

**THE AMERICAN ACADEMY
OF FIXED
PROSTHODONTICS**



**FORTY-EIGHTH ANNUAL
SCIENTIFIC SESSION**

**FRIDAY, FEBRUARY 19, 1999
SATURDAY, FEBRUARY 20, 1999**

**CHICAGO MARRIOTT HOTEL
DOWNTOWN
CHICAGO, ILLINOIS**

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Projected Tentative Meeting Dates

1999 = 19-20 February
 2000 = 25-26 February
 2001 = 23-24 February
 2002 = 22-23 February
 2003 = 21-22 February
 2004 = 20-21 February
 2005 = 25-26 February
 2006 = 24-25 February

THE AMERICAN ACADEMY OF FIXED PROSTHODONTICS

MISSION AND GOALS

The mission of The American Academy of Fixed Prosthodontics is to foster excellence in the field of fixed prosthodontics through mutual study, participation, and cooperation. The Academy shall:

1. Provide for educational enrichment of those with a recognized commitment and dedication to the field of fixed prosthodontics.
2. Represent the discipline of fixed prosthodontics at all levels of the dental profession.
3. Promote excellence in patient care.
4. Promote excellence in teaching.
5. Encourage and support research in fixed prosthodontics.
6. Promote camaraderie and fellowship among the members of the Academy.

Authored by:
Dr. Stephen D. Campbell

THE ORIGIN AND HERITAGE OF THE AMERICAN ACADEMY OF FIXED PROSTHODONTICS

The American Academy of Crown and Bridge Prosthodontics has been, and under its new name, The American Academy of Fixed Prosthodontics, approved in February 1991, will continue to be the leading national voice of fixed prosthodontics. Its membership is composed of educators, clinical practitioners, and researchers of this important discipline of dentistry.

The purpose of this organization is to achieve, by mutual study and cooperation, activities reflecting a high and ethical standard of practice as well as teaching and research in the art and science of crown and bridge prosthodontics.

The Academy had its origin in 1950 in Chicago, Illinois. The three men who deserve credit for the concept and preliminary planning for the Academy were: Dr. Stanley D. Tylman, Dr. Claude R. Baker, and Dr. George H. Moulton. These men of vision rallied other important leaders in the crown and bridge field to actively support their cause. Together, they planned an organizational meeting that took place at the Stevens Hotel on February 5, 1951. Those present at that meeting were: Doctors Stanley D. Tylman, Arthur O. Klaffenbach, Robert P. Dressel, Alver Selberg, Charles E. Peterka, Earl A. Nelson, Claude R. Baker, and George H. Moulton. Dr. Baker was chosen as temporary chairman and Dr. Moulton as temporary secretary.

The next meeting was at French Lick, Indiana, on March 19, 1951, where the tentative Constitution and Bylaws were presented for final approval. Charter members were initiated into the Academy on February 2, 1952, in Chicago, making this the first annual meeting of The Academy of Crown and Bridge Prosthodontics. We have continued to grow and expand our national and international membership to our present total of 549 active, honorary, and life members in 22 different countries.

Members of today have a proud heritage in the Academy. We continue to dedicate ourselves to the pursuit of knowledge, truth, and competency in research, in teaching, and in the clinical practice of crown and bridge prosthodontics.

Authored by: Jesse T. Bullard

PAST PRESIDENTS

*Claude R. Baker	1952-53
*Robert P. Dressel	1954
*E. David Shooshan	1955
*Earl Allen Nelson	1956
*L. Walter Brown, Jr.	1957
*George H. Moulton	1958
*Francis B. Vedder	1959
*Stanley D. Tylman	1960
*William H. Hagen	1961
*Everett Carl Brooks	1962
Ernest B. Nuttall	1963
Fred Norman Bazola	1964
*John D. Adams	1965
*Robert Conley Zeisz	1966
*Willis Edward Corry	1967
*Joseph E. Ewing	1968
*E. Edward Kraus	1969
Raymond M. Contino	1970
*Douglas H. Yock	1971
*Philip Williams	1972
Douglas M. Lyon	1973
Kenneth N. Morrison	1974
Robert Sheldon Stein	1975
*John M. Schlick	1976
Charles L. Ziegler	1976
Charles J. King	1977
Samuel E. Guyer	1978
Roland W. Dykema	1979
*Wade H. Hagerman, Jr.	1980
Robert D. Jeronimus	1981
Lloyd L. Miller	1982
*John H. Emmert	1983
*Alfred C. Macaluso	1984
Ernest B. Mingledorff	1985
Herbert Plack	1986
Ralph A. Yuodelis	1987
William D. Culpepper	1988
Ronald G. Granger	1989
Maurice H. Martel	1990
Ronald D. Woody	1991
Albert J. Kazis	1992
William L. Nequette	1993
Dale L. Timberlake	1994
Jesse T. Bullard	1995
Harvey L. Colman	1996
Gerald J. Ziebert	1997
Richard D. Wilson	1998
Denny M. Smith	1999

*deceased



PRESIDENT'S MESSAGE
DENNY M. SMITH
PRESIDENT 1998-1999

Delight attends the privilege of welcoming you to the Forty-Eighth Annual Meeting of The American Academy of Fixed Prosthodontics. This meeting holds the potential of enriching each of us who serve our patients through the delivery of fixed prosthodontic services. Consistent with the mission statement of the Academy, the 1999 Scientific Program will provide for educational enrichment of those with a recognized commitment and dedication to the field of fixed prosthodontics and will promote excellence in patient care.

Dr. Stephen D. Campbell, with the support of the 1999 Program Committee and through the labour of dedicated clinicians, offers a program which can serve as a touchstone for the many in attendance who spend their practice energies in the delivery of complex restorative services. The clinicians addressing us will direct our reflection to an essential question: What is the evidence for the procedures and the services we deliver? They will provide enlightening answers.

