (2021)</li> <li>○ Established the Clinical Research Center</li> <li>○ Co-founded the UIC Functional and Regenerative Materials Sciences group ( a pan-University effort to establish collaborations across colleges that has led to new NIH grants and pending Center approval)</li> <li>○ Led submission of NIH shared instrument grant (S10) involving 20 investigators from across campus.</li> </ul>	
2008-2012	The University of North Carolina School of Dentistry	Chairperson, Department of Prosthodontics
	<ul style="list-style-type: none"> <li>○ Managed great recession-associated budget reductions and reduction of force while meeting established teaching, research, and service goals</li> <li>○ Led faculty through revision of clinical curriculum that moved from discipline-specific clinic to general dentistry clinic activities</li> </ul>	

- Created new course; Dent423 - Esthetics in Dentistry for 4<sup>th</sup> year DDS students
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| 2002-2015 | The University of North Carolina School of Dentistry | Director of Advanced Education in Prosthodontics |
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- Organized the 2007 ACP/UNC Education Summit, the first national meeting focused on digital technology in dental education
  - Innovated by establishing implant surgery and digital technology within the training program
  - Expanded program of six residents to nine residents and one implant fellow, increasing clinical revenue from \$350K to \$1.2M without increasing faculty appointments or staff
  - Trained three prosthodontists who have been/are Graduate Program or Implant Program directors in US dental schools.

### ACADEMIC APPOINTMENTS

2019-present	University of Illinois Chicago Honors College	Fellow, Honors College
2015-present	University of Illinois at Chicago Graduate College	Full member of the Graduate Faculty
2003-2015	The University of North Carolina School of Dentistry	Stallings Distinguished Professor of Dentistry
2002-2015	The University of North Carolina School of Dentistry	Director of Advanced Education in Prosthodontics
1998-2015	The University of North Carolina School of Dentistry	Associate Professor with Tenure
1993-2015	The University of North Carolina	Assistant Professor, Department of Prosthodontics, Biochemistry & Physics,
1993-2015	Prosthodontist	Dental Faculty Practice The University of North Carolina
1993-1998	The University of North Carolina School of Dentistry	Assistant Professor
1991-1993	National Institute of Dental Research, Bethesda, MD.	Clinical Staff Fellow,
1984-1985	Eastman Dental Center, Rochester, New York.	Clinical Investigator,

### PROFESSIONAL APPOINTMENTS

Year	Institution	Appointment
2021	NIH Study Section (MTE)	Reviewer
2020	NIH Study Section	Reviewer

	(RRDS - RR&D Small Projects in Rehabilitation Research (SPiRE), CYCLE: RRD / Fall / 2020)	
2020-present	UIC Integrity Procedures Committee	Member
2020-present	COVID Human Subjects Research Restart Review Committee	Member
2019	NIH Study Section ZRG1 MOSS-Q (02)	Reviewer
2019	NIH Study Section (OCDS)	Reviewer
2019	NIH Study Section (ZRG1 MOSS-K(57)R)	Reviewer
2017	Thesis Opponent; Goteborg University	S Sayardoust; Mentor: Peter Thomsen, The Sahlgrenska Academy
2016	NIH Study Section (ZDE1/ZGR1)	Reviewer
2016	NIH Study Section (OCDS)	Reviewer
2013-2015	American College of Prosthodontists Education Foundation	Director, Board of Directors
2013-2015	Academy of Osseointegration	Director, Board of Directors
2014-	American College of Prosthodontists	Editor Emeritus, "The Messenger"
2013-2014	American College of Prosthodontists	Editor, "The Messenger"
2010	American College of Prosthodontists	President
2009	American College of Prosthodontists	President-Elect
2008	American College of Prosthodontists Education Foundation	Chairperson; 2012 Capital Campaign
2008	American College of Prosthodontists	Vice- President
2007-2010	AstraTech Implants AB Scientific Advisory Board	Member
2007	Thesis Opponent, Goteborg University	L Meirelles; Mentor: Thomas Albrektsson, Goteborg University
1981	NIDR Summer Research Training Fellow	Eastman Dental Center

### **SOCIETY MEMBERSHIPS**

1983-1990	American Dental Association
1985 -present	International Association for Dental Research
1988 –2015	American Association for Advancement of Science
1994 – 2003	American Society for Bone and Mineral Research

1995 – present	American College of Prosthodontists
1996 – present	Fellow, American Board of Prosthodontists
1996 – 1999	Associate Fellow, Academy of Prosthodontics
1999 – 2001	International Society for Bone and Mineral Research
1999 – 2013	Fellow, Academy of Prosthodontics
2013 -2015	American Dental Association

### **HONORS AND AWARDS**

2020	Founders Award, American College of Prosthodontists Education Foundation
2019	IADR/AO Osseointegration Innovation in Implant Sciences Award
2018	Schweitzer Award for Research, Greater New York Academy of Prosthodontics
2013	Annual Oral Clinical Research Presentation Award Academy of Osseointegration
2012	1st place, Sharry Competition American College of Prosthodontists Mentor and co-author, Dr. Bryan Limmer
2009	International Association of Dental Research Prosthodontics and Implantology Distinguished Scientist Award
2004	American College of Prosthodontists Clinician / Researcher Award
2003	Stallings Distinguished Professor of Dentistry UNC Endowed Professor
2001	American College of Prosthodontists Young Investigator Award
1999	1st place; Tylman Award American Academy of Fixed Prosthodontics Mentor and co-author Dr. Paula Yliheikkilä
2001	American College of Prosthodontists Young Investigator Award
1995	NIDR - Career Development Award.
1994	The Osseointegration Foundation “Outstanding Poster Presentation Award”.

- 1993 Nominee, UNC Chapel Hill Pew Biomedical Scholar.
- 1993 NIDR First Award
- 1989 The American College of Prosthodontists, Essay Award
- 1985 NIDR Dentist - Scientist Award
- 1983 The New York Graduate Chapter of Sigma Epsilon Delta Fraternity Award Presented for "Excellence in Fixed Partial Prosthesis".
- 1983 The American Academy of Oral Medicine Award  
Presented to "the senior student showing the greatest interest in disease processes in the oral cavity"
- 1983 The American Society of Dentistry for Children Award  
Granted for "Excellence in Pedodontics"

MAJOR TEACHING AND ADMINISTRATIVE RESPONSIBILITIES

## Fall Semester

<u>Year</u>	<u>Course</u>	<u>Role</u>	<u>Course Description</u>
1994 – 2000	Biochemistry 103	Lecturer	Dental Biochemistry 14 fifty minute lectures DNA structure, Gene expression, Extracellular Matrix
1997 - 2015	Peri 820	Lecturer	Introduction to Implants Graduate student seminars, Four 1 hour lectures
1998 - 2015	Oral Biology 761	Lecturer	The Molecular and Cellular Pathogenesis of Inflammatory Diseases 2 hours
1998 - 2015	Oral Biology 740	Lecturer	Extracellular Matrices
1999 - 2002	Pros 701, 703, 705	Seminar Leader	Introduction to Prosthodontic Literature Fifteen 3 hour seminars
2000 - 2005	Peri 760	Lecturer	Seminar in Periodontology Relationship of Prosthodontics and Periodontics – 2 hours
2000– 2015	Dent 320	Lecturer	Dental Implants Six 1 hour lectures
2001 - 2015	Biochemistry 103	Lecturer	Dental Biochemistry 8 fifty minute lectures Gene Expression and Extracellular Matrix
2002 - 2015	Pros 701, 703, 705	Director	Introduction to Prosthodontic Literature Fifteen 3 hour seminars
2002 - 2015	Pros 721, 723, 725	Director	Prosthodontic Principles, Diagnosis, and Treatment Planning – Fixed and Removable Fifteen 1 hour seminars
2002 - 2015	Pros 801, 804, 807	Director	Advanced Clinical Fixed and Removable Prosthodontics
2002 - 2015	Pros 731, 733, 735 Dent 423	Director	Prosthodontic Diagnosis and Treatment Planning
2010 - 2015	OSCI581	Director	The Essentials of Dental Esthetics
2016-2018		instructor	Advanced Oral Biology Seminar (2 hrs)

2018,2020	BioE594	Instructor	Biomedical Implants
2018-present	OSCI561	Instructor	Molecular Basis of Oral Diseases and Relationship to Systemic Health
2018-present	OSCI564	Director	Graduate Seminar Series
2019-present		Instructor	Graduate Prosthodontic Clinic 1 3 hour clinic/week

### Spring Semester

<u>Year</u>	<u>Course</u>	<u>Role</u>	<u>Course Description</u>
1997 - 2005	Peri 821	Seminar Leader	Clinical Implantology Two seminars
1997 - 2015	FP211	Lecturer	Pre-clinical Fixed Prosthodontics 1 hour lecture
1997-2003	Oral Biology 730, 731, 732	Lecturer	Biological Concepts Two 1 hour lectures
1998- 2015	Oral Biology 762	Lecturer	The Molecular and Cellular Pathogenesis of Inflammatory Diseases
2000 - 2002	Pros 702, 704, 706	Seminar Leader	Introduction to Prosthodontic Literature Fifteen 3 hour seminars
2000 - 2002	Pros 732, 734, 736	Seminar Leader	Prosthodontic Diagnosis and Treatment Planning
2002 – 2015	Pros 702, 704, 706	Director	Introduction to Prosthodontic Literature Fifteen 3 hour seminars
2002 -2015	Pros 722, 724, 726	Director	Prosthodontic Principles, Diagnosis, and Treatment Planning – Fixed and Removable; Fifteen 1 hour seminars
2002 - 2015	Pros 802, 805, 808	Director	Advanced Clinical Fixed and Removable Prosthodontics
2002 - 2015	Pros 732, 734, 736	Director	Prosthodontic Diagnosis and Treatment Planning
2003 -	Oral Biology 741	Course Director	Molecular Control of Bone Mass 18 hours lecture/18 hours seminar
2011, 2013	Senior Elective	Director	Treatment of the Edentulous Patient
2012	Perio 821	Instructor	Dental Implant Seminar (14 hours)
2016- present		Instructor	Dental implant lecture (1 hour)
2015- present		Facilitator	Small Group Learning
2016-2017		Instructor	Advanced Oral Biology Seminar (2 hrs)
2018-		Instructor	Dental Implant Biology (PG perio;2 hrs)



2018-present	OSCI564	Director	Graduate Seminar Series
2018-present	OSCI563	Instructor	Wound Healing and Regenerative Sciences
2019-present		Instructor	Graduate Prosthodontic Clinic 1 3 hour clinic/week

**Summer Semester**

<u>Year</u>	<u>Course</u>	<u>Role</u>	<u>Course Description</u>
1997-1999	Dental Implant Elective	Lecturer	Predoctoral elective lecture and laboratory course Seven 3 hour laboratories
1997 - 1999	Dent 320	Lecturer	Dental Implants Five 1 hour lecture
1999 - 2000	Oral Biology 720	Lecturer	Advanced Oral Biology Four 1 hour seminars “Current research topics”
2000 – 2002	Pros 803, 806, 809	Lecturer	Advanced Clinical Fixed and Removable Prosthodontics
2001 - 2015	Oral Biology 720	Director	Advanced Oral Biology Four 1 hour seminars
2002 - 2015	Pros 803, 806, 809	Director	Advanced Clinical Fixed and Removable Prosthodontics
2003 - 2015	Orientation	Director	Graduate Prosthodontic Resident Orientation; 40 hours of pre-clinical instruction
2016-2020	Orientation	Director	PhD Program in Oral Biology 2 – 4 hours of orientation
2019-present		Instructor	Graduate Prosthodontic Clinic 1 3 hour clinic/week
2017 – present	Summer Research Fellowship Program	Instructor	Summer Research Fellowship Program

**COMMITTEE APPOINTMENTS & CONSULTANT POSITIONS****Dental School**

1993-2015	UNC Implant Team
1993-1997	UNC Quality Assurance Committee
1995-1999	UNC Clinical Research Unit Committee
1996-2015	UNC Research Advisory Committee
1997-2015	UNC Oral Biology Academic Advisory Committee
1997-2000	UNC Dental School Admissions Committee
1999-2008	UNC Promotion and Tenure Advisory Committee
2001-2009	UNC Dental Foundation Fellowship Committee
2003- 2015	UNC Advanced Dental Education Committee
2005- 2015	UNC Full Professors Committee
2008- 2012	UNC General Dentistry Advisory Board
2008-2012	UNC Department Chairs Committee
2013	UNC Ad hoc Committee on Digital Technology
2015- present	Member, Clinic and Research Day Committee
2015- present	Chair, UIC College of Dentistry Research Advisory Committee
2016- present	Member, Graduate Dental Education Committee
2016 – present	Chair, PhD Program Committee
2016- 2017	Chair, Orthodontic Department Head Search Committee
2017-present	Digital Dentistry Innovation Committee
2017 – present	MS Curriculum Committee
2018-2019	Chair, Litowitz Professorship Search Committee
2020-2021	Member, Restorative Department Head Search Committee

**University**

1995-1997	Ad Hoc Committee; Review of Dental Research Center, UNC School of Dentistry
1995-1997	Search Committee Clinical Track Professor Positions Department of Prosthodontics, UNC School of Dentistry
1997	Search Committee; Graduate Program Director, Department of Prosthodontics, UNC School of Dentistry
1999- 2000	Search Committee; Research Associate Professor Department of Prosthodontics, UNC School of Dentistry
2003- 2004	Chair Search Committee; Assistant Professor

	Department of Prosthodontics, UNC School of Dentistry
2004 – 2006	University IACUC Committee, Alternate Member
2013	Member, Search Committee; Assistant Professor
	Department of Prosthodontics, UNC School of Dentistry
2013-2014	Chair Search Committee; Administrator of Integrated Biomedical Science Curriculum, UNC School of Dentistry
2015-Present	Member, UIC Research Advisory Committee,
2015-2019	Member, UIC Research Resources Center Committee
2017	Member, Search Committee, UIC Vice Chancellor for Research
2019- present	Member, UIC Integrity Procedures Committee
2017- present	Cancer Center Training and Education Committee
2020 – present	OVCR Human Subjects Research Restart Committee

## National

1994	Reviewer, Special Study Section - NIDR study section peer review for specialized materials science research center.
1995, 1996	Ad Hoc Reviewer, NIDR Study Section Reverse Site Visit - Materials Research Centers
1996-2015	Committee member, Research and Education Committee of the Academy of Prosthodontics
1997- 2001	Research Committee Member Academy of Osseointegration
1998-1999	Committee Member, Research Committee American College of Prosthodontics
1994- 2015	Editorial Review Board, The Journal of Prosthetic Dentistry
1996- present	Ad Hoc Reviewer, The Journal of Dental Research
1999- 2015	Ad Hoc Reviewer, NIDR Study Section, Program Project Grant Review
1999- 2001	Chair, Research Committee American College of Prosthodontists
1999-2003	Editorial Review Board, International Journal of Oral and Maxillofacial Implants
1999-2000	Ad Hoc Reviewer, Journal of the American Dental Association
2000	Consultant, Osiris Therapeutics, Inc., Baltimore, MD

2000 Committee Member,  
Scientific Liaison Committee of the American Association for Dental Research

2001 Search Committee for Faculty member,  
Center for Genomics and Dental Research Center UNC School of Dentistry

2001 Consultant  
The US Army; Graduate Prosthodontics Residency  
Fort Gordon, GA

2001 Program Chairperson for the 2001 Annual Session of the American College of  
Prosthodontists

2001 Consultant –  
Articel Sciences Inc., Durham NC

2001 External Reviewer  
Combined Program in Bioengineering and Prosthodontics  
Dalhousie University, Halifax Nova Scotia

2001 Ad Hoc Reviewer –  
US Department of State for the ISTC (International Science and Technology Center,  
in Moscow) and STCU (Science and Technology Center in Ukraine, in Kiev). STCU  
Proposal #1645 "Titanium Dental Implants with Controlled Fixation System and Kit  
of Tools for their Incorporation."