Dr. Don Garver, Meeting Site Director, and Dr. Bob Staffanou, Academy Secretary, along with Dr. Kevin Kopp and his colleagues on the Local Arrangements Committee have set in place the amenities necessary to permit us comfort in the learning environment. Dr. Ron Stifter, with the Exhibits Committee, has assembled commercial exhibits which will allow easy access to current dental products appropriate to fixed prosthodontics. The Table Clinics Committee, guided by Dr. Amp Miller, will lift our sights to focus upon the particulars of prosthodontic practice. The Marriott Hotel Downtown, just renovated, will continue its exemplary service granting us joy in fellowship with our peers.

Please arrive early to enjoy the continental breakfasts, the exhibits and your colleagues prior to each scientific session. Share the wisdom and inspiration of the clinicians who stand before you. Take pleasure in the Academy Luncheon on Friday. Enjoy Chicago. Return home with renewal of spirit.

Thank you for joining us at the Forty-Eighth Meeting of the Academy.

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William Malone

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Michael Myers '00
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(A) Steven Morgano '00
(B) Larry Breeding '99

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Yvonne B. Hart '00
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Bill Malone, Ex Officio

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Larry Breeding, Chairman '99
Donna Dixon '99
Michael Myers '99
Bill Malone, Ex Officio

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Nancy Chaffee '03
John Harrison '03

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Wayne Campagni '99
Gregg Eleftherin '99

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William Finagin

SECRETARY FOR GUESTS

Don Garver

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Assad Mora '99

TABLE CLINIC PROGRAM 1999

Amp Miller, Chairman '99
Pat Allen '99
Stephen Campbell '99
Jack Long '99
Jan Pameijer '99

PAST TYLMAN AWARD WINNERS

(DATE IS YEAR AWARDED - AWARD WON PREVIOUS YEAR)

1979: Dr. James N. Ciesco
1980: Not awarded
1981: Dr. Timothy O. Hart
1982: Not awarded
1983: Dr. David Alan Chance
1984: Dr. Jeffrey L. Hudgins
1985: Dr. George W. Kay
1986: Dr. Anthony J. G. Dickinson
1987: Dr. Izchak Bartzilay
1988: Dr. Susan E. Brackett
1989: Not awarded
1990: Dr. Shane N. White
1991: not awarded
1992: not awarded
1993: Dr. Louis Menegotto
1994: Dr. Syed Faheem Rasool
1995: Dr. Fonda G. Robinson
1996: Dr. Paula K. Yliheikkila
1997: Dr. Kevin H. O'Boyle
1998: Dr. David G. Gratton
1999: Dr. Douglas E. Ford

* THE ACADEMY WOULD LIKE TO EXTEND ITS SINCEREST
THANKS TO THE FOLLOWING CORPORATE SPONSORS FOR
THE TYLMAN RESEARCH GRANT PROGRAM:

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**ANNUAL MEMBERSHIP DINNER AND BUSINESS MEETING
THURSDAY, FEBRUARY 18, 1999**

- 5:30PM-7:00PM *Early Registration for Members Only*
5th Floor Foyer
- 6:00PM-7:00PM *Early Registration for Guests*
7th Floor Foyer
- 6:00PM-7:00PM *Cocktail Reception*
5th Floor Foyer
Members Only Please!
- 7:00PM *Annual Membership Dinner*
5th Floor Foyer, Salons A,B,C,D
Members Only Please!
- 8:00PM *Annual Business Meeting*
5th Floor Foyer, Salons A,B,C,D
President's Message
Committee Reports
Old Business
New Business
Election of Officers
Town Hall Meeting
Members Only Please!
- 9:00Pm *Adjourn*

PROGRAM COMMITTEE



DR. STEPHEN D. CAMPBELL
PROGRAM CHAIRMAN, 1999



DR. CHARLES J. GOODACRE
PROGRAM CHAIRMAN, 2000



WILLIAM W. NAGY
EX OFFICIO

EXHIBIT DIRECTORY

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32	VAN R/CADCO/CLIVE CRAIG

TABLE CLINIC PROGRAM 5:00PM FEBRUARY 19, 1999 FIFTH FLOOR BALLROOM

DR. AMP MILLER, III - TABLE CLINIC CHAIRMAN

1. "ANTERIOR IMPLANT PLACEMENT"
Dr. Alan Brodine, Rochester, NY
2. "PROVISIONALIZATION OPTIONS FOR PORCELAIN VENEERS"
Dr. John Cranham, Chesapeake, VA
Dr. Christopher Hooper, Virginia Beach, VA
3. "BOND STRENGTH OF OPTIMAL PRESSABLE CERAMIC"
Dr. Denise Estafan, New York, NY
4. "PROVISIONAL DRIVEN IMPLANT SOFT TISSUE MODEL"
Dr. Frank Higginbottom, Dallas, TX
5. "MARGINAL DISCREPANCY OF CEMENTED AND SCREW RETAINED CROWNS ON IMPLANTS"
Dr. Scott Keith, Dallas, TX
6. "SHADE SELECTION AND LABORATORY COMMUNICATION"
Dr. Brock Lynn, Dallas, TX
7. "A CLINICAL LOOK AT FIBER REINFORCED RESTORATIONS"
Dr. Bruce Marcucci, San Francisco, CA
8. "WEAR OF ENAMEL AGAINST CONVENTIONAL AND LOW FUSING FELDSPATHIC PORCELAINS"
Dr. Kurt Metzler, Minot AFB, ND
9. "BRIEF COMPARISON OF SOME AUTOMATIC CLINICAL CAMERA SYSTEMS"
Dr. Bob Murray, Anacortes, WA
10. "CAPTEK"
Dr. Ron Richardson, Melbourne, FL
11. "RETHINKING PORCELAIN VENEER PREPARATIONS"
Dr. Jeff Rouse, San Antonio, TX
12. "AN ESTHETIC IMMEDIATE IMPLANT"
Dr. Mark Simpson, Charleston, WV
13. "STRIP IMPRESSION TECHNIQUE AND SIMPLIFIED LAB PROCEDURES FOR PORCELAIN LAMINATE VENEERS"
Dr. Cleveland Smith, Columbia, SC
14. "ORAL APPLIANCE THERAPY FOR MANAGEMENT OF SLEEP APNEA"
Dr. Jeff Pancer, Toronto, Ontario, Canada
15. "CEMENTATION OPTIONS FOR POSTS"
Dr. James Utter, Dallas, TX
16. "DISCLUSIVE FOSSA CONCEPT OCCLUSION"
Dr. Robert Wilson, Colorado Springs, CO
17. "EFFECT OF OSSEOINTEGRATED IMPLANTS ON THE MASTICATORY MUSCLE COORDINATION"
Dr. Judith Gartner, Boston, MA
Tylman Awardee, 2nd Place
18. "ELECTROCHEMICAL CORROSION BEHAVIORS OF TITANIUM AND TITANIUM-BASED ALLOYS"
Dr. Chotiros Kuuphasuk, Indianapolis, IN
Tylman Awardee, 3rd Place

THE AMERICAN ACADEMY OF FIXED PROSTHODONTICS

FORTY-SEVENTH ANNUAL SCIENTIFIC SESSION
CHICAGO MARRIOTT HOTEL DOWNTOWN
FRIDAY, 19 FEBRUARY 1990

- 7:00AM-8:15AM** Registration - Members and Guests
7th Floor Foyer
Continental Breakfast in Exhibit Area
Exhibits Open, 7th Floor Salon III
- 8:15AM** Welcome - Introductions
President *Denny M. Smith*
Program Chairman *Stephen D. Campbell*
- 8:30AM-9:00AM** "Evidence-Based Dentistry"
- *Dr. Gary R. Goldstein*
- 9:00AM-12:00AM** Session I: Clinical Procedures in Fixed Prosthodontics-Tissue Management
- *Dr. Charles Goodacre, Session Leader*
- 9:00AM-9:40AM** "Tooth Preparation: An Art Form Based on Scientific Principles" - *Dr. Charles J. Goodacre*
- 9:40AM-10:15AM** "Tissue Responses to Fixed Prosthodontic Procedures" - *Dr. Kent L. Knoernschild*
- 10:15AM-10:45AM** Break *REFRESHMENTS IN EXHIBIT ROOM* Exhibits Open
- 10:45AM-11:25AM** "Predictable Esthetic Management of the Periodontal Tissues" - *Dr. Dennis P. Tarnow*
- 11:25AM-11:45AM** "Panel Discussion-Questions, Conclusions"
- 11:45AM-12:00PM** "The Accuracy of Soldering, Laser-Welding, and Electronic Discharge Machining in the Fabrication of Implant-Supported Bars"
- *Dr. Douglas E. Ford*
Tylman Award Winner 1999
- 12:00PM-1:30PM** Annual Academy Luncheon
All Members & Guests Invited
Fifth Floor Ballroom
- 1:30PM-5:00PM** Session II: Esthetic Restorations - Clinical Applications and Behavior
- *Dr. J. Robert Kelly, Session Leader*
- 1:30PM-2:05PM** "Overview of Esthetic Restorations and Their Behavior" - *Dr. J. Robert Kelly*
- 2:05PM-2:45PM** "Clinical Behavior of All-Ceramic Materials Failures or Survival" - *Dr. Jean-Francois Roulet*
- 2:45PM-3:15PM** Break *REFRESHMENTS IN EXHIBIT ROOM* Exhibits Open
- 3:15PM-3:55PM** "Polymer-based Fiber-reinforced Adhesive Reconstructions" - *Dr. Werner H. Mörmann*
- 3:55PM-4:35PM** "Clinical Behavior of Composite Resin Materials" - *Dr. Aldridge D. Wilder, Jr.*
- 4:35PM-5:00PM** "Panel Discussion - Questions, Conclusions"
- 5:00PM** Table Clinic Program
- *Dr. Amp Miller, Chairmen*
- 5:00PM-7:00PM** Annual Cocktail Party - All Members & Guests
Fifth Floor Ballroom - No Host Bar

*Note: Exhibits will be open continuously from 7:00AM to 5:00PM.