2001- 2008 Director, Education and Research Division  
Board of Directors;  
American College of Prosthodontists

2001- 2008 Chairperson, Research Grants Subcommittee Research Committee  
Academy of Osseointegration

2001 External Reviewer  
Combined Program in Bioengineering and Prosthodontics  
Dalhousie University, Halifax Nova Scotia

2002 Editorial Review Board  
Clinical Oral Implants Research

2002-2015 Ad Hoc Reviewer  
Biomaterials

2002-2015 Ad Hoc Reviewer  
Tissue Engineering

2002, 2004 Ad Hoc Reviewer  
Journal of Esthetic Dentistry

2002-2007 Data Safety Monitoring Board  
NIDCR member, Reviewer

2003 Ad Hoc Reviewer  
Research Awards Committee,  
College of Dentistry, University of Illinois at Chicago

2003-2007	Editorial Review Board International Journal of Prosthodontics
2004, 2006	Ad hoc Reviewer- Stem Cells
2006	International Journal of Oral Maxillofacial Implants Review Board Member
2006	Participant- Reframing the Future of Prosthodontics. An Invitational Leadership Summit.
2006	Reviewer, Graduate Prosthodontics Program, University of Southern California
2007	The Scope of Prosthodontics Organizing chairperson, ACP UNC Chapel Hill, NC
2007	Science on Implant Dentistry, Academy of Osseointegration Committee member
2009-Present	PEERS North America Platform for Exchange of Education, Research and Science Co-chairperson
2010	Impact of Biological and Technological Advances on Implant Dentistry Academy of Osseointegration Silver Anniversary Summit Committee member
2010	Annual Chairperson; CODA / ADA Dental Specialty Group February and August Meetings.
2010	Reviewer, RED10 "Research Evaluation for Development 2010, University of Gothenburg.
2010	Committee member, Annual Session Committee, Academy of Osseointegration
2010	American College of Prosthodontists- Member – CODA Standards Task Force
2011-2015	American College of Prosthodontists - Member – Annual Session Committee
2011-2015	American College of Prosthodontists - Advisor– Research Committee
2011-2015	American College of Prosthodontists – Editor – <i>THE ACP MESSENGER</i>
2012-2015	ACP Education Foundation – Chair, Development Committee
2010-2013	Academy of Osseointegration – member, William Laney Award Committee
2011-2013	IADR – member, Distinguished Scientist Awards Committee
2011-2014	Academy of Osseointegration – Chair, Annual Session Committee
2012-2013	Academy of Osseointegration – Chair, Annual Session Committee
2012-2015	Academy of Osseointegration – Chair, Maxillary Therapy Summit Group V

2014- 2015	Academy of Osseointegration – Member Board of Directors
2014- 2015	ACP Education Foundation, Chair, Board of Directors
2014- 2020	Member ACP Education Foundation Board of Directors
2014	Consultant, Delta Dental Group.
2014	Consultant, University of Helsinki, Search Committee Review for Professor in Masticatory Physiology and Biomaterial Services
2015	Consultant, Affordable Dentures, Kinston, NC
2017	GlaxoSmithKline, 2017 Dental Care Opportunities Advisory Board
2017-present	Scientific Advisory Board, SupplyClinic
2020	Reviewer, PhD Thesis, Dr. Henrik Skjervens, University of Oslo, Norway
2020	Member, ACP Digital Dentistry Program Committee
2021	Member, Academy of Osseointegration Credentialing Committee

**INVITED PRESENTATIONS, 2017 to present;** (previous presentations in Appendix A)

January 2017	Young People, Old Problems, New Ideas Bay Oral Surgery and Implant Center 6 hour lecture Green Bay, WI
Jan 2017	Advancing Dental Implant Therapy; The Longevity Question Taiwan Association of Implant Dentistry 8 hour lecture Taichung, Taiwan
February 2017	Dental Implant Overdentures Chicago Midwinter Meeting 1 hour Lecture Chicago, IL
February 2017	The Impact Of Technology On The Prosthodontic Frontier American Academy of Fixed Prosthodontics 45 minute lecture Chicago, IL
February 2017	Meissenger Mile High Meeting The Molecular Basis of Peri-implant Mucosal Integration 1 hour lecture Vail, CO
February 2017	Teeth for a Lifetime; longevity and dental therapy Dentsply World Symposium 30 minute presentation Tokyo, Japan
April 2017	Dental Implant Therapy Greater Milwaukee Dental Association 7 hours Milwaukee, WI
April 2017	Digital Technology and Dental Implants College of Dental Medicine at NOVA Southeastern University 3 hours Ft. Lauderdale, FL
May 2017	Teeth for a Lifetime; longevity and dental therapy The Power of Precision; Success in Implant Therapy Dentsply World Symposium Two - 30 minute presentations San Diego, CA
June 2017	Young People, New Problems and Dental Implants Maurice H. Kornberg School of Dentistry, Temple University 2 hour lecture Philadelphia, PA
June 2017	Teeth for a Lifetime; longevity and dental therapy Dentsply World Symposium 30 minute lecture Nice, France
July 2017	Biofilm-mediated Alterations in Periimplant Tissue Health A Molecular Assessment of Peri-implantitis American Association of Oral Maxillofacial Surgeons 1 hour lecture

April 2017	Las Vegas, NV Dental Implant Success and the Peri-implant Mucosa. 99 <sup>th</sup> Annual Meeting of the Academy of Prosthodontics 30 minute lecture
August 2017	Sarasota, FL Zirconia, Success with Zirconia Prostheses/ Latin American Osseointegration Congress 2 hour lecture
September 2017	Sao Paulo, Brazil Genetic Basis of Dental Diseases 69 <sup>th</sup> Annual Midwest Seminar of Dental Medicine 4 lectures (1 hour each)
September 2017	Delavan, Wisconsin A Data Driven Approach to Single Dental Implant Success The University of Missouri-Kansas City School of Dentistry 2017 Implant Symposium 1 hour lecture
October 2017	Kansas City, MO Precision, Success in Dental Implant Therapy Drs Winston and Allen Study Club 3 hours
October 2017	Pasadena, CA Asociacion Colombiana de Prosthodontia 61 <sup>st</sup> international congress Application of Digital Dentistry in Implantology 6 hours lecture
October 2017	Cartegena, Colombia 52 <sup>nd</sup> Annual Elliot Feinberg Restorative Conference; New York State 9 <sup>th</sup> District Dental Association Dental Implant Esthetics 6 hours lecture
November 2017	White Plains, NY Implant Therapy for Edentulism American College of Prosthodontists Corporate Forum 3 hour lecture
December 2017	San Francisco, CA Precision; Success in Dental Implant Therapy Louisiana State University College of Dentistry 6 hour lecture
February 2018	New Orleans, LA Precision, Success in Dental Implant Therapy Commonwealth Oral and Facial surgery 6 hour lecture
March 2018	Richmond, VA Peri-implantitis 2018 AAOMS Annual Meeting 1 hour lecture
March 2018	Las Vegas, NV Osseointegration 2018 Association of Dental Research Annual Meeting 30 minute lecture
	Ft. Lauderdale, FL



April 2018	Impact of Technology on Dental Education 2018 American Dental Educators Association Annual Meeting 30 minute lecture Orlando, FL
April 2018	A Data Driven Approach to Single Tooth Esthetics University of Pennsylvania, NPAW celebration 2 hour lecture Philadelphia, PA
April 2018	Australasian Academy of Osseointegration Annual Congress Single tooth implant success and digital dentistry 2 hour lecture Melbourne, Australia
May 2018	A Data Driven Approach to Single Tooth Esthetics 2018 Australasian Osseointegration Society Conference 4 hour lecture Melbourne, Australia
June 2018	Dental Implant Therapy Annual Brewer Conference, Eastman Dental Center Keynote Speaker, 6 hours Rochester, NY
June 2018	Envisioning a Prosthodontic Future Pacific Coast Prosthodontic Society Annual Meeting 1 hour lecture Carlsbad, CA
August, 2018	Academy of Osseointegration Summit Meeting Group Chair, Current Best Evidence for Management of the Edentulous Maxilla Oak Brook, IL
September 2018	Digital Dentures, A Unique Modular Approach 2018 IDT International Digital Denture Symposium 1 hour lecture Phoenix, AZ
October 2018	European Academy of Osseointegration "Inspirational Talks" Moderator and Speaker 2 hours Vienna, Austria
October 2018	Dentsply Sirona Implants Kongress Single tooth implant esthetic success 1 hour lecture Warsaw, Poland
October 2018	How digital technology will change dentistry. 3Shape Users Conference 1 hour lecture Phoenix, AZ
November 2018	Impact of Technology on Prosthodontic Dental Education 2018 American Dental Educators Association Annual Deans Meeting 30 minute lecture La Jolla, CA
December 2018	Dentsply International Faculty Forum Future Issuers in Implant Dentistry

March 2018	30 minute lecture Novel Planning Guidelines for Dental Implant Success; From Fundamentals to Esthetics Carolina Oral & Facial Surgery 2 hour lecture Cornelius, NC
March 2018	Precision, Success in Dental Implant Therapy Bay Center for Oral and Implant Surgery 2 hour Lecture Tampa, FL
March 2018	ADEA Annual Session and Exhibition ACP/ACPEF Digital Dentistry Curriculum Initiative 1.5 hour panel discussion Orlando Florida
April 2018	Novel Planning Guidelines for Dental Implant Success; From Fundamentals to Esthetics Greater Milwaukee Dental Association 6 hour lecture Milwaukee, WI
April 2018	Precision, Success in Dental Implant Therapy 9 <sup>th</sup> District New York State Dental Society 3 hour lecture White Plains, NY
August 2018	Dental Implant Therapy DentsplySirona 2 hour lectures each Beijing, Wuhan, and Shenzhen China China
September 2018	Single Tooth Implants / Denture Diagnosis and Techniques Southwest Dental Conference 4 hour lecture Dallas, TX
September 2018	International Digital Denture symposium Digital Denture Technology 1 hour presentation Phoenix AZ
October 2018	Implant Therapy for the Edentulous Patient; A review of the latest workflow and treatment options Crescent Oral Surgery 6 hours lecture Richmond Hill, ON Canada
November 2018	Digital Technology and Education 2018 ADEA Deans Meeting 30 minute lecture La Jolla, CA
November 2018	How Digital Technology Will Change Dentistry #Shape Digital Symposium 1 hour lecture Phoenix, AZ
January 2019	Ivoclar Vivadent Key Opinion Leader Retreat

	The Impact of Technology on The Future of Prosthodontics 30 minute lecture Buffalo, NY
February 2019	Raleigh Perio Study Club Removable Prosthodontics and Implant Therapy 4 hour lectures Raleigh, NC
February 2019	Forsythe County Dental Society Reproducible excellence in dental implant restoration 2 hour lecture Winston-Salem, NC
February 2019	International Interdisciplinary Dental Conference Management of the peri-implant tissue interface. An esthetic imperative 2 hour lecture. Lake Tahoe, CA
March 2019	Frances B. Vedder Society Digital Technology and Dental Implant Therapy Full-day seminar Lansing, Michigan
March 2019	Baker Study Club Two 4 hour seminars Dental Implant Therapy Napa, California
May 2019	ADI Biannual Meeting Comprehensive Therapies for Single Tooth Replacement: What is Enough? 45 minutes Edinburgh, Scotland
June 2019	Academy of Prosthodontics Annual Meeting Short Implants and Emerging Dental Implant Therapy? 45 minute lecture Banff, Alberta, Canada
June 2019	DensplySirona; Innovations and advancements in implant dentistry The digital transformation Three hour lecture Charlotte, NC
June 2019	International Association for Dental Research Academy of Osseointegration/IADR Joint Symposium The role of Macrophages in Osseointegration. 30 minute presentation Vancouver, BC, Canada
June 2019	International Periodontics and Restorative Dentistry Symposium Harnessing Therapeutic Responses to Enhance Dental Implant Therapy 45 minute Presentation Boston, MA
August 2019	DentsplySirona Conferences on Implantology The impact of digital technology on dental implant esthetics. 1 hour lecture Beijing, Shanghai and Yinchuan China
September 2019	European Academy of Osseointegration Moderator, Corporate Forum 2 hours

September 2019	Lisbon, Portugal Dr. Rodriguez Study Club The Treatment of Edentulism 4 hours lecture
October 2019	Los Angeles, CA DentsplySironaWorld Keynote Presentation The Evolution of Dental Implant Design 20 Minute Presentation Las Vegas, NV
November 2019	The Northeastern Gnathologic Society The Biologic Basis for Single Tooth Implant Esthetics 2 hour presentation New York, NY
November 2019	Minneapolis Dental Study Club Comprehensive Dental Implant Therapy 4 hours Presentation Minneapolis, MN
December 2019	International Faculty Forum What Matters in Implant Design 20 minute presentation Mainz, Germany
January 2020	Medical College of South Carolina School of Dentistry Dental Implant Complications 1 hour lecture to D3 students Charleston, SC
February 2020	Chicago Dental Society Complete Denture Therapy / Implant Overdentures 6 hours lecture Chicago, IL
February 2020	American Academy of Fixed Prosthodontics The Impact of Technology on Prosthodontics 40 minute lecture Chicago, IL
March 2020	Pacific Dental Conference Dental Implant Therapy 3 hours lecture Vancouver, BC Canada
April 2020	DentsplySirona China Implant Treatment of Edentulism 1 hour lecture WEBINAR
April 2020	Dr. Miguel Ortiz Live on Instagram Beauty Without Teeth or Implants 1 hour Lecture WEBINAR
April 2020	University of Pennsylvania, National Prosthodontics Awareness Week Systemic Factors Influencing Dental Implant Failures 1 hour lecture WEBINAR
June 2020	Prosthodontics Webinar Series Targeting Africa (Dr. Uvoh Onoriobe)

	Dental Esthetics 1 hour lecture WEBINAR
July 2020	Prosthodontics Webinar Series Targeting Africa (Dr. Uvoh Onoriobe) Control of Single Tooth Implant Dental Esthetics 1 hour lecture Webinar
October 2020	Dr. Kasmer's Study Club Implant therapy for the edentulous patient: A review of the latest workflow and treatment option 2 hour lecture
October 2020	WEBINAR ASTDDD Dental Directors Novel approach to controlling aerosols in dentistry 45 minute lecture
November 2020	WEBINAR Vista Institute Full mouth implant Therapy 3 hour lecture
March 2021	Webinar Academy of Osseointegration Annual Meeting The Generational Shift 40 minute lecture
March 2021	WEBINAR International Faculty Forum Implant Design and Primary Stability 15 minute lecture
April 2021	WEBINAR FDI Oral Health Campus Aerosol Generation in Dental Practice and The physics of aerosol production 1 hour lecture
June 2021	WEBINAR Pacific Coast Prosthodontic Society keynote Presentation Prosthodontics: Creating the Future of Dentistry 40 minute lecture
June 2021	WEBINAR ICOI MaxiCourse – Nova Southeastern University Implant Treatment of Edentulism 6 hour lecture WEBINAR

THESIS COMMITTEESDirected Ph.D. Thesis

1994 - 1995	<p><i>“Osseous regulation of pleiotrophin gene expression”</i>          Ronald Venezia, DDS, MS          Thesis proposal written, student withdrew from the program</p>
2001 – 2004	<p><i>Characterization of Dexamethasone-induced differentiation of mesenchymal stem cells; a genome-wide evaluation.</i>          Dr. Kie Watanabe, (Tokyo Medical and Dental University)          Co-advisor</p>
2002 - 2007	<p>Juliet Guo, DDS, MS <i>“Role of LRP5 and Wnt signaling in Osteogenesis”</i>          PhD confirmed in May 2008</p>
2007 – 2009	<p>Gustavo Mendonça, DDS, MS. <i>“Effect of nanostructured implant surfaces on gene expression during osteoblast differentiation.”</i>          PhD confirmed in May 2009</p>
2008 – 2010	<p>Daniela Mendonça, DDS, MS. <i>“NF-κB suppresses HIF-1α response by competing for P300 binding.”</i>          PhD confirmed in September 2010</p>
2007 – 2010	<p>Sodsi Wirojchanasak, DDS, MS. <i>The Role of NF-κB in Osteogenesis. In vivo studies by Gene targeting.</i>          Thesis defense ; January 2012</p>
2009 – 2012	<p>Ghadeer Thalji, DDS, MS.  <i>Nanoscale topography influence on implant adherent cellular osteoblastogenesis and osseointegration.</i>          Thesis defense, July 2012</p>
2011- 2015	<p>Ruiwei Luiang, DDS ; <i>The role of NF-KB in Osseous Wound Healing</i>          Thesis defense August 2015</p>
2019 – present	<p>Sajjad Sharizi ; Immunomodulation of dental implant adherent cells during osseointegration.</p>

Member, Ph.D. Thesis Committee

1994-1996	Galen B.Schneider, D.D.S., M.S., Ph.D. Department of Cell Biology “The role of intracellular protein tyrosine phosphatases on adhesion and intracellular signaling” Member, PhD Thesis Committee
1996-2000	Hong Hong, Oral Biology PhD program “Functional domains involved in lactoferrin bactericidal activity” Member, PhD Thesis Committee
1998 –2001	Janet Southerland Oral Biology PhD program “Role of AGEs in monocytic prostanoid synthesis in diabetics” Chairman, PhD Thesis Committee
2014- 2015	Kaori Eguchi Nigata University “IGF-BP3 influence on osteogenesis” Member, PhD Thesis Committee
2016-	Anna Salapatas UIC College of Dentistry Endothelial cell exosomes and fibroblast function Member, PhD Thesis Committee
2018-	Anna Barque Falguera UIC College of Medicine, Department of Physiology and Biophysics SNED1: a novel ECM protein regulating neural crest cell phenotype and craniofacial morphogenesis Member, PhD Thesis Committee

**Directed Masters Thesis**

1993-1996	“Development of a mandibular osteoblast cell culture model and application to investigating osseointegration“ Paula Yliheikkilä, D.D.S.
1993-1996	“Osseous expression of hsp27 in the Wistar Rat“ Lia Kosmidou, D.D.S.
1994-1996	“The role of estrogen in the expression of hsp 27“ Karen S. McAndrew, D.D.S.
1995-1998	“Molecular analysis of osteoblast gene expression at implant surfaces”. Elin Sigurgeirsdottir, D.D.S.
1997- 2000	“Effect of hindlimb denervation on osseointegration of titanium implants in the rat tibia; a molecular analysis” Mitchell Godat, D.D.S.
1999-2002	“Human Mesenchymal Stem Cell / Scaffold Interactions” Christopher Harris, D.D.S.
2000-2003	“VEGF Effects on Osteogenesis Following Irradiation” Maria Chatzistavrou D.D.S.
2000-2003	“Evaluation of Stromal Stem Cell Regeneration of Canine Alveolar Bone Defects” Ingeborg De Kok, D.D.S.
2000-2003	“Simultaneous Bone Augmentation at Implants Using a Tissue Engineering Device” Louisa Medina, D.D.S.
2001-2004	“Investigation of a thermoplastic polyaxomer carrier for mesenchymal stem cell-regeneration of the canine mandibular alveolus” Dimitrios Mylonas, D.D.S.
2001-2004	“Integration of TiO <sub>2</sub> -grit blasted implants in tissue engineered alveolar bone” Miguel Vidal, D.D.S.
2002 – 2005	“Effect of DLX3 Mutation on Osteoblast Differentiation” Preeda Pungpapong, D.D.S.
2002 – 2005	“Surface Roughness Effects on Macrophage Gene Expression” Roy Rosado, DDS
2002 – 2005	“An Interfacial Biomaterial for Bone Repair” Fernando Rojas –Vizcaya, D.D.S.



2003 – 2006	“Bone Regeneration using E-matrix, a Novel Hydrogel” Christina Karamini, DDS
2004 – 2007	“Biological Modification of Titanium Surfaces using Bifunctional Peptides” Hitomi Akimoto, D.D.S.
2004 – 2007	“A Comparative Study of Three-Implant Supported Fixed Dentures and Two-Implanted Retained Overdenture in Edentulous: Treatment Efficacy and Patient Satisfaction” Kuang-Han Chang, D.D.S.
2005 – 2008	"A comparative study on the effect of Beta 1 and Beta 3 Integrin subunits on Osteoblast implant interactions" Ibrahim Duqum, D.D.S.
2005 - 2008	“Evaluation of a Biopolymer Matrix for Cell Based Bone Repair” Deepali Jere, D.D.S.
2007 – 2010	“Molecular Assessment of Endosseous Implant Adherent Cellular Phenotypes in Man” Matthew Byrington, D.D.S.
2007 – 2010	“Prospective Clinical Trial of a New Press-over Crown” Kathryn Conard, D.D.S.
2008 – 2010	“Evaluation on Post-Implant Facial Bone Resorption Using the Sirona Galileos System for Radiologic Assessment” <i>completed 2011</i> Carolina Vera, D.D.S.
2007 – 2010	“The Impact of Implant Supported Removable Partial Dentures Supported by Short Implants on Oral Health Quality of Life” William D. Gates, III, D.D.S
2008 – 2011	“Impact of Nanoscale Features on Implant Adherent Cell Osteoinduction and Osteoconduction” Astrid Alves, D.D.S.
2008 – 2011	“4-Implant Supported Fixed Prosthesis (ISFP) In The Edentulous Maxilla: A Pilot Study on Strategic Use of Short Implants Implant, Prosthetic and Quality of Life Outcomes” Oliver Pin Harry, D.D.S.
2009 – 2012	“Prosthetic Complications With an Implant Supported Fixed Denture – The UNC Protocol” Bryan Limmer, D.D.S.
2009 – 2013	4--year Radiographic & Esthetic Evaluation of Peri--Implant Tissue in Immediate Implants Replacing Single Teeth in the Esthetic Zone” Theresa Wang, D.D.S.

- 2010 – 2013 “Prospective Clinical trial of Two Crown Systems Using CAD/CAM Technology”  
Emily Batson, D.D.S.
- 2010 – 2013 “A Randomized Controlled Trial Evaluating the Efficacy of Grafting the Facial Gap at Immediately Placed Implants in the Anterior Maxilla”  
Bryan Jacobs, D.D.S.
- 2010 – 2013 “Prospective, Comparative Assessment of Peri-Implant Mucosal Architecture at Different Implant Abutment Interfaces. A 1 year Evaluation”  
Praephan Limpatapatakorn, D.D.S.
- 2011 -2014 “Exploration of the impact of Laser-mediated isotropic titanium abutment (Laser-Lok®) topography on peri-implant mucosa”  
Austin Leong, D.D.S.
- 2011 – 2014 “Outcomes with a Four-Implant Supported Monolithic Zirconia Dental Prosthesis in the Maxilla”  
Julie Eplers, D.D.S.
- 2012 – 2015 “A volumetric assessment of 3-dimensional bony alveolar changes due to grafting or implant placement”  
Mark Ludlow, D.D.S.
- 2012 – 2015 “Integration of abutment design in a guided implant surgical protocol”  
William Scruggs, D.D.S
- 2012 – 2015 “A within subject molecular comparison of tissues at implants with and without peri-implantitis”  
Nicole Ludein , D.D.S
- 2016-2018 “Transcriptome Profiling of Aggregatibacter actinomycetemcomitans Stimulated Peri-implantitis Model”  
Farah Shakir, D.M.D.
- 2018-2020 “Comparative Osteogenesis of Three Clinical Bone Graft Materials. An in vivo Study”  
Anthony Gabriel, D.M.D.
- 2019- 2021 “Impact of Laer Modified Abutment Topography on the Junctional Epithelium Integration”  
Tyler Haradon, D.D.S.

**Masters of Science Degree Candidate Committee Member**

1993–1997	Jeanne M. Salcetti, D.D.S., M.S. Department of Periodontology “The clinical, microbial and host response characteristics of the failing implant.” Member, MS Thesis Committee
1995-1999	Scott Erikson, D.D.S. Department of Periodontology “Regulation of Osteocalcin Gene Expression by the Extracellular Matrix Glycoprotein: Fibronectin.” Member, MS Thesis Committee
1998 –2001	Carrie Kieffer Department of Pediatric Dentistry “CFTR expression in enamel of the CFTR mouse” Member, MS Thesis Committee
1999-2002	Scott Gould, D.D.S. Department of Periodontology “Bone Marrow-Derived Mesenchymal Stem Cells as Progenitor Cells in the Regenerating Periodontium – A Preliminary Report.” Member, MS Thesis Committee
2000-2003	Ryan Haldeman, D.D.S. Department of Pediatric Dentistry “The Role of DLX3 in Bone Formation” Member, MS Thesis Committee
2003-2006	Nimet Adatia, D.D.S. Department of Prosthodontics “Preparation Effects on Zirconia Abutment Strength” Member, M.S. Thesis Committee
2006–2009	Ming-Yi Chou, D.D.S. Department of Prosthodontics “Modulation of Murine Bone Marrow-Derived CFUF and CFU-OB by in vivo Bisphosphonate and Fluoride Treatment.” Member, M.S. Thesis Committee
2008-2011	Thomas Suranyi, D.D.S. Department of Prosthodontics “Residual Stresses in the Porcelain Veneer layer of All-Ceramic Restorations” Member, M.S. Thesis Committee
2011 – 2014	Lida Swann, D.D.S. Department of Prosthodontics Influence of Firing Cycle on Physical Properties of Zirconia. Member, M.S. Thesis Committee

**Undergraduate Dental Student Mentoring**

1995	Kelly Mitchell	An Investigation of Estrogen-Response Mediated by the hsp27 Promoter
1996	Ben Koren	A transverse study of stress protein expression in aging human osteoblast
1997	Courtney Collings	Functional characterization of a pleiotrophin promoter in osteosarcoma cells
1999	Christopher Harris	Role of pleiotrophin on adherence and subsequent osteogenesis
1999 -	Armin Abron	Flow cytometric analysis of implant adherent cells
2000	Armin Abron	Assessment of osteogenesis at alloplastic surfaces using cDNA array technology
2001	William J. Lee	Evaluation of Topography-responsive BMP-2 expression of hMSC
2006	Jonathan Reside	NF-KB and cell mediated bone repair

**Post Doctoral Fellow Mentoring**

1993-1996	Katsumi Uoshima, D.D.S., PhD Department of Prosthodontics, Tokyo Medical and Dental University, Tokyo, Japan <i>Current Position:</i> Associate Professor, Graduate School, Niigata University.
1996-1997	Takiyuki Masuda, D.D.S., PhD Department of Prosthodontics, Tokyo Medical and Dental University, Tokyo, Japan <i>Current Position:</i> Associate Professor, Department of Prosthodontics, Tokyo Medical and Dental University
1994 - 1996	Galen B. Schneider, D.D.S., M.S., Ph.D. Departments of Cell Biology/ Prosthodontics, University of North Carolina <i>Current Position:</i> Assistant Professor, University of Iowa, School of Dentistry.
1997-1998	Hideya Hamano, D.D.S., PhD Department of Prosthodontics, Tokyo Medical and Dental University, Tokyo, Japan <i>Current Position:</i> Assistant Professor, Department of Prosthodontics, Tokyo Medical and Dental University,

1998-1999	Takashi Mastuura, D.D.S., PhD Department of Prosthodontics, Hiroshima University, Hirmoshima, Japan Current Position: Assistant Professor, Department of Prosthodontics, Fukuoka University, Fukuoka, Japan
1999-2000	John Griffin, PhD University of North Carolina Dept. of Biochemsitry Current Position: Scientist Biostratum, Inc. Raleigh, NC.
1999-2001	Jun Takabe, D.D.S., PhD Department of Prosthodontics, Iwate University, Current Position: Assistant Professor, Department of Prosthodontics, Iwate University Iwate, Japan
2002-2003	Yong Sheng Zhou, D.D.S., PhD Department of Prosthodontics, Peking University, Bejing China Current Position: Assistant Professor, Peking University, Beijing, China
2002- 2003	Satoshi Miyamoto, D.D.S., PhD Department of Prosthodontics, Tsurumi University School of Dental Medicine, Yokohama, Japan Current Position; Assistant Professor
2004 – 2005	Hedi Liu MD, PhD Department of Biochemistry, Hebei Medical University, Associate Professor, Hebi Provence, China
2004-2005	Wen Bo, DMD, PhD Department of Oral and Maxillofacial Surgery Jilin University, Changchun, Jilin, China Current Position, Associate Professor, Jilin University
2009 - 2010	Gustavo Mendonça, DDS, PhD. Department of Prosthodontics University of North Carolina Current Position, Professor University of Michigan
2010-current	Daniela Mendonça, DDS, PhD. Department of Prosthodontics University of North Carolina Current Position, Professor University of Michigan
2010-2011	Xu Chun, DDS, PhD.

Department of Prosthodontics, the Ninth People's Hospital Affiliated to  
 School of Medicine, Shanghai JiaoTong University  
 No.639 Zhizaoju Road, Shanghai 200011, China  
 Current Position, Assistant Professor Shanghai JiaoTong University

- 2011 -2013                      Ochiro Ogino, DDS, PhD  
 Section of Implant and Rehabilitative Dentistry  
 Department of Oral Rehabilitation  
 Faculty of Dental sciences, Kyushu University, Fukuoka, Japan  
 Current Position, Associate Professor Kyushu University
- 2012- 2014                      Masako Nasagawa, DDS, PhD  
 Division of Bio-prosthodontics  
 Niigata University Graduate School of Medical and Dental Sciences  
 Niigata 951-8514, JAPAN  
 Current Position, Assistant Professor, Niigata University
- 2013-2014                      Sheng Yang, DDS, PhD  
 Department of Prosthodontics,  
 The Affiliated Stomatology hospital of Chongqing Medical University,  
 426 Songshibei Road, Yubei District, Chongqing, 401147, China  
 Tel. 86-023-88860085 (office) 86-15823807157(cell phone)
- 2015 -2016                      Kaori Eguchi, DDS  
 Niigata University School of Dentistry  
 Niigata 951-8514, JAPAN  
 Current Position, Assistant Professor, Niigata University
- 2016-- 2018                      Ruiwei Liang, BDS, PhD  
 University of Illinois at Chicago  
 College of Dentistry  
 Chicago, IL, 60612  
 Current position: Private Practice Dentistry
- 2016 – 2018                      Fanny Chmilewsky  
 University of Illinois at Chicago  
 College of Dentistry  
 Chicago, IL, 60612
- 2017 – present                      Miya Kanazawa  
 University of Illinois at Chicago  
 College of Dentistry  
 Chicago, IL, 60612

## MAJOR RESEARCH INTERESTS

### Research Goals

- 1) to understand the clinical modulation of osseous wound healing involving immunomodulation and dental implant therapy. Current focus is on macrophage / hMSC interactions with emphasis on exosome-mediated signaling.
- 2) to use clinical translational scientific activities to improve dental implant and bone regeneration/repair therapies. We continue over a decade of clinical studies on human responses to implant placement at the bone and mucosa level.

### Basic Science Activities

- 1) Defining inflammatory determinants of stromal stem cell differentiation to osteoblasts. We are keenly interested in host responses to stem cell engraftment. Recent published work focuses on the macrophage's role in osteoinduction. We also have completed but yet to publish studies in mouse models of targeted knock out of NFκB in osteoprogenitor cells that impairs bone regeneration.
- 2) Bone responses to endosseous implant therapy - related environments (e.g. heat, hypoxia, inflammation, alloplastic extracellular matrices). A general approach of defining osteoblast transcriptional changes has been adopted. We are interested in transcriptional regulators of bone mass (e.g. Dlx-3, the co-activator TAZ, and LRP-5/Wnt signaling, Osterix/SATB2, etc.). We are using transcriptomics, and initiating single cell sequencing techniques to define the population of cells that contribute to osteoinduction on alloplastic surfaces.

### Clinical Research Activities

- 1) Translational dental implant studies –
  - i. We developed a method of examining osseointegration at the molecular level using a human retrieval model. Gene profiling and deep sequencing methods may be used and expanded to study the variability of individuals or entire cohorts in the response to our clinical therapies.
  - ii. We have applied the human retrieval model to studying implant abutment / mucosa wound healing and peri-implantitis. Our preliminary studies demonstrate that abutment factors influence the formation of the junctional epithelium and that peri-implantitis displays marked changes in the epithelial components of the mucosa.
- 2) Technology transfer of adult human stem cells for alveolar bone regeneration. We participated in a human safety study using autogenous bone marrow derived adult stem cells for alveolar bone repair; despite funding challenges of the past, we continue to modestly advance our activities to re-invigorate this important work.
- 3) Salivary Exosomes as markers for oral viral infection / oral cancer. We received pilot grant funding to initiate novel studies using Raman Spectroscopy to compare the exosomes of saliva of healthy and oral cancer subjects. Developing a rapid screening method to identify oncogenic changes in oral tissues with a liquid biopsy approach that enhances access to care is the long term goal of this project.