THE AMERICAN ACADEMY OF FIXED PROSTHODONTICS

FORTY-SEVENTH ANNUAL SCIENTIFIC SESSION
CHICAGO MARRIOTT HOTEL DOWNTOWN
SATURDAY, 20 FEBRUARY 1990

- 7:00AM-8:15AM** Registration -Members and Guests
7th Floor Foyer
Continental Breakfast in Exhibit Area
Exhibits Open, 7th Floor Salon III
- 8:15AM-12:00PM** Session III: Cements and Cementation
- *Dr. Shane White, Session Leader*
- 8:15AM-8:50AM** "An Overview of Dental Luting Agents and Their Behavior" - *Dr. Stephen F. Rosenstiel*
- 8:50AM-9:25AM** "Cements and Adhesion" - *Dr. Alton M. Lacy*
- 9:25AM-9:55AM** "Biocompatibility of Cements"
- *Dr. W. Rory Hume*
- 9:55AM-10:25AM** Break *REFRESHMENTS IN EXHIBIT ROOM* Exhibits Open
- 10:25AM-11:00AM** "Clinical Aspects of Cements and Cementation"
- *Dr. Gordon J. Christensen*
- 11:00AM-11:35AM** "Clinical Performance of Cements"
- *Dr. Shane N. White*
- 11:35AM-12:00PM** "Panel Discussion-Questions, Conclusions"
- 12:00PM-1:30PM** Lunch on your own
No Host Luncheon Buffet in Exhibit Hall
Exhibits Open until 1:30PM
Past Presidents/New Member Luncheon (Officers, Directors, Past Presidents, New Members)
Lincolnshire Room I & II, 6th Floor
- 1:30PM-3:45PM** Session IV: Restoration of Endodontically Treated Teeth
- *Dr. Dan Nathanson, Session Leader*
- 1:30PM-1:50PM** "Why Are Pulpless Teeth Different?"
- *Dr. Dan Nathanson*
- 1:50PM-2:20PM** "Requirements for Long Term Success in the Restoration of Endodontically Treated Teeth"
- *Dr. Martin Trope*
- 2:20PM-2:50PM** "Mechanics of Restoring Endodontically Treated Teeth" - *Dr. Jack Nicholls*
- 2:50PM-3:20PM** "Current Perspectives on the Restoration of Endodontically Treated Teeth"
- *Dr. John A. Sorensen*
- 3:20PM-3:45PM** "Panel Discussion - Questions, Conclusions"
- 3:45PM** Closing Remarks
- *Dr. Denny M. Smith*
- *President, AAFP*
- *Dr. Stephen D. Campbell*
- *Program Chairman*

*Note: Exhibits will be open continuously from 7:00AM to 1:30PM.



Gary R. Goldstein, DDS

"EVIDENCE-BASED DENTISTRY: WHO DO YOU BELIEVE?"

Synopsis: The modern practitioner is deluged by an insurmountable mass of literature and lectures, some of it "cutting edge", and some of it contradictory and some of it useless. Clinical decision making mandates that evidence rather than empiricism dictate treatment. Evidence-based dentistry, adopted from our medical colleagues, presents guidelines to determine the validity of the results and whether they can be applied to clinical practice. This presentation will give an overview of EBD rules to help determine appropriate therapy for our patients.

Curriculum Vitae: Dr. Goldstein is one of ten distinguished Prosthodontic Scholars chosen to study Evidence-Based Medicine at McMaster University Medical School, the home of this modern paradigm for clinical decision making. After adapting the concept to dentistry, the group has presented two four-day International Symposia on EBD. Dr. Goldstein is Professor and Director of the Advanced Educational Program in Prosthodontics and Director of Prosthodontic Research at NYU College of Dentistry. He is a Diplomate of the American Board of Prosthodontics, a member of numerous organizations and maintains a private practice in prosthodontics in New York City.



Charles J. Goodacre, DDS, MSD

**"TOOTH PREPARATION:
AN ART FORM BASED ON SCIENTIFIC PRINCIPLES"**

Synopsis: The tooth preparation guidelines traditionally used in the teaching and practice of fixed prosthodontics will be evaluated using available scientific data. For example, it is generally recommended that total occlusal coverage angles be minimal (in the 2 - 5 degree range). Also, enhanced fit of metal ceramic restorations has frequently been associated with certain finish lines. These concepts and others will be scientifically scrutinized and 10 tooth preparation principles identified that help to optimize mechanical, esthetic, and biologic success.

Curriculum Vitae: Dr. Goodacre received his DDS degree from Loma Linda University School of Dentistry in 1971. He completed a three year combined program in Prosthodontics and Dental Materials at Indiana University School of Dentistry and in 1974 earned his MSD degree. He began full-time teaching at Indiana University School of Dentistry in 1974 and has three times received awards from senior dental classes as the outstanding clinical instructor or outstanding lecturer. He served as Chairman of the Department of Prosthodontics at Indiana University, and currently is Dean of Loma Linda University School of Dentistry. He is a Diplomate of the American Board of Prosthodontics, a Fellow of the Academy of Prosthodontics, Fellow of the American College of Prosthodontists, and holds membership in the American Academy of Fixed Prosthodontics. He was co-author of the 4th edition of the textbook, *Johnston's Modern Practice in Fixed Prosthodontics*, and served as Editor of the *International Journal of Prosthodontics*. He is currently serving as President of The American Board of Prosthodontics.



Kent L. Knoernschild, DMD, MS

**"TISSUE RESPONSES TO FIXED
PROSTHODONTIC PROCEDURES"**

Synopsis: Although great advances have been made in prosthodontic treatment modalities and materials science, basic questions still remain concerning the effects of fixed prosthodontic therapy on pulpal and periodontal tissues. For example, to what extent do fixed prosthodontic restorations influence probing depths, gingival inflammation and gingival recession? The method in which restorations have an effect on tissues likely depends upon many factors including the initial dental condition, the selected clinical technique and the required restorative material. Based upon current evidence, this presentation will discuss controversies related to observable clinical outcomes during and following fixed prosthodontic therapy. Conclusions will be proposed with respect to the effects of prosthodontic procedures on tissue health, and new clinical questions will be directed toward areas that require future research exploration.

Curriculum Vitae: Dr. Kent Knoernschild is Associate Professor and Co-Director of the Advanced Educational Program in Prosthodontics at the University of Illinois at Chicago. He is a Diplomate of the American Board of Prosthodontics and maintains a private practice limited to prosthodontics. Dr. Knoernschild is an active researcher who has lectured and published numerous papers regarding prosthodontic restoration biocompatibility. He is active in several national and international dental organizations, including The American Academy of Fixed Prosthodontics. In addition, Dr. Knoernschild is Section Editor for Basic Science Research for the *Journal of Prosthodontics*, and he is the current Prosthodontics Section Program Chairman for the American Association of Dental Research.