**PUBLICATIONS****Journal Articles****Clinical Case Reports (\*Refereed Articles)**

- 1.\* Felton DA, **Cooper LF**, Scurria MS. Predictable impression procedures for complete dentures. Dent. Clin. North Amer. 1996; 40; 39-52.
- 2.\* **Cooper LF**. Improving outcomes using dental implants. Integrating improvements in clinical practice. Compendium 1997; 18: 271 –282.
- 3.\* Chaffee N, **Cooper LF** Felton DA. A technique for border molding edentulous impressions using vinyl polysiloxane material. J Prosthodont., 1999;8129 -134.
- 4.\* Matthews JT, Chaffee N, Minsley G, Felton D, **Cooper L** Overdenture resolution of a class II skeletal relationship of the edentulous patient. J Prosthetic Dent., 1999;82:257-262
- 5.\* **Cooper LF**, Godat, M, Moriarty J. Revision treatment of a hydroxyapatite augmented mandible using endosseous dental implants. A case report J Prosthetic Dent., 1999;82:379-383.
- 6.\* Chaffee N and **Cooper LF**. Incorporating conventional and resin bonded retainers in fixed partial dentures; A clinical report. J Prosthetic Dent., 2000 ;83:272-275.
- 7.\* **Cooper LF**, Lowden K, Chaffee N. Peri-apical abscess formation and resolution adjacent to dental implants; a case report. J Prosthetic Dent., 2000; 85:109-112.
- 8.\* Chatzistavrou M, Felton DA, **Cooper LF**. Immediate loading of dental implants in partially edentulous patients: a clinical report.J Prosthodont., 2003;12:26-29.
- 9.\* Chatzistarou M, Kanoy BE, **Cooper LF**. Factors affecting abutment Selection for the astra Tech Dental Implant System. Implantologie, 2003; 9:165179. .
- 10.\* Tiwana PS, De Kok IJ, Stoker DS, **Cooper LF**. Facial distortion secondary to idiopathic gingival hyperplasia: surgical management and oral reconstruction with endosseous implants.Oral Surg Oral Med Oral Pathol Oral Radiol Endod.,2005;100:153-157.
- 11.\* Thalji GN, **Cooper LF**. The role of complete overdentures in esthetic rehabilitation of the adolescent oligodontia patient. A case report. J Esthet Restor Dent. 2010;22(4):213-221.
12. Yancey D, **Cooper LF**, Limmer BM. Edentulous Options; dlpmagazine.com 2011
- 13.\* **Cooper L**, Rosen A, Duqum I. Implant-supported overdenture options for the edentulous patient. International Dentistry SA. 2011;13: 12-16.
- 14.\* Guo J, Reside G, **Cooper LF**. Full-mouth rehabilitation of a patient with gastroesophageal reflux disease: a clinical report. J Prosthodont. 2011;20 Suppl 2:S9-13.
- 15.\* Altarawneh S, Limmer B, Reside GJ, **Cooper L**. Dual jaw treatment of edentulism using implant-supported monolithic zirconia fixed prostheses. J Esthet Restor Dent. 2015 Mar-Apr;27(2):63-70.



**PUBLICATIONS****Journal Articles****Research Reports and Reviews (\*Refereed Articles)**

- 16.\* Barzilay I, Myers JL, **Cooper LF**, and Graser GN. Mechanical and chemical retention of laboratory cured composite to metal surfaces. *J Prosthetic. Dent.*, 1988; 59:131-137.
- 17.\* Billings RJ, Meyerowitz C, Fu J, **Cooper LF**, and Featherstone JDB. Retention of Fluoride in Mouths of Xerostomic Subjects. *Caries Res.*, 1988, 22:306-310.
- 18.\* **Cooper LF**, Myers ML, Nelson DGA, Mowery AS. Shear strength of composite bonded to laser-pretreated dentin. *J Prosthetic Dent*, 1989, 60:45-49.
- 19.\* **Cooper LF**, Elia DM, Watson GE, and Tabak LA. Effect of Isoproterenol Treatment on Rat Salivary Glutamine/Glutamic Acid Rich Protein Expression. Non-parallel secretion regulated by steady state transcript abundance. *J. Biol. Chem.*, 1991, 266:3532-3539.
- 20.\* **Cooper LF**, and Tabak LA. Characterization of the Gene Encoding the Salivary Glutamine/Glutamic Acid-Rich Protein Variant Ca Transcript. *Gene*, 1992, 62:261-266.
- 21.\* Guckes AD, McCarthy GM, Brahim J, Rudy S and **Cooper LF**. Treatment of Ectodermal Dysplasia Using Endosseous Implants, *JADA*, 122: 59-62.
- 22.\* **Cooper LF** and Guckes AD. Conventional and Implant Dental Prostheses in geriatric patients, in *Clinics in Geriatric Medicine*; (Baum, B. J., ed.) 1992, 8:643-657.
- 23.\* **Cooper LF**, Handelman B, McCormack S, Guckes AD. Binding of Murine Osteoblastic Cells to Titanium and Collagen I Gels. Implications for alternate Interpretations of Osseointegration. *Int. J. Oral and Maxillofacial Impl.*, 1993, 8:264:272.
- 24.\* Uoshima K, Handelman B, and **Cooper LF**. Isolation and Characterization of a Gene Encoding Rat hsp27. *Biochem Biophys Res Comm.*, 1993; 197:1388-1395.
- 25.\* **Cooper LF**, and Uoshima K. Differential Estrogenic Regulation of Small M<sub>r</sub> Heat Shock Protein Expression in Osteoblasts. *J Biol Chem.*, 1994; 269:7869-7873.
- 26.\* Yliheikkilä PK, Felton DA, Whitson SW, Ambrose WW, Uoshima K, and **Cooper LF**. Correlative Microscopic Investigation of the Interface Between Titanium Alloy and the Osteoblast-Osteoblast Matrix Using Mineralizing Cultures of Primary Fetal Bovine Mandibular Osteoblasts. *Intl J Oral Maxillofacial Implants*. 1995;10:655-665.
- 27.\* Uoshima K, **Cooper LF**. Osteoblast Expression of hsp27, *Japan J. of Oral Biol*. 1995
- 28.\* Yliheikkilä PK, Masuda T, Ambrose WW, Felton DA, and **Cooper LF**. Morphological comparison of mineralizing multilayer cultures formed by primary fetal bovine mandibular osteoblasts grown on titanium, hydroxyapatite and glass substrates. *Intl J Oral Maxillofacial Implants*,. 1996; 11: 456-465.
- 29.\* Salcetti JM, Moriarty JD, **Cooper LF**, Smith FW, Collins JG, Socrancky SS, Offenbacher, S. The clinical, microbial and host response characteristics of the failing implant. *Intl J Oral Maxillofacial Implants*, 1997; 12:32-43.

- 30.\* Masuda T, Salvi, GE, Offenbacher S, Felton DA, **Cooper LF**, Cell and matrix reactions at titanium implants in the surgically prepared rat tibia. *Intl J Oral Maxillofacial Implants* 1997; 12:472-485.
- 31.\* **Cooper L**, Moriarty J. Prosthodontic and periodontal considerations for implant-supported dental restorations. *Current Opinion in Periodontology*,1997;4:119-126.
- 32.\* Masuda T, Yliheikkilä PK, Felton DA, **Cooper LF**. Generalizations regarding the process and phenomenon of osseointegration Part I. in vivo studies, *Int J Oral Maxillofac Implants* 1998; 13:17-29.
- 33.\* **Cooper LF**, Yliheikkilä PK, Masuda T, Felton DA. Generalizations regarding the process and phenomenon of osseointegration Part II. in vitro studies. *Int J Oral Maxillofac Implants*, 1998; 13:163-174.
- 34.\* Yliheikkilä PK, Whitson WS, Felton DA, **Cooper, LF**. Spatiotemporal assessment of fetal bovine mandibular osteoblast culture differentiation indicates a role for BSP in promoting differentiation. *J Bone Mineral Res.*, 1998; 13:620-631.
- 35.\* **Cooper LF**. Biologic determinants of bone formation for osseointegration: Clues for future clinical improvements. *J Prosthetic Dent.*,1998; 80:439 – 449.
- 36.\* Schneider GB, Hamano H, **Cooper LF**. In vivo evaluation of hsp25/27 as an inhibitor of actin polymerization : Hsp25/27 limits actin stress fiber and focal adhesion formation after heat shock. *J Cell Physiol.*, 1998; 177:575 -584.
- 37.\* **Cooper LF**, Masuda T, Whitson WS, Yliheikkilä PK, Felton DA. Formation of mineralizing osteoblast cultures on machined, TiO<sub>2</sub>-grit blasted and plasma sprayed titanium surfaces. *Int J Oral Maxillofac Implants*, 1999; 14:37-47.
- 38.\* Cooper LF, Scurria MS, Lang LA, Guckes AD, Moriarty JD, Felton DA. Treatment of edentulism using Astra Tech implants and ball abutments to retain mandibular overdentures. *Int J Oral Maxillofac Implants*, *Int J Oral Maxillofac Implants*, 1999;14:646-653.
- 39.\* Schneider GB, Whitson SW, **Cooper LF**. Restricted and coordinated expression of  $\beta$ 3 integrin and bone sialoprotein during cultured osteoblast differentiation. *Bone*, 1999, 24: 3321-3327.
- 40.\* Uoshima K, Guo ZY, and **Cooper LF.**, Transcriptional regulation involving the intronic heat shock element of the rat hsp27 gene. *Biochim Biophys Acta*, 2000;1490:348-35433.
- 41.\* Guo ZY and **Cooper LF**. Functional characterization of 6 – his tagged, recombinant hsp25/27 variants. *Biochem Biophys Res Comm.*, 2000; 270:183-189.
- 42.\* Tiffée, JC, Griffin, JP, **Cooper, LF**. Immunolocalization of Stress Proteins and Extracellular Matrix Proteins in the Rat Tibia. *Tissue and Cell*, 2000;32:141-147.
- 43.\* **Cooper LF.**, Tiffée JC. Griffin JP, Hamano H, Guo Z. estrogen induced resistance to osteoblast apoptosis is associated with increased hsp27 expression., *J. Cell Physiol.* 2000;185:401-407.

- 44.\* **Cooper LF.** Systemic effectors of alveolar bone mass and implications in dental therapy. *Perio* 2000, 2000; 23:103-109.
- 45.\* **Cooper LF.** A role for surface topography in creating and maintaining bone at titanium endosseous implants. *J Prosthet Dent.*,2000;84:522-534.
- 46.\* Abron A, Hopfensperger M, Thompson J, **Cooper LF.** Evaluation of a Predictive Model for Implant Surface Topography Effects on Early Osseointegration in the Rat Tibia Model. *J Prosthetic Dent.*, 2001; 85:40-46.
- 47\* **Cooper LF,** Harris CT, Bruder SP, Kowalski R, Kadiyala S. Incipient analysis of mesenchymal stem cell – derived osteogenesis. *J Dent Res.*, 2001;80:314-320.
- 48\* **Cooper L,** Felton DA, Kugelberg CF, Ellner S, Chaffee N, Molina AL, Moriarty JD, Paquette D, Palmqvist U. A multicenter 12-month evaluation of single-tooth implants restored 3 weeks after 1-stage surgery. *Int J Oral Maxillofac Implants.*, 2001;16:182-192.
- 49\* Champagne CM, Takebe J, Offenbacher S, **Cooper LF.** Macrophage cell lines produce osteoinductive signals that include bone morphogenetic protein-2. *Bone*, 2002;30:26-31.
- 50\* Chaffee N, Felton DA, **Cooper LF,** Palmqvist U, Smith R. Prosthetic complications in an implant-retained mandibular overdenture population: Initial analysis of a prospective study. *J Prosthetic Dent.*, 2002; 87:40-44.
- 51\* Warren P, Chaffee N, Felton DA, **Cooper LF.** A retrospective analysis of bone adaptation following placement of TiO<sub>2</sub> grit blasted implants in the posterior maxilla and mandible. *Int J Oral Maxillofacial Implants*, 2002: 17;399-404
- 52.\* **Cooper LF,** Rahman A, Moriarty J, Chaffee N, Sacco D. Immediate Mandibular Rehabilitation with Endosseous Implants: Simultaneous Extraction, Implant Placement and Loading. *Int J Oral Maxillofacial Implants*, 2002;17:517-525.
- 53.\* **Cooper, LF.** A Modular Approach to Dental Implant Therapy: The Appropriate Selection of One-and Two-Stage Surgeries. *Compendium*, 2002;23:7–16.
- 54\* Takebe J, Champagne CM, Offenbacher S, Ishibashi K, **Cooper LF.** Titanium surface topography alters cell shape and modulates bone morphogenetic protein 2 expression in the J774A.1 macrophage cell-line. *J Biomed Mater Res.*, 2003;64A:207-216.
- 55.\* Cui CB, **Cooper LF,** Yang X, Karsenty G, Aukhil I. Transcriptional Co-activation of Bone-Specific Transcription factor CBFA1 Taz. *Mol Cell Biol.*, 2003;23:1004-1013
- 56.\* De kok I, Peter SJ, Archambault M, van den Bos C, Kadiyala S, Aukhil I., **Cooper LF.** Preliminary Investigation of Allogenic Mesenchymal Stem Cell-Based Alveolar Bone Regeneration. *Clin Oral Implants Res.*, 2003;14:481-489.

- 57.\* **Cooper LF.** Is the tissue-integrated interface a periodontium analogue: myth or metaphor? *Int J Prosthodont.*, 2003;16 Suppl:32-34; discussion 47-51.
- 58.\* Harris CT, **Cooper LF.** Comparison of bone graft matrices for human mesenchymal stem cell-directed osteogenesis., *J Biomed Mater Res A.* 2004;68:747-755.
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**Cooper LF,** Mendonça DB, Mendonça G. Nanotopography in Dental Implant Surfaces. in "Biomechanics of Oral Implants: Handbook of Researchers". Cehreli M. (Editor) Nova Science Publishers, Hauppauge NY, 2011.

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**Cooper LF.** Treatment of Nonsyndromic Anomalies of Tooth Number, in *Craniofacial and dental Developmental Defects: Diagnosis and Management*. J.T. Wright (ed.). Springer International Publishing, Switzerland, 2015.

**Cooper LF.** Prosthodontic complications related to non-optimal dental implant placement In *Dental Implant complications*. S Froum (ed) Quintessence Publishing Company, Chicago, 2015

**Cooper LF and Campbell S.** Digital Technology: Impact and Opportunities in Dental Education. in : *Digital Dentistry*, Rekow, D (ed). Quintessence Publishing Company, Chicago, 2018

**Cooper LF** Digital Technology: Impact and Opportunities in Dental Education. *Digital Dentistry*, Rekow, D (ed). Quintessence Publishing Company, Chicago, 2018

**Cooper LF** and Culp L. The Application of Digital Technology to Denture Fabrication, in: Fundamentals of CAD/CAM Dentistry. .Ferencz JL and Silva NRFA (Eds). American College of Prosthodontists, Chicago, IL, 2018 (ebook)

Souza JCM, Ely LB, Sordi MB, **Cooper L**. *Development of high performance bio-inspired functionally graded materials for oral rehabilitation Implant Surfaces*. in: Nanostructured surfaces of craniomaxillofacial and dental implants. Júlio Souza, Dachamir Hotza, Bruno Henriques, Aldo R. Boccaccini (Eds).

**Cooper LF**, Ludlow M. *Implant Complications: A Reality Requiring Prevention* in: Implant Therapy Clinical Approaches and Evidence of Success, Second Edition. Nevins M, Wang, H-L. (Eds). 2019; Quintessence Publishing Company, Chicago, 2019.

Stanford CM, **Cooper LF**. Technical Complications in Implant Dentistry. In: *Clinical Periodontology and Implant Dentistry*; Sixth Edition, pp 1222-1240.. Blackwell Munksgaard, Oxford In Press

## PATENTS

Derivatives for Bone and Periodontal Regeneration; Steven Offenbacher, **Lyndon F. Cooper**, Michael E. Fritz 60/175,813 Filed Jan 12, 2000

Functionally Activated Targeted Exosomes (FATE) for tissue engineering and regenerative medicine applications; Sriram Ravindran, Praveen Gajendrareddy, **Lyndon F Cooper**. UIC Office of Technology Management

Irrigation Solution to Reduce/Eliminate Aerosol Generation During Dental and Surgical Procedures. Thomas Koehler, **Lyndon F. Cooper**, Alexander Yarin. Application No. PCT/US21/34358. File May 26, 2021



GRANT SUPPORTACTIVE

1R01DE030497 (Ravindran/Cooper;MPI)	06/01/2021 – 05/31/2026	1.2 calendar
NIH/NIDCR	\$2,766,596	
Title: 3D Encapsulation, Bioprinting and Controlled Delivery of Functionally Engineered EVs (FEEs)		
Using bone regeneration as a model, this proposal aims to develop functionally engineered extracellular vesicles (FEEs) with immunomodulatory and osteoinductive properties and deliver them in a spatially and temporally controlled manner using 3D printing technology.		
Role: MPI		
1R01DE027404 (Ravindran)	06/01/2018 – 05/31/2023	0.24 calendar
NIH/NIDCR	\$1,998,750	
Functional Activation and Targeting of Exosomes for Regenerative Medicine		
The Overall goal of this project is to engineer exosomes with specific genetic and protein cargo to facilitate lineage specific stem cell differentiation and biomaterial mediated delivery leading to facilitate improved tissue repair/regeneration.		
Role: Co-I		
R56 DE0298016-01 (Chung)	12/01/2020 – 11/30/2021	0.24 calendar
NIH/NIDCR	\$1,998,750	
Role of complement receptor C5L2 in reparative dentinogenesis		
The Overall goal of this project is to elucidate the role of the complement receptor C5L2 in the process of reparative deninogenesis using cell culture and animal models.		
Role: Co-I		
Research Grant (PI)	3/6/2019 – 2/28/2022	1.2 calendar
Dentsply Intl.	\$102,000	
CATeR: Comprehensive Alveolar and Tooth Esthetic Replacement		
The purpose of this study is to prospectively evaluate whether including a gum allograft during implant therapy enhances the implant health and appearance.		
Research Grant (PI)	5/01/2019 – 4/30/2024	0.24 calendar
Dentsply Intl.	\$100,000	
ACURIS Single tooth implant prospective study		
The purpose of this study is to prospectively evaluate the biologic and clinical and radiographic outcomes single tooth implants restored using a novel cementless abutment/crown interface.		
Research Grant (PI)	10/01/2018 – 9/30/2022	0.6 calendar
Ivoclar Vivadent	\$82,000	
Clinical Efficacy of a CAD/CAM Digital Denture System		
The purpose of this study is to prospectively evaluate the clinical and technical outcome of fabricating complete dentures using a digital design and CAD/CAM manufacturing technique.		
Research Grant (PI)	10/01/2018 – 9/30/2022	0.6calendar
Ivoclar Vivadent	\$85,000	
A 24-Month Clinical Evaluation of an Ultra-rapid Polymerizing Resin Composite		
The purpose of this study is to prospectively evaluate the clinical and radiographic outcomes of a novel posterior composite restorative and high power curing light for posterior tooth restorations.		

Research Grant (PI) 09/01/2019 – 12/31/2021 1.2 calendar  
 Discovery Partners Institute \$250,000  
 Expanding Diagnosis for Oral/Oropharyngeal Cancers Using Exosomes e  
 The purpose of this study is to determine the miRNA character of salivary exosomes and to demonstrate if Raman spectroscopy can be used to identify oral cancer related changes in salivary exosomes.

### Completed

8/1/93-7/31/95 National Institute of Health, NIDR  
 "Identifying Collagen I induced mRNA's in Osteoblasts." DE10806  
 \$71,408.00 total cost  
 Principal Investigator: LF Cooper

12/1/93-12/30/98 National Institute of Health, NIDR  
 "Heat Shock Protein Expression in Osteoblasts"  
 DE10854-01  
 \$499,743.00, total cost  
 Principal Investigator: LF Cooper

3/1/94-3/28/95 University Research Council Grant, UNC-Chapel Hill  
 "In Vitro Transcription Analysis of Cell Type Specific HSP Expression."  
 \$3,000.00 total cost  
 Principal Investigator: LF Cooper

01/01/94-12/30/97 Astra Tech Inc., 1000 Winter Street, Waltham, MA.  
 Astra Tech Research Fellowship  
 \$45,000.00 total cost  
 Principal Investigator: LF Cooper

08/01/96 - 07/30/00 National Institute of Health, NIDR.  
 "Transcriptional Regulation of hsp27 expression in osteoblasts."  
 K02 DE00395-01  
 \$410,391.00 total cost  
 Principal Investigator: LF Cooper

10/1/95 - 3/30/02 ASTRA Tech AB Contract  
 "An open prospective clinical study of totally edentulous lower jaws - treated with overdentures retained by ASTRA Tech Microthread dental implants";  
 \$504,000.00 total cost  
 Principal Investigators; DA Felton and LF Cooper

11/01/97-01/30/00 ASTRA Tech AB Contract  
 "An open, multicenter study to evaluate replacement of single tooth loss by immediately loaded AstraTech Implant ST.  
 \$280,000 total cost  
 Principal Investigator: LF Cooper

01/01/98 - 02/30/01	Astra Tech Research Fellowship \$60,000.00 total cost Principal Investigator: LF Cooper
03/01/98 - 02/28/99	University Research Council Grant, UNC-Chapel Hill, "Development of hsp27 phosphopeptide specific antibodies." \$3,000.00 total cost Principal Investigator: LF Cooper
06/23/98 – 09/01/98	Osiris Therapeutics Inc Contract "Development of methods analyzing and culturing of human stromal stem cells" \$4,000.00 total cost Principal Investigator: LF Cooper
09 /01/98 - 08/30/00	Osiris Therapeutics Inc Contract Autogenous and allogenic mesenchymal cell grafting for alveolar regeneration. \$102,000.00 total cost Principal Investigator: LF Cooper
04/01/99 - 03/31/00	Implant Dentistry Research and Education Foundation "Osteoblast Motility and Osteoconduction." \$25,000.00 total cost Principal Investigator LF Cooper
05/01/99 - 08/31/99	Osiris Therapeutics, Inc. Contract Intraoral Rat Model of Stromal Stem Cell Bone Regeneration. \$39,000.00 total cost Principal Investigator LF Cooper
05/01/00 - 06/30/00	Osiris Therapeutics, Inc. Contract Pre-clinical Safety Studies of Stromal Stem Cell Engraftment in Canine Alveolar Bone. Osiris \$67,000.00 total cost Principal Investigator LF Cooper
09/01/99 - 08/31/00	University Research Council Grant, UNC-Chapel Hill, "Transgenic Mice Expressing hsp27 in Osteoblasts" \$4,000.00, total cost Principal Investigator: LF Cooper
04/01/00 – 4/30/01	Osiris Therapeutics, Inc. "Osteocel 301-A Phase I Safety Study of Grafting of OsteoCel in Healthy Patients Requiring Alveolar Bone Regeneration Following Single Tooth Extraction" \$82,000.00 total cost Principal Investigator: LF Cooper
11/01/00 -10/31/04	AstraTech Inc. "Master Agreement for Dental Implant Studies" \$600,000.00 total cost

Principal Investigator: LF Cooper

07/01/01 - 03/31/03 SBIR, NIDDK  
 "Adipose derived cell based osteogenesis.  
 \$60,000 total cost  
 Principal Investigator: Jeff Gimble, Artice Sciences, Inc.  
 Co-investigator: LF Cooper

04/01/02 - 03/31/03 ITI Foundation  
 "Replacement of Avulsed Teeth Using Endosseous Implants"  
 \$30,000.00 total cost  
 Co-Investigators: Rahman, RC Williams, LF Cooper

01/01/03 -12/30/05 Ivoclar  
 Evaluation of an all Ceramic Crown  
 \$60,000.00 total cost  
 Principal Investigator DA Felton  
 Co-investigators LF Cooper, T Molina, L Webb

03/01/01 - 02/28/06 National Institute of Health, NIDCR.  
 "Hsp27 expression in osteoblasts."  
 DE10854-06  
 \$1,100,000.00. Total cost  
 Principal Investigator: LF Cooper

05/01/05 - 04/20/06 Improved Orthopedic Implant Surface Coatings  
 SBIR  
 \$55,252.00 total costs  
 "Interfacial Biomaterials to Improve Endosseous Implants"  
 Co-investigator: Lyndon Cooper

10/01/05 - 09/30/06 Bone Regeneration Scaffolds  
 SBIR  
 \$35,000.00 total cost  
 Principal Investigator: Ron Hill, Encelle Inc,  
 Co-investigator: Lyndon Cooper

08/01/06 – 07/31/06 BMP-2 and inhibition of inflammatory signaling in bone  
 Medtronic Inc.  
 \$45,000.00 total cost  
 Principal Investigator: Lyndon Cooper

01/01/09 -12/30/10 Ivoclar  
 Evaluation of a Pressed to metal Crown  
 \$60,000.00 total cost  
 Principal Investigator LF Cooper

07/01/05 - 06/30/10 AstraTech Master Agreement  
 AstraTech, AB.  
 \$1,200,000.00 total cost

Principal investigator, Lyndon Cooper

09/01/07- 08/31/13 National Institute of Health, NIDCR; Funded  
Inflammatory Control of Periodontal Regeneration  
RO1 DE016086-01  
\$2,000,000.00 total cost  
Principal Investigator: Lyndon Cooper

08/01/11 – 06/30/12 Medtronic Inc  
In vitro assessment of a morphogen for periodontal regeneration  
\$100,000 total cost  
Principal investigator, Lyndon Cooper

11/01/10 - 12/31/14 AstraTech Master Agreement  
AstraTech, AB.  
\$1,100,000.00 total cost  
Principal investigator, Lyndon Cooper

06/01/13-12/31/15 Biohorizons, Inc  
Molecular evaluation of peri-implant mucosal integration.  
\$200,000 total cost  
Principal investigator, Lyndon Cooper

05/01/17 – 04/30/2019 Monocyte/Macrophage Control of Induced Bone Repair  
UIC CCTS Pilot Grant Program  
UL1TR002003  
\$60,000 Total cost  
Principal investigator, Lyndon Cooper

Submitted

11/18/11 Multicenter, Prospective Evaluation of Dental Implants for Grafted  
Alveolar Cleft Patients  
Response to NIDCR RFA-DE-10-006  
MPI - Lyndon Cooper

02/04/13 Antibody Mediated Osseous Repair (AMOR)  
Co-investigator: Lyndon Cooper 10% effort  
\$1,500,000 total cost.

06/05/14 Cell Lineage Factors Influencing Osseointegration  
NIDCR  
PI- Lyndon Cooper  
\$1,900,000 Total Costs requested

09/01/17 Molecular Characterization of Epithelial Function in Peri-implantitis  
NIDCR  
PI- Lyndon Cooper  
\$350,000 Total Costs requested

09/01/17 Linking Clinical and Research Excellence; the iCARE Program

NIDCR 1 K12 DE027833-01  
PI-Lyndon Cooper  
\$738,485 Total Costs requested

09/05/18 Exosome Mediated Dual Path Paracrine Signaling in Bone Repair and  
Regeneration  
NIDCR 1 R01 DE028911-01  
PI- Lyndon Cooper  
\$2,694,336 Total Costs requested

06/05/19 Exosome mediated immunomodulation in osteogenesis  
NIDCR 1 R01 DE029554-01  
PI- Lyndon Cooper  
\$2,844,000 Total Costs requested

07/05/20 Exosome-Mediated Immunomodulation of Bone Repair  
NIDCR R01 DE029554-01A1  
MPI- Lyndon Cooper/Sriram Ravindran  
\$2,844,000 Total Costs requested

**APPENDIX A: INVITED PRESENTATIONS; 1994- 2016**

Feb 1990	<p>“Treatment of Multiple Abutment Teeth Displaying Differential Mobility” Table Clinic American Prosthodontic Society, 62nd Annual Meeting, Chicago, IL.</p>
April 1991	<p>“Osteoblast physiology and osseointegration” 2 hour lecture Program in Graduate Dentistry New York University School of Dentistry, New York, NY</p>
May 1993	<p>“Bone Physiology” 2 hour lecture Howard University Continuing Education Program Washington, DC</p>
May 1994	<p>“Dentistry; The State of the Art” Two - 1 hour seminars, Semi-Annual Meeting of the Parent’s Association University of North Carolina School of Dentistry</p>
Sept 1994	<p>“The molecular basis for the multiplicity of the small heat shock protein response.” 1 hour seminar Department of Biochemistry and Biophysics, University of North Carolina School of Medicine</p>
Oct 1994	<p>“The bone-implant interface; a target for clinical intervention.” 1 hour seminar, Division of Orthopedic Surgery University of North Carolina School of Medicine</p>
Oct 1994	<p>“Osseointegration and the Restorative Dentist” Co-founder of 18-hour course 5 hour lecture UNC School of Dentistry</p>
Mar 1994	<p>“Modifying Responses to Implants” 1 hour lecture Academy of Osseointegration Annual Meeting, Orlando, FL</p>
Feb 1995	<p>“Osseointegration; what is and what it isn’t” 1-hour lecture, Senior Student’s Pearl Day University of North Carolina School of Dentistry</p>
Mar 1995	<p>“Comparison of Mineralizing Matrix Formation at Implant Surfaces of Primary Cultured Mandibular Osteoblasts” Poster Presentation (Awarded 1<sup>st</sup> prize)</p>

10th Annual Meeting of the Academy of Osseointegration.  
Orlando, FL

April 1995 "Osteoblast Physiology and Osseointegration  
2 hour lecture  
Program in Graduate Dentistry  
New York University School of Dentistry, New York, NY

April 1995 "Understanding cell - type specific stress resistance; a role for hsp27"  
1 hour seminar  
Department of Cell Biology  
University of North Carolina School of Medicine

April 1995 "Cellular and Molecular Determinants of Osteoblastic Wound Healing"  
1 hour lecture  
Annual Meeting, American Society of Osseointegration  
San Antonio, TX

May 1995 "Identifying Molecular and Cellular Determinants of Osseointegration"  
1 hour lecture  
Annual Meeting, Academy of Prosthodontists  
Tucson, AZ

July 1995 Prosthodontics and Periodontics for the General Practitioner  
Four 1 hour lectures  
UNC Department of Prosthodontics  
Hilton Head, SC

Sept 1995 "48th Annual Midwest Seminar of Dental Medicine"  
Guest Faculty –Presentation included: 1) "The prosthetic replacement of single missing teeth: dilemma for the 90's", 2) "Defining Osseointegration", 3) The Biological Basis of Osseointegration; A Bone Cell Biology Primer", and 4) "Failures in Osseointegration".  
Baileys Harbor, WI

Oct 1995 "Proper fabrication and application of tomographic and surgical templates for implant fixture placement."  
Table Clinic  
Annual Meeting of the American College of Prosthodontists, Washington, DC

Oct 1995 "The biomechanical principles involved in implant-supported framework design".  
Table Clinic  
Annual Meeting of the American College of Prosthodontists, Washington, DC.