Dr. Dennis P. Tarnow, DDS

**"PREDICTABLE ESTHETIC MANAGEMENT
OF THE PERIODONTAL TISSUES"**

Synopsis: Esthetic management of periodontal tissues is dependent on the proper relationship and harmony between the soft and hard tissues of the mouth. In the esthetic zone, a small loss of an interdental papilla, or even mild buccal recession can be the difference between clinical success and total failure in the patient's mind. This presentation will focus on both the presence or absence of the interdental papilla and buccal recession on both teeth or crowns. In addition, an interdisciplinary approach to the clinical problems will be discussed. Emphasis will be on which treatments are predictable and which treatments are still in the development stage.

Curriculum Vitae: Dr. Dennis P. Tarnow is presently Professor and Chairman of the Department of Implant Dentistry at New York University College of Dentistry. He is also a Professor of Periodontics and Prosthodontics at New York University College of Dentistry. Dr. Tarnow has a certificate in Periodontics and Prosthodontics and is a Diplomate of the American Board of Periodontology. He has a private practice in New York City. Dr. Tarnow has published numerous articles and has lectured extensively both in the United States and abroad.

SESSION I

PANEL DISCUSSION - QUESTIONS, CONCLUSIONS

PANEL MODERATOR: DR. GARY R. GOLDSTEIN

Dr. Gary R. Goldstein
Dr. Charles J. Goodacre
Dr. Kent L. Knoernschild
Dr. Dennis P. Tarnow



Douglas E. Ford, DDS
Stanley D. Tylman Research Award Winner - 1999

"THE ACCURACY OF SOLDERING, LASER WELDING, AND ELECTRONIC DISCHARGE MACHINING IN THE FABRICATION OF IMPLANT-SUPPORTED BARS"

Synopsis: Inaccurate fit may contribute to the complications observed in implant prosthodontics. Soldering, laser welding, and electric discharge machining (EDM) have been used to improve the fit to screw-retained prostheses supported by multiple implants. Literature comparing the accuracy of these laboratory methods is lacking. This investigation was designed to compare the accuracy of casting, soldering, laser welding, EDM, soldering followed by EDM, and laser welding followed by EDM in the production of gold alloy bars supported by two implants. Results indicate that current laboratory processes are incapable of producing a passive fit. Bars which had been sectioned and soldered were found to be no more accurate than as-cast bars. Combining soldering or laser welding with subsequent EDM produced bars which were no more accurate than as-cast bars which had been electric discharge machined. Laser welding and EDM appear to produce more accurate and precise results than single piece casting or soldering. Obtaining an optimal fit of multiple-implant prostheses may reduce the incidence of post-placement complications.

Curriculum Vitae: Dr. Douglas E. Ford received his DDS degree from the University of Michigan School of Dentistry in 1990. Upon his graduation, he accepted a commission in the United States Air Force and completed a one year advanced educational program in general dentistry at Rhein-Main Air Base in Frankfurt, Germany, and Andersen Air Force Base, Guam. In 1996, he entered the graduate program in Prosthodontics at the University of Texas Health Science Center at San Antonio and Wilford Hall USAF Medical Center. He will graduate in July, 1999.

**ANNUAL ACADEMY LUNCHEON
PRESENTATION OF THE STANLEY D. TYLMAN
RESEARCH AWARDS FOR 1999**

DR. PETER S. LUND
CHAIRMAN, TYLMAN RESEARCH AWARD COMMITTEE

FIRST PLACE WINNER

Dr. Douglas E. Ford
Wilford Hall USAF Medical Center, San Antonio, Texas
"The Accuracy of Soldering, Laser Welding, and Electronic
Discharge Machining in the Fabrication of Implant-Supported Bars"
Program Director: Dr. Michael A. Mansueto
Research Mentor: Dr. Barry K. Norling

SECOND PLACE WINNER

Dr. Judith L. Gartner
Harvard School of Dental Medicine, Boston, MA
"Effect of Osseointegrated Implants on the
Masticatory Muscle Coordination"
Program Director: Dr. John DaSilva
Research Mentor: Dr. Ichiro Nishimura

THIRD PLACE WINNER

Dr. Chotiros Kuphasuk
Indiana University School of Dentistry, Indianapolis, IN
"Electrochemical Corrosion Behaviors of Titanium and
Titanium-Based Alloys"
Program Director: Dr. Carl J. Andres
Research Mentor: Dr. Carl J. Andres

PRESENTATION OF NEW AAFP MEMBERS

President Denny M. Smith
Dr. Jane D. Brewer, Chmn., Credentials Committee

**THE GEORGE H. MOULTON AWARD FOR
"OUTSTANDING ACHIEVEMENT IN THE ART AND
SCIENCE OF FIXED PROSTHODONTICS"**

Dr. Herbert Ptack
Chairman, George H. Moulton Award Committee

1999 - No Award Given

Past Moulton Award Winners

1992: George H. Moulton
1993: Ernest B. Nuttall
Max Kornfeld
1994: Robert J. Nelson
1995: Everitt V. Payne (posthumously)
1996: Samuel E. Guyer
1997: Roland W. Dykema
1998: Herbert T. Shillingburg, Jr.
1999: Not Awarded

Friday February 19, 1999
1:30PM - 2:05PM



J. Robert Kelly, DDS, MS, DMedSc

**"OVERVIEW OF ESTHETIC RESTORATIONS
AND THEIR BEHAVIOR"**

Synopsis: Although incrementally improved products continue to appear, two distinct classes of esthetic material remain available for operative dentistry and fixed prosthodontics: ceramics and resin composites. Recent promotional claims promising a new material class will be examined. Restored teeth and prostheses are not laboratory bend bars, but unique multi-layer "systems" combining veneering (and core) materials, bonding agents and tooth structure. Properties and geometric aspects of these combined material-tooth "systems" can dictate how restorations behave clinically, how they may fail, and how they should be tested in the laboratory. Popular laboratory tests of fixed units have been studied and revised to mimic failure behavior observed clinically.