Dec 1995 "Defining the Biological Determinants of Bone Formation at Implant Surfaces – New Clues for Future Improvement."  
1 hour lecture  
41st Annual Meeting of The Greater New York Academy of Prosthodontics  
New York, NY

Nov 1995 "Advanced Dental Implant Treatment Planning and Restorative Techniques"  
Co-founder of 18 hour course  
2 hours Lecture, 8 hours Lab  
UNC School of Dentistry

Mar 1996 "Contemporary Prosthodontics"



- Co-founder, lecturer, and demonstrator  
Two one – hour lectures, 3 hours laboratory demonstrator  
UNC School of Dentistry
- March 1996 “Osseointegration, Implants and Treatment Planning.”  
2 hour lecture  
Annual Meeting of the North Carolina Society of Periodontists,  
Greensboro, NC
- Mar 1996 “Osseointegration, Product or Process?”  
Lunch and Learning  
75th Annual Meeting of the International Association for Dental Research  
San Francisco, CA
- Mar 1996 “Does aging affect the determinants of osseointegration?” Prosthodontic  
and Geriatric Research Group Symposium  
75th Annual Meeting of the International Association for Dental Research,  
San Francisco, CA
- May 1996 “Dentistry; The State of the Art”  
Two 1 hour seminars  
Semi-Annual Meeting of the Parent’s Association  
University of North Carolina School of Dentistry
- June 1996 “Creating and Maintaining Bone at Implants.”  
1 hour lecture  
Scientific Frontiers in Clinical Dentistry, NIDR,  
Bethesda, MD
- July 1996 Prosthodontics and Periodontics for the General Practitioner  
Four 1hour lectures  
UNC Department of Prosthodontics
- Aug 1996 “Is There A Rationale Basis for Implant Design?”  
1 hour lecture  
The 1997 Tahoe Conference,  
Lake Tahoe, CA
- Oct 1996 “Replacement of Single Missing Teeth: A Treatment Planning Dilemma for  
the 90’s”.  
1 hour lecture AHEC  
Lee County Dental Society  
Sanford, NC
- Oct 1996 “Application of Extracoronary Resilient Attachments in Dental  
Rehabilitation”  
Table Clinic  
Annual Meeting of the American College of Prosthodontists,  
Kansas City, KS.
- Oct 1996 “Big problems with small heat shock proteins”  
1 hour seminar,  
Department of Biochemistry and Biophysics,  
University of North Carolina School of Medicine
- Oct 1996 “Improving Outcomes with Dental Implants”  
Scientific Frontiers in Clinical Dentistry  
1 hour lecture  
Annual Session of the American Dental Association  
Orlando, FL

- Oct 1996 "Limiting the Impact of Fixed Partial Dentures on the Periodontium"  
1 hour lecture  
Annual Meeting of the American College of Prosthodontists, Kansas City,  
MO
- Nov 1996 "Is There A Rationale Basis for Implant Design?",  
1 hour lecture  
The Philadelphia Implant Study Club.  
Philadelphia, PA.
- Nov 1996 "Experimental Approaches to Improving Osseointegration"  
2 hour seminar  
The Implant Program. University of Pennsylvania School of Dentistry  
Philadelphia, PA
- Mar 1997 "Coordinating Treatment for Dental Implants"  
1 hour lecture AHEC  
Coastal Carolina Dental Society, Camp Lejeune  
Jacksonville, NC
- Mar 1997 "Tioblast™ Surface Technology and its Relationship to Osseointegration"  
1 hour lecture  
The San Francisco Conference, Astra Tech, Inc.  
San Francisco, CA
- Mar 1997 "What is that voodoo that you do so well? Can the 'magic' of  
osseointegration be improved."  
1 hour lecture  
The Princeton Dental Study Club  
Princeton, NJ.
- Mar 1997 "The Molecular Basis for Osseointegration; a potential role for  
pleiotrophin in bone formation"  
2 hour lecture  
Graduate Programs in Dentistry, New York University  
New York, NY
- July 1997 "Alloplastic Surface Determinants of Osteoblast Behavior"  
1 hour lecture  
The 1997 Periodontology Gordon Conference  
New Hanover, NH
- July 1997 Prosthodontics and Periodontics for the General Practitioner  
Four 1hour lectures  
UNC Department of Prosthodontics  
Hilton Head, SC
- Aug 1997 "Resin Bonded Fixed Partial Dentures"  
1 hour lecture, AHEC  
Stanley County Dental Society  
Siler City, NC
- Sept 1997 "The molecular phenotype of titanium implant adherent cells" 1 hour  
lecture  
The 13<sup>th</sup> European Conference on Biomaterials"  
Gothenburg, Sweden
- Sept 1997 "Molecular and cellular determinants for dental implant engineering"  
1 hour lecture  
The 1997 Tahoe Conference. (Astra Tech Inc)  
Lake Tahoe, CA

Oct 1997	<p>“Single tooth replacement of teeth using the ITI implant”  1 hour lecture  Department of Periodontology  UNC Chapel Hill</p>
Oct 1997	<p>“Molecular and cellular determinants for dental implant engineering.  1 hour lecture  The 1997 Miami Conference, (Astra Tech Inc)  Miami, FL</p>
Nov 1997	<p>“Single Tooth Dental Implants”  1 hour lecture, AHEC  East Coast Dental Society  Morehead City, NC</p>
Mar 1998	<p>"Dental Implant Design - current status"  1 hour lecture  The Portland Maine Dental Society  Portland, ME.</p>
Dec 1997	<p>“Advanced Dental Implant Treatment Planning and Restorative  Techniques”  2 hour lecture, 8 hour laboratory demonstration  Department of Prosthodontics  UNC School of Dentistry</p>
April 1998	<p>“Single tooth Implants”  2 hour lecture AHEC  Eastern Regional AHEC  Greenville, NC</p>
April 1998	<p>“Dentistry; The State of the Art”  Two - 1 hour seminars,  Semi-Annual Meeting of the Parent’s Association  University of North Carolina School of Dentistry</p>
May 1998	<p>“Novel Approaches to denture treatment of the edentulous patient:  3 hour demonstration/lecture  The 3M Company  Minneapolis, MN</p>
May 1998	<p>"Endosseous implants and osteoblast gene expression."  1 hour lecture  Third Annual Indiana Conference. Indiana University, Indianapolis, IN</p>
May 1998	<p>"Osteogenic responses and engineered implant surfaces."  1 hour lecture  Osteology in Venice; Bone and tissue regeneration and treatment options  in implantology.  Giorgio Cini Foundation,  Venice, Italy</p>
May 1998	<p>"The response of bone at implants surfaces."  1 hour lecture  Dogmas and realities of osseointegration; evolution of concepts. XIV  International Conference de la Societe Francaise de Parodontology.  Marseilles, France</p>
May 1998	<p>“Novel Approaches to denture treatment of the edentulous patient:  3 hour demonstration/lecture  The 3M Company  Minneapolis, M</p>

- June 1998 "Why is Hsp27 2015 in unstressed osteoblasts"  
1 hour lecture  
Research Seminar Series,  
University of Rochester,  
Rochester, NY
- July 1998 "Analysis of osteogenesis at endosseous implants."  
1 hour seminar  
Osiris Therapeutics, Inc.  
Baltimore, MD
- Sept 1998 "Complete Dentures"  
1 hour lecture  
The American College of Prosthodontists Specialty Board Preparation  
Course:  
San Diego, CA.
- Sept 1998 "Provisional Loading of Dental Implants"  
Symposium Moderator (4 hours )  
The American College of Prosthodontists Annual Meeting, San Diego, CA.
- Oct 1998 "Single tooth implant success: a Prosthodontic view of implant site  
development"  
2 hour lecture  
New York Veterans Administration Hospital  
New York, NY
- Oct 1998 "Single Stage Implants; Fact, Fiction and Data"  
1 hour lecture,  
Federation Dentaire Internationale  
Barcelona, Spain
- Nov 1998 "Bone formation at dental implants."  
1 hour lecture  
Student Research Group Symposium  
The University of North Carolina
- Dec 1998 "Improving bone formation and maintenance at dental implants; a role for  
implant surface technology"  
1 hour lecture  
The 9<sup>th</sup> Annual New York University Implant Symposium.  
New York, NY
- Jan 1999 "Osseointegration and the Restorative Dentist"  
5 hour lecture, 8 hour laboratory demonstration  
Department of Prosthodontics  
UNC School of Dentistry
- Jan 1999 "Impact of surface technology on the molecular control of bone formation  
at implants." and "Preservation of cortical bone mass; implications for  
implant prostheses"  
3 hours lecture  
The 3<sup>rd</sup> Astra Implantology Symposium  
Zoetermeer, Netherlands
- March 1999 "Integrating Biochemistry into the Prosthodontic Curriculum" 30 minute  
lecture  
The Annual Meeting of the American Association of Dental Schools.

- Vancouver, Canada.
- March 1999 "Implant surface topography; factors affecting clinical behavior of implants."  
1 hour lecture  
AstraTech global forum on implants and esthetics,  
Palm Springs, CA
- March 1999 "Creating and maintaining bone at implant surfaces"  
1 hour lecture  
The Annual Meeting of the Academy of Osseointegration, Palm Springs,  
CA
- March 1999 "Bone Biology; Experimental molecular and cellular approaches to  
defining osseointegration. New York  
1.5 hour lecture  
University School of Dentistry Graduate Programs in Oral Biology and  
Implantology  
New York, NY
- April 1999 "Expediting and improving dental implant therapies  
1 hour lecture  
The 1999 European Academy of Osseointegration Copenhagen, Denmark
- May 1999 "Moving from Prosthodontic Rehabilitation to Prosthodontic  
Regeneration"  
The Hope Valley Dental Study Club.  
Durham, North Carolina
- May 1999 "Capturing Determinants of Bone Regeneration"  
1 hour lecture  
Annual Meeting of the Academy of Prosthodontics,  
Calgary, Canada
- July 1999 "Prosthodontics and Periodontics for the General Practitioner"  
Four 1 hour lectures  
UNC Department of Prosthodontics  
Hilton Head, SC
- Sept 1999 "Restoring Osseointegrated Implants"  
2 hour lecture  
Falmouth Dental Study Club,  
Falmouth, MA
- Sept 1999 "Capturing Determinants of Bone Formation"  
1 hour lecture  
Student Research Group Symposium  
The University of North Carolina
- Sept 1999 "Hsp27 is an Estrogen Regulated Protein that is a Determinant of  
Osteoblast Apoptosis.  
Plenary Poster Presentation  
Annual Meeting of the American Society for Bone and Mineral Research  
St. Louis, MO
- Sept 1999 "Restoration of Single Missing Teeth"  
3 hours lecture (AHEC)  
Greenville AHEC  
Greenville, NC
- Oct 1999 "Prepable Abutments for Dental Implant Restorations"  
Table Clinic  
Annual Meeting of the American College of Prosthodontists, New York, NY

- Oct 1999 Keynote Speaker  
4 hours lecture regarding dental implants  
Annual Meeting of the Australasian Academy of Osseointegration  
Sidney, Australia
- Oct 1999  
Specialty Board Preparation Course  
Annual Meeting of the American College of Prosthodontists  
1 hour lecture  
New York, NY
- Oct 1999  
“Expediting dental implant treatment”  
3 hour lecture  
Mountain Area AHEC  
Asheville, NC
- Nov 1999  
“Experimental Studies of Implant Surface Topography Effects on  
Osseointegration”  
1 hour lecture  
Graduate Prosthodontics, University of Connecticut  
Farmington, CT
- Nov 1999  
“Expanding Possibilities; Experimental Evidence for Immediate Loading of  
Dental Implants” and “Experimental Studies of Implant Surface  
Topography Effects on Osseointegration”  
2 hour lecture  
The Vail Conference (AstraTech, Inc.)  
Vail, CO
- Nov 1999  
“Transition Contour: Control of Implant Esthetics”  
1 hour lecture  
The University of Connecticut, Department of Prosthodontics, Graduate  
Prosthodontics Seminar Series  
Farmington, CT
- Dec 1999  
“Simplifying Dental Implant Therapy”  
1 hour lecture  
AstraTech Users Conference  
Chicago, IL
- Feb 2000  
“Immediate implant therapy for mandibular edentulism” “Implant therapy  
success for posterior partial edentulism”  
Two 1 hour lectures  
Odontic Study Club, University of Southern California.  
Los Angeles, CA
- Feb 2000  
“Immediate implant therapy for mandibular edentulism” “Implant therapy  
success for posterior partial edentulism”  
Two 1 hour lectures  
Palm Springs, CA
- Feb 2000  
“Implant therapy success for posterior partial edentulism” Two 1 hour  
lectures  
The Marshack Restorative Dentistry Study Club.  
Pasadena, CA
- April 2000  
“Hsp27 regulation of osteoblast viability”  
1 ½ hour Presentation  
Tokyo Medical and Dental University. Annual Stomatological Society  
Meeting.

April 2000	Tokyo, Japan "Enhancing the use of dental implants." Two 1 hour lectures The 3 <sup>rd</sup> Japanese AstraTech Implant Users Conference Tokyo, Japan
April 2000	"Treatment of the edentulous mandible" 3 hours lecture. Eastern Area AHEC Fayetteville, NC
May 2000	"Expanding and improving dental implant applications." 2 hour lecture AstraTech User's Conference Chicago, IL
May 2000	"Bone biological aspects of improved dental implant therapy" 1 hour lecture Marquette University Milwaukee, WI
June 2000	"The J774A.1 macrophage cell-line produces osteoinductive signals that include BMP-2." Poster Presentation Periodontology Gordon Conference, 2000. Oxford, England
June 2000	"Expanding and improving dental implant applications" 2 hour lecture AstraTech User's Conference Redmond, WA
June 2000	"Expanding and improving dental implant applications" 3 hour lecture Eskow Periodontal Study Club Newark, NJ
June 2000	"Expediting dental implant therapy" 2 hour lecture New York State Veteran's Administration Hospital Dental Service Bath, NY
Sept 2000	"Human MSCs for alveolar bone regeneration" Poster Presentation European Academy of Osseointegration Annual Session, Amsterdam, Netherlands
Sept 2000	"Expediting dental implant therapy; Immediate and Rapid Loading" 40 minute lecture European Academy of Osseointegration Annual Session, Amsterdam, Netherlands
Oct. 2000	"All Ceramic Restorations" 1 hour lecture Beaufort County Dental Society Beaufort, NC
Oct 2000	"Immediate loading of mandibular implants"

	1.5 hour lecture AstraTech Users Conference Dana Point, CA
Oct 2000	“Expanding and improving dental implant applications” 2 hour lecture Gian-Grasso Periodontics Study Club, Philadelphia, PA
Nov 2000	“Expanding and improving dental implant applications” 2 hour lecture Vorhees, NJ
Nov 2000	“Prosthodontics; Lessons of Rehabilitation” 1 hour lecture Pre-dental Club The University of North Carolina
Nov 2000	“Immediate loading of implants” 1 hour lecture. Randolph County Dental Society, Asheboro, NC
Dec 2000	“A biologic basis for esthetic implant outcomes” 2 hour lecture Stockholm Implant Study Club Stockholm, Sweden
Dec 2000	“Immediate Loading of Implants, Tempering of Temporal Realities.” 2 hour lecture Dental Department, Guy’s Hospital, London, England
Dec 2000	“A Case for Taper Implant Design” The Great Debate 15 minute Presentation American Association of Oral and Maxillofacial Surgeons Annual Implant Session Chicago, IL
Dec 2000	“Implant Surface Technology; cellular and molecular aspects of implant design” 2 hour lecture AstraTech AB Möndal, Sweden
Dec 2000	“A cellular basis for implant modulation of bone formation” 2 hour lecture Handicap Institute, University of Gothenberg Gothenberg, Sweden
Dec 2000	“Cellular and molecular improvements in clinical implant dentistry; translational science activities” 2 hour lecture Trinity College, School of Dentistry Dublin, Ireland
Jan 2001	“Restoration of Single Missing Teeth; a Dilemma for this Decade.” 1 hour lecture Charlotte Dental Society



Feb 2001	Charlotte, NC "Esthetic Principles for Prosthodontics" 1 hour lecture Kinston Dental Society Kinston, NC
Feb 2001	"Dental Implant Therapy using the AstraTech Dental Implant System" 3 hours lecture Moss Oral Surgery Study Club Paramus Park, NJ
Feb 2001	"Improved patient care with Implants." 8 hours lecture Graduate Prosthodontics Residency, US Army, Fort Gordon, GA,
Feb 2001	"Simplifying Prosthodontics" 8 hours lecture Virginia Academy of General Dentistry Charlottesville, VA
Feb 2001	"Improvements in bone formation at implants" 1 hour lecture University of New Jersey School of Medicine and Dentistry Newark, NJ
April 2001	"Direct Restoration of Dental Implants" 2 hours lecture Alumni Day, UNC School of Dentistry The Friday Center, Chapel Hill, NC
April 2001	"Outcomes of Dental Implant Procedures" 1 hour lecture Stanley County Dental Society Albemarle, NC
April 2001	"Prosthodontic Regeneration" 1 hour lecture Ivoclar, Inc. Buffalo, NY
April 2001	"Direct Restoration of Dental Implants" 2 hour lecture Olympia Washington Implant Study Club Olympia, WA
April 2001	"Direct Restoration of Dental Implants" 2 hour lecture Ten Hulzen Implant Study Club Lake Oswego, OR
April 2001	"Immediate Loading of Dental Implants" 2 hour lecture The Portland Study Club Portland, OR
April 2001	"Cortical bone adaptation at dental implants" 2 hour lecture Department of Periodontology;

April 2001	University of Oregon School of Dentistry, Portland, OR "Biological Approaches to Dental Rehabilitation" <u>Keynote Speaker</u> , 1 hour Presentation for Research Day Southern Illinois University Alton, IL
May 2001	"Direct Restoration of Dental Implants" 2 hour lecture Dr. Kasmer Periodontology Group Cary, NC
Aug 2001	"Improved patient care with Implants" 2 hour lecture Kissel Implant Study Club New York, NY
Sept. 2001	"Immediate Loading of Endosseous Implants" Cancelled on September 11 <sup>th</sup> . The European Academy of Osseointegration Milan, Italy
Sept 2001	"Improved Patient Care Using Endosseous Implants" Keynote Speaker, 7 hours lecture. The 39 <sup>th</sup> Annual El Paso Dental Conference. El Paso, Texas
Oct 2001	"Immediate Loading of Endosseous Implants" 2 hours lecture Boston, MA
Oct 2001	"Integration of Implant Therapy in the Prosthodontic Practice" 6 hour lecture The Sacramento Study Club Sacramento, CA
Oct. 2001	"The AstraTech Dental Implant System" 2 hour lecture The Santa Rosa Dental Implant Study Club. Santa Rosa, CA
Nov 2001	"Optimization and Simplification of Implant Supported Overdentures" 30 minute lecture The Greater New York Academy of Prosthodontics Annual Session New York, NY
Nov 2001	"The AstraTech Dental Implant System" 2 hour lecture Graduate Prosthodontics, Medical College of Virginia, Richmond, VA
Ded 2001	"Calcium Effect on Human Mesenchymal Stem Cell Differentiation along the Osteoblastic Lineage" 1 hour lecture Osiris Therapeutics Inc. Baltimore, MD
Dec 2001	"Expediting Dental Implant Therapy" 7 hours Lecture Continuing Education Symposium

Dec 2001	The Ohio State University School of Dentistry Columbus, OH "Direct Restoration of Endosseous Implants" 4 hours of Hands on training/computer directed activities in a simulation laboratory.
Dec 2001	The University of North Carolina The AstraTech Dental Implant Symposium Director and Moderator The Friday Center at University of North Carolina Chapel Hill, NC.
Dec 2001	The AstraTech Dental Implant System 4 hours hands on tutorial The University of North Carolina School of Dentistry Chapel Hill, NC.
Dec 2001	Immediate Loading; a Patient-based Tutorial 8 hours of Patient-based Demonstration The University of North Carolina School of Dentistry Chapel Hill, NC.
Dec 2001	"Expediting Endosseous Implant Therapies; Future Clinical Realities?" 45 minute lecture Bone Biology and Implant Therapy Symposium, Friday Center Chapel Hill, NC
Jan 2002	"Expedited Dental Implant Therapy" 2 hour lecture Atlanta, GA
Jan 2002	"Immediate Loading of Dental Implants" 2 hour lecture Rancho Santa Fe Study Club Rancho Santa Fe, CA
Jan 2002	"Prudent Application of Immediate Loaded Dental Implants" 2 hour lecture The Wheeler Study Club Rancho Santa Fe, CA
Jan 2002	"Advances in Implant and Prosthodontics" 4 hour lecture (AHEC) Wilson Dental Society Wilson, NC
Jan 2002	"Advantages of Conus Design Dental Implants" 2 hour lecture. Goldsboro Dental Society Goldsboro, NC
Feb 2002	"The Prosthodontist in Implant Dentistry. Rehabilitation or Regeneration?" 1 hour lecture Chicago Dental Society Annual Meeting Chicago, IL
March 2002	"Recruitment and Retention of Prosthodontic Faculty; Education vs. Career Development" The American Dental Educators Association Annual Session

San Diego, CA

- Mar 2002 Immediate loading, Principles, practice, product  
1 hour lecture  
The Annual Meeting of the Academy of Osseointegration  
Dallas, TX
- March 2002 “Overdenture Therapy” and “Immediate Loading of Implants”  
2 hour lecture  
Baylor University Graduate Dentistry Residencies  
Dallas, TX
- April 2002 “Tissue Engineering in Implant Dentistry”  
2 hour lecture  
Delaware Valley Academy of Osseointegration  
Philadelphia, PA
- April 2002 “Treatment of Mandibular Edentulism”  
2 hour lecture  
Wake Forest AHEC  
Winston Salem, NC
- April 2002 “Overdenture Therapy” and “Immediate Loading of Dental Implants” and  
“Single Tooth Implant Treatment”  
5 hour Lecture  
Jacksonville Dental Society  
Jacksonville, FL
- April 2002 “Implant Solutions for Edentulism / Immediate Loading”  
5 hours lecture  
The Annual Session of the Jacksonville Dental Society  
Jacksonville, FL.
- April 2002 Cellular Interactions at cp Titanium Surfaces.  
1 hour lecture  
The Bio-Implant Interface Conference  
Sponsored by Oslo University, Oslo Norway
- May 2002 “Early and Immediate Loading; Experiences from a single academic  
center”  
1 hour lecture  
Spanish Osseointegration Association (SEI)  
Barcelona, Spain
- May 2002 “Osteogenesis Imperfection; Challenges facing cell-based bone tissue  
engineering.”  
30 minute lecture  
Annual Meeting of the North Carolina Tissue Engineering Research Group  
North Carolina Biotechnology Center,  
RTP, NC
- May 2002 “Treatment of the Edentulous Maxilla using Implants”  
1 hour lecture  
AstraTech Users Conference  
Las Vegas, NV
- May 2002 “Excellence for the Single Tooth Implant”  
1 hour lecture  
Spanish Osseointegration Association (SEI)

June 2002	Barcelona, Spain "Crestal bone Loss at Endosseous Implants" and "Single Tooth Implants" 4 hour lecture Indiana University School of Dentistry Graduate Residencies Indianapolis, IN
June 2002	"Advances in Dental Implant Therapy" 6 hours lecture Fort Bragg, US Army Residencies Fayetteville, NC
July 2002	"Implant Therapy; Proper Solutions in Diverse Situations" 3 hours lecture Imray Study Club Jacksonville, FL
July 2002	"Prosthodontics and Periodontics for General Practitioner" Four 1hour lectures UNC Department of Prosthodontics Hilton Head, SC
Aug 2002	"The AstraTech Dental Implant System" 3 hour lecture The Sheridan Study Club Los Angeles, CA
Aug 2002	"Osteogenesis Imperfection; Challenges facing cell-based bone tissue engineering." 1 hour lecture University of Toronto Toronto, Canada
Sept 2002	"Early and Immediate Loading; Experiences from a Single Academic Center" 1 hour lecture European Academy of Osseointegration Annual Session Brussels, Belgium
Sept 2002	The 2 <sup>nd</sup> Annual AstraTech Dental Implant Symposium Director and Moderator, 1 hour lecture The Friday Center at University of North Carolina Chapel Hill, NC
Sept 2002	Immediate Loading; a Patient-based Tutorial 4 hours lecture/8 hours of Patient-based Demonstration The University of North Carolina School of Dentistry Chapel Hill, NC.
Oct 2002	"Early and Immediate Loading; Experiences from a Single Academic Center" 1 hour lecture Danish Academy of Osseointegration Annual session Billund, Denmark
Oct 2002	"Prosthodontic Principles for Implant Success" 4 hour lecture Spanish Academy of Osseointegration Bilbao, Spain
Nov 2002	"Is the Dental Implant a Periodontium Analog?" 30 minute lecture The Toronto Consensus Conference

Nov 2002	Toronto, Canada "Tissue Engineering in Dentistry" 1 hour lecture American College of Prosthodontists Annual Session Orlando, FL
May 2003	"The Role of Prosthodontists in Implant Surgery" 20 minute lecture Academy of Prosthodontics Annual Session Boston, MA
June 2003	"Surface Topography vs. Surface Chemistry" IADR Implant Research Group Symposium 25 minute lecture International Association for Dental Research Gothenberg, Sweden
Nov 2003	"Adult Stem Cells; Teacher or Tool?" 1 hour lecture International Eastman Dental Center Reunion Naples, FL
Aug 2003	"All Ceramic Restorations" 2 hours AHEC Wake Forest University
Oct 2003	The 3 <sup>rd</sup> Annual AstraTech Dental Implant Symposium Director and Moderator, 1 hour lecture The Friday Center at University of North Carolina Chapel Hill, NC.
Oct 2003	Immediate Loading; a Patient-based Tutorial 4 hour lecture/8 hours of Patient-based Demonstration The University of North Carolina School of Dentistry Chapel Hill, NC
Oct 2003	"Immediate Loading of Dental Implants" 1 hour lecture The AstraTech Users' Conference Phoenix, AZ
Oct 2003	"Esthetic Concepts and Immediate Loading of Dental Implants" 3 hour lecture Freidman Periodontal Associates Chicago, IL
Nov 2003	"Excellent Implant Solutions" 3 hour lecture Glick Periodontology Study Club Denver, CO
Dec 2003	Immediate Loading of Dental Implants 1 hour lecture AAOMS Dental Implant Conference American Association of Oral and Maxillofacial Surgeons Chicago IL.
Dec 2003	Non-functional Loading of Dental Implants; The Great Debate 15 minutes

Jan 2004	AAOMS Dental Implant Conference American Association of Oral and Maxillofacial Surgeons Chicago IL. “Excellent Implant Solutions” 3 hour lecture Dr. Kukhold and Associates San Diego, CA
Jan 2004	“Immediate Loading of Dental Implants” 4 hours lecture Odontic Study Club Los Angeles, CA
Jan 2004	“Prosthodontic Principles for Dental Implants” 4 hours lecture National Dental Center Singapore
Jan 2004	Immediate Loading of Dental Implants 1 hour lecture Annual Dental Review Day National Dental Center Singapore
Feb 2004	“Prosthodontic Principles for Dental Implant Success” 2 hours Mountain Area AHEC Asheville, North Carolina
March 2004	Dental Implant Surface Topography and Bone Responses 1 hour lecture World Congress of Osseointegration Honolulu, HA
March 2004	Tissue Engineering of Alveolar Bone 1 hour lecture Academy of Osseointegration Annual Session San Francisco CA
April 2004	Immediate Loading of Dental Implants 6 hours lecture European Society of Osseointegration Bilbao, Spain
April 2004	Immediate Loading of Dental Implants 2 hours lecture Georgia Section of the American College of Prosthodontics Atlanta, GA
May 2004	Immediate Loading of Dental Implants 1 hour lecture British Society of Periodontology Annual Session Birmingham, England
June 2004	“Treatment Planning for Dental Implants” 3 hour lecture New York County Dental Society New York, NY
July 2004	“Prosthodontics and Esthetics for General Practitioners”

Sept 2004	<p>Four 1hour lectures  UNC Department of Prosthodontics  Hilton Head, SC  “Innovations for Complete Denture Prosthodontics”  2 hours  Mountain Area AHEC  Asheville, North Carolina</p>
Sep 2004	<p>“Immediate Loading of Dental Implants”  4 hours lecture/ 8 hours clinical demonstration  University of North Carolina</p>
Sept 2004	<p>Modification of Cellular Behavior at Fluoride Treated Implants  1 hour lecture  European Academy of Osseointegration Annual Session  Paris, France</p>
Oct 2004	<p>Esthetic Guidelines for Immediate Loading of Anterior Dental Implants  1 hour lecture  World Congress of Osseointegration, 2004  Venice, Italy</p>
Oct 2004	<p>Genomics, Nanotechnology, Biomimetics and Prosthodontics?  1 hour lecture  American College of Prosthodontics Annual Session  Ottawa, Canada</p>
Oct 2004	<p>The 4<sup>th</sup> Annual AstraTech Dental Implant Symposium  Director and Moderator  The Friday Center at University of North Carolina  Chapel Hill, NC.</p>
Oct 2004	<p>Immediate Loading; a Patient-based Tutorial  4 hour lecture/8 hours of Patient-based Demonstration  The University of North Carolina School of Dentistry  Chapel Hill, NC.</p>
Nov 2004	<p>“Prosthodontics; Lessons of Rehabilitation”  1 hour lecture  Pre-dental Club  University of North Carolina</p>
Dec 2004	<p>Immediate Loading of Dental Implants  2 hour lecture  Allentown Dental Study Club  Allentown PA</p>
Dec 2004	<p>“Dancing with the Devil; Binding Partners for Hsp27”  1 hour lecture  Oral Biology Seminar  University of North Carolina</p>
Dec 2004	<p>Immediate Loading of Dental Implants  1 hour lecture  DGI Annual Session  Bern, Switzerland</p>
Jan 2005	<p>Genomics, Nanotechnology, Biomimetics and Prosthodontics?  1 hour lecture  Dean’s Lecture Series; University of Southern California</p>



Jan 2005	Los Angeles, CA "Complete Denture Therapy" 2 hour lecture Wilmington Dental Study Club Wilmington, NC
Jan 2005	"Esthetic Concepts and Immediate Loading of Dental Implants" 7 hours lecture NVOI Zoetermeer, Netherlands
Jan 2005	Immediate Loading and Esthetics for Dental Implants 2 hours lecture USC Dental Implant Symposium Los Angeles, CA
Feb 2005	Tissue Engineering of Alveolar Bone 2 hours lecture Nippon Dental University Tokyo, Japan
February 2005	"Immediate loading of Dental Implants" 2 hour lecture Asheville Dental Study Club Asheville, NC
March 2005	Treatment Options for Dental Implant Treatment of the Edentulous Maxilla 1 hour lecture Academy of Osseointegration, Annual Session Orlando, FL
April 2005	"Treatment of Acquired Defects using Contemporary Prosthodontics" 1 hour lecture New York Gnathological Society New York, NY
May 2005	Treatment Options for Dental Implant Treatment of the Edentulous Maxilla 1 hour lecture ADI Annual Session Glasgow, Scotland
June 2005	"All Ceramic Restorations" 1 hour lecture Advances in General Dentistry University of North Carolina
June 2005	All Ceramic Restorations for Prosthodontics 1 hour lecture General Dentistry Update; University of North Carolina Chapel Hill, NC.
July 2005	"Prosthodontics and TMJ Therapy for General Practitioners" Four 1hour lectures UNC Department of Prosthodontics Hilton Head, SC
Sept 2005	"Immediate Loading of Dental Implants" 3 hour lecture Meitner Study Club

Oct 2005	Fairport, NY "Surgical Procedures for Mandibular Dental Implants" 3 hours lecture Amercian College of Prosthodontists Annual Session Los Angeles, CA
Oct 2005	Abutment Design for Single Tooth Dental Implants 1 hour lecture European Academy of Osseointegration Annual Session Munich, Germany
Oct 2005	When Biology and Implants Collide; Winning with Ultimate Dental Implant Esthetics 1 hour lecture Australasian Society of Osseointegration Semi-annual Meeting Camberra, Australia
Nov 2005	Immediate Loading of Dental Implants 6 hours lecture Harvard University Department of Prosthodontics Boston, MA
Nov 2005	"Immediate Loading of Dental Implants" 6 hours lecture Ohio State University Implant Course Columbus, OH
Dec 2005	"Immediate Loading of Dental Implants" 3 hours lecture Nova University School of Dentistry Ft. Lauderdale, FL
March 2006	The Implant / Abutment Interface 30 minute lecture Academy of Osseointegration Annual Session Seattle, WA
May 2006	Immediate Loading of Dental Implants 1 hour lecture SEBIC Caceres, Spain
June 2006	Immediate Loading of Dental Implants 30 minute lecture Europerio 2006 Madrid, Spain
Nov 2006	Immediate Loading of Dental Implants 60 minute lecture Loma Linda University Continuing Education Palm Springs, CA
Nov 2006	Advancing Dental Implant Therapy 45 minute lecture AOIP Annual Meeting Bologna, Italy
Feb 2006	"Contemporary Concepts for Dental Implant Therapy" 6 Hour lecture Minneapolis Dental Associates Study Club Minneapolis, MN

March 2006 "Immediate Loading of Dental Implants"  
3 hours lecture  
Seattle Study Club of Virginia Beach  
Virginia Beach, VA

April 2006 "Contemporary Concepts for Dental Implant Therapy"  
6 hours lecture  
Roanoke Dental Study Club  
Roanoke, VA

June 2006 "Complex Dental Implant Therapy"  
4 hours lecture  
University of Southern California  
Los Angeles, CA

Dec 2006 Treatment of the Dental Anomaly Patient  
45 minute lecture  
Greater New York Academy of Prosthodontics  
New York, NY

Jan 2007 Chairperson  
UNC/ACPEF Prosthodontic Research Symposium  
2 day symposium involving 35 leaders  
Chapel Hill, NC

Mar 2007 Subcommittee Chairperson,  
State of Science on Implant Dentistry  
Academy of Osseointegration Annual Session  
San Antonio, Tx.