Curriculum Vitae: Dr. Robert Kelly is in the Dental and Medical Materials Group at the National Institute of Standards and Technology with academic appointments at the Naval Dental School, as Director of Dental Materials, and at the George Washington University. He holds a B.A. in chemistry from the University of California, a DDS degree from Ohio State University School of Dentistry, an M.S. in dental materials from Marquette University, and a D. Med. Sc. in oral biology and Certificate in Prosthodontics from Harvard School of Dental Medicine. His research focuses on the fracture mechanics and clinical behavior of brittle materials. He has published 30 papers, 35 abstracts, and holds four patents. He serves on the American Dental Association Council on Scientific Affairs, the Editorial Board of the *Journal of Dental Research*, and is on active duty in the U.S. Navy with a limited practice in fixed prosthodontics.



Jean-Francois Roulet, Prof. Med. Dent.

"CLINICAL BEHAVIOR OF ALL-CERAMIC MATERIALS - FAILURES OR SURVIVAL"

Synopsis: The guidelines for the application of ceramic inlays were established based on multiple in vitro experiments. Ceramic inlays need a minimal material thickness of 1-1.5mm, dependent on the material and should be as precise as possible. For the cementation, adhesive techniques are required. With adequate bonding techniques, excellent gap free margins are obtained, even in dentin. However, as a rule, there is wear of the luting composite. Ceramic inlays may strengthen the teeth but are not able to prevent cusp fractures. Clinical studies of up to 9 years of service document the excellent longevity of these restorations. Longevity is not given by a specific ceramic but by the correct application technique.

Curriculum Vitae: Dr. Roulet was born November 16, 1947 in Aarau, Switzerland. In 1974 he received his DDS degree from the University of Bern School of Dentistry, in 1977 he received his Dr. med. dent. from the University of Bern Medical School, in 1984 he received his Prof. Dr. med. dent. from the Free University of Berlin. From 1985-1991 he was Associate Dean, School of Dentistry, Free University of Berlin. In 1986 he received his PhD in Habilitation from the University of Zurich. In 1989 he was appointed Visiting Professor at the University of Florida. From 1991-1994 he was Dean of the School of Dentistry, Free University of Berlin. In 1994 he transferred his Department to the Humboldt-University where he was Chairman of the Department of Operative Dentistry, Endodontics, and Preventive Dentistry. In 1994 he earned the title Specialist for Community Dentistry.



Werner H. Mörmann, DMD, DDS, PhD

"POLYMER-BASED FIBER-REINFORCED ADHESIVE RECONSTRUCTIONS"

Synopsis: The advantages of polymer-based reconstructions have been well documented since the early 1970's. However, their insufficient fracture resistance caused insuperable problems. Now, optimized fiber-reinforced polymer systems have overcome this limiting flaw. These products allow clinicians to construct tooth-friendly and cost-conscious restorations and reconstructions. Because of the unique ease with which polymer-based reconstructions are incorporated, these systems enable a level of acceptance which has, to date, been unattainable. Consequently, new options in reconstructive dentistry have resulted which should definitely be considered.

Curriculum Vitae: Dr. Mörmann was in private practice from February 1969 to September 1970. From October of 1970 until October of 1974 he was Assistant Professor, Division of Periodontology, Dental School, University of Zurich, Zurich Switzerland. From November 1974 until October 1979 he was Associate Professor, Department of Preventive Dentistry, Periodontology, and Operative Dentistry at the University of Zurich Dental School. From November 1979 until October of 1983 he served as Director, Clinic for Preventive Dentistry, Periodontology, and Operative Dentistry at the University of Zurich Dental School. From November 1983 until March 1990 he served as Director, Division of Computer Restorations at the University of Zurich. From April 1990 until the present he has served as Professor of Operative Dentistry and Computer Restorations and Director of the Division of Aesthetic and Computer Restorations at the University of Zurich Dental School.



Aldridge D. Wilder, Jr., DDS, FADM

"CLINICAL BEHAVIOR OF COMPOSITE RESIN MATERIALS"

Synopsis: The "Clinical Behavior of Composite Resin Materials" will discuss the advantages, disadvantages, indications, and contraindications of direct posterior composite restorations. Case selection, material selection, and long-term clinical performance of posterior composites will be presented. Problems related to technique-sensitivity of these filling materials, and relevant clinical studies from other sites will be highlighted.

Curriculum Vitae: Dr. Wilder is currently an Associate Professor at the University of North Carolina School of Dentistry. A North Carolina native, he graduated from Wake Forest University in 1968 and UNC School of Dentistry in 1973. For three years after graduation he was in a solo private practice in eastern North Carolina. Since 1976, he has been a full-time faculty member in the Department of Operative Dentistry at UNC. For fifteen years, since 1983, he has served as Director of Clinical Research in the Department of Operative Dentistry. He has been active in clinical research with amalgam, anterior and posterior composites, dentin bonding agents, glass ionomer cements, bleaching agents, and computer-generated ceramic restorations. He has published numerous journal articles and abstracts related to clinical research of restorative dental materials. He has also published 24 textbook chapters, including his co-authorship of 10 chapters in the second and third editions of *The Art and Science of Operative Dentistry*. He has been an invited speaker at the Academy of Dental Materials and the American Dental Association. He is a Fellow in the Academy of Dental Materials.

SESSION II

PANEL DISCUSSION: QUESTIONS, CONCLUSIONS

PANEL MODERATOR: DR. GARY R. GOLDSTEIN

Dr. J. Robert Kelly
Dr. Jean-Francois Roulet
Dr. Werner H. Mörmann
Dr. Aldridge D. Wilder, Jr.



Stephen F. Rosenstiel, BDS, MSD

**"AN OVERVIEW OF DENTAL LUTING AGENTS
AND THEIR BEHAVIOR"**

Synopsis: Dental luting agents provide the link between a fixed prosthesis and the supporting tooth. Traditionally, zinc phosphate cement has been the most popular, despite its well-documented disadvantages, particularly solubility and lack of adhesion. More recently, resin cements have seen widespread use, primarily because they have addressed these disadvantages. Glass-ionomer cements and the newer resin-modified glass-ionomers are also very popular, principally because these materials release fluoride that may prevent recurrent caries. Many products are available, all with advantages and disadvantages. No currently available luting agent is ideal for all situations and much work has been reported on these materials with the aim of predicting their clinical performance. This review's aim is to identify the properties of an ideal luting agent and how currently available materials meet the ideal.

Curriculum Vitae: Stephen F. Rosenstiel, BDS, MSD, is Professor and Chairman of Restorative and Prosthetic Dentistry at The Ohio State University College of Dentistry. He is a graduate of Birmingham University in England and completed his prosthodontic residency at Indiana University in 1977. He taught at the University of Florida and the University of London before joining Ohio State in 1985. He is the author of the textbook *Contemporary Fixed Prosthodontics*, published by Mosby Year Book, and of over 100 scientific articles and abstracts, principally on the fracture properties of dental cements.



Alton M. Lacy, PhD, DDS

"CEMENTS AND ADHESION"

Synopsis: This lecture will discuss the nature and beneficial purposes of adhesion in dentistry, the types of adhesion of dental cements to various dental substrates, and, the factors which enhance or confound optimal adhesion. Specific contemporary cements will be discussed and recommended for a variety of clinical applications.

Curriculum Vitae: Dr. Alton M. Lacy is an Associate Professor of Biomaterials and Restorative Dentistry at the University of California, San Francisco. He received his PhD degree in Materials Science from the University of California Berkeley in 1969, and his DDS degree from the University of California San Francisco School of Dentistry in 1975. He lectures internationally and practices general restorative dentistry, with an emphasis on cosmetics, in the Faculty Dental Practice at the University of California San Francisco School of Dentistry.



W. Rory Hume, DDS, PhD

"BIOCOMPATIBILITY OF CEMENTS"

Synopsis: Most pulpal pain and death is very probably due to bacteria. Although all cements used in indirect tooth restoration are toxic, dentin usually protects against this toxicity. Sometimes the processes of cementation disrupt dentin's protective mechanisms. Transient or persistent pulpal pain or pulp death can then occur. This presentation will first review why and how pulp damage and death occur. Clinical guidelines will be given for avoiding pulpal hypersensitivity and death. Signs and symptoms of acute inflammation, chronic inflammation and the dying of the pulp will be reviewed. Pulpal problems unique to cementation, and their prevention and treatment, will then be discussed.

Curriculum Vitae: Dr. Rory Hume qualified in dentistry in 1968 and completed a PhD in oral biology and pharmacology in 1972 at the University of Adelaide, Australia. He was then Assistant and Associate Professor at the UCLA School of Dentistry until 1983. After service as a Restorative Dentistry Department Chair in Sydney, Australia, and then the University of California at San Francisco, Dr. Hume returned to UCLA as Dean in 1996. He is now UCLA's Executive Vice Chancellor. His area of research expertise is the biological effects of materials used in tooth restoration. He is co-editor, with Graham Mount, of the recent text, *Preservation and Restoration of Tooth Structure*.



Gordon J. Christensen, DDS, MSD, PhD

"CLINICAL ASPECTS OF CEMENTS AND CEMENTATION"

Synopsis: Significant changes in use of dental cements have occurred in the past five years. Resin reinforced glass ionomers have become the most used category. 3M Vitremer and GC Fuji-Plus dominate the market. These cements have high strength, low solubility, bond to tooth structure, good working characteristics, and no post-operative sensitivity. Slight expansion characteristics are being overcome. Resin cements, such as Panavia 21, are becoming more popular also because of their strength and low solubility. Newer cements will be compared with old standbys, including zinc phosphate, polycarboxylate, and glass ionomer. Both research and clinical evidence will be presented.

Curriculum Vitae: Dr. Gordon Christensen is a practicing prosthodontist in Provo, Utah, in a multidisciplinary group practice. He is co-founder of Clinical Research Associates and Founder and Director of Practical Clinical Courses, a post-graduate dental educational institute. He has published hundreds of papers and participated in writing several books. He has presented approximately 30,000 hours of continuing education throughout the world. He is a Diplomate of the American Board of Prosthodontics and the International Congress of Oral Implantologists. He holds Fellowship and membership in many organizations. Two sons and one son-in-law are also dentists.



Shane N. White, B.Dent.Sc., MS, MA

"CLINICAL PERFORMANCE OF CEMENTS"

Synopsis: Clinical performance data on cements for fixed prostheses will be reviewed. Reasons for clinical failure of fixed prostheses will be explored. Cement failure mechanisms will be described. Different types of fixed restorations and their differing cement needs will be summarized. The clinical relevance of cement physical properties, clinical technique, bond strength, biocompatibility and resistance to microleakage will be discussed. Unfortunately, cement clinical performance data is extremely limited. However, important conclusions can be made.