June 2007 Implant Esthetics  
4 hours lecture  
University of Florida  
Gainesville, FL

June 2007 Implant Immediate Loading  
Lecturer, University CE course  
University of Iowa  
Iowa City, Iowa

Oct 2007 Digital Technology in Implant Dentistry  
European Academy of Osseointegration  
30 minute podium lecture  
Barcelona Spain

Oct 2007 Immediate Loading of Dental Implants  
4 hours lecture/ 8 hours clinical demonstration  
University of North Carolina  
Chapel Hill, NC

Dec 2007 Implants and Prosthodontics  
2 hour lecture  
Washington DC Dental Society  
Washington, DC

Feb 2008 Simplifying Complex Dental Therapies  
1 hour lecture  
Clinica Aparicio  
Barcelona Spain

Mar 2008 Dental Implant update  
2 hour lecture  
Charlotte Dental Society

April 2008	Charlotte, NC Biologic Basis of Dental Esthetics 1 hour lecture Jan Lindhe Symposium Goteborg, Sweden
May 2008	Emerging Dental Implant Therapies Jesse Bullard Symposium Baylor College of Dentistry Dallas, Tx
June 2008	Biologic Basis of Dental Esthetics 1 hour lecture Astra Tech Washington, DC
July 2008	Hilton Head Island Departmental Beach Course 4 hours lecture; assorted topics UNC Continuing Education Hilton Head Island, SC
Nov 2008	Immediate Loading of Dental Implants 4 hours lecture/ 8 hours clinical demonstration University of North Carolina Chapel Hill, NC
July 2008	Nanotechnology and Dental Implants 30 minute lecture IADR Toronto, Canada
Dec 2008	Immediate loading for partial edentulism 30 minute lecture AAOMS Annual Dental Implant Conference Chicago, Il.
Dec 2008	Biologic Basis of Dental Implant Esthetics 1 hour lecture McGill University Montreal, Canada
Jan 2009	Immediate Loading of Dental Implants 1 hour lecture University of Southern California Implant Conference Los Angeles, CA
March 2009	Biologic Basis of Dental Implant Esthetics 3 hour lecture International Dentistry Program, NYU New York, NY
May 2009	Emerging Dental Implant Therapies 6 hours lecture Indiana Society of Periodontists Indianapolis, IN
May 2009	Biologic Basis of Dental Implant Esthetics 1 hour lecture International College of Oral Implantology Philadelphia, PA
June 2009	Emerging Dental Implant Therapies 4 hours lecture

June 2009	New Jersey Dental Association Atlantic City, NJ Dental Implant Esthetics 3 hour lecture Mediterranean Prosthodontics Institute Castillion, Spain
June 2009	Digital Dentistry and Implant Esthetics Keynote lecture Materialise Conference Monterey, CA
Aug 2009	Titanium Flu or Prosthetic Dysplasia 1 hour lecture International College of Oral Implantology Vancouver, BC
Sept 2009	Immediate loading for Partial Edentulism 1 hour lecture American Academy of Periodontology Annual Session Boston, MA
Nov 2009	Treatment of the Severely Resorbed mandible 1 hour lecture American College of Maxillofacial Prosthetics San Diego CA
Nov 2009	Contemporary Prosthodontics, Diagnoses, Treatment, Technology 6 hours lecture Newport Harbour Academy of Dentistry Newport Beach CA
Nov 2009	Immediate Loading of Dental Implants 4 hours lecture/ 8 hours clinical demonstration University of North Carolina Chapel Hill, NC
Jan 2010	Emerging Dental Implant Therapies 6 hours lecture Dayton Dental Society Dayton, OH
Jan 2010	Failures of Dental Implants 1 hour lecture University of Southern California Implant Conference Los Angeles, CA
Mar 2010	Shortened Loading Protocols for Implants 30 minute lecture Academy of Osseointegration Annual Session Orlando, FL
April 2010	Emerging Dental Implant Therapies 4 hours lecture Charleston Dental Study Club Charleston SC
March 2010	Immediate Loading of Dental Implants 4 hours lecture AstraTech Symposium Tokyo, Japan
June 2010	Biologic Basis for Dental Implant Esthetics

	4 hours lecture Peter Sharer Study Club Zurich, Switzerland
June 2010	Evidence for Controlling Peri Implant Tissue Esthetics 1 hours lecture Pacific Coast Prosthodontics Society Napa, CA
Sept 2010	Immediate Loading of Dental Implants 2 hours lecture FDI Annual Meeting Sandatar, Brazil
Nov 2010	Immediate Loading of Dental Implants 4 hours lecture/ 8 hours clinical demonstration University of North Carolina Chapel Hill, NC
Dec 2010	Update on Dental Implant Technology 1 hour lecture Wake County Dental Society Raleigh, NC
Dec 2010	Implant Restoration of the Edentulous Maxilla 1 hour lecture Greater New York Academy of Prosthodontics New York, NY
Dec 2010	Evidence for Controlling Peri Implant Tissue Esthetics 1 hour Columbia University/International College of Oral Implantology New York, NY
Feb 2011	Immediate Loading of the Edentulous Maxilla 1 hour lecture International College of Oral Implantology Las Vegas, NM
March 2011	Implant Therapy in the Esthetic Zone 3 hour lecture University of Southern California Los Angeles, CA
March 2011	Keynote Speaker 4 hours lecture Australian Dental Association Brisbane, Australia
April 2011	Evidence for Controlling Peri Implant Tissue Esthetics 1 hour The Carl O. Boucher Prosthodontic Society Columbus, OH
May 2011	Provisionalization for Dental Implants 3 hours hands on laboratory American Academy of Cosmetic Dentistry Boston, MA
May 2011	Emerging Technologies for Implant Therapy 4 hours lecture JDIQ Montreal, Quebec

June 2011	Novel Concepts in Planning for Implant Therapy 6 hours lecture Eastman Dental Center Annual Brewer Conference Rochester, NY
June 2011	Biologic Basis for Dental Implant Esthetics 2 hour lecture AstraTech Users Group Asheville, NC
Sept 2011	Evidence for Controlling Peri Implant Tissue Esthetics 1 hour Benelux AstraTech Brussels, Belgium
Oct 2011	Digital Technologies in Treatment Planning 2 – 1 hour lectures European Academy of Osseointegration Athens, Greece
Nov 2011	Zirconia in Implant Prosthodontics 1 hour lecture American College of Prosthodontics Scottsdale, AZ.
Jan 2012	Minimalist Therapy in Implant Dentistry 1 hour Lecture PEERS Germany Frankfurt, Germany
January 2012	Contemporary Dental Implant Therapy 6 hour course Jesse and Fricktel Dental Laboratory Pittsburgh, PA
February 2012	Innovations and Applications of CAD/CAM in Dentistry 1 hour lecture American Academy of Fixed Prosthodontics Chicago, IL.
February 2012	The Art and Nature of Implant Prosthodontics 1 hour lecture Spectrum/Dialogue TechoClinical Day Chicago, IL.
March 2012	What if You Were Edentulous? 30 minute lecture Academy of Osseointegration Corporate Forum Phoenix, AZ.
March 2012	Extraoral Scanning and CAD/CAM Milling 30 minute lecture Academy of Osseointegration Phoenix, AZ.
March 2012	Contemporary Implant Prosthodontics 6 hour lecture Pacific Dental Conference Vancouver, BC
March 2012	Improving Dental Implant Therapy using Digital Technologies 20 minute lecture

May 2012	Dentsply World Congress Hamburg, Germany. Old Problems, Young Patients, New Ideas 30 minute Keynote lecture AstraTech World Congress Goteborg, Sweden
June 2012	Dental Esthetics and Digital Technologies 44 minute Presentation 1 <sup>st</sup> Quintessence International Congress on Esthetics Madrid, Spain
June 2013	Complete Denture Therapy; General Dentistry Update 2 hours lecture University of North Carolina Chapel Hill, NC
May 2012	Conventional Prosthodontics – Solutions to meet Expectations; Implant Prosthodontics Avoiding Disappointment 4 one-hour Presentations The British Society of Restorative Dentistry, Cambridge, England.
Sept 2012	Impact of Prosthodontics on Periodontium and Periodontal disease. 1 hour Presentation American College of Prosthodontists Annual Review Course, San Diego, CA.
Sept 2012	Implant Treatment of the Edentulous Maxilla; Grafted Solutions. 30 minute Presentation American Association of Oral and Maxillofacial Surgeons Annual Session, SanDiego, CA.
Oct 2012	Oct 2012 Advances in Treatment of Complete Edentulism 2 hour Presentation Spanish Association of Prosthodontists, Granada, Spain.
Oct 2012	Data; Guiding Esthetic Dental Implant Therapy. 1 hour Presentation The George Zarb Clinical Research Lecture, University of Toronto Toronto, Canada
Dec 2012	Contemporary Therapy using Endosseous Dental Implants 4 hour Presentation McGill University Advanced General Dentistry Residency, Montreal, Canada
Feb 2013	Dental Implant Therapy 6 hours lecture Miami Dental Society Miami, FL
Feb 2013	Jersey Shore University Medical Center CE 6 hours lecture Jersey Shore University Medical Center Red Hook, NJ
March 2013 -	Plenary Session Presentation; Translating Evidence into Treatment Predictability. 1 hour Presentation



March 2013	Academy of Osseointegration Annual Meeting, Tampa FL. Local Cues and Cellular Differentiation; Lessons Learned from Osseointegration 30 minute Presentation <u>Keynote Presentation</u> , IADR Implantology Research Group, Seattle WA, USA
April 2013	Contemporary Dental Implant Therapy 6 hours lecture Southeast Prosthodontic Society Williamsburg VA
April 2013	Multidisciplinary Approach to the Management of the Anterior Edentulous Segment. 4 hour Presentation
April 2013	Keynote Address – The Joint Meeting of the Korean Prosthodontic Society, The Japanese Prosthodontic Society and the Chinese Prosthodontics Association Jeju Island, Korea
April 2013	Data; Guiding Esthetic Dental Implant Therapy. 8 hour Presentation Southeast Association of Prosthodontists. Williamsburg, VA.
May 2013	Data; Guiding Esthetic Dental Implant Therapy. 2 hour Presentation Nederlandse Vereniging voor orale implantologie;(NVOI), Cascais, Portugal
June 2013	Data; Guiding Esthetic Dental Implant Therapy. 1 hour Presentation International Symposium on Periodontics and Restorative Dentistry Boston, MA
June 2013	Complete Denture Therapy; General Dentistry Update 2 hours lecture University of North Carolina Chapel Hill, NC
November 2013	Contemporary Dental Implant therapy 7 hours lecture Toronto dental Implant Study Club Toronto, Canada
Nov 2013	Immediate Loading of Dental Implants 4 hours lecture/ 8 hours clinical demonstration University of North Carolina Chapel Hill, NC
December 2013	Contemporary Dental Implant Therapy 7 hours lecture Maine Dental Society Portland, ME
January 2014	Dental Implant Esthetics 6 hours lecture Heartland Study Club Topeka KS
January 2014	Dental Implant Esthetics 6 hours lecture

February 2014	Implant Esthetics Continuum Study Club Minneapolis MN Contemporary Dental Implant Therapy 6 hours lecture Costa Contra Dental Society Walnut Creek, CA
March 2014	Short Dental Implants 2 hour lecture VA Section American College of Prosthodontists Washington DC
May 2014	Complete Denture Therapy; General Dentistry Update 2 hours lecture University of North Carolina Chapel Hill, NC
July 2014	Keynote Presentation; Keeping the Natural dentition (esthetic, functional and health benefits) AAE, ACP, ACP Joint Symposium, Chicago IL.
October 2014	Impact of optical and mechanical properties in the selection of esthetic milled restorative materials. Society for Color and Appearance in Dentistry, Chicago IL
October 2014	Conventional vs. Digital Prosthodontics 1st International Symposium on Digital Dentistry; Quintessence Publishing. Orlando, FL
November 2014	Conventional vs. Digital Prosthodontics International Quintessence Symposium on Periodontics and restorative Dentistry. Sidney, Australia.
January 2015	Oral Implant Challenges and Solutions in the Management of the Edentulous Maxilla 1 hour lecture Yankee Dental Congress Boston MA
February 2015	Digital Dentistry at the Tipping Point, The Prosthodontist in Practice. 40 minute lecture American College of Prosthodontists Digital Dentistry Conference , Chicago, IL
March 2015	Implications for dental practice and dental education in the U.S. <i>IADR Symposium (#187) Is Edentulism Disappearing: Implications for Dental Care and Education,</i> 20 minute lecture Boston MA.
April 2015	The Impact of Laser-mediated isotropic abutment topography on peri-implant mucosa. 1 hour lecture Biohorizons Global Symposium Los Angeles, CA

Jan 2016	The Dental Implant Treatment of Adolescents 1 hour lecture Yankee Dental Congress Boston MA
Jan 2016	Fundamentals of Dental Implant Therapy Western Ohio Seattle Study Club 6 hours Dayton, OH
Feb 2016	Technology and the Longevity of Dental Implant Therapy Academy of Osseointegration Corporate Forum 30 minute lecture San Diego, CA
March 2016	Keynote Presentation, Contemporary Dental Implant Therapy Korean Association of Osseointegration Seoul, Korea
April 2016	The EV Dental Implant System DentsplySirona Implants 1.5 hours Waltham, MA
April 2016	A Data Driven Approach to Single Tooth Esthetics; A 10 year Journey International Congress of Oral Implantologists 1 hour lecture Barcelona, Spain
May 2016	Evolution of and Advancements in Dental Implant Therapy Atlantic Implant Study Club 7 hours Halifax, NS
June 2016	Iberia Dental Symposium CAD-CAM dental and implant therapy in clinical practice 1 hour lecture Marbella, Spain
June 2016	Technology and the A, B, C and D's of Prosthodontics Pacific Coast Society of Prosthodontics 30 minute lecture San Francisco, CA
July 2016	Zirconia and Biological/Technical Complications Florida Prosthodontic Association Annual Meeting 3 hour lecture Orlando, FL
August 2016	Trends in the Provision of Prosthetic Dental Restorations GSK Future Opportunities Advisory Board Meeting 1 hour lecture London, England
August 2016	Evidence based Guidelines for the Management of Patients with Dental Prostheses GSK Future Opportunities Advisory Board Meeting 1 hour lecture London, England
August 2016	Esthetic Implantology AstraTech Symposium 2016

August 2016	<p>90 minute lecture                  Beijing, China                  Dental Implants and Edentulism                  SiroWorld Symposium                  1 hour lecture                  Orlando, FL</p>
September 2016	<p>Topography Modulation of Osseointegration                  SBPqO; Distinguished Lecture Series                  1 hour lecture                  Campinas, Brazil</p>
October 2016	<p>The Impact of a Comprehensive Digital Workflow on Single-Tooth Implant                  Therapy                  American Academy of Implant Dentistry                  1 hour lecture                  New Orleans, LA</p>
October 2016	<p>The EV Dental Implant System                  AstraTech Dental Implant Symposium                  1 hour presentation                  Seoul, Korea</p>
October 2016	<p>Dental Implant Esthetics: A Data Driven Approach                  Metro West Dental Specialty Group                  8 hour presentation                  Omaha, NE</p>
November 2016	<p>Comprehensive CAD/CAM Dentistry Program                  University of Alberta College of Dentistry                  8 hours lecture                  Alberta, Canada</p>
December 2016	<p>Therapeutic Longevity: The Intersection of Biology and Technology                  Greater New York Academy of Prosthodontics                  1 hour lecture                  New York, NY</p>