Curriculum Vitae: Dr. Shane White graduated from dental school at Trinity College, Dublin, Ireland. He spent several years in private practice and part time teaching in Dublin. He then received a Certificate in Prosthodontics and an M.S. degree in Oral Biology from UCLA. He has won several major awards for his research. These include the American Academy of Fixed Prosthodontics Stanley D. Tylman Award, the I.A.D.R. New Investigator Prize, the American Academy of Esthetic Dentistry Charles, L. Pincus Research Grant Award, and a Zumberger Fellowship from the University of Southern California. He has held N.I.H. and other grants. He has authored over one hundred scientific articles. Currently, he is a resident in the Postgraduate Endodontics Program at the UCLA School of Dentistry and a faculty member at the Center for Craniofacial and Molecular Biology at the University of Southern California School of Dentistry.

SESSION III

PANEL DISCUSSION: QUESTIONS, CONCLUSIONS

PANEL MODERATOR: DR. GARY R. GOLDSTEIN

Dr. Shane N. White
Dr. Stephen F. Rosenstiel
Dr. Alton M. Lacy
Dr. W. Rory Hume
Dr. Gordon J. Christensen



Dan Nathanson, DMD, MSD

"WHY ARE PULPLESS TEETH DIFFERENT?"

Synopsis: Endodontically treated teeth require different restorative methods than vital teeth. Compared to vital teeth, their prognosis is more guarded and seems to be related to various factors. Contrary to previous beliefs, loss of "vitality" and dryness of the dentin are not significant factors. The amount of remaining tooth structure, design of the internal restoration (dowel) and configuration of the final restoration seem to influence prognosis. The panel will focus on the various factors that can enhance the prognosis of pulpless teeth.

Curriculum Vitae: Dr. Dan Nathanson is Professor and Chairman of the Department of Restorative Sciences/Biomaterials and Assistant Dean for Continuing Education and External Affairs at Boston University Goldman School of Dental Medicine. Dr. Nathanson received postdoctoral training in dental materials, prosthodontics and dental public health at Harvard University and Boston University. He has conducted research for the last twenty years with emphasis on restorative materials. He has a part-time prosthodontic practice in Boston.



Martin Trope, BDS, DMD

"REQUIREMENTS FOR LONG TERM SUCCESS IN THE RESTORATION OF ENDODONTICALLY TREATED TEETH"

Synopsis: Endodontic treatment is performed to prevent or treat root canal infection or reinfection. Treatment will fail if bacteria re-enter the canal or if the root walls fracture. The coronal restoration, if placed correctly, can be as, or even more, important than the endodontic treatment for long term success. However, incorrect placement can result in rapid failure. This talk will highlight essential biological requirements for, and suggest strategies to ensure, long term success for endodontically treated teeth.

Curriculum Vitae: Dr. Martin Trope is J.B. Freedland Professor and Chair in the Department of Endodontics at the University of North Carolina School of Dentistry. Named in honor of one of the founding fathers of Endodontics, the Freedland professorship recognizes significant contributions to the specialty. A noted authority in his field, Dr. Trope has been actively involved in clinical research in all phases of endodontics. Prior to coming to UNC, Dr. Trope was Chairman of the Department of Endodontology at Temple University, Philadelphia, PA. He practiced general dentistry from 1976 to 1978, endodontics from 1978 to 1980 and from 1987 to 1989 he practiced in Israel. He earned his BDS at the University of Witwatersrand, South Africa, and his DMD at the University of Pennsylvania. Dr. Trope serves as a Director of the American Board of Endodontics. He is a member of the editorial boards of *Endodontics and Dental Traumatology*; *Oral Surgery, Oral Medicine, Oral Pathology*; and *Practical Periodontics and Aesthetic Dentistry*. Dr. Trope's major research interests include dental trauma and new diagnostic tests for pulpal disease. His work has been published in numerous journals and three book chapters.



Jack I. Nichols, B.E., PhD

**"MECHANICS OF RESTORING
ENDODONTICALLY TREATED TEETH"**

Synopsis: This lecture will concentrate on the mechanical aspects of the load resistance provided by the elements involved with rebuilding the endodontically treated tooth. These elements include (a) the core, (b) the post (passive or threaded) or pins, (c) the crown luting cement, and (d) the post cement. Current invitro research will be used to indicate the load resistance role each of these elements plays under fatigue loading, and recommendations will be made as to the clinical materials of choice for each of these elements.

Curriculum Vitae: Dr. Nichols received his B. E. degree in Civil Engineering from the University of British Columbia and his PhD degree in Structural Mechanics from Purdue University. He is currently a Professor in the Restorative Dentistry Department at the University of Washington, where he serves as course director for courses in Dental Materials. He is also the Research Director for graduate students in the Prosthodontics Residency Program.



John A. Sorensen, DMD, PhD, FACP

**"CURRENT PERSPECTIVES ON THE
RESTORATION OF ENDODONTICALLY
TREATED TEETH"**

Synopsis: Despite the introduction of many wondrous new materials and techniques for the restoration of endodontically treated teeth, the principles and engineering considerations remain essentially unchanged. Dr. Sorensen will discuss current principles of post and core design, ferrule design, stress distribution of the restorative complex as well as new cements, core materials, dowel materials and the use of fibers and resin composites for the restoration of endodontically treated teeth.

Curriculum Vitae: Dr. John Sorensen is the Oregon Dental Association Centennial Professor of Restorative Dentistry and Director of the new Clinical Research Center at the Oregon Health Sciences University. He maintains a practice limited to prosthodontics. He has broad clinical experience, extensive research experience and many publications in an array of prosthodontic and restorative materials topics.

SESSION IV

PANEL DISCUSSION: QUESTIONS, CONCLUSIONS

PANEL MODERATOR: DR. STEPHEN F. ROSENSTIEL

Dr. Dan Nathanson

Dr. Martin Trope

Dr. Jack I. Nicholls

Dr. John A. Sorensen

Notes